



Vulcan Seals Type 70

Technical Data Sheet



Product Description

The Vulcan Seals Type 70 is a stationary-mounted highly compact elastomer bellows design, highly suitable for high-shaft speed water pump applications.

The design features a boot-mounted rotary counter ring that is intended to be inserted into a recess in the equipment impeller, with the metal sprung unit pressed into the static pump housing.

The shaft clearance on both sealing faces enables one size to be used on a number of shaft sizes. No part of this design contacts the pump shaft so is therefore bi-directional, and the spring is static and removed from centrifugal influences allowing very high rotational speeds to be sealed.

Supplied with a Vulcan Seals Type 70 boot-mounted stationary to suit UK design equipment housing sizes, the Vulcan Seals Type 70 is highly suited to low-pressure light water circulation duties.

Why Choose the Vulcan Seals Type 70?

- Effective and easy-to-install design.
- High-speed capability and compact dimensions are highly suited to low-pressure automotive and power generation engine water pump duties.
- The sealant line on the outer pressed metal stationary housing provides greater sealing performance on the metal-to-metal housing contact surface.
- Vulcan Seals assembly provides a more integrated, robust, and resilient product compared to many market alternatives.
- A smooth profile to the sealing contact point of the stationary provides optimal grip into the shallow impeller recess.

Standard Face Material Combinations

| Rotary Face Material | Stationary Face Material | Complete Material Code |
|------------------------|----------------------------|------------------------|
| VCP1 Carbon | VAW1 Ceramic | C |
| VCP1 Carbon | VSR1 Silicon Carbide | D |
| VCM1 Carbon | VAW1 Ceramic | KC |

Guaranteed Stock/Material Elastomers: Viton™/FKM, EP, Nitrile and Metallurgy 304SS

*Non-stock guarantee

Elastomer Temperature Capabilities

| | Minimum | Maximum |
|-------------|---------|---------|
| Nitrile | -30°C | +120°C |
| EPDM | -40°C | +140°C |
| Viton™/FKM | -30°C | +230°C |
| FEPM/AFLAS® | -10°C | +250°C |
| FFKM | -50°C | +315°C |

Pressure: Up to 6 bar (87 psi)

Compliance & Certificates



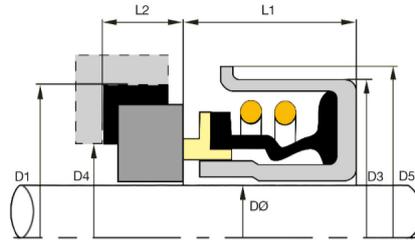
The Vulcan Seals mechanical seal range can be supplied with material combinations designed to meet the compliance standards and certifications listed above. Additional compliance or regulatory requirements can also be considered upon request. Please enquire to discuss your specific application.

Mechanical Seal Replacement Range

Vulcan Seals Type 70 is a dimensional replacement mechanical seal for the following seal ranges:

- AES® | Type N-B03*
- Lidering® | Type LRB03*
- Lidering® | Type 103*

*Rotary Face | **Stationary Face



Dimensional Data

| DØ (Imperial) | Seal Size Code | D1 (in) | D1 (mm) | D3 (in) | D3 (mm) | D4 (in) | D4 (mm) | D5 (in) | D5 (mm) | L1 (in) | L1 (mm) | L2 (in) | L2 (mm) |
|---------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.500 | 0127 | 0.984 | 25.00 | 1.124 | 28.56 | 0.559 | 14.20 | 1.250 | 31.75 | 0.531 | 13.50 | 0.197 | 5.00 |
| 0.625 | 0158 | 1.220 | 31.00 | 1.435 | 36.45 | 0.717 | 18.20 | 1.654 | 42.00 | 0.610 | 15.50 | 0.197 | 5.00 |
| 0.750 | 0191 | 1.378 | 35.00 | 1.575 | 40.00 | 0.843 | 21.40 | 1.701 | 43.20 | 0.610 | 15.50 | 0.197 | 5.00 |
| 1.000* | 0254 | 1.720 | 43.70 | 1.811 | 46.00 | 1.122 | 28.50 | 2.087 | 53.00 | 0.787 | 20.00 | 0.295 | 7.50 |
| 1.125* | 0286 | 1.890 | 48.00 | 2.047 | 52.00 | 1.220 | 31.00 | 2.244 | 57.00 | 0.748 | 19.00 | 0.315 | 8.00 |

Dimensions in mm and inches
 *Non-stock guarantee



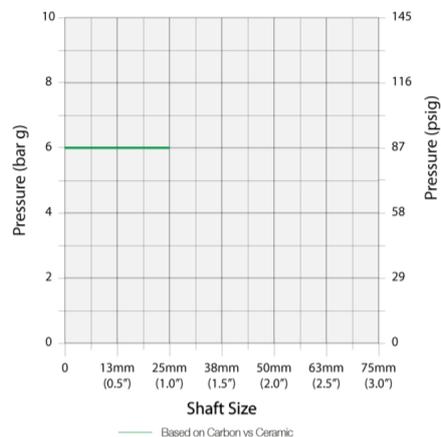
Maximum Operating Pressure

The PV Chart shows the maximum operating pressures of this Vulcan Seals type, based on the seal face materials used. Different lines on the chart indicate different material combinations, as shown underneath.

It also assumes stable operation in a clean, cool, lubricating and nonvolatile fluid with an adequate flush rate.

For more in-depth pressure rating calculations based on specific material combinations and application conditions, please consult us.

PV Chart



Application Conditions

| Criteria | Multiplier | |
|---------------|---------------------------------|--------|
| Product Fluid | Lubricating fluids | X 1.00 |
| | Aqueous solutions / Water | X 0.85 |
| Temperature | Below 70°C (158°F) | X 1.00 |
| | 71°C to 120°C (160°F to 248°F) | X 0.85 |
| | 121°C to 175°C (250°F to 347°F) | X 0.75 |
| | Over 176°C (349°F) | X 0.60 |
| Speed | Up to 1750 rpm | X 1.00 |
| | 1750 to 3600 rpm | X 0.80 |

Face and Seat Materials

| Combination | Multiplier |
|---------------------------|------------|
| Carbon vs Ceramic | x 0.50 |
| Carbon vs Silicon Carbide | x 1.00 |
| Carbon vs Ceramic | x 0.50 |

Example Calculation for Vulcan Seals Type 70

- A. Shaft size: 0.500inch therefore pressure is 6 bar (from PV Chart)
- B. Media: Water (multiplier = 0.85)
- C. Temperature: 50°C (multiplier = 1.00)
- D. Speed: 1450 rpm (multiplier = 1.00)
- E. Face combination: Carbon vs Silicon Carbide (multiplier = 1.00)

For this particular Vulcan Seals Type 70 seal size, the calculation for the approximate guidance maximum operating pressure would be:

A x B x C x D x E
 6 bar x 0.85 x 1.00 x 1.00 x 1.00 = 5.10 bar

Guidance Only

Please note that due to the many operational and application variables that affect seal performance, the information given on this page is for guidance only.

We therefore strongly recommend careful individual testing and monitoring of all seals and related equipment for any proposed application.

Our policy is one of continuous technical and efficiency improvement. As such, all specifications may be subject to change without prior notice.

® TM All product names, brands and trademarks shown are property of their respective owners, are for identification purposes only, and do not imply affiliation nor endorsement.

** Important: These limits are the theoretical elastomer or design limitations. For maximum theoretical operating pressure for your specific size and application please refer to calculation example within this data sheet. All performance information given is for guidance only and is dependent on material, operating and application factors that affect seal performance.