

SKF V-ring seals



Why SKF? V-ring seals



V-ring seals are unique all-rubber seals for rotating shafts. They are used in all kinds of industrial rotating applications as cost-effective contaminant barriers for optimised bearing protection. V-rings have an interference fit on the shaft and are, by design, easy to install. They can be stretched and, depending on size, pushed over other components like flanges, pulleys or even housings when replacing a seal. V-rings rotate with the shaft, seal axially against a stationary counterface and act as flingers. The counterface can be the end face of a bearing, a washer, stamping, bearing housing, or even the metal case of a radial shaft seal.

The V-ring offerings from SKF comprises five standard designs that are available in SKF-developed nitrile rubber (NBR) and fluoro rubber (FKM) compounds.

Product features

- Axial lip seal
- All-rubber design
- SKF-developed NBR and FKM compounds
- Each V-ring size applicable for a range of shaft sizes
- Dimensionally interchangeable
- Easy installation and system implementation

Product benefits

- High contaminant exclusion capacity
- Contact force reduced by 20-30%
- High abrasion resistance
- Excellent oil compatibility and chemical resistance
- Quiet running

Common applications

- Industrial electrical
- Industrial gearboxes
- Off-highway machinery
- Material handling equipment
- Mining and construction equipment
- Steel manufacturing equipment
- Pulp and paper processing equipment
- Marine industry machinery
- Wind turbines

User benefits

- Improved sealing system performance
- Reduction in maintenance and failures caused by contamination
- More reliable system performance
- Increased bearing service life
- Increased uptime and productivity
- Cost-effective solution
- Optimised bearing protection

Optimised bearing protection

Contamination of bearings is a major reason for failures in industrial applications. V-ring seals offer a cost-effective upgrade of the sealing system that acts as a barrier against contaminants (→ **figs. 1** and **2**). Thanks to their reduced contact force and high-performance compounds, V-rings from SKF maintain high energy efficiency while contributing to enhanced sealing system performance and long service life.

Fig. 1

Secondary seal to a radial shaft seal

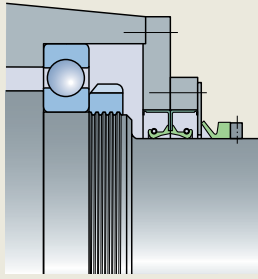
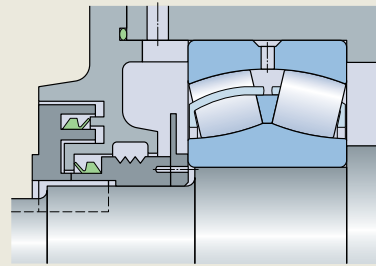


Fig. 2

Upgrading a labyrinth seal



Standard designs by SKF

SKF offers five standard V-ring seal designs:

- VA/VR1 is typically used in gearboxes, electric motors and drives.
- VS/VR2 is also commonly used in agricultural and automotive applications.
- VL/VR3 has a very compact design and is commonly used to enhance labyrinth seals.
- VE/VR4 is a heavy-duty large diameter V-ring seal, often used to protect a primary seal.
- VRME/VR6 is a heavy-duty large diameter V-ring that can be radially clamped on the shaft using a standard band clamp.
- It is primarily designed to protect highspeed bearing arrangements.

V-ring seal materials from SKF

Striving for improvements, the SKF range of V-ring seals are manufactured from special nitrile rubber (NBR) and fluoro rubber (FKM) compounds, offering several advantages:

- High abrasion resistance
- Excellent oil compatibility and chemical resistance
- Reduced contact force by 20-30% in benchmark tests while maintaining effective contaminant exclusion behaviour
- As reported by customers, less wear, reduced noise and improved performance when compared to alternative V-rings
- SKF colour codes for the V-ring compounds, NBR (grey) and FKM (brown), allow for easy identification

Comprehensive size range

V-rings from SKF are available within the shaft diameter ranges listed in **table 1**.





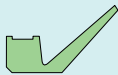
They are globally available and normally packed in transparent plastic bags. Package quantities vary with seal size. Designations consist of shaft dimension, followed by design and material code, for example: 150 VA R.

For North American aftermarket needs, all V-rings are single-packed in carton boxes. This is reflected in special design codes (→ **table 1**) and a designation system using stock numbers.

For information on sizes, compounds and designs outside the standard range, including split versions, contact your SKF seals representative.

Table 1

Standard V-ring designs and size ranges

					
Design code	VA VR1*	VS VR2*	VL VR3*	VE VR4*	VRME VR6*
-	mm (in.)				
min	2,7 (0.106)	4,5 (0.177)	105 (4.134)	300 (11.811)	300 (11.811)
max	2 020 (79.257)	210 (8.268)	2 025 (79.724)	2 010 (79.134)	1 995 (78.543)

* Design code for North American aftermarket

V-ring seals applications

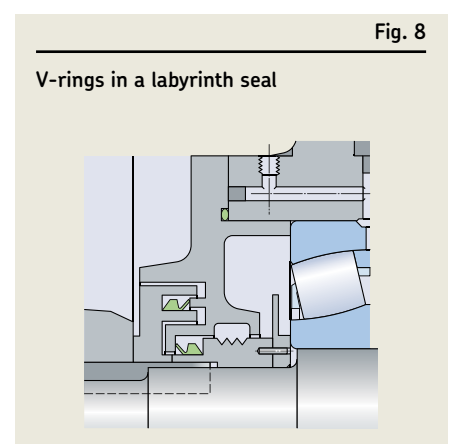
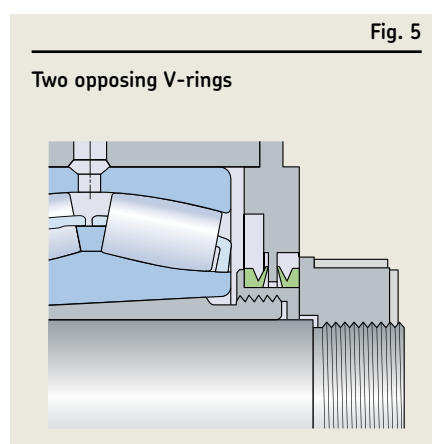
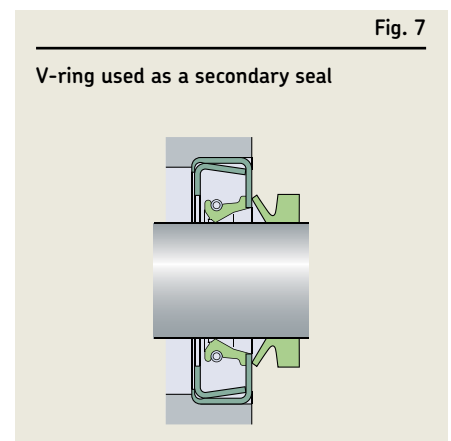
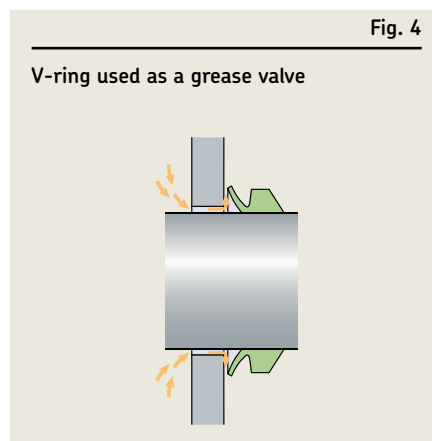
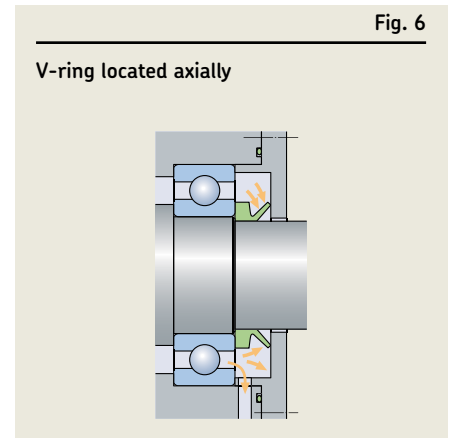
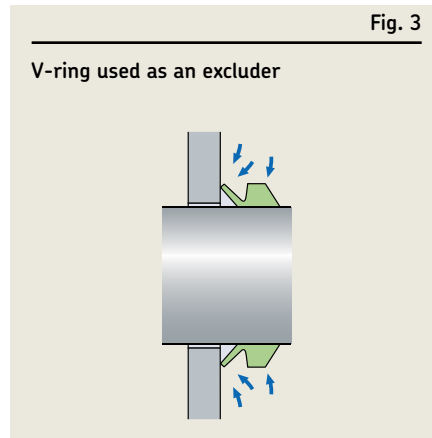
Applications

