

Media Release

Voith Turbo

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IAA Transportation 2022: Voith presents solutions for the mobility shift in commercial vehicles

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- VEDS: Electric drive concepts optimally designed for the operation of buses and heavy-duty trucks
- Plug & Drive H₂ storage system: Modular overall system for heavy-duty commercial vehicles with hydrogen drives

HEIDENHEIM, GERMANY. Voith is further expanding its expertise in the e-mobility sector for commercial vehicles. With the Voith Electrical Drive System (VEDS) and the Plug & Drive H₂ storage system, the technology Group is presenting two concepts at IAA Transportation 2022 that promote an economical and sustainable mobility shift for heavy-duty trucks and buses. "Alternative, sustainable drives are defining the discourse of the present and the technologies of the future. Even today, the result is an unprecedented variety of drive solutions. We are fulfilling these customer demands with a portfolio geared towards alternative drives," says Martin Wawra, EVP & CEO Voith Turbo Mobility.

VEDS: E-mobility for buses and heavy-duty trucks

Since its introduction in 2019, Voith has continued to develop this electric drive concept, gaining a footing in ever more commercial vehicle segments. For buses, the portfolio consists of the HD (heavy duty) variant, which is particularly suitable for double-decker and articulated buses with its 340 kW IPMS motor. In addition, Voith offers an MD (medium duty) variant with an output of 260 kW, which is optimized specifically for solo buses and exclusively inner-city uses. Customers worldwide appreciate the outstanding efficiency of this system, which was recently confirmed by the independent UTAC institute. With an efficiency level of 0.69 kWh/km, the Wrightbus StreetDeck Electroliner is the most efficient e-double-decker in the world. The VEDS plays a significant role in this success.

The concept supports battery systems from a wide range of manufacturers and is also enabled for use in fuel cell electric vehicle drivetrains. Thanks

to its compact design, the VEDS requires no additional installation space in chassis designed for combustion engines. It is therefore very easy to convert existing vehicle fleets with conventional diesel, hybrid or gas drives.

With the VEDS HD+, the company is also introducing its first drive concept for heavy-duty trucks. Special configurations for waste collection vehicles, innercity logistics or long-distance transport applications ensure efficient driving with every use. The core of the system is a new innovative automated four-gear electric transmission. This makes optimal traction available for every driving situation and under any load condition. At the same time, it ensures that the electric motor is always operated at optimum efficiency. For the drive system of the VEDS HD+, customers can choose between two Evo-named electric motors with top outputs of 330 and 390 kW respectively.

The VEDS HD, VEDS MD and VEDS HD+ meet the requirements of ISO 26262 (Automotive Functional Safety) and the new requirements of Automotive Cyber Security (ISO 21434). This internationally applicable standard protects the vehicle against external manipulations and ensures its functionality – by preventing unauthorized access to electronically controlled driving and braking systems, for example.

Plug & Drive H₂ storage system: The complete system from one source

The expertise of Voith as a system provider is reflected by the new Plug & Drive H₂ storage system: In line with its holistic approach, customers receive everything from a single source, from the tank nozzle to the fuel cell inlet, including a patented installation system to accommodate the H₂ tanks. Voith uses pre-impregnated fibers, so-called TowPregs, as material for the tanks, which Voith manufactures itself. The production utilizes a special winding process that enables optimized winding layers. This enables higher storage amounts of H₂ without any compromises in terms of safety, even with high pressures in the tank. Here Voith focuses on 700-bar technology to ensure long ranges even with limited installation spaces. Combined with short refueling times – it takes about ten minutes for full refueling – this results in greater economic efficiency for the operator, compared to conventional systems.

The Plug & Drive H₂ storage system is primarily designed for heavy-duty commercial vehicles, construction vehicles and similar applications, where the use of battery-electric concepts does not make sense from an economical or technical perspective. Voith also ensures sustainability and recyclability throughout the entire lifecycle.

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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, paper, raw materials and transport & automotive. Founded in 1867, the company today has around 20,000 employees, sales of € 4.3 billion and locations in over 60 countries worldwide and is thus one of the larger family-owned companies in Europe.

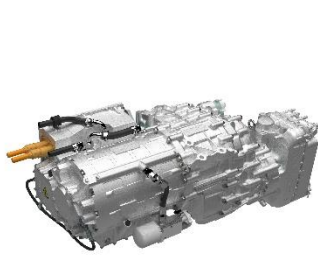
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The Group Division Voith Turbo is part of the Voith Group and a specialist for intelligent drive technology, systems as well as tailor-made services. With its innovative and smart products, Voith offers highest efficiency and reliability. Customers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

Page 3 of 3



VEDS HD+



Plug & Drive H2 storage system

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