

RELY ON EXCELLENCE

SHI366

Mechanical seals | Mechanical seals for pumps | Engineered seals



Features

- Robust seal design – especially for demanding crude oil applications
- Compact cartridge seal for small seal chambers
- Single unpressurized seal with containment high-pressure throttle design
- Stationary spring loaded unit
- Balanced seal faces in materials with high thermal conductivity and strength
- Inserted seal face
- Multi-point injection of the flush fluid optional
- Seal faces can be equipped with lubrication enhancing hydropads and/or DiamondFace technology

Advantages

Operational Excellence

- High performance seal design for alternating media properties and operating conditions with high pressures and sliding velocities
- Low amount of heat generation, hence minimal temperature rise in the seal faces
- Seal faces have soft torque transmission
- Seal faces are shrouded in steel colars 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
- Atmosphere side high pressure double throttle design suitable for full product pressure
- Seal face materials are resistant to solids in the pumped fluid
- Optimized for operation also with sand or particles

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
- Minimized friction and energy consumption

Operating range

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
- Oil & gas production

Recommended piping plans

[API Plan 11](#)

[API Plan 12](#)

[API Plan 13](#)

[API Plan 32](#)

[API Plan 65A](#)

[API Plan 65B](#)

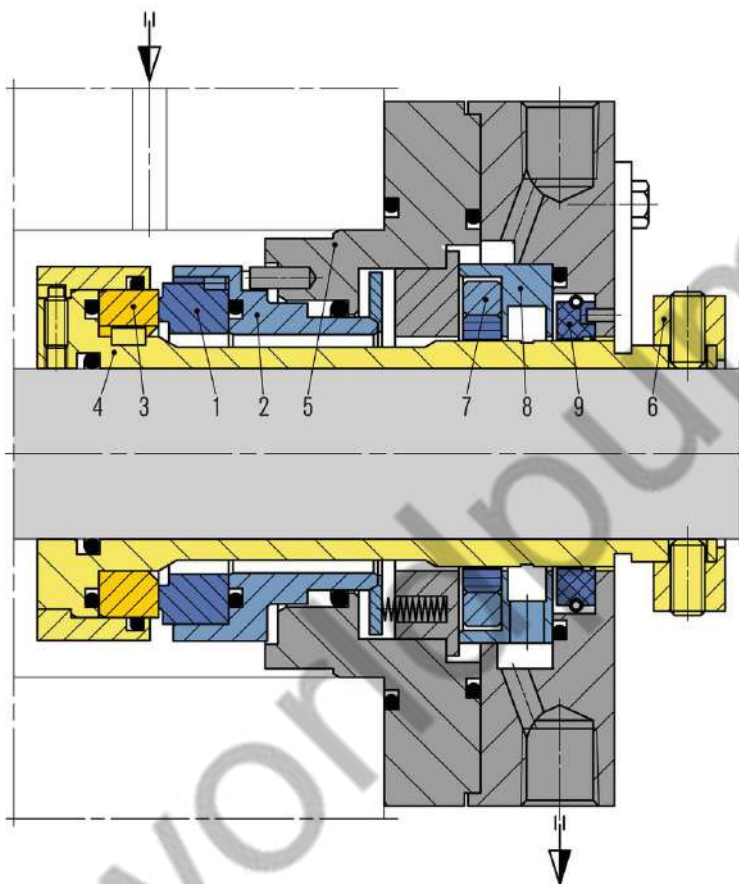
[API Plan 66A](#)

[API Plan 66B](#)

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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: $t = -20 \dots +100 \text{ }^\circ\text{C} (-4 \dots 212 \text{ }^\circ\text{F})$
 Sliding velocity: $v_g = 50 \text{ m/s} (164 \text{ ft/s})$
 Axial movement: $\pm 1 \text{ mm}$

* Additional sizes upon request



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Item	Description
1	Seal face
2	Face housing
3	Seat
4	Shaft sleeve
5	Housing
6	Set ring
7	High pressure throttle ring
8	Leakage collection
9	Throttle ring

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Fluid Groups	
Raw products	Non-Flashing Hydrocarbons
Crude oil, Bitumen, Diluent, etc.	Gasoline, Jet Fuel, Diesel Fuel, Kerosene, etc.

Typical fluids in crude oil applications

worldpump.net