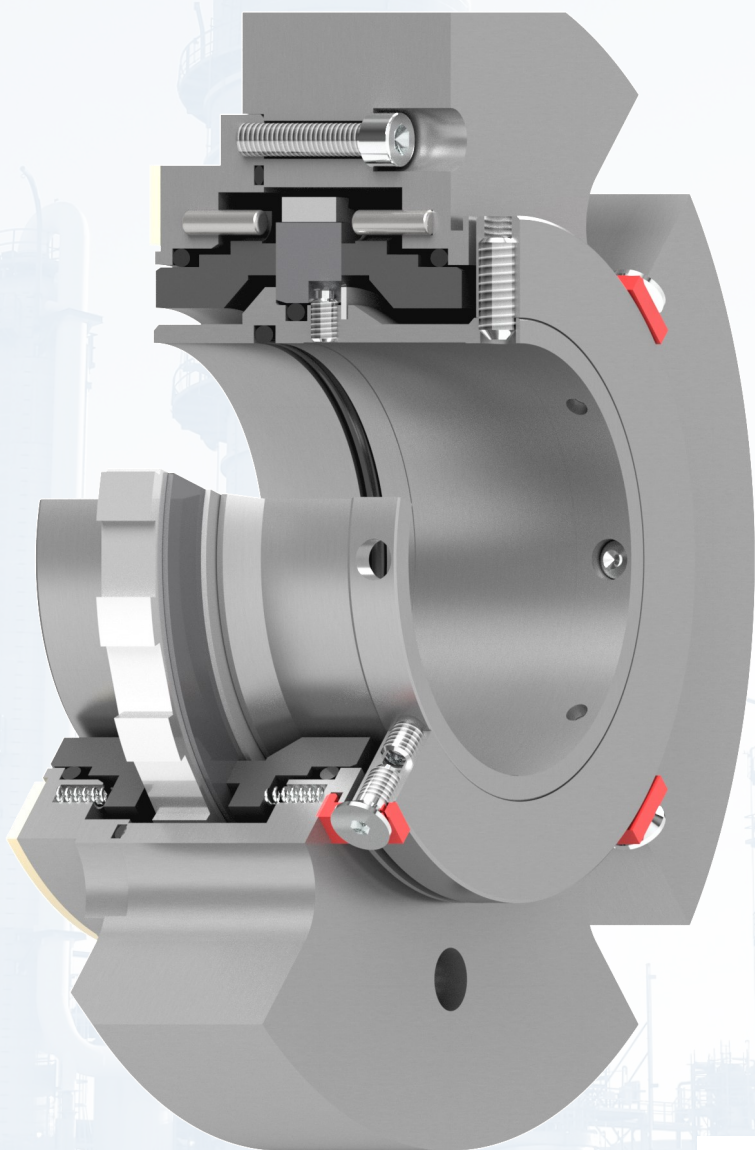




P-3F Cartridge Seal

Dual pusher seal



CREATING SEALING SOLUTIONS THROUGH INNOVATIVE ENGINEERING
MADE IN THE USA

DESCRIPTION

P-3F Dual Seal

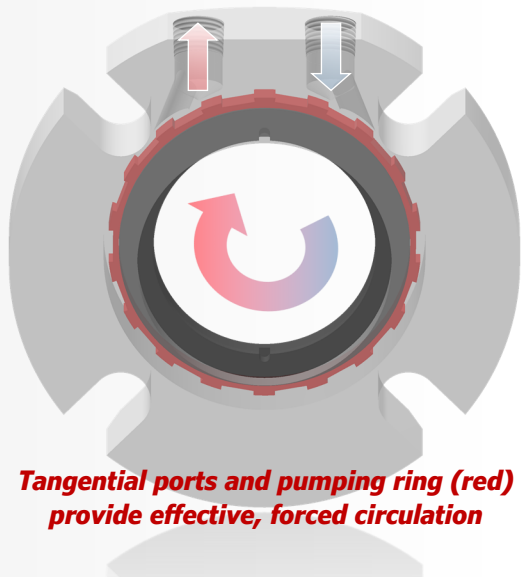
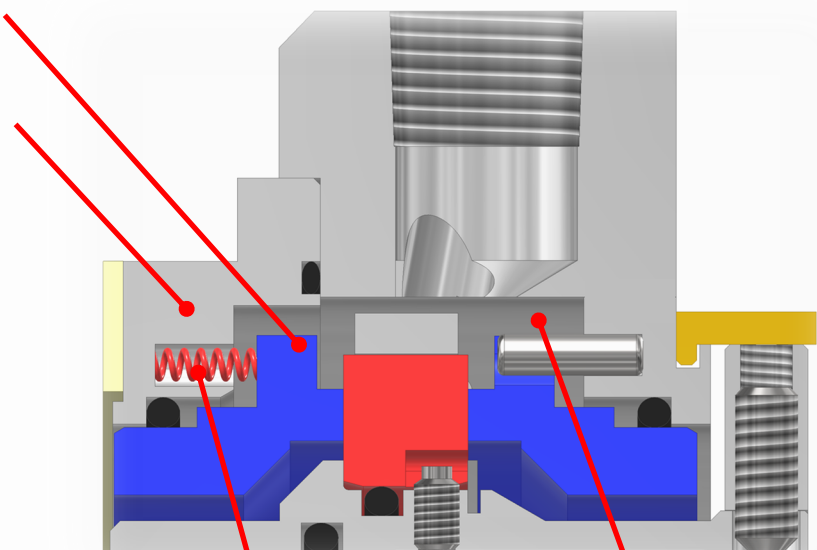
The P-3F cartridge seal is a robust yet compact, general purpose dual seal for use in all industries: chemical, petrochemical, power, steel, mining, water, pharma, and food.

The seal design features large cross-section, monolithic (non-pressed) face designs to prevent distortions and excessive leakage, even at the seal's operating limits (pressure, temperature and speed). Also standard is an integrated pumping ring to significantly improve fluid circulation and seal cooling.

The P-3F is designed and available in sizes to fit most popular general-duty process pumps including ANSI standard and plus (P-3F+) seal chambers.

FEATURES

- Monolithic face design eliminates distortions of face flatness common with pressed designs.
- Available "bi-metal gland" design reduces costs in exotic metallurgy applications.
