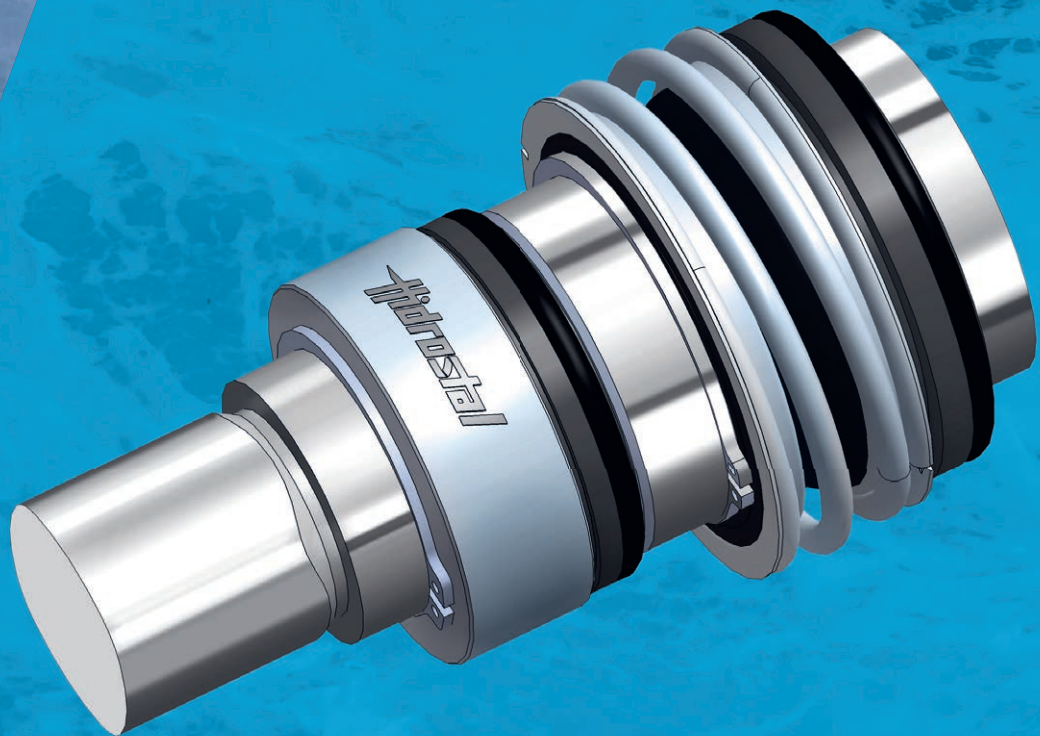




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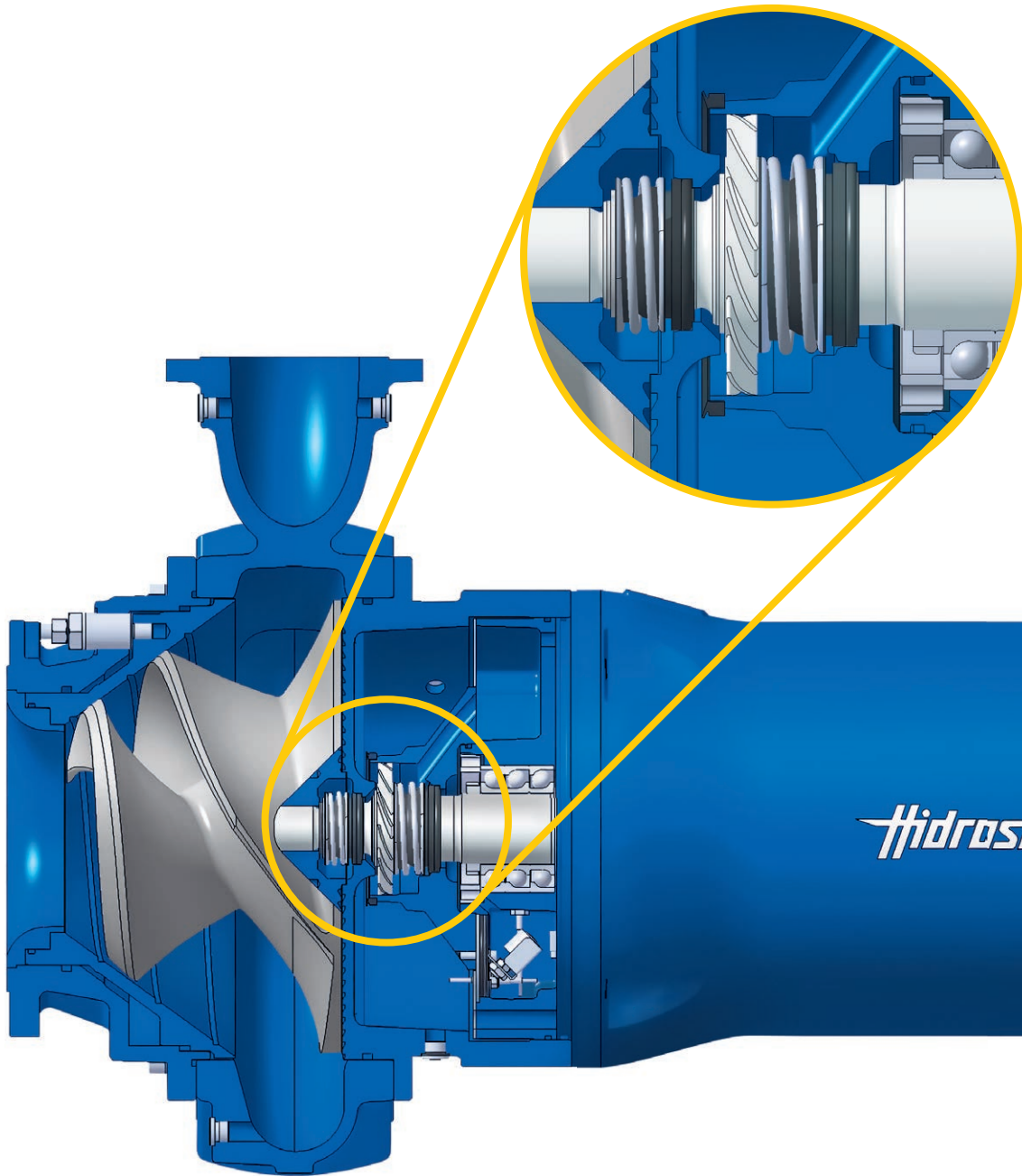
Hidrostal mechanical seals

Hidrostal mechanical seals offer maximum reliability, minimum mechanical losses and maximum service life with low maintenance requirements.



Hidrostal mechanical seals

A pump only works as well as each of its individual components. As one of the core elements, the mechanical seal is of crucial importance. Its failure often results in high follow-up costs. For this reason, maximum reliability, top quality and ease of servicing are essential for trouble-free pump operation.