V-rings are suitable for both grease and oil lubricated applications. For sealing grease-lubricated bearing arrangements and protecting against contaminants, V-ring should be arranged outside the housing cover or housing wall. Dust, water spray and other contaminants can be excluded in this position (→ **fig. 3**).

The V-ring can also act as a grease valve, where used grease or excess new grease can escape between the housing bore and the sealing lip (→ **fig. 4**). The installation of two opposing V-rings can be used in applications where lubricant retention and contaminant exclusion are of equal importance (→ **fig. 5**). If V-rings are used to retain oil, they should always be located axially on the shaft on the lubricant side (→ **fig. 6**). V-rings should not be submerged in the application medium.

Secondary applications

V-rings are often used as secondary seals (→ **fig. 7**) when it is necessary to protect the sealing lip and housing bore of the primary seal against contaminants or corrosion. V-rings will also enhance the sealing efficiency of labyrinth seals (→ **fig. 8**).



Sliding velocities

V-rings can operate under the conditions listed in Table 1. At speeds of 2,900 to 3,900 ft/min (15 to 20 m/s), the sealing lip lifts from the counterface and the V-ring only acts as a gap-type seal.

Coaxiality and runout

The total tolerance for the deviation from coaxiality and runout should not exceed the guideline values provided in Table 3.

Misalignment

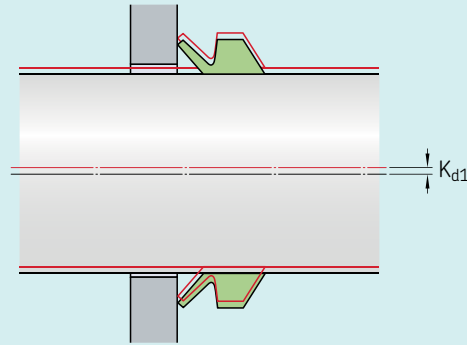
V-rings can tolerate misalignment between the shaft and housing, or deviations from the perpendicularity between the shaft and housing bore.

Diagram 1 provides values for the maximum permissible angular misalignment; these values apply to the V-ring designs VA/VR1 and VS/VR2, provided they are supported axially on the shaft.

The permissible misalignment values for the compact VL/VR seals are significantly lower than those for the VA/VR1 and VS/VR2 designs. In applications where V-rings are not supported axially on the shaft, the maximum values from **Diagram 1** should be reduced.

Table 3

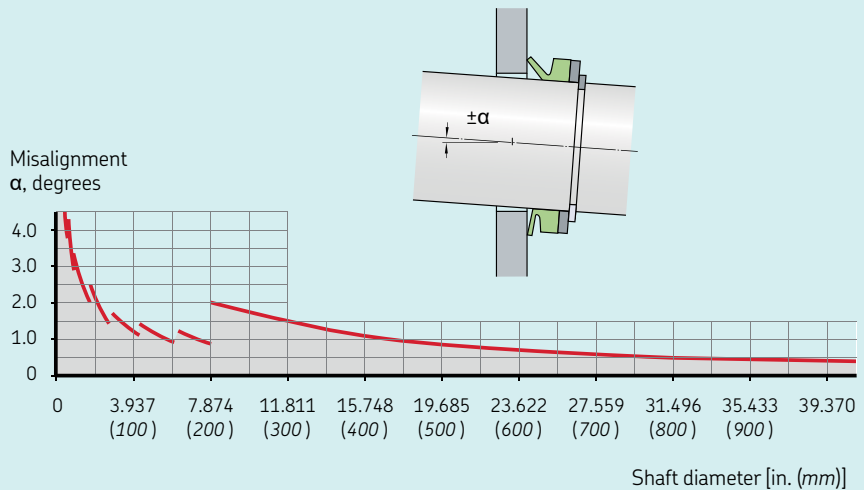
Coaxiality and runout tolerances



Shaft diameter nominal				Total tolerance for coaxiality deviation and runout	
d_1 over	incl.	over	incl.	K_{d1} max	
in.		mm		in	mm
V-rings, VA/VR1 and VS/VR2 designs					
	0.374		9.5	0.016	0.4
0.374	0.768	9.5	19.5	0.024	0.6
0.768	1.496	19.5	38	0.034	0.9
1.496	2.677	38	68	0.043	1.1
2.677	4.134	68	105	0.055	1.4
4.134	6.102	105	155	0.063	1.6
6.102	8.628	155	210	0.075	1.9
8.628	79.527	210	2 020	0.142	3.6
V-rings, VL/VR3 designs					
5.315	24.803	135	630	0.059	1.5
V-rings, VE/VR4 designs					
17.716	79.134	450	2 010	0.236	6

Diagram 1

Maximum permissible misalignment for V-rings of the VA/VR and VS/VR designs



Bore finish and treatment

A fine turned housing bore is adequate for V-rings. Appropriate surface roughness values vary depending on the circumferential speed (→ **Table 4**). SKF recommends buffing all turned surfaces with an emery cloth to remove any sharp peaks caused during the turning operation. The surface finish should be measured at approximately 90° to the path of the groove to obtain a true reading of the surface.

When used with grease, oil or dry lubricants, V-rings do not require any special housing bore treatments. Mild steel bores exposed to water or other corrosives should be protected with zinc- or chromium-plating, or be treated with an anti-corrosive spray.

