

**Features:**

- A square profile offers increased stability in the groove
- A defined sealing lip provides maximum performance
- Easy to install
- Available inch or metric sizes



**MATERIAL**

The 161 Series Static Seal features high-grade polyurethane. Standard materials are MP03 machined H-PU available up to 2100 millimeters in diameter.

Material	Code
Polyurethane H-PU	MP03
Nitrile NBR	MN01
Fluoroelastomer FPM	MF01
Hydrogenated NBR	MN03

**OPERATING PARAMETERS**

Temperature	MP03	
	°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 161 Series is a great replacement for standard large-diameter O-rings. This heavy duty static seal has a defined sealing lip manufactured from high-performance polyurethane. The square body profile prevents rolling in the groove, which is common with O-rings. The robust qualities of polyurethane allow the seal to be used without a backup ring. It is a substantial upgrade to the traditional O-ring and backup ring combination, which has been prone to rolling installation problems.

**PRODUCT BENEFITS**

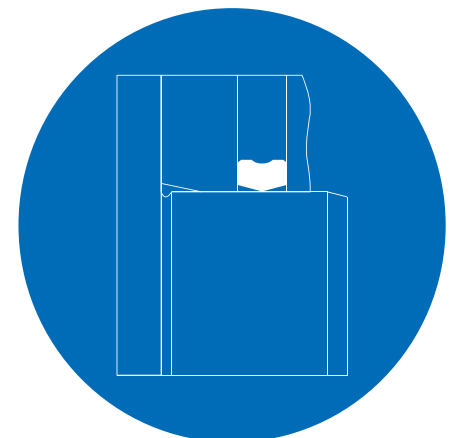
- No twisting or rolling during installation
- Direct retrofit to O-ring and backup ring designs
- Extrusion resistant
- Abrasion-resistant polyurethane
- Long life due to robust design

**APPLICATIONS**

The 161 Series is used as the primary static seal in heavy duty steel and aluminum applications in severe conditions.

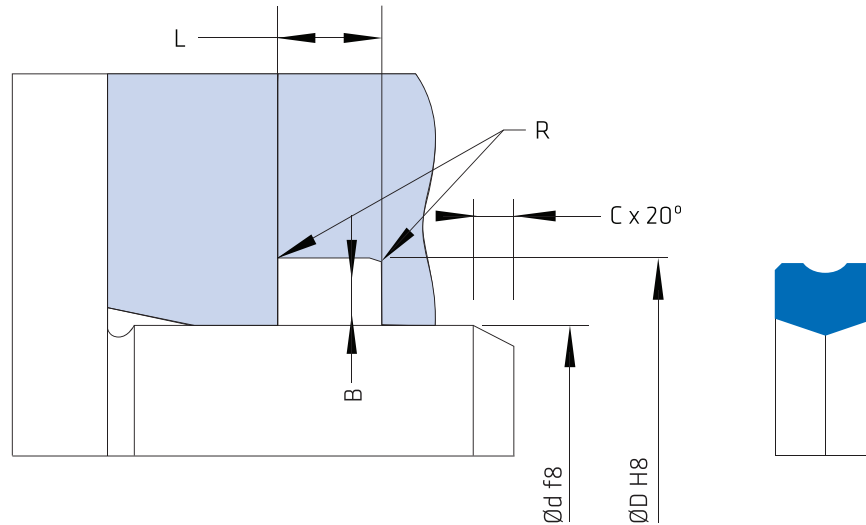
Typical applications include:

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



**Above:** Installation Drawing

## DESIGN GUIDELINES



## METRIC SERIES

	Groove Depth (B)	Groove Width (L)			Radius (R)		Chamfer (C)
		261 only	+1 backup ring	+2 backup rings	261 only	with backup ring	
		$B^{+0.05}$	$L^{+0.25}$	$L^{+0.25}$	$L^{+0.25}$	R	
Series 000	1.40	2.40	3.80	5.20	0.30	0.30	2.50
Series 100	2.10	3.60	5.00	6.40	0.30	0.30	3.00
Series 200	2.80	4.80	6.20	7.60	0.60	0.40	3.50
Series 300	4.30	7.10	9.00	10.90	1.00	0.60	5.00
Series 400	5.80	9.50	12.30	15.10	1.00	0.60	5.00

## INCH SERIES

	Groove Depth (B)	Groove Width (L)			Radius (R)		Chamfer (C)
		261 only	+1 backup ring	+2 backup rings	261 only	with backup ring	
		$B^{+0.002}$	$L^{+0.010}$	$L^{+0.010}$	$L^{+0.010}$	R	
Series 000	0.055	0.094	0.150	0.205	0.012	0.012	0.098
Series 100	0.083	0.142	0.197	0.252	0.012	0.012	0.118
Series 200	0.110	0.189	0.244	0.299	0.024	0.016	0.138
Series 300	0.169	0.280	0.354	0.429	0.039	0.024	0.197
Series 400	0.228	0.374	0.484	0.594	0.039	0.024	0.197

**Note:** 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