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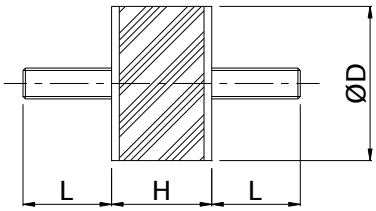
Buffer Type A



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

Buffers can be manufactured in non-standard sizes, rubber hardness and various compounds. Minimum order quantities may apply

Available Sizes

• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
6/6 6/7	M3 x 6 M3 x 6	
8/6 8/8	M3 x 6 M3 x 6	
9/12	M4 x 6	
10/8 • **10/10** 10/15	M4 x 10 **M4 x 10** M4 x 10	M3 x 5, M5 x 5 M5 x 10, M5 x 15
12/24	M4 x 12	
13/26	M4 x 10	
15/6 15/8 15/10 • **15/15** 15/20 15/25 15/28 15/30	M4 x 13 M4 x 13 M4 x 13 **M4 x 13** M4 x 13 M4 x 13 M4 x 13 M4 x 13	M4 x 6, M4 x 8 M4 x 10, M4 x 15 M5 x 15
• **18/8.5**	**M6 x 16**	M6 x 10
20/10 • **20/15** • **20/20** • **20/25** 20/30	M6 x 15 **M6 x 15** **M6 x 15** **M6 x 15** M6 x 15	M5 x 15, M6 x 8 M6 x 10, M6 x 12 M6 x 18, M6 x 20
25/10 • **25/15** • **25/20** 25/25 25/30	M6 x 18 **M6 x 18** **M6 x 18** M6 x 18 M6 x 18	M6 x 8, M6 x 10 M6 x 12, M6 x 15 M6 x 20
• **30/15** • **30/20** 30/25 • **30/30** 30/40 30/50	**M8 x 20** **M8 x 20** M8 x 20 **M8 x 20** M8 x 20 M8 x 20	M8 x 8, M8 x 10 M8 x 13, M8 x 16 M8 x 18, M8 x 23 M8 x 27, M10 x 25
40/20 • **40/30** • **40/40** 40/66	M8 x 23 **M8 x 23** **M8 x 23** M8 x 23	M8 x 12, M8 x 13 M8 x 16, M8 x 28 M10 x 20

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
• **50/20** 50/25 • **50/30** 50/35 • **50/40** 50/45 • **50/50** 50/55	**M10 x 28** M10 x 28 **M10 x 28** M10 x 28 **M10 x 28** M10 x 28 **M10 x 28** M10 x 28	M8 x 23, M10 x 15 M10 x 20, M10 x 33 M12 x 27
60/35 60/40 60/45	M10 x 28 M10 x 28 M10 x 28	M8 x 23, M10 x 15 M10 x 20, M10 x 33 M12 x 27
70/35 • **70/45**	M10 x 30 **M10 x 30**	M10 x 25
75/25 • **75/40** 75/45 • **75/50** • **75/55** 75/60	M12 x 37 **M12 x 37** M12 x 37 **M12 x 37** **M12 x 37** M12 x 37	M12 x 27, M12 x 32
80/66	M12 x 37	
90/50 90/55	M14 x 33 M14 x 33	M14 x 30
100/30 100/40 100/50 • **100/55** 100/60 100/75 100/100	M16 x 45 M16 x 45 M16 x 45 **M16 x 45** M16 x 45 M16 x 45 M16 x 45	M12 x 27, M16 x 37
125/55 125/60	M16 x 45 M16 x 45	
150/55 150/60 150/75 150/100	M16 x 45 M16 x 45 M16 x 45 M16 x 45	M20 x 45
160/75	M16 x 45	
200/100	M20 x 45	

Note: Buffers can be manufactured in non-standard sizes, rubber hardness and various compounds, minimum order quantities may apply.

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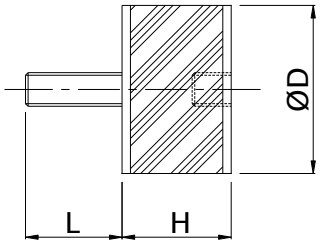
Buffer Type B



Compounds Produced: (Natural Rubber)

43° Shore A (soft)
57° Shore A (medium)
68° Shore A (hard)

Available Sizes

• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
6/6 6/7	M3 x 6 M3 x 6	
8/6 8/8	M3 x 6 M3 x 6	
9/12	M3 x 6	
• **10/10** 10/15	**M4 x 10** M4 x 10	M3 x 5, M5 x 5 M5 x 10
12/24	M4 x 12	
13/26	M4 x 10	M4 x 12
15/10 • **15/15** 15/20 15/25 15/28 15/30	M4 x 13 **M4 x 13** M4 x 13 M4 x 13 M4 x 13 M4 x 13	M4 x 6, M4 x 8 M4 x 10, M4 x 15 M5 x 15
• **20/15** • **20/20** • **20/25** 20/30	**M6 x 15** **M6 x 15** **M6 x 15** M6 x 15	M5 x 15, M6 x 8 M6 x 10, M6 x 12 M6 x 18, M6 x 20
• **25/15** • **25/20** 25/25 25/30	**M6 x 18** **M6 x 18** M6 x 18 M6 x 18	M6 x 8, M6 x 10 M6 x 12, M6 x 15 M6 x 20
• **30/15** • **30/20** 30/25 • **30/30** 30/40 30/50	**M8 x 20** **M8 x 20** M8 x 20 **M8 x 20** M8 x 20 M8 x 20	M8 x 8, M8 x 10 M8 x 13, M8 x 16 M8 x 18, M8 x 23 M8 x 27
40/20 • **40/30** • **40/40** 40/66	M8 x 23 **M8 x 23** **M8 x 23** M8 x 23	M8 x 12, M8 x 13 M8 x 16, M8 x 28 M10 x 20

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
• **50/20** 50/25 • **50/30** 50/35 • **50/40** 50/45 • **50/50** 50/55	**M10 x 28** M10 x 28 **M10 x 28** M10 x 28 **M10 x 28** M10 x 28 **M10 x 28** M10 x 28	M8 x 23, M10 x 15 M10 x 20, M10 x 33 M12 x 27
60/35 60/40 60/45	M10 x 28 M10 x 28 M10 x 28	M10 x 15 M10 x 20, M10 x 33
70/35 • **70/45**	M10 x 30 **M10 x 30**	M10 x 25
75/25 • **75/40** 75/45 • **75/50** • **75/55** 75/60	M12 x 37 **M12 x 37** M12 x 37 **M12 x 37** **M12 x 37** M12 x 37	M12 x 27, M12 x 32
80/66	M12 x 37	M12 x 27
90/50 90/55	M14 x 33 M14 x 33	
100/30 100/40 100/50 • **100/55** 100/60 100/75 100/100	M16 x 45 M16 x 45 M16 x 45 **M16 x 45** M16 x 45 M16 x 45 M16 x 45	M12 x 27, M12 x 37
125/55 125/60	M16 x 45 M16 x 45	
150/55 150/60 150/75 150/100	M16 x 45 M16 x 45 M16 x 45 M16 x 45	M20 x 45
160/75	M16 x 45	
200/100	M20 x 45	

Note: Buffers can be manufactured in non-standard sizes, rubber hardness and various compounds, minimum order quantities may apply.

