

### Features:

- Low compression set profiled energizer
- Low friction PTFE-filled seal cap
- Very robust design
- Extrusion resistance under high pressure



### MATERIAL

The 254 Series piston seal features a robust NBR elastomer, a seal cap in low-friction PTFE-filled and two backup rings in high-strength thermoplastic.

Material	Code
PTFE-Bronze compound /NBR / POM (shown in photo)	MT24

### OPERATING PARAMETERS

Temperature	MT24	
	°C	°F
hydraulic oil	-30...+100	-22...+212
water oil emulsions (HFA)	-	-
water-glycol fluids (HFC)	-	-
polyol esters (HFD)	-	-
water	-	-
speed	1.5 m/s (5 ft/sec)	
pressure	500 bar (7,250 psi)	

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

### DESCRIPTION

The 254 Series is one of the most robust four-piece piston seals available on the market. It consists of a profiled energizer, a PTFE-filled seal element and two active anti-extrusion backup rings. It is designed for double-acting cylinders in heavy-duty applications subject to severe pressure spikes coupled with high running clearance.

### PRODUCT BENEFITS

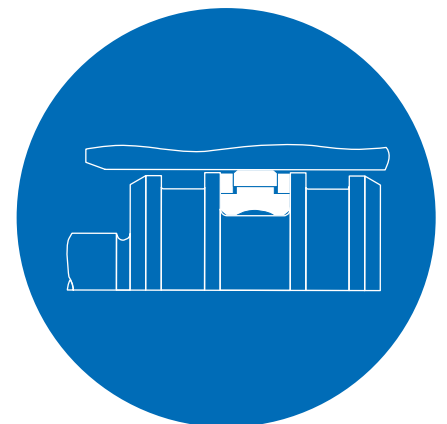
- Long service life under the harshest conditions
- Compatible with water-based fluids
- Optimized for high running clearance
- Easy installation

### APPLICATIONS

The 254 Series, four-piece piston seal is ideal for heavy duty sealing applications where pressure spiking can occur.

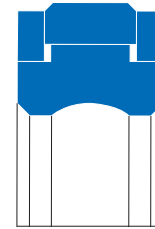
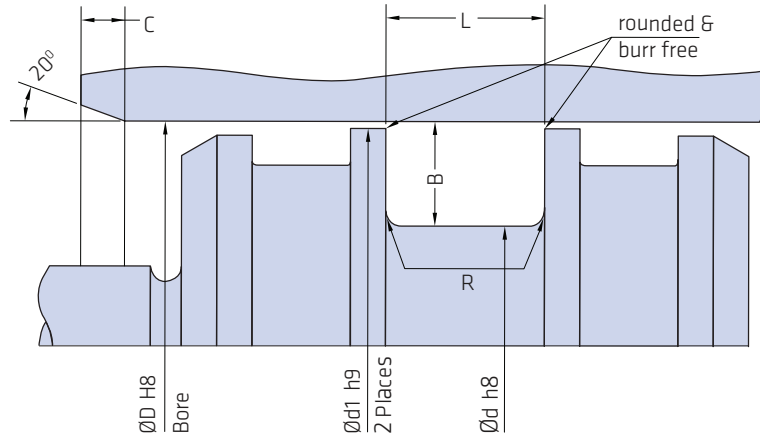
Typical applications include:

- Forging Presses
- Extrusion Presses
- Stamping Presses
- Mining
- Specialty High-Pressure Cylinders
- Various Advancing and Secondary Cylinders



**Above:** Installation Drawing

## DESIGN GUIDELINES



### METRIC SERIES

	B	Ød	L <sup>+0.20</sup>	C	Ød1	R typical
Series 1	6.00 mm	D-12.00	10.00	6.00	D-E	0.50
Series 2	8.50 mm	D-17.00	14.00	8.00	D-E	0.50
Series 3	10.00 mm	D-20.00	17.50	10.50	D-E	0.50
Series 4	12.50 mm	D-25.00	19.00	10.50	D-E	0.50

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

Extrusion Gaps

### INCH SERIES

	B	Ød	L <sup>+0.008"</sup>	C	Ød1	R typical
Series 1	0.236 in	D-0.472	0.395	0.250	D-E	0.020
Series 2	0.335 in	D-0.670	0.550	0.313	D-E	0.020
Series 3	0.393 in	D-0.787	0.688	0.438	D-E	0.020
Series 4	0.492 in	D-0.984	0.750	0.438	D-E	0.020

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

Extrusion Gaps

**Note:** the extrusion gap "E" is suitable for pressure up to 500 bar (7,250 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](http://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	125 RMS