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Rheinmetall successfully develops key components for fuel cell systems: sample orders for cathode shut-off valves

Developing fuel cell-powered engines is one of the automotive industry's top priorities. As an important technology partner of leading automakers, Rheinmetall AG and its subsidiary Pierburg GmbH are eager to do their part in perfecting fuel cell technology. Rheinmetall is therefore stepping up its development efforts in this area and currently working on a number of innovative components for advanced drive solutions.

In the process, the Group is bringing to bear comprehensive know-how in the field of actuators gained by Pierburg over more than four decades. Today the Neuss, Germany-based company is a globally successful, highly regarded supplier of control, bypass and shut-off valves, some of which are also necessary for alternative drive systems.

Pierburg has now booked sample orders from a prominent North-American customer for several hundred prototypes of a cathode shut-off valve. The company now expects to see nominations for full-scale production orders from other customers during the course of the year.

In order to meet various customer requirements regarding utilization, package and interfaces, Pierburg engineers systematically adhered to a modular approach, while simultaneously fulfilling future application needs. For example, the product range now includes valves for fuel cells with an electric output of up to 200 kilowatts. Furthermore, the company offers numerous variants of the basic design of its complete array of currently available electric actuators and interfaces. This makes it possible to meet practically any customer requirement.

Particularly with regard to shut-off valves, which isolate the fuel cell stack on the cathode side at the inlet and outlet points from the surrounding environment, the low leakage required for use with operating times of up to 12,000 hours has been successfully verified. Now under development, a new generation should increase the lifespan even further, bringing the number of operating hours in commercial vehicles and stationary applications to at least 20,000.

► Key facts

- Successful development of components for fuel cells
- Sample orders for cathode shut-off valve prototypes
- Modular approach and long operating life

► Press photo



Cathode shut-off valve

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