		
D	H	Type 1	Type 2	Type 3	Type 4	Type 5		
6	7	M3xh	M3xh/M3	M3	M3xh	M3		
8	5	M3xh	M3xh/M3	M3	M3xh	M3		
8	8							
8	10							
9	12	M3xh M4xh M5xh	M3xh/M3 M4xh/M4	M3 M4	M3xh M4xh M5xh	M3 M4 M5		
10	8	M3xh M4xh M5xh	M3xh/M3 M4xh/M4	M3	M3xh M4xh M5xh	M3 M4 M5		
10	10			M3				
10	15			M3				
10	17			M4				
10	18			M5				
10	30							
11	11	M3xh M4xh M5xh	M3xh/M3 M4xh/M4	M3 M4	M3xh M4xh M5xh	M3 M4 M5		
12	10	M3xh M4xh M5xh	M3xh/M3 M4xh/M4	M3	M3xh M4xh M5xh	M3 M4 M5		
13	26	M4xh M5xh	M4xh/M4 M5xh/M5 M6xh/M6	M3 M4 M5	M4xh M5xh M6xh	M3 M4		
15	4	M4xh M5xh			M4xh			
15	5							
15	6							
15	7							
15	8				M4xh/M4		M3	M3 M4
15	9							
15	10				M4xh/M4 M5xh/M5		M3 M4	
15	12							
15	13							
15	15				M3 M4		M3 M4 M5	
15	20							
15	25							
15	30							
16	18	M4xh M5xh	M4xh/M4 M5xh/M5	M3 M4 M5	M4xh M5xh	M3 M4 M5		
20	5				M5xh M6xh			
20	8	M5xh				M5		

20	10	M6xh	M5xh/M5	M8xh	M6
		M8xh	M6xh/M6		

G	h
M3	4,6,10
M4	6,8,10
M5	10,12,15
M6	6,8,10,12,15,18,20,23,28
M8	8,10,12,15,18,20,23,25,28,33

D	H	Type 1	Type 2	Type 3	Type 4	Type 5
20	11	M5xh	M5xh/M5		M5xh/M5	M5
20	12	M6xh	M6xh/M6		M6xh/M6	M6
20	13	M8xh			M8h/M8	M8
20	15		M5xh/M5	M5		
20	17		M6xh/M6	M6		
20	20		M8h/M8	M5		
20	23			M6		
20	25			M8		
20	30					
25	8	M6xh			M6xh	
25	10	M6xh			M8xh	M6
25	12	M8xh				M6
25	13					M8
25	14					
25	15		M6xh/M6	M6		
25	17		M8xh/M8			
25	18					
25	19					
25	20			M6		
25	22			M8		
25	25					
25	27					
25	28					
25	30					
26	22	M6xh	M6xh/M6	M6	M6xh	M6
		M8xh	M8xh/M8	M8	M8xh	M8
30	8				M6xh	
30	10				M8xh	M6
30	12				M10xh	M6
30	13					M8
30	15	M6xh	M6xh/M6	M6		M6
30	17	M8xh	M8xh/M8			M8
30	18	M10xh	M10xh/M10			M10
30	20			M6		
30	22			M8		
30	25			M6		
30	30			M8		
30	35			M10		
30	45					
30	40					
40	10	M6xh			M6xh	M6
40	15	M8xh	M6xh/M6	M6	M8xh	M6
40	20	M10xh	M8xh/M8	M6	M10xh	M8
40	25		M10xh/M10	M8		M10
40	27			M6		
40	28			M8		
40	30			M10		

G	h
M5	10,12,15
M6	6,8,10,12,15,18,20,23,28
M8	8,10,12,15,18,20,23,25,28,33
M10	10,12,15,18,20,23,25,28,33,38,43



D	H	Type 1	Type 2	Type 3	Type 4	Type 5
40	35	M6xh	M6xh/M6	M6	M6xh	M6
40	38	M8xh	M8xh/M8	M8	M8xh	M8
40	40	M10xh	M10xh/M10	M10	M10xh	M10
40	45					
40	60					
50	7				M8xh M10xh	
50	9	M8xh				
50	12					M8
50	15	M8xh			M8xh	
50	17	M10xh			M10xh	
50	20	M12xh			M12xh	
50	21		M8xh/M8	M8		M8
50	25		M10xh/M10	M8		M10
50	27		M12xh/M12	M10		M12
50	28					
50	30			M8		
50	35			M10		
50	37			M12		
50	40					
50	42					
50	45					
50	50					
50	80					
60	15	M8xh			M8xh	M8 M10
60	16	M10xh			M10xh	
60	20			M8	M12xh	
60	25	M8xh	M8xh/M8	M8 M10		M8
60	30	M10xh	M10xh/M10			M10
60	35	M12xh	M8xh/M8	M8		M12
60	40		M10xh/M10	M10		
60	45		M12xh/M12	M12		
60	50					
60	60					

65	35	M12xh	M12xh/M12	M12	M12xh	M12
70	20				M10xh	M10
70	25	M10xh		M10	M12xh	M12
70	30	M10xh	M10xh/M10	M10		
70	35	M12xh	M12xh/M12	M12		
70	40					
70	45					
70	50					
70	53					
70	55					
70	60					
70	70					

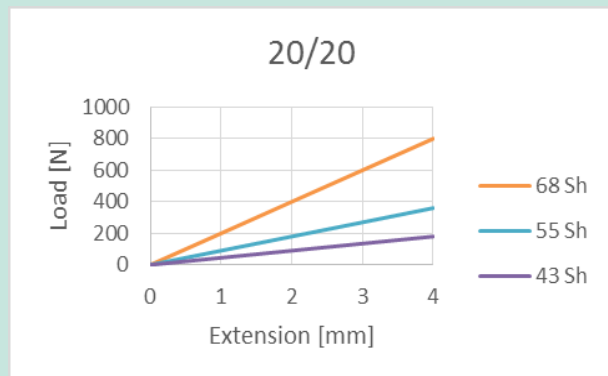
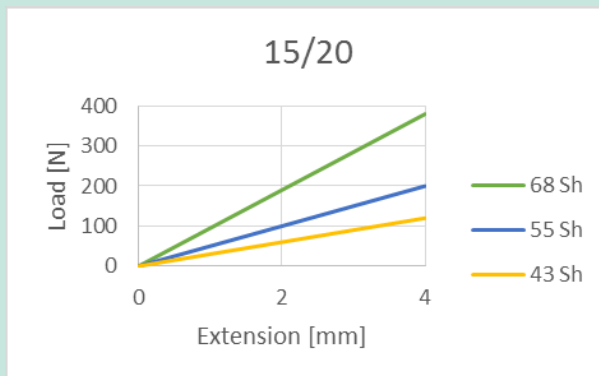
G	h
M6	6,8,10,12,15,18,20,23,28
M8	8,10,12,15,18,20,23,25,28,33
M10	10,12,15,18,20,23,25,28,33,38,43
M12	10,12,18,20,23,25,27,33,37,42

