



Vulcan Seals Type VR4

Technical Data Sheet



Product Description

The **Vulcan Seals Type VR4** is a square-braided expanded graphite packing reinforced with carbon fibre at the corners to enhance mechanical stability and resistance to extrusion.

The expanded graphite base provides excellent thermal conductivity, chemical inertness, and self-lubricating performance, while the carbon fibre reinforcement improves dimensional integrity under high pressure and during thermal cycling.

The **Vulcan Seals Type VR4** is designed primarily for high-temperature and high-pressure valve and static sealing duties, with additional capability in rotary service where conditions are stable and well controlled.

Suitable Industries

The Vulcan Seals Type VR4 is suitable for use in:

- ✔ Power generation
- ✔ Chemical processing
- ✔ Petrochemical and refining
- ✔ Oil and gas
- ✔ General industrial utilities
- ✔ High-temperature valve and static sealing applications

The Vulcan Seals Type VR4 is not suitable for use in:

- ✘ Services containing high levels of abrasive solids or fibrous media
- ✘ Slurries, pulp stock, or particle-laden fluids
- ✘ Applications with uncontrolled flushing or severe shaft run-out
- ✘ Poorly aligned or heavily worn rotating equipment

Chemical Properties

- Base Fibre: Flexible expanded graphite
- Reinforcement: Carbon fibre (corner reinforced)
- Carbon Content: ≥ 92 %
- pH Operating Envelope: 0–14
- Friction Coefficient: ≤ 0.4
- Sulphur Content: ≤ 1000 ppm
- Chlorine Content: ≤ 50 ppm
- Ignition Loss: ≤ 10 %

Why Choose the Vulcan Seals Type VR4?

- Expanded graphite construction offers excellent temperature and chemical resistance
- Carbon fibre corner reinforcement improves extrusion resistance and packing stability
- Self-lubricating structure reduces friction and minimises shaft or stem wear
- Suitable for severe valve duties and high-pressure static applications
- Maintains sealing performance under thermal cycling and pressure fluctuation



Valves - Operating Limits

Max Operating Pressure	Linear Speed	Min Operating Temperature	pH Range
400 bar	Static Only	-100°C / -418°F	0 - 14



Centrifugal Pumps - Operating Limits

Max Operating Pressure	Linear Speed	pH Range
35 bar	10 m/s	0 - 14



Reciprocating Pumps - Operating Limits

Max Operating Pressure	Linear Speed	Min Operating Temperature	pH Range
250 bar	≤1 m/s	-100°C / -418°F	0 - 14

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Dimensional Data

Cross Section. Sq (inch)	Packaged Weight (kg)	Packaged Weight (lb)	Packaged Weight (lb) US ONLY	Length of Coil (m)	Product Code	US Product Code
1/8"	0.30	0.662	1	30	VR4.1/8X30MTR	VR4.1/8.1LB
3/16"	0.83	1.830	1	30	VR4.3/16 X30MTR	VR4.3/16.1LB
1/4"	0.32	0.706	2	8	VR4.1/4	VR4.1/4.2LB
5/16"	0.54	1.191	2	8	VR4.5/16	VR4.5/16.2LB
3/8"	0.84	1.852	2	8	VR4.3/8	VR4.3/8.2LB
7/16"	1.15	2.536	5	8	VR4.7/16	VR4.7/16.5LB
1/2"	1.57	3.462	5	8	VR4.1/2	VR4.1/2.5LB
9/16"	1.57	3.462	5	8	VR4.9/16	VR4.9/16.5LB
5/8"	2.05	4.520	5	8	VR4.5/8	VR4.5/8.5LB
3/4"	2.89	6.372	10	8	VR4.3/4	VR4.3/4.10LB
7/8"	3.79	8.357	10	8	VR4.7/8	VR4.7/8.10LB
1"	4.90	10.805	10	8	VR4.1/0	VR4.1/0.10LB

Please note that the lengths and weights provided are for informational purposes only and are not contractual.

Gland Packing Replacement Range

The Vulcan Seals Type VR4 is a dimensional replacement for the following gland packing ranges:

- AESSEAL® | 340
- Flexitalic® | 305
- Utex® | 687
- AESSEAL® | 345
- Texpack® | 4170
- Chesterton® | 1400R
- Texpack® | 4180

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