Media Release

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Voith presents innovative coupling and hydraulic solutions for automotive testing at ATE 2019

2019-04-25

- **The HP Coupling was designed for testing internal combustion engines on test rigs under the most realistic conditions**
- **Voith's D Coupling features high torsional flexibility, which makes it possible to reproduce test cycles more precisely**
- **The self-contained CLDP servo drive is very compact and dynamic and facilitates significant increases in productivity for testing devices**

STUTTGART, Germany. Voith presents its newest developments for automotive testing applications at Automotive Testing Expo 2019 in Stuttgart. At booth 1374, Voith will showcase different variations of coupling solutions that allow realistic and flexible testing processes in the automotive industry.

Besides unique coupling innovations for test benches, Voith will also present its high-performance servo drives that allow the highest dynamics and safety for automotive testing devices and test rigs. The reliability and efficiency of the product portfolio ensure high-quality tests for automotive components.

Realistic tests for combustion engines in all speed ranges
Voith designed the HP Coupling specifically for realistic test scenarios of internal combustion engines where a dummy gearbox is bell-house mounted to the engine. The highly flexible coupling protects the driveline of the test rig by avoiding critical torsional vibrations and shifting the resonance frequency of the system below idle speed. In combination with an updated Voith Hydrodamp Technology the HP Coupling secures a safe testing process even at high speeds up to 8,500 rpm and temperatures up to 150°C. A viscous-hydraulic damping and an isolation function give the coupling optimal damping behavior across the entire nominal speed range.

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Therefore, the HP Coupling enables highest service life of all drive components of the test rig and very precise test results.

Tailored and flexible coupling for major engine test cells
The Voith D Coupling features high torsional flexibility, which makes it possible to reproduce test cycles more precisely in supercritical operations to achieve accurate results at speeds up to 10,000 rpm. The coupling shifts a system's critical resonance frequencies below the operational speed range and dampens undesirable alternating torques.

Designed to be modular, the coupling can also be easily integrated into a wide range of engine test rigs. The connections can be adapted to almost all types of engines and dynos, saving costs for adaptation expenses and allowing for the development of an improved design with a shorter lever arm. Less stress is placed on all the connected units when moving through the resonance speed (engine start) and in other speed ranges, extending the service life of all of test rig driveline components. Higher availability and lower life cycle costs for the system also contribute to cost savings and process efficiency.

High performance combined with a long lifetime
The self-contained CLDP servo drive combines hydraulics with a servo-electric system and is suitable for all linear movements in test machines. The drive is extremely compact, highly dynamic and facilitates significant increases in productivity for testing devices. Furthermore, the drive is distinguished by its very high energy efficiency, force and position controls, long lifetime, and virtually wear-free operation. Besides the implementation in test rigs, the CLDP servo drive is generally used in applications such as presses, shearing machines, forming machines and special machines requiring dynamic response, repeatability and reliability.

About the Voith Group
The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, the company today has more than 19,000 employees, sales of € 4.2 billion and locations in over 60 countries worldwide and is thus one of the large family-owned companies in Europe.

The Group Division Voith Turbo is part of the Voith Group and a specialist for intelligent drive technology, systems as well as tailor-made services. With its innovative and smart products, Voith offers highest efficiency and

reliability. Customers from highly diverse industries such as oil and gas, energy, mining and mechanical engineering, ship technology, rail and commercial vehicles rely on the advanced technologies and digital applications of Voith.

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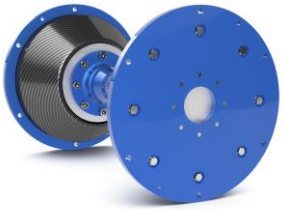
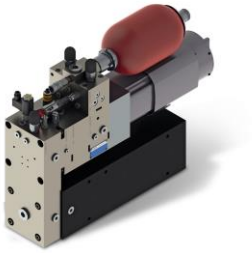
Caption 1: The HP Coupling from Voith protects the test rig against damaging torsional vibrations and natural frequencies.



Caption 2: Designed to be modular, the Voith D Coupling easily integrates into a wide range of engine test rigs.



Caption 3: The CLDP servo drive is generally used in applications that require dynamic response, repeatability and reliability.

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