- Runs in double or tandem seal operation. Inner seal designed to handle pressure reversals to prevent the opening of the seal faces.
- Integrated pumping ring promotes positive circulation of barrier/buffer fluid to remove heat from the seal faces. Close proximity of the pumping ring to the sealing faces ensures optimal heat transfer.
- Standard tangential ports provide a full 360 degree flow path within the seal cavity for enhanced cooling of the seal faces.

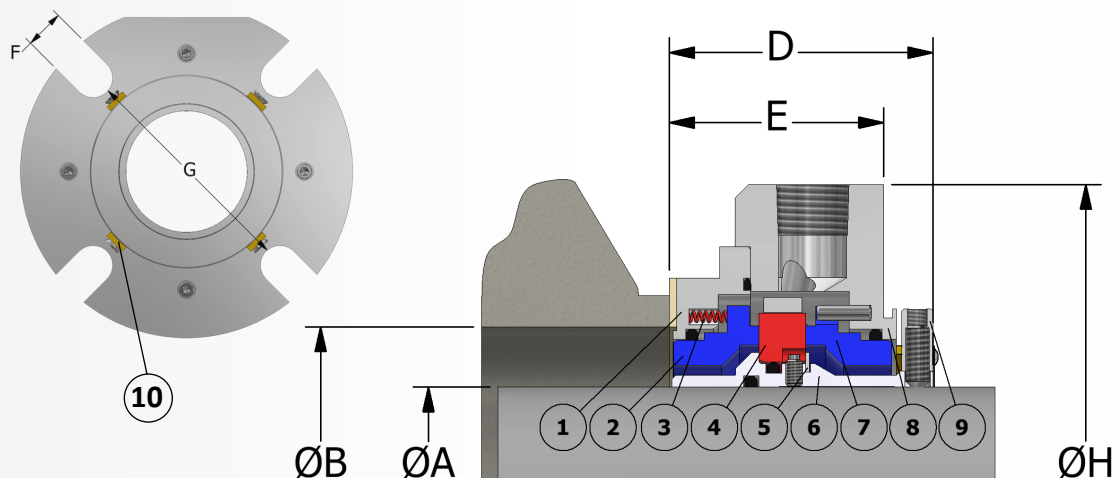


**Tangential ports and pumping ring (red)
provide effective, forced circulation**

- Stationary coil springs are located outside the product. Coil springs accommodate equipment axial movement while stationary spring design resists centrifugal forces and self-aligns the seal faces to account for angular misalignment of the equipment.
- Large seal cavity and internal clearances allow for greater heat dissipation and lower face temperatures, leading to greater seal performance.
- Cartridge assembly is preset, eliminating installation error. Cartridge design also prevents the fretting of any pump parts.