Additional bore requirements

- Aluminium surfaces should be free of scratch marks.
- Surface hardness should be > 100 HB in abrasive applications.
- Die cast aluminum can be used in the as-cast condition.
- Steel and cast iron surfaces should be free from lead and sharp tool marks.
- Cold rolled steel stampings can be used without machining.
- Plastic counterface materials are generally not acceptable due to poor heat dissipation.
- Stainless steel should not be used in dry running

applications unless the speed is below 200 ft/min (1 m/s).

Shaft requirements

To help prevent damage to the V-ring during installation, shafts must be free from sharp edges, nicks and burrs. V-rings rotate with the shaft and only require a moderate surface roughness value, which should not exceed 252 µin (*Ra* 6,3 µm). When sealing fluids or exposed to fine, solid contaminants, the V-ring requires a surface roughness value of maximum 128 µin (*Ra* 3,2 µm). A V-ring is stretched when installed and fits all shaft diameters within the ranges listed in the product tables.

Installing V-rings

V-rings are elastic and can be stretched and pushed over other components (→ **fig. 9**). When installation involves several V-rings, a simple tool (→ **fig. 10**) can be used to push the seals to their position at a predetermined distance from the counterface. V-rings can also be cut and rejoined in the field.

General installation guidelines

- Clean the V-ring, housing bore and shaft.
- Make sure that the shaft is dry and free from grease or oil
- Lubricate the V-ring lip with a thin film of grease or silicone oil.
- In applications that demand minimal friction, coat the housing bore with a low-

friction agent (do not apply grease to the lip).

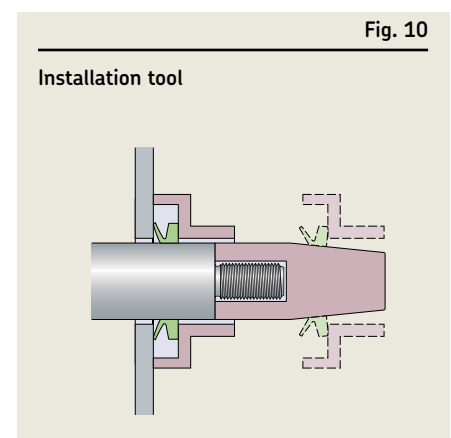
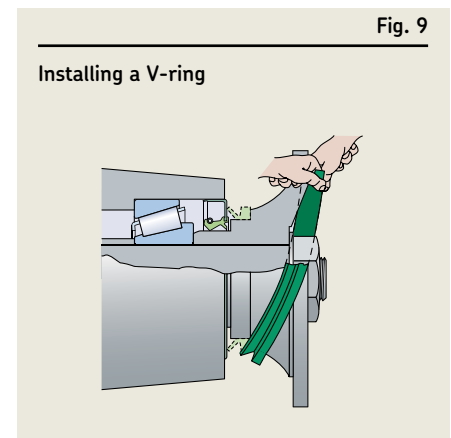
- Check that the V-ring is installed with a uniform stretch around the shaft.

Table 4

Recommended counterface surface finish

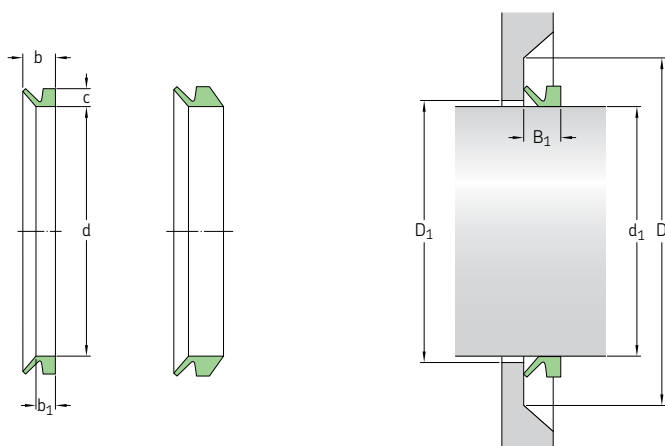
Circumferential speed		Surface finish	
ft/min	m/s	Ra µin.	Ra µm
> 1,969	> 10	16–32	0.4–0.8
984–1,969	5–10	32–64	0.8–1.6
199–984	1–5	64–80	1.6–2.0
< 199	< 1	80–100	2.0–2.5

The surface finish must not be lower than R_a 2 µin. (0,05 µm).





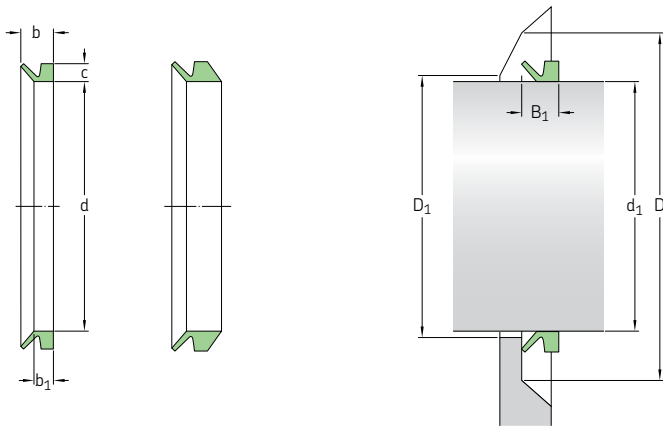
V-ring seals – metric dimensions, d_1 2,7 – 53 mm



Dimensions		Shaft diameter range d_1 over	incl.	Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
mm												
2,7	3,5	2,5		2,1	2,1	3	1,5	$d_1 + 1$	$d_1 + 4$	$2,5 \pm 0,3$	R	3 VA R
		2,5		2,1	2,1	3	1,5	$d_1 + 1$	$d_1 + 4$	$2,5 \pm 0,3$	V	3 VA V
3,5	4,5	3,2		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	R	4 VA R
		3,2		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	V	4 VA V
4,5	5,5	4		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	R	5 VA R
		4		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	V	5 VA V
		4		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	R	5 VS R
		4		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	V	5 VS V
5,5	6,5	5		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	R	6 VA R
		5		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	V	6 VA V
		5		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	R	6 VS R
		5		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	V	6 VS V
6,5	8	6		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	R	7 VA R
		6		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	V	7 VA V
		6		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	R	7 VS R
		6		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	V	7 VS V
8	9,5	7		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	R	8 VA R
		7		2,4	2,4	3,7	2	$d_1 + 1$	$d_1 + 6$	$3 \pm 0,4$	V	8 VA V
		7		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	R	8 VS R
		7		3,9	3,9	5,2	2	$d_1 + 1$	$d_1 + 6$	$4,5 \pm 0,4$	V	8 VS V
9,5	11,5	9		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	R	10 VA R
		9		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	V	10 VA V
		9		5,6	5,6	7,7	3	$d_1 + 1$	$d_1 + 9$	$6,7 \pm 0,6$	R	10 VS R
		9		5,6	5,6	7,7	3	$d_1 + 1$	$d_1 + 9$	$6,7 \pm 0,6$	V	10 VS V
11,5	12,5	10,5		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	R	12 VA R
		10,5		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	V	12 VA V
11,5	13,5	10,5		5,6	5,6	7,7	3	$d_1 + 1$	$d_1 + 9$	$6,7 \pm 0,6$	R	12 VS R
		10,5		5,6	5,6	7,7	3	$d_1 + 1$	$d_1 + 9$	$6,7 \pm 0,6$	V	12 VS V
		11,7		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	R	13 VA R
		11,7		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	V	13 VA V
13,5	15,5	12,5		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	R	14 VA R
		12,5		3,4	3,4	5,5	3	$d_1 + 1$	$d_1 + 9$	$4,5 \pm 0,6$	V	14 VA V

