VULCAN SEALS

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Vulcan Seals Type 1674

Technical Data Sheet

Product Description

The Vulcan Seals Type 1674 is a narrow profile, multiple spring internal double mechanical seal of robust "pusher" design and high performance, with ‘O’-ring stationaries to suit DIN24960/En12756 housings featuring anti-rotation provision to both housings.

The drive from the shaft and set of working lengths is by set screws to the shaft, providing bi-directional rotation capability. The multi-spring array provides even closing force to the sealing faces ensuring higher sealing performance compared to a single spring double seal design.

The Vulcan Seals Type 1674 features a monolithic seal head, optimised for chemical resistance and high-temperature applications.

Vulcan Seals Type 1674 complete seal is supplied with Vulcan Seals Type 1674 stationaries to suit DIN24960/En12756 housings with anti-rotation provision, for greater reliability in viscous or abrasive medias.

Why Choose the Vulcan Seals Type 1674?

- The design of the Vulcan Seals Type 1674 head allows high shore-A 'O'-ring materials with high chemical resistance to be used.
- The Vulcan Seals Type 1674 design is intended to suit common European dimension double-ended seal chambers where the equipment has a circulation system installed. The inner seal faces seal the product from the circulation fluid, the outer faces seal the circulation fluid from the atmosphere.
- The one-piece sinusoidal wave spring provides superior strength and reliability compared to welded multi-part wave springs, which are prone to breakage at the weld points.
- The high performance and interchangeability of the 'O'-ring secondary seals provide a wide range of material capabilities for chemical process industries.

Standard Face Material Combinations

Rotary Face	Stationary Face	Complete Seal Code
316 Stainless Steel inside - 316 Stainless Steel outside	VCD1 Carbon inside - VCD1 Carbon outside	YZ
VSS1 Silicon Carbide inside - 316 Stainless Steel outside	VSS1 Silicon Carbide inside - VCD1 Carbon outside	WQ
VSS1 Silicon Carbide inside - VSS1 Silicon Carbide outside	VCD1 Carbon inside - VCD1 Carbon outside	ZQ
VSS1 Silicon Carbide inside - VSS1 Silicon Carbide outside	VSS1 Silicon Carbide inside - VSS1 Silicon Carbide outside	ZA

Guaranteed Stock/Material Elastomers: Viton™/FKM, EP, Nitrile and Metallurgy 316SS
*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 22 bar (320 psi)

Mechanical Seal Replacement Range

Vulcan Seals Type 1674 is a dimensional replacement mechanical seal for the following seal ranges:

- Lidering® | Type LMS 10 D*

**Rotary Face* | ***Stationary Face*

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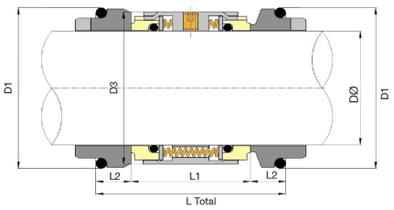

Dimensional Data

DØ (Metric)	Seal Size Code	D1 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	Slot Width	Slot Depth	L Total (mm)
18	0180	33.00	33.00	38.00	11.50	4.00	6.50	61.00
20	0200	35.00	35.00	38.00	11.50	4.00	6.50	61.00
22	0220	37.00	37.00	38.00	11.50	4.00	6.50	61.00
24	0240	39.00	39.00	38.00	11.50	4.00	6.50	61.00
25	0250	40.00	40.00	38.00	11.50	4.00	6.50	61.00
28	0280	43.00	43.00	39.00	11.50	4.00	6.50	62.00
30	0300	45.00	45.00	39.00	11.50	4.00	6.50	62.00
32	0320	48.00	47.00	39.00	11.50	5.00	6.50	62.00
33	0330	48.00	48.00	39.00	11.50	5.00	6.50	62.00
35	0350	50.00	50.00	39.00	11.50	5.00	6.50	62.00
38	0380	56.00	55.00	41.00	14.00	5.00	6.50	69.00
40	0400	58.00	57.00	42.00	14.00	5.00	6.50	70.00
43	0430	61.00	60.00	42.00	14.00	5.00	6.50	70.00
45	0450	63.00	62.00	42.00	14.00	5.00	6.50	70.00
48	0480	66.00	65.00	42.00	14.00	5.00	6.50	70.00
50	0500	70.00	67.00	43.00	15.00	5.00	6.50	73.00
53	0530	73.00	70.00	43.00	15.00	5.00	6.50	73.00
55	0550	75.00	72.00	43.00	15.00	5.00	6.50	73.00
58	0580	78.00	79.00	56.00	15.00	5.00	6.50	86.00
60	0600	80.00	81.00	56.00	15.00	5.00	6.50	86.00
63	0630	83.00	84.00	55.00	15.00	5.00	6.50	85.00
65	0650	85.00	86.00	55.00	15.00	5.00	6.50	85.00
68	0680	90.00	89.00	55.00	18.00	5.00	6.50	91.00
70	0700	92.00	91.00	56.00	18.00	5.00	6.50	92.00
75	0750	97.00	99.00	56.00	18.00	5.00	6.50	92.00
80	0800	105.00	104.00	56.00	18.20	5.00	6.70	92.40
85	0850	110.00	109.00	56.00	18.20	5.00	6.70	92.40
90	0900	115.00	114.00	56.00	18.20	5.00	6.70	92.40
95	0950	120.00	119.00	56.00	17.20	5.00	6.70	90.40
100	1000	125.00	124.00	56.00	17.20	5.00	6.70	90.40
115	1150	148.30	148.00	70.00	20.00	6.00	9.00	110.00
150	1500	180.30	183.00	70.00	20.00	6.00	9.00	110.00

Dimensions in mm
*Non-stock guarantee

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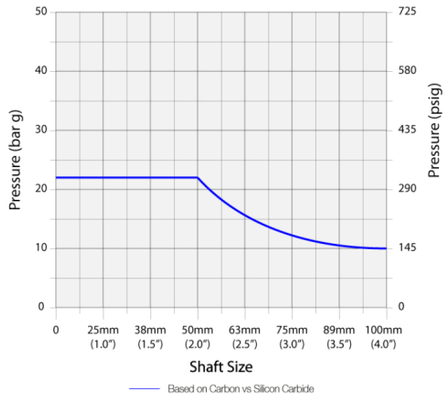
Maximum Operating Pressure

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
Stainless Steel vs Carbon	x 0.30
SiSiC vs SiSiC	x 0.41
SiSiC vs Carbon	x 0.85

Example Calculation for Vulcan Seals Type 1674

A. Shaft size: 38mm therefore pressure is 22 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 1674 seal size, the calculation for the approximate guidance maximum operating pressure would be:

A x B x C x D x E
22 bar x 0.85 x 1.00 x 1.00 x 1.00 = 18.70 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.