Tandem assembly

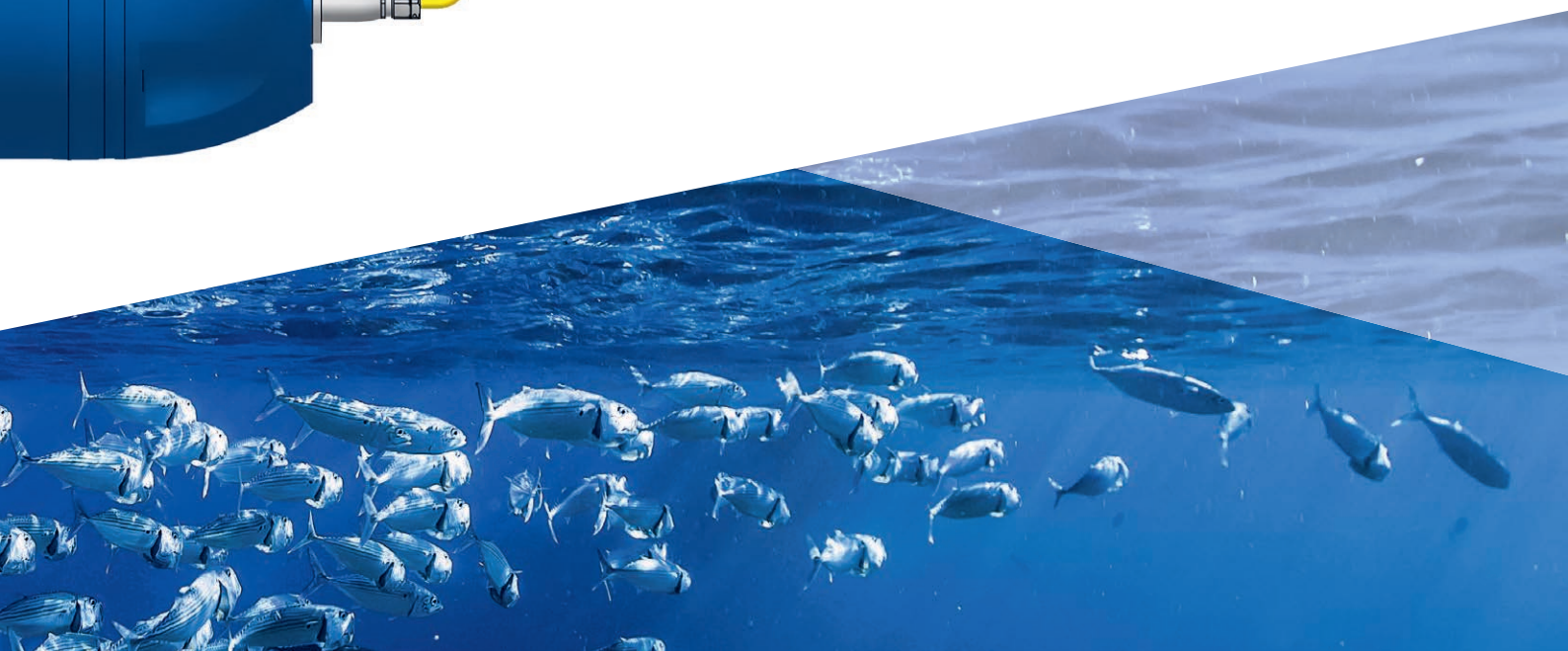
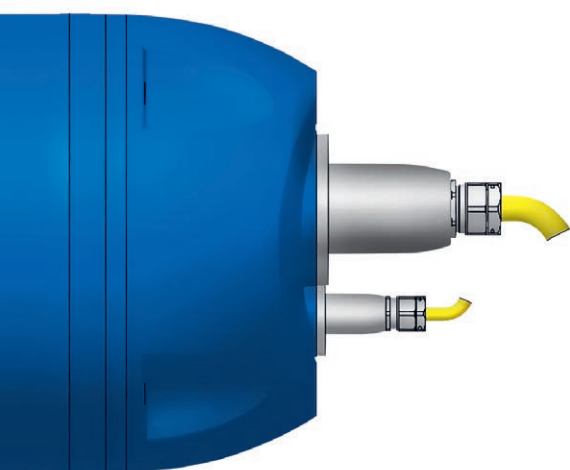
Hidrostal pumps are supplied with two mechanical seals in a tandem assembly as standard. This offers the greatest possible protection against the pumping medium penetrating the drive unit. The barrier medium, which can be monitored by sensors, ensures optimum lubrication of the sliding surfaces at all times. The seals used are designed to be as reliable, efficient and durable as possible.

Primary seal

The medium-side or primary seal protects against the pumped medium. The use of particularly hard materials prevents damage to the sliding surfaces, even if the pumped liquid contains impurities in the form of solids. Hidrostal pumps protect the primary seal with an integrated labyrinth-like seal, which prevents the ingress of large solids that could damage the seal.

Secondary seal

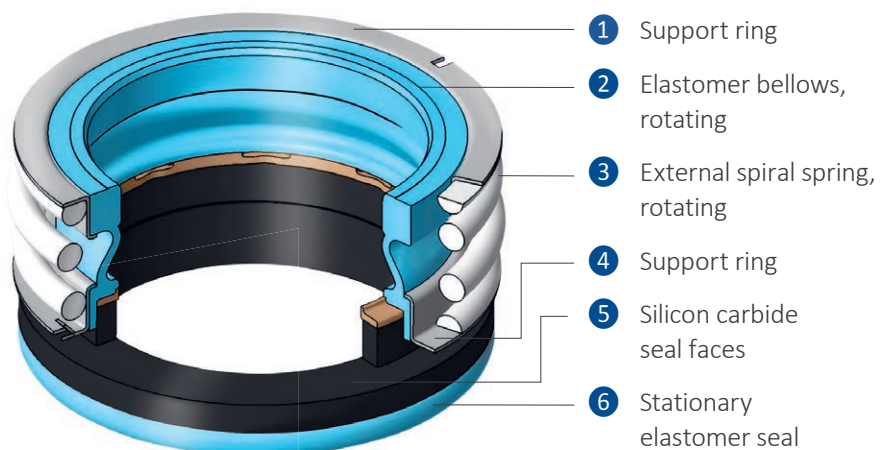
The secondary seal seals the area of the roller bearing to the pump's sealing medium. If the primary seal runs dry or fails, the secondary seal can temporarily take over the primary sealing function. This can protect the pump from serious damage and allow time for repairs.



