

# SB-D

API 682 4th Edition Category 2 & 3  
 Seal type A (Stationary)  
 Configuration 3CW-FF (Contacting Wet – Face-to-Face)

## Product Description

1. API 682 Category 2 and 3, Type A, Arrangement 3 seal
2. Dual seal in face-to-face configuration
3. Balanced design
4. Independent of direction of rotation
5. Cartridge construction
6. Stationary design with multiple springs
7. Designed with integrated pumping device for increased efficiency in circulation
8. Robust construction with shrink-fitted seal face
9. Heavy duty design of solid seat

## Technical Features

1. Accommodates shaft deflections due to stationary design
2. Can be designed for individual pump application with corresponding connection parts to be adopted to the pump seal chamber
3. Optimum heat dissipation due to integrated pumping device available for increased efficiency in circulation and optimized seat design
4. Cartridge unit factory assembled for easy installation, which reduces downtime
5. Trouble-free long-term operation due to heavy duty single seat design with bandage
6. Can operate under high sliding velocities and high pressures

## Typical Industrial Applications

- Multiphase pumps API 610/ISO 13709 pumps
- Oil and gas industry
- Refining technology
- Chemical industry
- Hot water
- Sour water
- Caustic soda
- Amines
- Crystallizing media
- Crude oil
- Process water
- Crude oil feed pumps
- Injection pumps

## Performance Capabilities

Shaft diameter:  $d_1 = 40 \dots 110$  (250) mm  
 (1.57" ... 4.33 (9.84)")

Pressure:  $p_1 = 42$  (150) bar (609 (2,175) PSI)

Temperature:  $t = -40 \text{ } ^\circ\text{C} \dots +176$  (+200)  $^\circ\text{C}$  (-40  $^\circ\text{F} \dots +350$  (+394)  $^\circ\text{F}$ )

Sliding velocity:  $v_g = 23$  (60) m/s (76 (197) ft/s)

Axial movement:  $\pm 3.0$  mm

## Materials

Seal rings: Blister resistant carbon,

Silicon carbide SSiC (Q1), RBSiC (Q2, Q3)

Mating rings: Silicon carbide SSiC (Q1), RBSiC (Q2)

Secondary seals: EPDM (E), NBR (P), FKM (V), FFKM (K)

Springs: Hastelloy® C-4 (M)\* and C-276 (M5)

Metal parts: CrNiMo steel 316 (G) or equivalent, optional materials on request.

\* Sealmatic standard

## Recommended piping plans

Process side\*: 01, 02, 03, 11, 12, 13, 14, 21, 22, 31, 32, 41

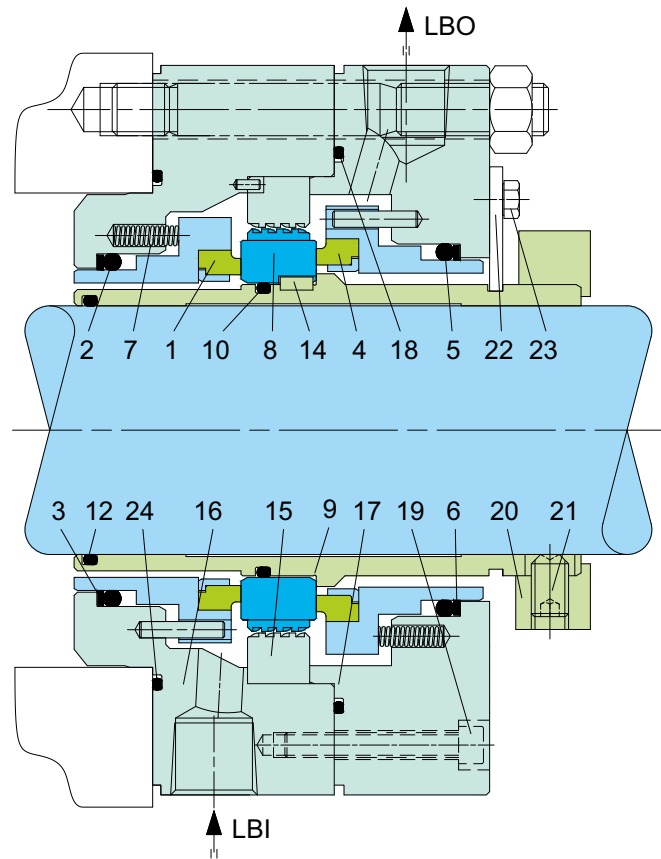
Between seals: 53A, 53B, 53C, 54

Atmospheric side\*\*: 61, 62, 65A, 65B

\* Piping plans 11 ... 41:

Integration in seal to be dimensionally checked.

\*\* Throttle bushing on request.



Item	Description
1, 4	Seal ring
2, 5, 10, 12, 18, 24	O-ring
3, 6,	Back up ring
7	Spring
8	Mating ring
9	Shaft sleeve
14	Key
15	Pumping sleeve
16	Adapter
17	Cover
19	HSH cap screw
20	Set ring
21	Set screw
22	Assembly fixture
23	Hexagon bolt
LBI	Liquid Barrier IN
LBO	Liquid Barrier OUT