



# Vulcan Seals Type 13DIN

## Technical Data Sheet



### Product Description

The Vulcan Seals Type 13DIN\*\* seal is a resilient, 'O'-ring mounted "pusher" seal design with an 'O'-ring mounted sealing face in a narrow cross-section stainless steel pressed 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 13DIN complete seal is supplied with the Vulcan Seals Type 13DIN stationary to suit DIN24960/EN12756 housing sizes.

### Why Choose the Vulcan Seals Type 13DIN?

- The 'O'-ring mounted seal face offers enhanced versatility.
- Cost effective seal option for light duty water circulators.
- Ceramic seal face provides improved sealing performance compared to standard stainless steel.
- Offers high temperature capability when fitted with suitable 'O'-rings.
- Suitable for light duty applications.

### Standard Face Material Combinations

Rotary Face	Stationary Face	Complete Seal Code
VAW1 Ceramic	VCP1 Carbon	B
VSR1 Silicon Carbide	VCP1 Carbon	T
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
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 12 bar (174 psi)

### Compliance & Certificates



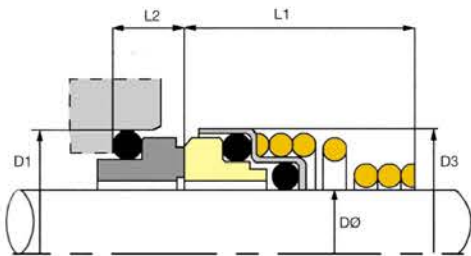
Also available with built materials that adhere to the above compliance standards and certificates. Please enquire about your requirements.

### Mechanical Seal Replacement Range

Vulcan Seals Type 13DIN is a dimensional replacement mechanical seal for the following seal ranges:

- AES® | Type N-T04.DIN\*
  - Lidering® | Type FNNU\*
  - Lidering® | Type LS15 DIN\*
  - Roten® | Uniten® 3\*
- Lidering® | Type 155 DIN\*
  - Lidering® | Type FNUN\*
  - M.T.U.® | SIMPLEX DIN\*
  - U.S. Seal® | Type VGMBD\*

\*Rotary Face | \*\*Stationary Face



Dimensional Data

DØ (Metric)	Seal Size Code	D1 (mm)	D3 (mm)	L1 (mm)	L2 (mm)
10	0100	21.00	19.50	15.00	7.00
12	0120	23.00	22.00	18.00	7.00
14	0140	25.00	24.00	22.00	7.00
16	0160	27.00	26.00	23.00	7.00
18	0180	33.00	32.00	24.00	10.00
20	0200	35.00	32.70	25.00	10.00
22	0220	37.00	36.00	25.00	10.00
24	0240	39.00	37.40	27.00	10.00
25	0250	40.00	38.00	27.00	10.00
28	0280	43.00	42.00	29.00	10.00
30	0300	45.00	44.00	30.00	10.00
32	0320	48.00	45.50	30.00	10.00
33	0330	48.00	46.50	39.00	10.00
35	0350	50.00	49.00	39.00	10.00
38	0380	56.00	56.00	42.00	13.00
40	0400	58.00	58.00	42.00	13.00

Dimensions in mm  
\\*Non-stock guarantee



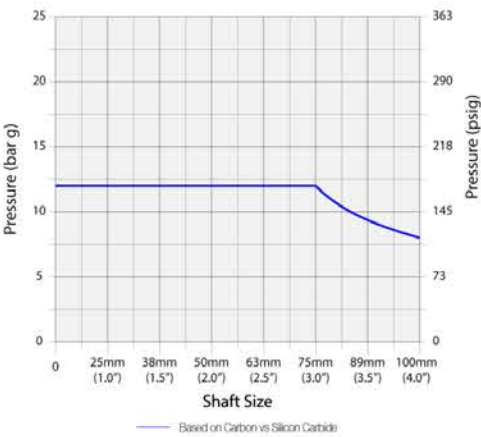
Maximum Operating Pressure

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
		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 13DIN

- 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 13DIN 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.

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\*\* 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.