

V-RINGS

V-RING is a full rubber seal for rotary shafts. The V-Ring is normally stretched and mounted directly on the shaft, where it is positioned by the inherent tension of the rubber body. It rotates with the shaft and seals axially against a stationary counterface, at right angles to the shaft (fig 1). No special demands are placed on the surface finish of the shaft seating since they have an interference fit on the shaft and rotate with it. Misalignment of the shaft with respect to the counterface (fig 2) can be tolerated and V-rings also provide reliable sealing if the shaft is out-of-round or rotates eccentrically (fig 3).

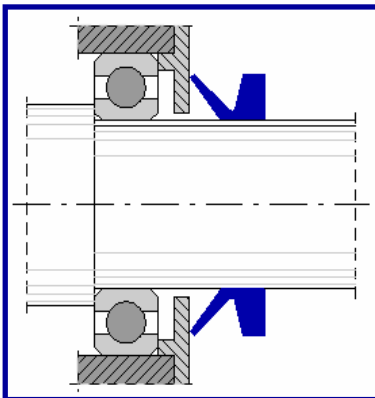


FIG . 1

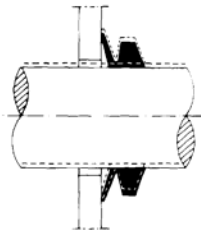


FIG . 2

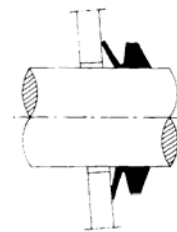


FIG . 3

V-rings are made entirely of elastomer , therefore, they are particularly easy to install. They can be stretched and, depending on size, can be pushed over other components of the arrangement, e.g. flanges, pulleys or even housings.

V-ring seals are suitable for both grease and oil-lubricated applications.

Designs

V-Rings are available in four standard cross-sections to meet various space and application requirements (fig 4).



FIG . 4

VA design

This is the most common design and is available for shaft diameters from 2,7 to 2020 mm, inclusive.

VS design

The body of this V-ring is wide and tapered. This gives the seal a very firm hold on the shaft. Seals of the VS design are available for the most commonly used shaft diameters in the range 4,5 to 210 mm.

VL design

These seals have a very narrow axial cross section making for compact arrangements and are often used in combination with labyrinth seals. They are available for shaft diameters in the range 135 to 630 mm.

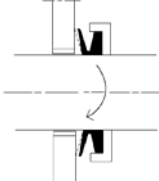
VE design

These V-rings were designed as secondary seals for heavy-duty applications where the primary seal has to be protected against water and/or solid contaminants. They have the largest cross section of any V-ring design and also permit the largest axial displacements. They are available in the diameter range 450 to 2010 mm.

Materials

Normally V-rings are made from Nitrile rubber (NBR). This has good resistance to wear as well as to chemicals and can be used for normal operating temperatures. For applications where higher temperatures occur or where aggressive media are present, V-rings made of Viton can be supplied.

Technical Data

	OPERATING CONDITIONS		Guideline values for V-rings	
			NBR	VITON
	Operating temperature, °C		-40 to +120	-30 to +200
	Peripheral speed, m/s		Up to 30	Up to 30
	Pressure acting on seal, MPa		Up to 0,03	Up to 0,03

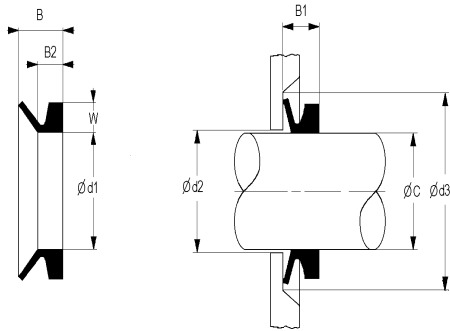
Counterface

Fine turned counterfaces are adequate for V-rings. Recommended surface roughness values are 2,5 µm for Ra and 12 µm for Rt.

Fitting Instructions

V-rings seals are elastic and may be stretched to enable them to be pushed over other components, so that mounting is a simple operation. A special tool may be used to push the seal to its position at a predetermined distance from the counterface.

