



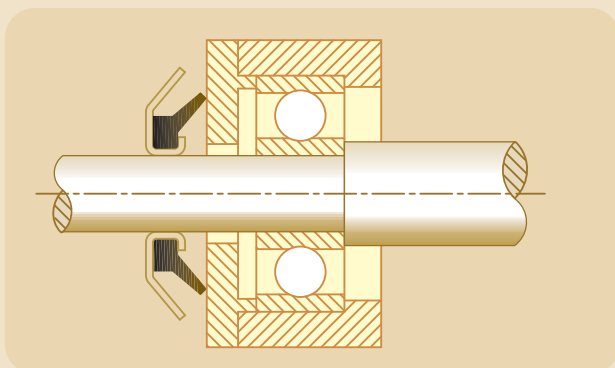
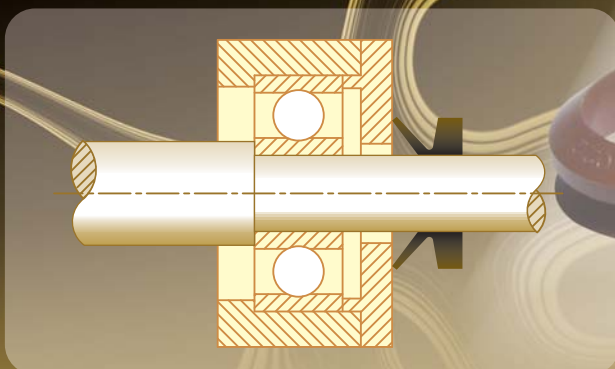
ISO-9001/14001
ISO/TS-16949
OHSAS-18001

Product Information

NAK V-SEAL & AXIAL FACE SEAL

NAK V-SEAL & AXIAL FACE SEAL

NAK V-SEAL can protect the ingress of dirt, dust, and water in the comprehensive applications. The V-Seal is made entirely of rubber and comprises a body and a conical lip joined to the body. It is mounted on and rotates with the shaft. The lip of the seals fixes against a stationary counter-face, e.g., bearing, washer, stamping or even the oil seal.



NAK Axial Face Seal has similar function to V-Seal. However, the metal case could protect the sealing lip harmed by solids that might affect the sealing function. The metal case fits onto the shaft, and it can not only protect the inner sealing units, but also act as an outstanding deflector for dirt, sand, grime, etc.



Product Description

NAK V-Seal & Axial Face Seal offer a number of economical advantages!!

The demand of V-Seal on the tolerances and surface finish of the sealing surfaces are low. A counter-face finished by fine turning and polishing will produce efficient sealing in most cases. The shaft roughness is fairly moderate, and do not exceed $4 \mu\text{m Ra}$ in general. The V-Seal & Axial Face Seal does not wear the shaft which is expensive component in the machine. When changing a seal, expensive and time-consuming disassembly can often be avoided. Besides, there is a centrifugal force, the friction of the seal against the axial face decreases with the increases of shaft speed. Complicated designs can be avoided because of by using the V-Seal the designer can adapt the seal to the design.



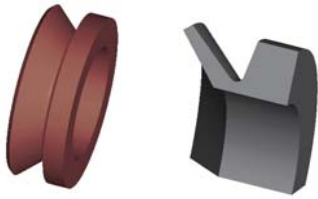
Characteristics of V-Seal & Axial Face Seal

- There is no relative movement between the body of V-Seal and rotating shaft, so it can avoid shaft wear and the demand of wear ring.
- Widely used in many applications.
- Easy and simple installation.
- Does not need special machine to close tolerances.
- Low friction loss and minimum heat generation result in long service life.
- Allows axial movement and radial misalignment.
- Functions simultaneously as sealing and dirt exclusion.
- Operates reliably in certain applications of dry running.
- Being able to operate at high-speed application.
- Low demands for surface roughness, hardness and tolerance.



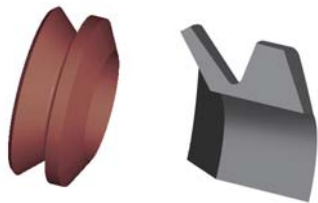
Technical Information

V-Seals & Axial Face Seals are available in many types to meet various applications for customers' requirements. NAK offers six standard and common types of V-Seal & Axial Face Seal for selection. The description of these six types were illustrated as below:



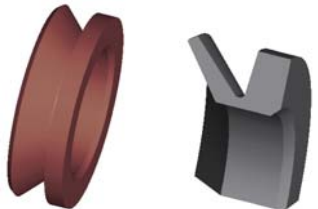
VA Type

- The most commonly used
- Has a perpendicular rear face
- Ideal for conveyor appliances



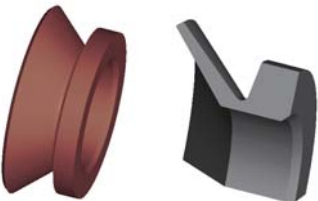
VS Type

- Has better fitting on the shaft due to larger fitted width
- Wide body ensures higher radial fitting force
- Design secures seal axially and radially at high speeds
- Commonly used in automotive and agriculture applications



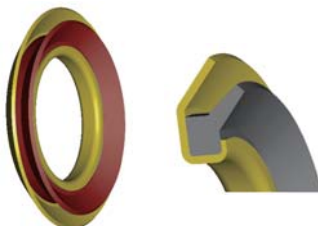
VL Type

- Narrow axial cross-section
- Application for limited space installed
- Very effective supplementary labyrinths



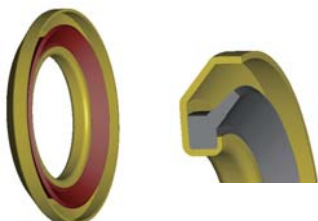
VE Type

- Large diameter seal for heavy duty appliances
- Commonly used in rolling mills as a dirt / water excluder



RE Type

- Against dust and dirt ingress
- Dust lip with metal housing can against dirt and solid particle



RE1 Type

- Against dust and dirt ingress
- Dust lip with metal housing can against dirt and solid particle

Application

Material Selection

Commonly, V-Seals are manufactured in two different grades of rubber. Nitrile rubber (NBR) is the standard grade. It has excellent resistance to wear and withstands the majority of media to which a seal is exposed.

Fluoroelastomer (FKM) is used where the operating temperatures are high, and in conjunction with certain aggressive media.

The resistance of temperature range may change due to the different applications. If you have any queries regarding material selection, please feel free to contact us for more information.

Disclaimer

1. NAK product is prohibited to use, install or apply in or on any aerospace related instrument and equipment.
2. NAK has no liability under any express or implied Warranty if NAK Product:
 - is modified or tampered;
 - is misused, abused or misapplied;
 - is used in a critical environment or specific equipment without NAK prior written acknowledgement;
 - is not used in accordance with the printed user instruction materials
 - is damaged owing to natural deterioration, decomposition or transformation of chemical structure
3. If NAK's product to be applied in critical environment or specific equipment, it is only allowed to launch into mass production when the sample has been passed the testing conducted by the user.



Application

V-Seals and Axial Face Seals are used to retain greases and prevent the ingress of dirt, oil, water splash or other contaminations. Those two seals are used in a wide range of applications such as water treatment plants, rolling mills, machine tools, household electrical appliances and household electrical motors (i.e. small size of V-Seal), etc. There are some special applications such as L type of V-Seals are used in labyrinths as static seals on the stationary parts.



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