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▶ *POWER SYSTEMS*

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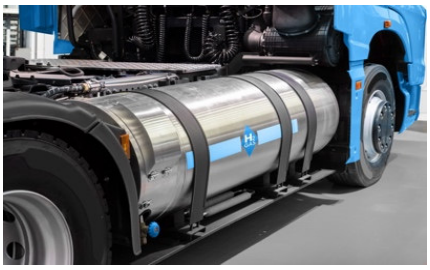
Rheinmetall wins first order for innovative heat pump solution for new customer's hydrogen-powered trucks

The tech enterprise Rheinmetall's successful thermal management business continues to grow. Now, for the first time, an innovative new plug-and-play heat pump solution will be installed in a hydrogen-powered truck.

The module is already widely used in battery-powered commercial vehicles, construction equipment and boats. Now Rheinmetall has reached a new milestone in marketing and anchoring this innovative plug-and-play solution in another future-oriented sector: integration of the thermal module into a modern fuel cell-powered truck. Moreover, the order is from a new customer.

Fully preassembled and filled with refrigerant, the heat pumps contribute to maximizing the efficiency of the drive system and further increasing the vehicle's operating range. The prerequisites are therefore in place for making long-distance transport more sustainable.



In winning this new order Rheinmetall has successfully expanded the heat pump's range of applications. In addition to its e-mobility activities, the Group has now won a first customer in the forward-looking H_2 market. The complete system can be integrated into new and existing vehicle platforms as well as lending itself to customer-specific individual applications. Expansion into other market segments is planned.

The truck sector will soon have to adhere to mandatory EU climate goals. By 2025 new models will on average have to emit 15% less carbon dioxide – and at least 30% less by 2030. Failing to meet these targets could result in penalties. Furthermore, the European truck industry is pursuing the goal of no longer using fossil fuels at all by the year 2040. Along with electromobility, fuel cells can make a substantial contribution here.

Owing to the heavy demands that modern fuel cell-powered vehicles make on sophisticated thermal management, the number of individual components and connections for the refrigerant circuit is rising sharply. Here, the compact dimensions of Rheinmetall's heat pump system help to save crucial installation space. The complete system is designed for 400- and 800-volt applications and delivers a nominal refrigerant output of up to 8 kW and up to 11 kW of heat output.

As an active element of thermal management, moreover, the compact heat pump assures precise conditioning of the fuel cell as well as taking care of climate control in the passenger compartment. Cooling and heating take place via a connected

▶ Key facts

- Rheinmetall wins order from new customer for innovative plug-and-play heat pump solution
- First use in hydrogen-powered truck
- A further breakthrough following the thermal module's market debut
- Complete system can be integrated into new and existing vehicle platforms

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refrigerant circuit. Thanks especially to precise, intelligent control, optimized thermal management system from Rheinmetall makes an important contribution to making H_2 mobility economical, efficient and comfortable. Furthermore, it can significantly increase the service life of components as well as the vehicles' operating range.

For more information on the product: www.rheinmetall.com/energyrecoverysystems