Mechanical seals Mechanical seals for pumps · Pusher seals

EagleBurgmann. Rely on excellence

LL9DJUE

Features

- API 682 Category 2 and 3, Type A, Arrangement 2 seal
- Dual seal in face-to-back arrangement
- Dry contact outer seal (containment seal)
- Balanced
- Cartridge unit
- Stationary multiple springs
- Solid seal faces

Advantages

- Outer seal which can be used for flashing as well as non-flashing applications prevents hazardous emissions in case of inboard seal failure
- Low heat generation and power consumption due to narrow seal face width of inner seal
- Longer seal life
- Good followability due to no influence from run-out, squareness or vibration of the shaft
- 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, 17	O-Ring
1.1.3, 2.1.4	Spring
1.2, 2.2	Mating ring
2.1.3	Thrust ring
2.4	Collar
2.5, 19	Drive screw
2.7, 21, 22	Set screw
4, 10	Gland plate
5, 6, 11, 13	Pin
7	Flow distributor
8, 12, 15	Retaining ring
14	Throat bushing
16	Hexagon bolt
18	Seal sleeve
20	Drive collar
23	Setting device
24	HSH Cap screw

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EagleBurgmann Japan Co., Ltd. 1-12-15, Shiba-Daimon, Minato-Ku Tokyo, 105-8587 Japan Tel.: +81 (0)33432 4771 Fax: +81 (0)33438 2370 info@jp.eagleburgmann.com www.eagleburgmann.jp 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.

LL9DJUE (2)

Recommended applications

- Refining technology
- Oil and gas industry
- Petrochemical industry
- Chemical industry
- Power plant technology
- Light volatile hydrocarbons

Operating range

Pressure (primary seal): p = vacuum ... 60 bar (870 PSI) Pressure (secondary seal): p = 2.75 bar (40 PSI) normal operation, max. 60 bar (870 PSI) in wet operation Temperature: -40 °C ... +176 °C (-40 °F ... +349 °F)* Sliding velocity: ... 25 m/s (82 ft/s) Viscosity: 300 mPas Solids content: ... 0.5 wt.%

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

LPG plants

- API 610 / ISO 13709 pumps
- Process pumps

Standards and approvals

API 682 / ISO 21049

Materials

Seal ring (primary seal): Blister resistant carbon, Silicon carbide SSiC (Q1), RBSiC (Q2) Seal ring (secondary seal): Special carbon 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: 71, 72, 75, 76

Dimensi	ons							
API/d₁	API/d ₂	API/d ₃	ds	de	4	15	6	17
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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