HYDRAULISCH
HYDRAULIC
S-DT
700 kN - 1.200 kN

KOMAGE
POWDER COMPACTING SYSTEMS

HYDRAULIC DENTAL CERAMIC POWDER PRESSES



DENTAL
S70 - S120

Hydraulic Powder presses

POWDER COMPACTING SYSTEMS

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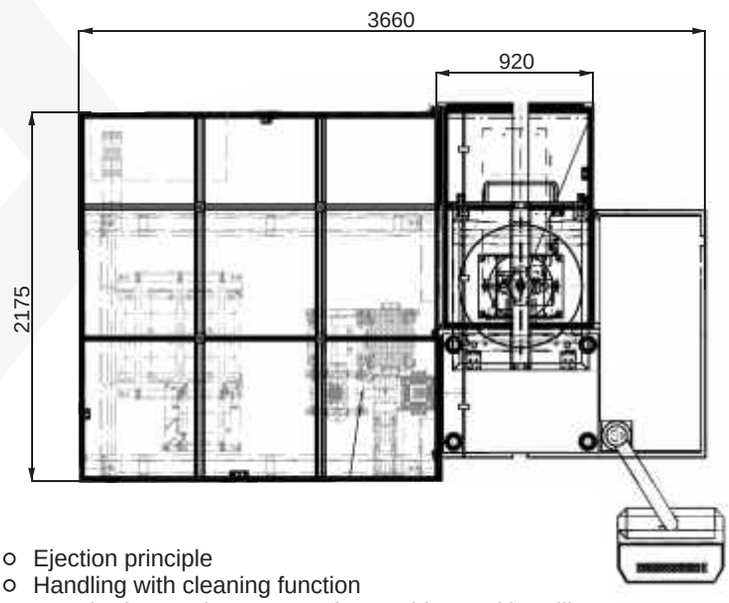
KOMAGE

POWDER COMPACTING SYSTEMS

THE CONCEPT

With the model S-DT, KOMAGE offers a compact system with integrated automation solution for dental ceramic blanks.

The pressing procedure is computer supported and monitored - beginning with the powder supply, through the process of pressing, until the moment when the finished press parts leave the system. This ensures a constant density for all press parts of one charge. All data of the pressing procedure as well as the handling system are recorded and processed in a central operator panel.

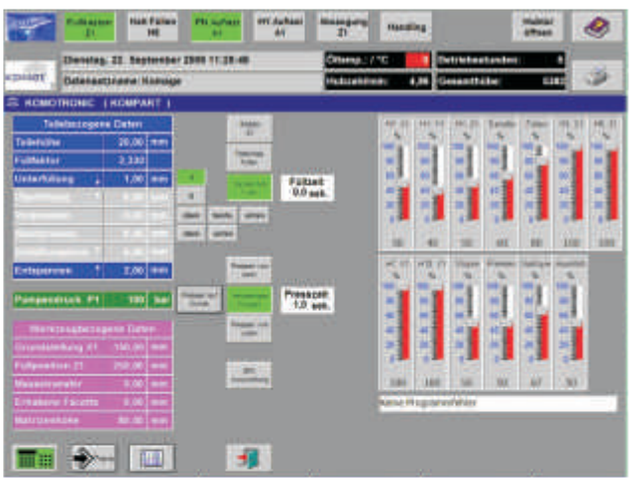


- Rigid press frame with 4 columns (pre-tensioned frame)
- Guidance with lowest play of top- and bottom punch, as well as applied load
- Modular KOMAGE handling system
- Handling as Pick+Place+Stack in Real Time
- Automatic weighing influences the press parameter during operating production process
- High positioning accuracy (+/- 0,01mm)
- High repeatability accuracy (+/- 0,01mm)
- Ejection principle
- Handling with cleaning function
- Standard operation concept for machine and handling (integrated control system)
- Compact machine design
- Automatic weighing with good/bad part evaluation
- Accurate force measurement by high-precision force sensing unit



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THE PROGRAMME GENERATOR

The programme generator gets you faster to your goal:

- Easy and fast programming
- Programming with only a few parameter
- Integrated optimising functions
- Selection of various fill- and pressing methods per touch screen
- Reduction of setting time by automatic calculation of all position set values.



WORK PROCESS

The Filling

The interaction of the hydraulic die movement and the mechanical fill system enables various fill techniques:

- Falling filling
- Suction filling
- Suction-falling filling
- Contour filling (different powder distribution in the die)
- Under filling (prevents powder spillage during insertion of top punch)
- Overfilling (retrieval of overfilled powder by fill box)
- Halting times
- Vibration movements



The Pressing Process

The free programmability of the machine makes a synchronous accelerated or decelerated movement of the die to the sinus-shaped process profile of the top punch possible. As a result, all following press processes are possible:

- One-sided pressing from above
- One-sided pressing from below
- Two-sided pressing through speed change of die
- Shifting of press neutral in any area through shifting travel movement