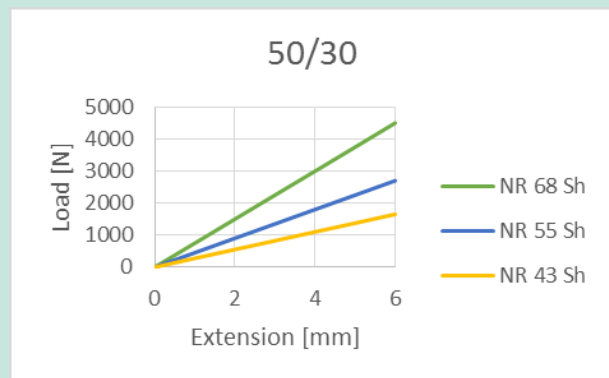
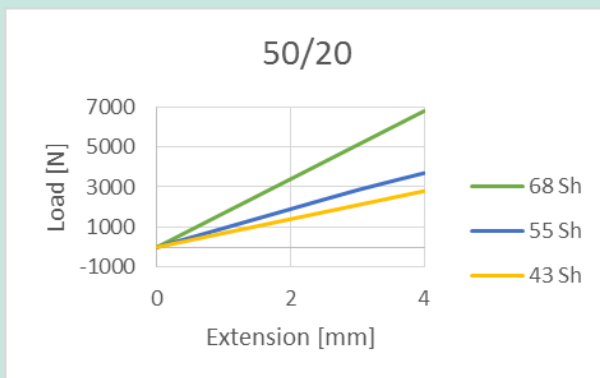
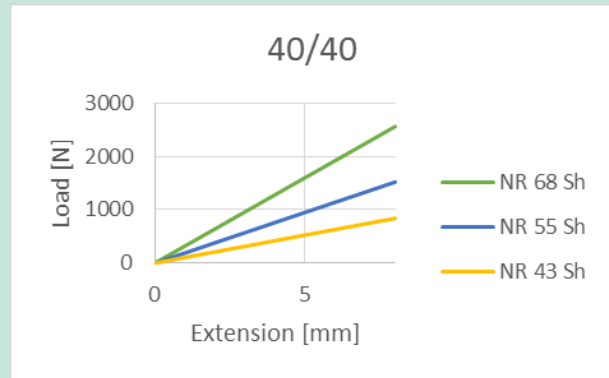
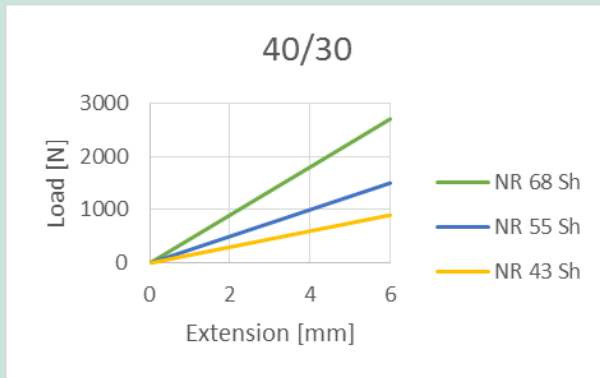
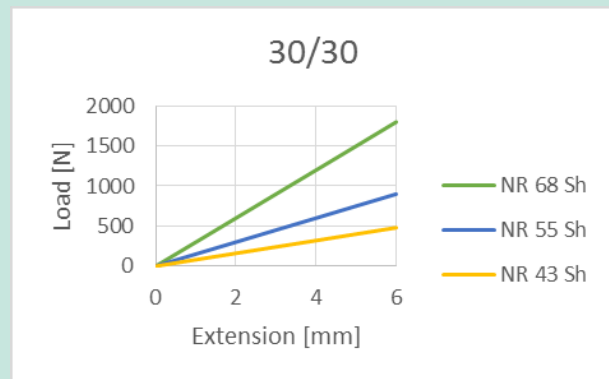
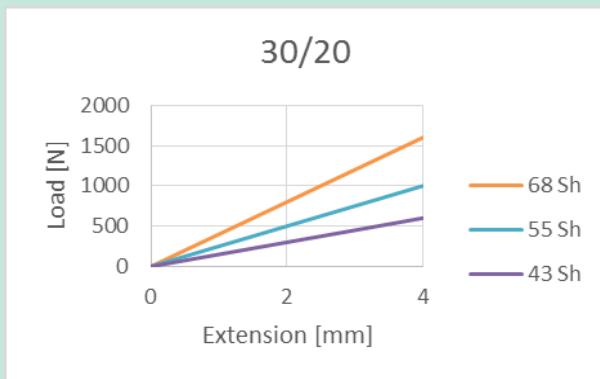
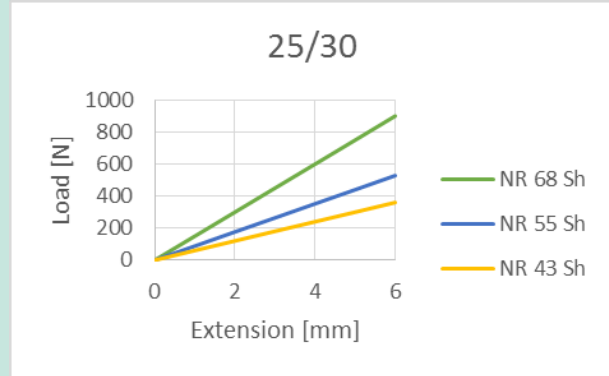
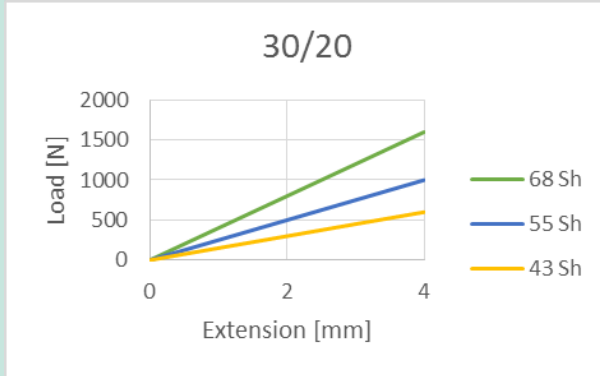
D	H	Type 1	Type 2	Type 3	Type 4	Type 5
75	20				M10xh	M10
75	25	M10xh	M10xh/M10	M10	M12xh	M12
75	30	M12xh	M12xh/M12	M10		
75	35			M10		
75	40			M12		
75	45					
75	50					
75	55					
75	60					
75	70					
75	100					

