EagleBurgmann
a member of EKK and FREUDENBERG

RELY ON EXCELLENCE

SHV

Mechanical Seals | Mechanical seals for pumps | Engineered seals

Features

- High-pressure single/double seal
- Compact cartridge design
- Balanced
- Stationary spring-loaded unit
- Shrink-fitted seal face
- Rugged mating ring with bandage
- Integrated pumping device for optimal heat dissipation (optional)

Advantages

- Deformation-optimized seal for high pressures and high sliding velocities
- Quick and easy installation
- Economical due to standardized inner components
- Connection parts can be adapted to the pump seal chamber
- Insensitive to high sliding velocities and shaft deflections due to stationary design
- Variant with loose-fitted seal face available for extreme applications

Operating range

Shaft diameter:
d1 = 20 ... 200 mm (0.7874" ...7.8740")

Shorter delivery times for preferred sizes (65 ... 140mm / 2.5590" ... 5.5118").
Other sizes on request.

Temperature:
T = -40 °C ... +380 °C (-40 °F ... +716 °F)
With customized cooling devices for high-temperature applications (from 160°C / 320°F)
Sliding velocity: vg = 50 m/s (164 ft/s)
Axial movement: ±3.0 mm (0.1181")

Dynamic pressure*: p1 = 100 bar (1,450 PSI)
Static pressure: p1 = 240 bar (3,480 PSI)
* Up to 120bar (1,740 PSI) available upon request

Materials

Seal face: Carbon graphite antimony impregnated (A), Electrographite antimony free (B),
Seats: Silicon carbide (Q2)
Secondary seals: FKM (V), FFKM (K), EPDM (E)
Spring: Hastelloy® C-4 (M)
Metal parts: CrNiMo-Stahl (G), Duplex (G1), Super Duplex (G4)

Other materials on request.

Standards and approvals

- Following the API 682 / ISO 21049
- SHV-D: Compliant to TA-Luft (German Clean Air Act)

Recommended applications

- Oil and Gas industry
- Petrochemical industry
- Chemical industry
- Power Generation
- Pulp and Paper industry
- Water and Wastewater
- Alternative fuels production
- CCUS
- Power plant technology
- Refining technology
- Desalination
- Nuclear safety pumps
- Injection pumps
- Multiphase pumps
- Hydrogen
- Hot water applications
- Sour water
- Caustic soda
- Amines
- Crystallizing media
- Process water

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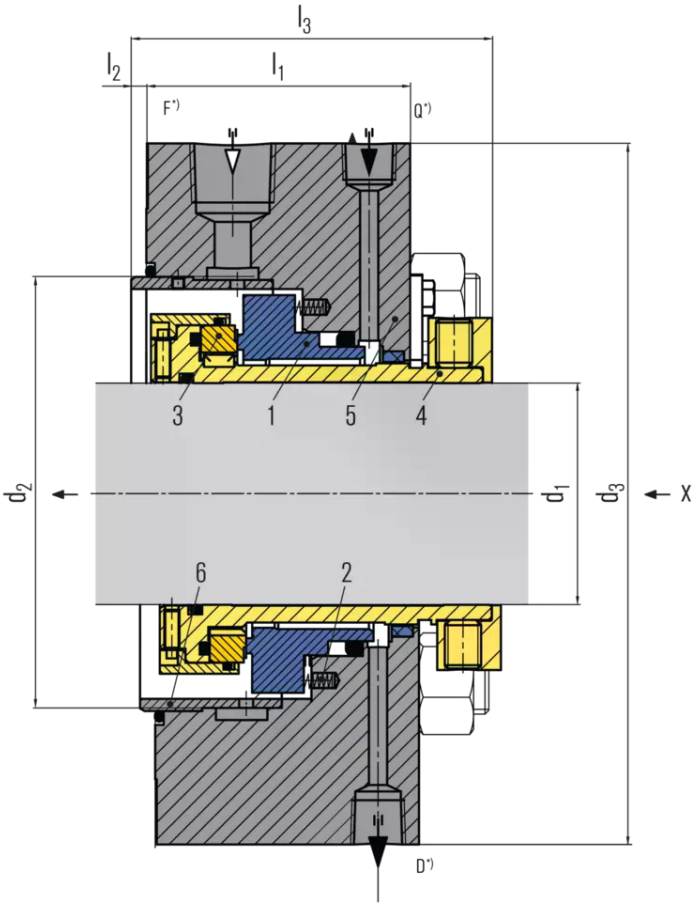
All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications means, however, that they can serve only as guide values.
We must be notified of the exact conditions of application before we can provide any guarantee for a specific case. Subject to change.