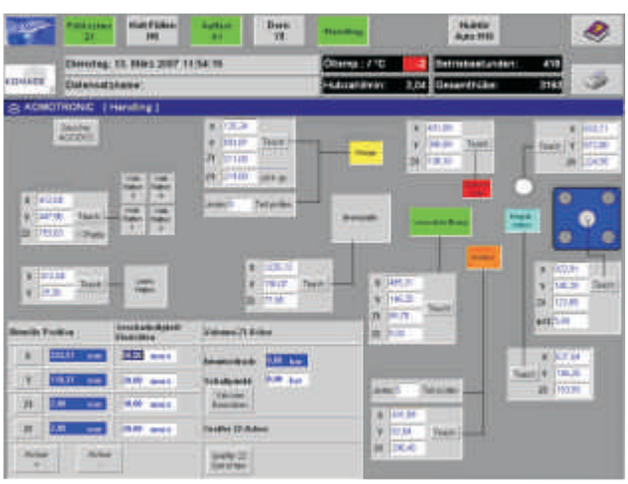
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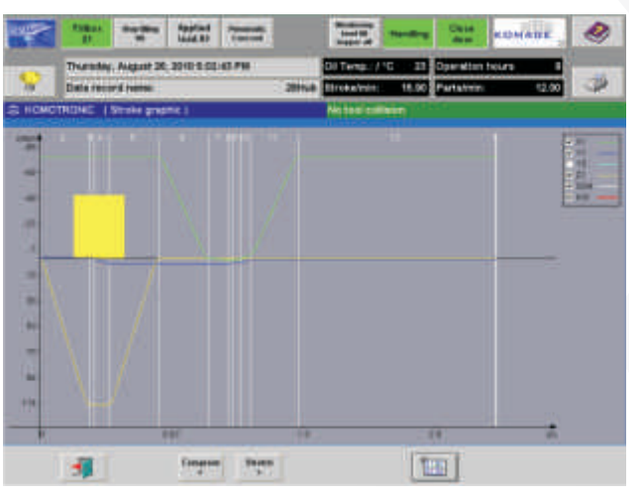


THE CONTROL

The control system KOMOTRONIK S for the S-DT Series is specially designed for high stroke rates at precise axis positioning. Thus, the KOMAGE S-DT press reaches a product quality at high productivity rates which comply with the requirements of most modern quality systems and make a



- User friendly, based on MS-Windows user surface and program generator KOMPART.
- No referencing necessary through absolute-measuring system
- Electronic hand wheel (scaling 0,01mm), easy setting of all axes
- Product quality of the highest standard by monitoring all important parameter (forces, positions and torque-distance)
- Monitoring functions to protect tooling and machine
- SPC quality control
- Automatic fill correction according to force, height or weight
- Automatic correction within free-programmable limits
- Free programmable switch points for all additional equipment (for example: applied load, gripper, belt etc.)
- Remote maintenance via Internet
- Touch screen





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AUTOMATION & HANDLING

The KOMAGE S-DT with a pressing force of 70 to 120 tons is a fully automated press system. The press process is computer-assisted and monitored, from the powder supply for each press part, the pressing procedure, up to the moment where the finished press part leaves the system. In addition to the pressing process, this control unit also regulates and monitors tasks generated by the handling system such as removal, weighing and stacking of the press parts.
Due to the standard control unit of the fully automated pressing process and the handling functions, the KOMAGE S-DT offers an extremely user-friendly operation concept. From a central access point - the operating panel, the user controls nearly all production steps up to the subsequent processing of the press part. All data for the pressing procedures as well as the handling system are centrally recorded and processed.

The entire press system is structured modularly to suit the individual technical requirements for the production process and the product.

The automatic processes are just as versatile as they are different; here are some examples:

- Pick-up and deposit with high efficiency
- Stacking of sinter plates
- Cleaning and deburring of parts
- Cleaning of tools
- Measuring and weighing of press parts
- Press part pick-up by various working processes (gripping, suction, with/without rotation etc.)

Our systems are modular and can be adapted to your individual needs.

Technical Data

Standard Machine		S 70	S 120
		4-Columns	4-Columns
Press Force	kN	700	1200
Die Filling	mm	100	100
Top Punch Movement	mm	200	200
Energy Consumption	kVA	68	75
Width	mm	3700	3700
Depth	mm	2200	2200
Height	mm	3300	3300



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THE COMPANY

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KOMAGE Gellner Maschinenfabrik KG is a medium-sized machine factory with a long tradition. Founded in the year 1908 in Berlin, the company's domicile is now in Kell am See since 1938. KOMAGE specializes in the manufacturing of systems for axial pressing of powders in dies as well as the respective peripheral equipment (for example; granulate supply, fill systems, tool changing systems, cleaning devices, handling systems).

The press systems are offered as mechanical (50-500 kN press force) and hydraulic systems (50-12000 kN). This product range is supplemented by hybrid presses (200-2.500 kN press force).

Products					Service	
Mechanisch Mechanical K 50 kN - 500 kN	Hydraulisch Hydraulic S 50 kN - 12.000 kN	Hybrid KFMA 200 kN - 2.500 kN	Hydraulisch Hydraulic S-XT 100 kN - 300 kN	Adapter MEGA	Service 24	Over-hauls
K - Series 5 - 50	S - Series 5 - 1200	KFMA - Series 20 - 250	S-XT - Series 10 - 30 Our specialist for tungsten carbide.	adapter systems, magnet pressing, hot pressing, upper piston pressing, filling system, press tooling	consultation, project planning, pressing trials/ small series/pre-trials for sampling maintenance, modifications, spare parts storage (computer supported), training, world-wide support and spare parts supply, spare parts processing within 24h	repair & overhaul of used machines, supply of new control systems, upgrading of machine
	Hydraulisch Hydraulic KHA 50 kN - 12.000 kN KHA - Series 5 - 1200	Hybrid KMA 200 kN - 2.500 kN KMA - Series 20 - 250	HYDRAULISCH HYDRAULIC S-DT 700 kN - 1.200 kN S-DT - Series 70 - 120 Our specialist for dental ceramics.	Auto-mation automation- and handling system for all of our presses, integrated control system, Pick+Place+Stack		

Technology made in Germany