

## Material

The 117 Series rod seal is manufactured from high-grade hydrolysis-resistant polyurethane. The series is also available in NBR and FPM.

Material	Code
Polyurethane H-PU	P03
Polyurethane TPU	P50

## Operating Parameters

Temperature	P03		P50	
	°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 (6000psi)

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

## Description

The 117 Series rod U-Cup seal is a double-lipped seal for use as a primary seal, typically in higher pressure applications. Its asymmetrical design ensures that the dynamic and static lip sealing forces are optimized for every cross section and diameter.

## Product Benefits

- High pressure and temperature resistance
- Good media resistance, incl. water-based fluids
- Long service life
- Available in diameters up to 1900mm

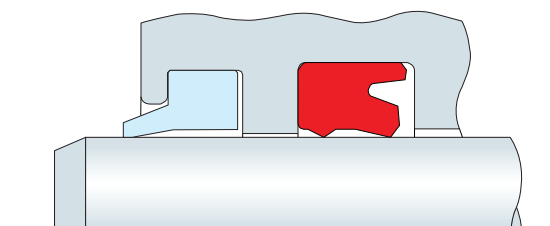
## Applications

The 117 Series rod U-cup seal is typically used as a primary rod seal in high pressure applications. In applications subject to pressure spikes, it is often used as a secondary seal with the 124 Series buffer seal.

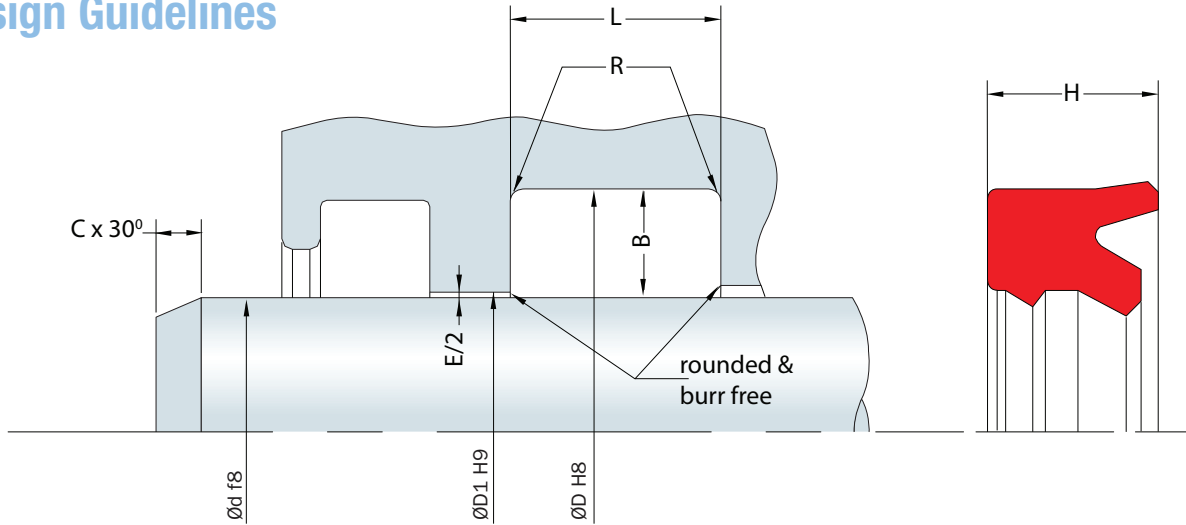
Typical applications include:

- Agricultural hydraulics
- Construction equipment
- Presses

## Installation Drawing



## Design Guidelines



### Metric Series

	B	L <sup>+0.2</sup>	H	D	R typical	C
Series 1	4.00 mm	6.30	5.70	d + 8.00	0.40	2.50
Series 2	4.00 mm	9.00	8.10	d + 8.00	0.40	2.50
Series 3	4.00 mm	11.00	9.90	d + 8.00	0.40	2.50
Series 4	5.00 mm	8.00	7.20	d + 10.00	0.40	4.00
Series 5	5.00 mm	11.00	9.90	d + 10.00	0.40	4.00
Series 6	7.50 mm	12.50	11.30	d + 15.00	0.40	5.00
Series 7	10.00 mm	16.00	14.40	d + 20.00	0.40	6.50
Series 8	15.00 mm	19.00	17.10	d + 30.00	0.40	7.50

