BÖRGER®
Innovation

Simplicity

is simply better

CSP

Product Lines
Classic, Select & Protect

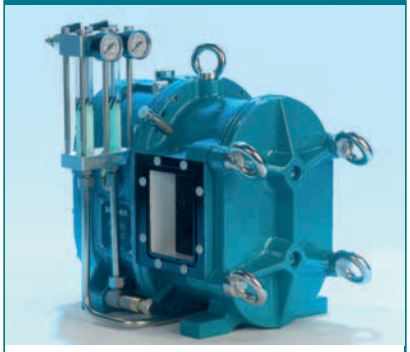
Three Product Lines – Three Outstanding Solutions

Börger has been supplying high-quality rotary lobe pumps for more than 25 years. From a variety of sizes, types and materials, the matching rotary lobe pump can be configured for each application. Three product lines are available with various shaft seals including many customizable features, all with standardized pump characteristics.

Classic

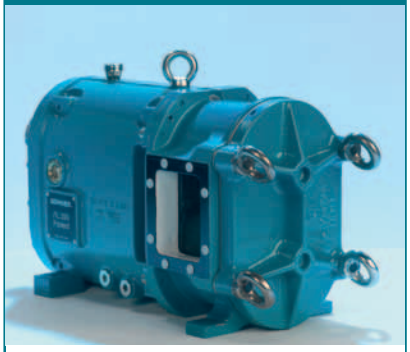
The Börger Classic Rotary Lobe Pump product line has been well-proven for many years and is the basic model of our rotary lobe pumps with a large-dimensioned, pressure-less fluid-filled intermediate chamber.

Select



Based on the advantages of the Classic Product Line with individually controllable, pressurized mechanical seals with single seal chambers. An additional control chamber between timing gear and seal chamber ensures the Börger standard safety of the system.

Protect

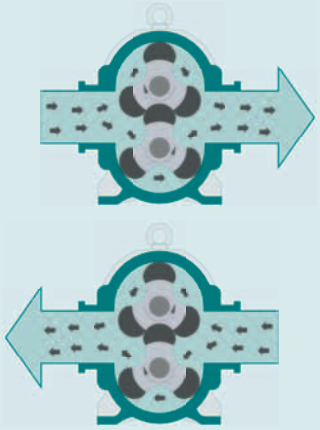


The Product Line Protect with double acting mechanical seals is the perfect solution for high requirements with problematic medium. The gear assembly with open intermediate area towards the pump casing allows for fitting of double acting mechanical seals. With the pressurized buffer fluid between two mechanical seals, any penetration of conveying product in between the sliding surfaces is reliably avoided.

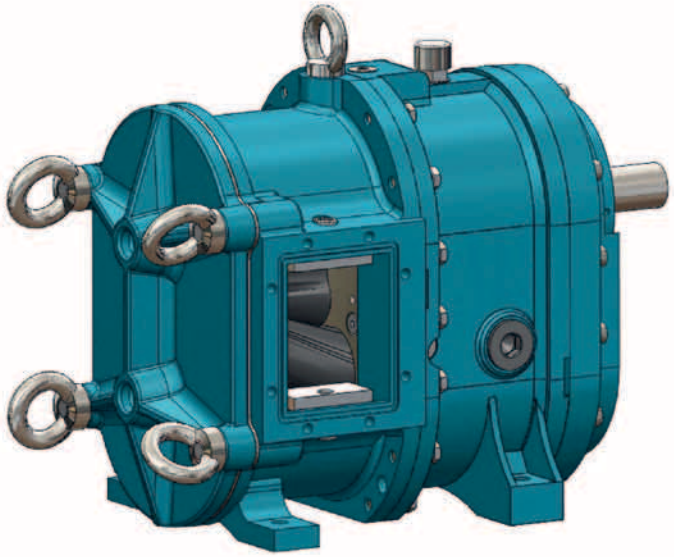
Being based on the same pump chamber, the Product Lines Classic, Select and Protect offer a high rotor and material availability.

