

Features:

Asymmetrical design for optimal stability during operation

Active backup ring provides maximum extrusion resistance

Highly extrusion resistant in large gap conditions

Easy to install



MATERIAL

The 227 Series piston seal features high-grade polyurethane. Standard materials are MP30 H-PU and polyacetal backup ring. 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 and PEEK.

Material	Code
Polyurethane H-PU / POM	MP30
Hydrogenated NBR / POM (shown in photo)	MN30

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	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 227 Series is a heavy duty polyurethane piston seal with a U-cup design and active backup ring. This pressure-relieving design is ideal for back-to-back tandem arrangements. The active backup ring allows larger clearances and higher pressures. The asymmetrical design of the U-cup seal allows maximum stability in the seal groove. It is an ideal choice when pressure trapping is a problem.

PRODUCT BENEFITS

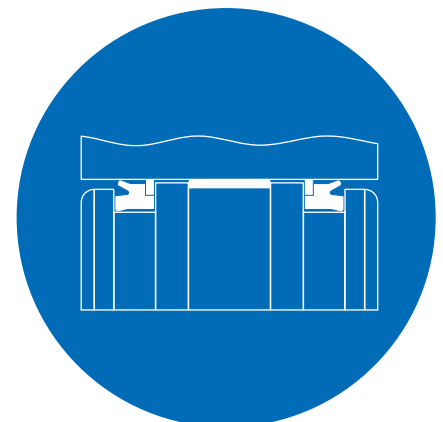
- High pressure capability and wide temperature range
- Pressure-relieving design prevents pressure trapping
- Excellent fluid compatibility including water-based fluids (H-PU)
- Exceptional abrasion resistance

APPLICATIONS

The 227 Series piston seal is typically used in heavy-duty applications, where pressure trapping, high pressure and large extrusion gaps exist.

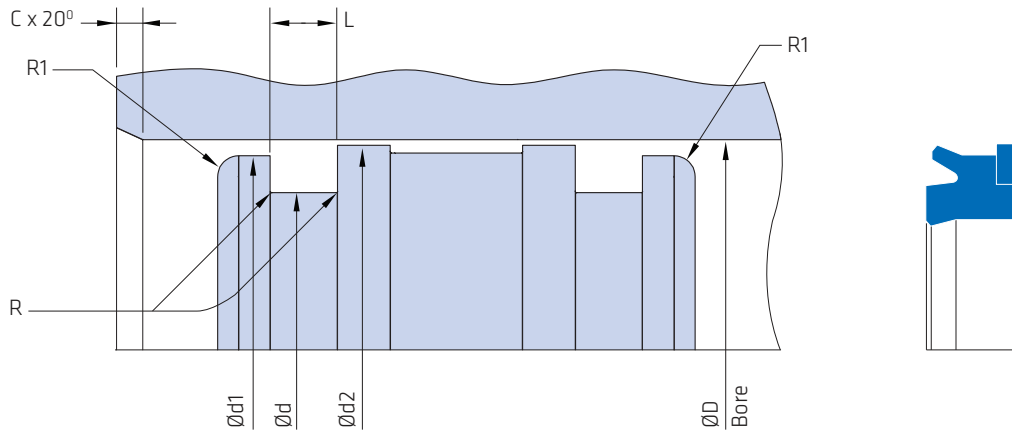
Typical applications include:

- Steel and Aluminum Processing
- Mobile Hydraulics
- Hydraulic Cylinder Rebuild
- Agricultural Hydraulics
- Construction Equipment



Above: Installation Drawing

DESIGN GUIDELINES



METRIC SERIES

	B	$\text{Ød}^{+0.20}$	L	C	Ød1	$\text{Ød2} < 400 \text{ bar}$	R	R1
Series 1	7.50 mm	D - 15.00	9.50	4.00	D - 5.00	D - 0.70	0.40	4.00
Series 2	10.00 mm	D - 20.00	12.50	5.00	D - 6.00	D - 1.00	0.40	4.00
Series 3	12.50 mm	D - 25.00	15.50	6.50	D - 8.00	D - 1.00	0.40	4.00
Series 4	15.00 mm	D - 30.00	18.60	7.50	D - 10.00	D - 1.00	0.40	4.00

INCH SERIES

	B	$\text{Ød}^{+0.008''}$	L	C	Ød1	$\text{Ød2} < 6000 \text{ psi}$	R	R1
Series 1	0.295 in	D - 0.591	0.375	0.160	D - 0.197	D - 0.028	0.016	0.157
Series 2	0.394 in	D - 0.787	0.490	0.200	D - 0.236	D - 0.039	0.016	0.157
Series 3	0.492 in	D - 0.984	0.610	0.250	D - 0.315	D - 0.039	0.016	0.157
Series 4	0.591 in	D - 1.181	0.730	0.300	D - 0.394	D - 0.039	0.016	0.157

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	$\leq 0.3 \mu\text{m}$	$\leq 3 \mu\text{m}$	6-12 RMS
Surface of groove I.D.	$\leq 1.8 \mu\text{m}$	$\leq 10 \mu\text{m}$	64 RMS
Sides of groove	$\leq 3 \mu\text{m}$	$\leq 16 \mu\text{m}$	125 RMS