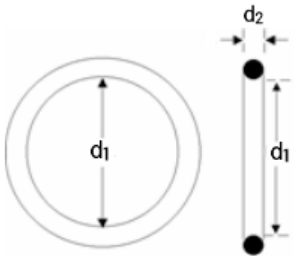
O-ring sizes

O-ring sizes and dimensions BS1806 – AS568A

Measuring an O-RIng



Materials

NBR	FKM/VIT	EPDM
HNBR	FFKM	Neoprene
PTFE	Silicone	Fluorosilicone

Other materials are available on request

Part No. (BS)	1/16" cross section(d_2) 1.78mm ± 0.08mm 0.070" ± 0.003" Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
•001	0.74	0.13	0.029	0.005	1/32	-
•002	1.07	0.13	0.042	0.005	3/64	-
•003	1.42	0.13	0.056	0.005	1/16	-
•606	1.78	0.13	0.070	0.005	5/64	-
004	1.78	0.13	0.070	0.005	5/64	13/64
•607	2.54	0.13	0.100	0.005	-`	-
005	2.54	0.13	0.100	0.005	7/64	15/65
006	2.90	0.13	0.114	0.005	-	-
801	3.14	0.13	0.124	0.005	5/32	9/32
007	3.68	0.13	0.145	0.005	3/16	5/16
008	4.48	0.13	0.176	0.005	7/32	11/32
802	4.76	0.13	0.187	0.005	-	-
009	5.28	0.13	0.208	0.005	7/32	11/32
010	6.07	0.13	0.239	0.005	1/4	3/8
803	6.35	0.13	0.250	0.005	-	-
610	6.75	0.13	0.266	0.005	17/64	-
011	7.66	0.13	0.302	0.005	5/16	7/16
611	8.73	0.13	0.344	0.005	11/32	15/32
012	9.25	0.13	0.364	0.005	3/8	1/2
013	10.82	0.13	0.426	0.005	7/16	9/16
806	11.11	0.13	0.437	0.005	7/16	-
014	12.42	0.13	0.489	0.005	1/2	5/8
015	14.00	0.13	0.551	0.005	9/16	11/16
016	15.60	0.13	0.614	0.005	5/8	3/4
017	17.16	0.13	0.676	0.005	11/16	13/16
018	18.77	0.13	0.739	0.005	3/4	7/8
019	20.35	0.15	0.801	0.006	13/16	15/16
020	21.95	0.15	0.864	0.006	7/8	1
021	23.53	0.15	0.926	0.006	15/16	1.1/16
022	25.12	0.15	0.989	0.006	1	1.1/8
023	26.70	0.15	1.051	0.006	1.1/16	1.3/16
024	28.30	0.15	1.114	0.006	1.1/8	1.1/4
025	29.87	0.15	1.176	0.006	1.3/16	1.5/16
026	31.47	0.15	1.239	0.006	1.1/4	1.3/8
027	33.05	0.15	1.301	0.006	1.5/16	1.7/16
028	34.65	0.15	1.364	0.006	1.3/8	1.1/2
517	36.27	0.38	1.428	0.015	1.7/16	1.9/16
029	37.82	0.25	1.489	0.010	1.1/2	1.5/8

Part No. (BS)	1/16" cross section(d_2) 1.78mm ± 0.08mm 0.070" ± 0.003" Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
519	39.45	0.38	1.553	0.015	1.9/16	1.11/16
030	41.00	0.25	1.614	0.010	1.5/8	1.3/4
031	44.17	0.25	1.739	0.010	1.3/4	1.7/8
032	47.37	0.25	1.865	0.010	1.7/8	2
033	50.52	0.25	1.989	0.010	2	2.1/8
034	53.67	0.25	2.113	0.010	2.1/8	2.1/4
035	56.87	0.25	2.239	0.010	2.1/4	2.3/8
036	60.04	0.25	2.364	0.010	2.3/8	2.1/2
037	63.22	0.25	2.489	0.010	2.1/2	2.5/8
038	66.40	0.25	2.614	0.010	2.5/8	2.3/4
039	69.57	0.25	2.739	0.010	2.3/4	2.7/8
040	72.76	0.38	2.865	0.015	2.7/8	3
041	75.92	0.38	2.989	0.015	3	3.1/8
532	79.00	0.51	3.110	0.020	3.1/8	3.1/4
042	82.28	0.38	3.239	0.015	3.1/4	3.3/8
534	85.34	0.51	3.360	0.020	3.3/8	3.1/2
043	88.62	0.38	3.489	0.015	3.1/2	3.5/8
536	91.70	0.51	3.610	0.020	3.5/8	3.3/4
044	94.97	0.38	3.739	0.015	3.3/4	3.7/8
538	98.05	0.51	3.860	0.020	3.7/8	4
540	104.40	0.51	4.110	0.020	4.1/8	4.1/4
046	107.70	0.38	4.240	0.015	4.1/4	4.3/8
542	110.74	0.51	4.360	0.020	4.3/8	4.1/2
047	114.00	0.38	4.488	0.015	4.1/2	4.5/8
544	117.10	0.51	4.610	0.020	4.5/8	4.3/4
048	120.40	0.38	4.740	0.015	4.3/4	4.7/8
546	123.44	0.51	4.860	0.020	4.7/8	5
049	126.76	0.38	4.991	0.015	5	5.1/8
548	129.40	0.71	5.094	0.028	5.1/8	5.1/4
050	133.07	0.38	5.239	0.015	5.1/4	5.3/8

• Note: cross section diameter	
001 = 1.02 ± 0.07	0.040" ± 0.003"
002 = 1.27 ± 0.07	0.050" ± 0.003"
003 = 1.52 ± 0.07	0.060" ± 0.003"
606 = 1.02 ± 0.07	0.040" ± 0.003"
607 = 1.02 ± 0.07	0.040" ± 0.003"

3/32" cross section(d_2) 2.62mm ± 0.08mm 0.103" ± 0.003"						
Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
102	1.24	0.10	0.049	0.004	1/16	1/4
103	2.06	0.13	0.081	0.005	3/32	9/32
104	2.84	0.13	0.112	0.005	1/8	5/16
105	3.63	0.13	0.143	0.005	5/32	11/32
106	4.42	0.13	0.174	0.005	3/16	3/8
107	5.23	0.13	0.206	0.005	7/32	13/32
108	6.02	0.13	0.237	0.005	1/4	7/16
109	7.60	0.13	0.299	0.005	5/16	1/2
110	9.19	0.13	0.362	0.005	3/8	9/16
613	9.92	0.13	0.391	0.005	25/64	37/64
111	10.78	0.13	0.424	0.005	7/16	5/8
614	11.91	0.13	0.469	0.005	15/32	21/32
112	12.37	0.13	0.487	0.005	1/2	11/16
615	13.10	0.13	0.516	0.005	33/64	45/64
113	13.95	0.13	0.549	0.005	9/16	3/4
616	15.08	0.13	0.594	0.005	19/32	25/32
114	15.54	0.13	0.612	0.005	5/8	13/16
809	15.88	0.13	0.625	0.005	-	-
115	17.13	0.13	0.674	0.005	11/16	7/8
617	17.86	0.13	0.703	0.005	-	-
116	18.72	0.13	0.737	0.005	3/4	15/16
117	20.29	0.15	0.799	0.006	13/16	1
812	20.63	0.15	0.812	0.006	-	-
118	21.89	0.15	0.862	0.006	7/8	1.1/16
813	22.22	0.15	0.875	0.006	-	-
119	23.47	0.15	0.924	0.006	15/16	1.1/8
814	23.81	0.15	0.937	0.006	-	-
120	25.07	0.15	0.987	0.006	1	1.3/16
121	26.64	0.15	1.049	0.006	1.1/16	1.1/4
122	28.25	0.15	1.112	0.006	1.1/8	1.5/16
123	29.82	0.15	1.174	0.006	1.3/16	1.3/8
124	31.42	0.15	1.237	0.006	1.1/4	1.7/16
125	33.00	0.15	1.299	0.006	1.5/16	1.1/2
126	34.59	0.15	1.362	0.006	1.3/8	1.9/16
127	36.17	0.15	1.424	0.006	1.7/16	1.5/8
128	37.77	0.15	1.487	0.006	1.1/2	1.11/16
129	39.34	0.25	1.549	0.010	1.9/16	1.3/4
130	40.95	0.25	1.612	0.010	1.5/8	1.13/16
131	42.52	0.25	1.674	0.010	1.11/16	1.7/8
132	44.12	0.25	1.737	0.010	1.3/4	1.15/16
133	45.69	0.25	1.799	0.010	1.13/16	2
134	47.29	0.25	1.862	0.010	1.7/8	2.1/16
135	48.90	0.25	1.925	0.010	1.15/16	2.1/8
136	50.47	0.25	1.987	0.010	2	2.3/16
137	52.07	0.25	2.050	0.010	2.1/16	2.1/4
138	53.65	0.25	2.112	0.010	2.1/8	2.5/16
139	55.25	0.25	2.175	0.010	2.3/16	2.3/8
140	56.82	0.25	2.237	0.010	2.1/4	2.7/16
141	58.42	0.25	2.300	0.010	2.5/16	2.1/2
142	60.00	0.25	2.362	0.010	2.3/8	2.9/16
143	61.60	0.25	2.425	0.010	2.7/16	2.5/8
144	63.17	0.25	2.487	0.010	2.1/2	2.11/16
145	64.77	0.25	2.550	0.010	2.9/16	2.3/4
146	66.35	0.25	2.612	0.010	2.5/8	2.13/16
147	67.95	0.38	2.675	0.015	2.11/16	2.7/8
148	69.52	0.38	2.737	0.015	2.3/4	2.15/16

