



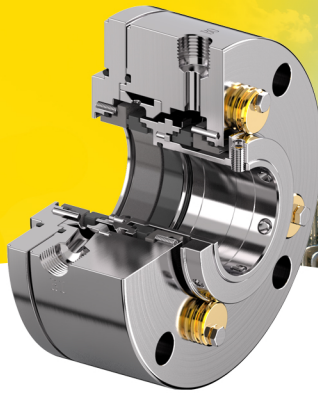
APOG-FF

DUAL CARTRIDGE SEAL

CATEGORY 2/3

TYPE A

3CW-FF



► TECHNICAL FEATURES

- Allow for greater axial displacement and radial runout.
- Integrated bidirectional flow design, unique pump efficiency ring design, and significant circulation effect of buffer/isolation liquid.
- The sealing configuration is 3CW-FF,used for layout 3.
- Distributed flushing design,Balanced integrated ring design.
- The structure is simpler and more stable than APOG-FB, making it easier to maintain.
- Supporting API Plan 53A/53B/54.

► PRODUCT DESCRIPTION

- API 682 Category 2/3, Type A, Arrangement 2/3
- Dual seal configuration
- Balanced design
- Independent of direction of rotation
- Cartridge construction
- Robust construction with shrink-fitted seal face
- Heavy duty solid seat design

► TYPICAL INDUSTRIAL APPLICATIONS

- Multiphase pumps API 610 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

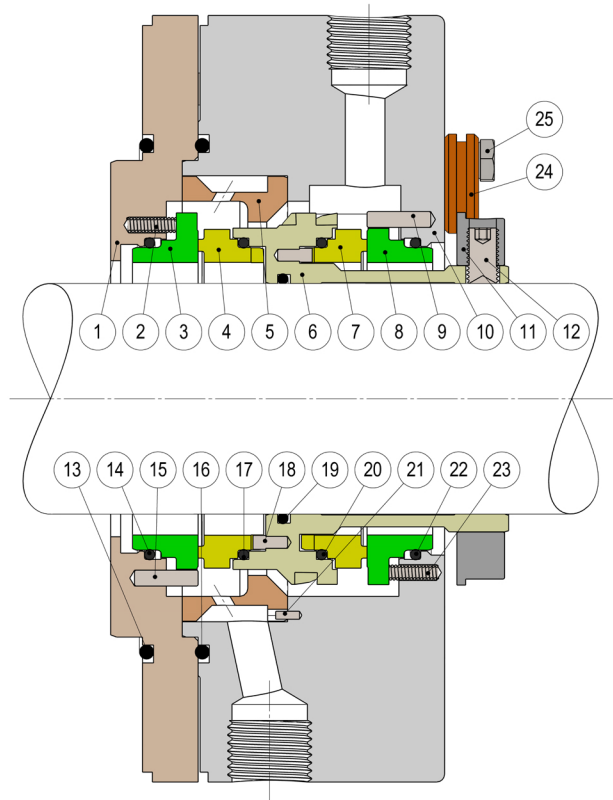
► RECOMMENDED PIPING PLANS

Between seals	53A, 53B, 53C, 54
Atmospheric side	61, 62, 65A, 65B
(Throttle bushing on request)	

► PERFORMANCE CAPABILITIES

Shaft diameter	20 ~110 mm (0.79" ~ 4.33")
Pressure	≤ 40 bar
Temperature	-40 °C ~+ 260 °C
Sliding velocity	≤ 30 m/s

► PRODUCT STRUCTURE DIAGRAM



► THE COMPARISON CHART OF STANDARD MATERIAL

NO.	Name	Material
1	Gland Insert	316SS/Hast.C/D2205/D2507/904L
2,23	Spring	Hast.C
3,8	Stationary Face	Carbon/SIC/TC
4,,7	Rotary Face	Carbon/SIC/TC
5	Deflector	316SS
6	Sleeve	316SS/Hast.C/D2205/D2507/904L
9,15,18	Pin	316SS
10	Gland	316SS/Hast.C/D2205/D2507/904L
11	Clamp Ring	316SS
12	Drive Screw	A2-70
13,14,16	O-Ring	FKM/EPDM/Aflas/Kalrez
17,19,20	O-Ring	FKM/EPDM/Aflas/Kalrez
21	Pin	316SS
22	O-Ring	FKM/EPDM/Aflas/Kalrez
24	Setting Clips	304SS
25	Setting Screw	A2-70