

51K Mill Rotary Seal

The 51K mill rotary seals are designed to provide long lasting sealing and superior protection for rotary applications, bearing houses and gearboxes across the heavy industries.

The unique design and high performance elastomer combination outperforms conventional seal components, even in the most hostile working environments.

No Leakage

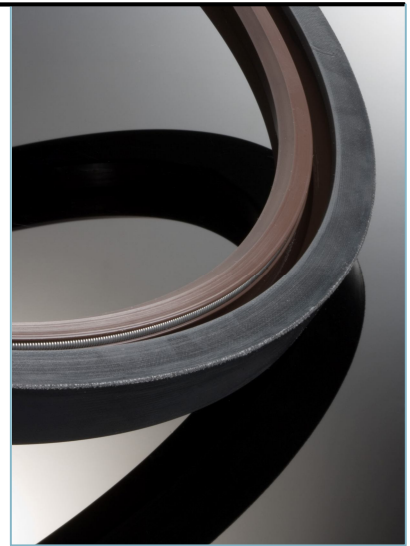
- Unique lip design
- Seal body is equipped with strong, flexible fabric back
- High performance elastomer materials
- High resistance to compression setting
- High resistance to wear





Longer Service Life

- The specially designed seal lips combined with autolubricated elastomer to reduce friction
- Excellent chemical resistance
- Outstanding resistance to high and low temperature conditions
- Long elastic memory & resistance to aging

Easy Assembly

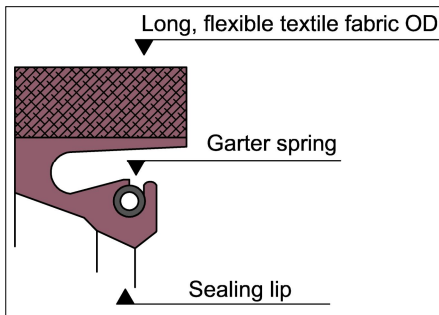
- Solid and split versions are available
- Direct retrofit, no equipment modifications required
- Bedding of the garter spring hinders a falling out when mounting blind



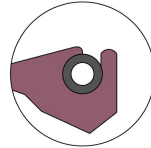
Available Designs		
Series		Usage
51K		standard style in solid and split form
51KW		with additional dust lip
51KHP		with special lip profile to withstand high pressures up to 0,4 MPa (4 bar) – solid only
51KL		with additional circumferential groove for lubrication

Typical Applications
✓ Gear drives
✓ Back-up rolls in hot and cold mills
✓ Work rolls in hot and cold mills
✓ Pulp & Paper Industry
✓ Pumps
✓ Propeller shafts
✓ Wind turbine main bearings
✓ Rotary applications in cement plants

Construction



Traditional – open - garter spring groove design



Improved garter spring groove design from CHESTERTON for safe installation

Mounting

- The CHESTERTON 51K Series are always used with a retaining plate.
- The retaining plate creates an axial preload that adds to the static sealability of the seal
- The plate should be sufficiently dimensioned to avoid distortion when bolting up
- To ease mounting of the seal ring make sure the housing has a lead-in chamfer.

Installation information

Parameters	Recommended values
Shaft hardness	40 - 50 HRC
Shaft surface finish	Ra = 0,3 - 0,5 µm and Rmax 1-2 µm plunge ground
Shaft tolerance	h11
Housing tolerances	H8
Shaft misalignment	Depending on the surface speed 1,5 mm should not be exceed

Operational conditions

Elastomers	NBR80+PTFE	HNBR 70	FKM70+PTFE
OD Fabric	Textile +NBR	Textile + HNBR	Textile + FKM
Materials of garter spring	AISI 302-316	AISI 302-316	AISI 302-316
Lubricating greases	- 20 °C / +100 °C	- 30 °C / +150 °C	- 20 °C / + 200 °C
Mineral oils	- 20 °C / +100 °C	- 30 °C / +150 °C	- 20 °C / +200 °C
Water	+ 5 °C / +100 °C	+ 5 °C / +150 °C	+ 5 °C / +100 °C
Surface speed (m/sec)	15	20	25
Technical pressure (Mpa) - 51K, 51KW, 51KL Solid	0,05	0,05	0,05
Technical pressure (Mpa) - 51K, 51KW, 51KL Split	No pressure can be applied	No pressure can be applied	No pressure can be applied
Technical pressure (Mpa) - 51HP Solid	0,4	0,4	0,4

*Notice : On request garter spring with PVC-cover to avoid dust to be enclosed by the spring.