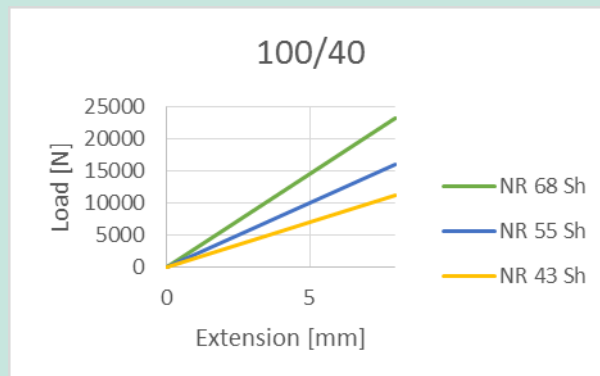
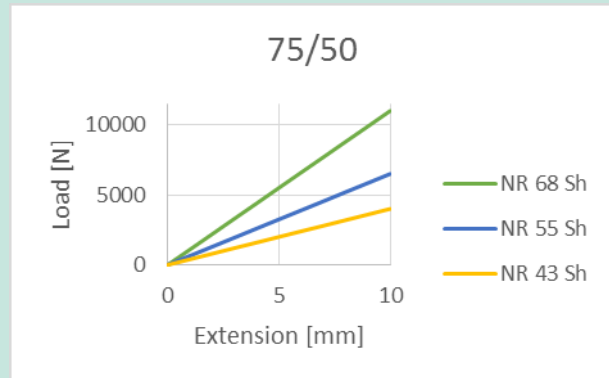
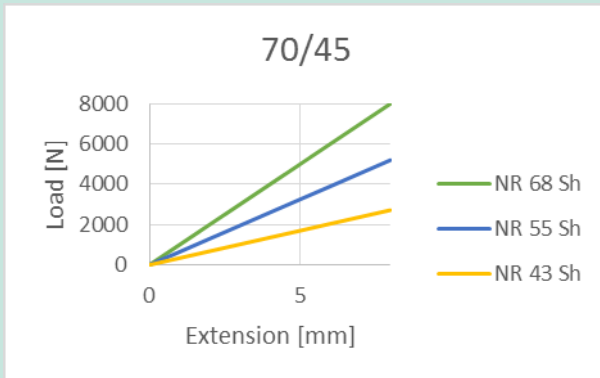
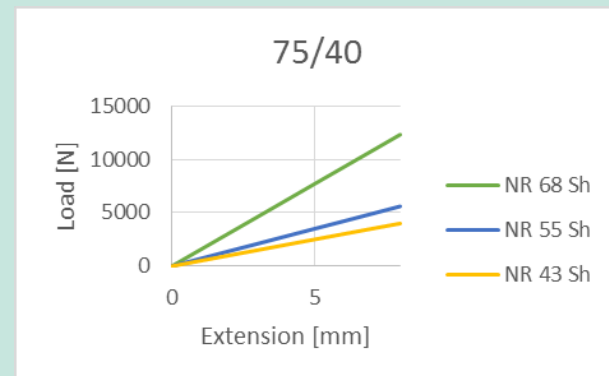
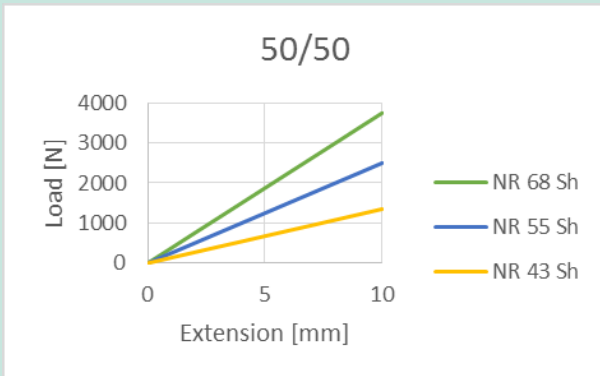
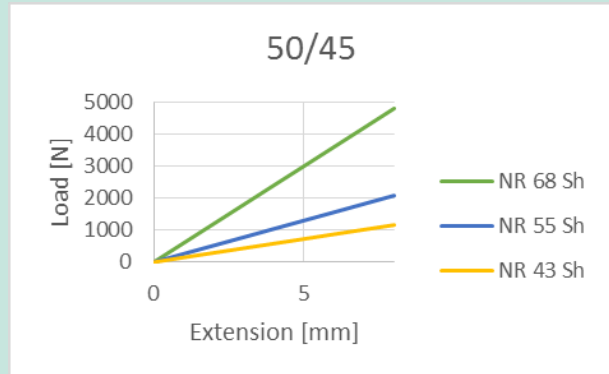
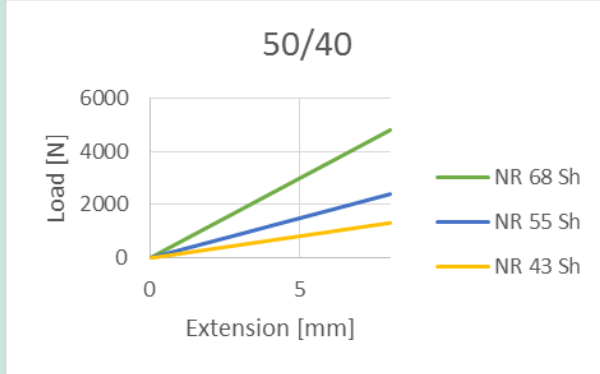


80	17	M10xh M12xh M14xh M16xh	M10xh/M10 M12xh/M12 M14xh/M16 M14xh/M16	M10 M12 M14 M16	M10xh M12xh M14xh M16xh	M10 M12 M14 M16
80	18					
80	30					
80	40					
80	50					
80	55					
80	60					
80	65					
80	70					
80	75					
80	80					
90	60	M12xh	M12xh/M12	M12	M12xh	M12
100	25	M12xh M16xh	M12xh/M12 M16xh/M16	M12 M16	M12xh M16xh	M12 M16
100	30					
100	35					
100	40					
100	45					
100	50					
100	55					
100	60					
100	65					
100	70					
100	75					
100	80					
100	100					
150	50	M16xh M20xh	M16xh/M16 M20xh/M20	M16 M20	M16xh M20xh	M16 M20
150	55					
150	60					
150	75					
200	100	M20xh	M20xh/M20	M20	M20xh	M20

