

Features:

Low compression set profiled energizer

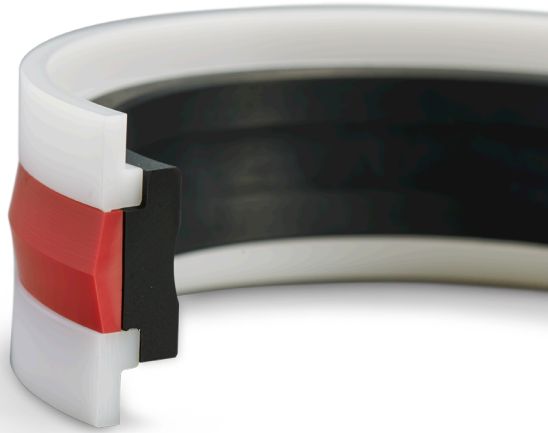
Highly wear-resistant polyurethane seal cap

A single-point seal cap design provides extraordinary sealing performance

L-shaped anti-extrusion rings also act as bushings

Very robust design

Extrusion resistance under high pressure



MATERIAL

The 235 Series piston seal features a robust NBR elastomer, a profile seal cap in abrasion resistant polyurethane and two L-shaped backup rings in high-strength thermoplastic.

Material	Code
Polyurethane H-PU / NBR / POM	MP38

OPERATING PARAMETERS

Temperature	°C	°F
hydraulic oil	-20...+115	-5...+240
water oil emulsions (HFA)	+5...+55	+40...+130
water-glycol fluids (HFC)	-20...+55	-5...+130
polyolesters (HFD)	-	-
water	+5...+55	+40...+130
speed	0.5 m/s (1.6 ft/sec)	
pressure	690 bar (10,000psi)	

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

DESCRIPTION

The 235 Series is designed for compact piston applications where space is restricted. It consists of a profiled energizer, a polyurethane seal element and two L-shaped anti-extrusion rings that also function as bushings. It is designed for double-acting cylinders in heavy-duty applications subject to severe pressure spikes coupled with high running clearance.

PRODUCT BENEFITS

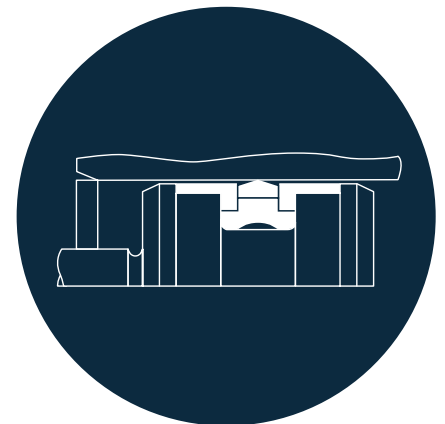
- Long service life under the harshest conditions
- Compatible with water-based fluids (H-PU)
- Designed for space-restricted applications
- Easy installation

APPLICATIONS

The 235 Series, four-piece piston seal is ideal in heavy duty sealing applications where space is restricted and pressure spiking can occur.

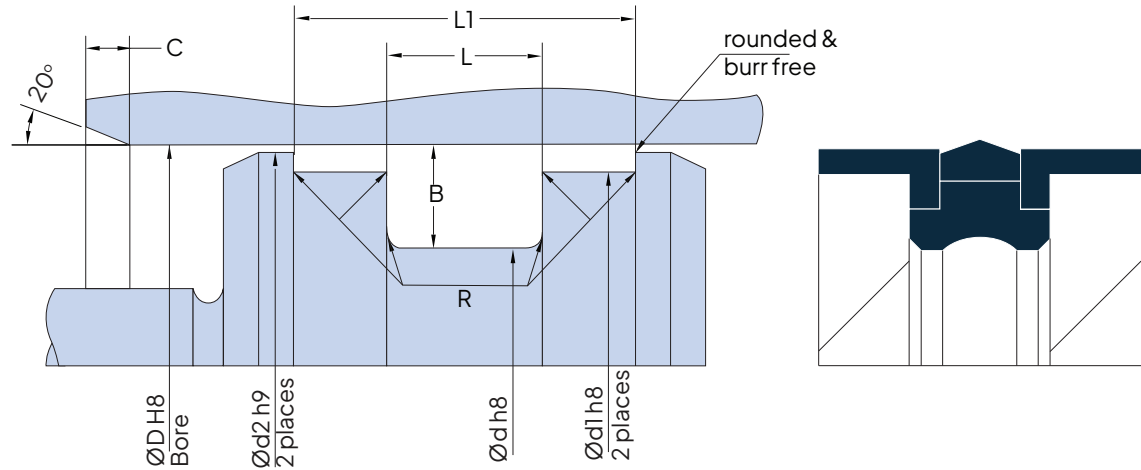
Typical applications include:

- Mining
- Heavy-duty clamp cylinders
- Specialty high-pressure cylinders
- Hydraulic rams
- Various advancing and secondary cylinders



Above: Installation Drawing

DESIGN GUIDELINES



METRIC SERIES

	B	Ød	L ^{+0.20}	L1 ^{+0.20}	Ød1	Ød2	R	C
Series 1	10.0	D-20	20.0	32.8	D-6	D-1	0.40	8
Series 2	12.5	D-25	20.0	32.8	D-6	D-1	0.40	9
Series 3	15.0	D-30	25.0	37.8	D-6	D-1	0.40	11

INCH SERIES

	B	Ød	L ^{+0.008}	L1 ^{+0.008}	Ød1	Ød2	R	C
Series 1	0.375	D-0.750	0.750	1.250	D-0.250	D-0.040	0.016	0.275
Series 2	0.500	D-1.000	0.750	1.250	D-0.250	D-0.040	0.016	0.375
Series 3	0.625	D-1.250	1.000	1.500	D-0.250	D-0.040	0.016	0.500

Note: The extrusion gap “E” is suitable for pressure up to 400 bar (6000 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.

SURFACE FINISH

Surface roughness	Ra	Rt	RMS
Sliding surface	≤0.3 µm	≤3 µm	6-12 RMS
Surface of groove I.D.	≤1.8 µm	≤10 µm	64 RMS
Sides of groove	≤3 µm	≤16 µm	64 RMS

