WHY SKF?

V-ring seals

V-ring seals are all-rubber, easy-to-install seals for rotating shafts, widely used as cost-effective contaminant barriers in industrial applications. They fit tightly on the shaft and can be stretched and mounted over components like flanges or pulleys. Rotating with the shaft, they seal axially against a stationary counterface and act as flingers. The counterface can be a bearing end face, washer, stamping, housing, or even a radial shaft seal case. SKF offers five standard V-ring designs, available in SKF-developed NBR and FKM compounds.

Product features

- Axial lip seal
- All-rubber design
- SKF-developed NBR and FKM compounds
- Each V-ring size applicable for a range of shaft sizes
- Dimensionally interchangeable
- Easy installation and system implementation

Product benefits

- High contaminant exclusion capacity
- Contact force reduced by 20-30%
- High abrasion resistance
- Excellent oil compatibility and chemical resistance
- Quiet running

Common applications

- Industrial electrical
- Industrial gearboxes
- Off-highway machinery
- Material handling equipment
- Mining and construction equipment
- Steel manufacturing equipment
- Pulp and paper processing equipment
- Marine industry machinery
- Wind turbines

User benefits

- Improved sealing system performance
- Reduction in maintenance and failures caused by contamination
- More reliable system performance
- Increased bearing service life
- Increased uptime and productivity
- Cost-effective solution

Optimized bearing protection

Contamination of bearings is a major reason for failures in industrial applications. V-ring seals offer a cost-effective upgrade of the sealing system that acts as a barrier against contaminants (→ figs. 1 and 2). Thanks to their reduced contact force and high-performance compounds, V-rings from SKF maintain high energy efficiency while contributing to enhanced sealing system performance and long service life.

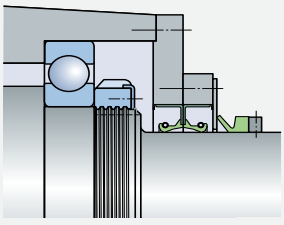

Fig. 1
Secondary seal to a radial shaft seal

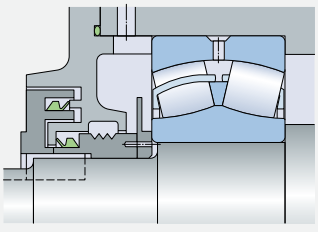

Fig. 2
Upgrading a labyrinth seal

Standard designs by SKF

SKF offers five standard V-ring seal designs:

- VA/VR1 is typically used in gearboxes, electric motors and drives.
- VS/VR2 is also commonly used in agricultural and automotive applications.
- VL/VR3 has a very compact design and is commonly used to enhance labyrinth seals.
- VE/VR4 is a heavy-duty large diameter V-ring seal, often used to protect a primary seal.
- VRME/VR6 is a heavy-duty large diameter V-ring that can be radially clamped on the shaft using a standard band clamp. It is primarily designed to protect highspeed bearing arrangements.

V-ring seal materials from SKF

Striving for improvements, the SKF range of V-ring seals are manufactured from special nitrile rubber (NBR) and fluoro rubber (FKM) compounds, offering several advantages:

- High abrasion resistance
- Excellent oil compatibility and chemical resistance
- Reduced contact force by 20-30% in benchmark tests while maintaining effective contaminant exclusion behaviour
- As reported by customers, less wear, reduced noise and improved performance when compared to alternative V-rings
- SKF colour codes for the V-ring compounds, NBR (grey) and FKM (brown), allow for easy identification

Comprehensive size range

V-rings from SKF are available within the shaft diameter ranges listed in table 1. They are globally available and normally packed in transparent plastic bags. Package quantities vary with seal size. Designations consist of shaft dimension, followed by design and material code, for example: 150 VA R.
For North American aftermarket needs, all V-rings are single-packed in carton boxes. This is reflected in special design codes († table 1) and a designation system using stock numbers.
For information on sizes, compounds and designs outside the standard range, including split versions, contact your SKF seals representative.

Table 1

Standard V-ring designs and size ranges					
Design code	VA VR1*	VS VR2*	VL VR3*	VE VR4*	VRME VR6*
-	mm (in.)				
min	2,7 *(0.106)*	4,5 *(0.177)*	105 *(4.134)*	300 *(11.811)*	300 *(11.811)*
max	2 020 *(79.257)*	210 *(8.268)*	2 025 *(79.724)*	2 010 *(79.134)*	1 995 *(78.543)*

* Design code for North American aftermarket

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