

VORTEX

THE GREASE-PUMPING SEAL

Features:

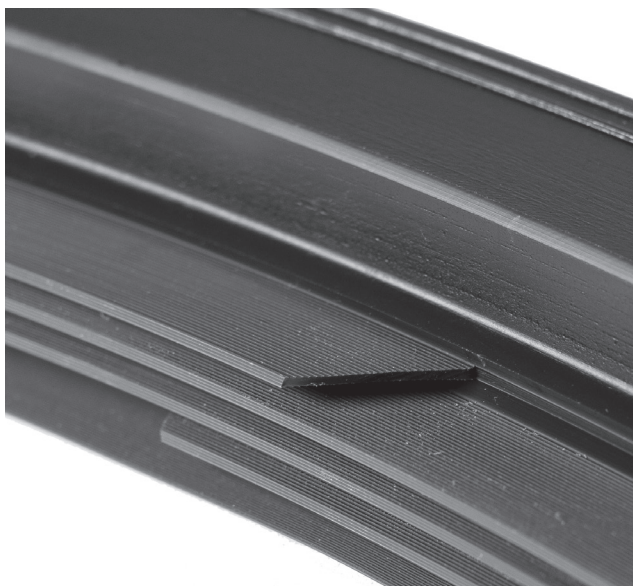
Large-diameter applications

Leak-free applications due to pumping effect

Available in split design

Inside diameter or outside diameter sealing configuration available

Does not require hardened surface



DESCRIPTION

The Vortex seal is an innovative new design for large-diameter bearing applications. It operates on entirely different principles than traditional lip seals. With an internal corkscrew configuration, the seal automatically creates a pumping action during shaft rotation that forces migrating grease back inside the bearing after shaft deflections. An external dust lip prevents contamination from entering the bearing.

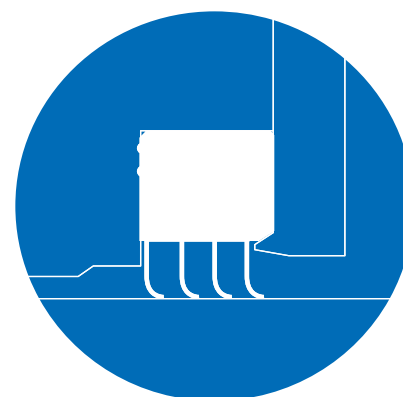
PRODUCT BENEFITS

- Pumping mechanism prevents leakage with larger shaft deflections
- Exceptional abrasion resistance
- Multiple lip configuration not sensitive to shaft imperfections
- Can be installed split for field retrofit
- Long service life due to excellent material properties

APPLICATIONS

The Vortex seal is designed specifically for main bearing applications in wind turbines

- Available in full range of diameters for all main bearing applications
- Flexible design allows for retrofit of existing housings



Above: Installation Drawing

MATERIAL

The 428 Series Vortex Seal features cast polyurethane MP169. Also available as H-PU.

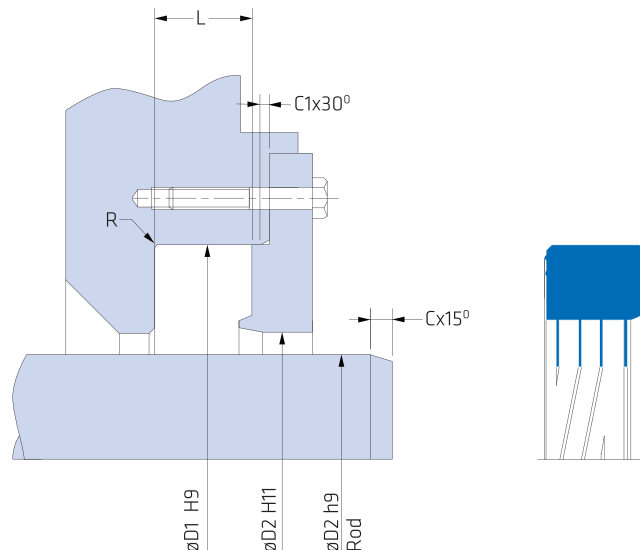
Material	Code
Cast TPU (pictured)	MP169
H-polyurethane	MP03

OPERATING PARAMETERS

MP169		
Mineral/Synthetic Greases + Lithium Soap*	-40...+100°C	-40...+212°F
Max Linear Speed	5 m/sec	16 ft/sec
Max pressure	4 bar	58 psi
Glass Transition Tg	-40°C	-40°F

**Greases confirmed: SHC 460 wt, SHC 007, SKF LGEP 2, Mobilux Ep2, Stabyl EOS E2, Gelitmo 585k, FAG Arcanol 460, Klüberplex BEM 41-141*

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.

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