V-Ring VA

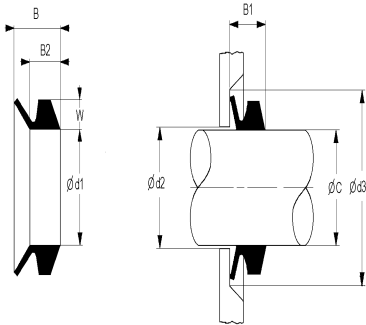


Reference Code		Shaft Diameter Diametro Albero Ø C mm.	Seal Anello Ø d1 mm.	Seal Dimensions Dimensioni Anello			Mounting Dimensions Quote di Montaggio		
				W	B2	B	Ø d2	Ø d3	B1
				mm.	mm.	mm.	mm.	mm.	mm.
VA	0003	2,7 - 3,5	2,5	1,5	2,1	3	C + 1	C + 4	2,5 +/- 0,3
VA	0004	3,5 - 4,5	3,2	2	2,4	3,7		C + 6	3 +/- 0,4
VA	0005	4,5 - 5,5	4						
VA	0006	5,5 - 6,5	5						
VA	0007	6,5 - 8,0	6						
VA	0008	8,0 - 9,5	7	2	2,4	3,7	C + 1	C + 6	3 +/- 0,4
VA	0010	9,5 - 11,5	9	3	3,4	5,5	C + 2	C + 9	4,5 +/- 0,6
VA	0012	11,5 - 12,5	10,5						
VA	0013	12,5 - 13,5	11,7						
VA	0014	13,5 - 15,5	12,5						
VA	0016	15,5 - 17,5	14						
VA	0018	17,5 - 19,0	16	3	3,4	5,5		C + 9	4,5 +/- 0,6
VA	0020	19,0 - 21,0	18	4	4,7	7,5		C + 12	6 +/- 0,8
VA	0022	21,0 - 24,0	20						
VA	0025	24,0 - 27,0	22				C + 2		
VA	0028	27,0 - 29,0	25				C + 3		
VA	0030	29,0 - 31,0	27						
VA	0032	31,0 - 33,0	29						
VA	0035	33,0 - 36,0	31						
VA	0038	36,0 - 38,0	34	4	4,7	7,5		C + 12	6 +/- 0,8
VA	0040	38,0 - 43,0	36	5	5,5	9		C + 15	7 +/- 1
VA	0045	43,0 - 48,0	40						
VA	0050	48,0 - 53,0	45						
VA	0055	53,0 - 58,0	49						
VA	0060	58,0 - 63,0	54						
VA	0065	63,0 - 68,0	58	5	5,5	9	C + 3	C + 15	7 +/- 1
VA	0070	68,0 - 73,0	63	6	6,8	11	C + 4	C + 18	9 +/- 1,2
VA	0075	73,0 - 78,0	67						

VA	0080	78,0	-	83,0	72							
VA	0085	83,0	-	88,0	76							
VA	0090	88,0	-	93,0	81							
VA	0095	93,0	-	98,0	85							
VA	0100	98,0	-	105,0	90	6	6,8	11	C+4	C +18	9	+/- 1,2
VA	0110	105,0	-	115,0	99	7	7,9	12,8	C+4	C +21	10,5	+/- 1,6
VA	0120	115,0	-	125,0	108							
VA	0130	125,0	-	135,0	117							
VA	0140	135,0	-	145,0	126							
VA	0150	145,0	-	155,0	135	7	7,9	12,8	C + 4	C +21	10,5	+/- 1,6
VA	0160	155,0	-	165,0	144	8	9	14,5	C + 5	C +24	12,0	+/- 1,8
VA	0170	165,0	-	175,0	153							
VA	0180	175,0	-	185,0	162							
VA	0190	185,0	-	195,0	171							
VA	0199	195,0	-	210,0	180	8	9	14,5	C + 5	C +24	12,0	+/- 1,8
VA	0200	190,0	-	210,0	180	15	14,3	25	C +10	C +45	20,0	+/- 4,0
VA	0220	210,0	-	235,0	198							
VA	0250	235,0	-	265,0	225							
VA	0275	265,0	-	290,0	247							
VA	0300	290,0	-	310,0	270							
VA	0325	310,0	-	335,0	292							
VA	0350	335,0	-	365,0	315							
VA	0375	365,0	-	390,0	337							
VA	0400	390,0	-	430,0	360							
VA	0450	430,0	-	480,0	405							
VA	0500	480,0	-	530,0	450							
VA	0550	530,0	-	580,0	495							
VA	0600	580,0	-	630,0	540	15	14,3	25	C+10	C +45	20,0	+/- 4,0
VA	0650	630,0	-	665,0	600	15	14,3	25	C+10	C +45	20,0	+/- 4,0
VA	0700	665,0	-	705,0	630							
VA	0725	705,0	-	745,0	670							
VA	0750	745,0	-	785,0	705							
VA	0800	785,0	-	830,0	745							
VA	0850	830,0	-	875,0	785							
VA	0900	875,0	-	920,0	825							
VA	0950	920,0	-	965,0	865							
VA	1000	965,0	-	1015,0	910							
VA	1050	1015,0	-	1065,0	955							
VA	1100	1065,0	-	1115,0	1000							
VA	1150	1115,0	-	1165,0	1045							
VA	1200	1165,0	-	1215,0	1090							
VA	1250	1215,0	-	1270,0	1135							
VA	1300	1270,0	-	1320,0	1180							
VA	1350	1320,0	-	1370,0	1225							
VA	1400	1370,0	-	1420,0	1270							
VA	1450	1420,0	-	1470,0	1315							