Dimensions		Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation
Shaft diameter range d ₁ over	incl.									
mm										
13,5 cont.	15,5	12,5	5,6	7,7	3	d ₁ +1	d ₁ +9	6,7 ± 0,6	R	14 VS R
		12,5	5,6	7,7	3	d ₁ +1	d ₁ +9	6,7 ± 0,6	V	14 VS V
15,5	17	14	3,4	5,5	3	d ₁ +1	d ₁ +9	4,5 ± 0,6	R	16 VA R
		14	3,4	5,5	3	d ₁ +1	d ₁ +9	4,5 ± 0,6	V	16 VA V
15,5	17,5	14	5,6	7,7	3	d ₁ +1	d ₁ +9	6,7 ± 0,6	R	16 VS R
		14	5,6	7,7	3	d ₁ +1	d ₁ +9	6,7 ± 0,6	V	16 VS V
17,5	19	16	3,4	5,5	3	d ₁ +1	d ₁ +9	4,5 ± 0,6	R	18 VA R
		16	3,4	5,5	3	d ₁ +1	d ₁ +9	4,5 ± 0,6	V	18 VA V
		16	5,6	7,7	3	d ₁ +1	d ₁ +9	6,7 ± 0,6	R	18 VS R
		16	5,6	7,7	3	d ₁ +1	d ₁ +9	6,7 ± 0,6	V	18 VS V
19	21	18	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	20 VA R
		18	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	20 VA V
		18	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	20 VS R
		18	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	20 VS V
21	24	20	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	22 VA R
		20	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	22 VA V
		20	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	22 VS R
		20	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	22 VS V
24	27	22	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	25 VA R
		22	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	25 VA V
		22	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	25 VS R
		22	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	25 VS V
27	29	25	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	28 VA R
		25	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	28 VA V
		25	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	28 VS R
		25	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	28 VS V
29	31	27	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	30 VA R
		27	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	30 VA V
		27	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	30 VS R
		27	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	30 VS V
31	33	29	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	32 VA R
		29	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	32 VA V
		29	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	32 VS R
		29	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	32 VS V
33	36	31	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	35 VA R
		31	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	35 VA V
		31	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	35 VS R
		31	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	35 VS V
36	38	34	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	R	38 VA R
		34	4,7	7,5	4	d ₁ +2	d ₁ +12	6 ± 0,8	V	38 VA V
		34	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	R	38 VS R
		34	7,9	10,5	4	d ₁ +2	d ₁ +12	9 ± 0,8	V	38 VS V
38	43	36	5,5	9	5	d ₁ +2	d ₁ +15	7 ± 1	R	40 VA R
		36	5,5	9	5	d ₁ +2	d ₁ +15	7 ± 1	V	40 VA V
		36	9,5	13	5	d ₁ +2	d ₁ +15	11 ± 1	R	40 VS R
		36	9,5	13	5	d ₁ +2	d ₁ +15	11 ± 1	V	40 VS V
43	48	40	5,5	9	5	d ₁ +2	d ₁ +15	7 ± 1	R	45 VA R
		40	5,5	9	5	d ₁ +2	d ₁ +15	7 ± 1	V	45 VA V
		40	9,5	13	5	d ₁ +2	d ₁ +15	11 ± 1	R	45 VS R
		40	9,5	13	5	d ₁ +2	d ₁ +15	11 ± 1	V	45 VS V
48	53	45	5,5	9	5	d ₁ +2	d ₁ +15	7 ± 1	R	50 VA R
		45	5,5	9	5	d ₁ +2	d ₁ +15	7 ± 1	V	50 VA V
		45	9,5	13	5	d ₁ +2	d ₁ +15	11 ± 1	R	50 VS R
		45	9,5	13	5	d ₁ +2	d ₁ +15	11 ± 1	V	50 VS V

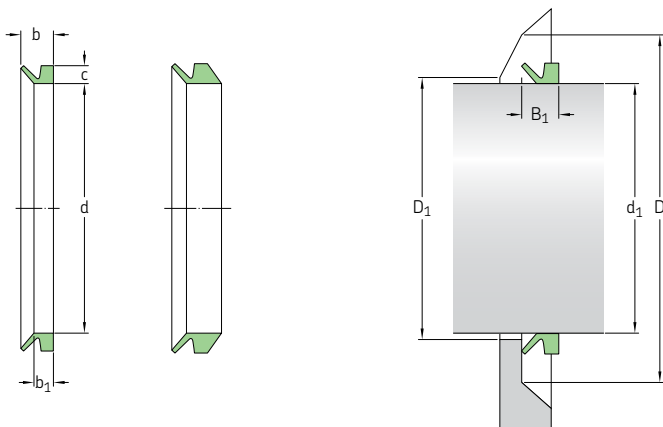
V-ring seals – metric dimensions, d_1 53 – 195 mm



Dimensions		Shaft diameter range d_1 over incl.	Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
mm											
53	58	49	5,5	9	5	$d_1 + 2$	$d_1 + 15$	7 ± 1	R	55 VA R	
		49	5,5	9	5	$d_1 + 2$	$d_1 + 15$	7 ± 1	V	55 VA V	
		49	9,5	13	5	$d_1 + 2$	$d_1 + 15$	11 ± 1	R	55 VS R	
		49	9,5	13	5	$d_1 + 2$	$d_1 + 15$	11 ± 1	V	55 VS V	
58	63	54	5,5	9	5	$d_1 + 2$	$d_1 + 15$	7 ± 1	R	60 VA R	
		54	5,5	9	5	$d_1 + 2$	$d_1 + 15$	7 ± 1	V	60 VA V	
		54	9,5	13	5	$d_1 + 2$	$d_1 + 15$	11 ± 1	R	60 VS R	
		54	9,5	13	5	$d_1 + 2$	$d_1 + 15$	11 ± 1	V	60 VS V	
63	68	58	5,5	9	5	$d_1 + 2$	$d_1 + 15$	7 ± 1	R	65 VA R	
		58	5,5	9	5	$d_1 + 2$	$d_1 + 15$	7 ± 1	V	65 VA V	
		58	9,5	13	5	$d_1 + 2$	$d_1 + 15$	11 ± 1	R	65 VS R	
		58	9,5	13	5	$d_1 + 2$	$d_1 + 15$	11 ± 1	V	65 VS V	
68	73	63	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	R	70 VA R	
		63	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	V	70 VA V	
		63	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	R	70 VS R	
		63	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	V	70 VS V	
73	78	67	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	R	75 VA R	
		67	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	R	75 VS R	
		67	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	V	75 VS V	
78	83	72	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	R	80 VA R	
		72	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	V	80 VA V	
		72	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	R	80 VS R	
		72	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	V	80 VS V	
83	88	76	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	R	85 VA R	
		76	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	V	85 VA V	
		76	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	R	85 VS R	
		76	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	V	85 VS V	
88	93	81	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	R	90 VA R	
		81	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	V	90 VA V	
		81	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	R	90 VS R	
		81	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	V	90 VS V	
93	98	85	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	R	95 VA R	
		85	6,8	11	6	$d_1 + 3$	$d_1 + 18$	$9 \pm 1,2$	V	95 VA V	
		85	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	R	95 VS R	
		85	11,3	15,5	6	$d_1 + 3$	$d_1 + 18$	$13,5 \pm 1,2$	V	95 VS V	