Pressure	E
<100 bar	0.51
<250 bar	0.36
<400 bar	0.23

Extrusion Gaps

### Inch Series

	B	L <sup>+0.008</sup>	H	D	R typical	C
Series 1	0.250 inches	0.413	0.375	d + 0.500	0.016	0.195
Series 2	0.375 inches	0.619	0.563	d + 0.750	0.016	0.195
Series 3	0.500 inches	0.825	0.750	d + 1.000	0.016	0.250
Series 4	0.563 inches	0.928	0.844	d + 1.125	0.016	0.295
Series 5	0.625 inches	1.031	0.938	d + 1.250	0.016	0.295
Series 6	0.750 inches	1.238	1.125	d + 1.500	0.016	0.400
Series 7	1.000 inches	1.650	1.500	d + 2.000	0.016	0.500

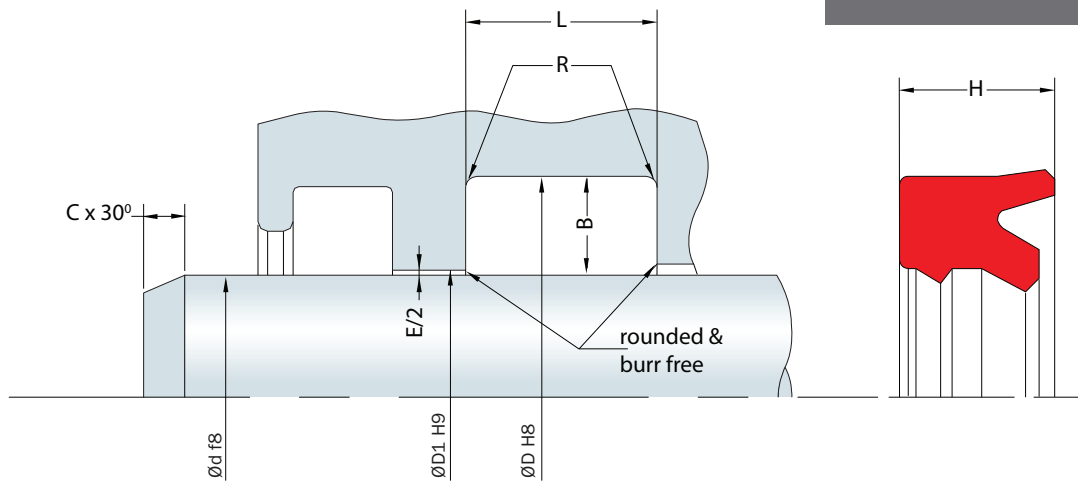
Pressure	E
<1500 bar	0.020
<3600 bar	0.014
<6000 bar	0.009

Extrusion Gaps

For higher pressures or temperatures, please consult our engineering department for guidance.

