

## P R E S S   R E L E A S E

### **Eberspaecher at Hannover Messe: Component know-how for fuel cell systems**

- **Product platform for mobile and stationary fuel cells**
- **Air compressors: New product line for powers above 150kW**
- **Exhaust system and exhaust valves for fuel cell systems**

*Esslingen (Germany), 17 May 2022* - **By expanding its product portfolio to include solutions for fuel cell systems, the Eberspaecher Group is pursuing its goal of shaping the clean and quiet mobility of the future. The Group of Companies is bundling the knowledge required for this into a new business area. This creates a wide range of synergies for new fields of application. Under the title "Power of Components", Eberspaecher will be showcasing its component know-how for the first time at the Hannover Messe from May 30 to June 2 in Hall 13, Booth D71.**

In the future, suppliers of fuel cell systems will be able to concentrate on the integration and design of the stack and take advantage of considerable synergies of the Eberspaecher Group. The youngest member of the Eberspaecher Group, [Eberspaecher Vairex](#), convinces with its experience in air systems for fuel cell systems. The compressors control the output of the fuel cell by precisely controlling the air supply needed to generate power. They are thus an essential component of fuel cell systems and have already been valued in the industry for 15 years as high-quality, durable and at the same time competitive products. The core of the product strategy is a platform approach with a wide range of combination options. The modular principle offers great variability and a wide range of applications – whether in logistics, stationary applications, or for range extenders in mobile applications. The products combine an extremely robust design validated in many series and a very long service life. Even with frequent start-stop

situations, over 20,000 hours have been proven, depending on the application. The [compressors](#) cover mass flows up to 75 grams per second (g/s) and pressure ratios up to 1.5 p/P. In Hannover, the experts will present examples of their VRB product platform:

### **VRB8-25**

This type is used in high volumes, especially for logistics and for stationary applications. With a mass flow of up to 20 g/s and a maximum pressure ratio of 1.3 p/P, its compact design is impressive. In addition, it can be operated in the voltage range of 20-50V and does not require additional cooling.

### **VRB8\_2\_S/P**

A second stage consisting of identical components enables the "big brothers" of the VRB8 to optionally achieve higher pressures or higher mass flows. Thus, a pressure ratio of 1.5 p/P is possible with the S variant (serial), and mass flows of up to 35 g/s with the P variant (parallel). These variants thus expand the range of applications and are an optimum solution for use in range extenders. A further advantage: At 48V, the voltage is in the low-voltage range and requires no cooling.

### **VRB16-HP**

Target applications of up to 20 kW system power are covered by the VRB 16-HP and are thus increasingly used in forklifts. The product uses the same motor as the VRB8\_2 on a larger compressor. Thus, a mass flow of up to 30 g/s can be generated at pressure ratios of 1.3 p/P.

Eberspaecher also offers matched air filters for the VRB product platform, [silencers](#) and corresponding [controllers](#).

### **New product line VRC**

In addition to the established product range, at the Hannover Messe Eberspaecher Vairex is presenting an example of the new VRC product line for the first time. These compressors are designed for fuel cells up to 150 kW. They can be used, for example, for truck and bus applications or larger stationary systems (e.g. primary power units). Here, previous technical limitations in terms of pressure and mass flow were overcome in order to adapt the reliable technology to larger, more powerful compressors. This allows mass flows of up to 200 g/s and pressure ratios of up to 2.5 p/P.

## Fuel Cell Exhaust System

The hydrogen strategy of the Group of Companies also includes exhaust technology systems in fuel cell applications. Eberspaecher has designed the **Fuel Cell Exhaust System** specifically for this purpose, in order to safely guide the moist exhaust air from the fuel cell into the environment. On the one hand, the system regulates the release of water vapor at the tailpipe. On the other hand, condensed water is separated in the form of water droplets, stored in the collection tank and released into the environment or fed back into the fuel cell system as required. Thanks to the integrated noise reduction function, the exhaust system contributes to the noiseless operation of the system, which is already very quiet in itself. The concept of this plant is transferable to all fuel cell applications and can be designed according to the customer's needs or the requirement of the application.

## Exhaust valve expertise for fuel cell application

In the area of valve and flap technology, the specialists at Eberspaecher can draw on many years of expertise in exhaust technology. The **Gas Control Valve** developed for fuel cell applications is used to control mass flows within the system to ensure efficient and safe operation of the fuel cell. Depending on the requirements, it is used as a bypass or back-up valve in the exhaust system: As a bypass valve, it guides the airflow completely or partially around system components as required. When used as a flap, it enables the regulation of air mass flow rates and pressure in different sections of the system. The compact design as well as the flexible flow direction of the Gas Control Valve allows versatile application. The innovative **Cathode Isolation Valve** hermetically seals the cathode air path directly at the stack. This prevents premature aging of the fuel cell stacks, since only a small quantity of hydrogen is required to flush the system. The valve can also be aligned for different installation space requirements and can thus be used universally.

The bundled expertise at the Hannover Messe is complemented by the experts from [Purem by Eberspaecher](#) with exhaust technology solutions specifically for the [hydrogen engine](#).

**Captions:**

- *VRB8\_2\_S/P extends the possible applications in range extenders. Variant VRB8\_2\_S (serial) pictured.*
- *VRB16-HP: With target applications of up to 20 kW system output, the VRB16-HP compressor enables increased use in forklifts.*
- *The Fuel Cell Exhaust System takes care of safely guiding the moist exhaust air.*
- *The Gas Control Valve regulates the mass flows within the fuel cell system.*
- *The Cathode Isolation Valve prevents premature aging of the fuel cell stacks.*

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**About Eberspaecher:**

*With approximately 10,000 employees at 80 locations worldwide, the Eberspaecher Group is one of the automotive industry's leading system developers and suppliers. The family business, headquartered in Esslingen am Neckar, stands for innovative solutions in exhaust technology, automotive electronics and thermal management for a broad range of vehicle types. In combustion or hybrid engines and in e-mobility, the components and systems from Eberspaecher ensure greater comfort, higher safety and a clean environment. Eberspaecher is paving the way for future technologies such as mobile and stationary fuel cell applications, synthetic fuels as well as the use of hydrogen as an energy carrier. In 2020, the Group generated revenue of more than 4.9 billion euros.*