



Powder Compacting Systems

Powder Press S The Key To Success

Created by Komage

Flexible &
Powerful
Press system solutions
for all types of
applications



The S series by Komage: Flexible and powerful



Presses from the S series under construction

The S series powder presses are KOMAGE's most powerful and flexible press systems. The high-performance hydraulic presses operate according to the ejection principle and are available with press forces of 50 kN up to 12,000 kN and a maximum of 9 controlled pressing axes.

Due to their versatility, the S series powder presses are equally suitable for producing simple part geometries in large quantities and for highly complex pressing tasks. For the S series, Komage has optimised variants for applications in the fields of tungsten carbides and dental

ceramics. These tried-and-tested configurations have proven to be particularly successful in the aforementioned sectors, but can still be adapted to customer specifications.

As a result every Komage S series powder press is a variable powder press system which can be tailored precisely to individual customer requirements.

Applications



Powder Metal



Dental



Tungsten Carbide



Ceramics



Graphite



Salt

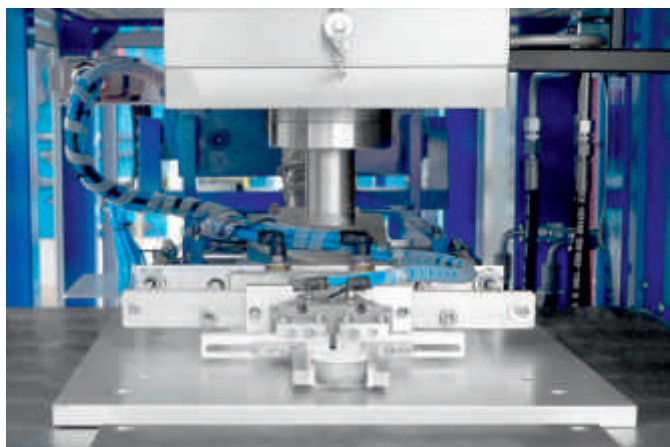
A new definition of flexibility

In addition to adapting the press system to customer requirements, Komage attaches great importance to the free design of the entire motion sequence. As a result, the movements of the pressing axes, all additional axes and the automation functions are free programmable.

Compared to many presses available on the market, the S series pressing systems enable even greater levels of freedom in the motion sequence by consistently dispensing with mechanical fixed stops. This means that the end position of the pressing axes does not have to be adjusted mechanically, but it is held in place solely by hydraulics during the pressing sequence.

By that it is possible to specifically compensate spring-back effects in the tooling and pressed part as the movements during the release of the pressed parts are not limited in one direction by fixed stops. This prevents cracks in the pressed part.

When programming the motion sequence, you can choose between the automatic KOMPART program generator and the free Komage table programming tool.



Ceramic Press S120 2L

Advantages

- | | |
|------------------------------------|---|
| ✓ Ejection or withdrawal principle | ✓ Pressing and handling in one user interface |
| ✓ Freely programmable | ✓ High productivity |
| ✓ Energy-efficient | ✓ The adaptor is easy to change |
| ✓ Customized to user requirements | ✓ No limiting fixed stops |

Features

Ejection or withdrawal principle with up to 9 CNC-controlled pressing axes

Ejection force up to 100% of the press force

No fixed stops – pressure can be relieved on each axes in all pressing directions

Automatic fill correction for all bottom punch axes

Energy efficiency due to optimised hydraulics

Reference clamping systems can be implemented for fast tool changes

High level of positioning accuracy and repeatability up to $\pm 0,001$ mm

Programmable applied load for all top punch axes for a crack-free demoulding process

CNC-controlled filling systems for producing multi-layer pressed parts

Individual automation solutions tailored to customer requirements

Advantages of the ejection principle

The ejection principle offers additional benefits in comparison to the withdrawal principle, such as a constant removal height, easy installation of the automation unit and the prevention of powder segregation. Furthermore, in contrast to the withdrawal principle, the entire press force is available for demoulding the pressed

parts. Due to the ejection principle, all KOMAGE presses are working without fixed stops. This enables axial pressure relief for all pressing axes.

Filling methods

Falling filling

Suction filling

Combination of falling and suction filling

Contour filling (different powder distribution in the die)

Underfilling

Overfilling

Dwell times

Shaking movements

Vertical, horizontal and eccentric stirring movements

Multi-layer filling of different compounds

Pressing processes

One-sided pressing from top

One-sided pressing from the bottom

Two-sided pressing

Shifting the press-neutral zone into any required area

Cross pressing

Cross core rods

Pressing on density (force) or height (position)

S Series

System-based diversity

As with any Komage press system, the user interface and software can be custom-tailored to guarantee highest flexibility and user friendliness.

In addition, a suitable automation (handling) solution with an adapted range of functions is available for each pressing task.

The Komotion B control system ensures ideal flexibility and productivity. In addition to defining individual press sequences via the table programming tool, the KOMPART program generator is also available to calculate the required positioning data quickly and

reliably. The electronic handwheel is a simple and practical aid for setting up the tools.

The control system monitors all the important parameters of the press. An integrated monitoring function protects both the tool and the machine. By using the automatic fill correction, freely programmable height, force and weight limits can be observed for the pressed parts.



Control system

User-friendly interface

KOMPART program generator

Due to the absolute measuring system, the axes do not need to be referenced

Electronic handwheel (scale graduation 0.01 mm) – easy set-up of all axes

Reproducible processes by monitoring all important parameters

Automatic fill correction according to height, force and weight, within free programmable limits

Quality control

Freely programmable switching points for all additional equipment (e.g. applied load, gripper, belt, etc.)

Remote maintenance

Komage powder press systems



Mechanical
powder presses
of Series K

Hydraulic
powder presses
of Series S

Servo-electric
powder presses
of Series E

Mechanical servo-
electric powder
presses of Series KE

Made in Germany
Created by Komage