

Media Release

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Voith launches new VECO-Drive: Most Efficient Variable Speed Drive for Compressors and Pumps

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- **Peak component efficiency of 97 percent saves energy costs by more than 100,000 € per year**
- **Easy motor start protects the grid from high inrush currents**
- **Smaller main motor rating saves capital expenditures**

Crailsheim, Germany: Voith introduces the first member of a new product family in the field of speed control for compressors and pumps: the VECO-Drive. It is an electric superimposing gear and is inspired by the established principle of the Voith Vorecon with more than 600 installations. The VECO-Drive combines a mechanical planetary gear with frequency-controlled servo motors. The electrical superimposing gear is the most efficient way to make speed variable. Servo motors are used to drive a planetary gear. Since they only need a small part of rated power, an overall component efficiency of more than 97 percent is reached. This saves valuable energy and reduces operating expenditures every day.

The VECO-Drive is installed between a constant speed motor and a variable speed compressor or pump. With the new VECO-Drive, Voith combines the reliability of mechanical gears with the outstanding productivity of low voltage VFDs. Since additional power is supplied to the drive train, a smaller main motor can be used. This saves capital expenditures. Moreover, the servo motor can be used as a starter to protect the electric grid from high inrush currents.

For the functional demonstration of the VECO-Drive, a prototype system was built and tested in Crailsheim, Germany, in 2016. Voith engineers designed the system for compressor and pump applications with a maximum output speed of 15,000 rpm, maximum output power of 15 MW and a speed adjustment range from 50 to 100 percent. Compared to a typical full-scale medium voltage VFD train with a step-up gearbox, the measured system efficiency of a VECO-Drive is about two percent higher



over the whole speed range. Thus, the VECO-Drive system reduces annual energy consumption by more than 2,000 MWh compared to a comparable VFD system. With a typical energy cost of 50 EUR/MWh, these energy savings result in cost reductions of more than EUR 100,000 per year.

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As a matter of principle, the VECO-Drive is designed as a modular system and thus offers individual specifications for different application types, classes of explosion protection and speed levels. Advanced functions like the integrated PLC-based output controller, user interfaces, condition monitoring and simplified maintenance are part of the scope of supply, whereas remote access and remote diagnosis are available on demand.

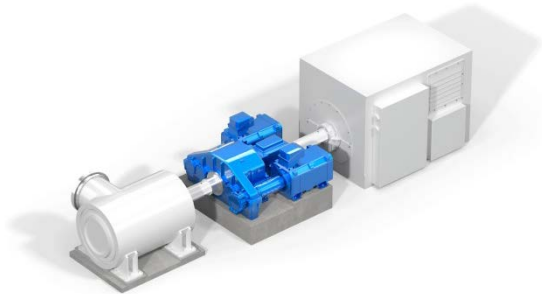
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Voith Turbo, a Group Division of Voith GmbH, is a specialist for intelligent drive solutions, systems and comprehensive services. Customers from highly diverse industries such as oil and gas, energy, rail and commercial vehicles, ship technology, mining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

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.



The new VECO-Drive is an innovative solution combining a mechanical planetary gear with frequency controlled servo motors.



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The VECO-Drive (middle) steps up input speed and generates a high output speed for compressors or pumps (left). Since additional power is supplied to the drive train, a smaller main motor (right) can be used.

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