VA	1500	1470,0	-	1520,0	1360		
VA	1550	1520,0	-	1570,0	1405		
VA	1600	1570,0	-	1620,0	1450		
VA	1650	1620,0	-	1670,0	1495		
VA	1700	1670,0	-	1720,0	1540		
VA	1750	1720,0	-	1770,0	1585		
VA	1800	1770,0	-	1820,0	1630		
VA	1850	1820,0	-	1870,0	1675		
VA	1900	1870,0	-	1920,0	1720		
VA	1950	1920,0	-	1970,0	1765		

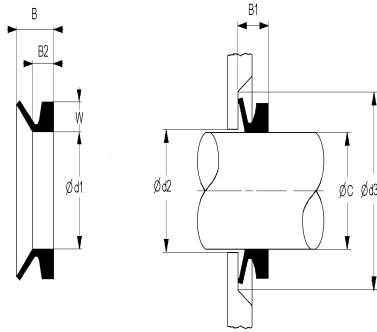
V-Ring VS



Reference Code Codice Riferimento		Shaft Diameter Diametro Albero Ø C mm.		Seal Anello Ø d1 mm.	Seal Dimensions Dimensioni Anello			Mounting Dimensions Quote di Montaggio				
					W mm.	B2 mm.	B mm.	Ø d2 mm.	Ø d3 mm.	B1 mm.		
VS	0005	4,5	- 5,5	4,0	2,0	3,9	5,2	C + 1	C + 6	4,5	+/-	0,4
VS	0006	5,5	- 6,5	5,0								
VS	0007	6,5	- 8,0	6,0								
VS	0008	8,0	- 9,5	7,0	2,0	3,9	5,2	C + 1	C + 6	4,5	+/-	0,4
VS	0010	9,5	- 11,5	9,0	3,0	5,6	7,7	C + 2	C + 9	6,7	+/-	0,6
VS	0012	11,5	- 12,5	10,5								
VS	0013	12,5	- 13,5	11,7								
VS	0014	13,5	- 15,5	12,5								
VS	0016	15,5	- 17,5	14,0								
VS	0018	17,5	- 19,0	16,0	3,0	5,6	7,7	C + 2	C + 9	6,7	+/-	0,6
VS	0020	19,0	- 21,0	18,0	4,0	7,9	10,5		C + 12	9,0	+/-	0,8
VS	0022	21,0	- 24,0	20,0								
VS	0025	24,0	- 27,0	22,0				C + 2				
VS	0028	27,0	- 29,0	25,0				C + 3				
VS	0030	29,0	- 31,0	27,0								
VS	0032	31,0	- 33,0	29,0								
VS	0035	33,0	- 36,0	31,0								
VS	0038	36,0	- 38,0	34,0	4,0	7,9	10,5		C + 12	9,0	+/-	0,8
VS	0040	38,0	- 43,0	36,0	5,0	9,5	13,0		C + 15	11,0	+/-	1,0
VS	0045	43,0	- 48,0	40,0								
VS	0050	48,0	- 53,0	45,0								
VS	0055	53,0	- 58,0	49,0								
VS	0060	58,0	- 63,0	54,0								
VS	0065	63,0	- 68,0	58,0	5,0	9,5	13,0		C + 15	11,0	+/-	1,0
VS	0070	68,0	- 73,0	63,0	6,0	11,3	15,5	C + 4	C + 18	13,5	+/-	1,2
VS	0075	73,0	- 78,0	67,0								
VS	0080	78,0	- 83,0	72,0								