3/32" cross section(d_2) 2.62mm ± 0.08mm 0.103" ± 0.003"						
Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
149	71.12	0.38	2.800	0.015	2.13/16	3
150	72.69	0.38	2.862	0.015	2.7/8	3.1/16
640	74.30	0.38	2.925	0.015	2.15/16	3.1/8
151	75.87	0.38	2.987	0.015	3	3.3/16
641	77.50	0.38	3.051	0.015	3.1/16	3.1/4
642	80.60	0.38	3.173	0.015	3.3/16	3.3/8
152	82.22	0.38	3.237	0.015	3.1/4	3.7/16
643	83.80	0.38	3.299	0.015	3.5/16	3.1/2
153	88.57	0.38	3.487	0.015	3.1/2	3.11/16
154	94.93	0.38	3.737	0.015	3.3/4	3.15/16
155	101.27	0.38	3.987	0.015	4	4.3/16
156	107.63	0.38	4.237	0.015	4.1/4	4.7/16
157	113.98	0.38	4.487	0.015	4.1/2	4.11/16
158	120.33	0.38	4.737	0.015	4.3/4	4.15/16
159	126.67	0.38	4.987	0.015	5	5.3/16
160	133.00	0.58	5.236	0.023	5.1/4	5.7/16
161	139.38	0.58	5.487	0.023	5.1/2	5.11/16
162	145.72	0.58	5.737	0.023	5.3/4	5.15/16
163	152.07	0.58	5.987	0.023	6	6.3/16
164	158.41	0.58	6.237	0.023	6.1/4	6.7/16
165	164.78	0.58	6.487	0.023	6.1/2	6.11/16
166	171.13	0.58	6.737	0.023	6.3/4	6.15/16
167	177.47	0.58	6.987	0.023	7	7.3/16
168	183.83	0.76	7.237	0.030	7.1/4	7.7/16
169	190.18	0.76	7.487	0.030	7.1/2	7.11/16
170	196.58	0.76	7.739	0.030	7.3/4	7.15/16
171	202.87	0.76	7.987	0.030	8	8.3/16
172	209.23	0.76	8.237	0.030	8.1/4	8.7/16
173	215.58	0.76	8.487	0.030	8.1/2	8.11/16
174	221.93	0.76	8.737	0.030	8.3/4	8.15/16
175	228.28	0.76	8.987	0.030	9	9.3/16
176	234.63	0.76	9.237	0.030	9.1/4	9.7/16
177	240.98	0.76	9.487	0.030	9.1/2	9.11/16
178	247.33	0.76	9.737	0.030	9.3/4	9.15/16

1/8" cross section(d_2) 3.53mm ± 0.10mm 0.139" ± 0.004"						
Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
201	4.34	0.13	0.171	0.005	3/16	7/16
202	5.94	0.13	0.234	0.005	1/4	1/2
203	7.52	0.13	0.296	0.005	5/16	9/16
204	9.12	0.13	0.359	0.005	3/8	5/8
205	10.69	0.13	0.421	0.005	7/16	11/16
206	12.29	0.13	0.484	0.005	1/2	3/4
207	13.87	0.13	0.546	0.005	9/16	13/16
208	15.47	0.13	0.609	0.005	5/8	7/8
209	17.04	0.13	0.671	0.005	11/16	15/16
210	18.64	0.15	0.734	0.006	3/4	1
211	20.22	0.15	0.796	0.006	13/16	1.1/16
212	21.82	0.15	0.859	0.006	7/8	1.1/8
213	23.40	0.15	0.921	0.006	15/16	1.3/16
214	24.99	0.15	0.984	0.006	1	1.1/4
618	25.80	0.15	1.016	0.006	1.1/64	-
215	26.58	0.15	1.046	0.006	1.1/16	1.5/16

1/8" cross section(d_2) 3.53mm ± 0.10mm 0.139" ± 0.004"						
Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
216	28.17	0.15	1.109	0.006	1.1/8	1.3/8
217	29.75	0.15	1.171	0.006	1.3/16	1.7/16
218	31.34	0.15	1.234	0.006	1.1/4	1.1/2
219	32.92	0.15	1.296	0.006	1.5/16	1.9/16
220	34.52	0.15	1.359	0.006	1.3/8	1.5/8
221	36.10	0.15	1.421	0.006	1.7/16	1.11/16
222	37.69	0.15	1.484	0.006	1.1/2	1.3/4
824	39.69	0.25	1.563	0.010	1.9/16	1.13/16
223	40.87	0.25	1.609	0.010	1.5/8	1.7/8
825	41.28	0.25	1.625	0.010	1.5/8	-
826	42.86	0.25	1.687	0.010	1.11/16	1.15/16
224	44.04	0.25	1.734	0.010	1.3/4	2
827	44.45	0.25	1.750	0.010	-	-
828	46.04	0.25	1.813	0.010	1.13/16	2.1/16
225	47.22	0.25	1.859	0.010	1.7/8	2.1/8
829	47.63	0.25	1.875	0.010	-	-
290	49.21	0.25	1.937	0.010	1.15/16	2.3/16
226	50.40	0.25	1.984	0.010	2	2.1/4
831	50.80	0.25	2.000	0.010	-	-
832	52.39	0.25	2.063	0.010	2.1/16	2.1/8
227	53.57	0.25	2.109	0.010	2.1/8	2.3/8
833	53.98	0.25	2.125	0.010	-	-
834	55.56	0.25	2.187	0.010	2.3/16	2.7/16
228	56.74	0.25	2.234	0.010	2.1/4	2.1/2
835	57.15	0.25	2.250	0.010	-	-
836	58.74	0.25	2.313	0.010	2.5/16	2.9/16
229	59.92	0.25	2.359	0.010	2.3/8	2.5/8
837	60.33	0.25	2.375	0.010	2.3/8	-
838	61.90	0.25	2.437	0.010	2.7/16	2.11/16
230	63.09	0.25	2.484	0.010	2.1/2	2.3/4
839	63.50	0.25	2.500	0.010	-	-
840	65.10	0.25	2.563	0.010	2.9/16	2.13/16
231	66.27	0.25	2.609	0.010	2.5/8	2.7/8
841	66.67	0.38	2.625	0.015	-	-
842	68.26	0.38	2.687	0.015	2.11/16	2.15/16
232	69.44	0.38	2.734	0.015	2.3/4	3
843	69.85	0.38	2.750	0.015	2.13/16	-
832	52.39	0.25	2.063	0.010	2.1/16	2.1/8
227	53.57	0.25	2.109	0.010	2.1/8	2.3/8
833	53.98	0.25	2.125	0.010	-	-
834	55.56	0.25	2.187	0.010	2.3/16	2.7/16
228	56.74	0.25	2.234	0.010	2.1/4	2.1/2
835	57.15	0.25	2.250	0.010	-	-
836	58.74	0.25	2.313	0.010	2.5/16	2.9/16
229	59.92	0.25	2.359	0.010	2.3/8	2.5/8
837	60.33	0.25	2.375	0.010	2.3/8	-
838	61.90	0.25	2.437	0.010	2.7/16	2.11/16
230	63.09	0.25	2.484	0.010	2.1/2	2.3/4
839	63.50	0.25	2.500	0.010	-	-
840	65.10	0.25	2.563	0.010	2.9/16	2.13/16
231	66.27	0.25	2.609	0.010	2.5/8	2.7/8
841	66.67	0.38	2.625	0.015	-	-
842	68.26	0.38	2.687	0.015	2.11/16	2.15/16
232	69.44	0.38	2.734	0.015	2.3/4	3
843	69.85	0.38	2.750	0.015	2.13/16	-

