

## Features:

Low compression set profiled energizer

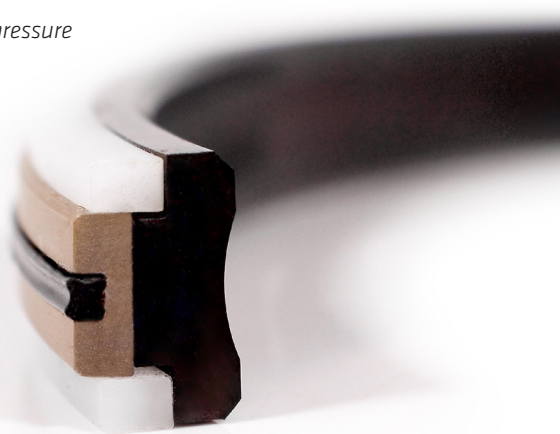
Low friction PTFE-filled seal cap

Very robust design

Extrusion resistant under high pressure

Zero drift

Gas sealing



## MATERIAL

The 263 series piston seal features custom blended PTFE-filled compounds that provide ultra-low friction and high-speed performance with minimal wear. The standard compounds are PTFE-filled with bronze filler, or PTFE-filled with glass-moly. The 263 series features a robust elastomeric energizer with backup rings in a high strength thermoplastic. The temperature range of the seal can be increased by selecting an FPM energizer in place of the standard NBR energizer.

Material	Code
PTFE-Bronze compound /NBR / POM	MT24
PTFE-Glass moly/ NBR / POM	MT84

## OPERATING PARAMETERS

Temperature	MT24		MT84	
	°C	°F	°C	°F
hydraulic oil	-30...+100	-22...+212	-30...+100	-22...+212
water oil emulsions (HFA)	-	-	+5...+60	+40...+140
water-glycol fluids (HFC)	-	-	-30...+60	-22...+140
polyol esters (HFD)	-	-	-	-
water	-	-	-5...+100	+40...+212
speed	5 m/s (16.5 ft/sec)			
pressure	400 bar (6,000 psi)			

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

## DESCRIPTION

The 263 is one of the most robust 5-piece piston seals available on the market. It consists of a profiled energizer, a PTFE-filled seal element, two active anti-extrusion backup rings and an elastomeric quad ring. It is designed for double-acting cylinders in heavy-duty applications subject to severe pressure spikes coupled with high running clearance. It offers zero drift performance due to the elastomeric seal ring, which also makes it ideally suited for gas sealing applications.

## PRODUCT BENEFITS

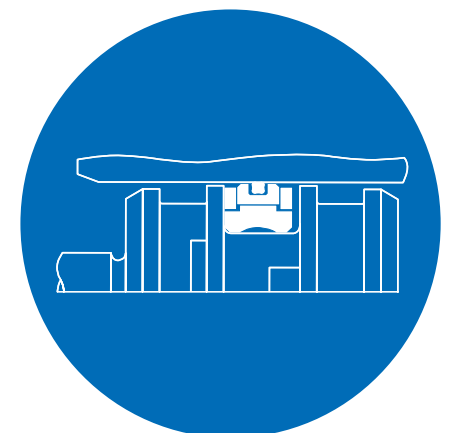
- Long service life under the harshest conditions
- Compatible with water-based fluids
- Optimized for high running clearance
- Easy installation

## APPLICATIONS

The 263 series piston seal is ideal for sealing gaseous media or where zero cylinder drift is required.

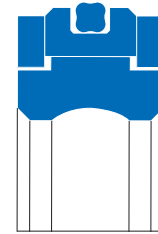
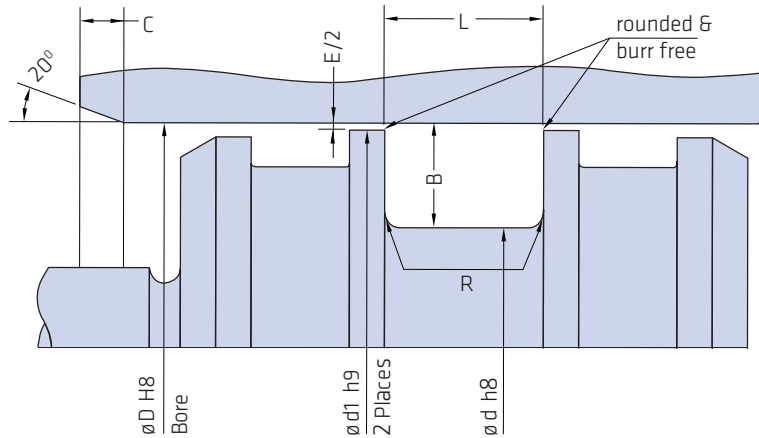
Typical applications include:

- Accumulators
- Specialty high-pressure cylinders
- Various advancing and secondary cylinders



**Above:** Installation Drawing

## DESIGN GUIDELINES



### METRIC SERIES

	B	L <sup>+0.20</sup>	ød	ød1	R	C
Series 1	7.50 mm	13.50	D-15.00	D-E	0.40	6.00
Series 2	10.00 mm	18.00	D-20.00	D-E	0.40	8.00
Series 3	12.50 mm	22.50	D-25.00	D-E	0.40	9.00
Series 4	15.00 mm	27.00	D-30.00	D-E	0.40	11.00

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

Extrusion Gaps

### INCH SERIES

	B	L <sup>+0.008</sup>	ød	ød1	R	C
Series 1	0.375 in	0.650	D-0.750	D-E	0.016	0.275
Series 2	0.500 in	0.900	D-1.000	D-E	0.016	0.375
Series 3	0.625 in	1.125	D-1.250	D-E	0.016	0.500
Series 4	0.750 in	1.375	D-1.500	D-E	0.016	0.600

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