

Media Release

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Voith at POWER-GEN Europe 2017: Reliable and innovative technologies for energy providers and plant operators

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- **VECO-Drive increases compressor and pump drive efficiency to 97 percent**
- **Speed control with maximum reliability and low life cycle costs with VoreconNX**
- **Smart solutions for the power industry**

Heidenheim/Cologne: From June 27 to 29, 2017, Voith is going to present its innovative and reliable solutions for the power industry at POWER-GEN Europe 2017. This year's show is taking place in Cologne, Germany. Its attendants will be discussing new challenges like the digital transformation, renewable energies and efficiency in gas and steam based power generation. Voith is launching its new VECO-Drive, an innovative variable speed drive.

Highly efficient: VECO-Drive and VoreconNX variable speed drives

With the innovative VECO-Drive, Voith offers a variable speed drive, which provides both the reliability of mechanical gears and the efficiency of low-voltage variable frequency drives (VFD). More than that, it is the first member of a new product family in the field of speed control, addressing the need for high efficiency of the rotating equipment industry. VECO-Drive generates not only high output speed for compressors and pumps, but also uses a new superimposing design and increases drive efficiency of up to 97 percent. Compared to a drive train using a conventional medium-voltage VFD, VECO-Drive increases the overall efficiency by more than two percent over the speed range. Operators may consequently save more than 100,000 euros a year in operating costs.

The VECO-Drive's basic design is a combination of a planetary gear with low-voltage frequency-controlled servo motors. These generate additional



power for the drive train in high-speed operation which enables operators to keep existing main motors within a retrofit installation. VECO-Drive's design is modular, offering individual configurations for different application types.

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The principle of VECO-Drive is inspired by the Voith Vorecon variable speed drive, the Vorecon range has been expanded too: The new NX series for low-power ranges increases efficiency of up to eight percent. VoreconNX is a reliable planetary gear controlling the speed of compressors and pumps in stream applications. With its optimized torque converter, it helps the power industry save both total costs of ownership and life cycle costs. Its modular design and standardized speed control allows Voith to reduce the delivery time of VoreconNX to only six months.

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Wide range of coupling solutions

With the BHS AeroMaXX technology for parallel-shaft gear units, operators reduce power loss and oil consumption by more than 30 percent. It works like this: At high-pitch line velocities of up to 200 metres per second, the oil swirls and squeezes in the gear mesh which causes power loss of high-speed turbo gear units. BHS AeroMaXX reduces these losses by separating lubrication and cooling. No additional accessories are needed due to its passive mechanical construction.

Moreover, Voith presents the SmartSet torque limiting coupling which helps protecting drivelines from torque overloads. In the moment of exceeded rated torque, SmartSet will slip and protect the driveline. For instance, it limits the torque between the generator and the turbine if a fault occurs and protects plants during overload. During an overload, the coupling slips and therefore enables continuous production and will only release in rare case of major failure. Accompanied by Voith's monitoring system CMS 310, users get real-time status information and analyses.

The patented Hirth couplings can be used between gas turbine disks or as a connection between impeller and pinion shaft. They connect and position shafts, wheels, disks and crank in many areas of mechanical engineering – high precision is ensured. Voith also shows drive couplings that protect systems from damage under extreme operating conditions. These can be tailored to each drive system.



Make components and systems more reliable

All the technologies will be presented at Voith booth F17 in hall 8, along with other services and solutions from the Voith Hydro and Digital Solution's portfolio: Voith enables users to make their old components and systems more reliable and increase efficiency by upgrading and retro-fitting the plant with Voith's latest designs.

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Another example of a highly reliable Voith solution is the TurCon DTc, a compact and cost-effective steam turbine controller. It is IoT ready, pre-engineered with standard software, and in consequence easy-to-use. For more information and consultation, visitors of the Voith booth may address the company's on-site professionals along the different power sections.

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You can find further information about Voith's activities at POWER-GEN Europe 2017 here: <https://voith.com/powergeneurope>

Voith Turbo

Voith Turbo, a Group Division of Voith GmbH, is a specialist for intelligent drive solutions, systems and comprehensive services. Customers from highly diverse industries such as oil and gas, energy, rail and commercial vehicles, ship technology, mining and mechanical engineering rely on the advanced technologies and solutions-driven expertise of Voith Turbo.

About Voith

For 150 years, Voith's technologies have been inspiring customers, business partners and employees around the world. Founded in 1867, Voith today has around 19,000 employees, sales of €4.3 billion and locations in more than 60 countries worldwide and is thus one of the largest family-owned companies in Europe. Being a technology leader, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive.

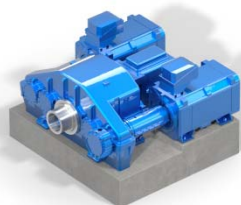




Caption: The new VECON-Drive variable speed drive is an innovative solution combining a mechanical planetary gear with low voltage frequency controlled servo motors.

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Caption: The VECON-Drive steps up input speed and generates a high output speed for compressors or pumps. Since additional power is supplied to the drive train, a smaller main motor can be used.



Caption: The Vorecon NX variable speed drive combines maximum reliability and economy in controlling boiler feed pumps.



Caption: The Voith SmartSet torque limiting coupling is designed to slip in the event of an overload situation and thus enables continuous production.

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