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# First linear hammer with Servo Technology

## Schuler unveils new line with fully electric drive at RUD-Schöttler

*Göppingen/Hagen, October 1, 2014* – Schuler unveiled the first linear hammer with Servo Technology at the RUD-Schöttler forge shop in Hagen, Germany, last Friday. A large audience of experts from the forging industry was in attendance as the line was officially put into operation. Forging hammers were previously driven either hydraulically, pneumatically or by a flat belt. Schuler’s new development, however, features a linear motor – as used, for example, by the Transrapid maglev train.

“Thanks to the new drive system, the hammer is not only regulated absolutely accurately, but also used in controlled operation more precisely than ever before,” explains Schuler’s Managing Director Jochen Früh. “The ability to precisely position and flexibly control the slide opens up completely new possibilities – not only for precision forging, but also in terms of energy efficiency.” A pilot project on the topic is currently being run at RUD-Schöttler, sponsored by Germany’s Federal Ministry for the Environment.

With its dosage of impact energy and in its slide control, the patented hammer drive enables an exceptionally high degree of precision in forging: the repeat accuracy of the forging blows has a divergence of less than one percent. “The new drive technology even offers the possibility of precision forging without impact areas,” says Thomas Hüttenhein, general manager of RUD-Schöttler. “This eliminates the previously standard hard-on-hard blows for balancing temperature and material fluctuations.”

The electronic control system automatically adjusts the energy input and number of necessary forging blows to the actual forging result after each blow – until the preselected part thickness is achieved. The influence of engraving wear on part accuracy can therefore be compensated by regulating the energy dosage. This improves product quality and makes it possible to continually document the process data.

## Reduced cycle times, increased energy efficiency

Schuler’s new drive technology therefore offers maximum flexibility in adapting to increasingly specialized application areas and processes in forging. The elimination of die-to-die hard-on-hard blows means a reduction in the total number of forging blows – thus reducing cycle times and the energy needed for forming. Together with the non-contact and maintenance-free linear drive, which directly converts electrical energy into the mechanical movement of the hammer slide, the potential energy savings are up to 20 percent. Thus, energy efficiency reaches a value of more than 90 percent.

Precise control of the upper slide also enables the integration of stretching and rolling blows, as well as bending operations, into the actual forging process under the hammer. In the case of low impact energies, the linear motor can be started from any position and thus also reduces cycle times by eliminating unnecessarily long slide strokes. This greatly increases the potential areas of application. The ability to precisely control the linear drive means that the new linear hammer is ideal for automation with robots.

In addition, there is no more need for all previous components used to generate compressed air or hydraulic storage energy. As a result, the hammer is also virtually maintenance-free. “By avoiding hard-on-hard blows on the impact surfaces, the load on die and hammer is also drastically reduced. This leads to a reduction in noise emissions and thus opens up the possibility – in combination with conventional soundproofing – of three-shift operation,” Thomas Hüttenhein concludes.

### Captions

Bild1.jpg: Schuler unveiled the first linear hammer with Servo Technology at the RUD-Schöttler forge shop in Hagen, Germany.

Bild2.jpg: Schuler’s Managing Director Jochen Früh welcomed more than 100 visitors at RUD-Schöttler in Hagen.

Bild3.jpg: Thomas Hüttenhein, Managing Director of RUD-Schöttler, with his staff in front of the new linear hammer.

*Please name Schuler as the photo source.*

***About the Schuler Group – www.schulergroup.com***

*As the technological and global market leader in metal and plastic forming equipment, Schuler offers cutting edge presses, automation, dies, process know-how and services for the entire metal forming industry and lightweight vehicle construction. Its clients include car manufacturers and their suppliers, as well as companies in the forging, household equipment, packaging, energy and electrical industries. Schuler is the market leader in coin minting technology and supplies systems solutions for the aerospace, railway and large pipes industries. The company can trace its roots back to a locksmith shop founded by Louis Schuler in 1839 and celebrates its 175th anniversary in 2014. In fiscal year 2012/13 (ending Sep. 30), Schuler posted sales of € 1,185.9 million. With 5,500 employees, Schuler is represented in 40 nations around the world. The Austrian ANDRITZ Group holds a majority share in Schuler.*

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