Standard seals

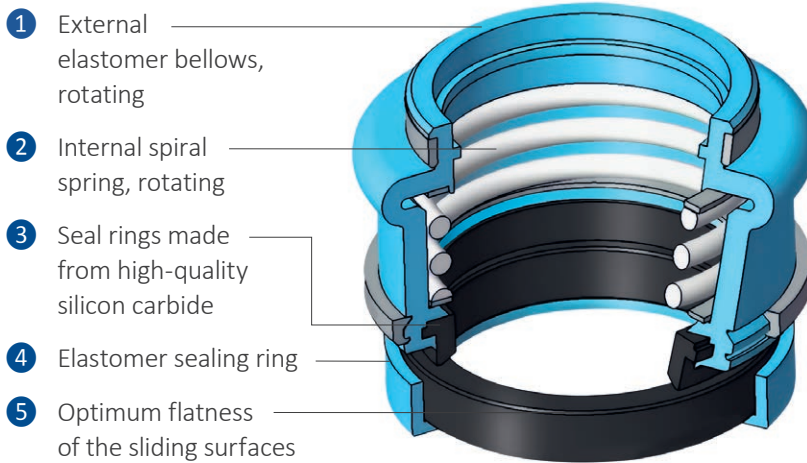
Elastomer bellows seals with external spring

- Durable
- Reliable
- Robust and high quality
- Insensitive to shaft deflection



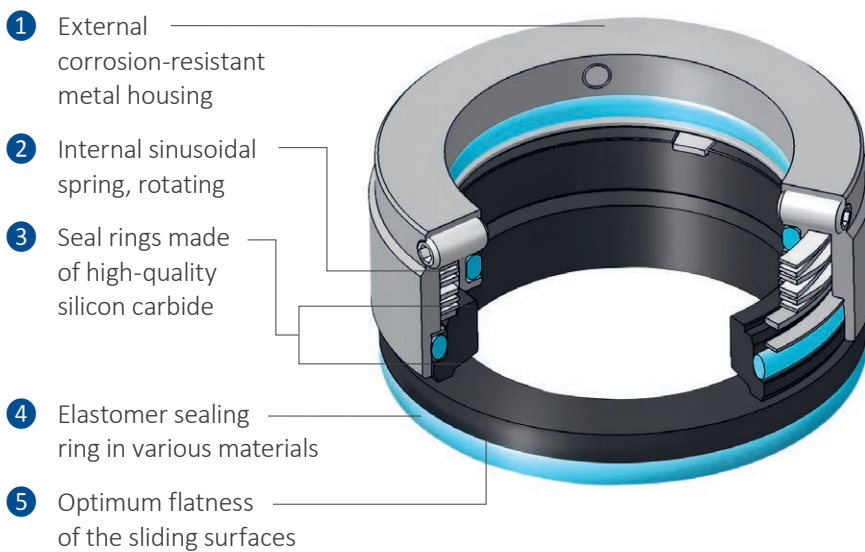
Premium seals

Elastomer bellows seals with internal spring



- Resistant to soiling
- Internal spring prevents tangling

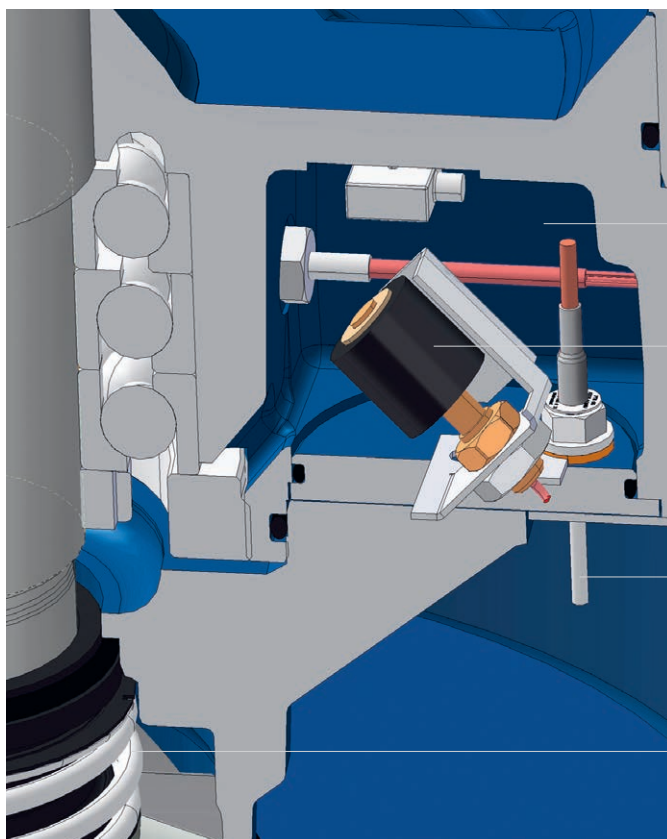
Stainless steel component seal with internal spring