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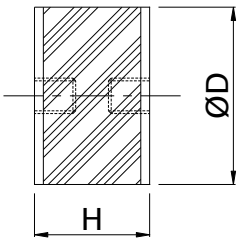
Buffer Type C



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

Available Sizes

• = **STANDARD STOCK**

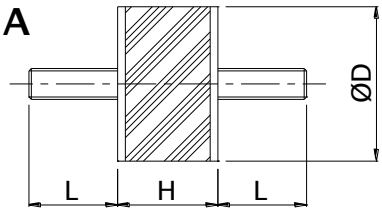
Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
8/8	M3	
9/12	M4	
• **10/10** 10/15	**M4** M4	M3
12/24	M4	
13/26	M4	
• **15/15** 15/20 15/25 15/28 15/30	**M4** M4 M4 M4 M4	M5
• **20/20** 20/25 20/30	**M6** M6 M6	M5
• **25/20** 25/25 25/30	**M6** M6 M6	
• **30/20** 30/25 • **30/30** 30/40 30/50	**M8** M8 **M8** M8 M8	
• **40/30** • **40/40** 40/66	**M8** **M8** M8	M10
• **50/30** 50/35 • **50/40** 50/45 • **50/50** 50/55	**M10** M10 **M10** M10 **M10** M10	M8, M12

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
60/35 60/40 60/45	M10 M10 M10	
70/35 • **70/45**	M10 **M10**	M12, M16
• **75/40** 75/45 • **75/50** • **75/55** 75/60	**M12** M12 **M12** **M12** M12	M16
80/66	M12	
90/50 90/55	M14 M14	
100/40 100/50 • **100/55** 100/60 100/75 100/100	M16 M16 **M16** M16 M16 M16	M12
125/55 125/60	M16 M16	M20
150/55 150/60 150/75 150/100	M16 M16 M16 M16	M20
160/75	M16	
200/100	M20	M16

Note: Buffers can be manufactured in non-standard sizes, rubber hardness and various compounds, minimum order quantities may apply.

Spring Characteristics For Types:

A



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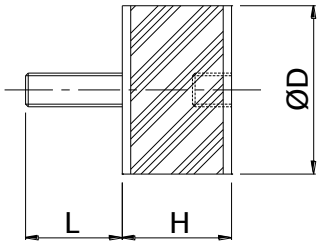

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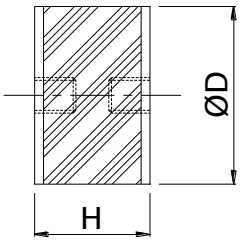


IMPORTANT NOTE: All values of load in the table shown apply to type A buffers—for types B and C use the appropriate correction factor (CF). Reference should be made to the beginning of this chapter for load calculations and to Section 1—Technical Information for selection examples.

Dia/Ht (mm)	Compression Characteristics				Shear Characteristics				Dia/Ht (mm)	Compression Characteristics				Shear Characteristics			
	Def (mm)	Load (N)			Def (mm)	Load (N)				Def (mm)	Load (N)			Def (mm)	Load (N)		
		43°	57°	68°		43°	57°	68°			43°	57°	68°		43°	57°	68°
8/8	0.3	4.3	12.1	17.7	0.6	2.5	4.6	6.6	25/10	0.3	123	207	296	0.6	21.1	44.4	67.5
	0.6	8.5	24.1	35.4	1.2	5.0	9.1	13.2		0.6	246	414	592	1.2	42.1	88.9	135
	0.9	12.8	36.2	53.0	1.8	7.6	13.7	19.8		0.9	369	621	888	1.8	63.2	133	202
	(MAX)	CF:B=1.15			(MAX)	CF:B=1.15				(MAX)	CF:B=1.25			(MAX)	CF:B=1.25		
10/10	0.4	8.9	17.9	25.9	0.7	3.5	6.2	9.0	25/15	0.6	74.2	135	174	1.1	24.6	44.5	64.2
	0.7	15.5	31.4	45.4	1.4	6.9	12.4	18.0		1.1	136	247	319	2.2	49.3	89.0	129
	1.1	24.4	49.3	71.4	2.1	10.4	18.6	27.0		1.7	210	381	493	3.3	73.9	134	193
	(MAX)	CF:B=1.05			(MAX)	CF:B=1.05; C = 1.20				(MAX)	CF:B=1.20			(MAX)	CF:B=1.20		
15/8	0.3	30.8	56.2	83.1	0.5	4.4	13.5	19.2	25/20	0.8	68.7	111	158	1.6	23.1	44.7	64.0
	0.5	51.3	93.6	139	1.0	8.8	27.0	38.5		1.6	138	222	316	3.2	46.3	89.4	128
	0.8	82.0	150	222	1.5	13.2	40.5	57.7		2.4	206	333	474	4.8	69.4	134	192
	(MAX)	CF:B=1.25			(MAX)					(MAX)	CF:B=1.05; C=1.10			(MAX)	CF:B=1.05; C=1.10		
15/15	0.6	16.9	36.1	58.7	1.2	8.9	16.0	23.1	25/25	1.1	65	105	165	2.1	24.6	44.2	64.1
	1.2	33.8	72.2	117	2.4	17.8	32.0	46.2		2.1	125	200	314	4.2	49.1	88.4	128
	1.8	50.6	108	176	3.6	26.7	48.1	69.2		3.2	190	305	479	6.3	73.7	133	192
	(MAX)	CF:B=1.05; C = 1.10			(MAX)	CF:B=1.05; C = 1.10				(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
15/30	1.4	20.2	34.3	48.6	2.7	14.1	16.1	22.3	25/30	1.3	58.7	92.9	135	2.6	24.6	44.3	67.0
	2.7	38.8	66.2	93.6	5.4	28.1	32.1	44.6		2.6	118	186	270	5.2	49.2	88.6	134
	4.1	59.0	101	142	8.1	42.2	48.2	66.9		3.9	176	279	405	7.8	73.8	133	201
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05				(MAX)	CF:C=1.05			(MAX)	CF:B=1.05; C=1.10		
18/8.5	0.3	29.8	50.0	80.3	0.6	13.9	25.0	36.8	30/15	0.6	160	292	420	1.1	35.4	64.1	92.1
	0.6	59.6	100	161	1.1	25.5	45.8	67.5		1.1	293	535	770	2.2	70.8	128	184
	0.8	79.5	133	214	1.7	39.5	70.8	104		1.7	453	827	1190	3.3	106	192	276
	(MAX)				(MAX)					(MAX)	CF:B=1.25			(MAX)	CF:B=1.25		
20/15	0.6	50.0	78.3	113	1.1	14.4	26.1	40.2	30/20	0.8	107	164	239	1.6	35.5	63.8	92.2
	1.1	91.7	144	206	2.2	28.9	52.1	80.5		1.6	214	327	477	3.2	71.0	128	184
	1.7	142	222	319	3.3	43.3	78.2	121		2.4	321	491	715	4.8	107	191	277
	(MAX)	CF:B=1.15			(MAX)	CF:B=1.20				(MAX)	CF:B=1.15; C = 1.25			(MAX)	CF:B=1.15; C=1.25		
20/20	0.8	40.0	66.7	98.0	1.6	14.8	26.7	38.7	30/25	1.1	98.4	151	224	2.1	35.4	63.6	93.1
	1.6	80.0	133	196	3.2	29.7	53.3	77.3		2.1	188	287	427	4.2	70.7	127	186
	2.4	120	200	294	4.8	44.5	80.0	116		3.2	286	438	651	6.3	106	191	279
	(MAX)				(MAX)					(MAX)	CF:B=1.10; C = 1.20			(MAX)	CF:B=1.10; C=1.15		
20/25	1.1	39.6	64.1	93.0	2.1	15.0	27.1	39.2	30/30	1.3	79.9	140	202	2.6	35.4	63.8	92.3
	2.1	75.7	122	178	4.2	30.0	54.2	78.3		2.6	160	280	404	5.2	70.8	128	185
	3.2	115	187	271	6.3	45.0	81.2	118		3.9	240	420	607	7.8	106	191	277
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05				(MAX)	CF:C=1.10			(MAX)	CF:C=1.10		

Note: There is a possible deviation of ±20% in the above values due to production and hardness tolerances

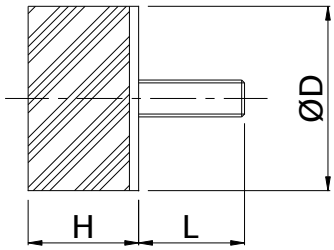
Spring Characteristics For Types A, B and C Cont'd:

