

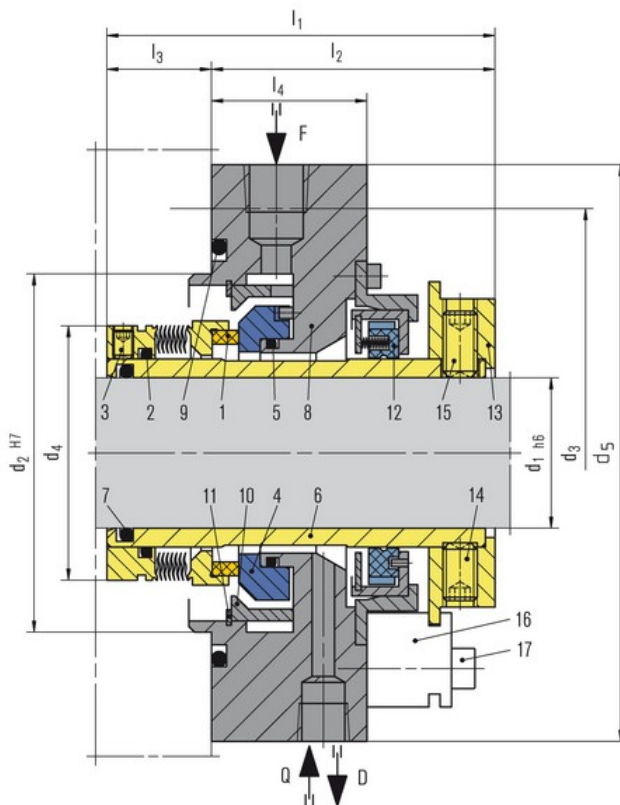
# LY9SA

## Features

- API 682 Category 2 and 3, Type B, Arrangement 1 seal
- Single Seal
- Balanced
- Cartridge unit
- Rotating metal bellows
- Shrink fitted seal ring and solid mating ring

## Advantages

- Compact design
- Bellows design allows use of balanced seal with plain sleeve
- 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
- Low heat generation and power consumption due to narrow seal face width
- Longer seal life



Item	Description
1	Seal ring with bellows unit
2, 5, 7, 9	O-Ring
3, 14, 15	Set screw
4	Mating ring
6	Seal sleeve
8	Gland plate
10	Flow distributor
11	Retaining ring
12	Throttle bushing
13	Drive collar
16	Setting device
17	HSH Cap screw

# LY9SA (2)

## Recommended applications

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

## Operating range

Pressure: p = vacuum ... 20 bar (290 PSI)  
Temperature: t = -40 °C ... +200 °C (-40 °F ... +392 °F)  
Sliding velocity: vg ... 23 m/s (75 ft/s)  
Viscosity: ... 1,000 mPas  
Solids content: ... 0.5 wt.%

## Standards and approvals

- API 682 / ISO 21049

## Materials

Seal ring: Blister resistant carbon  
Mating ring:  
Silicon carbide SSiC (Q1), RBSiC (Q2)  
Bellows: Hastelloy® C-276 (M5)  
Secondary seals:  
FKM (V), FFKM (K), EPDM (E), NBR (P)  
Metal parts: CrNiMo steel 316 (G),  
Hastelloy® C-276 (M5)

## Recommended piping plans

Process side:  
01, 02, 11, 12, 13, 14, 21, 22, 23, 31, 32, 41  
Atmospheric side:  
51, 61, 62, 65A, 65B, 66A, 66B

## 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>
30	80	115	55.6	138	102	77	25	45
40	90	125	65.1	148	102.5	77	25.5	45
50	100	140	74.6	168	108.5	77	31.5	45
60	120	160	87.3	188	120.5	79	41.5	45
70	130	170	98.4	198	121	79	42	45
80	140	180	108	208	125	79	46	45
90	160	205	120.7	238	132	86	46	50
100	170	215	130.2	248	136	89	47	50
110	180	225	138.9	258	141	89	52	50

Dimensions in millimeter