G	h
M10	10,12,15,18,20,23,25,28,33,38,43
M12	10,12,18,20,23,25,27,33,37,42
M16	26,36,41,46
M20	41,45





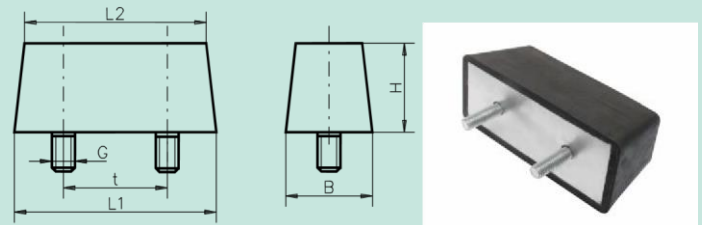
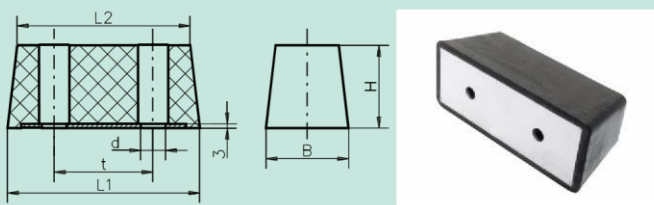


D	H	f [mm]	Fv [daN]		
			43Sh	57Sh	68Sh
8	8	0,4	0,7	1,6	4,5
		0,8	1,5	3,5	9
		1,2	2,5	5,5	14,5
10	10	0,6	1,2	2,5	7
		1,2	2,5	6	14,5
		1,6	3,5	8	20,5
15	8	0,4	3,5	7,5	21
		0,8	7,5	15,5	45
		1,2	12	25	74,5
15	15	0,8	2	4,5	12,5
		1,5	4	9,5	22,5
		2,5	7,5	17	40
20	15	1	5,5	13,5	28
		2	11,5	28,5	60
		2,5	15	37	77,5
20	20	1	3,5	8,5	18
		2,5	9	22,5	47,5
		3,5	13	32,5	70
25	15	1	9,5	23	48
		1,5	14,5	36	74,5
		2,5	26	64,5	134
25	20	1	5,5	14	29,5
		2,5	15	37	78
		3,5	22	54	114,5
30	15	1	16,5	29	89
		2	46	80	195
		2,5	61	104,5	256
30	20	1	10,5	21	49
		2,5	29	57	131,5
		3,5	43	84	194,5
30	30	1,5	8	17,5	39,5
		3	17	36,5	81,5
		5,3	31,5	67,5	152
40	30	1,5	16	33,5	74,5
		3	33	67	155,5
		5,3	62	130	291
40	40	2	13,5	30,5	67
		5	36	78	176,5
		7	53	116	256,5
50	20	1	44	89,5	183
		2	94,5	191	390
		3	153,5	308,5	627

D	H	f [mm]	Fv [daN]		
			43Sh	57Sh	68Sh
50	30	1,5	27,5	60	126
		3	58	125,5	263
		4,5	91,5	198	414,5
50	40	3	35	78,5	167
		6	74,5	167	354
		8	104,5	232,5	493
70	45	2	46	101	212,5
		5	122,5	210	563
		8	210,5	458	961
75	40	2	69	147,5	307,5
		4	145,5	247,5	646,5
		7	279,5	590,5	1227,5
75	55	1,5	29	64,5	137
		4,5	90,5	201,5	427,5
		7,5	158,5	352	743,5
100	40	2	176	358	734
		4	378,5	765	1560
		6	614	1233,5	2500
100	55	3	130	280	586,5
		6	276,5	591,5	1234
		9	442,5	942,5	1956
100	60	3	110	234	504,5
		6	231,5	502	1054
		10,5	440	949	1984,5
100	75	6	155	346	734
		12	333,5	741	1568
		16,5	487,5	1077,5	2279
150	55	3	414,5	915	1713,5
		6	892	1969,5	3659,5
		9	1452	3204,5	5902,5
150	60	3	336	745	1422,5
		7,5	925	2046,5	3771,5
		10,5	1391,5	3075	5775
150	75	4	282,5	634,5	1259,5
		10	771	1726	3401
		14	1152	2573,5	5042,5
200	100	6	540,5	1204	2504,5
		12	1150	2550	5302
		18	1846,5	4073,5	8467

RP-OG

RP-2G



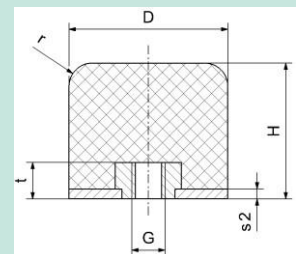
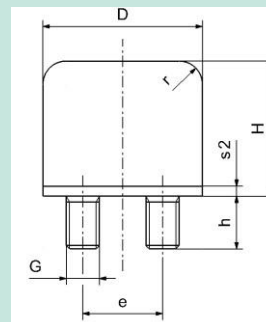
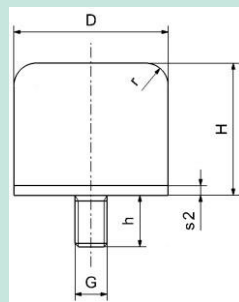
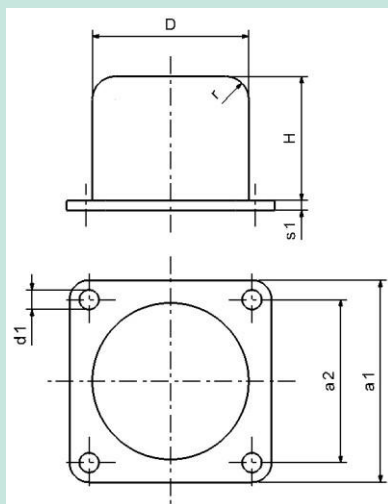
Type	L1	L2	B	H	t	G	d
150	150	136	60	60	70	M10x32	11
200	200	168	100	100	90	M12x36	13