Dia/Ht (mm)	Compression Characteristics				Shear Characteristics			
	Def (mm)	Load (N)			Def (mm)	Load (N)		
		43°	57°	68°		43°	57°	68°
40/30	1.3	170	250	394	2.6	58.7	113	164
	2.6	341	500	788	5.2	117	226	328
	3.9	511	749	1182	7.8	176	340	492
	(MAX)	CF:B=1.05; C=1.10			(MAX)	CF:B=1.05; C=1.10		
40/40	1.8	152	244	353	3.6	62.9	113	164
	3.6	304	487	705	7.2	126	226	327
	5.4	456	731	1058	10.8	189	340	491
	(MAX)	CF:B=1.10; C=1.05			(MAX)	CF:C=1.05		
50/20	0.8	432	800	1289	1.6	99	177	257
	1.6	865	1600	2578	3.2	197	354	513
	2.4	1297	2400	3866	4.8	296	531	770
	(MAX)	CF:B=1.25			(MAX)	CF:B=1.25		
50/25	1.1	353	643	937	2.1	98.4	177	256
	2.1	674	1227	1789	4.2	197	355	512
	3.2	1027	1869	2725	6.3	295	532	768
	(MAX)	CF:B=1.20			(MAX)	CF:B=1.20		
50/30	1.3	286	516	743	2.6	99	177	256
	2.6	571	1031	1486	5.2	197	354	513
	3.9	857	1547	2229	7.8	296	531	769
	(MAX)	CF:B=1.15; C=1.20			(MAX)	CF:B=1.15; C=1.20		
50/40	1.8	265	471	666	3.6	99	177	276
	3.6	530	941	1332	7.2	198	354	551
	5.4	795	1412	1998	10.8	297	531	826
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
50/45	2.1	252	403	656	4.1	98.2	173	256
	4.1	491	786	1280	8.2	197	345	511
	6.2	743	1189	1936	12.3	295	518	767
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
50/50	2.3	237	399	613	4.6	98.3	177	256
	4.6	473	797	1227	9.2	197	354	511
	6.9	710	1196	1840	13.8	295	531	767
	(MAX)				(MAX)			
70/45	2.0	541	975	1467	3.9	188	347	502
	3.9	1055	1902	2861	7.8	376	693	1004
	5.9	1595	2878	4328	11.7	563	1040	1506
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
75/40	1.7	708	1278	1839	3.4	221	399	576
	3.4	1416	2556	3679	6.8	442	797	1151
	5.1	2124	3835	5518	10.2	664	1196	1727
	(MAX)	CF:B=1.05; C=1.10			(MAX)	CF:B=1.05; C=1.10		
75/45	2.0	659	1188	1722	3.9	221	398	576
	3.9	1285	2317	3358	7.8	442	796	1152
	5.9	1943	3506	5079	11.7	663	1194	1728
	(MAX)	CF:B=1.05; C=1.10			(MAX)	CF:B=1.05; C=1.10		
75/50	2.2	620	1114	1618	4.4	221	398	573
	4.4	1239	2229	3235	8.8	442	796	1145
	6.6	1858	3343	4853	13.2	663	1195	1718
	(MAX)	CF:C=1.05				CF:C=1.05		

Dia/Ht (mm)	Compression Characteristics				Shear Characteristics			
	Def (mm)	Load (N)			Def (mm)	Load (N)		
		43°	57°	68°		43°	57°	68°
75/55	2.5	610	1098	1598	4.9	221	398	576
	4.9	1195	2152	3132	9.8	442	796	1151
	7.4	1804	3250	4730	14.7	663	1194	1727
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
75/60	2.7	580	1040	1499	5.4	221	398	575
	5.4	1161	2079	2998	10.8	442	796	1149
	8.1	1741	3119	4496	16.2	663	1194	1723
	(MAX)				(MAX)			
100/40	1.6	1576	3127	4661	3.2	393	708	1023
	3.2	3153	6254	9322	6.4	786	1416	2047
	4.8	4729	9381	13983	9.6	1179	2124	3070
	(MAX)	CF:B=1.25			(MAX)	CF:B=1.20		
100/50	2.1	1344	2380	3433	4.2	393	572	1024
	4.2	2689	4759	6867	8.4	786	1143	2048
	6.3	4033	7139	10300	12.6	1179	1715	3072
	(MAX)	CF:B=1.10; C=1.25			(MAX)	CF:B=1.10; C=1.25		
100/55	2.4	1273	2268	3200	4.7	393	708	843
	4.7	2492	4441	6267	9.4	786	1416	1686
	7.1	3765	6709	9467	14.1	1179	2124	2529
	(MAX)	CF:B=1.15; C=1.20			(MAX)	CF:B=1.15; C=1.20		
100/60	2.6	1141	2093	3017	5.2	393	708	1023
	5.2	2282	4185	6035	10.4	786	1415	2046
	7.8	3422	6278	9052	15.6	1179	2123	3068
	(MAX)	CF:C=1.10			(MAX)	CF:C=1.10		
100/75	3.4	1044	1939	2800	6.7	393	708	1022
	6.7	2058	3821	5518	13.4	786	1416	2045
	10.1	3102	5761	8319	20.1	1178	2124	3067
	(MAX)				(MAX)			
150/55	2.3	4027	7031	10397	4.6	904	1704	2300
	4.6	8053	14063	20794	9.2	1808	3409	4600
	6.9	12079	21094	31191	13.8	2712	5114	6900
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
150/60	2.6	3703	6466	9630	5.1	902	1561	2301
	5.1	7264	12683	18889	10.2	1804	3121	4601
	7.7	10967	19149	28519	15.3	2705	4682	6902
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
150/75	3.3	2835	4094	7381	6.6	880	1382	2300
	6.6	5671	8190	14762	13.2	1795	2764	4601
	9.9	8506	12285	22142	19.8	2693	4146	6901
	(MAX)	CF:C=1.05			(MAX)	CF:C=1.05		
200/100	4.5	5031	9214	13090	9.0	1571	2829	4087
	9.0	10026	18428	26180	18.0	3143	5658	8174
	13.5	15093	27642	39270	27.0	4714	8487	12261
	(MAX)				(MAX)			

Note: There is a possible deviation of ±20% in the above values due to production and hardness tolerances

Buffer Type D



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

Available Sizes

• = **STANDARD STOCK**

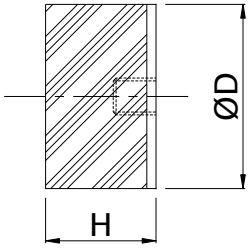
Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
6/6 6/7	M3 x 6 M3 x 6	
7/6	M3 x 6	
8/8	M3 x 6	
• **10/10** 10/15	**M4 x 10** M4 x 10	M3 x 5, M5 x 5 M5 x 10
12/8 12/13 12/13.5	M4 x 12 M4 x 12 M4 x 12	
13/26	M4 x 10	
15/6 15/8 15/13 15/15 15/18 15/28	M4 x 13 M4 x 13 M4 x 13 M4 x 13 M4 x 13 M4 x 13	M4 x 8, M4 x 10 M4 x 15, M5 x 15
• **18/7.5**	**M6 x 16**	M6 x 10
20/5 20/12 20/13.5 • **20/15** * 20/20 20/23 20/25	M6 x 15 M6 x 15 M6 x 15 **M6 x 15** M6 x 15 M6 x 15 M6 x 15	M6 x 8, M6 x 10 M6 x 12, M6 x 18 M6 x 20
25/5 25/6 25/8 25/13 25/15 • **25/17** 25/20 25/25 25/28	M6 x 18 M6 x 18 M6 x 18 M6 x 18 M6 x 18 **M6 x 18** M6 x 18 M6 x 18 M6 x 18	M6 x 6, M6 x 8 M6 x 10, M6 x 12 M6 x 15, M6 x 20
30/5.5 30/10 30/15 • **30/17** * • **30/20** 30/25 30/28 30/30 30/40 30/55	M8 x 20 M8 x 20 M8 x 20 **M8 x 20** **M8 x 20** M8 x 20 M8 x 20 M8 x 20 M8 x 20 M8 x 20	M8 x 8, M8 x 10 M8 x 13, M8 x 16 M8 x 18, M8 x 23 M8 x 27