1/8" cross section(d_2) 3.53mm ± 0.10mm 0.139" ± 0.004"						
Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
844	71.44	0.38	2.813	0.015	-	-
233	72.62	0.38	2.859	0.015	2.7/8	3.1/8
845	73.02	0.38	2.875	0.015	-	-
846	74.60	0.38	2.937	0.015	2.15/16	3.3/16
234	75.80	0.38	2.984	0.015	3	3.1/4
235	78.97	0.38	3.109	0.015	3.1/8	3.3/8
236	82.14	0.38	3.234	0.015	3.1/4	3.1/2
237	85.32	0.38	3.359	0.015	3.3/8	3.5/8
238	88.50	0.38	3.484	0.015	3.1/2	3.3/4
239	91.67	0.38	3.609	0.015	3.5/8	3.7/8
240	94.84	0.38	3.734	0.015	3.3/4	4
241	98.02	0.38	3.859	0.015	3.7/8	4.1/8
242	101.20	0.38	3.984	0.015	4	4.1/4
243	104.37	0.38	4.109	0.015	4.1/8	4.3/8
244	107.54	0.38	4.234	0.015	4.1/4	4.1/2
245	110.72	0.38	4.359	0.015	4.3/8	4.5/8
246	113.90	0.38	4.484	0.015	4.1/2	4.3/4
247	117.07	0.38	4.609	0.015	4.5/8	4.7/8
248	120.25	0.38	4.734	0.015	4.3/4	5
249	123.42	0.38	4.859	0.015	4.7/8	5.1/8
250	126.60	0.38	4.984	0.015	5	5.1/4
251	129.77	0.58	5.109	0.023	5.1/8	5.3/8
252	132.94	0.58	5.234	0.023	5.1/4	5.1/2
253	136.12	0.58	5.359	0.023	5.3/8	5.5/8
254	139.30	0.58	5.484	0.023	5.1/2	5.3/4
255	142.47	0.58	5.609	0.023	5.5/8	5.7/8
256	145.65	0.58	5.734	0.023	5.3/4	6
257	148.82	0.58	5.859	0.023	5.7/8	6.1/8
258	151.99	0.58	5.984	0.023	6	6.1/4
259	158.35	0.58	6.234	0.023	6.1/4	6.1/2
260	164.70	0.58	6.484	0.023	6.1/2	6.3/4
261	171.05	0.58	6.734	0.023	6.3/4	7
262	177.40	0.58	6.984	0.023	7	7.1/4
263	183.75	0.76	7.234	0.030	7.1/4	7.1/2
264	190.10	0.76	7.484	0.030	7.1/2	7.3/4
265	196.44	0.76	7.734	0.030	7.3/4	8
266	202.79	0.76	7.984	0.030	8	8.1/4
267	209.14	0.76	8.234	0.030	8.1/4	8.1/2
268	215.49	0.76	8.484	0.030	8.1/2	8.3/4
269	221.84	0.76	8.734	0.030	8.3/4	9
270	228.19	0.76	8.984	0.030	9	9.1/4
271	234.54	0.76	9.234	0.030	9./14	9.1/2
272	240.89	0.76	9.484	0.030	9.1/2	9.3/4
273	247.24	0.76	9.734	0.030	9.3/4	10
274	253.59	0.76	9.984	0.030	10	10.1/4
275	266.30	0.76	10.484	0.030	10.1/2	10.3/4
276	279.00	0.76	10.984	0.030	11	11.1/4
277	291.70	0.76	11.484	0.030	11.1/2	11.3/4
278	304.39	0.76	11.984	0.030	12	12.1/4
279	329.80	0.76	12.984	0.030	13	13.1/4
280	355.20	0.76	13.984	0.030	14	14.1/4
281	380.60	0.76	14.984	0.030	15	15.1/4
282	405.26	0.76	15.955	0.030	16	16.1/4
283	430.66	0.76	16.955	0.030	17	17.1/4
284	456.06	0.76	17.955	0.030	18	18.1/4

3/16" cross section(d_2) 5.34mm ± 0.13mm 0.210" ± 0.005"						
Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
309	10.46	0.13	0.412	0.005	7/16	13/16
310	12.07	0.13	0.475	0.005	1/2	7/8
311	13.64	0.13	0.537	0.005	9/16	15/16
312	15.24	0.13	0.600	0.005	5/8	1
313	16.81	0.13	0.662	0.005	11/16	1.1/16
314	18.42	0.13	0.725	0.005	3/4	1.1/8
315	19.99	0.15	0.787	0.006	13/16	1.3/16
316	21.59	0.15	0.850	0.006	7/8	1.1/4
317	23.16	0.15	0.912	0.006	15/16	1.5/16
318	24.77	0.15	0.975	0.006	1	1.3/8
319	26.34	0.15	1.037	0.006	1.1/16	1.7/16
320	27.94	0.15	1.100	0.006	1.1/8	1.1/2
321	29.51	0.15	1.162	0.006	1.3/16	1.9/16
322	31.12	0.15	1.225	0.006	1.1/4	1.5/8
323	32.69	0.15	1.287	0.006	1.5/16	1.11/16
324	34.29	0.15	1.350	0.006	1.3/8	1.3/4
325	37.47	0.25	1.475	0.010	1.1/2	1.7/8
326	40.65	0.25	1.600	0.010	1.5/8	2
327	43.82	0.25	1.725	0.010	13/4	2.1/8
328	47.00	0.25	1.850	0.010	1.7/8	2.1/4
329	50.16	0.25	1.975	0.010	2	2.3/8
330	53.34	0.25	2.100	0.010	2.1/8	2.1/2
331	56.52	0.25	2.225	0.010	2.1/4	2.5/8
332	59.70	0.25	2.350	0.010	2.3/8	2.3/4
333	62.87	0.25	2.475	0.010	2.1/2	2.7/8
334	66.04	0.25	2.600	0.010	2.5/8	3
335	69.22	0.38	2.725	0.015	2.3/4	3.1/8
336	72.40	0.38	2.850	0.015	2.7/8	3.1/4
619	74.63	0.38	2.938	0.015	2.15/16	3.5/16
337	75.57	0.38	2.975	0.015	3	3.3/8
338	78.74	0.38	3.100	0.015	3.1/8	3.1/2
620	79.77	0.38	3.141	0.015	-	-
339	81.92	0.38	3.225	0.015	3.1/4	3.5/8
340	85.09	0.38	3.350	0.015	3.3/8	3.3/4
341	88.27	0.38	3.475	0.015	3.1/2	3.7/8
621	89.69	0.38	3.531	0.015	3.9/16	3.15/16
342	91.44	0.38	3.600	0.015	3.5/8	4
343	94.62	0.38	3.725	0.015	3.3/4	4.1/8
344	97.80	0.38	3.850	0.015	3.7/8	4.1/4
622	100.00	0.38	3.937	0.015	3.15/16	4.5/16
345	100.97	0.38	3.975	0.015	4	4.3/8
346	104.14	0.38	4.100	0.015	4.1/8	4.1/2
347	107.32	0.38	4.225	0.015	4.1/4	4.5/8
623	109.54	0.38	4.313	0.015	-	-
348	110.49	0.38	4.350	0.015	4.3/8	4.3/4
349	113.67	0.38	4.475	0.015	4.1/2	4.7/8
350	116.84	0.38	4.600	0.015	4.5/8	5
350A	117.48	0.38	4.625	0.015	-	-
351	120.02	0.38	4.725	0.015	4.3/4	5.1/8
351A	120.70	0.38	4.752	0.015	-	-
352	123.20	0.38	4.850	0.015	4.7/8	5.1/4
352A	123.80	0.38	4.874	0.015	-	-
353	126.37	0.38	4.975	0.015	5	5.3/8
353A	127.00	0.58	5.000	0.023	-	-
354	129.54	0.58	5.100	0.023	5.1/8	5.1/2

3/16" cross section(d_2) 5.34mm ± 0.13mm 0.210" ± 0.005"						
Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
354A	130.18	0.58	5.125	0.023	-	-
355	132.72	0.58	5.225	0.023	5.1/4	5.5/8
355A	133.35	0.58	5.250	0.023	-	-
356	135.90	0.58	5.350	0.023	5.3/8	5.3/4
356A	136.53	0.58	5.375	0.023	-	-
357	139.07	0.58	5.475	0.023	5.1/2	5.7/8
357A	139.70	0.58	5.500	0.023	-	-
358	142.24	0.58	5.600	0.023	5.5/8	6
358A	142.88	0.58	5.625	0.023	-	-
359	145.42	0.58	5.725	0.023	5.3/4	6.1/8
359A	146.05	0.58	5.750	0.023	-	-
360	184.60	0.58	7.268	0.023	5.7/8	6.1/4
360A	149.23	0.58	5.875	0.023	-	-
361	151.77	0.58	5.975	0.023	6	6.3/8
361A	155.00	0.58	6.102	0.023	6.1/8	6.1/2
362	158.12	0.58	6.225	0.023	6.1/4	6.5/8
362A	161.30	0.58	6.350	0.023	6.3/8	6.3/4
363	164.47	0.58	6.475	0.023	6.1/2	6.5/8
363A	167.70	0.58	6.602	0.023	6.5/8	7
364	170.82	0.58	6.725	0.023	6.3/4	7.1/8
365	177.17	0.58	6.975	0.023	7	7.3/8
366	183.52	0.58	7.225	0.023	7.1/4	7.5/8
367	189.87	0.58	7.475	0.023	7.1/2	7.7/8
368	196.22	0.58	7.725	0.023	7.3/4	8.1/8
369	202.57	0.76	7.975	0.030	8	8.3/8
370	208.92	0.76	8.225	0.030	8.1/4	8.5/8
371	215.27	0.76	8.475	0.030	8.1/2	8.7/8
372	221.62	0.76	8.725	0.030	8.3/4	9.1/8
373	227.97	0.76	8.975	0.030	9	9.3/8
374	234.32	0.76	9.225	0.030	9.1/4	9.5/8
375	240.67	0.76	9.475	0.030	9.1/2	9.7/8
376	247.02	0.76	9.725	0.030	9.3/4	10.1/8
377	253.37	0.76	9.975	0.030	10	10.3/8
378	266.07	0.76	10.475	0.030	10.1/2	10.7/8
379	278.77	0.76	10.975	0.030	11	11.3/8
380	291.47	0.76	11.475	0.030	11.1/2	11.7/8
381	304.17	0.76	11.975	0.030	12	12.3/8
382	329.57	0.76	12.975	0.030	13	13.3/8
383	354.97	0.76	13.975	0.030	14	14.3/8
384	380.37	0.76	14.975	0.030	15	15.3/8
385	405.26	1.14	15.955	0.045	16	16.3/8
386	430.66	1.14	16.955	0.045	17	17.3/8
387	456.06	1.14	17.955	0.045	18	18.3/8
388	481.46	1.14	18.955	0.045	19	19.3/8
389	506.81	1.14	19.953	0.045	20	20.3/8
390	532.20	1.14	20.953	0.045	21	21.3/8
391	557.60	1.14	21.953	0.045	22	22.3/8
392	582.68	1.52	22.940	0.060	23	23.3/8
393	608.08	1.52	23.940	0.060	24	24.3/8
394	633.48	1.52	24.940	0.060	25	25.3/8
395	658.88	1.52	25.940	0.060	26	26.3/8