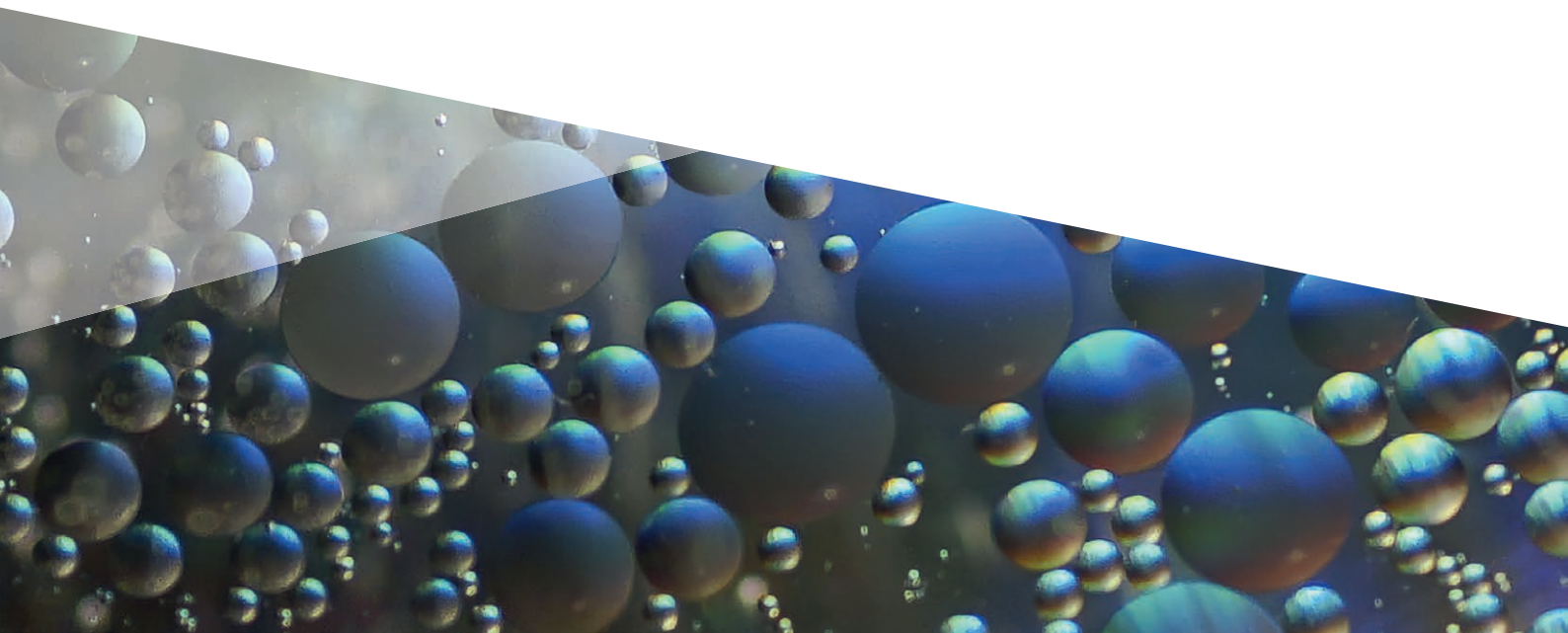
- High pressure
- High sliding speed
- Corrosion resistant
- Application-specific elastomers
- Hydraulically balanced seal
- Internal sinusoidal suspension prevents clogging

Monitoring elements

Both mechanical seals can be continuously monitored to provide optimum protection for the electrical components and the roller bearings. A conductivity probe detects the penetration of the pumped medium into the sealing medium chamber using the conductive measuring principle, while a float switch on the motor side detects leaks to the integrated dry or inspection chamber. This continuous monitoring makes it possible to plan maintenance intervals for the seals in order to avoid expensive damage or downtime.



- ① Drying chamber
- ② Float switch
- ③ Conductivity probe
- ④ Secondary seal



Selection of the mechanical seal

Mechanical seals play an important role in terms of process stability, operational reliability and system availability. Their influence on the economic efficiency of pump systems is correspondingly high. The selection of the right mechanical seal for the respective application therefore has a decisive influence on the function and reliability of the systems used.

