SCHULER

FORMING THE FUTURE

PRESS RELEASE

Fast, powerful and easy on the die

Schuler unveils new 16,000-kN drop forging press with ServoDirect Technology at its Erfurt plant

Erfurt, July 2, 2013 – Shorter pressure dwell times and an increased output of 35 strokes per minute – and all in continuous operation: these are just some of the benefits offered by the 16,000-kN-strong drop forging press with ServoDirect Technology recently unveiled by Schuler. Built for a customer in the automotive industry, the innovative line now introduces freely programmable slide motion to the world of forging.

"The pressure dwell time can be reduced to a minimum while also optimizing the time for spraying and transporting," explains Jochen Früh, Managing Director of Schuler Pressen and Head of the Technology Field Forging. "That means that output in high-speed mode can be increased to 40 pieces per minute, while die service life can be prolonged by 15 to 20 percent due to reduced heat input."

Instead of a drive running continuously at the same speed, servo forging presses feature one or more torque motors which are either flanged to the driveshaft directly or via a planetary gearbox. The PK 1600 SDT model which Schuler unveiled in Erfurt boasts two Oswald torque motors, each with a rated capacity of 377 kilowatts: highly

dynamic drives which act directly on the crankshaft. Due to the elimination of the flywheel, clutch, brake and drivebelt, the amount of mechanical and electrical loss has also been reduced. "This makes overall energy consumption more favorable and reduces the amount of maintenance and servicing required," states Jochen Früh.

Intermediate storing reduces energy needs

The intermediate storing of energy in an external flywheel storage device not only reduces consumption but also the load on the factory network caused by energy peaks. The electrical energy created by the regenerative braking of the drive motors is transformed into mechanical rotation energy. This is then returned to the servo drives as electrical energy during the brief peak energy needs of the drive motors – such as during heavy acceleration of the slide's downward motion and the forming process.

For this and other reasons, ServoDirect Technology is also ideally suited to tryout operation: the variable slide speeds enable slow and sensitive running of the press and transfer system. This means that dies can be put into operation more swiftly and securely.

Technical data

Nominal force	*16,000 kN*
Useful working capacity in single stroke operation	*175 kJ*
Max. crankshaft speed at BDC	*75 1/min*

Speed in continuous operating mode	*35 1/min*
Slide stroke	*300 mm*
Distance between bed and slide, stroke below, adjustment above	*1,410 mm*
Bed size: W x D (in mm)	*1,620 x 1,620*
Slide area W x D (without slide guidance pins)	*1,550 x 1,490*

Captions

Bild1.jpg: The PK 1600 SDT forging press can reach a speed of 35 strokes per minute.

Bild2.jpg: The line boasts two highly dynamic servo motors, each with a rated capacity of 377 kilowatts.

Bild3.jpg: ServoDirect Technology not only raises productivity but also facilitates set-up operation.

Grafik.pdf: The forming speed can be adapted to the forging process while also optimizing the time for spraying and transporting.

Please name Schuler as the photo source.

About the Schuler Group – www.schulergroup.com

As the technological and global market leader in metalforming, Schuler supplies machines, production lines, dies, process know-how and services for the entire metal-working industry. Its clients include car manufacturers and their suppliers, as well as companies in the forging, household equipment, packaging, energy and electrical industries. Schuler is also the market leader in coin minting technology and supplies systems solutions for the aerospace and railway industries. The company employs around 5,500 people and is represented by its own facilities and sales offices in 40 nations around the world. In fiscal year 2011/12 (ending Sep. 30), Schuler posted sales of € 1,226.1 million. The Schuler Group can trace its roots back to a locksmith shop founded

in Göppingen, Germany, by Louis Schuler in 1839. The company has produced metal-working machines since 1852. The Austrian Andritz Group today holds a majority share in Schuler.

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