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
40/5 40/6 40/10 40/15 40/18 40/20 • **40/28** 40/38 40/40 40/50	M8 x 23 M8 x 23 M8 x 23 M8 x 23 M8 x 23 M8 x 23 **M8 x 23** M8 x 23 M8 x 23 M8 x 23	M8 x 12, M8 x 13 M8 x 16, M8 x 28 M10 x 20
50/17 • **50/21** 50/27 50/36 50/42 50/45	M10 x 28 **M10 x 28** M10 x 28 M10 x 28 M10 x 28 M10 x 28	M8 x 23, M10 x 15 M10 x 20, M10 x 33 M12 x 27
70/42 70/45	M10 x 30 M10 x 30	M10 x 25
75/15 • **75/25** 75/36 75/51	M12 x 37 **M12 x 37** M12 x 37 M12 x 37	M12 x 27, M12 x 32
80/40	M12 x 37	M12 x 27
100/35 100/40 100/50 100/100	M16 x 45 M16 x 45 M16 x 45 M16 x 45	M12 x 37, M16 x 37
125/38 125/60	M16 x 45 M16 x 45	
150/40 150/45 150/75	M16 x 45 M16 x 45 M16 x 45	M20 x 45
160/30 160/47	M16 x 45 M16 x 45	M20 x 45
200/100	M20 x 45	
250/48	M20 x 45	

* These parts are only standard in natural rubber of hardness 57° Shore A

Note: Buffers can be manufactured in non-standard sizes, rubber hardness and various compounds, minimum order quantities may apply.

Buffer Type E



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

Available Sizes

• = **STANDARD STOCK**

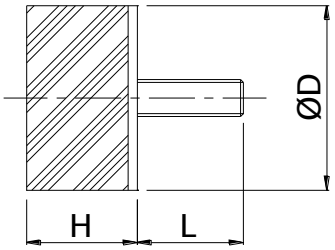
Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
6/6	M3	
6/7	M3	
7/6	M3	
8/8	M3	
10/10	M4	M3, M5
10/15	M4	
12/13	M4	
12/13.5	M4	
13/26	M4	
15/13	M4	M5
15/15	M4	
15/18	M4	
15/28	M4	
20/12	M6	M5
20/13.5	M6	
20/15	M6	
20/20	M6	
20/23	M6	
20/25	M6	
25/13	M6	
25/15	M6	
25/17	M6	
25/20	M6	
25/25	M6	
25/28	M6	
30/15	M8	
• **30/17**	**M8**	
• **30/20**	**M8**	
30/25	M8	
30/28	M8	
30/30	M8	
30/40	M8	
30/55	M8	
40/15	M8	M10
40/18	M8	
40/20	M8	
• **40/28**	**M8**	
40/38	M8	
40/40	M8	
40/50	M8	

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
50/17	M10	M8, M12
• **50/21**	**M10**	
50/27	M10	
50/36	M10	
50/42	M10	
50/45	M10	
70/42	M10	M12, M16
70/45	M10	
75/25	M12	M16
75/36	M12	
75/51	M12	
80/40	M12	
100/35	M16	M12
100/40	M16	
100/50	M16	
100/100	M16	
125/38	M16	M20
125/60	M16	
150/40	M16	M20
150/45	M16	
150/75	M16	
160/30	M16	M20
160/47	M16	
200/100	M20	
250/48	M20	

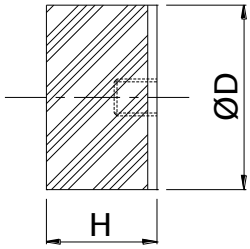
Note: Buffers can be manufactured in non-standard sizes, rubber hardness and various compounds, minimum order quantities may apply.

Spring Characteristics For Types:

D



E

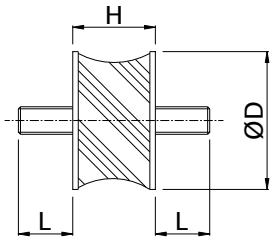


IMPORTANT NOTE: All values of load in the table shown apply to type D and E buffers. Reference should be made to the beginning of this chapter for load calculations and to Section 1—Technical Information for selection examples.

Dia/Ht (mm)	Compression Characteristics				Dia/Ht (mm)	Compression Characteristics				Dia/Ht (mm)	Compression Characteristics			
	Def (mm)	Load (N)				Def (mm)	Load (N)				Def (mm)	Load (N)		
		43°	57°	68°			43°	57°	68°			43°	57°	68°
10/10	0.4	8.3	15.9	22.1	25/20	0.9	83.0	115	167	50/27	1.3	308	553	805
	0.9	18.7	35.7	49.7		1.8	166	231	333		2.5	592	1064	1548
	1.3 (MAX)	27.0	51.6	71.8		2.7 (MAX)	249	346	500		3.8 (MAX)	900	1617	2352
15/13	0.6	23.7	43.7	64.0	25/28	1.3	56.5	104	194	50/42	2.0	243	443	641
	1.2	47.5	87.5	128		2.6	113	209	299		4.0	487	887	1282
	1.7 (MAX)	67.3	124	181		3.9 (MAX)	170	313	448		6.0 (MAX)	730	1330	1922
15/28	1.3	19.1	34.5	51	30/15	0.7	127	230	336	70/42	2.0	540	1014	1393
	2.7	39.7	71.8	106		1.3	237	426	624		3.9	1054	1977	2717
	4.0 (MAX)	58.8	106	157		2.0 (MAX)	364	656	960		5.9 (MAX)	1594	2991	4110
18/7.5	0.3	56.7	100	148	30/17	0.8	114	207	301	75/25	1.1	1228	2193	3143
	0.6	113.4	200	295		1.5	213	388	564		2.2	2456	4387	6286
	0.9 (MAX)	170.1	300	443		2.3 (MAX)	327	596	864		3.3 (MAX)	3683	6580	9429
20/12	0.5	47.3	87.8	125	30/20	0.9	99.5	180	261	75/36	1.7	789	1403	2034
	1.0	94.6	176	250		1.8	199	359	522		3.3	1531	2724	3948
	1.5 (MAX)	142.0	263	375		2.7 (MAX)	298	539	783		5.0 (MAX)	2319	4127	5982
20/13.5	0.6	46.2	84.1	127	30/28	1.3	83.3	157	248	75/51	2.4	610	1100	1592
	1.2	92.3	168	254		2.6	167	314	496		4.8	1221	2200	3185
	1.7 (MAX)	130.8	238	360		3.9 (MAX)	250	471	744		7.2 (MAX)	1831	3300	4777
20/23	1.1	37.9	70.1	103	40/28	1.3	171	309	451	100/35	1.6	1827	3321	4813
	2.1	72.4	134	196		2.6	342	617	902		3.1	3539	6434	9324
	3.2 (MAX)	110.3	204	298		3.9 (MAX)	512	926	1353		4.7 (MAX)	5366	9754	14137
20/25	1.2	38.1	68.3	98.9	40/38	1.8	152	273	400	100/40	1.8	1577	2851	4070
	2.3	73.1	131	190		3.6	303	546	801		3.6	3154	5702	8140
	3.5 (MAX)	111.2	199	289		5.4 (MAX)	454	818	1201		5.4 (MAX)	4730	8552	12210
25/13	0.6	85.7	156	227	50/17	0.8	484	877	1289	100/50	2.3	1240	2203	3277
	1.1	157	286	415		1.5	907	1645	2417		4.6	2480	4406	6555
	1.7 (MAX)	243	442	642		2.3 (MAX)	1391	2522	3705		6.9 (MAX)	3720	6609	9832
25/17	0.8	73.7	133	195	50/21	1.0	374	678	980	100/100	4.8	943	1699	2456
	1.5	138.3	249	366		1.9	711	1289	1861		9.6	1886	3397	4913
	2.3 (MAX)	212.0	383	561		2.9 (MAX)	1086	1967	2841		14.4 (MAX)	2829	5096	7369

