

Features:

Premium wear resistance

Secondary lip adds to seal performance and acts as a contamination barrier

Robust backup ring prevents extrusion

Easy to install



MATERIAL

The 137 Series rod 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 series is also available in NBR, H-NBR, EPDM and high temperature-resistant FPM. The backup ring materials include POM, polyamide and PEEK.

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	≤1380 bar (20,000 psi)			

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

DESCRIPTION

The 137 Series U-cup seal is a high-performance, double-lipped seal for use as in high-clearance applications, typically in moderate to high-pressure environments. Its asymmetrical design ensures that the seal lip forces are optimized for every cross section and diameter. The full-face backup ring supports the seal and ensures maximum extrusion resistance in a larger than normal clearance application. Manufactured in a variety of materials and sizes from 6 mm up to 2100 mm in standard or custom diameters.

PRODUCT BENEFITS

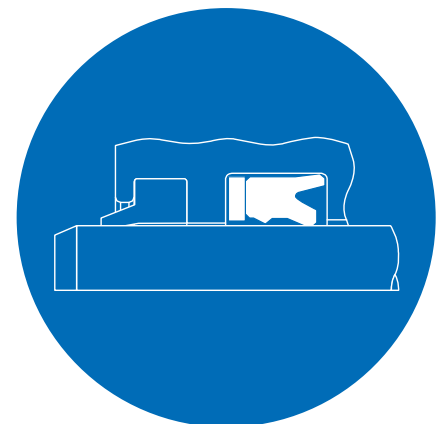
- Designed specifically for large clearance applications
- High pressure capability and wide temperature range
- Excellent fluid compatibility including water-based fluids (H-PU)
- Exceptional abrasion resistance
- Highly extrusion resistant
- Available in diameters up to 2100 mm

APPLICATIONS

The 137 Series U-cup seal is typically used in high-clearance applications as a primary seal and functions well in moderate to high pressures.

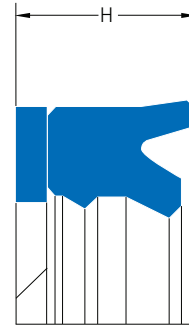
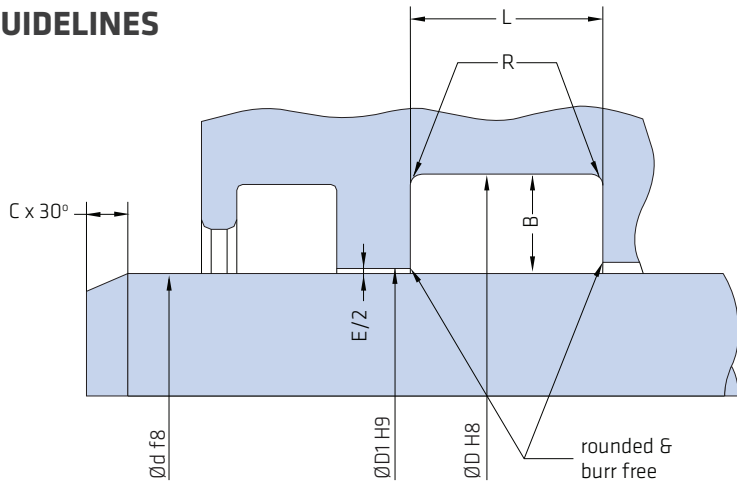
Typical applications include:

- Mining
- Agriculture
- Construction equipment
- Presses
- Injection molding machines



Above: Installation Drawing

DESIGN GUIDELINES



METRIC SERIES

	B	L ^{+0.2}	H	ØD	ØD1	R	C
Series 1	5.00 mm	11.00	9.9	d+10	d+E	0.40	2.50
Series 2	7.50 mm	15.00	13.5	d+15	d+E	0.40	3.75
Series 3	10.00 mm	22.00	20.8	d+20	d+E	0.40	5.00
Series 4	12.50 mm	27.00	25.8	d+25	d+E	0.40	6.25
Series 5	15.00 mm	33.00	31.8	d+30	d+E	0.40	7.50

INCH SERIES

	B	L ^{+0.008}	H	ØD	ØD1	R	C
Series 1	0.250 in	0.550	0.495	d+0.500	d+E	0.016	0.125
Series 2	0.375 in	0.825	0.743	d+0.750	d+E	0.016	0.188
Series 3	0.500 in	1.125	1.013	d+1.000	d+E	0.016	0.250
Series 4	0.625 in	1.375	1.238	d+1.250	d+E	0.016	0.313
Series 5	0.750 in	1.675	1.508	d+1.500	d+E	0.016	0.375

Note: 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.

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

Pressure	E
≤100 bar	1.00
≤250 bar	0.85
≤400 bar	0.70

Extrusion Gaps

Pressure	E
≤1,450 psi	0.040
≤3,625 psi	0.035
≤6,000 psi	0.030

Extrusion Gaps