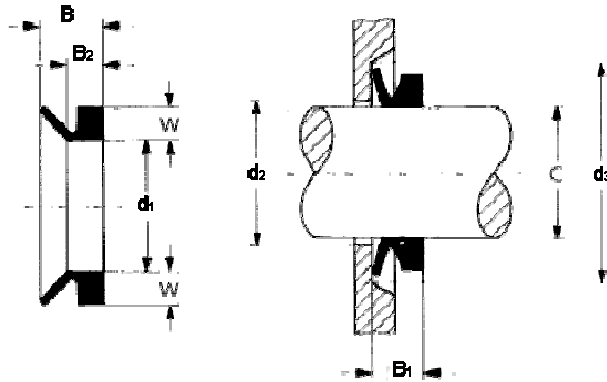
VS	0085	83,0	-	88,0	76,0								
VS	0090	88,0	-	93,0	81,0								
VS	0095	93,0	-	98,0	85,0								
VS	0100	98,0	-	105,0	90,0	6,0	11,3	15,5	C+4	C +18	13,5	+/-	1,2
VS	0110	105,0	-	115,0	99,0	7,0	13,1	18,0	C+4	C +21	15,5	+/-	1,6
VS	0120	115,0	-	125,0	108,0								
VS	0130	125,0	-	135,0	117,0								
VS	0140	135,0	-	145,0	126,0								
VS	0150	145,0	-	155,0	135,0	7,0	13,1	18,0	C+4	C +21	15,5	+/-	1,6
VS	0160	155,0	-	165,0	144,0	8,0	15,0	20,5	C + 5	C +24	18,0	+/-	1,8
VS	0170	165,0	-	175,0	153,0								
VS	0180	175,0	-	185,0	162,0								
VS	0190	185,0	-	195,0	171,0								
VS	0199	195,0	-	210,0	180,0	8,0	15,0	20,5	C + 5	C +24	18,0	+/-	1,8

V-Ring VL



Reference Code Codice Riferimento		Shaft Diameter Diametro Albero Ø C mm.		Seal Anello Ø d1 mm.	Seal Dimensions Dimensioni Anello			Mounting Dimensions Quote di Montaggio				
					W mm.	B2 mm.	B mm.	Ø d2 mm.	Ø d3 mm.	B1 mm.		
										8,0	+/- 1,5	
VL	110	105,0	- 115,0	99,0	6,5	6,0	10,5	C + 5	C + 20	8,0	+/-	1,5
VL	120	115,0	- 125,0	108,0								
VL	130	125,0	- 135,0	116,0								
VL	140	135,0	- 145,0	125,0								
VL	150	145,0	- 155,0	135,0								
VL	160	155,0	- 165,0	144,0								
VL	170	165,0	- 175,0	153,0								
VL	180	175,0	- 185,0	162,0								
VL	190	185,0	- 195,0	171,0								
VL	200	190,0	- 210,0	182,0								
VL	220	210,0	- 235,0	198,0								
VL	250	235,0	- 265,0	225,0								
VL	275	265,0	- 290,0	247,0								
VL	300	290,0	- 310,0	270,0								
VL	325	310,0	- 335,0	292,0								
VL	350	335,0	- 365,0	315,0								
VL	375	365,0	- 390,0	337,0								
VL	400	390,0	- 430,0	360,0								
VL	450	430,0	- 480,0	405,0								
VL	500	480,0	- 530,0	450,0								
VL	550	530,0	- 580,0	485,0								
VL	600	580,0	- 630,0	540,0	6,5	6	10,5	C + 5	C + 20	8	+/-	1,5

