



## TECHNICAL INFORMATION

# Rotary Seals | V-Ring Type A

### Description

The V-Ring is the perfect seal to prevent the ingress of dirt, dust, water or combinations of these media while positively retaining grease. With its unique design and performance the V-Ring can be used with a wide range of bearing types. It can also be used as a secondary seal to protect primary seals that do not perform well in hostile environments.

The V-Ring is normally stretched and mounted directly on the shaft, where it is held in position by the inherent tension of the rubber body. It rotates with the shaft and seals axially against a stationary counter face, perpendicular to the shaft. The counter face can be the side wall of a bearing or a washer, stamping, bearing housing, or even the metal case of an oil seal. The sealing lip is flexible and applies only a relatively light contact pressure against the counter-face and yet is still sufficient to maintain the sealing function. The low contact pressure (that varies with the fitted width) allows the seal to run dry in many applications. Due to influence of the centrifugal force, the contact pressure of the lip

decreases with increased speed. This means that frictional losses and heat are kept to a minimum, resulting in excellent wear characteristics and extended seal life. Once breakaway friction is overcome, the friction reduces steadily until around the 10 - 15 m/s range, when it reduces quite quickly. In the 15 - 20 m/s range the friction reduces to zero. The V-Ring then serves as a clearance seal and deflector. The flexible lip and hinge allow the V-Ring to function even in the presence of a certain amount of run-out, eccentricity and shaft misalignment. V-Rings are made entirely of rubber without fabric or sheet metal reinforcement. They are, therefore, particularly easy to install. V-Rings can be stretched and, depending on size, installed over flanges, pulleys and bearing housings without costly dismantling. V-Ring type A is the most common and available for shaft diameters in a wide range. In case a very firm hold on the shaft is required, V-Ring Type S is recommended, however these go only up to a shaft diameter of 200 mm.

### Technical Data

When selecting the correct rubber compound it is necessary to take the following requirements into account;

- good chemical resistance
- good resistance to high and low temperatures
- good resistance to ozone and weathering

It is also necessary to consider the need for the following attributes;

- high resistance to wear
- low friction
- low compression set
- good elasticity

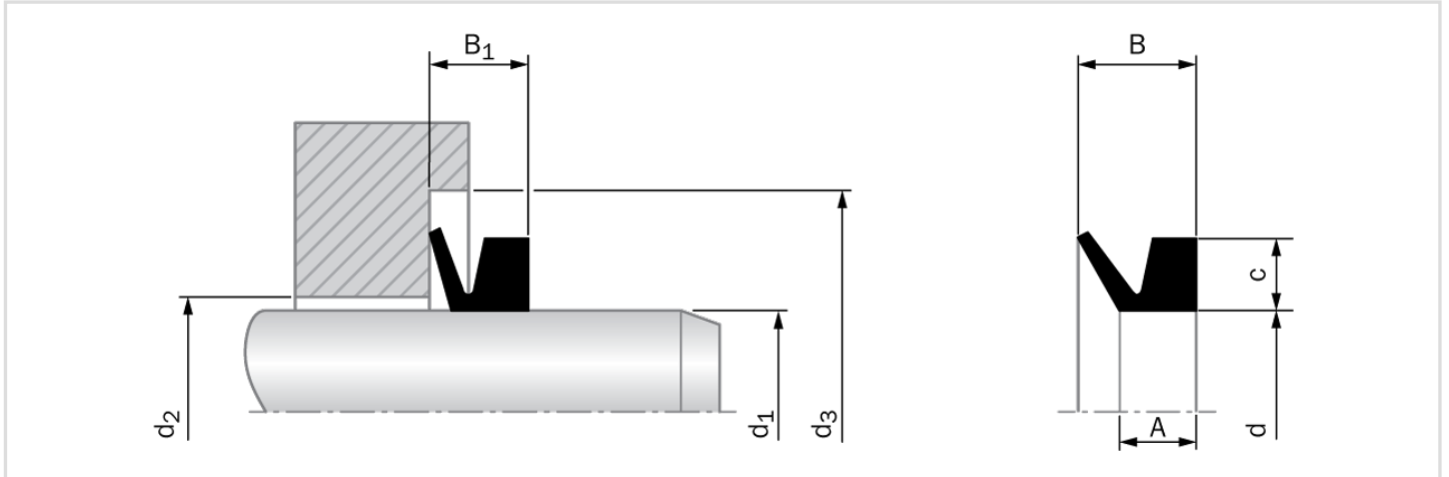
The most frequently selected material is the purpose made Nitrile rubber N6T50 which has excellent all round properties. For applications with temperatures above 100 °C, or in chemically aggressive conditions, V-Rings made of fluorinated rubber (FKM) can be supplied.





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For pressures from 40 MPa to the maximum specified, use diameter tolerance H8/f8 (bore/rod) in the area behind the seal.

#### Important Note

Installation suggestions, material recommendations, parameters and further data provided are always subject to the particular field of use and the application in which the seal is intended to be used, in particular the interaction of the seal with other components of the application. Therefore they neither constitute an agreement on the legal and factual nature nor a guarantee of quality. Technical changes and errors remain reserved.