Part No. (BS)	1/4" cross section(d_2) 6.99mm ± 0.15mm 0.275" ± 0.006" Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
425	113.67	0.38	4.475	0.015	4.1/2	5
624	114.70	0.38	4.516	0.015	4.9/16	5.1/16
426	116.84	0.38	4.600	0.015	4.5/8	5.1/8
427	120.02	0.38	4.725	0.015	4.3/4	5.1/4
428	123.20	0.38	4.850	0.015	4.7/8	5.3/8
625	124.60	0.38	4.906	0.015	-	-
429	126.37	0.38	4.975	0.015	5	5.1/2
430	129.54	0.58	5.100	0.023	5.1/8	5.5/8
431	132.72	0.58	5.225	0.023	5.1/4	5.3/4
626	134.50	0.58	5.295	0.023	-	-
432	135.90	0.58	5.350	0.023	5.3/8	5.7/8
433	139.07	0.58	5.475	0.023	5.1/2	6
434	142.24	0.58	5.600	0.023	5.5/8	6.1/8
435	145.42	0.58	5.725	0.023	5.3/4	6.1/4
436	148.60	0.58	5.850	0.023	5.7/8	6.3/8
437	151.77	0.58	5.975	0.023	6	6.1/2
872	155.60	0.58	6.126	0.023	6.1/8	6.5/8
438	158.12	0.58	6.225	0.023	6.1/4	6.3/4
627	159.50	0.58	6.280	0.023	-	-
874	161.90	0.58	6.374	0.023	-	-
439	164.47	0.58	6.475	0.023	6.1/2	7
628	166.70	0.58	6.563	0.023	6.9/16	7.1/16
876	168.30	0.58	6.626	0.023	6.5/8	7.1/8
440	170.82	0.58	6.725	0.023	6.3/4	7.1/4
878	174.60	0.58	6.874	0.023	-	-
441	177.17	0.58	6.975	0.023	7	7.1/2
441A	181.00	0.76	7.126	0.030	-	-
442	183.52	0.76	7.225	0.030	7.1/4	7.3/4
442A	187.30	0.76	7.374	0.030	7.3/8	7.7/8
443	189.87	0.76	7.475	0.030	7.1/2	8
443A	193.70	0.76	7.626	0.030	7.5/8	8.1/8
444	196.22	0.76	7.725	0.030	7.3/4	8.1/4
444A	199.80	0.76	7.866	0.030	7.7/8	8.3/8
445	202.57	0.76	7.975	0.030	8	8.1/2
445A	208.92	0.76	8.225	0.030	8.1/4	8.3/4
446	215.27	0.76	8.475	0.030	8.1/2	9
446A	221.62	0.76	8.725	0.030	8.3/4	9.1/4
343	94.62	0.38	3.725	0.015	3.3/4	4.1/8
344	97.80	0.38	3.850	0.015	3.7/8	4.1/4
622	100.00	0.38	3.937	0.015	3.15/16	4.5/16
345	100.97	0.38	3.975	0.015	4	4.3/8
346	104.14	0.38	4.100	0.015	4.1/8	4.1/2
347	107.32	0.38	4.225	0.015	4.1/4	4.5/8
623	109.54	0.38	4.313	0.015	-	-
348	110.49	0.38	4.350	0.015	4.3/8	4.3/4
349	113.67	0.38	4.475	0.015	4.1/2	4.7/8
350	116.84	0.38	4.600	0.015	4.5/8	5
350A	117.48	0.38	4.625	0.015	-	-
351	120.02	0.38	4.725	0.015	4.3/4	5.1/8
351A	120.70	0.38	4.752	0.015	-	-
352	123.20	0.38	4.850	0.015	4.7/8	5.1/4
352A	123.80	0.38	4.874	0.015	-	-
353	126.37	0.38	4.975	0.015	5	5.3/8
353A	127.00	0.58	5.000	0.023	-	-
354	129.54	0.58	5.100	0.023	5.1/8	5.1/2
447	227.97	0.76	8.940	0.030	9	9.1/2
447A	234.32	0.76	9.189	0.030	9.1/4	9.3/4
448	240.67	0.76	9.438	0.030	9.1/2	10
448A	247.00	0.76	9.686	0.030	9.3/4	10.1/4

Part No. (BS)	1/4" cross section(d_2) 6.99mm ± 0.15mm 0.275" ± 0.006" Internal diameter (d_1) mm	Tol ±	Inch	Tol ±	Nominal size Shaft	Bore
449	253.57	0.76	9.944	0.030	10	10.1/2
449A	259.70	0.76	10.184	0.030	10.1/4	10.3/4
450	266.07	0.76	10.434	0.030	10.1/2	11
450A	272.40	0.76	10.682	0.030	10.3/4	11.1/4
451	278.77	0.76	10.932	0.030	11	11.1/2
451A	285.10	0.76	11.180	0.030	11.1/4	11.3/4
452	291.47	0.76	11.430	0.030	11.1/2	12
452A	297.80	0.76	11.678	0.030	11.3/4	12.1/4
453	304.17	0.76	11.928	0.030	12	12.1/2
453A	310.50	0.76	12.176	0.030	12.1/4	12.3/4
454	316.87	0.76	12.426	0.030	12.1/2	13
455	329.57	0.76	12.924	0.030	13	13.1/2
456	342.27	0.76	13.422	0.030	13.1/2	14
457	354.97	0.76	13.920	0.030	14	14.1/2
458	367.67	0.76	14.418	0.030	14.1/2	15
459	380.37	0.76	14.916	0.030	15	15.1/2
460	393.07	0.76	15.415	0.030	15.1/2	16
461	405.26	1.14	15.893	0.045	16	16.1/2
462	417.96	1.14	16.391	0.045	16.1/2	17
463	430.66	1.14	16.889	0.045	17	17.1/2
464	443.36	1.14	17.387	0.045	17.1/2	18
465	456.06	1.14	17.885	0.045	18	18.1/2
466	468.76	1.14	18.383	0.045	18.1/2	19
467	481.46	1.14	18.881	0.045	19	19.1/2
468	494.16	1.14	19.379	0.045	19.1/2	20
469	506.86	1.14	19.877	0.045	20	20.1/2
470	532.26	1.14	20.873	0.045	21	21.1/2
471	557.66	1.14	21.869	0.045	22	22.1/2
472	582.68	1.52	22.850	0.060	23	23.1/2
473	608.08	1.52	23.846	0.060	24	24.1/2
474	633.48	1.52	24.842	0.060	25	25.1/2
475	658.88	1.52	25.838	0.060	26	26.1/2

O-rings for pipe gaskets

Part No. (BS)	Internal diameter (d_1) mm	Tol ±	Inch	Tube size inch	Cross section mm	Tol ±
901	4.70	0.13	0.185	3/32	1.42	0.08
902	6.07	0.13	0.239	1/8	1.63	0.08
903	7.65	0.13	0.301	3/16	1.63	0.08
904	8.92	0.13	0.351	1/4	1.83	0.08
905	10.52	0.13	0.414	5/16	1.83	0.08
906	11.89	0.13	0.468	3/8	1.98	0.08
907	13.46	0.13	0.530	7/16	2.08	0.08
908	16.36	0.23	0.644	1/2	2.20	0.08
909	17.93	0.23	0.706	9/16	2.46	0.08
910	19.18	0.23	0.755	5/8	2.46	0.08
911	21.92	0.23	0.863	11/16	2.95	0.10
912	23.47	0.23	0.924	3/4	2.95	0.10
913	25.04	0.23	0.986	13/16	2.95	0.10
914	26.62	0.23	1.048	7/8	2.95	0.10
916	29.74	0.23	1.171	1	2.95	0.10
918	34.42	0.23	1.355	1.1/8	2.95	0.10
920	37.47	0.23	1.475	1.1/4	3.00	0.10
924	43.69	0.23	1.720	1.1/2	3.00	0.10
928	53.09	0.23	2.090	1.3/4	3.00	0.10
932	59.36	0.23	2.337	2	3.00	0.10

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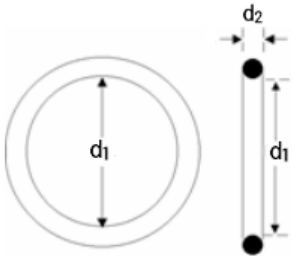
O-ring sizes

