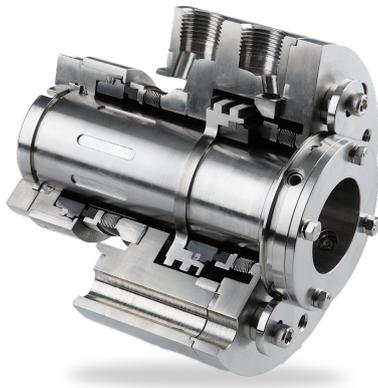


RELY ON EXCELLENCE

## LY9DZTT

Mechanical seals | Mechanical seals for pumps | Metal bellows seals



### Features

- API 682 Category 2 and 3, Type C, Arrangement 2 and 3 seal
- Dual seal in face-to-back arrangement
- Balanced
- Cartridge unit
- Stationary metal bellows
- Shrink fitted seal rings and solid mating rings

### 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
- Also available in double ply design
- Suited for applications with extreme high and low temperatures
- 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:  $d_1 = 20 \dots 110 \text{ mm}$  (0.79" ... 4.33")

Pressure single ply bellows:  $p = \text{vacuum} \dots 20 \text{ bar}$  (... 290 PSI)

Pressure double ply bellows:  $p = \text{vacuum} \dots 35 \text{ bar}$  (... 508 PSI)

Temperature:  $t = -130 \text{ }^\circ\text{C} \dots +400 \text{ }^\circ\text{C}$  (-202  $^\circ\text{F} \dots +752 \text{ }^\circ\text{F}$ )

Sliding velocity:  $vg \dots 50 \text{ m/s}$  (... 164 ft/s)

### Materials

Seal rings: Blister resistant carbon, Silicon carbide SSiC (Q1), RBSiC (Q2)

Mating rings:

Silicon carbide SSiC (Q1), RBSiC (Q2)

Bellows: Inconel® 718 (M6)

Secondary seals: Graphite (G)

Metal parts: CrNiMo steel 316 (G),

Carpenter® 42 (T4)

### Standards and approvals

- API 682 / ISO 21049
- API 682 4th ed. Cat. 2/3 - 2CW-CW
- API 682 4th ed. Cat. 2/3 - 3CW-FB

### Recommended applications

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

### Recommended piping plans

Process side:

[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:

[API Plan 52](#)

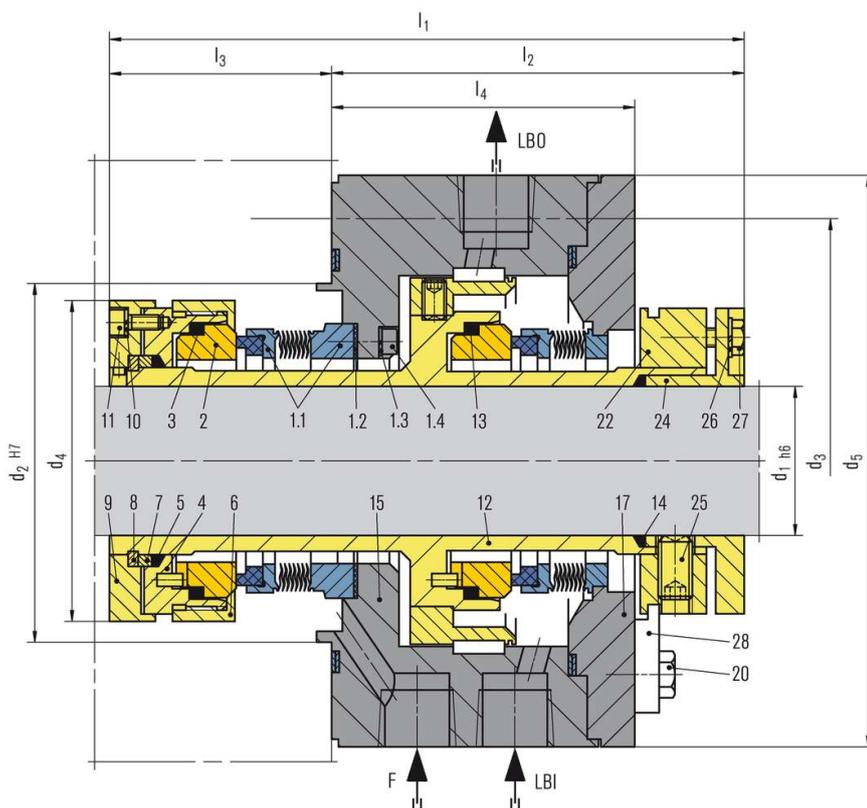
## RELY ON EXCELLENCE

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

Atmospheric side\*:

API Plan 61  
 API Plan 62  
 API Plan 65A  
 API Plan 65B

\* Throttle bushing on request



Item	Description
1.1	Seal ring with bellows unit
1.2	Gasket
1.3, 10, 26	Spring washer
1.4, 11	HSH Cap screw
2	Mating ring
3, 5, 13, 14	Graphite ring
4	Retainer
6	Retaining ring
7	Thrust ring
8	Split ring
9	Drive ring
15, 17	Gland plate
12	Seal sleeve with pumping ring
20, 27	Hexagon bolt
22	Drive collar
24	Clamp sleeve
25	Set screw
28	Setting device

LBO Liquid barrier/buffer OUT

F Flush

LBI Liquid barrier/buffer IN

## RELY ON EXCELLENCE

### Dimensions

API/d <sub>1</sub>	API/d <sub>2</sub>	API/d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>
20	70	105	-	-	-	-	-	-
30	80	115	74	138	151	98	53	75
40	90	125	84	148	157.5	98.5	59	76
50	100	140	94	168	161	108	53	85.5
60	120	160	114	188	164	107	57	86
70	130	170	124	198	168	106	62	79,5
80	140	180	131	208	174	107	67	82.5
90	160	205	153	248	182	119	63	93.5
100	170	215	158	258	200	132	68	98.6
110	180	225	174	268	203	130	73	98

Dimensions in millimeter, for single ply bellows - dimensions for double ply bellows on request.