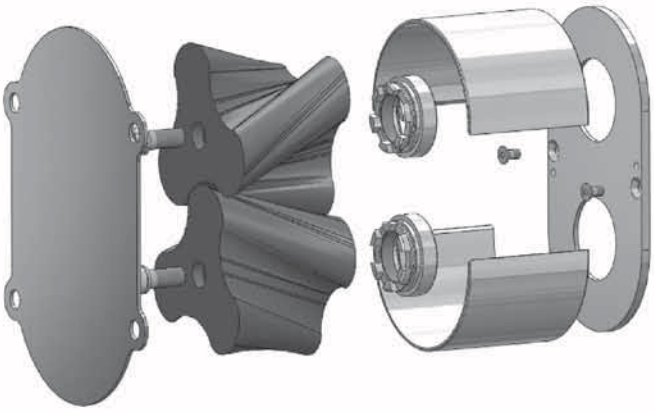
Principle of the Rotary Lobe Pump

Börger Rotary Lobe Pumps are self priming, valveless positive displacement pumps. The synchronized counter-rotating rotors seal towards each other. Chambers are formed between the rotor vanes and the casing surrounding them. These chambers move from the suction to the pressure side creating a vacuum. The conveyed product in the chambers is displaced through the discharge-side casing opening. The flow direction is easily reversible by changing the direction of rotation. Therefore Börger Rotary Lobe Pumps are best suitable for reversing operation.



Classic - Classically Good!

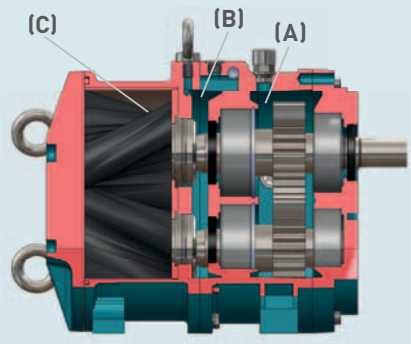




Exclusive from Börger:
Unrivalled MIP-Design reduces life cycle cost and downtime.

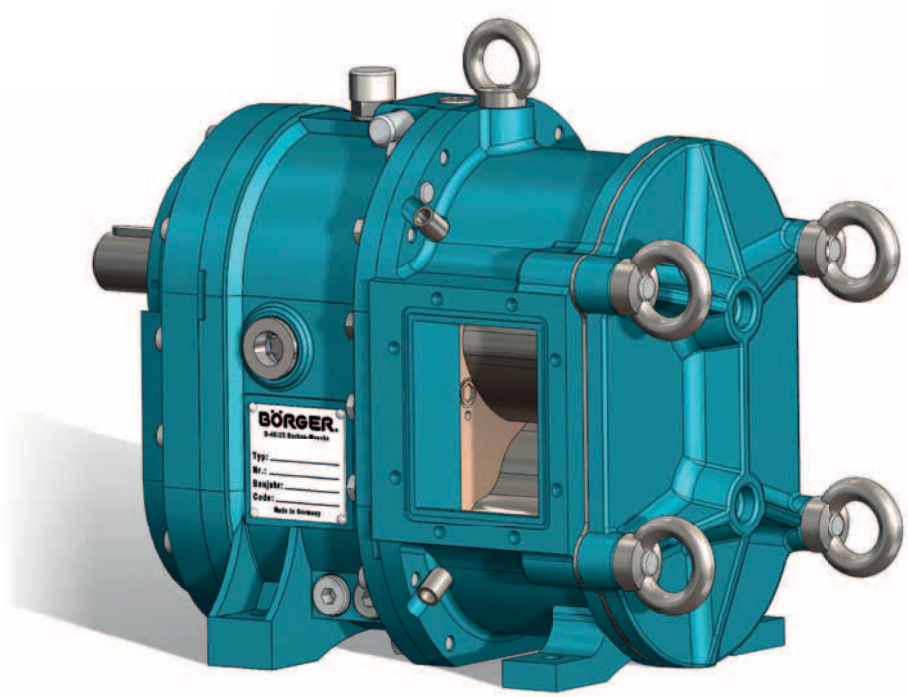
The low number and compact nature of the individual components will surprise anyone who disassembles a Börger Rotary Lobe Pump. The different sizes of the casings and rotors are manufactured in a single piece construction, quite different from the high number of components normally found in comparable pumps. The results are robust and compact rotary lobe pumps, which are known for quiet, safe and reliable operation, long operational life and for ease of maintenance. All replaceable parts can be easily installed and removed by maintenance personnel, in-situ. MIP = Maintenance in Place.

The wide range of different materials and rotors make it possible to configurate and build the perfect Börger Rotary Lobe Pump for each application.



The robust bearings and timing gear (A) is separated through the intermedate chamber from (B) the pump chamber (C).

Select - The Perfect Selection!



The Select Pump follows the base principle of the Classic Product Line. Between timing gear and pump casing, the mechanical shaft seals are individually pressurized. The advantage of the intermediate chamber with pressure-less quench fluid is still featured as an additional buffer zone. This guarantees double safety for the timing gear assembly.

