komage

Powder Compacting Systems

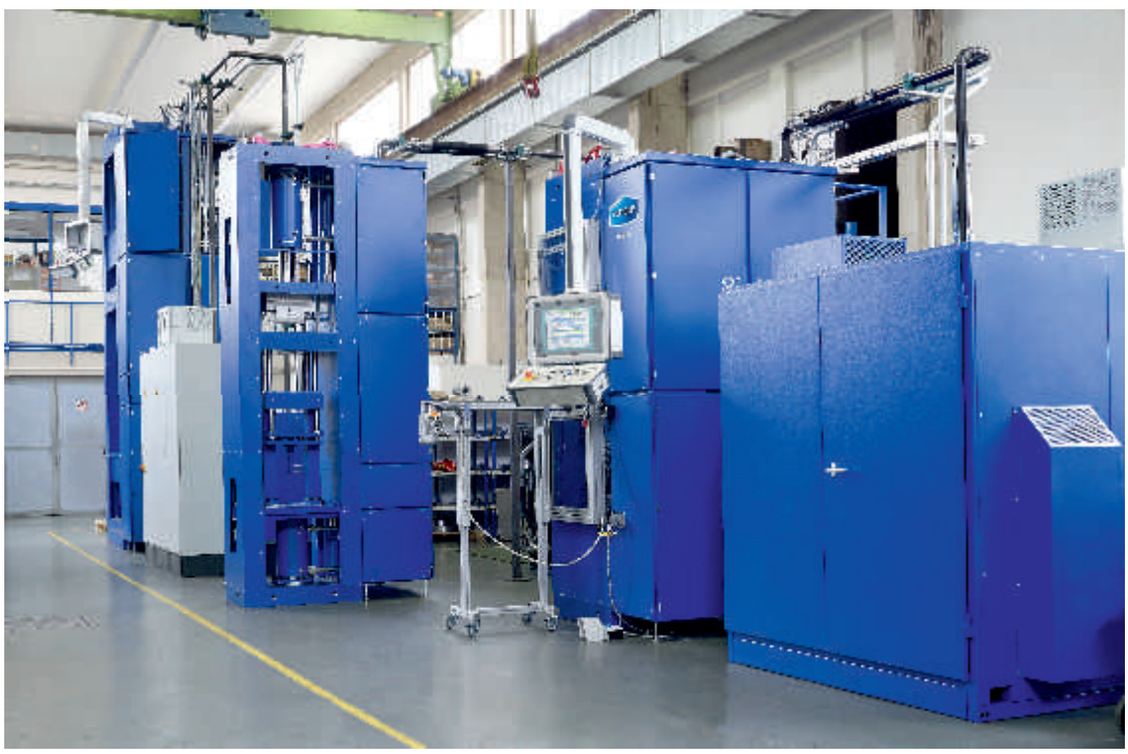
Powder Press S
The Key To Success

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

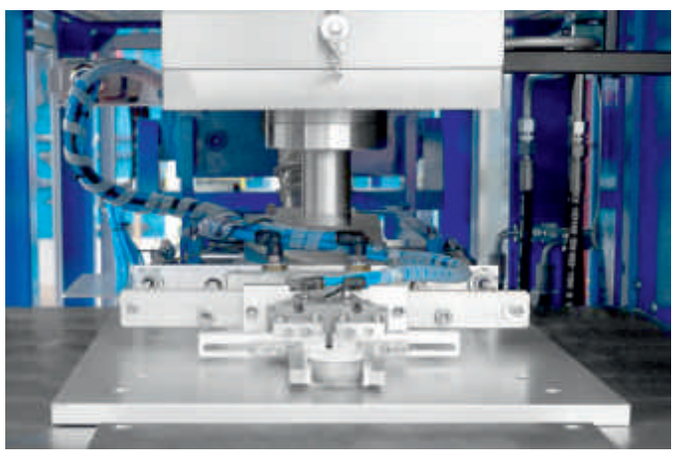
A new definition of flexibility

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
- Freely programmable
- Energy-efficient
- Customized to user requirements
- Pressing and handling in one user interface
- High productivity
- The adaptor is easy to change
- 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 ± 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

Komage Gellner Maschinenfabrik KG

Dr. Hermann-Gellner-Straße 1
D-54427 Kell am See

Tel.: +49 (0) 6589 9142-0
Fax: +49 (0) 6589 9142-19

info@komage.de
www.komage.de