Dimensions		Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation
Shaft diameter range d ₁ over	incl.									
mm										
98	105	90	6,8	11	6	d ₁ +3	d ₁ +18	9 ± 1,2	R	100 VA R
		90	6,8	11	6	d ₁ +3	d ₁ +18	9 ± 1,2	V	100 VA V
		90	11,3	15,5	6	d ₁ +3	d ₁ +18	13,5 ± 1,2	R	100 VS R
		90	11,3	15,5	6	d ₁ +3	d ₁ +18	13,5 ± 1,2	V	100 VS V
105	115	99	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	110 VL R
		99	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	110 VL V
		99	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	R	110 VA R
		99	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	V	110 VA V
		99	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	R	110 VS R
		99	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	V	110 VS V
115	125	108	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	120 VL R
		108	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	120 VL V
		108	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	R	120 VA R
		108	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	V	120 VA V
		108	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	R	120 VS R
		108	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	V	120 VS V
125	135	117	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	130 VL R
		117	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	130 VL V
		117	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	R	130 VA R
		117	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	V	130 VA V
		117	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	R	130 VS R
		117	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	V	130 VS V
135	145	126	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	140 VL R
		126	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	140 VL V
		126	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	R	140 VA R
		126	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	V	140 VA V
		126	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	R	140 VS R
		126	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	V	140 VS V
145	155	135	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	150 VL R
		135	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	150 VL V
		135	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	R	150 VA R
		135	7,9	12,8	7	d ₁ +4	d ₁ +21	10,5 ± 1,5	V	150 VA V
		135	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	R	150 VS R
		135	13,1	18	7	d ₁ +4	d ₁ +21	15,5 ± 1,5	V	150 VS V
155	165	144	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	160 VL R
		144	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	160 VL V
		144	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	R	160 VA R
		144	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	V	160 VA V
		144	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	R	160 VS R
		144	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	V	160 VS V
165	175	153	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	170 VL R
		153	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	170 VL V
		153	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	R	170 VA R
		153	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	V	170 VA V
		153	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	R	170 VS R
		153	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	V	170 VS V
175	185	162	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	180 VL R
		162	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	180 VL V
		162	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	R	180 VA R
		162	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	V	180 VA V
		162	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	R	180 VS R
		162	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	V	180 VS V
185	195	171	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	190 VL R
		171	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	190 VL V
		171	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	R	190 VA R
		171	9	14,5	8	d ₁ +4	d ₁ +24	12 ± 1,8	V	190 VA V
		171	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	R	190 VS R
		171	15	20,5	8	d ₁ +4	d ₁ +24	18 ± 1,8	V	190 VS V

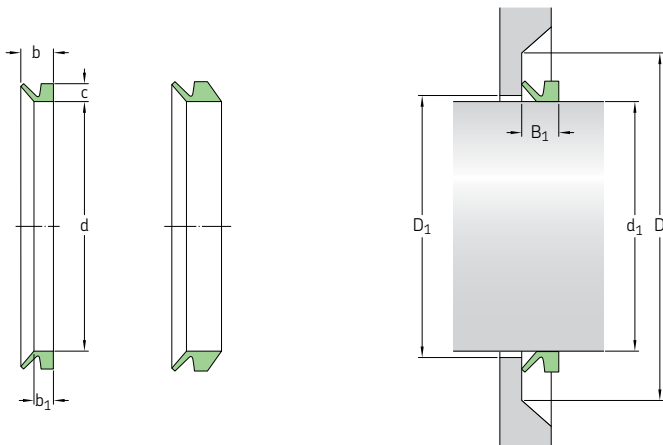
V-ring seals – metric dimensions, d_1 190 – 395 mm



Dimensions		Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
Shaft diameter range d_1 over	incl.									
mm										
195	210	182	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	200 VL R
		182	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	200 VL V
		180	9	14,5	8	$d_1 + 4$	$d_1 + 24$	$12 \pm 1,8$	R	199 VA R
		180	9	14,5	8	$d_1 + 4$	$d_1 + 24$	$12 \pm 1,8$	V	199 VA V
		180	15	20,5	8	$d_1 + 4$	$d_1 + 24$	$18 \pm 1,8$	R	199 VS R
		180	15	20,5	8	$d_1 + 4$	$d_1 + 24$	$18 \pm 1,8$	V	199 VS V
190	210	180	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	200 VA R
		180	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	200 VA V
210	233	198	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	220 VL R
		198	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	220 VL V
		198	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	220 VA R
		198	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	220 VA V
233	260	225	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	250 VL R
		225	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	250 VL V
235	265	225	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	250 VA R
		225	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	250 VA V
260	285	247	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	275 VL R
		247	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	275 VL V
265	290	247	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	275 VA R
		247	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	275 VA V
285	310	270	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	300 VL R
		270	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	300 VL V
290	310	270	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	300 VA R
		270	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	300 VA V
300	305	294	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	300 VE R
		294	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	300 VRME R
305	310	299	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	305 VE R
		299	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	305 VRME R
310	335	292	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	325 VL R
		292	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	325 VL V

Dimensions		Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation
Shaft diameter range d ₁ over	incl.									
mm										
310 cont.	335	292	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	325 VA R 325 VA V
		292	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	
310	315	304	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	310 VE R 310 VRME R
		304	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
315	320	309	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	315 VE R 315 VRME R
		309	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
320	325	314	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	320 VE R 320 VRME R
		314	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
325	330	319	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	325 VE R 325 VRME R
		319	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
330	335	323	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	330 VE R 330 VRME R
		323	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
335	365	315	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	350 VL R 350 VL V 350 VA R 350 VA V
		315	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	
		315	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	
		315	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	
335	340	328	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	335 VE R 335 VRME R
		328	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
340	345	333	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	340 VE R 340 VRME R
		328	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
345	350	338	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	345 VE R 345 VRME R
		338	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
350	355	343	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	350 VE R 350 VRME R
		343	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
355	360	347	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	355 VE R 355 VRME R
		347	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
360	365	352	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	360 VE R 360 VRME R
		357	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
365	385	337	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	375 VL R 375 VL V
		337	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	
365	390	337	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	375 VA R 375 VA V
		337	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	
365	370	357	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	365 VE R
370	375	362	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	370 VE R 370 VRME R
		362	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
375	380	367	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	375 VE R 375 VRME R
		367	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
380	385	371	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	380 VE R 380 VRME R
		371	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
385	410	360	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	400 VL R 400 VL V
		360	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	
390	430	360	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	400 VA R 400 VA V
		360	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	
385	390	376	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	385 VE R 385 VRME R
		376	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
390	395	381	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	390 VE R 390 VRME R
		381	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	

