

Freudenberg Sealing Technologies receives Innovation Award

New electromagnetic pulsation method for the production of diaphragm accumulators awarded

Weinheim (Germany). February 9, 2017. Freudenberg Sealing Technologies has won the 2017 Innovation Award of the German state Rhineland-Palatinate with a new electromagnetic pulsation method for the production of diaphragm accumulators. The Rhineland-Palatinate Minister for Economic Affairs, Volker Wissing, presented six companies in five categories at a ceremonial event in Trier (Germany). The Innovation Award Rhineland-Palatinate is one of the oldest innovation awards in Germany and is jointly awarded by the Ministry of Economy, Transport, Agriculture and Viticulture and the working groups of the Chambers of Industry, Commerce and Handicrafts.

Diaphragm accumulators consist of gas and liquid portions that are separated by a diaphragm. If the pressure rises in the oil circuit, the diaphragm accumulator takes up the liquid. This compresses the gas. If the pressure in the hydraulic system falls, the gas expands and forces the stored liquid back into the oil circuit. Tried-and-tested applications in the auto industry include energy storage in double clutch and automated transmissions, pulsation damping and hydraulic systems for suspension damping. Uses in other industries involve increases in cycle times and the shortening of hoist times in process flows, along with the general storage of hydraulic energy. But these advantages are offset by disadvantages, mainly in the manufacture of diaphragm accumulators. Especially in standard applications with largely low system pressures, the large number of process steps and components leads to higher production costs than necessary.

That's why Freudenberg Sealing Technologies has developed a new approach for the production of diaphragm accumulators – with fewer process steps, the need for fewer components and shorter installation times. Joining the two halves of the aluminum housing – through the use of electromagnetic pulse technology (EMPT) – and filling the gas side with nitrogen are handled in a single step. Electromagnetic pulse forming uses powerful magnetic fields to reform electrically conductive materials without contact. This technology can be used to join the same type of material or different types. Freudenberg Sealing

Technologies uses it to create a firm bond between the diaphragm accumulator's upper and lower shell. The redeveloped process offers high stability and component cleanliness. Thanks to this innovative process and the use of lightweight aluminum, new application options are opening up for diaphragm accumulators, in hydro-pneumatic suspension applications, for example.

Weight reduction of parts and components, especially for the automotive industry, is the focus of Freudenberg Sealing Technologies' LESS initiative. The acronym stands for "Low Emission Sealing Solutions" and thus for sustainability and environmentally friendly mobility: in engines, transmissions, auxiliary equipment and alternative powertrain concepts such as electric mobility. More information can be found at <http://less.fst.com>.

More details on diaphragm accumulators from Freudenberg Sealing Technologies are available at <https://www.fst.com/products/hydraulic-accumulators-and-suspension-systems>.

About Freudenberg Sealing Technologies

As the leading specialist in sealing applications and their markets, Freudenberg Sealing Technologies is a supplier as well as a development and service partner serving customers in a wide variety of sectors including the automotive industry, civil aviation, mechanical engineering, shipbuilding, the food and pharmaceuticals industries, and agricultural and construction machinery. In 2015, Freudenberg Sealing Technologies generated sales of about €2.3 billion and employed more than 15,000 people. More information at www.fst.com

The company is part to the global Freudenberg Group which, with its Business Areas Seals and Vibration Control Technology, Nonwovens and Filtration, Household Products as well as Specialties and Others. In 2015, the Group generated sales of more than €7.5 billion in and employed approximately 40,000 associates in around 60 countries. More information is available at www.freudenberg.com.

Contact

Freudenberg Sealing Technologies GmbH & Co. KG
Ulrike Reich, Head of Media Relations
Hoehnerweg 2-4
69465 Weinheim
Germany

phone: +49 (0)6201 80 5713
email: ulrike.reich@fst.com
www.fst.com