SEAL DIMENSIONAL DATA

P-3F Dual Seal



ITEM	DESCRIPTION
1	Gland Adapter
2	Inner Stationary Face
3	Springs
4	Rotary Face w/ Pumping Ring
5	Retaining Ring
6	Sleeve
7	Outer Stationary Face
8	Gland
9	Collar
10	Setting Spacers

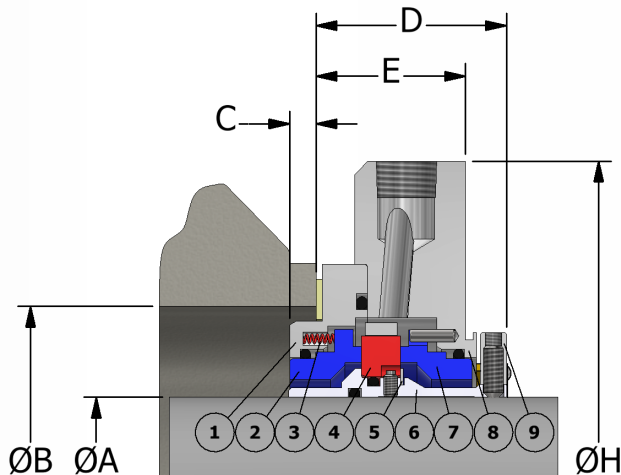
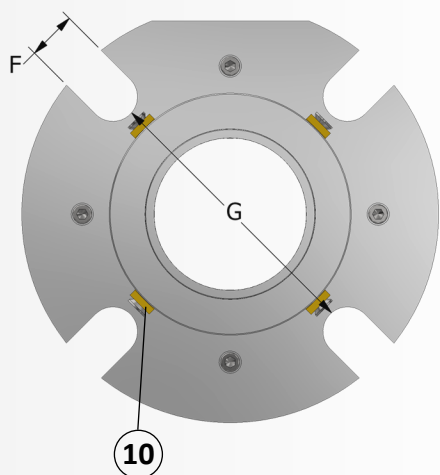
P-3F DIMENSIONS FOR STANDARD BORE SEAL CHAMBER

A SEAL SIZE	B (MIN)	B (MAX)	C	D	E	F	G	H
1.000	1.625	2.000	-	2.06	1.59	0.44	2.312	4.000
1.125	1.750	2.187	-	2.06	1.59	0.44	2.437	4.125
1.250	1.875	2.312	-	2.06	1.59	0.44	2.688	4.250
1.375	2.000	2.437	-	2.06	1.59	0.44	2.812	4.360
1.500	2.125	2.687	-	2.06	1.59	0.44	2.937	4.875
1.625	2.250	2.812	-	2.06	1.59	0.56	3.062	5.000
1.750	2.500	2.968	-	2.15	1.73	0.56	3.312	5.250
1.875	2.500	2.968	-	2.15	1.73	0.56	3.312	5.250
2.000	2.750	3.031	-	2.15	1.73	0.56	3.812	5.500
2.125	2.875	3.375	-	2.15	1.73	0.69	3.937	5.812
2.250	3.000	3.500	-	2.15	1.73	0.69	4.312	6.500
2.375	3.125	3.625	-	2.15	1.73	0.69	4.187	6.500
2.500	3.250	3.906	-	2.15	1.73	0.69	4.312	6.750
2.625	3.375	4.062	-	2.15	1.73	0.69	4.562	6.750
2.750	3.500	4.437	-	2.46	1.88	0.69	4.687	6.750
2.875	3.625	4.187	-	2.46	1.88	0.69	4.937	7.812
3.000	3.750	4.656	-	2.46	1.88	0.69	5.062	7.980
3.125	3.875	4.781	-	2.46	1.88	0.69	5.031	7.875
3.250	4.000	4.906	-	2.46	1.88	0.69	5.187	7.480
3.375	4.125	4.875	-	2.46	1.88	0.81	5.281	8.125
3.500	4.250	5.156	-	2.46	1.88	0.81	5.531	8.250
3.625	4.375	5.125	-	2.46	1.88	0.81	5.562	8.375
3.750	4.687	5.437	-	2.59	2.00	0.69	5.875	8.750
3.875	4.812	5.375	-	2.59	2.00	0.81	5.812	8.750
4.000	4.937	5.500	-	2.59	2.00	0.81	6.093	9.000
4.125	5.062	5.625	-	2.59	2.00	0.81	6.062	9.000
4.250	5.187	5.750	-	2.59	2.00	0.81	6.187	9.250
4.500	5.437	6.000	-	2.59	2.00	0.81	6.437	9.500
4.750	5.687	6.375	-	2.59	2.00	0.81	7.312	10.375 W/FLAT

