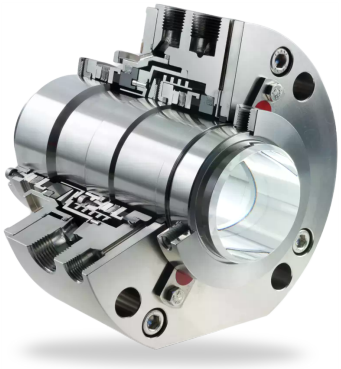
EagleBurgmann
a member of EKK and FREUDENBERG

RELY ON EXCELLENCE

LY9TCR

API 682 4th edition product range | Mechanical seals | Metal bellows seals



Features

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

Advantages

- Compact design
- Also available in double ply design
- Suited for application with extreme high and low temperature
- 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

Operating range

Shaft diameter:
d1 = 20 mm ... 110 mm (0.79" ... 4.33")
Pressure single ply bellows:
p = vacuum ... 25 bar* (... 363 PSI*)
Pressure double ply bellows:
p = vacuum ... 35 bar (... 508 PSI)
Temperature:
t = -75 °C*... +400 °C (-103 °F* ... 752 °F)
Sliding velocity:
vg = ... 23 m/s (... 75 ft/s)

* Please contact an EagleBurgmann engineering expert when the operating range of the required seal exceeds the range shown above.

Materials

Seal ring: Blister resistant carbon (C4), RBSiC (Q2)
Mating ring: RBSiC (Q2)
Bellows: Inconel® 718 (M6)
Secondary seal: Graphite (G)
Metal parts: CrNiMo steel 316/316L (G), Carpenter® 42 (T4)

Standards and approvals

- API 682 / ISO 21049
- API 682 4th ed. Cat. 2/3
- Compliant to TA Luft (German Clean Air Act)

Recommended applications

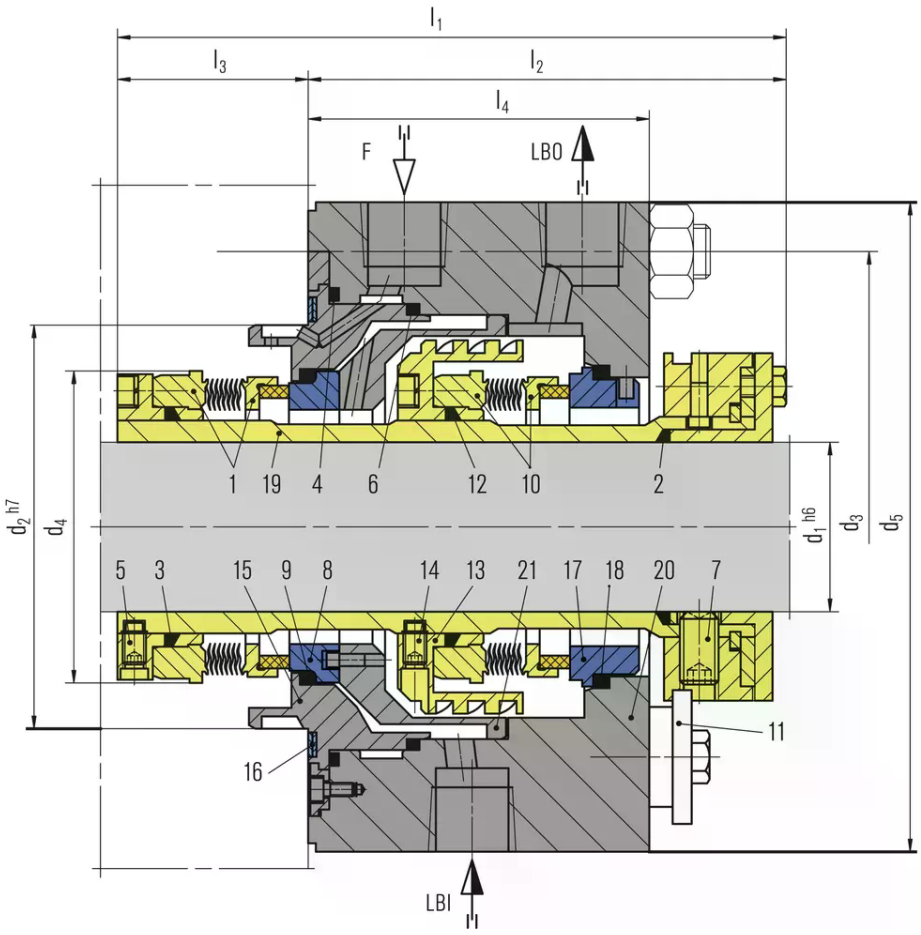
- Refining technology
- Oil and gas industry
- Petrochemical industry
- Chemical industry
- Power plant technology
- LPG plants / Process pumps
- API 610 / ISO 13709 pumps
- CCUS
- Hydrogen
- Sustainable plastics production
- Alternative fuels production

