

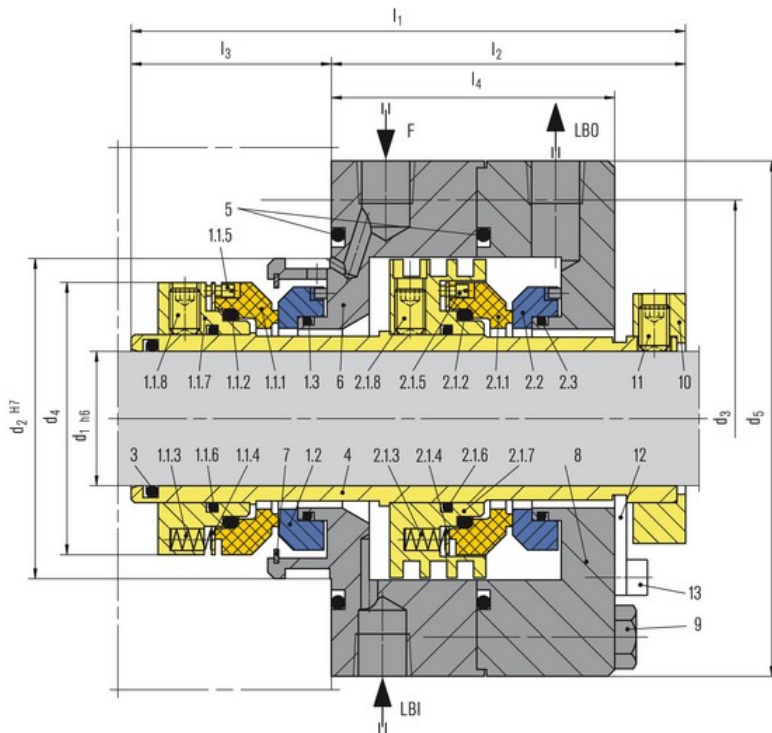
LL9DTUU

Features

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

Advantages

- 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

- 1.1.1, 2.1.1
- 1.1.2, 1.1.6, 1.3, 2.1.2, 2.1.6, 2.3, 3, 5
- 1.1.3, 2.1.3
- 1.1.4, 2.1.4
- 1.1.5, 2.1.5
- 1.1.7, 2.1.7
- 1.1.8, 2.1.8, 11
- 1.2, 2.2
- 4
- 6, 8
- 7
- 9
- 10
- 12
- 13

Description

- Seal ring
- O-Ring
- Spring
- Thrust ring
- Drive screw
- Collar
- Set screw
- Mating ring
- Seal sleeve
- Gland plate
- Retaining ring
- Hexagon bolt
- Drive collar
- Setting device
- HSH Cap screw

LL9DTUU (2)

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 = vacuum ... 42 bar (... 609 PSI)
Temperature: t = -40 °C ... +176 °C (-40 °F ... 349 °F)*
Sliding velocity: vg ... 23 m/s (... 75 ft/s)
Viscosity: ... 300 mPa·s
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 ₄	d ₅	l ₁	l ₂	l ₃	l ₄
20	70	105	-	-	-	-	-	-
30	80	115	69	138	141	94	47	76
40	90	125	79	148	140	93	47	76
50	100	140	89	168	140	93	47	76
60	120	160	105	188	151.1	101	50.1	82
70	130	170	115	198	151.1	101	50.1	82
80	140	180	125	208	153.1	103	50.1	84
90	160	205	137	238	165	112	53	88
100	170	215	150	248	184	117	67	98
110	180	225	163	258	162	108.5	53.5	88

03.07.2013 (c) EagleBurgmann