The Select Product Line is particularly suitable for crystalline, toxic and sensitive fluids. Due to the pressurized area between the seals, medium is unable to penetrate in between the surfaces of the mechanical seal faces. Additionally, the pumped fluid does not come into contact with the environment. Any seal leaks can be promptly detected and prevented by visual and sensory monitoring. Since the shafts seals are individually pressurized, it is possible to monitor each seal assembly of the two shafts separately to identify a defective mechanical seal.

Different needs require different materials and dimensional features. Börger offers a wide material variety. The pump casings are available from cast iron up to duplex-stainless steel, the casing protection plates provide materials up to ceramic and the rotors include a wide range of geometries and materials (elastomer coated, PUR, PTFE up to stainless steel).

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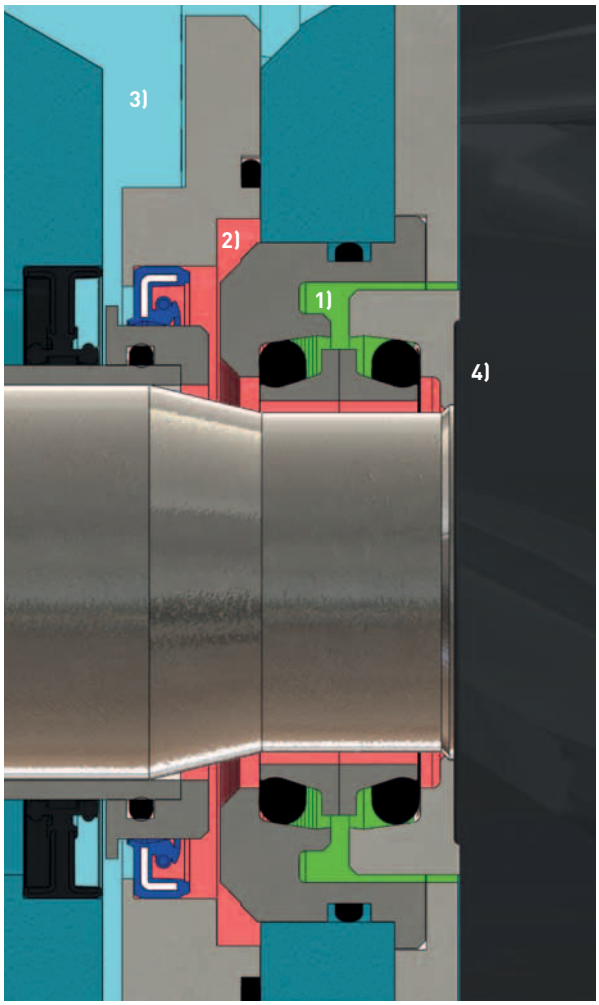
Unrivalled MIP-Design reduces life cycle cost and downtime.

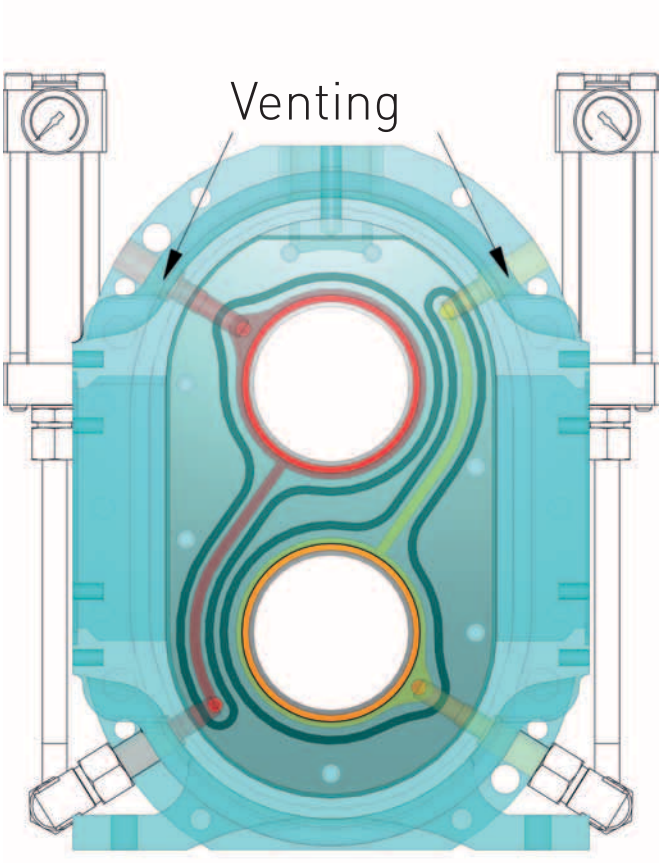
MAINTENANCE IN PLACE® MIP BÖRGER



Design of the Select Product Line shaft seal featuring the intermediate chamber quench

Due to the pressurized area between the seals, medium is unable to penetrate in between the surfaces of the mechanical seals. The medium does not come into contact with the atmosphere. Any heat development of the seal is transferred by the quench fluid. All parts of the seals are accessible and replaceable via the pump chamber (MIP = Maintenance in Place).

