

### Features:

- Asymmetrical design for optimal sealing performance
- Premium wear resistance
- Highly extrusion resistant
- Easy to install



### MATERIAL

The 101 Series rod seal features high-grade polyurethane. Standard materials are MPO3 machined H-PU, available up to 2100 millimeters in diameter, and MP50 injection-molded TPU. To suit a variety of applications, the series is also available in NBR, H-NBR, EPDM and high temperature-resistant FPM.

Material	Code
Polyurethane H-PU	MPO3
Polyurethane TPU	MP50

### OPERATING PARAMETERS

Temperature	MPO3		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 (6,000psi)			

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

### DESCRIPTION

The 101 Series U-cup seal is one of System Seals' most popular designs used in standard-duty applications. Its asymmetrical design ensures that the seal lip forces are optimized for every cross section and diameter. When used within a sealing system, the 101 is a key component of System Seals' Zero Leak Technology. Manufactured in a variety of materials and sizes from 6mm up to 2100 millimeters in standard or custom diameters.

### PRODUCT BENEFITS

- High pressure capability and wide temperature range
- Excellent fluid compatibility including water-based fluids (H-PU)
- Exceptional abrasion resistance
- Highly extrusion resistant
- Available in diameters up to 2100 millimeters

### APPLICATIONS

The 101 Series U-Cup is one of the most versatile seals typically used as a primary seal in moderate to high-pressure applications. In applications requiring Zero-Leak Technology, it is often used as a secondary seal with the 124 Series buffer seal.

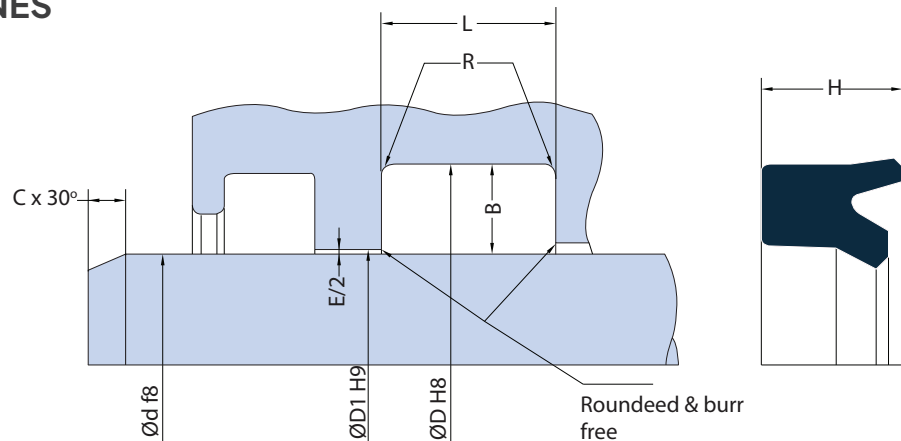
Typical applications include:

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



Above: Installation Drawing

## DESIGN GUIDELINES



### METRIC SERIES

	B	L <sup>+0.20</sup>	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 <sup>+0.008</sup>	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 400bar (6,000 psi) and temperatures up to 80° C (176° F). For higher pressures or temperatures, please consult our engineering department for guidance. For a complete list of available sizes please refer to the System Seals online product catalogue at [www.systemseals.com](http://www.systemseals.com).

### 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