

RELY ON EXCELLENCE

SHI300

Mechanical seals | Mechanical seals for pumps | Engineered seals



Features

- Robust seal design - suitable for demanding light hydrocarbon applications
- Compact cartridge seal for small seal chambers
- Single unpressurized seal with a high pressure-non contacting containment seal
- Stationary spring loaded unit
- Balanced primary seal faces in materials with high thermal conductivity and strength
- Multi-point injection of the flush fluid optional
- Seal faces can be equipped with lubrication enhancing grooves and/or DiamondFace technology

Advantages

Operational Excellence

- High Performance seal for single and multi fluid type pipeline services with variable pressures and speeds
- Low amount of heat generation, hence minimal temperature rise in the seal faces
- Suitable for flashing and non-flashing light hydrocarbons, even with low vapor pressure margins
- Seal faces have soft torque transmission
- Seal faces are shrouded in steel collars so that they cannot break apart in pieces in an emergency case
- Resistant to alignment issues between the pump case and shaft because of stationary springs
- Containment seal is rated for full dynamic pressure of primary seal, i.e. high degree of safety and environmental protection
- Seal face materials are resistant to solids in the pumped fluid

Technical Excellence

- Simple installation due to pre-assembled cartridge
- Seal faces are designed with FEA & CFD and qualified & tested in the lab
- Can be fitted in older pumps with small seal chambers or stuffing boxes
- High degree of standardization ensures fast deliveries and smart part inventories

Sustainability Excellence

- Zero emission seal design for sustainable environmental protection in combination with plan 75 or plan 76

Materials

Seal face:

Silicon impregnated carbon (Q3),
DiamondFace

Stationary seat: Silicon carbide (Q2),
DiamondFace

Secondary seals: FKM (V), FFKM (K)

Springs: Hastelloy® C-4 (M)

Metal parts: CrNiMo steel (G), Duplex (G1),
Super Duplex (G4), Titan (T2), Hastelloy® C-4
(M)

Recommended applications

- Pipeline systems
- Tank farms / storage tanks
- Petrochemical industry
- Refining technology
- Oil & gas production

Recommended piping plans

[API Plan 11](#)

[API Plan 12](#)

[API Plan 13](#)

[API Plan 32](#)

[API Plan 72](#)

[API Plan 75](#)

[API Plan 76](#)

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- Minimized friction and energy consumption

Operating range

Shaft diameter:

$d1^* = 50 \dots 150 \text{ mm} (1.97'' \dots 5.91'')$

Pressure: $p1 = 100 \text{ bar} (1,450 \text{ PSI})$,

Static: up to 150 bar (2,175 PSI),

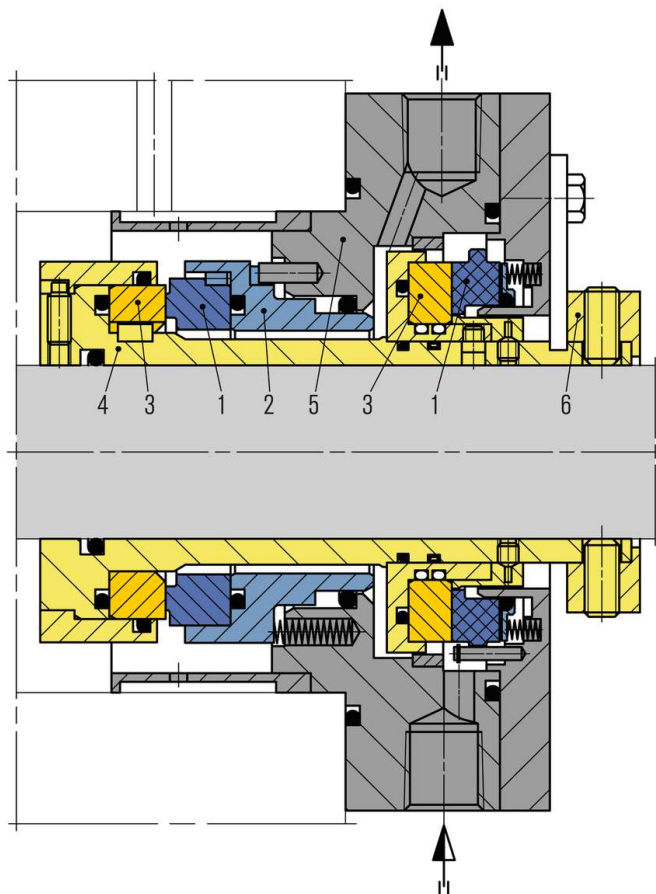
Dynamic: up to 100 bar (1,450 PSI)

Temperature: $t = -20 \dots +100 \text{ °C} (-4 \dots 212 \text{ °F})$

Sliding velocity: $v_g = 50 \text{ m/s} (164 \text{ ft/s})$

Axial movement: $\pm 1 \text{ mm}$

* Additional sizes upon request



SHI300

Item Description

1	Seal face
2	Face housing
3	Seat
4	Shaft sleeve
5	Housing
6	Set ring

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Fluid Groups				
Multiple Products	Ethane	Light Flashing Hydrocarbons	Flashing Hydrocarbons	Non-Flashing Hydrocarbons
Ethane, EP Mix, Flashing Hydrocarbons, Non-Flashing Hydrocarbons	Ethane	Ethane, Propane Mix	Propane, Butane, Propylene, Demethanized mixed NGL (y-grade)	Gasoline, Jet Fuel, Diesel Fuel, Kerosene, etc.

Typical fluids in pipeline applications