O-ring sizes and dimensions BS4518

Measuring an O-RIng



Materials		
NBR	FKM/VIT	EPDM
HNBR	FFKM	Neoprene
PTFE	Silicone	Fluorosilicone

Other materials are available on request

Part No	Internal dia (d_1) (d_2) 1.6 ± 0.08mm	Tol±
0031-16	3.1	0.15
0041-16	4.1	0.15
0051-16	5.1	0.15
0061-16	6.1	0.15
0071-16	7.1	0.15
0081-16	8.1	0.15
0091-16	9.1	0.15
0101-16	10.1	0.20
0111-16	11.1	0.20
0121-16	12.1	0.20
0131-16	13.1	0.20
0141-16	14.1	0.20
0151-16	15.1	0.20
0161-16	16.1	0.20
0171-16	17.1	0.20
0181-16	18.1	0.25
0191-16	19.1	0.25
0221-16	22.1	0.25
0251-16	25.1	0.25
0271-16	27.1	0.25
0291-16	29.1	0.25
0321-16	32.1	0.30
0351-16	35.1	0.30
0371-16	37.1	0.30

(d_2) 2.4± 0.08mm		
0036-24	3.6	0.15
0046-24	4.6	0.15
0056-24	5.6	0.15
0066-24	6.6	0.15
0076-24	7.6	0.15
0086-24	8.6	0.15
0096-24	9.6	0.15
0106-24	10.6	0.20
0116-24	11.6	0.20
0126-24	12.6	0.20
0136-24	13.6	0.20
0146-24	14.6	0.20
0156-24	15.6	0.20
0166-24	16.6	0.20
0176-24	17.6	0.20

Part No	Internal dia (d_1) (d_2) 2.4± 0.08mm	Tol±
0186-24	18.6	0.25
0196-24	19.6	0.25
0216-24	21.6	0.25
0246-24	24.6	0.25
0276-24	27.6	0.25
0296-24	29.6	0.25
0316-24	31.6	0.30
0346-24	34.6	0.30
0376-24	37.6	0.30
0396-24	39.6	0.30
0416-24	41.6	0.30
0446-24	44.6	0.30
0476-24	47.6	0.30
0496-24	49.6	0.30
0516-24	51.6	0.40
0546-24	54.6	0.40
0576-24	57.6	0.40
0596-24	59.6	0.40
0616-24	61.6	0.40
0646-24	64.6	0.40
0676-24	67.6	0.40
0696-24	69.6	0.40

(d_2) 3.0 ± 0.10mm		
0195-30	19.5	0.25
0215-30	21.5	0.25
0225-30	22.5	0.25
0245-30	24.5	0.25
0255-30	25.5	0.25
0265-30	26.5	0.25
0275-30	27.5	0.25
0295-30	29.5	0.25
0315-30	31.5	0.30
0325-30	32.5	0.30
0345-30	34.5	0.30
0355-30	35.5	0.30
0365-30	36.5	0.30
0375-30	37.5	0.30
0395-30	39.5	0.30
0415-30	41.5	0.30
0425-30	42.5	0.30

Part No	Internal dia (d_1) (d_2) 3.0 ± 0.10mm	Tol±
0445-30	44.5	0.30
0495-30	49.5	0.30
0545-30	54.5	0.40
0595-30	59.5	0.40
0645-30	64.5	0.40
0695-30	69.5	0.40
0745-30	74.5	0.40
0795-30	79.5	0.40
0845-30	84.5	0.50
0895-30	89.5	0.50
0945-30	94.5	0.50
0995-30	99.5	0.50
1045-30	104.5	0.50
1095-30	109.5	0.50
1145-30	114.5	0.50
1195-30	119.5	0.50
1245-30	124.5	0.60
1295-30	129.5	0.60
1345-30	134.5	0.60
1395-30	139.5	0.60
1445-30	144.5	0.60
1495-30	149.5	0.60
1545-30	154.5	0.60
1595-30	159.5	0.60
1645-30	164.5	0.60
1695-30	169.5	0.60
1745-30	174.5	0.60
1795-30	179.5	0.60
1845-30	184.5	0.80
1895-30	189.5	0.80
1945-30	194.5	0.80
1995-30	199.5	0.80
2095-30	209.5	0.80
2195-30	219.5	0.80
2295-30	229.5	0.80
2395-30	239.5	0.80
2495-30	249.5	0.80

(d_2) 5.7 ± 0.12mm		
0443-57	44.3	0.30
0453-57	45.3	0.30

Part No	Internal dia (d_1) (d_2) 5.7 ± 0.12mm	Tol±
0493-57	49.3	0.30
0523-57	52.3	0.40
0543-57	54.3	0.40
0593-57	59.3	0.40
0623-57	62.3	0.40
0643-57	64.3	0.40
0693-57	69.3	0.40
0743-57	74.3	0.40
0793-57	79.3	0.40
0843-57	84.3	0.50
0893-57	89.3	0.50
0943-57	94.3	0.50
0993-57	99.3	0.50
1043-57	104.3	0.50
1093-57	109.3	0.50
1143-57	114.3	0.50
1193-57	119.3	0.50
1243-57	124.3	0.60
1293-57	129.3	0.60
1343-57	134.3	0.60
1393-57	139.3	0.60
1443-57	144.3	0.60
1493-57	149.3	0.60
1543-57	154.3	0.60
1593-57	159.3	0.60
1643-57	164.3	0.60
1693-57	169.3	0.60
1743-57	174.3	0.60
1793-57	179.3	0.80
1843-57	184.3	0.80
1893-57	189.3	0.80
1943-57	194.3	0.80
1993-57	199.3	0.80
2093-57	209.3	0.80
2193-57	219.3	0.80
2293-57	229.3	0.80
2393-57	239.3	0.80
2493-57	249.3	0.80
2593-57	259.3	1.00
2693-57	269.3	1.00
2793-57	279.3	1.00

Part No	Internal dia (d_1) (d_2) 5.7 ± 0.12mm	Tol±
2993-57	299.3	1.00
3193-57	319.3	1.50
3393-57	339.3	1.50
3593-57	359.3	1.50
3793-57	379.3	1.50
3993-57	399.3	1.50
4193-57	419.3	2.00
4393-57	439.3	2.00
4593-57	459.3	2.00
4793-57	479.3	2.00
4993-57	499.3	2.00

(d_2) 8.4± 0.15mm		
1441-84	144.1	0.60
1491-84	149.1	0.60
1541-84	154.1	0.60
1591-84	159.1	0.60
1641-84	164.1	0.60
1741-84	174.1	0.60
1791-84	179.1	0.60
1841-84	184.1	0.80
1891-84	189.1	0.80
1941-84	194.1	0.80
1991-84	199.1	0.80
2041-84	204.1	0.80
2091-84	209.1	0.80
2191-84	219.1	0.80
2291-84	229.1	0.80
2341-84	234.1	0.80
2391-84	239.1	0.80
2491-84	249.1	0.80

German metric

Part No	Internal dia (d_1) (d_2) 1.0 ± 0.08mm	Tol±
0020-10	2.0	0.15
0030-10	3.0	0.15
0035-10	3.5	0.15
0040-10	4.0	0.15
0050-10	5.0	0.15
0060-10	6.0	0.15
0070-10	7.0	0.15
0080-10	8.0	0.15
0090-10	9.0	0.15
0100-10	10.0	0.15
0110-10	11.0	0.20
0120-10	12.0	0.20
0130-10	13.0	0.20
0140-10	14.0	0.20
0150-10	15.0	0.20
0160-10	16.0	0.20
0170-10	17.0	0.20
0180-10	18.0	0.20
0190-10	19.0	0.25
0200-10	20.0	0.25
0220-10	22.0	0.25
0230-10	23.0	0.25
0240-10	24.0	0.25
0260-10	26.0	0.25
0280-10	28.0	0.25
0300-10	30.0	0.25
0320-10	32.0	0.30
0340-10	34.0	0.30
0380-10	38.0	0.30
0400-10	40.0	0.30

(d_2) 1.5 ± 0.08mm		
0020-15	2.0	0.15
0025-15	2.5	0.15
0030-15	3.0	0.15
0035-15	3.5	0.15
0040-15	4.0	0.15
0050-15	5.0	0.15
0060-15	6.0	0.15
0070-15	7.0	0.15
0080-15	8.0	0.15
0090-15	9.0	0.15
0100-15	10.0	0.15
0110-15	11.0	0.20
0120-15	12.0	0.20
0130-15	13.0	0.20
0140-15	14.0	0.20
0150-15	15.0	0.20
0160-15	16.0	0.20
0170-15	17.0	0.20
0180-15	18.0	0.20
0190-15	19.0	0.25
0200-15	20.0	0.25
0210-15	21.0	0.25
0220-15	22.0	0.25
0230-15	23.0	0.25
0240-15	24.0	0.25
0250-15	25.0	0.25
0260-15	26.0	0.25
0270-15	27.0	0.25
0280-15	28.0	0.25
0300-15	30.0	0.25
0310-15	31.0	0.30
0320-15	32.0	0.30
0340-15	34.0	0.30
0350-15	35.0	0.30
0360-15	36.0	0.30
0380-15	38.0	0.30

