

RELY ON EXCELLENCE

MBS682

Mechanical seals | Mechanical seals for pumps | Metal bellows seals



Features

- API 682 Category 2 and 3, Type C, Arrangement 1 seal
- Single seal
- Balanced
- Cartridge unit
- Rotating metal bellows
- Shrink fitted seal ring and solid mating ring

Advantages

- Compact design
- Suited for applications with extreme high and low temperatures
- Absence of dynamic O-Ring eliminates/reduces seal face hang-up
- Bellows design minimizes variation in face load due to shaft expansion or face wear
- Resistant to abrasive particles in the medium, no shaft or sleeve fretting
- Also available in double ply design

Operating range

Shaft diameter: $d_1 = 20 \dots 110 \text{ mm}$ (0.79" ... 4.33")
 Pressure single ply bellows: $p = \text{vacuum} \dots 25 \text{ bar}$ (... 363 PSI)*
 Pressure double ply bellows: $p = \text{vacuum} \dots 35 \text{ bar}$ (... 508 PSI)
 Temperature: $t = -75 \text{ }^\circ\text{C} \dots +400 \text{ }^\circ\text{C}$ (-103 °F ... +752 °F)
 Sliding velocity: $v_g \dots 23 \text{ m/s}$ (... 75 ft/s)

* $p > 20 \text{ bar}$ (290 PSI) on request.

Materials

Seal ring: Blister resistant carbon, Silicon carbide SSiC (Q1), RBSiC (Q2)
 Mating ring: Silicon carbide SSiC (Q1), RBSiC (Q2)
 Bellows: Inconel® 718 (M6)
 Secondary seals: Graphite (G)
 Metal parts: CrNiMo steel 316 (G), Carpenter® 42 (T4)

Standards and approvals

- API 682 / ISO 21049
- API 682 4th ed. Cat. 2/3 - 1CW-FL

Recommended applications

- Refining technology
- Oil and gas industry
- Petrochemical industry
- Chemical industry
- Power plant technology
- LPG plants
- API 610 / ISO 13709 pumps
- Process pumps

Recommended piping plans

Process side:

[API Plan 01](#)
[API Plan 02](#)
[API Plan 03](#)
[API Plan 11](#)
[API Plan 12](#)
[API Plan 13](#)
[API Plan 14](#)
[API Plan 21](#)
[API Plan 22](#)
[API Plan 23](#)
[API Plan 31](#)
[API Plan 32](#)
[API Plan 41](#)

Atmospheric side:

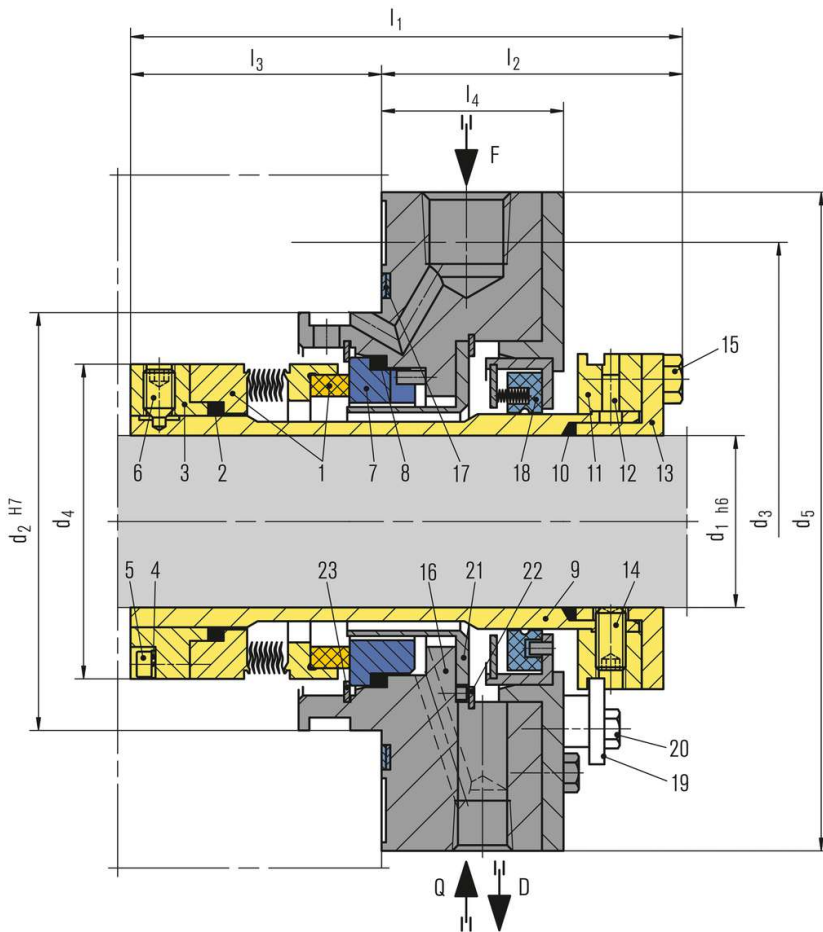
[API Plan 51](#)
[API Plan 61](#)

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API Plan 62
API Plan 65A
API Plan 65B
API Plan 66A
API Plan 66B

Item	Description
1	Seal ring with bellows unit
2, 8, 10	Graphite ring
3	Collar
4	Spring washer
5	HSH Cap screw
6, 14	Set screw
7	Mating ring
9	Seal sleeve
11	Drive collar
12	Pin
13	Clamping sleeve
15, 20	Hexagon bolt
16	Gland plate
17	Gasket
18	Throttle bushing
19	Setting device
21	Baffle sleeve
22, 23	Retaining ring

F Flush
Q Quench
D Drain



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Dimensions

API/d ₁	API/d ₂	API/d ₃	d ₄	d ₅	l ₁	l ₂	l ₃	l ₄
20	70	105	47.63	132	111	64	47	39
30	80	115	57.15	138	119	64	55	39
40	90	125	66.68	150	121	64	57	39
50	100	140	76.2	175	117	65	52	40
60	120	160	88.9	188	122	65	57	40
70	130	170	101.6	201	127	65	62	40
80	140	180	114.3	213	131	65	66	40
90	160	205	123.94	239	133	72	61	45
100	170	215	136.53	252	134	72	62	45

Dimensions in millimeter, for single ply bellows - dimensions for double ply bellows on request.