



# Vulcan Seals Type A5

## Technical Data Sheet



### Product Description

The Vulcan Seals Type A5 is a robust, hydraulically balanced rubber diaphragm mounted parallel spring seal design with increased drive contact area from the shaft to the head to minimise component wear and hang-up.

The seal drive is provided by the diaphragm bellows tightly gripping the shaft and providing positive drive to the seal head and sealing face. The Vulcan Seals diaphragm seal designs are bi-directional "pusher" seals that minimise shaft fretting as the spring is constantly providing energising force to the shaft contact point and sealing face.

Supplied with a Vulcan Seals Type 11 boot-mounted stationary to suit common USA market imperial extended-length seal chambers.

### Why Choose the Vulcan Seals Type A5?

- Robust, regular working length, highly accommodating, and reliable, rubber diaphragm seal, with enhanced seal capability, performance, and durability.
- Featuring a self-adjusting seal head design with face retention and hydraulic face balancing to maximise primary and secondary sealing performance.
- The Vulcan Seals Type A5 has a narrow profile, allowing clearance into a greater range of pump seal chambers.
- Boot-mounted stationary provides maximum elastomer sealing contact to the housing surface.
- A widely utilised mechanical seal type suited to medium to heavy duties and capable of long service.

### Standard Face Material Combinations

Rotary Face	Stationary Face	Complete Seal Code
VCP1 Carbon	VAW1 Ceramic	C
VCP1 Carbon	VSR1 Silicon Carbide	D
VSR1 Silicon Carbide	VAW1 Ceramic	G
VSR1 Silicon Carbide	VSR1 Silicon Carbide	S
VTN2* Tungsten Carbide	VTN2* Tungsten Carbide	H

Guaranteed Stock/Material Elastomers: Viton™/FKM, EP, Nitrile and Metallurgy 304SS  
\*Non-stock guarantee

### Elastomer Temperature Capabilities

	Minimum	Maximum
Nitrile	-30°C	+120°C
EP	-40°C	+140°C
Viton™/FKM	-30°C	+180°C

Pressure: Up to 26 bar (377 psi)

### Mechanical Seal Replacement Range

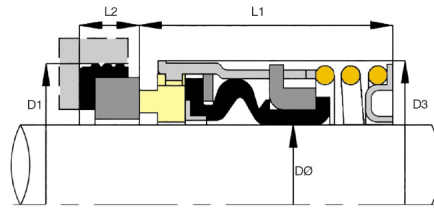
Vulcan Seals Type A5 is a dimensional replacement mechanical seal for the following seal ranges:

- AES® | Type N-P05U\*
  - Flexaseal® | Type 1\*
  - Pac-Seal® | Type 51\*
- John Crane® | Type 1 (USA)\*
  - Lidering® | Type LRB00U\*
  - U.S. Seal® | Type E\*



**VULCAN SEALS**

Phone : +44 (0) 114 249 3333  
Email : [contact@vulcanseals.com](mailto:contact@vulcanseals.com)



### Dimensional Data

DØ = Imperial size shaft

Dimensions in mm and inches

Metric shaft size also available, use size code as a reference

\\*Non-stock guarantee



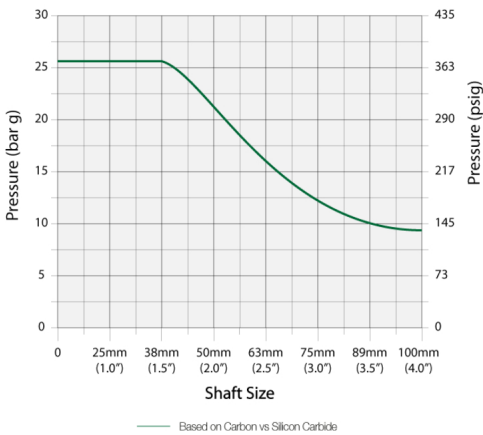
Maximum Operating Pressure

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
-------------	------------

Example Calculation for Vulcan Seals Type A5

- A. Shaft size: 38mm therefore pressure is 25 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 A5 seal size, the calculation for the approximate guidance maximum operating pressure would be:

A x B x C x D x E  
25 bar x 0.85 x 1.00 x 1.00 x 1.00 = 21.25 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.

© <sup>TM</sup> 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.