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

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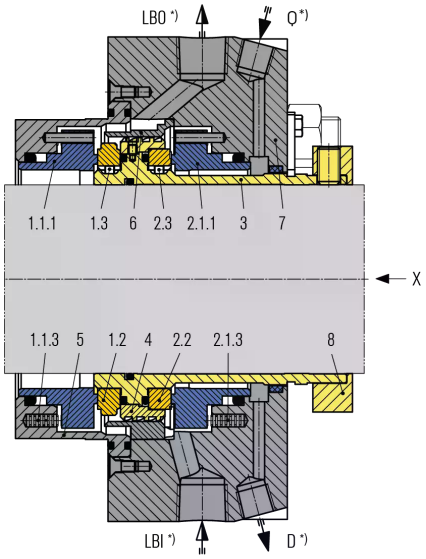
Product variants

SHV-S

Single seal in cartridge design.
Suitable for use in compliance with API 682 (4th Edition), Type ES.

Recommended piping plans
API-Plan (4th Edition):
11 | 13 | 23 | 31 | 32 | 41 | 61 | 62 | 65A | 65B
Piping plan 61 ... 65B: Throttle bushing on request



SHV-D

Dual seal in face-to-face arrangement.
The innovative dual seal design of the mating rings guarantees safe operation.
Seal does not open even in the event of barrier fluid pressure failure.

Item Description
1.1.1, 2.1.1 Seal face
1.2, 2.2 Seat
1.1.3, 2.1.3 Spring
1.3, 2.3 Pin
3 Shaft sleeve
4 Pumping screw
5, 6, 7 Housing
8 Set ring

Recommended piping plans
API-Plan (4th Edition):
01 | 02 | 03 | 11 | 12 | 13 | 14 | 21 | 22 | 31 | 32 | 41 | 53A | 53B | 53C | 54 | 61 | 62 | 65A | 65B

Piping plan 11 ... 41: Integration in seal to be dimensionally checked
Piping plan 61 ... 65B: Throttle bushing on request

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Dimensions

Ød1	Ød2	Ød3	l1	l2	l3
20	90	177	87	5	113
...	...	...	...	...	...
65	135	222	87	5	113
80	150	237	87	5	117
90	160	247	87	5	117
100	170	257	87	5	120
110	180	267	87	5	120
120	190	277	87	5	120
130	200	287	87	5	120
140	210	297	87		120
...	...	...	...	...	...
200	270	357	87	5	124

Dimensions in Millimeter

Ød1	Ød2	Ød3	l1	l2	l3
0.7874	3.5433	6.9685	3.4252	0.1969	4.4488
...	...	...	...	...	...
2.5591	5.3150	8.7402	3.4252	0.1969	4.4488
3.1496	5.9055	9.3307	3.4252	0.1969	4.6063
3.5433	6.2992	9.7244	3.4252	0.1969	4.6063
3.937	6.6929	10.1181	3.4252	0.1969	4.7244
4.3307	7.0866	10.5118	3.4252	0.1969	4.7244
4.7244	7.4803	10.9055	3.4252	0.1969	4.7244
5.1181	7.8740	11.2992	3.4252	0.1969	4.7244
5.5118	8.2677	11.6929	3.4252	0.1969	4.7244
...	...	...	...	...	...
7.874	10.6299	14.0551	3.4252	0.1969	4.8819

Dimensions in Inch

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