Note: There is a possible deviation of ±20% in the above values due to production and hardness tolerances

Buffer Type A/F



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

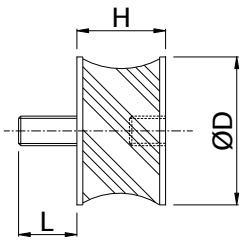
Available Sizes

• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
10/10	M4 x 10	
15/15 15/20	M4 x 13 M4 x 13	M4 x 6, M4 x 8 M4 x 10, M4 x 15
20/15 20/19 20/20 20/25 20/30 20/40	M6 x 15 M6 x 15 M6 x 15 M6 x 15 M6 x 15 M6 x 15	M6 x 8, M6 x 10 M6 x 12, M6 x 18 M6 x 20
22/25	M6 x 15	M6 x 8, M6 x 10 M6 x 12, M6 x 18 M6 x 20
25/20 25/22 25/25 25/30	M6 x 18 M6 x 18 M6 x 18 M6 x 18	M6 x 8, M6 x 10 M6 x 12, M6 x 15 M6 x 20
30/20 30/25 30/30	M8 x 20 M8 x 20 M8 x 20	M8 x 8, M8 x 10 M8 x 13, M8 x 16 M8 x 18, M8 x 23 M8 x 27
40/25 40/40 40/50	M8 x 23 M8 x 23 M8 x 23	M8 x 13, M8 x 16 M8 x 28
45/44 45/53	M8 x 23 M8 x 23	M8 x 13, M8 x 16 M8 x 28

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
50/15 50/30 50/35	M10 x 28 M10 x 28 M10 x 28	M10 x 15, M10 x 20 M10 x 33
55/35 55/45	M10 x 28 M10 x 28	M10 x 15, M10 x 20 M10 x 33
57/44	M10 x 28	M10 x 15, M10 x 20 M10 x 33
60/45 60/60	M10 x 28 M10 x 28	M10 x 15, M10 x 20 M10 x 33
75/40	M12 x 37	M12 x 27
80/70	M12 x 37	M12 x 27
90/56	M14 x 33	M16 x 45
100/40 100/55 100/75	M16 x 45 M16 x 45 M16 x 45	
120/45	M16 x 45	
130/75	M16 x 45	
150/60	M16 x 45	M20 x 45
160/75	M16 x 45	
165/75	M16 x 45	M20 x 45

Buffer Type B/F



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

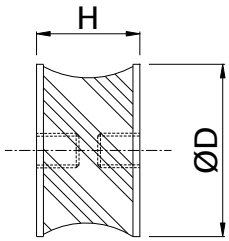
Available Sizes

• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
10/10	M4 x 10	
15/15 15/20	M4 x 13 M4 x 13	M4 x 6, M4 x 8 M4 x 10, M4 x 15
20/15 20/19 20/20 20/25 20/30 20/40	M6 x 15 M6 x 15 M6 x 15 M6 x 15 M6 x 15 M6 x 15	M6 x 8, M6 x 10 M6 x 12, M6 x 18 M6 x 20
22/25	M6 x 15	M6 x 8, M6 x 10 M6 x 12, M6 x 18 M6 x 20
25/20 25/22 25/25 25/30	M6 x 18 M6 x 18 M6 x 18 M6 x 18	M6 x 8, M6 x 10 M6 x 12, M6 x 15 M6 x 20
30/20 30/25 30/30	M8 x 20 M8 x 20 M8 x 20	M8 x 8, M8 x 10 M8 x 13, M8 x 16 M8 x 18, M8 x 23 M8 x 27
40/25 40/40 40/50	M8 x 23 M8 x 23 M8 x 23	M8 x 13, M8 x 16 M8 x 28
45/44 45/53	M8 x 23 M8 x 23	M8 x 13, M8 x 16 M8 x 28

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
50/15 50/30 50/35	M10 x 28 M10 x 28 M10 x 28	M10 x 15, M10 x 20 M10 x 33
55/35 55/45	M10 x 28 M10 x 28	M10 x 15, M10 x 20 M10 x 33
57/44	M10 x 28	M10 x 15, M10 x 20 M10 x 33
60/45 60/60	M10 x 28 M10 x 28	M10 x 15, M10 x 20 M10 x 33
75/40	M12 x 37	M12 x 27
80/70	M12 x 37	M12 x 27
90/56	M14 x 33	M16 x 45
100/40 100/55 100/75	M16 x 45 M16 x 45 M16 x 45	
120/45	M16 x 45	
130/75	M16 x 45	
150/60	M16 x 45	M20 x 45
160/75	M16 x 45	
165/75	M16 x 45	M20 x 45

Buffer Type C/F



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

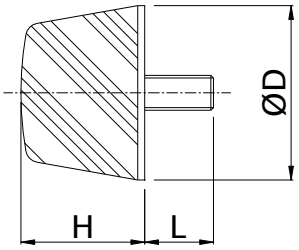
Available Sizes

• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
15/20	M4	
20/15 20/19 20/20 20/25 20/30 20/40	M6 M6 M6 M6 M6 M6	
22/25	M6	
25/20 25/22 25/25 25/30	M6 M6 M6 M6	
30/25 30/30	M8 M8	
40/25 40/40 40/50	M8 M8 M8	
45/44 45/53	M8 M8	
50/30 50/35	M10 M10	

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
55/35 55/45	M10 M10	
57/44	M10	
60/45 60/60	M10 M10	
75/40	M12	
80/70	M12	
90/56	M14	M16
100/40 100/55 100/75	M16 M16 M16	
120/45	M16	
130/75	M16	
150/60	M16	M20
160/75	M16	
165/75	M16	M20

Buffer Type K/D



Compounds Produced: (Natural Rubber)

43° Shore A (soft)
57° Shore A (medium)
68° Shore A (hard)

Available Sizes

• = **STANDARD STOCK**

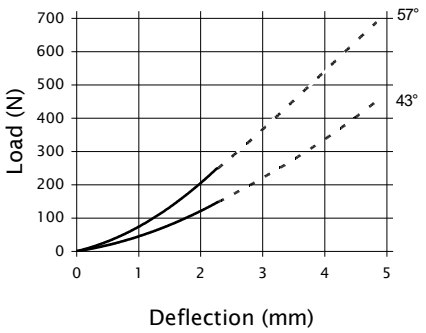
Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
• **25/17**	**M6 x 18**	M6 x 8, M6 x 10 M6 x 12, M6 x 15 M6 x 20
40/28 40/53	M8 x 23 M8 x 23	M8 x 12, M8 x 13 M8 x 16, M8 x 28 M10 x 20
• **50/18** 50/21 50/22.5 50/30 50/35 • **50/39 ***	**M10 x 28** M10 x 28 M10 x 28 M10 x 28 M10 x 28 **M10 x 28**	M8 x 23, M10 x 15 M10 x 20, M10 x 33 M12 x 27
60/22	M10 x 28	M10 x 15, M10 x 20 M10 x 33
75/25 75/28	M12 x 37 M12 x 37	M12 x 27, M12 x 32
• **80/30 **** 80/60	**M12 x 32** M12 x 32	M12 x 37
• **125/45** 125/80 125/90	**M16 x 45** M16 x 45 M16 x 45	

* These parts are only standard in natural rubber of hardness 57° Shore A

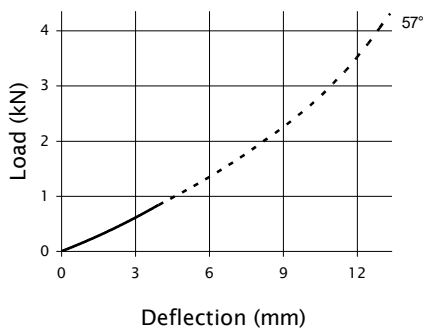
** These parts are only available in a rectangular shape (as opposed to circular)

Compression Characteristics

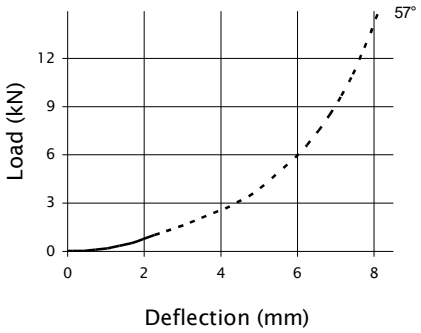
KD25/17M6x18-??