Selection criteria

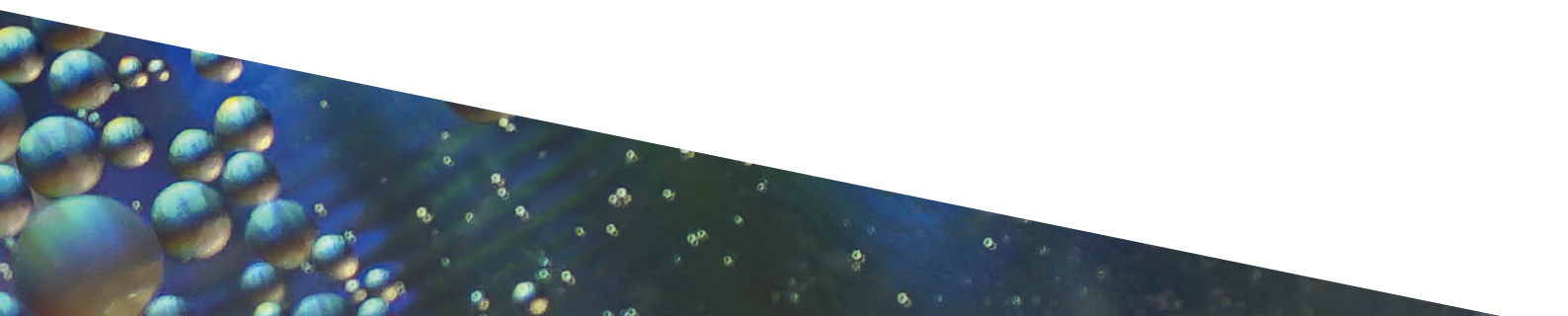
If the speed or sliding speed is known when selecting the pump, a correspondingly higher quality seal will automatically be used if the speed is increased. Depending on the pumped medium, the solids content and the elastomer compatibility, a change to a premium seal is recommended. In summary, this means that if either the speed is increased, the solids content is high or long-fibered, or the pumped medium is aggressive, a change to a premium seal should be considered.

Materials and application limits

The table below contains information on the materials used as well as technical data on the maximum sliding speed, maximum pressure and permissible temperature range of the barrier medium.

The steel components of all products are made of stainless steel with excellent corrosion and acid resistance. In the "Elastomers" column, optional elastomers that may be available are shown in brackets.

Type	Sizes	Materials			Technical data		
		rotating seal ring	stationary seal ring	elastomers	Sliding speed [m/s]	Pressure [bar]	Temperature [°C]
G	20 mm to 3"	silicon carbide	silicon carbide	NBR (EPDM, FKM)	10.0	16	-20 to +100
E	16 to 130 mm	silicon carbide	silicon carbide	NBR	10.0	16	-20 to +100
M	5/8" to 2"	tungsten carbide	silicon carbide	NBR	6.8	6	-20 to +90
X-D	20 to 120 mm	silicon carbide	silicon carbide	FKM (EPDM, FFKM)	30.0	30	-20 to +100
I	16 to 130 mm	silicon carbide	silicon carbide	FKM (EPDM, FFKM)	30.0	16	-20 to +100



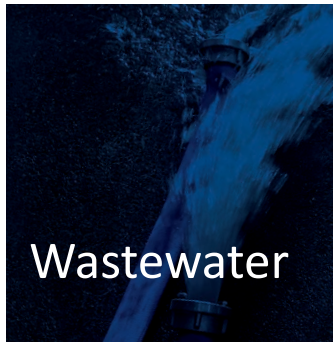
Hidrostal pumps

Make a quick and accurate
pump selection:
hidrostal.com/pumpselector.php



Hidrostal pumps are used in numerous branches and industries due to their excellent pumping characteristics. They convey a wide variety of liquids and materials with low pulsation and gentle handling. Our specialists select the suitable material combinations and adapt each pump individually to the conditions on site. This approach ensures that Hidrostal pumps prove their worth even in difficult applications and thus achieve the best results in terms of efficiency, energy efficiency and low life cycle costs.

- non-clogging delivery
- high suction capacity
- gentle conveying due to low shear forces
- high efficiency
- stable characteristic curve
- long service life
- low pulsation
- continuous, speed proportional conveying
- high pressure stability



info@hidrostal.com
www.hidrostal.com

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