



Vulcan Seals Type 82

Technical Data Sheet



Product Description

The Vulcan Seals Type 82 seal is a resilient, 'O'-ring mounted "pusher", step-shaft seal design with an interference fitted sealing face in a narrow cross-section stainless steel head.

The Vulcan Seals Type 82 is intended for applications where the equipment has a stepped shaft design and DIN24960/EN12756 housing sizes.

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 82 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 82?

- Inserted sealing face in a stainless steel head for optimised resilience and robustness.
- Higher pV capability through the hydraulic balancing of the sealing faces around the stepped shaft design.
- 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 medium to heavy-duty applications.
- Stationary has anti-rotation provision for high-torque applications such as viscous or high-solids medias.

Standard Face Material Combinations

Rotary Face Material	Stationary Face Material	Complete Material Code
VCP1 Carbon	VAW1 Ceramic	C
VCP1 Carbon	VSR1 Silicon Carbide	D
VSR1 Silicon Carbide	VSR1 Silicon Carbide	S
VTN2* Tungsten Carbide	VTN1* 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	+180°C
FEPM/AFLAS®	-10°C	+180°C
FFKM	-50°C	+180°C

Pressure: Up to 21 bar (304 psi)

Compliance & Certificates



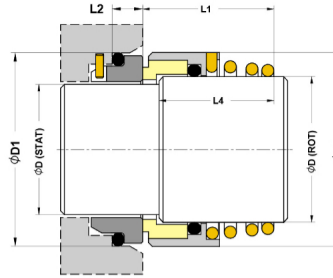
The Vulcan Seals mechanical seal range can be supplied with material combinations designed to meet the compliance standards and certifications listed above. Additional compliance or regulatory requirements can also be considered upon request. Please enquire to discuss your specific application.

Mechanical Seal Replacement Range

Vulcan Seals Type 82 is a dimensional replacement mechanical seal for the following seal ranges:

- AESSEAL® | Type N-T01DB*
- Burgmann® | Type H17GN*
- Burgmann® | Type H12N*

*Rotary Face | **Stationary Face



Dimensional Data

DØ (Metric)	Seat Size Code	Seal Size Code	D1 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L4 (mm)	Slot Width	Slot Depth
16	0120	0160	23.00	26.00	26.50	10.00	19.50	4.00	5.00
18	0140	0180	25.00	29.00	29.50	10.00	22.50	4.00	5.00
20	0160	0200	27.00	31.00	31.00	10.00	24.00	4.00	5.00
22	0180	0220	33.00	33.00	32.50	11.50	25.00	4.00	5.00
24	0200	0240	35.00	35.00	32.50	11.50	25.00	4.00	5.50
28	0240	0280	39.00	40.00	32.50	11.50	25.00	4.00	5.50
30	0250	0300	40.00	43.00	33.50	11.50	26.00	4.00	5.50
33	0280	0330	43.00	46.00	35.50	11.50	28.00	4.00	5.50
35	0300	0350	45.00	49.00	35.50	11.50	28.00	4.00	5.50
38	0330	0380	48.00	53.00	39.50	11.50	32.00	4.00	5.50
40	0350	0400	50.00	56.00	43.50	11.50	36.00	4.00	5.50
43	0380	0430	56.00	59.00	46.00	14.00	38.00	4.00	5.50
45	0400	0450	58.00	61.00	48.00	14.00	40.00	4.00	5.50
50	0450	0500	63.00	66.00	55.00	14.00	47.00	5.00	5.50
53	0480	0530	66.00	69.00	55.00	14.00	47.00	5.00	5.50
55	0500	0550	70.00	71.00	58.00	15.00	49.00	5.00	5.50
60	0550	0600	75.00	78.00	60.00	15.00	51.00	5.00	5.50
63*	0580	0630	78.00	81.00	60.00	15.00	51.00	5.00	5.50
65	0600	0650	80.00	84.00	60.00	15.00	51.00	5.00	5.50
70*	0650	0700	85.00	90.00	61.00	15.00	52.00	5.00	5.50
75*	0700	0750	92.00	98.00	63.00	18.00	54.00	5.00	5.50
80*	0750	0800	97.00	100.00	68.00	18.00	59.00	5.00	5.50
85*	0800	0850	105.00	107.50	68.00	18.00	59.00	5.00	5.50

Dimensions in mm
 *Non-stock guarantee



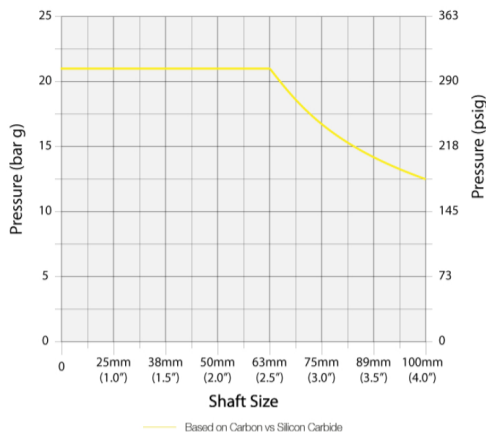
Maximum Operating Pressure

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
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 82

- A. Shaft size: 38mm therefore pressure is 21 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 82 seal size, the calculation for the approximate guidance maximum operating pressure would be:

A x B x C x D x E
 21 bar x 0.85 x 1.00 x 1.00 x 1.00 = 17.85 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.