GP-QP

GP-1G

GP-2G

GP-1I





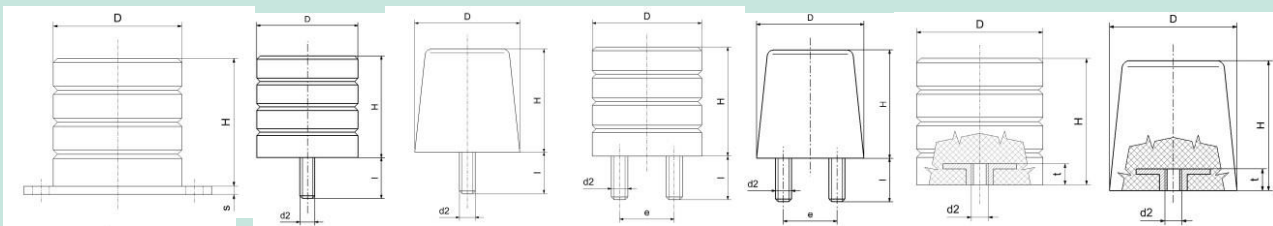
Type	D mm	H mm	Measurement										Load capacity		
			a1 mm	a2 mm	d mm	G mm	e mm	h mm	r mm	s1 mm	s2 mm	t mm	f mm	F N	W J
40x32	40	32	50	40	5,5	M8	-	23	8	2	2	8	18	1.500	70
50x40	50	40	63	50	6,5	M10	-	28	10	3	2	10	22	2.200	140
63x50	63	50	80	63	6,5	M10	-	28	12,5	4	3	10	28	3.200	280
80x63	80	63	100	80	9	M12	-	37	18	5	3	12	35	7.000	560
100x80	100	80	125	100	9	M12	50	36	20	6	4	12	44	10.000	1120
125x100	125	100	160	125	11	M16	63	36	25	6	4	16	55	15.000	2240
160x125	160	125	200	160	11	M16	80	44	32	8	6	16	68	20.000	4400
200x160	200	160	250	200	13	M20	100	44	40	8	6	18	38	25.000	8800

ZP-QP

ZP-1G

ZP-2G

ZP-1I



Konische Ausführung ohne Rille nur bei D=H und Typen ZP-1G; ZP-2g; ZP-1I. Typen ZP-QP ab Ø200 mm sind mit Seilsicherung lieferbar.

Zellkörperwerkstoff: zelliges Polyurethan-Elastomer (zelliges Vulkolan® auf Anfrage)

Raumdichte 0,53 g/cm³ (Sonder: weiche _ 0,35 g/cm³; hart _ 0,65 g/cm³). **Quatte Rille**

Ø 200 mm als **Kurz**, ab Ø 20 mm als **StH**

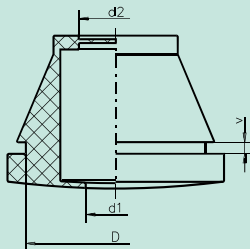


Type			Size									Load ¹		
Order id.	D	H	a1	a2	d1	d2	e	l	s	t	f	F	W	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kN	J	
070x070	70	70	-	-	-	M12	-	35	-	-	52	30	330	
080x040	80	40	110	80	13	M12	-	35	10	12,5	30	40	200	
080x080 ²	80	80	110	80	13	M12	-	35	10	12,5	60	40	400	
080x120	80	120	100	80	13	M12	-	35	10	12,5	90	40	600	
100x050	100	50	125	100	13	M12	-	35	10	12,5	38	63	400	
100x100	100	100	125	100	13	M12	50	35	10	12,5	75	63	800	
100x150	100	150	125	100	13	M12	50	35	10	12,5	112	63	1200	
125x063	125	63	160	125	17	M12	-	35	12	12,5	47	100	750	
125x125 ²	125	125	160	125	17	M12	63	35	12	12,5	94	100	1500	
125x190	125	190	160	125	17	M12	63	35	12	12,5	142	100	3000	
160x080	160	80	200	160	17	M12	-	35	12	14	60	160	1600	
160x160 ²	160	160	200	160	17	M12	80	35	12	14	120	160	3200	
160x240	160	240	200	160	17	M12	80	35	12	14	180	160	4800	
200x100	200	100	250	200	21	M12	-	35	14	14	75	250	3150	
200x200 ²	200	200	250	200	21	M12	100	35	14	14	150	250	6300	
200x300	200	300	250	200	21	M12	100	35	14	14	225	250	9450	
250x125	250	125	315	250	21	M24	-	80	15	25	94	400	6000	
250x250	250	250	315	250	21	M24	125	80	15	25	188	400	12000	
250x375	250	375	315	250	21	M24	125	80	15	25	280	400	18000	
315x160	315	160	400	315	21	M24	-	80	15	25	120	630	12000	
315x315	315	315	400	315	21	M24	160	80	15	25	236	630	24000	
315x475	315	475	400	315	21	M24	160	80	15	25	356	630	36000	
400x200	400	200	500	400	25	M30	-	80	20	30	150	1000	24000	
400x400	400	400	500	400	25	M30	200	80	20	30	300	1000	48000	
400x600	400	600	500	400	25	M30	200	80	20	30	450	1000	72000	
500x250	500	250	600	500	25	-	-	-	20	-	188	1600	48000	
500x500	500	500	600	500	25	-	-	-	20	-	375	1600	96000	
500x750	500	750	600	500	25	-	-	-	20	-	563	1600	144000	
600x300	600	300	730	600	25	-	-	-	20	-	225	2000	63000	
600x600	600	600	730	600	25	-	-	-	20	-	450	2000	125000	
600x900	600	900	730	600	25	-	-	-	20	-	675	2000	188000	

1) Werte für < 1 m/s und Federweg $f = 0,75 \times H$ / Belastungsdiagramm auf Anfrage.
2G und ZP-11 konische Ausführung.

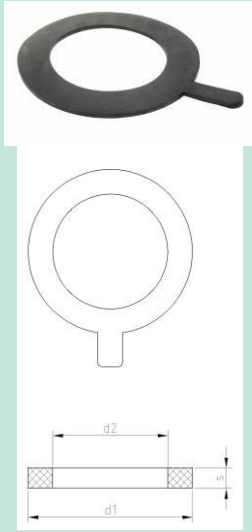
1J = 1Nm = 0,102 mkp 2) Typen ZP-1g, ZP-

CABLE LEAD-THROUGH



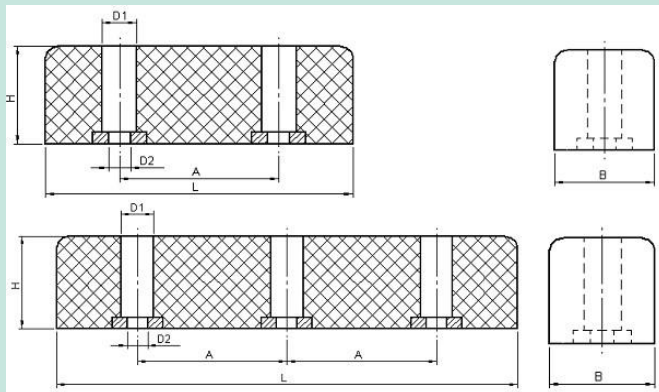
Type	d1	d2	D	v	H
5-7	4	4,5	16	1	18
7-10	6	7	18	2	20
10-14	8	9	23	2	24
14-20	13	14	28	2	26
20-26	16	19	38	3	24
26-35	21	25	48	3	28

