

*PRODUCT INFORMATION
FOR UK ONLY*

Gerromatic radial shaft seal minimises wear and maximises service life

The Gerromatic radial shaft seal from Freudenberg Sealing Technologies comprises a stainless steel retaining element and a high-performance PTFE wave-shaped sealing lip that runs in a novel sinusoidal pattern on the shaft surface. As the shaft rotates, each point of the sealing lip repeatedly covers a new area of the shaft that is wetted with medium. The Gerromatic radial shaft seal is available via Dichtomatik Ltd, the exclusive provider for Freudenberg's food and beverage related sealing products in the UK.

The seal is intended for use in axially accessible installation spaces, whereby the metallic clamping ring enables an exceptionally tight fit. The Gerromatic rotary shaft seal withstands a high-pressure load of up to 8 bar, and temperatures of between -80°C and +200°C. In other applications, a sliding speed of up to 25 m/s can be achieved.

Each of the various PTFE types, such as PTFE Y002, not only have the relevant food approvals according to EU regulation 10/2011 and the FDA (Food and Drug Administration), but PTFE Y002 also complies with the pharmaceutical regulations of USP Class VI. In addition, the materials are particularly resistant to CIP/SIP (cleaning in place/sterilisation in place) cleaning media that are commonly used in the process industry. These outstanding properties make the Gerromatic particularly well suited to wet-running applications in food and beverage plants.

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Delivering minimal wear and maximum service life, the Gerromatic radial shaft seal also offers a unique self-cleaning effect. Thanks to the innovative contact zone of the wavy sealing lip with the shaft, abrasive particles are washed away immediately. This mechanism prevents particles from remaining in-situ under the sealing lip, where they can cause wear and leakage. Additionally, the alternating flat and linear contact zone provides pressure distribution, which is highly advantageous. Compared with conventional rotary shaft seals, the sealing lip of the Gerromatic offers maximum stiffness and thus maintains its full functionality even at high operating pressures.

In contrast, the symmetrical sealing lip of a proven standard seal offers straight-line contact that can lead to the displacement of medium in the contact zone. This dry running increases friction and, subsequently, temperature. As a result, a special sealing lip shape has been developed for the Gerromatic that has sinusoidal contact with the shaft. This design efficiently reduces the effect of friction, which is beneficial with temperature-sensitive media. In standard 96-hour tests at 0.5 MPa pressure and 5 m/s circumferential speed, the Gerromatic shows a 20°C lower temperature rise of the seal in comparison with proven rotary shaft seals. The Gerromatic also sets a new standard for high-pressure applications with regard to leakage behaviour (the leakage rate is negligible under the same test conditions).

The extensive sealing portfolio from Freudenberg Sealing Technologies includes a range of food-compatible and hygiene-safe radial shaft seals. These seals are made of high-performance materials and each has a design tailored to specific applications, including the Gerromatic for food and beverage plants. Experts at Freudenberg Sealing Technologies continuously monitor current market needs and proactively develop new product designs and sealing materials that deliver optimised performance in line with application requirements. The Gerromatic radial shaft seal is the latest in a long line of innovations that have emerged from the development lab at Freudenberg.

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Further information is available at:

<https://foodandbeverage.fst.com/products-en/innovations#Gerromatic>



Caption: The Gerromatic radial shaft seal from Freudenberg features a wave-shaped sealing lip.

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About Freudenberg Sealing Technologies and Dichtomatik

Freudenberg Sealing Technologies is a longstanding technology expert and market leader 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 2017, Freudenberg Sealing Technologies generated sales of about €2.3 billion and employed approximately 15,000 people. More information at www.fst.com.

Dichtomatik is Freudenberg Sealing Technologies' sales organisation for technical seals. There are currently 8 locations in Europe: in England, Sweden, the Netherlands, France, Austria, Hungary, Italy and the headquarters in Germany as well as locations in the USA, Canada, Middle and South America as well as Asia. More information at www.dichtomatik.com

For product inquiries:

Freudenberg Sealing Technologies
Dichtomatik Ltd
Donington House, Riverside Road, Pride Park, Derby, DE24 8HY
tel: 01332 524422
email: fst-food-beverage@dichtomatik.co.uk
web: <https://foodandbeverage.fst.com/products-en/innovations#Gerromatic>

For media inquiries relating to Freudenberg Sealing Technologies:

Freudenberg Sealing Technologies GmbH & Co. KG
Ulrike Reich, Head of Media Relations
tel: +49 (0)6201 80 5713
email: ulrike.reich@fst.com