KD40/28M8x33-57



KD50/18M10x28-57

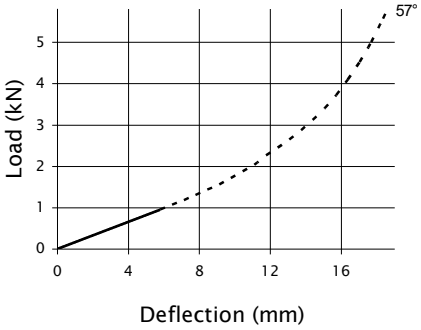


Note: The Load/Deflection graphs are for maximum continuous loads up to 15% strain, the dotted line is for occasional shock loads up to 50% strain

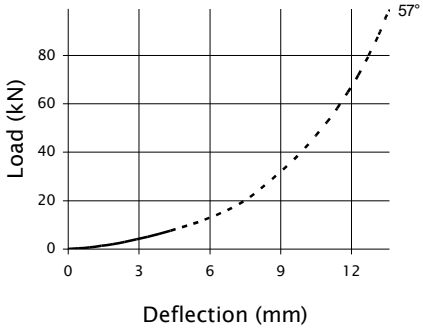
Note: There is a possible deviation of ±20% in the above load/deflection graphs due to production and hardness tolerances

Compression Characteristics

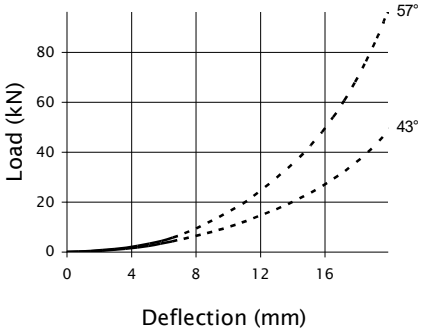
KD50/39M10x28-57



KD80/30M12x32-57



KD125/45M16x45-??



Note: The Load/Deflection graphs are for maximum continuous loads up to 15% strain, the dotted line is for occasional shock loads up to 50% strain

Note: There is a possible deviation of ±20% in the above load/deflection graphs due to production and hardness tolerances

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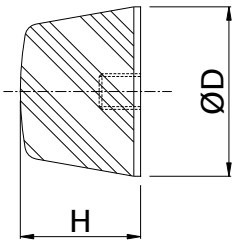
Buffer Type K/E



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

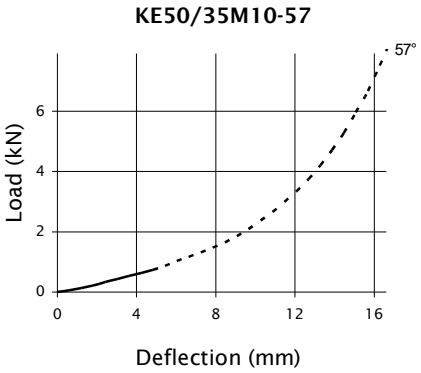
Available Sizes

• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
25/17	M6	
40/28 40/53	M8 M8	
50/18 50/21 50/22.5 50/30 • **50/35** 50/39	M10 M10 M10 M10 **M10** M10	M8, M12
60/22	M10	
75/25 75/28	M12 M12	M16
80/25 • **80/60 ***	M12 **M12**	
125/45 125/80 • **125/90 ***	M16 M16 **M16**	M20

* These parts are only standard in natural rubber of hardness 57° Shore A

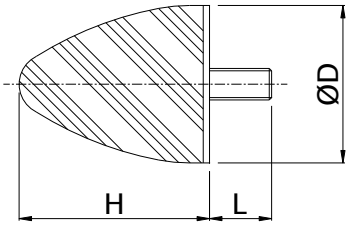
Compression Characteristics



Note: The Load/Deflection graphs are for maximum continuous loads up to 15% strain, the dotted line is for occasional shock loads up to 50% strain

Note: There is a possible deviation of ±20% in the above load/deflection graphs due to production and hardness tolerances

Buffer Type KP/D



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

Available Sizes

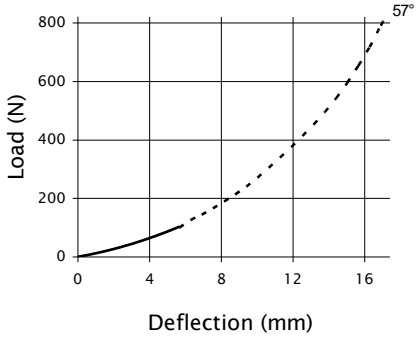
• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
• **30/36 ***	**M8 x 20**	M6 x 15, M8 x 8 M8 x 10, M8 x 13 M8 x 16, M8 x 18 M8 x 23, M8 x 27
• **50/58 *** 50/61 • **50/68 ***	**M10 x 28** M10 x 28 **M8 x 36**	M8 x 23, M10 x 15 M10 x 20, M10 x 33 M12 x 27
75/89	M12 x 37	M12 x 27, M12 x 32
• **115/133 ***	**M16 x 45**	

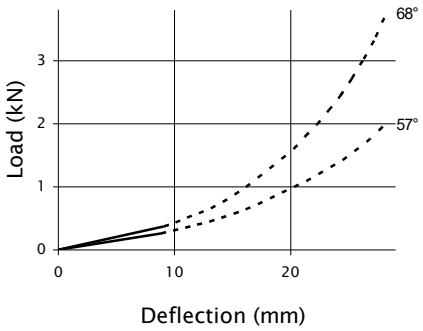
* These parts are only standard in natural rubber of hardness 57° Shore A

Compression Characteristics

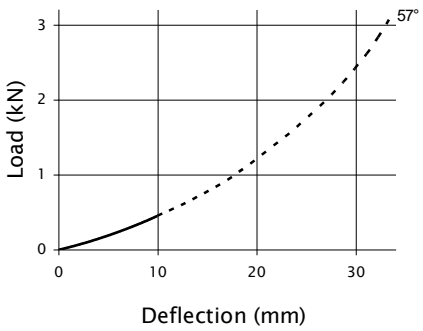
KPD30/36M8x20-57



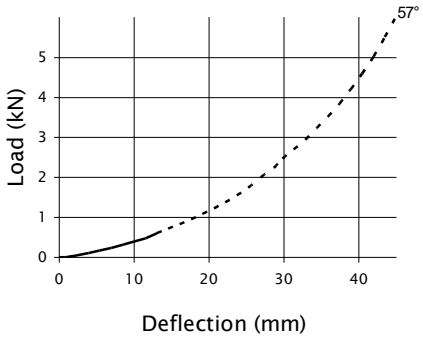
KPD50/58M10x28-??



