

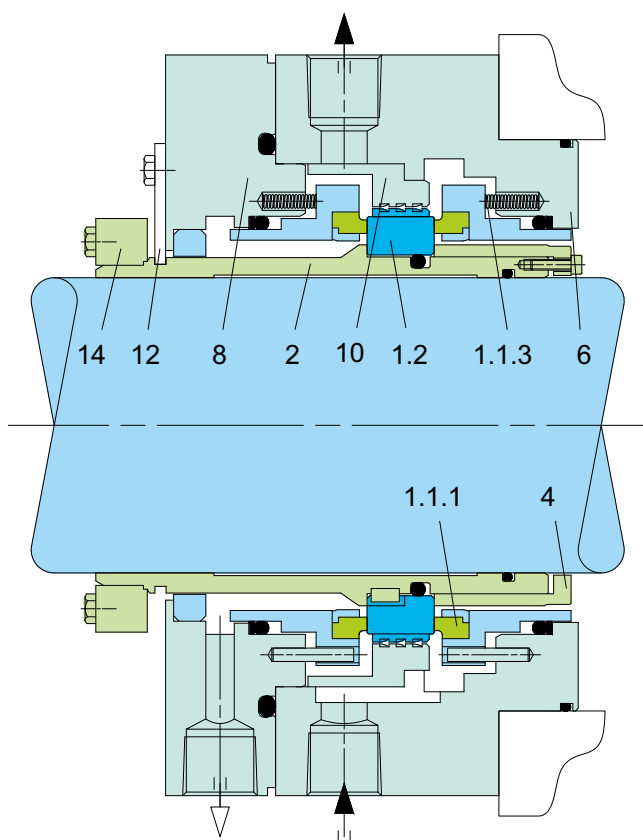


Product Description

1. Dual seal configuration
2. Balanced design
3. Independent of direction of rotation
4. Cartridge construction
5. Stationary design with multiple springs
6. Designed with integrated pumping device for increased efficiency in circulation
7. Robust construction with shrink-fitted seal face
8. Heavy duty design of solid stationary 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 down-time
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
7. Can be adopted for use in compliance with API 682, type ES
8. Versatile application for various kinds of heavy duty applications



Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.

Item	Description
1.1.1	Seal face
1.1.3	Spring
1.2	Seat
2	Shaft sleeve
4	Clamping sleeve
6	Housing
8	Cover
10	Pumping sleeve
12	Assembly fixture
14	Shrink disk

Typical Industrial Applications

Amines	Multi-phase pumps
Caustic soda	Oil & gas
Chemical	Process water
Crude oil	Refining technology
Crystallizing media	Sour water
Feed pumps	Volatile & non-volatile hydrocarbons
Hot water	
Injection pumps	

Standards

API 682 / ISO 21049

Performance Capabilities

Sizes:	d_1^* = Upto 250 mm (Upto 10.000")
Pressure:	p_1 = 150 bar (2,175 PSI)
Temperature:	t = 200 °C (392 °F)
Speed:	= 60 m/s (197 ft/s)
* Other sizes on request	

Materials

Seal face:	CrNiMo steel (G), Duplex (G1), Super Duplex (G4), Pure Titanium (T2), Hastelloy® C-4 (M)
Seat:	Silicon carbide (Q)
Secondary seals:	FKM (V), EPDM (E), FFKM (K)
Springs:	Hastelloy® C-4 (M)
Metal parts:	CrNiMo steel (G), Duplex (G1), Super Duplex (G4), Pure Titanium (T2), Hastelloy® C-4 (M)

Design Variations

SBF(V)1-D / SBP(V)1-D

Same design as SBF(V)-D / SBP(V)-D but with loosely inserted seal face for extreme applications.

Pressure: p_1 = 200 bar (2900 PSI)