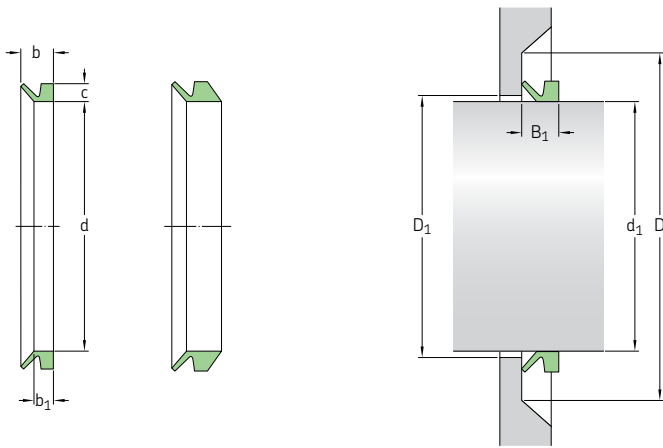
V-ring seals – metric dimensions, d_1 395 – 540 mm



Dimensions		Shaft diameter range d_1 over	incl.	Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
mm												
395	400	386		386	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	395 VE R
		386		386	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	395 VRME R
400	405	391		391	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	400 VE R
		391		391	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	400 VRME R
405	410	396		396	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	405 VE R
		396		396	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	405 VRME R
410	415	401		401	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	410 VE R
		401		401	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	410 VRME R
415	420	405		405	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	415 VE R
		405		405	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	415 VRME R
420	425	410		410	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	420 VE R
		410		410	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	420 VRME R
425	430	415		415	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	425 VE R
		415		415	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	425 VRME R
410	440	382		382	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	425 VL R
		382		382	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	425 VL V
440	475	405		405	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	450 VL R
		405		405	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	450 VL V
430	480	405		405	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	450 VA R
		405		405	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	450 VA V
430	435	420		420	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	430 VE R
		420		420	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	430 VRME R
435	440	425		425	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	435 VE R
		425		425	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	435 VRME R
440	445	429		429	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	440 VE R
		429		429	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	440 VRME R
445	450	434		434	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	445 VE R
		434		434	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	445 VRME R

Dimensions		Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation
Shaft diameter range d ₁ over	incl.									
mm									–	–
450	455	439	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	450 VE R
		439	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	450 VRME R
455	460	444	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	455 VE R
		444	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	455 VRME R
460	465	448	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	460 VE R
		448	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	460 VRME R
465	470	453	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	465 VE R
		453	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	465 VRME R
470	475	458	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	470 VE R
		458	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	470 VRME R
475	480	463	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	475 VE R
		463	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	475 VRME R
475	510	450	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	500 VL R
		450	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	500 VL V
510	540	472	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	525 VL R
		472	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	525 VL V
480	530	450	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	500 VA R
		450	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	500 VA V
480	485	468	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	480 VE R
		468	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	480 VRME R
485	490	473	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	485 VE R
		473	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	485 VRME R
490	495	478	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	490 VE R
		478	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	490 VRME R
495	500	483	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	495 VE R
		483	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	495 VRME R
500	505	488	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	500 VE R
		488	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	500 VRME R
505	510	493	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	505 VE R
		493	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	505 VRME R
510	515	497	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	510 VE R
		497	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	510 VRME R
515	520	502	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	515 VE R
		502	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	515 VRME R
520	525	507	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	520 VE R
		507	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	520 VRME R
525	530	512	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	525 VE R
		512	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	525 VRME R
540	575	495	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	550 VL R
		495	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	550 VL V
530	580	495	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	550 VA R
		495	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	550 VA V
530	535	517	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	530 VE R
		517	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	530 VRME R
535	540	521	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	535 VE R
		521	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	535 VRME R

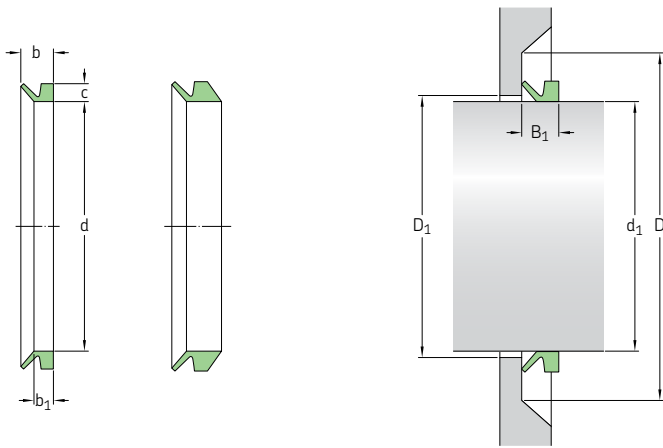
V-ring seals – metric dimensions, d_1 540 – 758 mm



Dimensions		Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
Shaft diameter range d_1 over	incl.									
mm										
540	545	526	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	540 VE R
		526	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	540 VRME R
545	550	531	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	545 VE R
		531	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	545 VRME R
550	555	536	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	550 VE R
		536	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	550 VRME R
555	560	541	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	555 VE R
		541	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	555 VRME R
560	565	546	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	560 VE R
		546	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	560 VRME R
565	570	550	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	565 VE R
		550	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	565 VRME R
570	575	555	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	570 VE R
		555	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	570 VRME R
575	580	560	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	575 VE R
		560	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	575 VRME R
575	625	540	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	600 VL R
		540	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	600 VL V
580	630	540	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	600 VA R
		540	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	600 VA V
580	585	565	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	580 VE R
		565	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	580 VRME R
585	590	570	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	585 VE R
		570	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	585 VRME R
590	600	575	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	590 VE R
		575	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	590 VRME R
600	610	582	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	600 VE R
		582	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	600 VRME R

Dimensions		Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation	
Shaft diameter range d ₁ over	incl.										
mm										–	–
610	620	592	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	610 VE R 610 VRME R	
		592	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
620	630	602	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	620 VE R 620 VRME R	
		602	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
615	675	600	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	650 VL R 650 VL V	
		600	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V		
630	665	600	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	650 VA R 650 VA V	
		600	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V		
630	640	612	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	630 VE R 630 VRME R	
		612	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
640	650	621	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	640 VE R 640 VRME R	
		621	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
650	660	631	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	650 VE R 650 VRME R	
		631	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
660	670	640	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	660 VE R 660 VRME R	
		640	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
675	710	630	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	700 VL R 700 VL V	
		630	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V		
665	705	630	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	700 VA R 700 VA V	
		630	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V		
670	680	650	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	670 VE R 670 VRME R	
		650	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
680	690	660	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	680 VE R 680 VRME R	
		660	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
690	700	670	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	690 VE R 690 VRME R	
		670	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
700	710	680	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	700 VE R 700 VRME R	
		680	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
710	740	670	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	725 VL R 725 VL V	
		670	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V		
705	745	670	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	725 VA R 725 VA V	
		670	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V		
710	720	689	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	710 VE R 710 VRME R	
		689	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
720	730	699	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	720 VE R 720 VRME R	
		699	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
730	740	709	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	730 VE R 730 VRME R	
		709	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
740	750	718	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	740 VE R 740 VRME R	
		718	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		
740	775	705	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	750 VL R 750 VL V	
		705	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V		
745	785	705	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	750 VA R 750 VA V	
		705	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V		
750	758	728	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	750 VE R 750 VRME R	
		728	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R		

