HEAT PUMP SEALING SOLUTIONS

FST delivers high-performance sealing solutions tailored for critical components in heat pump systems, including compressors, valves, fittings, and heat exchangers.

Our products are engineered to meet the challenging requirements of HVAC applications, offering resilience under high pressure and temperatures to ensure reliability, efficiency and long service life.

Applications include PTFE sealing rings and gaskets for scroll and rotary compressors, and damper seals for reciprocating types. For valves, we supply chemically resistant O-rings and diaphragms for Expansion Valves, Solenoid Valves, and Pressure Regulators.

O-Rings and robust sealing elements are provided for fittings—such as press fittings, flow controllers, and thermostats. Additionally, we offer gaskets and O-rings for various heat exchanger types.

FST's sealing components are compatible with environmentally friendly refrigerants, comply with drinking water regulations, and support environmental compliance across the entire heat pump system.

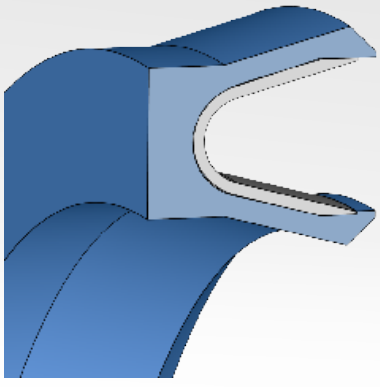
VALUES FOR THE CUSTOMER

- Inhouse material development
- Customized sealing solutions
- Global footprint
- 335 Drinking Water Certificates for O-Rings
- PFAS ready solutions
- Long service life & sealing durability
- High resistance to pressure and pressure peaks

FEATURES AND BENEFITS

- Material performance enables us to fulfill lifetime expectations (> less maintenance cost) and approvals (e.g., drinking water)
- Autoxidation resistance ensures a long service life and reliable sealing
- Highly age-resistant materials
- Withstand high pressures and temperatures, and are compatible with environmentally friendly refrigerants
- Precise control and leak-free operation under varying pressure conditions

WIDE TEMPERATURE RANGE & HIGH CHEMICAL RESISTANCE



PTFE SPRING LOADED SEAL

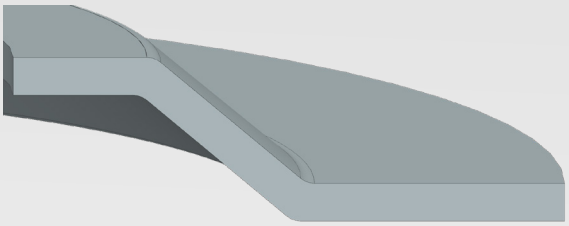
Product Information: Forseal

VALUES FOR THE CUSTOMER

- Low friction even at low speed
- High wear resistance
- Good dry running characteristics

FEATURES & BENEFITS

- High chemical resistance
- Wide temperature range
- No stick-slip effect
- High extrusion reliability



PTFE SEAL / LIP SEAL

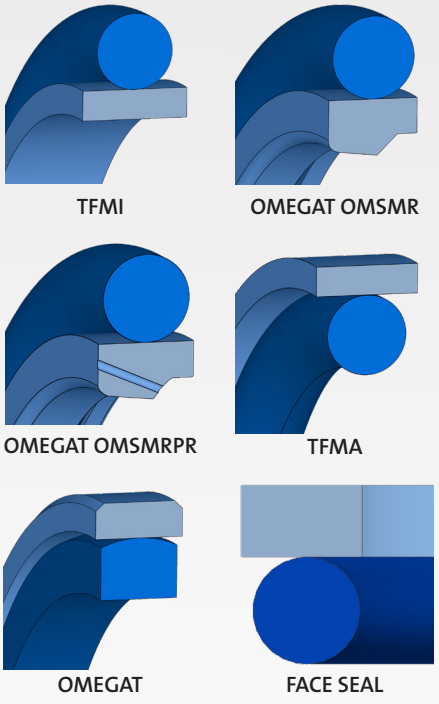
Product Information: Lip Seal

VALUES FOR THE CUSTOMER

- Multiple grades of PTFE available to maximize customer performance

FEATURES & BENEFITS

- Its simple geometry makes it easy to install



PTFE SEAL / FACE SEAL

Product Information: Rod Seal, Piston Seals, Face Seals Series/Face Seal

VALUES FOR THE CUSTOMER

- Profiles can be applied as rod, piston, or face seals
- A variety of profiles makes it suitable for a broad range of pressures.
- Low housing height (compact)
- Low friction
- PFAS ready solutions

FEATURES & BENEFITS

- Used in pairs to create pressure pockets in scroll compressors
- Range of energizer profiles available depending on application needs (torsion resistance, etc.)
- Symmetrical profiles for easy installation
- Friction/Wear charts for PFAS free materials available upon request



PTFE BACKUP RINGS

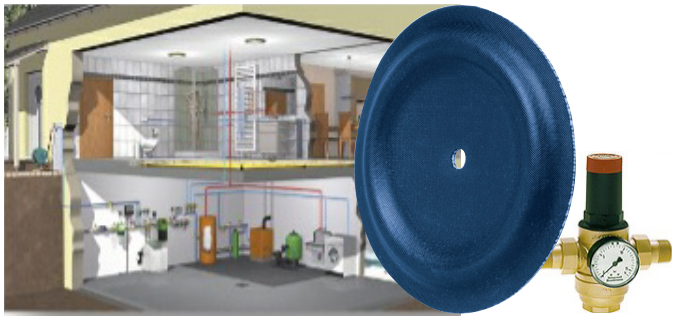
Product Information: Backup Rings

VALUES FOR THE CUSTOMER

- Expands operating conditions of O-rings and other seals
- High material and product quality
- Compatible to all hydraulic fluids
- Wide selection of dimensions meeting standard gland designs

FEATURES & BENEFITS

- In addition to industry standard glands, Troy also makes aerospace backup rings (see table for MIL specs)
- Variety of cuts are available (scarf, spiral, solid)



LONG SERVICE LIFE HIGH RESISTANCE TO PRESSURE & PRESSURE PEAKS

Pressure regulator for domestic water systems - Diaphragms made of EPDM with fabric reinforcement.

Success factors: Long service life, high resistance to pressure and pressure peaks.



STRINGENT DRINKING WATER APPLICATION REQUIREMENTS

Freudenberg has obtained all relevant market approvals for the 70 EPDM 335DW compound. This ensures a trusting and reliable basis for utilizing O-rings within drinking water applications and allowing commercialization on a Global scale.

Drinking Water								
ACS	EN 681-1	KIWA	NSF/ANSI 61	ÖNORM B5014	KTW-BWGL	WRAS BS6920	EN 16421	AS/NZS 4020
—	—	—	—	—	—	—	—	—

Food and Beverage	
CE1935/2004	FDA 177.2600
—	—

Seal Type	Compressors (Scroll, Rotary, Reciprocating)	Fittings (Press Fittings)	Valves (Expansion, Solenoid, Pressure Regulator)	Heat Exchanger (Heat Plate)
PTFE Spring Loaded Seal	+		+	
PTFE Seal	+		+	
Backup-Ring		+		
Diaphragm			+	
O-Ring		+	+	+
Gaskets	+			+

Please contact us for bespoke & customized sealing solutions

The information contained herein is believed to be reliable, but no representation, guarantees or warranties of any kind are made to its accuracy or suitability for any purpose. The information presented herein is based on laboratory testing and does not necessarily indicate end product performance. Full scale testing and end product performance are the responsibility of the user.

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