VULCAN SEALS

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Vulcan Seals Type 1520

Technical Data Sheet

Product Description

Vulcan Seals Type 1520 is a radially-compact elastomer bellows "non-pusher" design, with high flexibility to readily accommodate service misalignment and provide extended service in medias prone to clogging.

The seal drive is provided by the elastomer bellows tightly gripping the shaft from a contact point under the coil end, providing bi-directional "non-pusher" performance that minimises shaft fretting.

Supplied with a Vulcan Seals Type 20 boot-mounted stationary, the Vulcan Seals Type 1520 is suitable for common UK and European imperial short length seal chamber dimensions.

Why Choose the Vulcan Seals Type 1520?

- Radially compact bellows design provides excellent flexibility and durability in reduced radial clearance applications.
- Designed to suit common UK and European imperial short length seal chambers.
- Convoluted bellows provides high flexibility to accomodate seal misalignment and shaft end-float.
- Suitable for light to medium duties.

Standard Face Material Combinations

Rotary Face | Material	Stationary Face | Material	Complete Material Code
VCP1 Carbon	VAW1 Ceramic	C
VCP1 Carbon	VSR1 Silicon Carbide	D
VSS1 Silicon Carbide	VSR1 Silicon Carbide	SS
VTN2* Tungsten Carbide	VTN1* 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
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 16 bar (232 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 1520 is a dimensional replacement mechanical seal for the following seal ranges:

- AES® | Type N-BP02*
- Lidering® | Type LRB17E*
- Burgmann® | Type MG1S20*
- U.S. Seal® | Type VGM-G50*

**Rotary Face | **Stationary Face*

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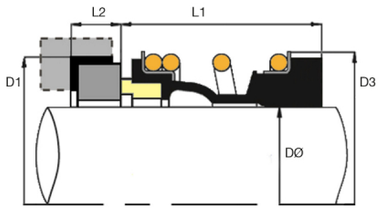

Dimensional Data

DØ (Metr.)	Size Code	D1	D3	L1	L2	DØ (Imp.)	Size Code 2	D1 (mm)	D3 (mm)	L1 (mm)	L2 (mm)
12	0120	27.79	22.00	25.40	8.74	0.500	0127	27.79	22.00	25.40	8.74
13	0130	27.79	22.00	25.40	8.74	0.625	0158	30.95	26.00	25.40	10.32
14	0140	30.95	24.00	25.40	10.32	0.750	0191	34.15	32.00	25.40	10.32
15	0150	30.95	25.00	25.40	10.32	0.875	0222	37.30	36.00	25.40	10.32
16	0160	30.95	26.00	25.40	10.32	1.000	0254	40.50	39.00	25.40	10.32
18	0180	34.15	32.00	25.40	10.32	1.125	0286	47.63	42.00	33.34	11.99
20	0200	35.70	34.00	25.40	10.32	1.250	0317	50.80	46.00	33.34	11.99
22	0220	37.30	36.00	25.40	10.32	1.375	0349	53.98	49.00	33.34	11.99
24	0240	40.50	38.00	25.40	10.32	1.500	0381	57.15	54.00	33.34	11.99
25	0250	40.50	39.00	25.40	10.32	1.625	0412	60.33	56.00	33.34	11.99
28	0280	47.63	42.00	33.34	11.99	1.750	0444	63.50	61.00	40.48	11.99
30	0300	50.80	44.00	33.34	11.99	1.875	0476	66.68	64.00	40.48	11.99
32	0320	50.80	46.00	33.34	11.99	2.000	0508	69.85	66.70	40.48	13.50
33	0330	53.98	47.00	33.34	11.99	2.125	0539	73.03	69.00	40.48	13.50
35	0350	53.98	49.00	33.34	11.99	2.250	0571	76.20	78.00	40.48	13.50
38	0380	57.15	54.00	33.34	11.99	2.375	0603	79.38	80.00	40.48	13.50
40	0400	60.33	56.00	33.34	11.99	2.500	0635	82.55	83.00	40.48	13.50
43	0430	63.50	59.00	40.48	11.99	2.625	0666	92.08	85.00	49.21	15.88
44	0440	63.50	61.00	40.48	11.99	2.750	0698	95.25	90.00	49.21	15.88
45	0450	63.50	61.00	40.48	11.99	2.875	0730	98.43	96.00	49.21	15.88
48	0480	66.68	64.00	40.48	11.99	3.000	0762	101.60	99.00	52.39	15.88
50	0500	69.85	66.70	40.48	13.50	3.125*	0794	111.15	104.00	55.56	19.88
53	0530	73.03	69.00	40.48	13.50	3.250*	0825	114.30	104.00	55.56	19.88
55	0550	76.20	71.50	40.48	13.50	3.375*	0857	117.48	109.00	55.56	19.88
58	0580	79.38	78.00	40.48	13.50	3.500*	0889	120.65	114.00	55.56	19.88
60	0600	79.38	80.00	40.48	13.50	3.625*	0921	123.83	114.00	58.74	19.88
65	0650	92.08	85.00	49.21	13.50	3.750*	0953	127.00	119.00	58.74	19.88
70	0700	95.25	90.00	49.21	15.88	4.000*	1016	133.35	124.00	61.91	19.88
75*	0750	101.60	99.00	52.39	15.88						
80*	0800	111.15	104.00	55.56	19.88						
85*	0850	117.48	109.00	55.56	19.88						
90*	0900	123.83	114.00	55.56	19.88						
95*	0950	127.00	119.00	58.74	19.88						
100*	1000	133.35	124.00	61.91	19.88						

Dimensions in mm
*Non-stock guarantee

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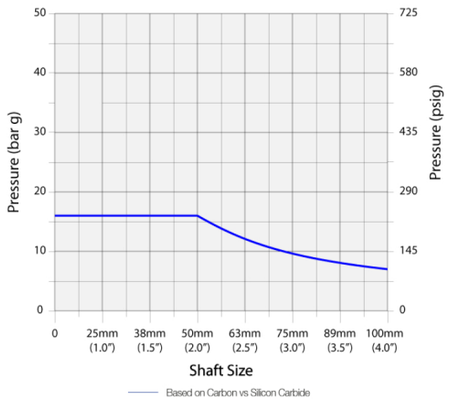
Maximum Operating Pressure

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 RB Silicon Carbide	x 1.00
SiSiC vs RB Silicon Carbide	x 0.41
Tungsten Carbide vs Tungsten Carbide	x 0.50

Example Calculation for Vulcan Seals Type 1520

A. Shaft size: 38mm therefore pressure is 16 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 1520 seal size, the calculation for the approximate guidance maximum operating pressure would be:

A x B x C x D x E
16 bar x 0.85 x 1.00 x 1.00 x 1.00 = 13.60 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.