

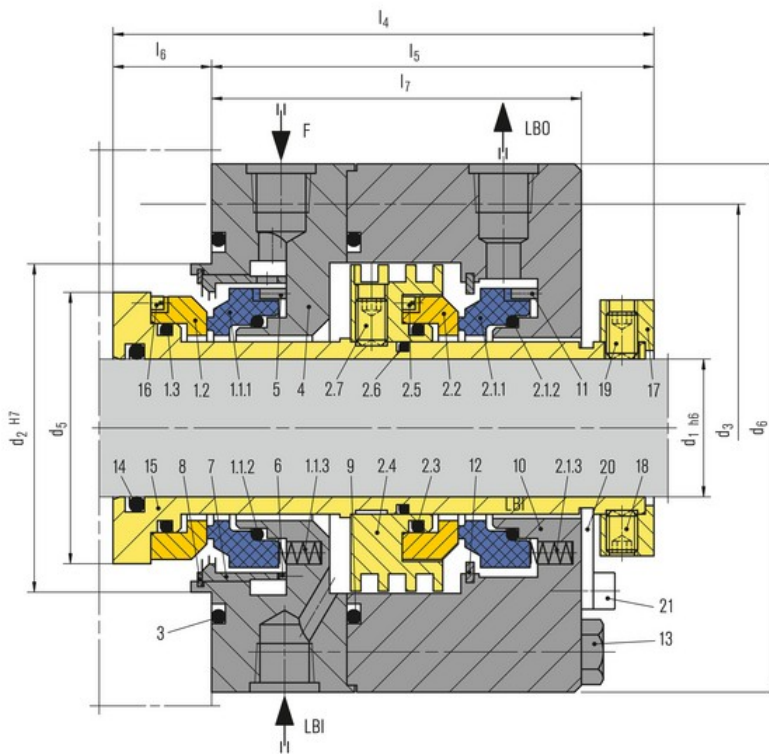
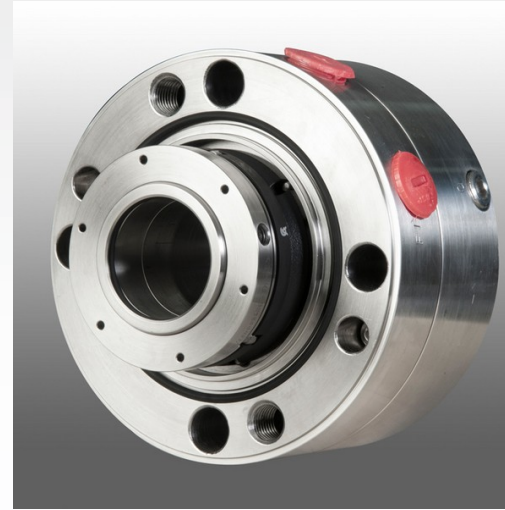
LL9DJUU

Features

- API 682 Category 2 and 3, Type A, Arrangement 2 and 3 seal
- Dual seal in face-to-back arrangement
- Same size of inboard and outboard seal
- Balanced
- Cartridge unit
- Stationary multiple springs
- Solid seal faces

Advantages

- Suitable for higher speeds
- Good followability due to no influence from run-out, squareness or vibration of the shaft
- Compact design
- Low heat generation and power consumption due to narrow seal face width
- Longer seal life
- Pressure-balanced design prevents mating ring being forced out under reverse pressure
- No damage to shaft sleeve as dynamic O-Ring is not in direct contact with the sleeve



Item	Description
1.1.1, 2.1.1	Seal ring
1.1.2, 1.3, 2.1.2, 2.3, 2.6, 3, 9, 14	O-Ring
1.1.3, 2.1.3	Spring
1.2, 2.2	Mating ring
2.4	Collar
2.5, 16	Drive screw
2.7, 18, 19	Set Screw
4, 10	Gland plate
5, 6, 11	Pin
7	Flow distributor
8, 12	Retaining ring
13	Hexagon bolt
15	Seal sleeve
17	Drive collar
20	Setting device
21	HSH Cap screw

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Recommended applications

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

Operating range

Pressure: p = 60 bar (870 PSI)
Temperature: -40 °C ... +176 °C (-40 °F ... +349 °F)*
Sliding velocity: vg = 50m/s (164 ft/s)
Viscosity: ... 300 mPas
Solids content: 0.5 wt. %

* Engineered up to 260 °C (500 °F) with FFKM (K) secondary seals

Standards and approvals

- API 682 / ISO 21049

Materials

Seal ring: Blister resistant carbon,
Silicon carbide SSiC (Q1), RBSiC (Q2)
Mating ring:
Silicon carbide SSiC (Q1), RBSiC (Q2)
Secondary seals:
FKM (V), FFKM (K), EPDM (E), NBR (P)
Springs: Hastelloy® C-276 (M5)
Metal parts: CrNiMo steel 316 (G)

Recommended piping plans

Process side:
02, 11, 12, 13, 14, 21, 22, 23, 31, 32, 41
Between seals:
52, 53A, 53B, 53C, 54, 55
Atmospheric side*:
61, 62, 65A, 65B

* Throttle bushing on request

Dimensions

API/d ₁	API/d ₂	API/d ₃	d ₅	d ₆	l ₄	l ₅	l ₆	l ₇
20	70	105	51	128	128	98	30	80
30	80	115	63	138	130	98	32	80
40	90	125	74	148	133	98	35	80
50	100	140	84	168	142	107	35	87
60	120	160	99	188	142	107	35	87
70	130	170	108	198	142	107	35	87
80	140	180	120	208	142	107	35	87
90	160	205	138	238	150	115	35	93
100	170	215	148	248	150	115	35	93
110	180	225	157	258	155	115	40	93

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