Recommended piping plans

Process side (Dual seal / Single seal):
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
Between seals (Dual seal):

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.

API Plan 52
API Plan 53A
API Plan 53B
API Plan 53C
API Plan 54
API Plan 55
Atmospheric side (Dual seal):
API Plan 61
API Plan 62
API Plan 65A
API Plan 65B
Atmospheric side (Single seal):
API Plan 51
API Plan 61
API Plan 62
API Plan 65A
API Plan 65B
API Plan 66A
API Plan 66B



LY9TCR-T
Dual seal
Arrangement: Face-to-back (Tandem), 2CW-CW, 3CW-FB

Item	Description
1,10	Seal ring with bellows unit
2, 3, 4, 6, 9, 12, 18	Graphite ring
5, 7, 14	Set screw
8, 17	Mating ring
11	Assembly fixture
13	Driver with pumping screw
15	Adapter
16	Spiral wound gasket
19	Seal sleeve
20	Gland plate
21	Insert

F Flush
LBO Liquid buffer/barrier OUT
LBI Liquid buffer/barrier IN

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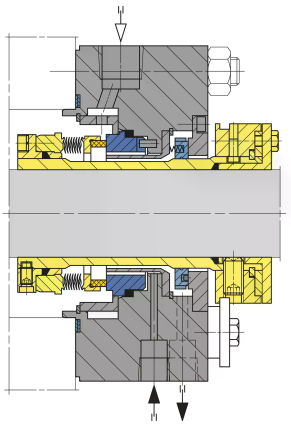
Product variants



LY9TCR-S
Single seal
Arrangement: 1CW-FL

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	52.3	128	140.5	94.5	46	70.5
30	80	115	62.3	138	145	97.5	47.5	71
40	90	125	72.3	148	147	98	49	71.5
50	100	140	82.7	168	150.5	101.5	49	75
60	120	160	94.3	188	159	105	54	78.5
70	130	170	105.9	198	162.5	104.5	58	78
80	140	180	117.9	208	163.5	107.5	56	79.5
90	160	205	128.7	248	167	112	55	83
100	170	215	141	258	169	114	55	83
110	180	225	151	268	169	114	55	83

LY9TCR-T Dimensions in millimeter - for single ply bellows. Dimension for double ply bellows on request.

API/d_1	API/d_2	API/d_3	d_4	d_5	l_1	l_2	l_3	l_4
20	70	105	52.3	128	106	82	24	58
30	80	115	62.3	138	109	84.5	24.5	58
40	90	125	72.3	148	111.5	84.5	27	58
50	100	140	82.7	168	113.5	84.5	29	58
60	120	160	94.3	188	116.5	89.5	27	63
70	130	170	105.9	198	117.5	89.5	28	63
80	140	180	117.9	208	119	91	28	63
90	160	205	128.7	248	120.5	92	28.5	63
100	170	215	141	258	122.5	94	28.5	63
110	180	225	151	268	122.5	94	28.5	63

LY9TCR-S Dimensions in millimeter - for single ply bellows. Dimension for double ply bellows on request.

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