

# 52K

## Mill Rotary Seals

### Radial Seals for Bearing and Gearbox Protection

Chesterton® 52K seals are high-performance radial seals for heavy duty, dynamic rotary seal applications. These seals provide long-lasting sealing and superior protection against ingress of solid particles, dust and fluids, protecting bearing houses and gearboxes across the heavy industries, even in the most hostile working environments.

High-performance elastomers provide resistance to compression setting, wear and aging. A broad range of engineered elastomers allow use in high and low temperature conditions and provide excellent fluid compatibility.

The 52K is manufactured by compression molding technology that provides accurate dimensional, geometrical tolerances. The unique design with a flexible stiffener ring ensures improved fitting in the seal cavity and allows installation in stuffing boxes without end covers. A helical garter spring maintains the seal lip contact and sealing force on the shaft.

According to industrial standards sizing, the 52K is a direct retrofit, which eliminates the need of equipment modification. The 52K is offered in different designs based on application requirements.



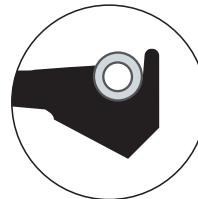
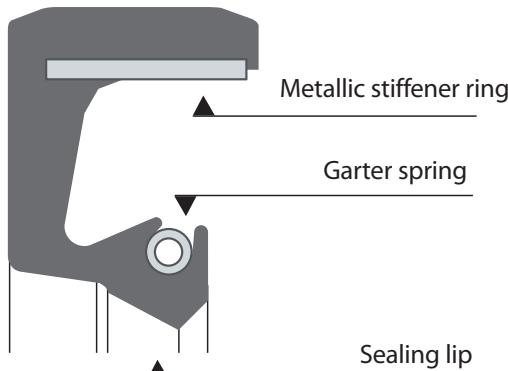
- Long lasting sealing and superior protection against ingress of foreign materials
- High-performance elastomers ensure plant-wide usage and long service life
- Unique lip design combined with autolubricated elastomer for low friction
- Direct retrofit eliminates equipment modification
- Unique design with flexible stiffener ring ensures improved fitting

AVAILABLE DESIGNS	
Series	Usage
52K	 with standard style
52KW	 with additional dust lip
52KHP	 with special lip profile to withstand high pressures up to 0,4 MPa (4 bar)

### Typical Applications

- Gear drives
- Back-up rolls in hot and cold mills
- Work rolls in hot and cold mills
- Pulp and paper industry
- Pumps
- Windmill applications
- Rotary applications in cement plants

## Seal Construction



Traditional open garter spring groove design



Improved garter spring groove design from Chesterton for safe installation

### INSTALLATION INFORMATION

Parameters	Recommended values
Shaft hardness	40 - 50 HRC
Shaft surface finish	$Ra = 0.3$ to $0.5 \mu\text{m}$ (12 to 20 $\mu\text{in}$ ) and $R_{\text{max}} 1$ to $2 \mu\text{m}$ (40 to 80 $\mu\text{in}$ ) plunge ground
Shaft tolerance	$h11$
Housing tolerances	$H8$
Shaft misalignment	Depending on the surface speed 1.5 mm (0.06 in) should not be exceeded

### Mounting

- The Chesterton 52K Series can be used without a retaining plate
- To ease mounting of the seal ring make sure the housing has a lead-in chamfer

### SPECIFICATIONS

Elastomers	NBR80+PTFE	FKM70+PTFE
Material of metal case	C72 tempered	C72 tempered
Materials of garter spring*	AISI 302-316	AISI 302-316
Lubricating greases	-30°C to 100°C (-22°F to 212°F)	-20°C to 200°C (-4°F to 392°F)
Mineral oils	-30°C to 100°C (-22°F to 212°F)	-20°C to 200°C (-4°F to 392°F)
Water	5°C to 100°C (41°F to 212°F)	5°C to 100°C (41°F to 212°F)
Surface speed m/s (ft/min)	15 (2952)	25 (4921)
Technical pressure MPa (psi)	0.05 (7.25)	0.05 (7.25)
Size range mm (inch)** Seal OD	300 to 1200 (12 to 47)	300 to 1200 (12 to 47)

\*On request PVC cover to avoid dust entering garter spring

\*\*Please contact your Chesterton representative for other sizes.

Chesterton ISO certificates available on  
[www.chesterton.com/corporate/iso](http://www.chesterton.com/corporate/iso)

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