



## Vulcan Seals Type 142DIN

### Technical Data Sheet



#### Product Description

Vulcan Seals Type 142DIN 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 19B boot-mounted stationary, the Vulcan Seals Type 142DIN is fully compliant to DIN24960/EN12756 L1K length seal chamber dimensions.

#### Why Choose the Vulcan Seals Type 142DIN?

- Radially compact bellows design provides excellent flexibility and durability in reduced working length applications.
- Designed to suit DIN24960/EN12756 L1K seal chambers.
- Convoluted bellows provides high flexibility to accommodate seal misalignment and shaft end-float.
- Suitable for light to medium duties.

#### Standard Face Material Combinations

Rotary Face	Stationary Face	Complete Seal 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

Elastomer	Minimum	Maximum
Nitrile	-30°C	+120°C
EPDM	-40°C	+140°C
Viton™/FKM	-30°C	+230°C
FEP/AFLAS®	-10°C	+250°C
FFKM	-50°C	+315°C

Pressure: Up to 16 bar (232 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

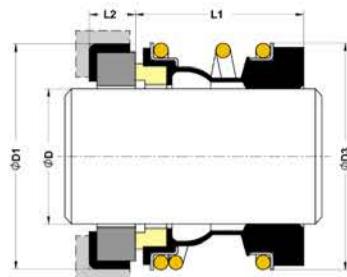
Vulcan Seals Type 142DIN is a dimensional replacement mechanical seal for the following seal ranges:

- AES® | Type N-B052\*
- Lidering® | Type 250 NUR\*
- John Crane® | Type 2100 K\*

\*Rotary Face | \*\*Stationary Face

**Embrace Excellence - Vulcan Service, Quality and Value**

Mechanical Seals | FEP/PFA Encapsulated 'O'-rings | Gland Packing | Expanded PTFE Gasketing  
UK/World: +44 (0) 114 249 3333 | USA: +1 952 955 8800 | [www.vulcanseals.com](http://www.vulcanseals.com) | [contact@vulcanseals.com](mailto:contact@vulcanseals.com)

**Dimensional Data**

DØ (Metric)	Seal Size Code	D1 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L1K
10	0100	21.00	20.00	25.90	6.60	32.50
12	0120	23.00	22.00	25.90	6.60	32.50
14	0140	25.00	24.00	28.40	6.60	35.00
15	0150	27.00	25.00	28.40	6.60	35.00
16	0160	27.00	26.00	28.40	6.60	35.00
18	0180	33.00	32.00	30.00	7.50	37.50
20	0200	35.00	34.00	30.00	7.50	37.50
22	0220	37.00	36.00	30.00	7.50	37.50
24	0240	39.00	38.00	32.50	7.50	40.00
25	0250	40.00	39.00	32.50	7.50	40.00
28	0280	43.00	42.00	35.00	7.50	42.50
30	0300	45.00	44.00	35.00	7.50	42.50
32	0320	48.00	46.00	35.00	7.50	42.50
33	0330	48.00	47.00	35.00	7.50	42.50
35	0350	50.00	49.00	35.00	7.50	42.50
38	0380	56.00	54.00	36.00	9.00	45.00
40	0400	58.00	56.00	36.00	9.00	45.00
43	0430	61.00	59.00	36.00	9.00	45.00
45	0450	63.00	61.00	36.00	9.00	45.00
48	0480	66.00	64.00	36.00	9.00	45.00
50	0500	70.00	66.00	38.00	9.50	47.50
53	0530	73.00	69.00	36.50	11.00	47.50
55	0550	75.00	71.00	36.50	11.00	47.50
58*	0580	78.00	78.00	41.50	11.00	52.50
60	0600	80.00	80.00	41.50	11.00	52.50
65	0650	85.00	85.00	41.50	11.00	52.50
70*	0700	92.00	90.00	48.70	11.30	60.00
75*	0750	97.00	99.00	48.70	11.30	60.00
80*	0800	105.00	104.00	48.00	12.00	60.00
85*	0850	110.00	109.00	46.00	14.00	60.00
90*	0900	115.00	114.00	51.00	14.00	65.00
95*	0950	120.00	119.00	51.00	14.00	65.00
100*	1000	125.00	124.00	51.00	14.00	65.00

Dimensions in mm

\*Non-stock guarantee



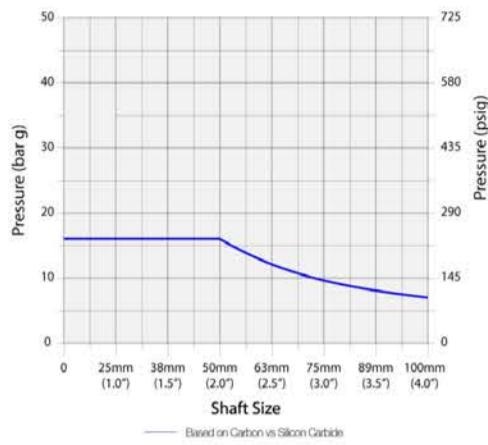
## Maximum Operating Pressure

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

## Example Calculation for Vulcan Seals Type 142DIN

- 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 142DIN seal size, the calculation for the approximate guidance maximum operating pressure would be:

$$A \times B \times C \times D \times E \\ 16 \text{ bar} \times 0.85 \times 1.00 \times 1.00 \times 1.00 = 13.60 \text{ bar}$$

## 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

## 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.