Part No	Internal dia (d_1) (d_2) 1.5 ± 0.08mm	Tol±
0400-15	40.0	0.30
0410-15	41.0	0.30
0420-15	42.0	0.30
0450-15	45.0	0.30
0470-15	47.0	0.40
0480-15	48.0	0.40
0490-15	49.0	0.40
0500-15	50.0	0.40
0520-15	52.0	0.40
0540-15	54.0	0.40
0570-15	57.0	0.40
0650-15	65.0	0.40

(d_2) 2.0 ± 0.08mm		
0030-20	3.0	0.15
0040-20	4.0	0.15
0050-20	5.0	0.15
0060-20	6.0	0.15
0070-20	7.0	0.15
0080-20	8.0	0.15
0090-20	9.0	0.15
0100-20	10.0	0.15
0110-20	11.0	0.15
0120-20	12.0	0.20
0130-20	13.0	0.20
0140-20	14.0	0.20
0150-20	15.0	0.20
0160-20	16.0	0.20
0170-20	17.0	0.20
0180-20	18.0	0.20
0190-20	19.0	0.20
0200-20	20.0	0.25
0210-20	21.0	0.25
0220-20	22.0	0.25
0230-20	23.0	0.25
0240-20	24.0	0.25
0250-20	25.0	0.25
0260-20	26.0	0.25
0270-20	27.0	0.30
0280-20	28.0	0.30
0290-20	29.0	0.30
0300-20	30.0	0.30
0310-20	31.0	0.30
0320-20	32.0	0.30
0330-20	33.0	0.30
0340-20	34.0	0.30
0350-20	35.0	0.30
0360-20	36.0	0.30
0370-20	37.0	0.30
0380-20	38.0	0.30
0390-20	39.0	0.30
0400-20	40.0	0.30
0410-20	41.0	0.30
0420-20	42.0	0.30
0430-20	43.0	0.30
0440-20	44.0	0.30
0450-20	45.0	0.30
0460-20	46.0	0.30
0470-20	47.0	0.30
0480-20	48.0	0.30
0490-20	49.0	0.30
0500-20	50.0	0.40
0520-20	52.0	0.40
0530-20	53.0	0.40
0540-20	54.0	0.40
0550-20	55.0	0.40
0560-20	56.0	0.40
0570-20	57.0	0.40

Part No	Internal dia (d_1) (d_2) 2.0 ± 0.08mm	Tol±
0580-20	58.0	0.40
0600-20	60.0	0.40
0620-20	62.0	0.40
0680-20	68.0	0.40
0730-20	73.0	0.40
0750-20	75.0	0.40
0800-20	80.0	0.40
0850-20	85.0	0.50
0900-20	90.0	0.50
1000-20	100.0	0.50

(d_2) 2.5 ± 0.08mm		
0030-25	3.0	0.15
0040-25	4.0	0.15
0050-25	5.0	0.15
0060-25	6.0	0.15
0070-25	7.0	0.15
0080-25	8.0	0.15
0090-25	9.0	0.15
0100-25	10.0	0.15
0110-25	11.0	0.20
0120-25	12.0	0.20
0130-25	13.0	0.20
0140-25	14.0	0.20
0150-25	15.0	0.20
0160-25	1.0	0.20
0170-25	17.0	0.20
0180-25	18.0	0.20
0190-25	19.0	0.25
0200-25	20.0	0.25
0210-25	21.0	0.25
0220-25	22.0	0.25
0230-25	23.0	0.25
0240-25	24.0	0.25
0250-25	25.0	0.25
0260-25	26.0	0.25
0270-25	27.0	0.25
0280-25	28.0	0.25
0290-25	29.0	0.25
0300-25	30.0	0.25
0310-25	31.0	0.30
0320-25	32.0	0.30
0330-25	33.0	0.30
0340-25	34.0	0.30
0350-25	35.0	0.30
0360-25	36.0	0.30
0370-25	37.0	0.30
0380-25	38.0	0.30
0390-25	39.0	0.30
0400-25	40.0	0.30
0410-25	41.0	0.30
0420-25	42.0	0.30
0430-25	43.0	0.30
0440-25	44.0	0.30
0450-25	45.0	0.30
0460-25	46.0	0.30
0470-25	47.0	0.30
0480-25	48.0	0.30
0490-25	49.0	0.30
0500-25	50.0	0.40
0520-25	52.0	0.40
0530-25	53.0	0.40
0540-25	54.0	0.40
0550-25	55.0	0.40
0560-25	56.0	0.40
0570-25	57.0	0.40
0580-25	58.0	0.40
0600-25	60.0	0.40

Part No	Internal dia (d_1) (d_2) 2.0 ± 0.08mm	Tol±
0620-25	62.0	0.40
0680-25	68.0	0.40
0730-25	73.0	0.40
0750-25	75.0	0.40
0760-25	76.0	0.40
0780-25	78.0	0.40
0800-25	80.0	0.50
0850-25	85.0	0.50
0900-25	90.0	0.50
0950-25	95.0	0.50
1000-25	100.0	0.50

(d_2) 3.0 ± 0.08mm		
0040-30	4.0	0.15
0050-30	5.0	0.15
0060-30	6.0	0.15
0070-30	7.0	0.15
0080-30	8.0	0.15
0090-30	9.0	0.15
0100-30	10.0	0.15
0110-30	11.0	0.20
0120-30	12.0	0.20
0130-30	13.0	0.20
0140-30	14.0	0.20
0150-30	15.0	0.20
0160-30	16.0	0.20
0170-30	17.0	0.20
0180-30	18.0	0.20
0190-30	19.0	0.25
0200-30	20.0	0.25
0210-30	21.0	0.25
0220-30	22.0	0.25
0230-30	23.0	0.25
0240-30	24.0	0.25
0250-30	25.0	0.25
0260-30	26.0	0.25
0270-30	27.0	0.25
0280-30	28.0	0.25
0290-30	29.0	0.25
0300-30	30.0	0.30
0310-30	31.0	0.30
0320-30	32.0	0.30
0340-30	34.0	0.30
0350-30	35.0	0.30
0360-30	36.0	0.30
0370-30	37.0	0.30
0380-30	38.0	0.30
0390-30	39.0	0.30
0400-30	40.0	0.30
0410-30	41.0	0.30
0420-30	42.0	0.30
0430-30	43.0	0.30
0440-30	44.0	0.30
0450-30	45.0	0.30
0460-30	46.0	0.30
0470-30	47.0	0.30
0480-30	48.0	0.30
0500-30	50.0	0.40
0510-30	51.0	0.40
0520-30	52.0	0.40
0530-30	53.0	0.40
0540-30	54.0	0.40
0550-30	55.0	0.40
0560-30	56.0	0.40
0570-30	57.0	0.40
0580-30	58.0	0.40
0590-30	59.0	0.40
0600-30	60.0	0.40

Part No	Internal dia (d_1) (d_2) 3.0 ± 0.08mm	Tol±
0620-30	62.0	0.40
0630-30	63.0	0.40
0640-30	64.0	0.40
0650-30	65.0	0.40
0660-30	66.0	0.40
0670-30	67.0	0.40
0680-30	68.0	0.40
0690-30	69.0	0.40
0700-30	70.0	0.40
0710-30	71.0	0.40
0720-30	72.0	0.40
0730-30	73.0	0.40
0740-30	74.0	0.40
0750-30	75.0	0.40
0760-30	76.0	0.40
0780-30	78.0	0.40
0800-30	80.0	0.50
0820-30	82.0	0.50
0830-30	83.0	0.50
0840-30	84.0	0.50
0850-30	85.0	0.50
0860-30	86.0	0.50
0800-30	80.0	0.50
0890-30	89.0	0.50
0900-30	90.0	0.50
0950-30	95.0	0.50
1000-30	100.0	0.50
1050-30	105.0	0.50
1100-30	110.0	0.50
1150-30	115.0	0.50
1200-30	120.0	0.60
1250-30	125.0	0.60
1300-30	130.0	0.60
1350-30	135.0	0.60
1400-30	140.0	0.60
1450-30	145.0	0.60
1500-30	150.0	0.60
1550-30	155.0	0.60
1600-30	160.0	0.60
1650-30	165.0	0.60
1700-30	170.0	0.60
1750-30	175.0	0.60
1800-30	180.0	0.80
1850-30	185.0	0.80
1900-30	190.0	0.80

Part No	Internal dia (d_1) (d_2) 3.0 ± 0.08mm	Tol±
1950-30	195.0	0.80
2000-30	200.0	0.80
2050-30	205.0	0.80
2100-30	210.0	0.80
2200-30	220.0	0.80
2300-30	230.0	0.80
2400-30	240.0	0.80
2500-30	250.0	0.80

(d_2) 4.0 ± 0.10mm		
0100-40	10	0.20
0110-40	11	0.20
0120-40	12	0.20
0130-40	13	0.20
0140-40	14	0.20
0150-40	15	0.20
0160-40	16	0.20
0170-40	17	0.20
0180-40	18	0.20
0190-40	19	0.25
0200-40	20	0.25
0210-40	21	0.25
0220-40	22	0.25
0230-40	23	0.25
0240-40	24	0.25
0250-40	25	0.25
0260-40	26	0.25
0270-40	27	0.25
0280-40	28	0.25
0300-40	30	0.25
0310-40	31	0.30
0320-40	32	0.30
0330-40	33	0.30
0340-40	34	0.30
0350-40	35	0.30
0360-40	36	0.30
0380-40	38	0.30
0400-40	40	0.30
0450-40	45	0.30
0460-40	46	0.30
0470-40	47	0.30
0480-40	48	0.30
0490-40	49	0.30
0500-40	50	0.40
0520-40	52	0.40