BOLT-LOCK SEAL

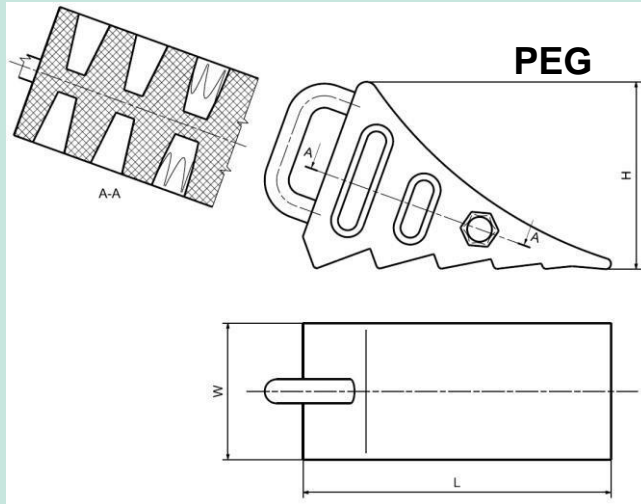


Type	d1	d2	S mm	DN(NA)
40/86	40	86	3	40
49/91,2	49	91,2	3	50
90/138	90	138	3	80
113/160	113	160	3	100
140/191	140	191	3	125
163/215	163	215	3	150
222/267	222	267	3	200
274/324	274	324	3	250
294/363	294	363	3	300
343/412	343	412	5,5	350
392/470	392	470	5,5	400
519/583	519	583	4	500
608/681	608	681	4,5	600

TAB

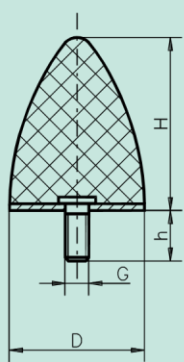


Type	H	L	B	Nr OF HOLES	A	D1	D2
TAB-1	15	125	40	2	60	19,7	8
TAB-2	40	125	40	2	60	19,8	8
TAB-3	50	125	43	2	60	20,3	8
TAB-4	70	125	43	2	60	19,8	8
TAB-5	60	200	52	2	120	26	10,5
TAB-6	80	200	52	2	120	26	10,5
TAB-7	60	300	52	3	115	26	10,5
TAB-8	80	300	52	3	115	26	10,5
TAB-9	60	400	52	3	165	26	10,5
TAB-10	80	400	52	3	165	26	10,5
TAB-11	60	315	35	3	125	21	10

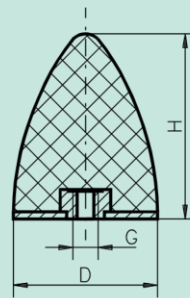


NK70 +/- 5 Shore

Type	W	H	L
PEG-S	100	105	165
PEG-B	100	145	228



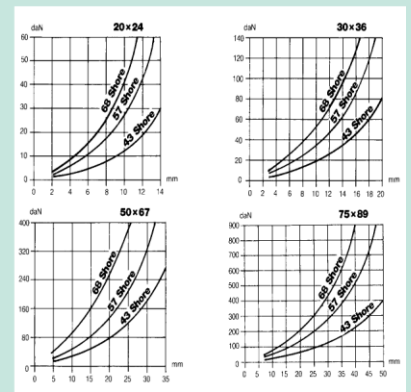
KP-D



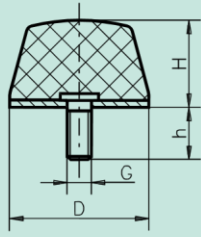
KP-E



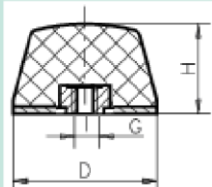
D/H	D	H	G	h
10/10	10	10	M5	12
15/22	15	22	M6	18
20/15	20	15	M6	10
20/24	20	24	M6	18
25/16	25	16	M6	18
25/20	25	20	M6	18
30/30	30	30	M8	20
30/36	30	36	M8	20
35/40	35	40	M8	23
50/50	50	50	M10	28
50/58	50	58	M10	28
50/61	50	61	M8	28
50/67	50	67	M8	33
50/68	50	68	M10	38
60/40	60	40	M10	28
70/58	70	58	M12	32
70/60	70	60	M12	37
75/89	75	89	M12	37
95/80	95	80	M16	41
115/136	115	136	M16	41
118/77	118	77	M16	41