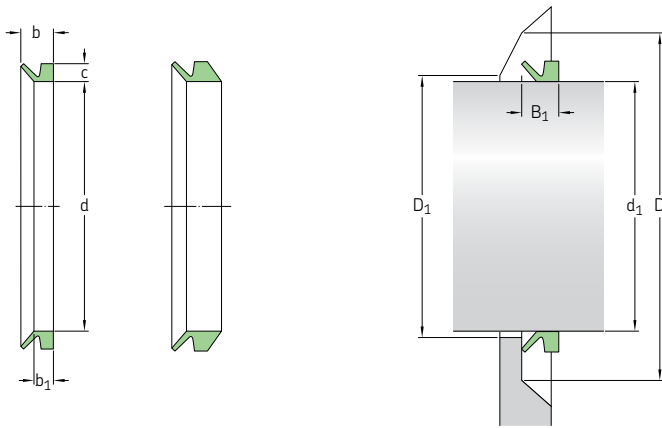
V-ring seals – metric dimensions, d_1 758 – 1 065 mm



Dimensions		Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
Shaft diameter range d_1 over	incl.									
mm										
758	766	735	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	760 VE R
		735	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	760 VRME R
766	774	743	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	770 VE R
		743	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	770 VRME R
774	783	751	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	780 VE R
		751	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	780 VRME R
783	792	759	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	790 VE R
		759	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	790 VRME R
775	825	745	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	800 VL R
		745	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	800 VL V
785	830	745	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	800 VA R
		745	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	800 VA V
792	801	768	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	800 VE R
		768	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	800 VRME R
801	810	777	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	810 VE R
		777	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	810 VRME R
810	821	786	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	820 VE R
		786	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	820 VRME R
821	831	796	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	830 VE R
		796	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	830 VRME R
825	875	785	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	850 VL R
		785	6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	850 VL V
830	875	785	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	850 VA R
		785	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	V	850 VA V
831	841	805	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	840 VE R
		805	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	840 VRME R
841	851	814	32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	850 VE R
		814	32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	850 VRME R

Dimensions		Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation
Shaft diameter range d ₁ over	incl.									
mm									–	–
851	861	824	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	860 VE R 860 VRME R
		824	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
861	871	833	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	870 VE R 870 VRME R
		833	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
871	882	843	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	880 VE R 880 VRME R
		843	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
875	925	825	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	900 VL R 900 VL V
		825	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	
875	920	825	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	900 VA R 900 VA V
		825	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	
882	892	853	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	890 VE R 890 VRME R
		853	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
892	912	871	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	900 VE R 900 VRME R
		871	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
912	922	880	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	920 VE R 920 VRME R
		880	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
925	975	865	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	950 VL R 950 VL V
		865	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	
920	965	865	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	950 VA R 950 VA V
		865	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	
922	933	890	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	930 VE R 930 VRME R
		890	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
933	944	900	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	940 VE R 940 VRME R
		900	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
944	955	911	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	950 VE R 950 VRME R
		911	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
955	966	921	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	960 VE R 960 VRME R
		921	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
975	1025	910	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	1000 VL R 1000 VL V
		910	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	
965	1015	910	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	1000 VA R 1000 VA V
		910	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	V	
966	977	932	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	970 VE R 970 VRME R
		932	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
977	988	942	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	980 VE R 980 VRME R
		942	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
988	999	953	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	990 VE R 990 VRME R
		953	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
999	1 010	963	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	1000 VE R 1000 VRME R
		963	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
1 010	1 025	973	32,5	65	30	d ₁ +24	d ₁ +115	50 ± 12	R	1020 VE R 1020 VRME R
		973	32,5	65	21	d ₁ +24	d ₁ +115	50 ± 12	R	
1 025	1 075	955	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	R	1050 VL R 1050 VL V
		955	6	10,5	6,5	d ₁ +5	d ₁ +20	8 ± 1,5	V	
1 015	1 065	955	14,3	25	15	d ₁ +10	d ₁ +45	20 ± 4	R	1050 VA R

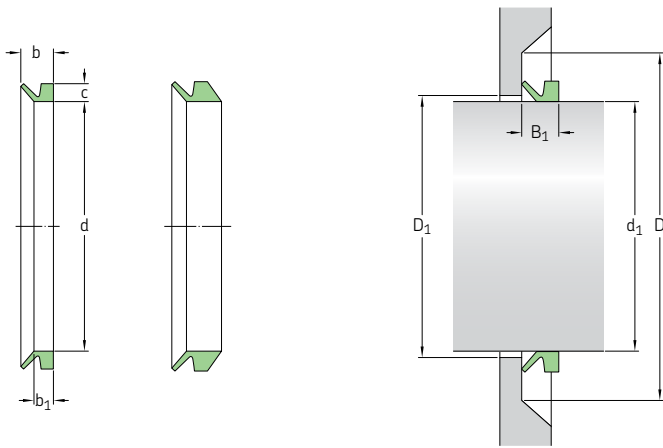
V-ring seals – metric dimensions, d_1 1 025 – 1 515 mm



Dimensions		Shaft diameter range d_1 over	incl.	Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
mm												
1 025	1 045	990		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1040 VE R	
		990		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1040 VRME R	
1 045	1 065	1 008		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1060 VE R	
		1 008		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1060 VRME R	
1 075	1 125	1 000		6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	1100 VL R	
		1 000		6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	1100 VL V	
1 065	1 115	1 000		14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1100 VA R	
1 065	1 085	1 027		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1080 VE R	
		1 027		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1080 VRME R	
1 085	1 105	1 045		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1100 VE R	
		1 045		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1100 VRME R	
1 105	1 125	1 065		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1120 VE R	
		1 065		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1120 VRME R	
1 125	1 175	1 045		6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	1150 VL R	
		1 045		6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	1150 VL V	
1 115	1 165	1 045		14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1150 VA R	
1 125	1 145	1 084		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1140 VE R	
		1 084		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1140 VRME R	
1 145	1 165	1 103		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1160 VE R	
		1 103		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1160 VRME R	
1 175	1 225	1 090		6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	R	1200 VL R	
		1 090		6	10,5	6,5	$d_1 + 5$	$d_1 + 20$	$8 \pm 1,5$	V	1200 VL V	
1 165	1 215	1 090		14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1200 VA R	
1 165	1 185	1 121		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1180 VE R	
		1 121		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1180 VRME R	
1 185	1 205	1 139		32,5	65	30	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1200 VE R	
		1 139		32,5	65	21	$d_1 + 24$	$d_1 + 115$	50 ± 12	R	1200 VRME R	

