VULCAN SEALS

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

Vulcan Seals Type 9L

Technical Data Sheet

Product Description

The Vulcan Seals Type 9L seal is a simplified 'O'-ring mounted "pusher" seal design with a narrow cross-section monolithic head.

The seal drive is provided by the conical spring tightly gripping the equipment shaft at its drive end. Conical spring seals are mono-directional and have differential part codes for clockwise or anti-clockwise operation.

The Vulcan Seals Type 9L complete seal is supplied with the Vulcan Seals Type 8.DINL stationary to suit DIN24960/En12756 housing sizes with anti-rotation provision.

Why Choose the Vulcan Seals Type 9L?

- Monolithic carbon or silicon carbon head for maximum simplicity, minimum components, and high-temperature capability.
- Non-clogging, self-adjusting and durable giving highly effective performance.
- 'O'-ring design allows a wide choice of elastomer materials.
- Narrow cross-section to maximise seal chamber suitability.
- Stationary has anti-rotation provision for high-torque applications such as viscous or high-solids medias.
- Suitable for light or medium-duty applications.

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	VSR1 Silicon Carbide	S
VTN2* Tungsten Carbide	VTN2* Tungsten Carbide	H

Guaranteed Stock/Material Elastomers: Viton™/FKM, EP, Nitrile and Metallurgy 304SS
Specify right hand clockwise or left hand anti-clockwise coil upon ordering
*Non-stock guarantee

Elastomer Temperature Capabilities

	Minimum	Maximum

Pressure: Up to 12 bar (174 psi)

Mechanical Seal Replacement Range

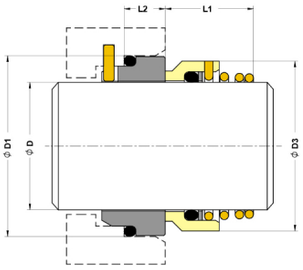
Vulcan Seals Type 9L is a dimensional replacement mechanical seal for the following seal ranges:

- AES® | Type N-T07D*
- Burgmann® | Type M2N*

**Rotary Face | **Stationary Face*

VULCAN SEALS

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



Dimensional Data

DØ (Metric)	Seal Size Code	D1 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	Slot Width	Slot Depth
10	0100	21.00	20.00	15.90	6.60	4.00	5.00
12	0120	23.00	22.00	16.00	6.60	4.00	5.00
14	0140	25.00	25.00	16.00	6.60	4.00	5.00
16	0160	27.00	27.00	19.00	6.60	4.00	5.00
18	0180	33.00	30.00	20.50	7.50	4.00	5.50
20	0200	35.00	32.00	22.00	7.50	4.00	5.50
22	0220	37.00	35.00	23.50	7.50	4.00	5.50
24	0240	39.00	38.00	25.00	7.50	4.00	5.50
25	0250	40.00	40.00	26.50	7.50	4.00	5.50
28	0280	43.00	43.00	26.50	7.50	4.00	5.50
30	0300	45.00	45.00	25.00	7.50	4.00	5.50
32	0320	48.00	47.00	28.50	7.50	4.00	5.50
35	0350	50.00	50.00	28.50	7.50	4.00	5.50
38	0380	56.00	56.00	32.00	9.00	5.00	5.50

Dimensions in mm
*Non-stock guarantee

VULCAN SEALS

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

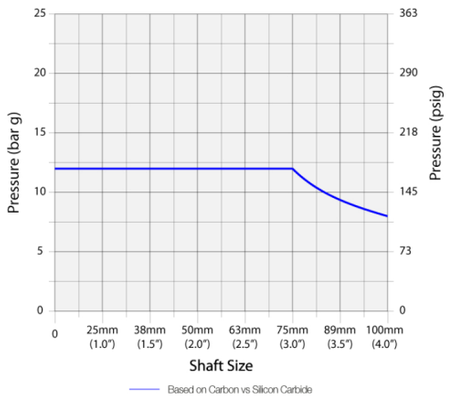
Maximum Operating Pressure

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 to347°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
Silicon Carbide vs Silicon Carbide	x 0.50
Tungsten Carbide vs Tungsten Carbide	x 0.50

Example Calculation for Vulcan Seals Type 9L

A. Shaft size: 38mm therefore pressure is 12 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 9L seal size, the calculation for the approximate guidance maximum operating pressure would be:

A x B x C x D x E
12 bar x 0.85 x 1.00 x 1.00 x 1.00 = 10.20 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.

** 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.