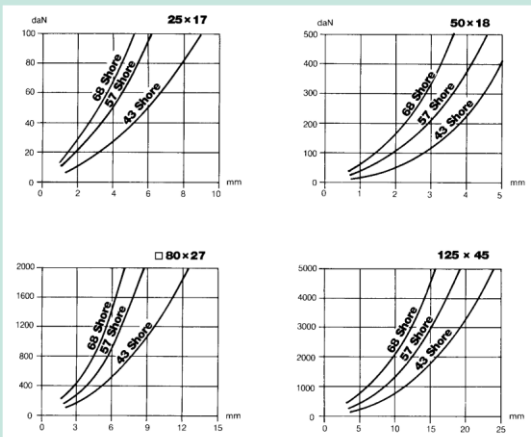
KD



KD-4

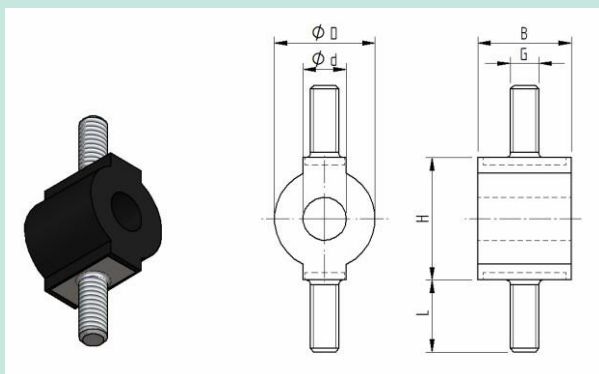


KD-5



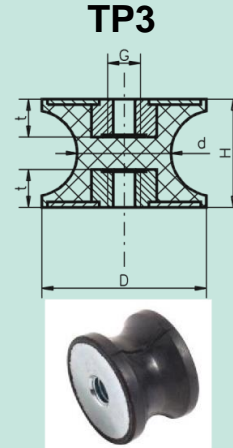
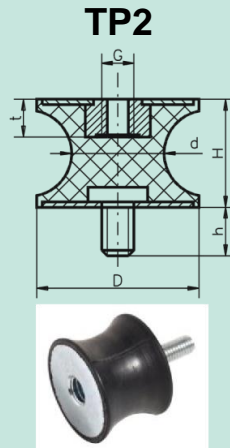
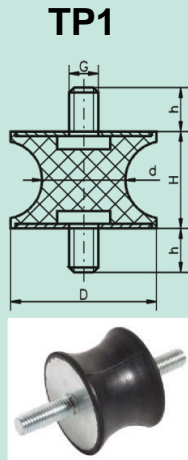
D/H	D	H	G	h
12/12	12	12	M4	10
14/6,3	14	6,3	M4	4
15/9	15	9	M5	12
15/12	15	12	M5	12
20/14	20	14	M6	18
20/16	20	16	M6	18
20/17	20	17	M6	18
22/8	22	8	M6	18
22/12	22	12	M6	18
25/12	25	12	M6	18
25/14	25	14	M4	10
25/17	25	17	M6	18
32/22	32	22	M8	23
35/40 Ballig	35	40	M8	23
38/35	38	35	M10	28
43/35	43	35	M10	28
43/50	43	50	M10	28
45/21	45	21	M8	46
50/18	50	18	M10	28
50/20	50	20	M10	28
□50/20	□50	20	M10	28
50/50	50	50	M10	28
60/40	60	40	M10	28
70/25	70	25	M12	37
□80/27	□80	27	M12	37
125/45	125	45	M16	45

O-BUFFER



D/H	D	H	B	d	G	h	R
10,5/12,5	10,5	12,5	9,5	5,6	M4	10	5,25
14/17	14	17	13	6	M4	10	8,5

25/30	25	30	20	12	M5/5	14/6	12,5
36/40	36	40	26	17	M10	20	18

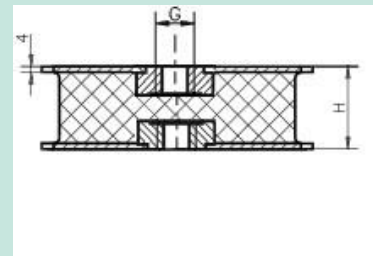
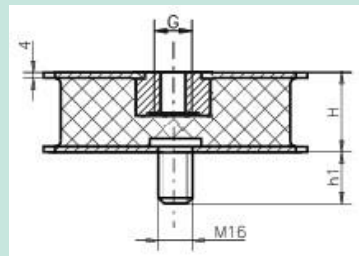
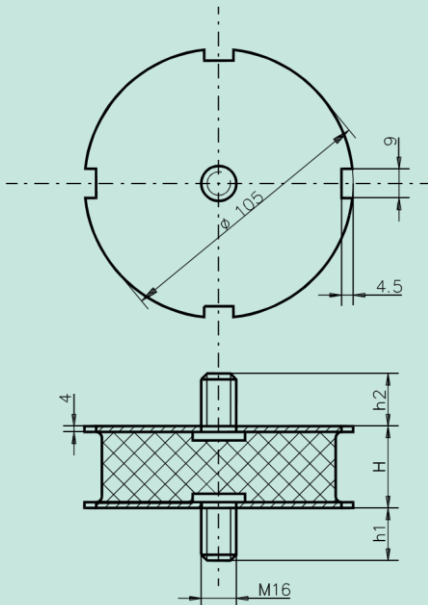


D/d-H	D	d	H	G	h	t
10/4,5-8	10	4,5	8	M3	6	3
10/8-10	10	8	10	M4	10	4
15/8,5-15	15	8,5	15	M4	10	4
15/12-15	15	12	15	M4	10	4
20/12-30	20	12	30	M6	18	6
20/14-15	20	14	15	M6	18	6
20/14-19	20	14	19	M4	10	4
20/14-30	20	14	30	M4	10	4
20/16-20	20	16	20	M6	18	6
21/16-22	21	16	22	M6	18	6
25/18-20	25	18	20	M8	23	8
25/20-20	25	20	20	M6	10	6
30/22-20	30	22	20	M8	23	8
30/25-20	30	25	20	M8	23	8
30/18-25	30	18	25	M8	20	6
30/19,5-41	30	19,5	41	M8	20	8
35/25-34	35	25	34	M8	20	8
35/31-15	35	31	15	M8	20	8
40/25-30	40	25	30	M8	23	8
40/33-30	40	33	30	M8	23	8
40/20-50	40	20	50	M8	23	8
40/33-30	40	33	30	M8	23	8
50/35-50	50	35	50	M10	28	10
50/42-30	50	42	30	M10	28	10
50/46-15	50	46	15	M10	28	10
55/44-45	55	44	45	M8	28	8
57/25-44	57	25	44	M10	28	10
57/44-45	57	44	45	M10	28	10
57/25-45	57	25	45	M8	20	8
60/49-60	60	49	60	M10	28	10
70/45-53	70	45	53	M12	28	12
72/64-33,5	72	64	33,5	M12	37	12

75/60-40	75	60	40	M12	37	12
95/80-75	95	80	75	M16	41	16
180/148-75	180	148	75	M20	34	20
180/150-75	180	150	75	M20	45	20

KR

Type	D	H	h1	h2
KR-1	105	55	30	30
KR-2	105	40	30	25



KR-A

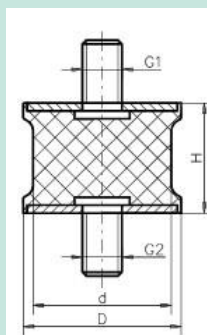


KR-B

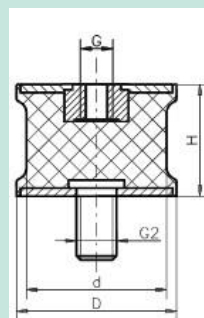


KR-C

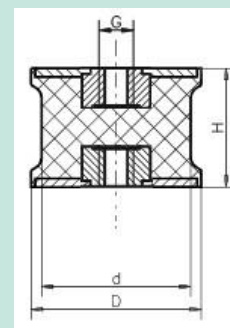
SP-1



SP-2

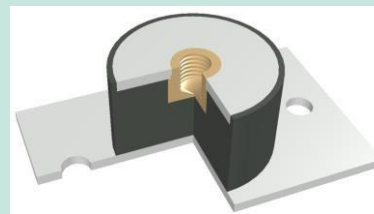
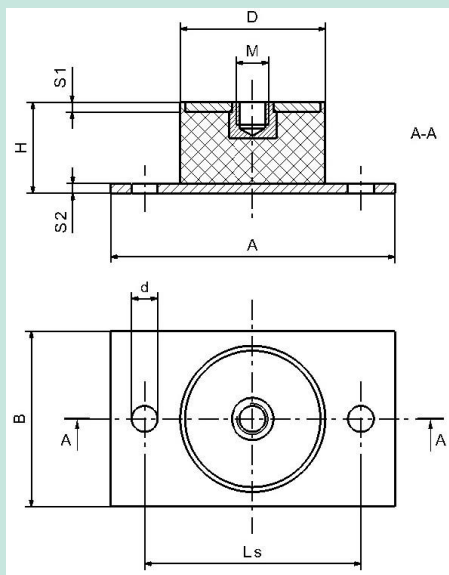