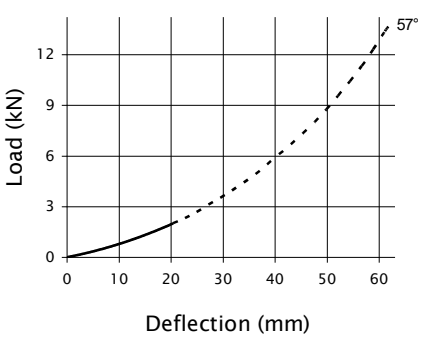
KPD50/68M10x28-57



KPD75/89M12x37-57



KPD115/133M16x45-57



Note: The Load/Deflection graphs are for maximum continuous loads up to 15% strain, the dotted line is for occasional shock loads up to 50% strain

Note: There is a possible deviation of ±20% in the above load/deflection graphs due to production and hardness tolerances

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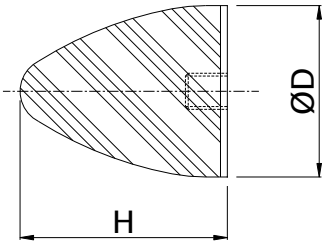
Buffer Type KP/E



Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

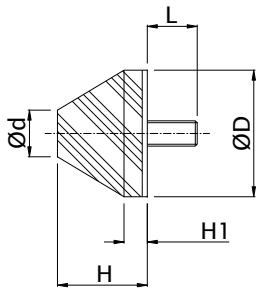
Available Sizes

• = **STANDARD STOCK**

Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
30/36	M8	
50/58 50/61 50/68	M10 M10 M10	M8, M12
75/89	M12	M16
115/133	M16	M20

* These parts are only standard in natural rubber of hardness 57° Shore A

Buffer Type KS/D



Compounds Produced:
(Natural Rubber)

43° Shore A (soft)
57° Shore A (medium)
68° Shore A (hard)

Available Sizes

- = **STANDARD STOCK**

Dimensions Di-a/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
15/20 (H1 - 10mm, Ød - 7.5mm)	M4 x 13	M4 x 6, M4 x 8 M4 x 10, M4 x 15
25/15 (H1 - 3mm, Ød - 7.5mm)	M6 x 18	M6 x 8, M6 x 10 M6 x 12, M6 x 15 M6 x 20
25/28 (H1 - 5mm, Ød - 5.5mm)	M6 x 18	

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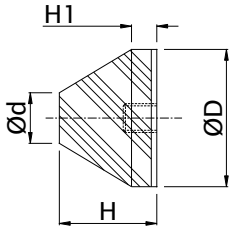
Buffer Type KS/E



Compounds Produced:
(Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

Available Sizes

- = **STANDARD STOCK**

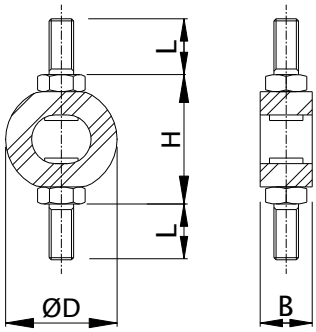
Dimensions Dia/Ht (mm)	Screw Thread Size x L (mm)	Special Screw Thread Size (mm)
15/20 (H1 - 10mm, Ød - 7.5mm)	M4	
25/15 (H1 - 3mm, Ød - 7.5mm)	M6	
25/28 (H1 - 5mm, Ød - 5.5mm)	M6	

Miniature Buffers

Compounds Produced: (Natural Rubber)

- 43° Shore A (soft)
- 57° Shore A (medium)
- 68° Shore A (hard)

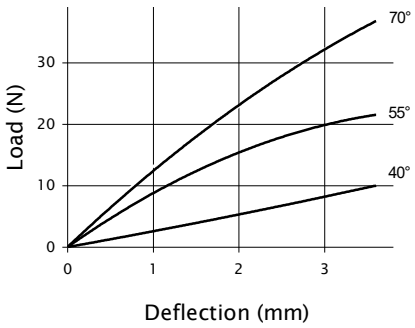
Dimensions



Part No.	ØD (mm)	H (mm)	B (mm)	Screw Thread Size x L (mm)
BF1031	18	18	9	M5 x 10
BF1032	25	24	13	M6 x 15
BF1033	39	42	19	M8 x 20

Compression Characteristics

MINIATURE-BF1031



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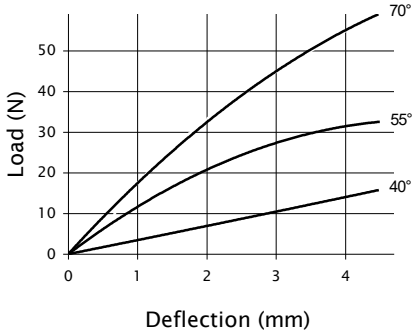
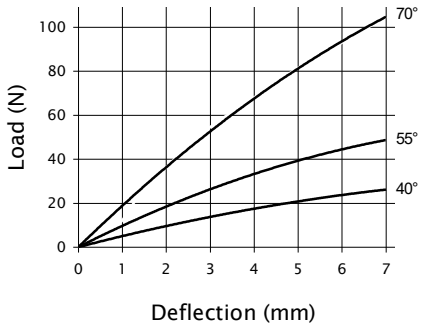


MINIATURE-BF1033



Note: There is a possible deviation of ±20% in the above load/deflection graphs due to production and hardness tolerances

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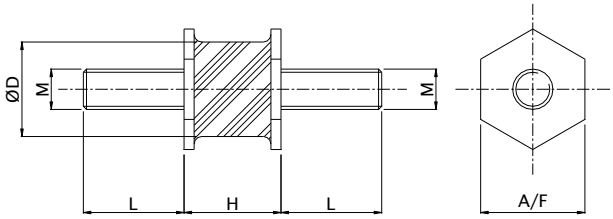
Hexagon Buffers

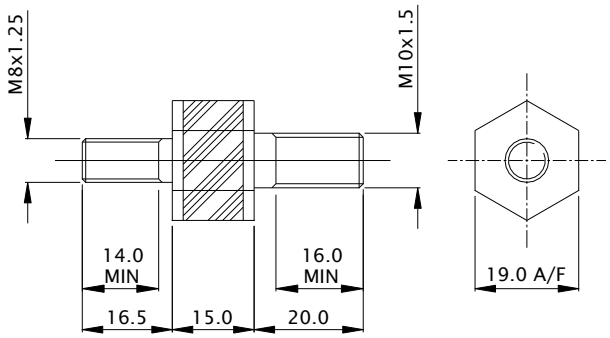
A number of sizes and styles are available from existing tooling. Some parts may be available from stock although they are normally manufactured to meet customers' requirements.

Dimensions

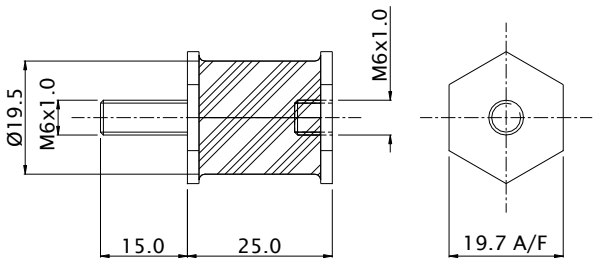


Part No.	ØD (mm)	H (mm)	M (mm)	L (mm)	A/F (mm)
HEX-BF1960	19.0	20.0	M6x1.0	10.0	19.0
HEX-BF1215	18.75	19.25	M8x1.25	20.0	20.7
HEX-BF1200	23.5	22.0	M8x1.25	15.0	24.0
HEX-BF1184	25.0	23.0	M8x1.25	17.0	26.8
HEX-BF1089	30.0	22.2	M10x1.5	25.0	32.9

HEX-BF1235



HEX-BF1179



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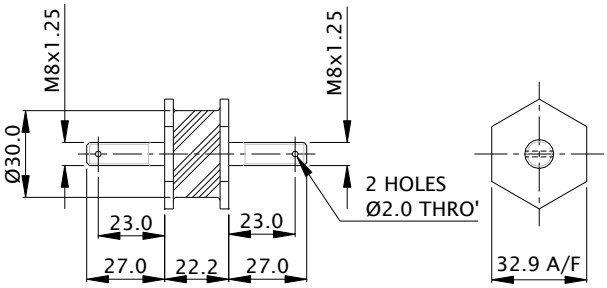
HEX-BF2099



