

Features:

Unique encapsulated spring

Premium wear resistance

Low friction

Recommended for high- to moderate-speed applications

Easy to install



MATERIAL

The 439/440 series rotary seal features high-grade NBR reinforced with elastomer and fabric heel. To suit a variety of applications, the series is also available in higher temperature HNBR and FPM compounds.

Material	Code
NBR fabric/ garter spring (shown in photo)	MN139
HNBR fabric / garter spring	MN145
FKM or FPM / fabric / garter spring	MF24

OPERATING PARAMETERS

Temperature	MN139	
	°C	°F
hydraulic oil	-30...+100	-22...+212
water oil emulsions (HFA)	+5...+60	+41...+140
water-glycol fluids (HFC)	-30...+60	-22...+140
polyol esters (HFD)	-30...+80	-22...+176
water	+5...+100	+41...+212
speed	15 m/s (50 ft/sec)	
pressure	7.25 bar (105 psi)	

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

DESCRIPTION

The 439/440 series rotary seal is a popular seal used in moderate to high speed applications that require maximum reliability and long service life. The unique encapsulated spring ensures that the spring remains in place during a blind installation. The main body is strong yet flexible for ease of installation and stability within the groove. The lip force is optimized for the full range of sizes by varying designs of the internal spring, allowing low friction and minimal wear.

PRODUCT BENEFITS

- Lip force is optimized for a range of sizes by varying designs of the internal spring
- Works in a wide range of temperatures
- Excellent fluid compatibility
- Exceptional abrasion resistance
- Available in diameters up to 2100 mm

APPLICATIONS

The 439/440 series rotary seal is used in industrial rotary applications that require minimum wear and long service life.

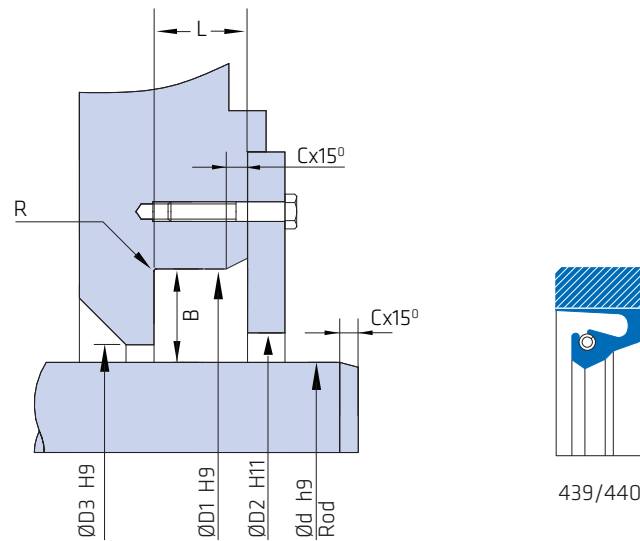
Typical applications include:

- Steel and Aluminum Processing
- Pulp and Paper
- Pumps and Gear Boxes
- Marine
- Wind Energy
- Bearing Manufacturers



Above: Installation Drawing

DESIGN GUIDELINES



METRIC SERIES

Rod Diameter Ød	B	ØD1	ØD2	L +0.25	R	C	C1
>200.00 mm	20.00	d + 40.00	d+7.00	16.00	0.40	10.00	4.00
>250.00 mm	22.00	d + 44.00	d+7.00	20.00	0.40	12.00	5.00
>450.00 mm	25.00	d + 50.00	d+8.00	22.00	0.40	15.00	6.00
>750.00 mm	32.00	d + 64.00	d+10.00	25.00	0.40	18.00	6.00

INCH SERIES

Rod Diameter Ød	B	ØD1	ØD2	L +0.010	R	C	C1
>7.875 in	0.787	d + 1.575	d+0.276	0.630	0.016	0.394	0.157
>9.875 in	0.866	d + 1.732	d+0.276	0.787	0.016	0.472	0.197
>17.725 in	0.984	d + 1.967	d+0.315	0.866	0.016	0.591	0.236
>29.500 in	1.260	d + 2.520	d+0.394	0.984	0.016	0.709	0.236

Note: available in NBR / FKM and HNBR compounds. On request the garter spring can include PVC cover or other materials to avoid dust being included by the spring.

SURFACE FINISH

Surface roughness	Ra	Rt	RMS
Sliding surface	≤0.6 µm	≤4 µm	24 RMS
Sides of groove	≤4 µm	≤16 µm	160 RMS