**Major Boost in Order Volume: High-Performance Rod Seal for Portable Insulin Pump**

**Freudenberg Sealing Technologies expands cooperation with Swiss medical technology specialist Ypsomed**

**Weinheim (Germany)/Zurich (Switzerland), January 31, 2024. Type 1 diabetics entrust their lives to insulin pumps. That is why durable functional reliability is such an important feature of the small devices’ sealing mechanism. Freudenberg Sealing Technologies has now entered into a new purchase agreement for seals with the Swiss medical technology specialist Ypsomed that significantly exceeds the previous order volume. This successful sales performance underlines the high expertise of Freudenberg Sealing Technologies in the medical technology field.**

“When the project started, Ypsomed expected a much lower number of seals per year. We have now concluded a two-year purchase contract with a much higher order quantity,” says Peter Rohrer, Sales Engineer at Freudenberg Sealing Technologies in Switzerland. The successful collaboration with the Swiss medical technology specialist Ypsomed already started in 2012. The company is a leading developer and manufacturer of injection and infusion systems for self-medication and a proven specialist for diabetes with over 35 years of experience.

**Challenge: High impermeability with minimal friction**

Patients with type 1 diabetes depend on a constant supply of insulin. They can still lead an active and mobile life thanks to portable insulin pumps. The portable insulin pumps continuously deliver precise doses of the vital hormone into the body, keeping the patient’s metabolism in balance.

The mylife YpsoPump from Ypsomed only weighs 83 grams – including battery and full insulin cartridge – and is only 16 millimeters high. Freudenberg Sealing Technologies developed a dedicated rod seal for this purpose several years ago. “The challenge was to combine a high level of tightness with minimal friction,” reports Patrick Kinsch, Product Developer in the Fluid Power Industry lead center at Freudenberg Sealing Technologies.

The reason: The pump is controlled on the basis of the patient’s blood glucose level, which is measured separately. The comparison between the target and actual levels follows various parameters that are determined inside the pump itself, mainly via a force measurement in the drive system. For reliable measurement – and thus precise control of the pump and insulin dosage – it is extremely important to have as little friction as possible in the drive system.

**Innovative and successful together**

To meet this challenge, Freudenberg Sealing Technologies has developed a suitable combination of a high-performance rod seal with a friction-optimized seal lip and surface; the specially matched lubricant is made by its affiliated company Klüber Lubrication. At the same time, a nanotechnology procedure lowers not only the roughness but also the friction of the elastomer. The seals with such treatment enable a very consistent torque curve. Furthermore, the rod seal protects the system from contamination when the insulin cartridge is changed and seals the motor against leaking insulin in case the cartridge accidentally breaks. “With this seal, we developed the optimum solution for the portable insulin pump from Ypsomed. We’re delighted that this is now reflected in a significantly increased purchase volume,” says Rohrer.

Freudenberg Sealing Technologies has been an eminent development partner and reliable supplier in the medical device market for many decades. The company is committed to innovation, improving efficiency and providing high-quality, cost-effective solutions.

*Bild: FST\_Ypsomed-Diabetes.jpg / © Freudenberg Sealing Technologies 2024*

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**About Freudenberg Sealing Technologies**

Freudenberg Sealing Technologies is a longstanding technology expert and market leader for sophisticated and novel applications in sealing technology and electric mobility solutions worldwide. With its unique materials and technology expertise, the company is a proven supplier for demanding products and applications, as well as a development and service partner to customers in the automotive industries and in general industries. In 2022, Freudenberg Sealing Technologies generated sales of about 2.45 billion euros and employed approximately 13,500 people. More information at [www.fst.com](http://www.fst.com).

The company is part of the global Freudenberg Group which has four business areas: Seals and Vibration Control Technology, Nonwovens and Filtration, Household Products as well as Specialties and Others. In 2022 the Group generated sales of more than 11.7 billion euros and employed more than 51,000 associates in around 60 countries. More information is available at [www.freudenberg.com](http://www.freudenberg.com).

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**About Ypsomed**

Ypsomed is the leading developer and manufacturer of injection and infusion systems for self-medication and a renowned diabetes specialist with over 35 years of experience. As a leader in innovation and technology, it is a preferred partner of pharmaceutical and biotech companies for pens, autoinjectors and pump systems for administering liquid medications. Ypsomed presents and markets its product portfolios under the umbrella

brands mylife Diabetescare directly to patients or via pharmacies and hospitals as well as under YDS Ypsomed Delivery Systems in business-to-business operations with pharmaceutical companies. The company is headquartered in Burgdorf, Switzerland, and has a global network of production facilities, subsidiaries and distribution partners employing a staff of over 2,200 employees worldwide.