

Features:

Easy to install

Highly extrusion resistant

Direct retrofit for o-ring groove sizes

Available in non standard sizes

Recommended for high pressure flange connections



MATERIAL

The 509 series flange seal features high-grade polyurethane MP30 H-PU, available up to 2100 mm in diameter. To suit a variety of applications the series is also available in NBR, H-NBR, EPDM, and high temperature-resistant FPM. The backup ring materials include POM, polyamide, PTFE with bronze filler and PEEK.

Material	Code
Polyurethane H-PU / POM	MP30
Hydrogenated NBR / PTFE-Bz	MN32
Hydrogenated NBR/POM	MN30
FPM/PTFE-Bz	MF19
EPDM/PTFE-Bz	ME19
NBR/POM	MN10

OPERATING PARAMETERS

Temperature	MP30	
	°C	°F
hydraulic oil	-20...+115	-5...+240
water oil emulsions (HFA)	+5...+55	+40...+130
water-glycol fluids (HFC)	-20...+55	-5...+130
polyol esters (HFD)	-	-
water	+5...+55	+40...+130
speed	-	
pressure	≤1,380 bar (20,000 psi)	

Note: for other materials or fluids please contact our engineering department.

DESCRIPTION

The 509 series face seal is a flange seal designed to eliminate O-ring associated leakage problems in flange assemblies. Consisting of a specialty designed elastomeric sealing element and used with an anti-extrusion ring, the 509 series is engineered as a drop-in replacement for standard O-ring seals. Manufactured in a variety of materials up to 2100 mm.

PRODUCT BENEFITS

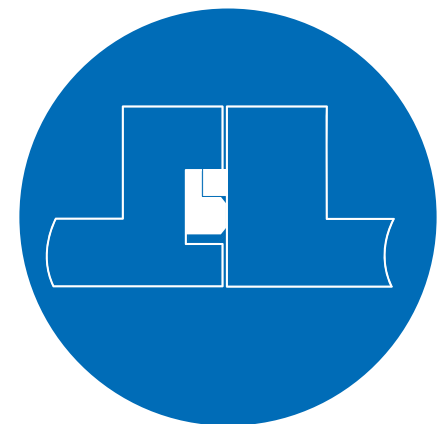
- High pressure capability and wide temperature range
- Excellent fluid compatibility including water-based fluids
- Highly extrusion resistant
- Extended service life
- Direct retrofit for o-ring groove sizes
- Readily available in custom cross-sections, heavy-duty designs

APPLICATIONS

The 509 series face seal is one of the most versatile seals typically used to connect larger sizes of pipe, tube, and hose in fluid power systems.

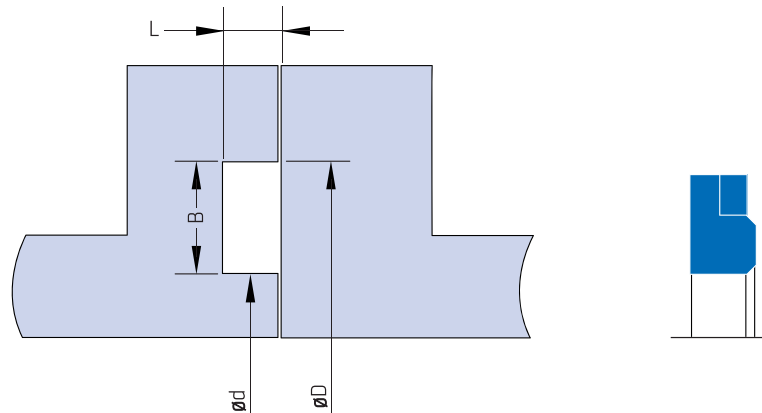
Typical applications include:

- S.A.E. J518c Flange
- 4-Bolt Split Flange
- Code 61 and 62 Flanges
- ISO 6141, DIN 20066, JIS B 8363
- High Pressure Flange Connections
- BOP Door Seals
- Hydraulic Cylinder Face Seals



Above: Installation Drawing

DESIGN GUIDELINES



METRIC SERIES

Nominal Size	Dash	ød	B ^{±0.20}	L ^{±0.05}
13	-8	25.47±0.07	4.15	2.85
19	-12	31.82±0.06	4.15	2.85
25	-16	39.69±0.07	4.15	2.85
32	-20	44.52±0.06	4.15	2.85
38	-24	53.85±0.13	4.15	2.85
51	-32	63.38 ±0.13	4.15	2.85
63	-40	76.20±0.15	4.15	2.85
76	-48	91.95±0.15	4.15	2.85

INCH SERIES

Nominal Size	Dash	ød	B ^{±0.008}	L ^{±0.002}
13	-8	1.000±0.002	0.160	0.110
19	-12	1.250±0.002	0.160	0.110
25	-16	1.560±0.002	0.160	0.110
32	-20	1.750±0.002	0.160	0.110
38	-24	2.120±0.005	0.160	0.110
51	-32	2.500±0.005	0.160	0.110
63	-40	3.000±0.005	0.160	0.110
76	-48	3.620±0.005	0.160	0.110

Note: for a complete list of available sizes please refer to the System Seals online product catalogue at www.systemseals.com.

SURFACE FINISH

Surface roughness		Ra	Rt
Sealing surface	Pulsating Pressure	≤ 1.6 µm	≤ 6 µm
Bottom of Groove			
Sealing surface	Non-pulsating Pressure	≤ 3.2 µm	≤ 12 µm
Bottom of Groove			
Groove flanks		≤ 6.3 µm	≤ 20 µm
Lead-in chamfer		≤ 0.6 µm	≤ 5 µm