Part No	Internal dia (d_1) (d_2) 4.0 ± 0.10mm	Tol±
0540-40	54	0.40
0550-40	55	0.40
0560-40	56	0.40
0570-40	57	0.40
0580-40	58	0.40
0590-40	59	0.40
0600-40	60	0.40
0650-40	65	0.40
0700-40	70	0.40
0730-40	73	0.40
0750-40	75	0.40
0800-40	80	0.40
0850-40	85	0.50
0900-40	90	0.50
0920-40	92	0.50
0950-40	95	0.50
1000-40	100	0.50
1100-40	110	0.50
1300-40	130	0.60
1400-40	140	0.60
1460-40	146	0.60

(d_2) 5.0 ± 0.13mm		
0080-50	8	0.20
0090-50	9	0.20
0100-50	10	0.20
0110-50	11	0.20
0120-50	12	0.20
0130-50	13	0.20
0140-50	14	0.20
0150-50	15	0.20
0160-50	16	0.20
0170-50	17	0.20
0180-50	18	0.20
0190-50	19	0.25
0200-50	20	0.25
0210-50	21	0.25
0220-50	22	0.25
0230-50	23	0.25
0240-50	24	0.25
0250-50	25	0.25
0270-50	27	0.25
0280-50	28	0.25
0300-50	30	0.30
0330-50	33	0.30

Part No	Internal dia (d_1) (d_2) 4.0 ± 0.10mm	Tol±
0340-50	34	0.30
0350-50	35	0.30
0360-50	36	0.30
0380-50	38	0.30
0400-50	40	0.30
0420-50	42	0.30
0450-50	45	0.30
0480-50	48	0.30
0500-50	50	0.40
0520-50	52	0.40
0530-50	53	0.40
0550-50	55	0.40
0570-50	57	0.40
0590-50	59	0.40
0600-50	60	0.40
0650-50	65	0.40
0700-50	70	0.40
0750-50	75	0.40
0800-50	80	0.40
0850-50	85	0.50
0900-50	90	0.50
0950-50	95	0.50
1000-50	100	0.50

(d_2) 6.0 ± 0.15mm		
0150-60	15	0.20
0180-60	18	0.20
0200-60	20	0.25
0210-60	21	0.25
0250-60	25	0.25
0300-60	30	0.30
0400-60	40	0.30
0450-60	45	0.30
0500-60	50	0.40
0550-60	55	0.40
0600-60	60	0.40
0700-60	70	0.40

French Metric

Part No	Internal dia (d_1) (d_2) 3.0 ± 0.08mm	Tol±
0026-19 (R1)	2.6	0.15
0034-19 (R2)	3.4	0.15
0042-19 (R3)	4.2	0.15
0049-19 (R4)	4.9	0.15
0057-19 (R5)	5.7	0.15
0064-19 (R6A)	6.4	0.15
0072-19 (R6)	7.2	0.15
0080-19 (R6A)	8	0.15
0089-19 (R7)	8.9	0.15

Part No	Internal dia (d_1) (d_2) 3.0 ± 0.08mm	Tol±
0089-27 (R8)	8.9	0.15
0105-27 (R9)	10.5	0.20
0121-27 (R10)	12.1	0.20
0136-27 (R11)	13.6	0.20
0151-27 (R12)	15.1	0.20
0169-27 (R13)	16.9	0.20
0184-27 (R14)	18.4	0.20
0294-27 (R14A)	29.4	0.20

Part No	Internal dia (d_1) (d_2) 3.0 ± 0.08mm	Tol±
0183-36 (R15)	18.3	0.25
0198-36 (R16)	19.8	0.25
0213-36 (R17)	21.3	0.25
0230-36 (R18)	23	0.25
0246-36 (R19)	24.6	0.25
0262-36 (R20)	26.2	0.25
0278-36 (R21)	27.8	0.25
0293-36 (R22)	29.3	0.25
0308-36 (R23)	30.8	0.30
0325-36 (R24)	32.5	0.30

Part No	Internal dia (d_1) (d_2) 3.0 ± 0.08mm	Tol±
0341-36 (R25)	34.1	0.30
0356-36 (R26)	35.6	0.30
0373-36 (R27)	37.3	0.30

Overview of O-ring materials

Material	Shore hardness	Temperature °C	Colour	Characteristics
NBR	60,70, 80 and 90	-30 to +100	Black	Good chemical resistance to mineral oils and greases, hydrauli oils (H,HL,HLP), flame-resistant pressure fluids HFA and HFB. HFC up to approx. 50°C and water upto a maximum of 80°C
EPDM SULPHUR CURED	60,70,80	-45 to +130	Black	Very good stability in hot water and steam, washing lyes, caustic soda and caustic potash, silicone oils and greases, many diluted acids and bases Resistance to Ozone Incompatiable with mineral oils
EPDM PEROXIDE CURED		-50 to +150		
FKM	60,70, 75, 80 and 90	-15 to +200	Black, Brown, Green	Good chemical resistance to synthetic oils and greases, motor transmission and ATF oils up to +150°C. Fuels, HFD-flame-resistant pressure fluids, alphatic and aromatic and chlorinated hydrocarbons, mineral oils and greases water to a maximum of +80°C Very good ageing, weathering and ozone resistance. Very low gas permeability, meaning they are well suited for vacuum uses
HNBR	70,80 and 90	-30 to +150	Black	Heat, ozone and ageing stability. Very good mechanical characteristics such as wear resistance. Media resistance is comparable to that of NBR
VMQ	60,70 and 80	-55 to +200	Red-brown	Good chemical stability in water (up to +100°C), aliphatic engine and transmission oils, animal - and plant-based oils and greases. Not resistant to fuels, aromatic mineral oils, water vapour (short periods up to a maximum of +120°C are possible), silicone oils and greases, along with acids and alkaline compounds
FKM FEP-encapsulated	70	-20 to +205	Transparent / black	
VMQ FEP-encapsulated		-60 to +205	Transparent / red-brown	
PTFE		-55 to +200	White	Good chemical resisitance to aggressive acids, bases, alcohols and oils . Resistance to high and extremely low temperatures

O-Ring tolerances

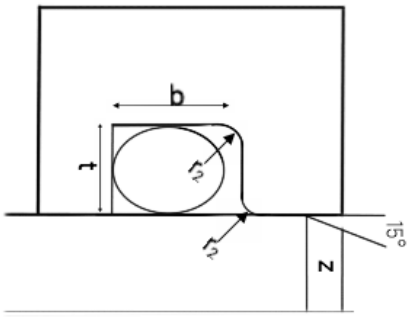
O-ring internal diameter		Tolerance
0.00 to 1.79	±	0.12
1.80 to 2.80	±	0.13
2.81 to 4.00	±	0.14
4.01 to 5.30	±	0.15
5.31 to 7.10	±	0.16
7.11 to 8.50	±	0.17
8.51 to 9.75	±	0.18
9.76 to 11.80	±	0.19
11.81 to 13.20	±	0.21
13.21 to 15.00	±	0.22
15.01 to 16.00	±	0.23
16.01 to 17.00	±	0.24
17.01 to 19.00	±	0.25
19.01 to 20.60	±	0.26
20.61 to 21.20	±	0.27
21.21 to 22.40	±	0.28
22.41 to 23.60	±	0.29
23.61 to 25.00	±	0.30
25.01 to 26.50	±	0.31
26.51 to 28.00	±	0.32
28.01 to 29.00	±	0.33
29.01 to 30.00	±	0.34
30.01 to 31.50	±	0.35
31.51 to 33.50	±	0.36
33.51 to 34.50	±	0.37
34.51 to 36.50	±	0.38
36.51 to 37.50	±	0.39
37.51 to 38.70	±	0.40
40.01 to 41.20	±	0.42
41.21 to 42.50	±	0.43
42.51 to 45.00	±	0.44
45.01 to 46.20	±	0.45
46.21 to 47.50	±	0.46
47.51 to 48.70	±	0.47
48.71 to 50.00	±	0.48
50.01 to 51.50	±	0.49
51.51 to 53.00	±	0.50
53.01 to 54.50	±	0.51
54.51 to 56.00	±	0.52
56.01 to 58.00	±	0.54
58.01 to 60.00	±	0.55
60.01 to 61.50	±	0.56
61.51 to 63.00	±	0.57
63.01 to 65.00	±	0.58
65.01 to 67.00	±	0.60
67.01 to 69.00	±	0.61
69.01 to 71.00	±	0.63
71.01 to 73.00	±	0.64
73.01 to 75.00	±	0.65
75.01 to 77.50	±	0.67
77.51 to 80.00	±	0.69
80.01 to 82.50	±	0.71
82.51 to 85.00	±	0.72
85.01 to 87.50	±	0.74
87.51 to 90.00	±	0.76
90.01 to 92.50	±	0.77
92.51 to 95.00	±	0.79
95.01 to 100.00	±	0.81