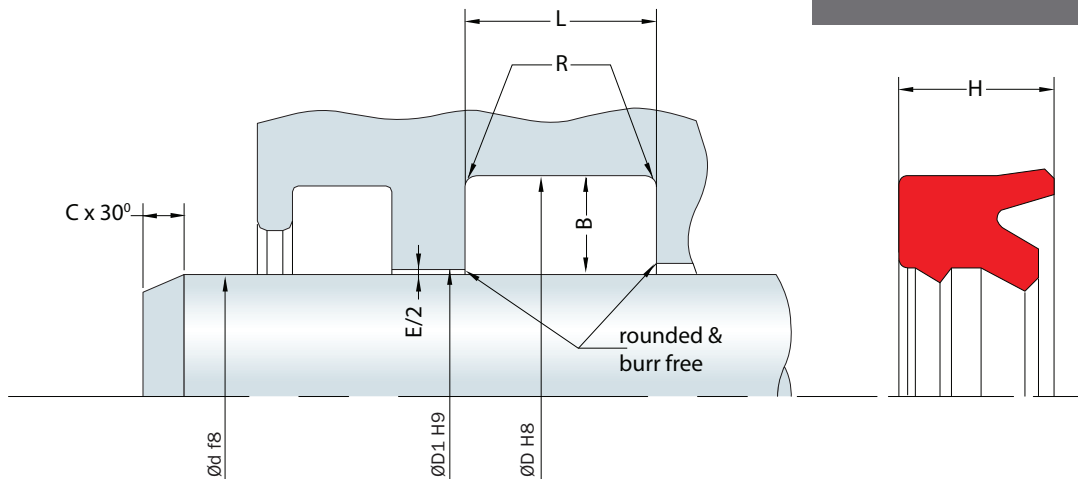
### Surface Finish

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



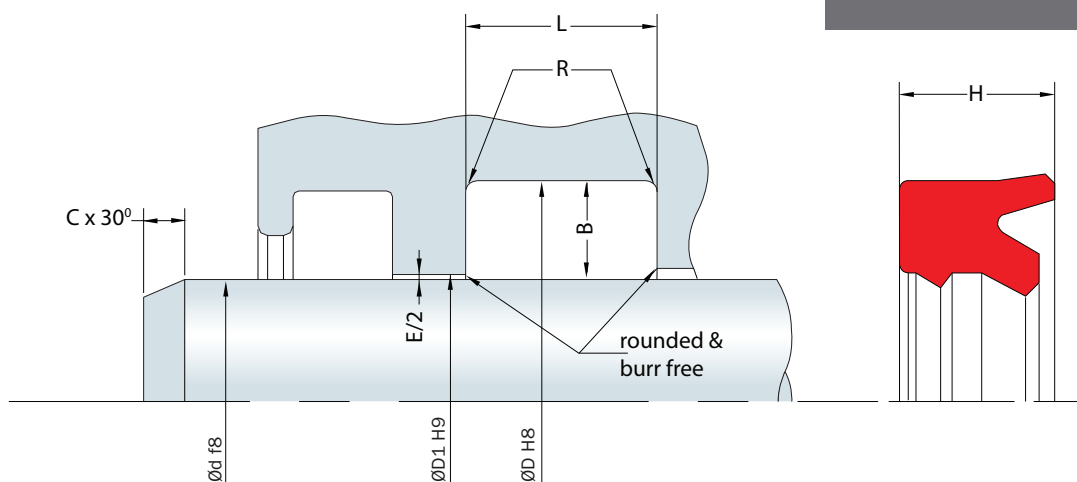
Parts List

Ød	ØD	B	L	H	C	R	P50 TPU
15.00	25.00	5.00	9.00	8.20	4.00	0.20	117.91249
20.00	30.00	5.00	8.00	7.30	4.00	0.20	117.91172
20.00	30.00	5.00	9.00	8.20	4.00	0.20	117.91345
22.00	32.00	5.00	8.00	7.30	4.00	0.20	117.91093
22.00	32.00	5.00	9.00	8.20	4.00	0.20	117.91124
25.00	35.00	5.00	8.00	7.30	4.00	0.20	117.91008
25.00	35.00	5.00	9.00	8.20	4.00	0.20	117.91129
28.00	38.00	5.00	8.00	7.30	4.00	0.20	117.91000
28.00	38.00	5.00	9.00	8.20	4.00	0.20	117.91195
30.00	40.00	5.00	8.00	7.30	4.00	0.20	117.91110
30.00	40.00	5.00	11.00	10.00	4.00	0.20	117.91031
32.00	42.00	5.00	8.00	7.30	4.00	0.20	117.91116
32.00	42.00	5.00	11.00	10.00	4.00	0.20	117.91074
35.00	45.00	5.00	11.00	10.00	4.00	0.20	117.91128
36.00	46.00	5.00	11.00	10.00	4.00	0.20	117.91219
40.00	50.00	5.00	8.00	7.30	4.00	0.20	117.91206
40.00	50.00	5.00	9.00	8.20	4.00	0.20	117.91053
40.00	50.00	5.00	11.00	10.00	4.00	0.20	117.91020
45.00	55.00	5.00	11.00	10.00	4.00	0.20	117.91196
50.00	60.00	5.00	8.00	7.30	4.00	0.20	117.91094
50.00	60.00	5.00	11.00	10.00	4.00	0.20	117.91200
55.00	65.00	5.00	11.00	10.00	4.00	0.20	117.91225
55.00	65.00	5.00	13.00	11.40	4.00	0.20	117.91179
60.00	70.00	5.00	11.00	10.00	4.00	0.20	117.91214
60.00	70.00	5.00	13.00	11.40	4.00	0.20	117.91221
65.00	75.00	5.00	13.00	11.40	4.00	0.20	117.91143
70.00	80.00	5.00	13.00	11.40	4.00	0.20	117.91155
75.00	85.00	5.00	12.50	11.40	4.00	0.20	117.91085
75.00	85.00	5.00	13.00	11.40	4.00	0.20	117.91105
80.00	90.00	5.00	13.00	11.40	4.00	0.20	117.91090
30.00	45.00	7.50	11.00	10.00	5.00	0.20	117.91183
32.00	47.00	7.50	11.00	10.00	5.00	0.20	117.91035



