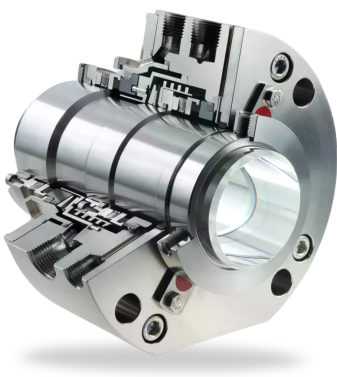


RELY ON EXCELLENCE

LY9TCR

API 682 4th edition | Mechanical seals | Metal Bellow 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:
 $d_1 = 20 \text{ mm} \dots 110 \text{ mm} (0.79" \dots 4.33")$
 Pressure single ply bellows:
 $p = \text{vacuum} \dots 25 \text{ bar}^* (\dots 363 \text{ PSI}^*)$
 Pressure double ply bellows:
 $p = \text{vacuum} \dots 35 \text{ bar} (\dots 508 \text{ PSI})$
 Temperature:
 $t = -75 \text{ }^\circ\text{C}^* \dots +400 \text{ }^\circ\text{C} (-103 \text{ }^\circ\text{F}^* \dots 752 \text{ }^\circ\text{F})$
 Sliding velocity:
 $vg = \dots 23 \text{ m/s} (\dots 75 \text{ ft/s})$

* 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):

RELY ON EXCELLENCE

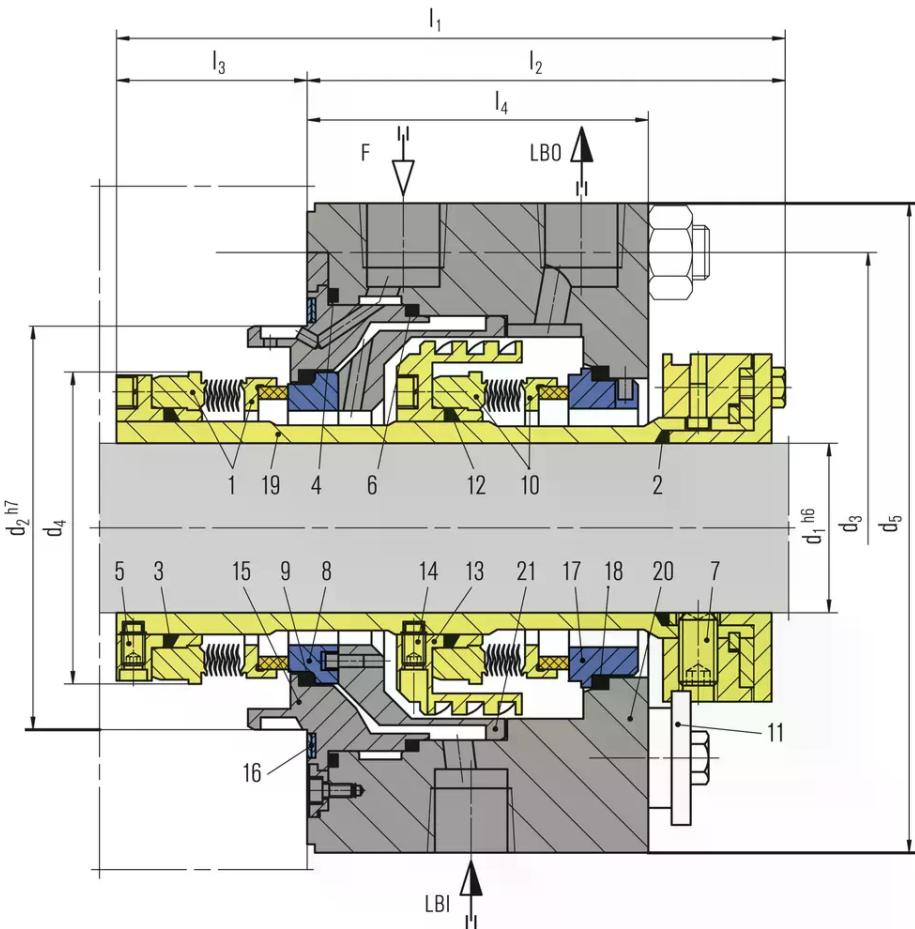
- API Plan 52
- API Plan 53A
- API Plan 53B
- API Plan 53C
- API Plan 54
- API Plan 55

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

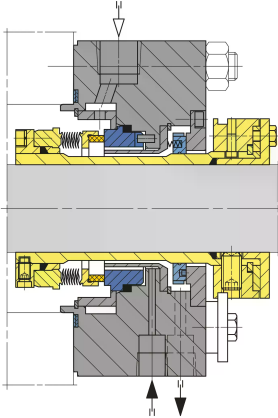
Dual seal
 Arrangement: Face-to-back (Tandem),
 2CW-CW, 3CW-FB

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

RELY ON EXCELLENCE

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.