O-ring internal diameter		Tolerance
100.01 to 103.00	±	0.85
103.01 to 106.00	±	0.87
106.01 to 109.00	±	0.89
109.01 to 112.00	±	0.91
112.01 to 115.00	±	0.93
115.01 to 118.00	±	0.95
118.01 to 122.00	±	0.97
122.01 to 125.00	±	0.99
125.01 to 128.00	±	1.01
128.01 to 132.00	±	1.04
132.01 to 136.00	±	1.07
136.01 to 140.00	±	1.09
140.01 to 142.50	±	1.11
142.51 to 145.00	±	1.13
145.01 to 147.50	±	1.14
147.51 to 150.00	±	1.16
150.01 to 152.50	±	1.18
152.51 to 155.00	±	1.19
155.01 to 157.50	±	1.21
157.51 to 160.00	±	1.23
160.01 to 162.50	±	1.24
162.51 to 165.00	±	1.25
165.01 to 167.50	±	1.28
167.51 to 170.00	±	1.29
170.01 to 172.50	±	1.31
172.51 to 175.00	±	1.33
175.01 to 177.50	±	1.34
177.51 to 180.00	±	1.36
182.51 to 185.00	±	1.39
185.01 to 187.50	±	1.41
187.51 to 190.00	±	1.43
190.01 to 195.00	±	1.45
195.01 to 200.00	±	1.49
200.01 to 203.00	±	1.51
203.01 to 206.00	±	1.53
206.01 to 212.00	±	1.57
212.01 to 218.00	±	1.61
218.01 to 224.00	±	1.65
224.01 to 227.00	±	1.67
227.01 to 230.00	±	1.69
230.01 to 236.00	±	1.73
236.01 to 239.00	±	1.75
239.01 to 243.00	±	1.77
243.01 to 250.00	±	1.82
250.01 to 254.00	±	1.84
254.01 to 258.00	±	1.87
258.01 to 261.00	±	1.89
261.01 to 265.00	±	1.91
265.01 to 268.00	±	1.92
268.01 to 272.00	±	1.96
272.01 to 276.00	±	1.98
276.01 to 280.00	±	2.01
280.01 to 283.00	±	2.03
283.01 to 286.00	±	2.05
286.01 to 290.00	±	2.08
290.01 to 295.00	±	2.11
295.01 to 300.00	±	2.14
300.01 to 307.00	±	2.16

O-ring internal diameter		Tolerance
307.01 to 311.00	±	2.21
311.01 to 315.00	±	2.24
315.01 to 320.00	±	2.27
320.01 to 325.00	±	2.30
325.01 to 330.00	±	2.33
330.01 to 335.00	±	2.36
335.01 to 340.00	±	2.40
340.01 to 345.00	±	2.43
345.01 to 350.00	±	2.46
350.01 to 355.00	±	2.49
355.01 to 360.00	±	2.52
360.01 to 365.00	±	2.56
365.01 to 370.00	±	2.59
370.01 to 375.00	±	2.62
375.01 to 379.00	±	2.64
379.01 to 383.00	±	2.67
383.01 to 387.00	±	2.70
387.01 to 391.00	±	2.72
391.01 to 395.00	±	2.75
395.01 to 400.00	±	2.78
400.01 to 406.00	±	2.82
406.01 to 412.00	±	2.85
412.01 to 418.00	±	2.89
418.01 to 425.00	±	2.93
425.01 to 429.00	±	2.96
429.01 to 433.00	±	2.99
433.01 to 437.00	±	3.01
437.01 to 443.00	±	3.05
450.01 to 456.00	±	3.13
456.01 to 462.00	±	3.17
462.01 to 466.00	±	3.19
466.01 to 470.00	±	3.22
470.01 to 475.00	±	3.25
475.01 to 479.00	±	3.28
479.01 to 483.00	±	3.30
483.01 to 487.00	±	3.33
487.01 to 493.00	±	3.36
493.01 to 500.00	±	3.41
500.01 to 508.00	±	3.46
508.01 to 515.00	±	3.50
515.01 to 523.00	±	3.55
523.01 to 530.00	±	3.60
530.01 to 538.00	±	3.65
538.01 to 545.00	±	3.69
545.01 to 553.00	±	3.74
553.01 to 560.00	±	3.78
560.01 to 570.00	±	3.85
570.01 to 580.00	±	3.91
580.01 to 590.00	±	3.97
590.01 to 600.00	±	4.03
600.01 to 608.00	±	4.08
608.01 to 615.00	±	4.12
615.01 to 623.00	±	4.17
623.01 to 630.00	±	4.22
630.01 to 640.00	±	4.28
640.01 to 650.00	±	4.34
650.01 to 660.00	±	4.40
660.01 to 670.00	±	4.47

O-ring groove sizes

Dynamic application for Hydraulics and Pneumatics



Hydraulics – Dynamic application

d2	t	b	z
1.00	0.90	1.30	1.00
1.50	1.30	1.90	1.00
1.60	1.40	2.00	1.10
1.78	1.50	2.30	1.10
1.90	1.60	2.40	1.20
2.00	1.70	2.40	1.20
2.40	2.10	2.90	1.40
2.50	2.20	3.00	1.40
2.62	2.30	3.10	1.50
2.70	2.40	3.20	1.50
3.00	2.60	3.60	1.60
3.50	3.10	4.20	1.80
3.53	3.10	4.20	1.80
3.60	3.20	4.30	1.80
4.00	3.50	4.80	2.00
4.50	4.00	5.40	2.30

d2	t	b	z
5.00	4.45	6.00	2.50
5.33	4.70	6.40	2.70
5.50	4.95	6.60	2.80
5.70	5.10	6.90	3.00
6.00	5.40	7.20	3.10
6.50	5.80	7.80	3.30
6.99	6.30	8.40	3.60
7.00	6.30	8.40	3.60
7.50	6.70	9.00	3.80
8.00	7.20	9.60	4.00
8.40	7.60	10.10	4.20
8.50	7.70	10.20	4.20
9.00	8.20	10.80	4.30
9.50	8.60	11.40	4.40
10.00	9.10	12.00	4.50

Cont'd

Pneumatics - Dynamic application

d2	t	b	z
1.00	0.95	1.30	1.00
1.50	1.35	1.90	1.00
1.60	1.45	2.00	1.10
1.78	1.55	2.30	1.10
1.90	1.75	2.40	1.20
2.00	1.80	2.40	1.20
2.40	2.15	2.90	1.40
2.50	2.25	3.00	1.40
2.62	2.35	3.10	1.50
2.70	2.45	3.20	1.50
3.00	2.75	3.60	1.60
3.50	3.25	4.20	1.80
3.53	3.25	4.20	1.80
3.60	3.35	4.30	1.80
4.00	3.70	4.80	2.00
4.50	4.20	5.40	2.30

d2	t	b	z
5.00	4.65	6.00	2.50
5.33	4.95	6.40	2.70
5.50	5.15	6.60	2.80
5.70	5.35	6.90	3.00
6.00	5.65	7.20	3.10
6.50	6.10	7.80	3.30
6.99	6.60	8.40	3.60
7.00	6.60	8.40	3.60
7.50	7.10	9.00	3.80
8.00	7.60	9.60	4.00
8.40	7.90	10.10	4.20
8.50	8.00	10.20	4.20
9.00	8.50	10.80	4.30
9.50	9.00	11.40	4.40
10.00	9.50	12.00	4.50

When a back-up ring is required the width of the "b" is increased by the width of the back-up ring, respectively. Where a back-up ring is required on either side of the O-ring then the width of "b" is increased double the width of the back-up ring.

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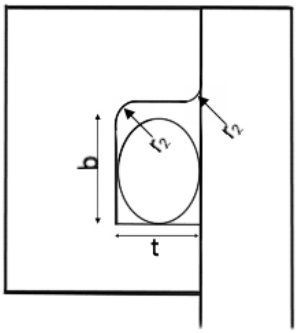
O-ring groove sizes

Static application



The measurement "b" which is the width of the O-ring groove, must be larger than the deformed O-ring. Depending upon application the groove may be open on one side. However, the pressure applied to the medium to be sealed must have full access to the O-ring. The surface of the groove and the opposed surfaces should have rounded processing traces to permit peak-to valley-heights of 44 – 25 µm

d_2	t	b
1.00	0.80	1.30
1.50	1.10	1.90
1.60	1.20	2.10
1.78	1.30	2.30
1.90	1.40	2.40
2.00	1.50	2.60
2.40	1.80	3.10
2.50	1.90	3.20
2.62	2.00	3.40
2.70	2.10	3.50
3.00	2.30	3.90
3.50	2.70	4.50
3.53	2.70	4.50
3.60	2.80	4.70
4.00	3.15	5.20
4.50	3.60	5.80

d_2	t	b
5.00	4.00	6.50
5.33	4.30	6.90
5.50	4.50	7.10
5.70	4.65	7.40
6.00	4.95	7.80
6.50	5.40	8.40
6.99	5.85	9.10
7.00	5.85	9.10
7.50	6.30	9.70
8.00	6.75	10.40
8.40	7.15	10.90
8.50	7.25	11.00
9.00	7.70	11.70
9.50	8.20	12.30
10.00	8.65	13.00

When a back-up ring is required the width of the "b" is increased by the width of the back-up ring, respectively. Where a back-up ring is required on either side of the O-ring then the width of "b" is increased double the width of the back-up ring.