Parts List

Ød	ØD	B	L	H	C	R	P50 TPU
35.00	50.00	7.50	11.00	10.00	5.00	0.20	117.91006
40.00	55.00	7.50	11.00	10.00	5.00	0.20	117.91231
45.00	60.00	7.50	11.00	10.00	5.00	0.20	117.91161
50.00	65.00	7.50	11.00	10.00	5.00	0.20	117.91224
55.00	70.00	7.50	13.00	11.40	5.00	0.20	117.91088
56.00	71.00	7.50	12.50	11.40	5.00	0.20	117.91010
56.00	71.00	7.50	13.00	11.40	5.00	0.20	117.91120
60.00	75.00	7.50	12.50	11.40	5.00	0.20	117.91040
60.00	75.00	7.50	13.00	11.40	5.00	0.20	117.91051
65.00	80.00	7.50	13.00	11.40	5.00	0.20	117.91071
75.00	90.00	7.50	11.00	10.00	5.00	0.20	117.91022
80.00	95.00	7.50	12.50	11.40	5.00	0.20	117.91186
80.00	95.00	7.50	13.00	11.40	5.00	0.20	117.91061
90.00	105.00	7.50	12.50	11.40	5.00	0.20	117.91084
90.00	105.00	7.50	13.00	11.40	5.00	0.20	117.91309
100.00	115.00	7.50	13.00	11.40	5.00	0.20	117.91349
50.00	70.00	10.00	12.50	11.40	6.50	0.20	117.91228
50.00	70.00	10.00	13.00	11.40	6.50	0.20	117.91318
63.00	83.00	10.00	12.50	11.40	6.50	0.20	117.91638
63.00	83.00	10.00	13.00	11.40	6.50	0.20	117.91350
65.00	85.00	10.00	13.00	11.40	6.50	0.20	117.91346
70.00	90.00	10.00	13.00	11.40	6.50	0.20	117.91254
70.00	90.00	10.00	16.00	14.60	6.50	0.20	117.91250
80.00	100.00	10.00	13.00	11.40	6.50	0.20	117.91256
90.00	110.00	10.00	13.00	11.40	6.50	0.20	117.91391
100.00	120.00	10.00	12.50	11.40	6.50	0.20	117.91348
100.00	120.00	10.00	13.00	11.40	6.50	0.20	117.91387
100.00	120.00	10.00	16.00	14.60	6.50	0.20	117.91543
110.00	130.00	10.00	16.00	14.60	6.50	0.20	117.91408
120.00	140.00	10.00	12.50	11.40	6.50	0.20	117.91502
120.00	140.00	10.00	16.00	14.60	6.50	0.20	117.91478
125.00	145.00	10.00	16.00	14.60	6.50	0.20	117.91347



**Parts List**

Ød	ØD	B	L	H	C	R	P50 TPU
140.00	160.00	10.00	16.00	14.60	6.50	0.20	117.91284
150.00	170.00	10.00	16.00	14.60	6.50	0.20	117.91449
160.00	185.00	12.50	16.00	14.60	7.50	0.20	117.91674