

Press Release

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Servo Pump Drives for Presses in Powder Metallurgy – Innovation Meets Hydraulics

(Hall 5 / Stand A16)

Presses for powder metallurgy must meet special requirements nowadays:

* Transfer of high forces;
* High speed;
* Flexibility;
* Accuracy.

While an electromechanical drive can be used for relatively small presses to 1000 kN, for larger presses mechanical or hydraulic drives are practical.

The disadvantages of mechanical presses are high costs and limited flexibility. Straight hydraulic presses are loud and not energy-efficient.

FREY & Co has set itself the goal of combining the advantages of hydraulics with those of electromechanics.

The result is a special hydraulic cylinder that can be used without an external unit. The cylinder has several pistons with the same area ratio built into each other. As a result, the piston can be operated in rapid traverse and in the press run via a flanged block.

**Functionality Meets Space Efficiency**

The piston is driven direct by means of a pump powered by a servomotor. This enables steady and direct feed of all piston sides with hydraulic oil. This eliminates the additional distance via a hydraulic unit and the saved space can be used for other areas.

**Diverse Potential Applications Meet High Precision**

Uniaxial presses in powder metallurgy are used for compacting powder or recalibrating already compacted and sintered parts. With regard to force and positioning, this requires high accuracy and enormous speed.

Our presses are suitable both for mass-produced components in the automotive industry and for medical engineering parts, e.g. blanks for dentures.

**Energy Efficiency Meets Noise Control**

At present, in powder metallurgy, hydraulic presses are used that are supplied by means of a large hydraulic unit, which has to be active all the time, even during non-productive times. In addition to a sustained high noise level, a lot of heat is generated, and power consumption is high. These problems are eliminated with the use of our servo pump systems. No power consumption during non-productive times, noise is reduced considerably – even during full productive operation.

**Quality Meets Strength**

The high quality standards for pumps with unit hydraulics are still fulfilled completely. The force and strength necessary for presses in powder metallurgy are guaranteed. The high requirements for presses from 1000 kN are met perfectly!

**Future Meets Hydraulic**

With the innovative servo pump drive, FREY & Co GmbH in cooperation with Bosch-Rexroth has succeeded in realizing a future-oriented and practice-friendly solution. The piston and drive concept meets the high requirements typical for the industry in respect of precision and speed and comes with many other advantages.

**Other Advantages and Benefits**

* Saving of the large hydraulic unit – corresponding reduction in hydraulic oil from 1000 l to 100 l;
* Lower costs on failure compared to electromechanical drives – sealing replacement instead of replacement of expensive mechanics;
* Up to 70-%-lower energy consumption;
* Much smaller footprint thanks to a very small unit for control fluid and auxiliary functions;
* Cooling water necessary only in rare cases;
* Reduction of the total weight of the press.

As usual for the press series from FREY & Co GmbH, a host of industry-specific or generally useful options are available for this new generation of presses.

(3353 Characters)

**Figure**

**(Frey\_1\_2018-3.tif)**

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