

# UFL650-D

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

## Product Description

1. API 682 Category 2 and 3, Type C, Arrangement 3 seal
2. Dual seal in face-to-face configuration
3. Balanced design
4. Independent of direction of rotation
5. Cartridge construction
6. For plain shafts
7. Stationary metal bellows design
8. Shrink fitted seal rings and solid mating rings

## Technical Features

1. Suitable for high and low temperature application
2. Compact design
3. No dynamically loaded O-ring which reduces chances of seal face hang-up.
4. Pumping screw for media with higher viscosity also available
5. Short installation length possible
6. Rugged design for long operating life
7. Bellows design efficiently ensure self-cleaning
8. Bellows design minimizes variation in face load due to shaft expansion or face wear
9. Resistant to abrasive particles in the medium, no shaft or sleeve fretting

## Typical Industrial Applications

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

## Performance Capabilities

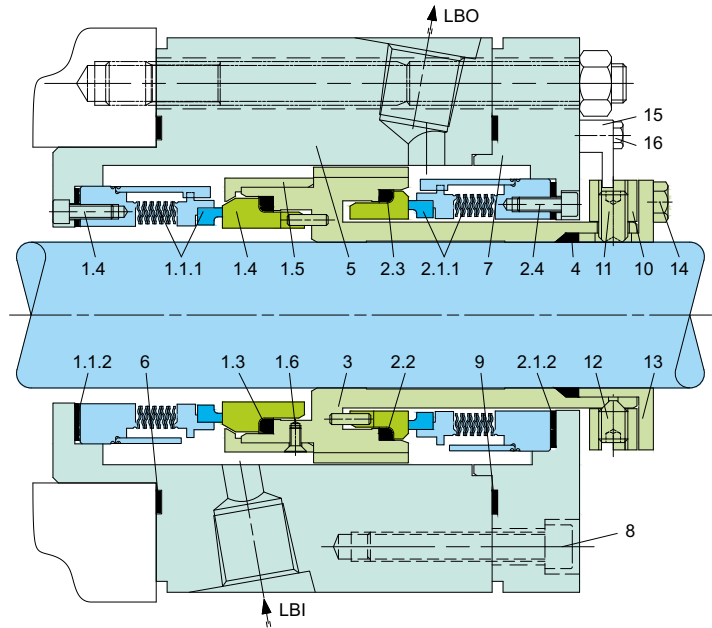
Shaft diameter:  $d_1 = 20 \dots 110 \text{ mm}$  (0.79" ... 4.33")  
 $p = \text{vacuum} \dots 20 \text{ bar}$  (... 290 PSI)  
 Temperature:  $t = -130 \text{ }^\circ\text{C} \dots +400 \text{ }^\circ\text{C}$  (-202 °F ... +752 °F)  
 Sliding velocity:  $v_g \dots 50 \text{ m/s}$  (... 164 ft/s)

## 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)

## 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  
 \* Throttle bushing on request



Item	Description
1.1.1, 2.1.1	Seal ring with Bellows unit
1.1.2, 2.1.2, 6, 9	Gasket
1.2, 2.2	Mating ring
1.3, 2.3, 4	Sealing ring
1.4, 2.4, 8	HSH cap screw
1.5	Lock ring
1.6, 11, 12	Set screw
3	Shaft sleeve
5	Intermediate gland
7	Gland
10	Set ring
13	Pusher ring
14, 16	Hexagon bolt
15	Assembly plate
LBI	Liquid Barrier IN
LBO	Liquid Barrier OUT