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Garlock KLOZURE® GPA® Seals

Versatile design for a wide range of services

The GPA is an ideal seal utilized in a broad range of abrasive applications found in the Mining, Processing and Pulp & Paper industries. With its simple, sturdy, and proven design the GPA can be adapted to almost any industrial pump, mixer or agitator. The GPA is available in a wide range of materials and configurations to suit the specific application requirements.

FEATURES AND BENEFITS

- Does not require a flush thus minimizing the overall operating cost
- Designed to eliminate the risk of clogging which leads to seal failure
- Flexible design which allows the seal to be adapted to a variety of equipment
- Available in a cartridge design for ease of installation
- The GPA can be refurbished when needed

MATERIALS

Depending on the process and the fluid to be pumped, the Garlock Klozure engineering staff will assist you in selecting the best materials for the following key components:

Seal Faces
- U5: Tungsten carbide w/ Cobalt
- U6: Tungsten carbide w/ Nickel
- U8: Silicon Carbide
- C4: Siliconized Graphite

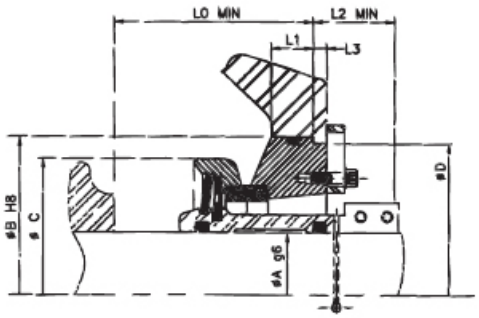
O-rings
- B: Buna
- E: Ethylene polypropylene
- V: Viton
- N: Neoprene

Membrane
- N: Neoprene
- M5: PTFE coated
- P1: Therban® (HNBR)
- E: Ethylene polypropylene

Sleeves
- D: Carbon Steel
- E: Chrome Steel
- G: 316 L Stainless steel
- T: Cr-Ni-Mo-Cu steel for phosphoric service

SPECIFICATIONS

Pressure	to 300psi (20 bar)
Temperature	32˚F (0˚C) to 310˚F (160˚C)
Shaft Size	0.788" (20mm) to 7..085" (180mm)
Speed	5,000fpm (25.5 m/s)



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DESIGN OPTIONS

The GPA® was the first mechanical seal specifically designed to handle highly abrasive slurries. GPA® seals are very forgiving because of their simple design. There are currently two options available:

» Threaded type, where the sleeve is threaded on one end, allowing the compression on the spring diaphragm to be adjusted precisely by moving it along the mating thread on the shaft or shaft sleeve. The threaded type allows for some fine tuning in the field.

» Cartridge type, which is preset at the factory and can be installed without further adjustment. It does not require special machining of the shaft or shaft sleeve for installation.The ease of installation of the cartridge type seal makes it ideal for the first time user. As your maintenance personnel become familiar with the operation of the GPA® seal, the threaded type should be considered.

SIMPLICITY AND PRECISION

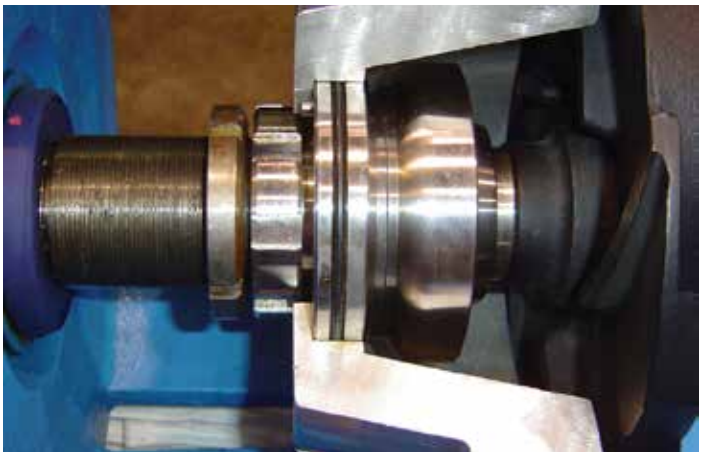
The GPA® seal is basically comprised of two components: The Fixed Ring (a) inserted in a housing (c) integral with the pump body. The Rotating Seal Sleeve Assembly (RSSA) consisting of a rotating ring) (b) inserted in a housing (d). Special drive rings (g) force the rotating housing to rotate integral to the seal sleeve (e). The spring diaphragm or membrane (f) connecting the rotating ring to the sleeve has three key functions:

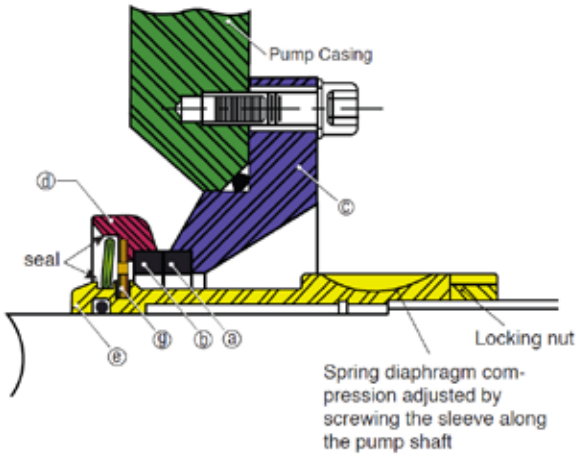
» Acts as a static seal between the seal sleeve and the rotating housing

» Ensures consistent load between the fixed and rotating rings

» Aligns the housing to ensure that the rotation is perfectly parallel to the shaft and perpendicular to the shaft axis

As shown on the diagram, there is adequate clearance between the outside of the seal sleeve and the inside of the rotating housing to prevent any risks of clogging of the membrane and damage by loose crystals. A water flush port can be added on all seal types if desired.





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