1) Intermediate Chamber
2) Buffer Fluid
3) Conveying Product
4) Pump Chamber



The buffer fluid or the pressurized flushing liquid is fed in from the lowest point. This is made possible with the special intermediate plate. Vent or drain connections are located as highest points. Sight glasses (Level Control) with fittings and connections are available within our delivery program.

Protect - Double Acting, Double

The professional among the Börger Rotary Lobe Pumps is the Protect Product Line which incorporates the highest degree of operational safety for the mechanical seals with problematic fluids. The timing gear with optimized axial tolerances is separated from the pump chamber. In between are two pressurized double-acting mechanical seals fitted. The pressurization can be achieved with a thermosyphon system. The Protect pumps are particularly suitable for critical liquids (such as toxic or explosive pumped media), as well as highly abrasive conveying products.

Protect pumps are also suitable for pumping latex, which often forms deposits between the seal faces causing possible leakage issues. It is essential that the pressure level of the clean buffer fluid is kept higher than the maximum discharge pressure in the pump chamber. In this way the double-acting mechanical seals reliably prevent the pumped medium from leaking out of the pump chamber. The pressurized buffer fluid also prevents the conveying product from penetrating in between the seal faces.

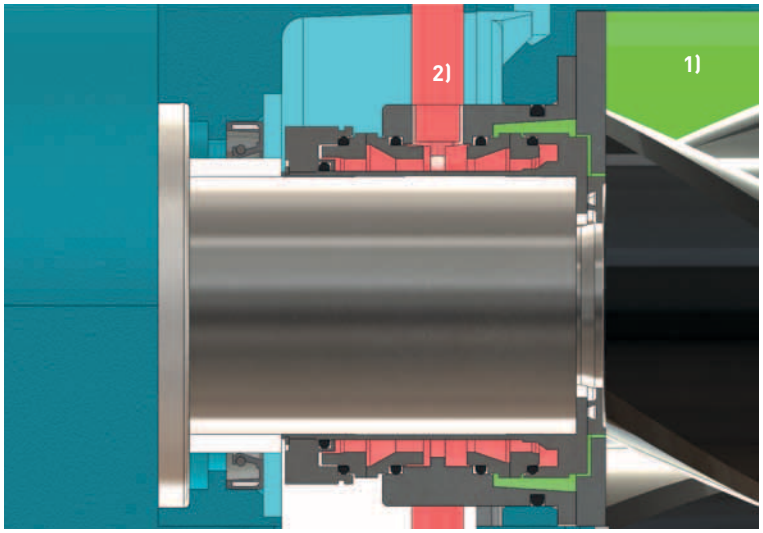
Different needs require different materials and dimensional features. Börger offers a wide material variety. The pump casings are available from cast iron up to duplex-stainless steel, the casing protection plates provide materials up to ceramic and the rotors include a wide range of geometries and materials (elastomer coated, PUR, PTFE up to stainless steel).

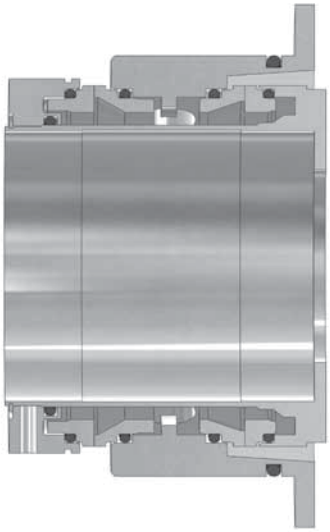
MAINTENANCE IN PLACE MIP® BÖRGER

Exclusive from Börger:
Unrivalled MIP-Design reduces life cycle cost and downtime.

Secure, Double Protected!

