

Features:

- O-ring loader maximizes lip force
- Preferred choice for low pressure applications
- Symmetrical design for equalized lip forces
- Premium wear resistance
- Highly extrusion resistant
- Easy to install



MATERIAL

The 207 Series piston seal features high-grade polyurethane. Standard materials are MP03 machined H-PU, available up to 2100 mm in diameter, and MP50 injection-molded TPU. To suit a variety of applications, the 207 series is also available in NBR, H-NBR, EPDM and high temperature-resistant FPM.

Material	Code
Polyurethane H-PU	MP03
Polyurethane TPU	MP50

OPERATING PARAMETERS

Temperature	MP03		MP50	
	°C	°F	°C	°F
hydraulic oil	-20...+115	-5...+240	-30... +110	-20...+230
water oil emulsions (HFA)	+5...+55	+40...+130	+5... +50	+40... +120
water-glycol fluids (HFC)	-20...+55	-5...+130	-30...+40	-20...+100
polyol esters (HFD)	-	-	-	-
water	+5...+55	+40...+130	+5...+50	+40...+120
speed	0.5 m/s (1.6 ft/sec)			
pressure	400 bar (6,000 psi)			

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

DESCRIPTION

The 207 Series Energized Symmetrical Piston U-cup Seal is one of System Seals' most popular designs used in standard-duty applications. The symmetrical design utilizes an O-ring loader to maximize lip force, making it the preferred choice in lower-pressure applications. The symmetrical design ensures that the seal lip forces are equal for every cross section and diameter. The 207 is widely used in standard-to moderate-duty hydraulic applications. Manufactured in a variety of materials and sizes from 6 mm up to 2100 mm in standard and custom diameters.

PRODUCT BENEFITS

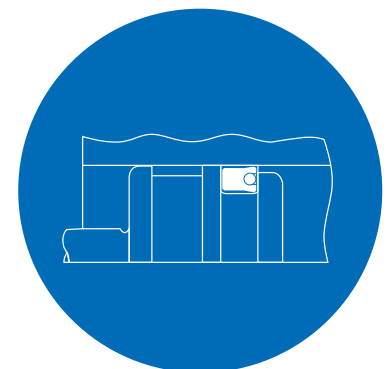
- Wide temperature range
- Excellent fluid compatibility including water-based fluids (H-PU)
- Exceptional abrasion resistance
- Available in diameters up to 2100 mm

APPLICATIONS

The 207 Series U-cup is one of the most versatile seals typically used in low-to moderate-pressure applications.

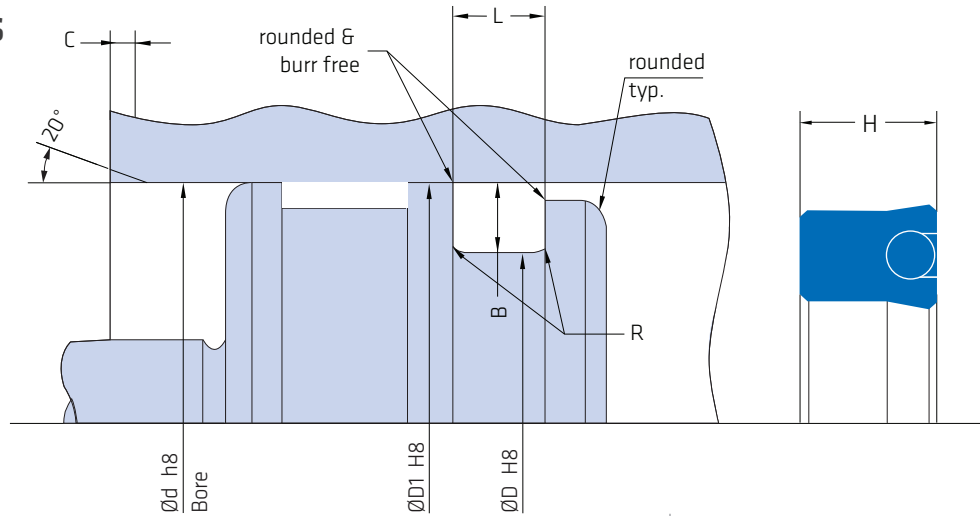
Typical applications include:

- Oil & Gas
- Mobile Hydraulics
- Hydraulic Cylinder Rebuild
- Agricultural Hydraulics
- Construction Equipment
- Hydraulic Presses
- Injection Molding Machines



Above: Installation Drawing

DESIGN GUIDELINES



METRIC SERIES

	B	L ^{+0.20}	H	ØD	ØD1	R	C
Series 1	4.00 mm	6.30	5.70	d + 8.00	d + E	0.40	2.50
Series 2	4.00 mm	9.00	8.10	d + 8.00	d + E	0.40	2.50
Series 3	4.00 mm	11.00	9.90	d + 8.00	d + E	0.40	2.50
Series 4	5.00 mm	8.00	7.20	d + 10.00	d + E	0.40	4.00
Series 5	5.00 mm	11.00	9.90	d + 10.00	d + E	0.40	4.00
Series 6	7.50 mm	12.50	11.30	d + 15.00	d + E	0.40	5.00
Series 7	10.00 mm	16.00	14.40	d + 20.00	d + E	0.40	6.50
Series 8	15.00 mm	19.00	17.10	d + 30.00	d + E	0.40	7.50

Pressure	E
≤100 bar	0.50
≤250 bar	0.35
≤400 bar	0.25

INCH SERIES

	B	L ^{+0.008}	H	ØD	R	C
Series 1	0.250 in	0.413	0.375	d + 0.500	0.016	0.195
Series 2	0.375 in	0.619	0.563	d + 0.750	0.016	0.195
Series 3	0.500 in	0.825	0.750	d + 1.000	0.016	0.250
Series 4	0.563 in	0.928	0.844	d + 1.125	0.016	0.295
Series 5	0.625 in	1.031	0.938	d + 1.250	0.016	0.295
Series 6	0.750 in	1.238	1.125	d + 1.500	0.016	0.400
Series 7	1.000 in	1.650	1.500	d + 2.000	0.016	0.500

Pressure	E
≤1,450 psi	0.020
≤3,625 psi	0.015
≤6,000 psi	0.010

Note: the extrusion gap "E" is suitable for pressure up to 400 bar (6,000 psi) and temperatures up to 80° C (176° F). For higher pressures or temperatures, please consult our engineering department for guidance.

SURFACE FINISH

Surface roughness	Ra	Rt	RMS
Sliding surface	≤0.3 µm	≤3 µm	8 RMS
Surface of groove I.D.	≤1.8 µm	≤10 µm	64 RMS
Sides of groove	≤3 µm	≤16 µm	125 RMS