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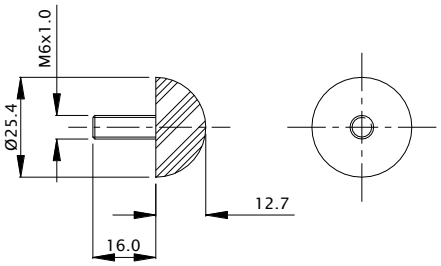
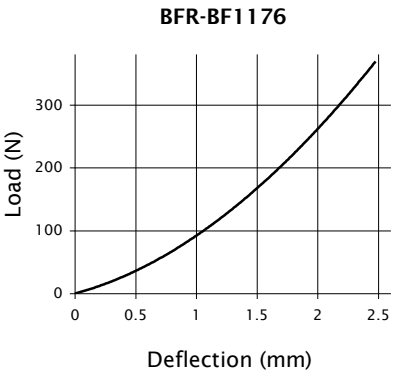
Special Buffers

Many types of buffer can be manufactured to meet customers' individual requirements. Minimum order quantities may apply unless parts are available from stock.

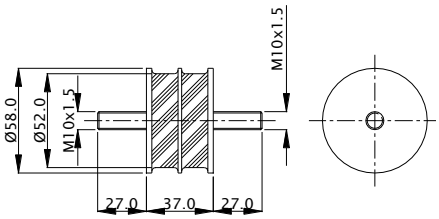
BFR-BF1176





Note: There is a possible deviation of ±20% in the above load/deflection graphs due to production and hardness tolerances

BFR-BF1148



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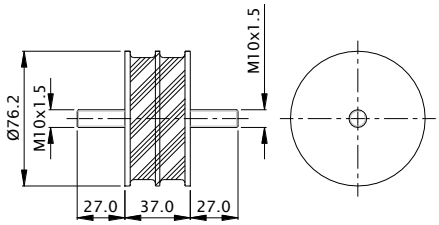
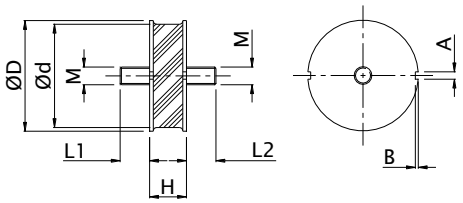
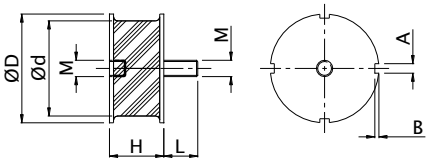


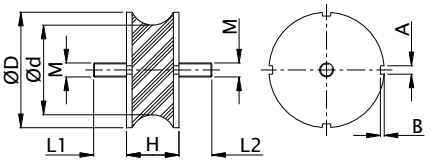
Dimensions



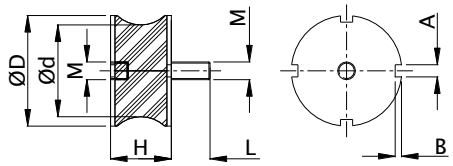
Part No.	ØD (mm)	H (mm)	Ød (mm)	M (mm)	L1 (mm)	L2 (mm)	A (mm)	B (mm)	No. of Slots
BFR-BF2474	52.0	30.0	45.0	M10x1.5	27.5	19.5	-	-	0
BFR-BF1872	75.0	25.0	70.0	M12x1.75	20.0	20.0	5.0	2.0	2
BFR-BF1255	105.0	40.0	95.0	M16x2.0	26.0	16.0	8.5	4.0	2
BFR-BF1254	105.0	55.0	95.0	M16x2.0	26.0	26.0	8.5	4.0	2
BFR-BF1632	105.0	55.0	95.0	M16x2.0	36.0	26.0	8.5	4.0	2
BFR-BF1609	160.0	75.0	150.0	M20x2.5	45.0	45.0	12.0	5.0	2
BFR-BF1610	165.0	75.0	165.0	M20x2.5	45.5	45.5	12.0	6.0	4



Part No.	ØD (mm)	H (mm)	Ød (mm)	M (mm)	L (mm)	A (mm)	B (mm)	No. of Slots
BFR-BF2215	52.0	30.0	45.0	M10x1.5	20.0	5.0	2.0	2
BFR-BF1117	60.0	30.0	60.0	M10x1.5	20.0	-	-	0
BFR-BF2152	72.0	57.5	60.0	M12x1.75	27.0	-	-	0
BFR-BF1871	80.0	40.0	70.0	M12x1.75	25.0	7.0	3.0	4
BFR-BF1868	90.0	50.0	90.0	M12x1.75	15.0	-	-	0
BFR-BF1673	100.0	55.0	100.0	M16x2.0	35.0	-	-	0
BFR-BF1603	105.0	40.0	95.0	M16x2.0	16.0	8.5	4.0	2



Part No.	ØD (mm)	H (mm)	Ød (mm)	M (mm)	L1 (mm)	L2 (mm)	A (mm)	B (mm)	No. of Slots
BFR-BF2074	55.0	36.0	43.0	M10x1.5	28.0	28.0	-	-	0
BFR-BF1192	100.0	55.0	(83.0)	M16x2.0	35.0	35.0	11.0	6.0	4
BFR-BF2195	118.0	55.0	100.0	M16x2.0	33.0	33.0	-	-	0
BFR-BF1191	165.0	75.0	128.0	M20x2.5	36.0	36.0	12.0	5.5	4
BFR-BF1219	165.0	75.0	128.0	M20x2.5	47.0	47.0	12.0	5.5	4
BFR-BF1608	165.0	75.0	130.0	M20x2.5	35.0	35.0	12.0	5.0	4
BFR-BF1098	165.0	75.0	135.0	M20x2.5	47.0	47.0	12.5	5.5	4



Part No.	ØD (mm)	H (mm)	Ød (mm)	M (mm)	L (mm)	A (mm)	B (mm)	No. of Slots
BFR-BF2056	55.0	36.0	43.0.0	M10x1.5	28.0	-	-	0
BFR-BF1257	100.0	40.0	85.0	M16x2.0	16.0	11.0	6.0	4
BFR-BF1141	100.0	55.0	83.0	M16x2.0	35.0	-	-	0
BFR-BF1898	165.0	75.0	130.0	M20x2.5	22.0	13.0	6.5	4

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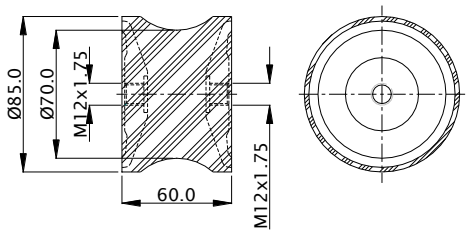
BFR-BF1931



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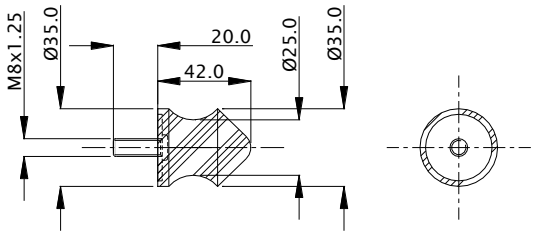
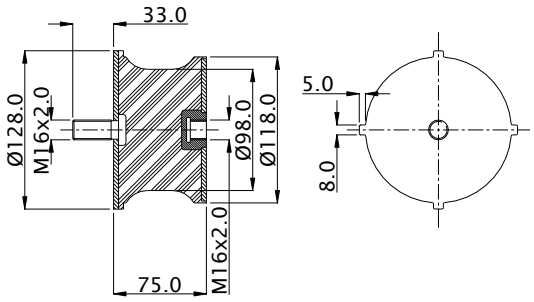
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