V-Ring VE



Reference Code Codice Riferimento	Shaft Diameter Diametro Albero Ø C mm.	Seal Anello Ø d1 mm.	Seal Dimensions Dimensioni Anello			Mounting Dimensions Quote di Montaggio		
			W mm.	B2 mm.	B mm.	Ø d2 mm.	Ø d3 mm.	B1 mm.
VE 450	450 - 455	439	30	32,0	65	C + 24	C + 115	50,0 +/- 12
VE 455	455 - 460	444						
VE 460	460 - 465	448						
VE 465	465 - 470	453						
VE 470	470 - 475	458						
VE 475	475 - 480	463	30	32,0	65	C + 24	C + 115	50,0 +/- 12
VE 480	480 - 485	468						
VE 485	485 - 490	473						
VE 490	490 - 495	478						
VE 495	495 - 500	483						
VE 500	500 - 505	488						
VE 505	505 - 510	493	30	32,0	65	C + 24	C + 115	50,0 +/- 12
VE 510	510 - 515	497						
VE 515	515 - 520	502						
VE 520	520 - 525	507						
VE 525	525 - 530	512						
VE 530	530 - 535	517	30	32,0	65	C + 24	C + 115	50,0 +/- 12
VE 535	535 - 540	521						
VE 540	540 - 545	526						
VE 545	545 - 550	531						
VE 550	550 - 555	536						
VE 555	555 - 560	541	30	32,0	65	C + 24	C + 115	50,0 +/- 12
VE 560	560 - 565	546						
VE 565	565 - 570	550						
VE 570	570 - 575	555						

VE	575	575	580	560	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	580	580	585	565								
VE	585	585	590	570								
VE	590	590	595	575								
VE	600	600	610	582								
VE	610	610	620	592	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	620	620	630	602								
VE	630	630	640	612								
VE	640	640	650	621								
VE	650	650	660	631								
VE	660	660	670	640	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	670	670	680	650								
VE	680	680	690	660								
VE	690	690	700	670								
VE	700	700	710	680								
VE	710	710	720	689	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	720	720	730	699								
VE	730	730	740	709								
VE	740	740	750	718								
VE	750	750	758	728								
VE	760	758	766	735	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	770	766	774	743								
VE	780	774	783	751								
VE	790	783	792	759								
VE	800	792	801	768								
VE	810	801	810	777	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	820	810	821	786								
VE	830	821	831	796								
VE	840	831	841	805								
VE	850	841	851	814								
VE	860	851	861	824	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	870	861	871	833								
VE	880	871	882	843								
VE	890	882	892	853								
VE	900	892	912	871								
VE	920	912	922	880	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	930	922	933	890								
VE	940	933	944	900								
VE	950	944	955	911								
VE	960	955	966	921								
VE	970	966	977	932	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	980	977	988	942								
VE	990	988	999	953								
VE	1000	999	1010	963								
VE	1020	1010	1025	973								
VE	1040	1025	1045	990	30	32,0	65	C + 24	C + 115	50,0	+/-	12

VE	1060	1045	1065	1008								
VE	1080	1065	1085	1027								
VE	1100	1085	1105	1045								
VE	1120	1105	1125	1065								
VE	1140	1125	1145	1084	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	1160	1145	1165	1103								
VE	1180	1165	1185	1121								
VE	1200	1185	1205	1139								
VE	1220	1205	1225	1157								
VE	1240	1225	1245	1176	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	1260	1245	1270	1195								
VE	1280	1270	1295	1218								
VE	1300	1295	1315	1240								
VE	1325	1315	1340	1259								
VE	1350	1340	1365	1281	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	1375	1365	1390	1305								
VE	1400	1390	1415	1328								
VE	1425	1415	1440	1350								
VE	1450	1440	1465	1374								
VE	1475	1465	1490	1397	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	1500	1490	1515	1419								
VE	1525	1515	1540	1443								
VE	1550	1540	1570	1467								
VE	1575	1570	1600	1495								
VE	1600	1600	1640	1524	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	1650	1640	1680	1559								
VE	1700	1680	1720	1596								
VE	1750	1720	1765	1632								
VE	1800	1765	1810	1671								
VE	1850	1810	1855	1714	30	32,0	65	C + 24	C + 115	50,0	+/-	12
VE	1900	1855	1905	1753								
VE	1950	1905	1955	1794								
VE	2000	1955	2010	1844								

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