



Vulcan Seals Type 12DIN

Technical Data Sheet



Product Description

The Vulcan Seals Type 12DIN seal is a robust, 'O'-ring mounted "pusher" seal design with a narrow cross-section monolithic stainless steel 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 12DIN complete seal is supplied with the Vulcan Seals Type 12DIN stationary to suit DIN24960/En12756 housing sizes.

Why Choose the Vulcan Seals Type 12DIN?

- Monolithic stainless steel head for maximum robustness and high-temperature capability.
- Inserted silicon or tungsten carbide sealing faces inserted in stainless steel are available for abrasive medias.
- Positive drive hole to eliminate common drive pin failures caused by excessive slot play.
- Robust, 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.
- Suitable for light, medium, or heavy-duty applications.

Standard Face Material Combinations

Rotary Face	Stationary Face	Complete Seal Code
304 Stainless Steel	VCP1 Carbon	P
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
EP	-40°C	+140°C
Viton™/FKM	-30°C	+180°C

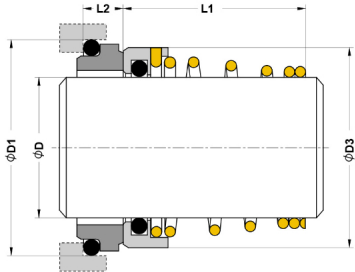
Pressure: Up to 12 bar (174 psi)

Mechanical Seal Replacement Range

Vulcan Seals Type 12DIN is a dimensional replacement mechanical seal for the following seal ranges:

- AES® | Type N-T03.DIN*
 - Burgmann® | Type M32N2*
 - Lidering® | Type 600 DIN*
 - Lidering® | Type RN 3 UN*
 - Lidering® | Type RNNU*
 - Roten® | Uniten® 2*
- Burgmann® | Type M3N24*
 - Burgmann® | Type M32N24*
 - Lidering® | Type LS60DIN*
 - Lidering® | Type RNUN*
 - M.T.U.® | Europa 1*

*Rotary Face | **Stationary Face



Dimensional Data

DØ (Metric)	Seal Size Code	D1 (mm)	D3 (mm)	L1 (mm)	L2 (mm)
10	0100	21.00	19.00	15.00	7.00
12	0120	23.00	21.00	18.00	7.00
14	0140	25.00	23.00	22.00	7.00
16	0160	27.00	26.00	23.00	7.00
18	0180	33.00	29.00	24.00	10.00
20	0200	35.00	31.00	25.00	10.00
22	0220	37.00	33.00	25.00	10.00
24	0240	39.00	35.00	27.00	10.00
25	0250	40.00	36.00	27.00	10.00
28	0280	43.00	40.00	29.00	10.00
30	0300	45.00	43.00	30.00	10.00
32	0320	48.00	46.00	30.00	10.00
33	0330	48.00	46.00	39.00	10.00
35	0350	50.00	49.00	39.00	10.00
38	0380	56.00	53.00	42.00	13.00
40	0400	58.00	56.00	42.00	13.00
43	0430	61.00	59.00	47.00	13.00
45	0450	63.00	61.00	47.00	13.00
48	0480	66.00	64.00	47.00	13.00
50	0500	70.00	66.00	46.00	14.00
53	0530	73.00	69.00	56.00	14.00
55	0550	75.00	71.00	56.00	14.00
58	0580	78.00	76.00	56.00	14.00
60	0600	80.00	78.00	56.00	14.00
63	0630	83.00	81.00	56.00	14.00
65	0650	85.00	84.00	66.00	14.00
68	0680	90.00	88.00	64.00	16.00
70	0700	92.00	89.60	64.00	16.00
75	0750	97.00	98.00	64.00	16.00
80	0800	105.00	100.00	72.00	18.00
85	0850	110.00	107.50	72.00	18.00
90	0900	115.00	111.00	72.00	18.00
95	0950	120.00	119.00	72.00	18.00
100	1000	125.00	123.80	72.00	18.00

Dimensions in mm
*Non-stock guarantee



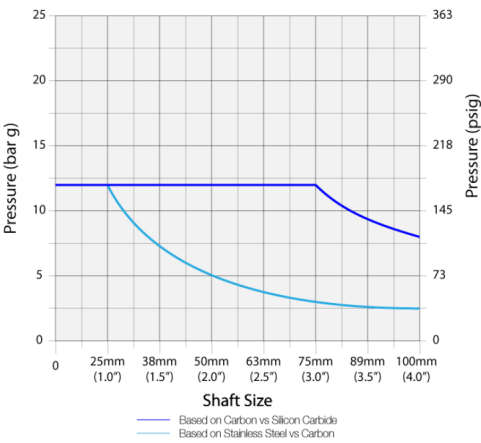
Maximum Operating Pressure

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
Speed	Up to 1750 rpm	X 1.00
	1750 to 3600 rpm	X 0.80

Face and Seat Materials

Combination	Multiplier
Stainless Steel vs Carbon	x 0.30
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 12DIN

- A. Shaft size: 38mm therefore pressure is 7 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 12DIN seal size, the calculation for the approximate guidance maximum operating pressure would be:

A x B x C x D x E
7 bar x 0.85 x 1.00 x 1.00 x 1.00 = 5.95 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.