SP-3



D/d-H	D	d	H	G1	G2
20/15-30	20	15	30	M6x18	M6x18
20/15-40	20	15	40	M6x18	M6x18
25,5/22-20	25,5	22	20	M8x10	M8x18
40/35-28	40	35	28	M8x23	M8x23
40/37-30	40	37	30	M8x23	M8x23
46/40-25	46	40	25	M10x28	M10x28
50/40-30	50	40	30	M10x28	M10x28
75/70-40	75	70	40	M12x37	M12x37
100/95-75	100	95	75	M16x45	M16x45

PLO

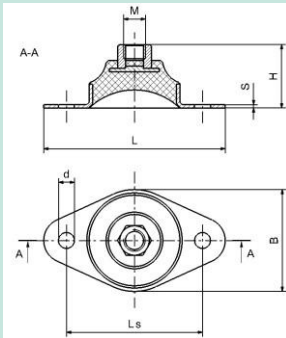


Type	A	B	Ls	H	D	d	S1/S2	M	Sh A	Load		
										S max (N)	F max (N)	C (N/mm)
PLO-1	80	30	60	33	25	9	3/1,5	M6	43	4	160	40
PLO-2	80	30	60	33	30	9	3/1,5	M8	55	4	450	112
PLO-3	100	60	75	33	50	9	3/3	M10	55	4	1150	387
PLO-4	130	80	105	44	75	11	4/5	M12	68	5,5	6100	1110
PLO-5	120	120	95/95	44	100	4x12,5	4/5	M16	55	5,5	8500	1545

Type	B	H	L	M	S	Ls	d
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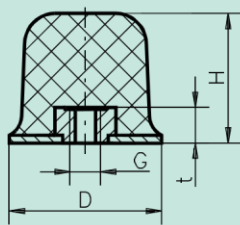
060 014	35	20	60	M6	2	45	6
090 014	50	32	90	M10	2	70	9
140 014	80	50	140	M16	3	105	13

HUT-ELEMENT

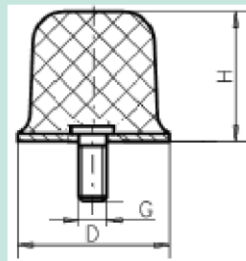


KE

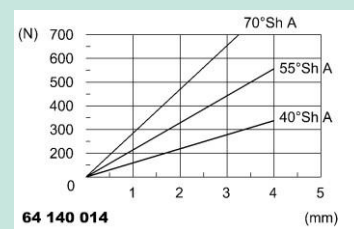
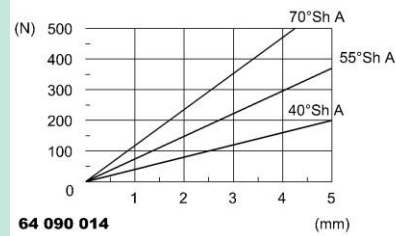
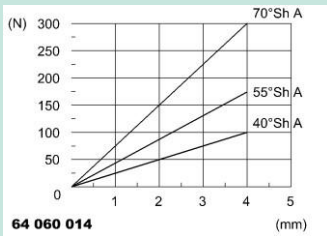
Type	D	H	G	H / t
50/35	50	35	M10	10
80/60	80	60	M12	37
125/90	125	90	M16	41



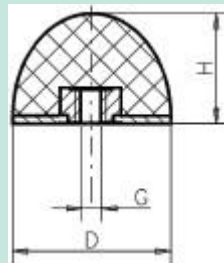
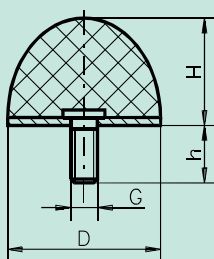
KE-5



KE-4



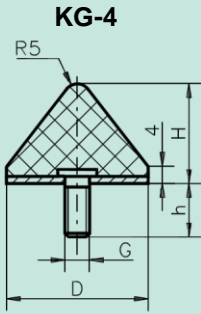
KG



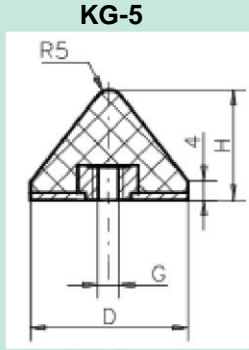
D/H	D	H	G	h
25/13	25	13	M6	10
25/15	25	15	M6	18
30/26	30	26	M8	20
50/30	50	30	M8	28



KK



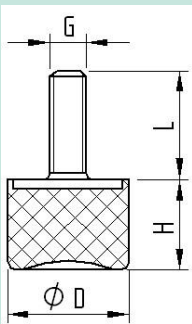
KK-4



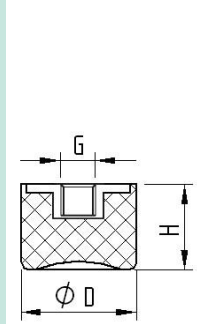
KK-5



D/H	D	H	G	h
20/20	20	20	M6	18
24/17	24	17	M6	18
25/16	25	16	M8	25
25/18	25	18	M8	25
35/17	35	17	M8	25
40/24	40	24	M8	28
40/30	40	30	M8	28
50/28	50	28	M8	28
50/45	50	45	M10	35
60/45	60	45	M10	28
85/65	85	65	M12	37



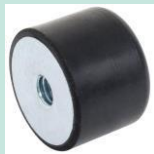
DS-4



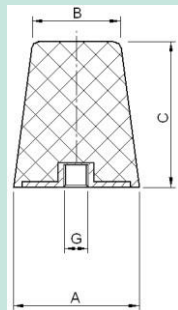
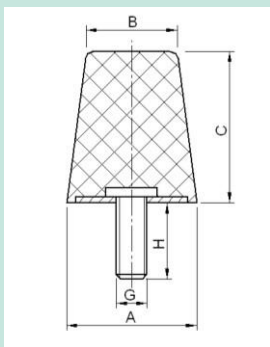
DS-5

DS

Type	D	H	G	L
15/14	15	14	M4	10
20/23,5	20	23,5	M6	18
25/18,5	25	18,5	M6	18
30/28,5	30	28,5	M8	20
40/28	40	28	M8	23
50/28	50	28	M10	28
70/43	70	43	M10	28
75/37	75	37	M12	37



KH



Type	A	B	C	Gxh
KH-1	43	30	50	M10x25
KH-2	43	30	35	M10x27
KH-3	38	30	35	M10x27
KH-4	63	57,5	50	10x31

KH-D

KH-E