Design of the Double Acting Mechanical Seal

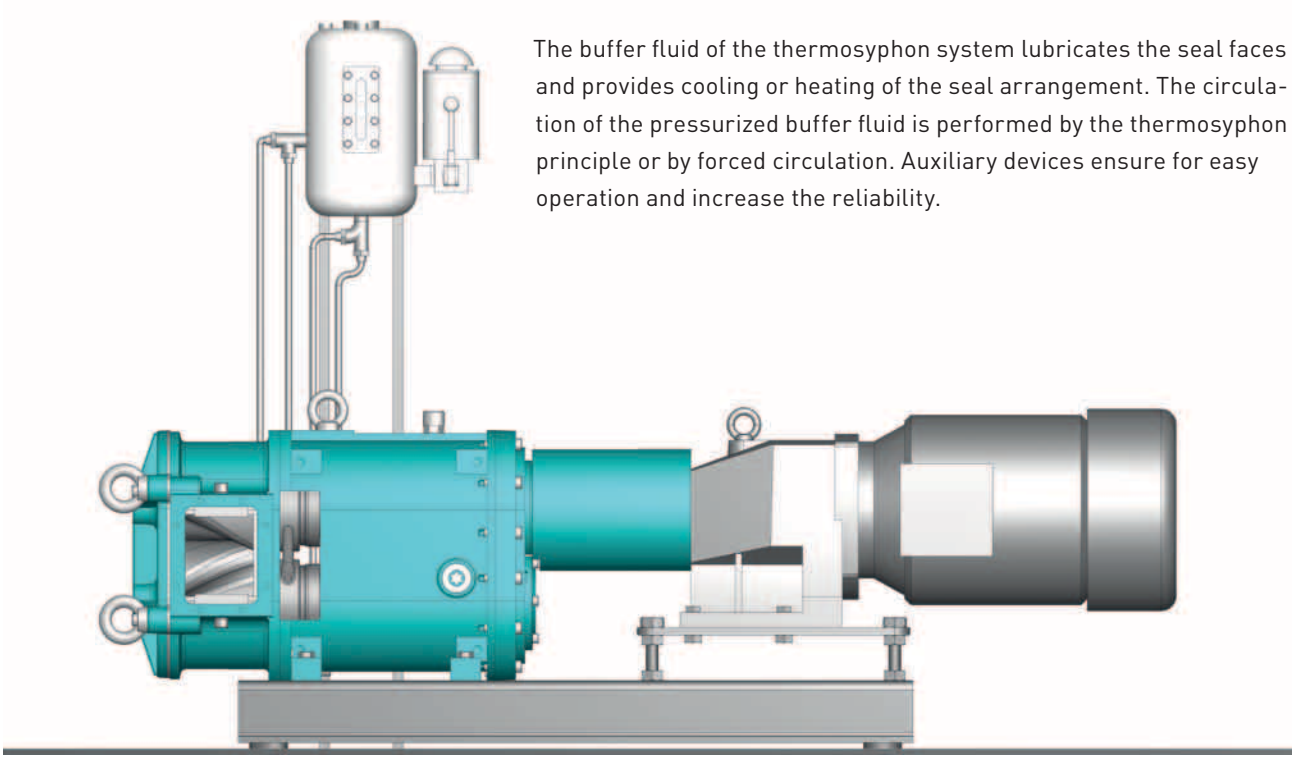




1) Conveying Product
2) Buffer Fluid

Börger Rotary Lobe Pump of the Protect Product Line with Thermosyphon System

The buffer fluid of the thermosyphon system lubricates the seal faces and provides cooling or heating of the seal arrangement. The circulation of the pressurized buffer fluid is performed by the thermosyphon principle or by forced circulation. Auxiliary devices ensure for easy operation and increase the reliability.



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Isomaltulose | In the production process of liquid sugar, Börger Select pumps are utilized for Isomaltulose applications. The medium has high demands on the sealing of the pump. As very small crystals (micro dimension) are present in the fluid, a Börger pump with double acting mechanical seals was the obvious choice.

Yeast products | A company specializing in the manufacture of yeast products was looking for a reliable and robust pump to convey the slurry. The slurry contains potassium sulphate. As a result of extensive tests with pumps from various providers, the customer chose a Börger Select Rotary Lobe Pump with individually pressurized mechanical seals. The customer is extremely pleased with the Börger Select Rotary Lobe Pump.

Sealing Compounds | A manufacturer of building chemical products is using a Börger Protect Pump for conveying sealing compound. The sealing compound is highly viscous and with latex added. Decisive-factors for this choice were the material variety and ease of maintenance provided by the Börger pumps and especially the extensive experience of Börger GmbH in dealing with the challenges of chemical pumped media.

Parquet and tile adhesive | Abrasive floor adhesives with viscosities of up to 84,000 mPas needed to be transferred in an industrial company. The Börger Protect Pump with the Premium rotor from stainless steel provides the best longevity in this application and the rotor is perfectly designed for abrasive pigments in highly viscous fluids.