

Press Release

Voith Turbo H + L Hydraulic GmbH & Co. KG
Schuckertstr. 15
71277 Rutesheim, Germany
Tel. +49 7152 992-577
Fax +49 7152 992-400
www.voith.com

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Maximum Productivity With Energy Savings of up to 70 Percent – The Voith Servo Pump

Hydraulic applications with high demands on control technology are subject to greatly fluctuating stresses during operation. To ensure cost-effective operation even under these conditions, the Voith servo pump adjusts to the power actually needed over varying volume flows and motor speeds. This provides clear advantages over conventional systems, particularly in the part load range, with a uniformly high volume flow that is needed only rarely within an operating cycle. Optimized operation reduces energy consumption by up to 70 percent and the total cost of ownership (TCO) of the entire hydraulic system by up to 35 percent. In this way, it is usually amortized within one to two years. Featuring the motto "Saving Energy while Increasing Productivity," Voith will be presenting the servo pump to visitors at the HANNOVER MESSE trade fair from the 13th to the 17th of April in Hall 23, Booth 41.

The advanced pump system consists of three main components: the servo inverter, the synchronous servo motor and the Voith internal gear pump. The servo inverter analyzes and processes the setpoint and the actual values of the pressure and speed. It controls the highly dynamic servo motor, which supplies the required torque in the shortest amount of time. This power is fed to the process as a function of the pressure or volume flow by way of the efficiency-optimized internal gear pump. As a result, classic valves are unnecessary, reducing the complexity of the system and the cooling capacity needed. At the same time, the reliability and lifetime increase. The servo pump facilitates highly dynamic control that is further supported by the low mass moment of inertia of the internal gear pump. This shortens the cycle time of the actuators by up to 50 percent and considerably increases the productivity of the machine.

In addition to optimized energy consumption, the Voith variable-speed solution also reduces the noise emissions of the system by up to 20 dB(A). This reduces the cost and effort for noise abatement measures – in many cases, workplace guidelines are met without any additional measures.

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Previously integrated control parameters make the Voith servo pump ready for operation immediately. The pressures and volume flows are individually adjusted to the specific cycle data and optimally harmonized with existing control concepts and systems. Consequently, the system makes an outstanding retrofit solution.

The servo pump can be used in a variety of ways. Typical areas of application are plastics machines, die casting machines, machine tools and presses. As the central component of machines and systems, it continuously measures the current operating parameters and thus provides an ideal node for integration within the framework of Industry 4.0.

For comprehensive information on the presence of Voith at HANNOVER MESSE trade fair, please visit: www.hannovermesse.voith.com.



The variable-speed Voith servo pump.

Voith Turbo H + L Hydraulic is a subsidiary of Voith Turbo. Voith Turbo, a Group Division of Voith GmbH, is a specialist for intelligent drive solutions and systems. Customers from highly diverse industries such as oil and gas, energy, mining and metal processing, mechanical engineering, ship technology, rail and commercial vehicles rely on advanced technologies from Voith Turbo.

Voith sets standards in the markets energy, oil & gas, paper, raw materials and transportation & automotive. Founded in 1867, Voith employs almost 39 000 people, generates EUR 5.3 billion in sales, operates in about 50 countries around the world and is today one of the largest family-owned companies in Europe.

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For Voith, the HMI partner country of India is one of the promising growth regions globally. The company has been represented there since 1911. Voith technologies are used at key points in the value-added chains and ensure effective, reliable operation of entire plants and systems. For example, today Voith couplings control the pumps and fans in more than 90 percent of all thermal power plants in India. The significant milestones there also include projects such as the equipping of metros in New Delhi, Bangalore and Jaipur with Voith components.

Contact:

Marius Birthaelmer

Marketing

Telephone: +49 7152 992 577

Marius.Birthaelmer@voith.com

Contact person at the fair:

Harald Branz

Head of Sales

Cell: +49 1715751674