Dimensions		Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation
Shaft diameter range d ₁ over	incl.									
mm										
1 205	1 225	1 157 1 157	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1220 VE R 1220 VRME R
1 225	1 275	1 135 1 135	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1250 VL R 1250 VL V
1 215	1 270	1 135	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1250 VA R
1 225	1 245	1 176 1 176	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1240 VE R 1240 VRME R
1 245	1 270	1 195 1 195	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1260 VE R 1260 VRME R
1 270	1 295	1 218 1 218	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1280 VE R 1280 VRME R
1 275	1 325	1 180 1 180	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1300 VL R 1300 VL V
1 270	1 320	1 180	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1300 VA R
1 295	1 315	1 240 1 240	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1300 VE R 1300 VRME R
1 315	1 340	1 259 1 259	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1325 VE R 1325 VRME R
1 325	1 375	1 225 1 225	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1350 VL R 1350 VL V
1 320	1 370	1 225	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1350 VA R
1 340	1 365	1 281 1 281	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1350 VE R 1350 VRME R
1 365	1 390	1 305 1 305	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1375 VE R 1375 VRME R
1 375	1 425	1 270 1 270	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1400 VL R 1400 VL V
1 370	1 420	1 270	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1400 VA R
1 390	1 415	1 328 1 328	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1400 VE R 1400 VRME R
1 415	1 440	1 350 1 350	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1425 VE R 1425 VRME R
1 425	1 475	1 315 1 315	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1450 VL R 1450 VL V
1 420	1 470	1 315	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1450 VA R
1 440	1 465	1 374 1 374	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1450 VE R 1450 VRME R
1 465	1 490	1 397 1 397	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1475 VE R 1475 VRME R
1 475	1 525	1 360 1 360	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1500 VL R 1500 VL V
1 470	1 520	1 360	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1500 VA R
1 490	1 515	1 419 1 419	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1500 VE R 1500 VRME R

V-ring seals – metric dimensions, d_1 1 515 – 2 020 mm



Dimensions		Seal inside diameter, free state d	Seal seat width b_1	Nominal seal width b	Nominal seal height c	Clearance D_1 max	Counterface D min	Seal fitted width B_1	Lip code	Designation
Shaft diameter range d_1 over	incl.									
mm										
1 515	1 540	1 443 1 443	32,5 32,5	65 65	30 21	$d_1 + 24$ $d_1 + 24$	$d_1 + 115$ $d_1 + 115$	50 ± 12 50 ± 12	R R	1525 VE R 1525 VRME R
1 525	1 575	1 405 1 405	6 6	10,5 10,5	6,5 6,5	$d_1 + 5$ $d_1 + 5$	$d_1 + 20$ $d_1 + 20$	$8 \pm 1,5$ $8 \pm 1,5$	R V	1550 VL R 1550 VL V
1 520	1 570	1 405	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1550 VA R
1 540	1 570	1 467 1 467	32,5 32,5	65 65	30 21	$d_1 + 24$ $d_1 + 24$	$d_1 + 115$ $d_1 + 115$	50 ± 12 50 ± 12	R R	1550 VE R 1550 VRME R
1 570	1 600	1 495 1 495	32,5 32,5	65 65	30 21	$d_1 + 24$ $d_1 + 24$	$d_1 + 115$ $d_1 + 115$	50 ± 12 50 ± 12	R R	1575 VE R 1575 VRME R
1 575	1 625	1 450 1 450	6 6	10,5 10,5	6,5 6,5	$d_1 + 5$ $d_1 + 5$	$d_1 + 20$ $d_1 + 20$	$8 \pm 1,5$ $8 \pm 1,5$	R V	1600 VL R 1600 VL V
1 570	1 620	1 450	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1600 VA R
1 600	1 640	1 524 1 524	32,5 32,5	65 65	30 21	$d_1 + 24$ $d_1 + 24$	$d_1 + 115$ $d_1 + 115$	50 ± 12 50 ± 12	R R	1600 VE R 1600 VRME R
1 625	1 675	1 495 1 495	6 6	10,5 10,5	6,5 6,5	$d_1 + 5$ $d_1 + 5$	$d_1 + 20$ $d_1 + 20$	$8 \pm 1,5$ $8 \pm 1,5$	R V	1650 VL R 1650 VL V
1 620	1 670	1 495	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1650 VA R
1 640	1 680	1 559 1 559	32,5 32,5	65 65	30 21	$d_1 + 24$ $d_1 + 24$	$d_1 + 115$ $d_1 + 115$	50 ± 12 50 ± 12	R R	1650 VE R 1650 VRME R
1 675	1 725	1 540 1 540	6 6	10,5 10,5	6,5 6,5	$d_1 + 5$ $d_1 + 5$	$d_1 + 20$ $d_1 + 20$	$8 \pm 1,5$ $8 \pm 1,5$	R V	1700 VL R 1700 VL V
1 670	1 720	1 540	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1700 VA R
1 680	1 720	1 596 1 596	32,5 32,5	65 65	30 21	$d_1 + 24$ $d_1 + 24$	$d_1 + 115$ $d_1 + 115$	50 ± 12 50 ± 12	R R	1700 VE R 1700 VRME R
1 725	1 775	1 585 1 585	6 6	10,5 10,5	6,5 6,5	$d_1 + 5$ $d_1 + 5$	$d_1 + 20$ $d_1 + 20$	$8 \pm 1,5$ $8 \pm 1,5$	R V	1750 VL R 1750 VL V
1 720	1 770	1 585	14,3	25	15	$d_1 + 10$	$d_1 + 45$	20 ± 4	R	1750 VA R

Dimensions		Shaft diameter range d ₁ over incl.	Seal inside diameter, free state d	Seal seat width b ₁	Nominal seal width b	Nominal seal height c	Clearance D ₁ max	Counterface D min	Seal fitted width B ₁	Lip code	Designation
mm										-	-
1 720	1 765	1 632 1 632	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1750 VE R 1750 VRME R	
1 765	1 810	1 671 1 671	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1800 VE R 1800 VRME R	
1 775	1 825	1 630 1 630	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1800 VL R 1800 VL V	
1 770	1 820	1 630	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1800 VA R	
1 810	1 855	1 714 1 714	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1850 VE R 1850 VRME R	
1 825	1 875	1 675 1 675	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1850 VL R 1850 VL V	
1 820	1 870	1 675	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1850 VA R	
1 855	1 905	1 753 1 753	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1900 VE R 1900 VRME R	
1 875	1 925	1 720 1 720	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1900 VL R 1900 VL V	
1 870	1 920	1 720	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1900 VA R	
1 905	1 955	1 794 1 794	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	1950 VE R 1950 VRME R	
1 925	1 975	1 765 1 765	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	1950 VL R 1950 VL V	
1 920	1 970	1 765	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	1950 VA R	
1 955	2 010	1 844 1 844	32,5 32,5	65 65	30 21	d ₁ + 24 d ₁ + 24	d ₁ + 115 d ₁ + 115	50 ± 12 50 ± 12	R R	2000 VE R 2000 VRME R	
1 975	2 025	1 810 1 810	6 6	10,5 10,5	6,5 6,5	d ₁ + 5 d ₁ + 5	d ₁ + 20 d ₁ + 20	8 ± 1,5 8 ± 1,5	R V	2000 VL R 2000 VL V	
1 970	2 020	1 810	14,3	25	15	d ₁ + 10	d ₁ + 45	20 ± 4	R	2000 VA R	

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