Note: For complete dimensional data, request a copy of typical drawing T-7743 from a PPC Mechanical Seals representative.

SEAL DIMENSIONAL DATA

P-3F Dual Seal



ITEM	DESCRIPTION
1	Gland Adapter
2	Inner Stationary Face
3	Springs
4	Rotary Face w/ Pumping Ring
5	Retaining Ring
6	Sleeve
7	Outer Stationary Face
8	Gland
9	Collar
10	Setting Spacers

P-3F+ DIMENSIONS FOR BIG BORE SEAL CHAMBER

A SEAL SIZE	B (MIN)	B (MAX)	C	D	E	F	G	H
1.125+	2.625	2.906	0.44	1.68	1.27	0.44	3.312	5.437
1.375+	2.875	3.218	0.44	1.68	1.27	0.44	3.500	5.375
1.750+	3.500	4.000	0.44	1.68	1.26	0.56	4.406	6.500
1.875+	3.500	4.000	0.44	1.68	1.26	0.56	4.406	6.500
2.125+	3.625	4.125	0.44	1.68	1.26	0.69	4.438	7.125
2.500+	4.500	5.125	0.25	1.68	1.45	0.69	5.375	8.000
2.625+	4.625	5.031	0.44	1.68	1.26	0.69	5.375	8.000

Note: For complete dimensional data, request a copy of typical drawing T-7743 from a PPC Mechanical Seals representative.

MATERIALS OF CONSTRUCTION

P-3F Dual Seal

Metallurgy: 316 SS Standard
Other materials available, including Duplex SS, Alloy C-276 & Titanium

Seal Face Combinations:	Inner Stationary	Rotary	Outer Stationary
	Carbon (Resin-filled)	Sint. Silicon Carbide	Carbon (Resin-filled)
	Sint. Silicon Carbide	Sint. Silicon Carbide	Carbon (Resin-filled)
	Sint. Silicon Carbide	Sint. Silicon Carbide	Sint. Silicon Carbide
	Carbon (Resin-filled)	Tungsten Carbide	Carbon (Resin-filled)
	Tungsten Carbide	Tungsten Carbide	Carbon (Resin-filled)
	Sint. Silicon Carbide	Tungsten Carbide	Carbon (Resin-filled)

Other materials available upon request

Elastomers: Fluoroelastomer (FKM), EPDM, AFLAS®, Perfluoroelastomer (FFKM)
Other materials available upon request

Gland Gasket: GYLON® (Filled PTFE)

Springs: Alloy C-276

AFLAS® is a registered trademark of Asahi Glass Co., Ltd.
GYLON® is a registered trademark of Garlock Sealing Technologies LLC

OPERATING CONDITIONS

Seal Chamber Pressure: Vacuum to 300 psig (20 bar g)

Process Temperature: -40 to 400 °F (-40 to 204 °C)
Dependent on application and elastomer material
Contact PPC for specific applications outside these parameters

Surface Speed: Up to 4500 fpm (23 m/s)

APPLICATIONS

- | | |
|------------------------------|------------------|
| • Chemical Processing | • Pharmaceutical |
| • Pulp and Paper | • Mining |
| • Power | • Biofuels |
| • Petrochemicals | • Steel |
| • Corn and Grains | • Food |
| • Water/Wastewater Treatment | |



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