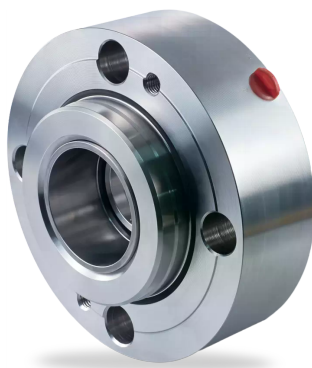


RELY ON EXCELLENCE

SHV

Mechanical Seals | Mechanical seals for pumps | Engineered Seals



Features

- Single seal in cartridge design
- Balanced
- Multiple springs
- Stationary spring loaded unit
- Shrink-fitted seal face
- Rugged mating ring

Advantages

- Deformation-optimized seal for high sliding velocities and high pressures
- Economical due to standardized inner components
- High flexibility due to adaptation of the connection parts to the pump seal chamber
- Insensitive to shaft deflections due to stationary design
- Pre-assembled unit for quick and easy installation
- Suitable for use in compliance with API 682, type ES
- Version with loose-fitted seal face available, for extreme applications
- Only small number of components

Operating range

Shaft diameter:

$d1^* = 30 \dots 140 \text{ mm} (1.1811" \dots 5.5118")$

Other sizes on request

Temperature:

$t = -40 \text{ °C} \dots +380 \text{ °C} (-40 \text{ °F} \dots +716 \text{ °F})$

With adapted cooling devices for high temperature applications

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

Axial movement: $\pm 3 \text{ mm}$

Sliding material combination: A02

Dynamic pressure: $p_1 = 100 \text{ bar} (1,450 \text{ PSI})$

Static pressure: $p_1 = 240 \text{ bar} (3,481 \text{ PSI})$

Sliding material combination Q3Q2:

Dynamic pressure: $p_1 = 120 \text{ bar} (1,740 \text{ PSI})$

Static pressure: $p_1 = 160 \text{ bar} (2,320 \text{ PSI})$

Materials

Seal face:

Carbon graphite antimony impregnated (A), silicon impregnated carbon (Q3)

Seat: Silicon carbide (Q2)

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

Springs: Hastelloy® C-4 (M)

Metal parts: CrNiMo steel (G), Duplex (G1), Super Duplex (G4)

Other materials on request

Standards and approvals

- Following the API 682 / ISO 21049

Recommended applications

- Oil and gas industry
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Desalination
- CCUS
- Hydrogen
- Alternative fuels production
- Power generation

Recommended piping plans

[API Plan 11](#)

[API Plan 13](#)

[API Plan 23](#)

[API Plan 31](#)

[API Plan 32](#)

[API Plan 41](#)

Atmospheric side*:

[API Plan 61](#)

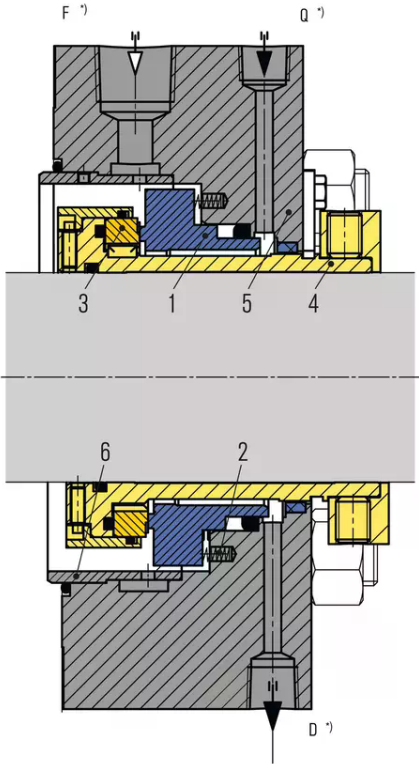
[API Plan 62](#)

[API Plan 65A](#)

[API Plan 65B](#)

*Trottle on request

RELY ON EXCELLENCE



Item	Description
1	Seal face
2	Spring
3	Seat
4	Shaft sleeve
5	Cover
6	Multipoint injection (Optional)

Product variants

SHFV / SHPV

SHV with integrated pumping device for optimal heat dissipation.

SHVI

Same design as SHV but with loosely inserted seal face for extreme applications (high pressures, pressure variations, temperature variation).

Dynamic pressure: $p_1 = 200 \text{ bar (2,900 PSI)}$

Static pressure: $p_1 = 240 \text{ bar (3,481 PSI)}$