KERN LIEBERS

STANDARD RANGE
EXTENSION SPRINGS

NOTE: ALL FIGURES STATED ARE FOR REFERENCE ONLY, FOR DETAILED SPECIFICATION CONTACT OUR SALES DEPARTMENT.

LOAD +/- 10%		EXTEN-SION	MATERIAL			D2	D1	H	J	I/D*	SPRING	SPRING	Average Fatigue Life Cycles
Newtons	Kg/F	mm	W	T	L	mm	mm	mm	mm	spring mm	ENDS	No.	
0,73	0,07	170	3	0,05	200	4	6	4	7	4	E	SR1	5000
1,1	0,10	260	3	0,08	300	7	9	6	11	6	E	SR2	5000
1,5	0,15	170	6	0,05	200	4	6	4	7	4	E	SR3	5000
2,2	0,22	350	5	0,10	400	9	12	8	14	7	E	SR4	5000
2,8	0,28	260	8	0,08	300	7	9	6	11	6	E	SR5	5000
4,4	0,45	350	10	0,10	400	9	12	8	14	7	D	SR6	5000
5,5	0,56	440	10	0,13	500	11	14	10	18	9	D	SR7	5000
7,3	0,75	440	13	0,13	500	11	14	10	18	9	D	SR8	5000
8,8	0,90	530	13	0,15	600	13	17	12	22	11	A	SR9	5000
11	1,1	530	16	0,15	600	13	17	12	22	11	A	SR10	5000
13,1	1,3	700	14	0,20	800	18	23	17	29	15	A	SR11	5000
18,2	1,9	880	16	0,26	1000	22	29	21	36	18	A	SR12	5000
22	2,2	880	19	0,26	1000	22	29	21	36	18	A	SR13	5000
26,3	2,7	1000	19	0,30	1200	26	35	25	43	22	A	SR14	5000
30,7	3,1	1200	19	0,35	1400	31	40	29	51	26	A	SR15	5000
35,1	3,6	1000	25	0,30	1200	26	35	25	43	22	C	SR16	5000
40,9	4,2	1200	25	0,35	1400	31	40	29	51	26	C	SR17	5000
47	4,8	1400	25	0,40	1600	36	46	33	58	29	C	SR18	5000
52,9	5,4	1600	25	0,46	1800	40	52	37	66	33	C	SR19	5000
61,8	6,3	1200	38	0,35	1400	31	40	29	51	26	F	SR20	5000
70	7,1	1000	51	0,30	1200	27	35	25	43	22	F	SR21	5000
79	8	1600	38	0,46	1800	40	52	73	66	33	F	SR22	5000
93,7	9,5	1400	51	0,40	1600	36	46	33	58	29	F	SR23	5000
110	11	2200	38	0,64	2500	55	72	52	90	46	G	SR24	5000
129	13	2000	51	0,56	2200	49	64	46	80	41	K	SR25	5000
147	15	2200	51	0,64	2500	55	72	52	90	46	K	SR26	5000
0,46	0,05	170	3	0,05	200	6	7	5	9	5	E	SR27	15000
0,7	0,07	250	3	0,08	300	9	10	7	13	7	E	SR28	15000
0,9	0,10	170	6	0,05	200	6	7	5	9	5	E	SR29	15000
1,4	0,14	340	5	0,1	400	12	14	10	17	10	E	SR30	15000
1,8	0,18	250	8	0,08	300	9	10	7	13	7	E	SR31	15000
2,8	0,29	340	10	0,1	400	12	14	10	17	10	D	SR32	15000
3,5	0,26	420	10	0,13	500	14	17	12	22	12	D	SR33	15000
4,7	0,48	420	13	0,13	500	14	17	12	22	12	D	SR34	15000
5,6	0,57	500	13	0,15	600	17	21	15	26	15	A	SR35	15000
7	0,72	500	16	0,15	600	17	21	15	26	15	A	SR36	15000
8,4	0,86	670	14	0,2	800	23	28	20	35	19	A	SR37	15000
11,7	1,2	840	16	0,26	1000	29	35	25	43	24	A	SR38	15000
14	1,4	840	19	0,26	1000	29	35	25	43	24	A	SR39	15000
16,9	1,7	1000	19	0,3	1200	35	41	29	52	29	A	SR40	15000
19,6	2	1180	19	0,35	1400	41	48	34	60	34	A	SR41	15000
22,5	2,3	1000	25	0,3	1200	35	41	29	52	29	C	SR42	15000
26,3	2,7	1180	25	0,35	1400	41	48	34	60	34	C	SR43	15000
30	3	1340	25	0,4	1600	46	55	40	69	39	C	SR44	15000
33,8	3,4	1500	25	0,46	1800	52	62	44	77	43	C	SR45	15000
39,5	4	1180	38	0,35	1400	41	48	34	60	34	F	SR46	15000
45	4,6	1000	51	0,3	1200	35	41	29	52	29	F	SR47	15000
50,3	5,1	1500	38	0,46	1800	52	62	44	77	43	F	SR48	15000

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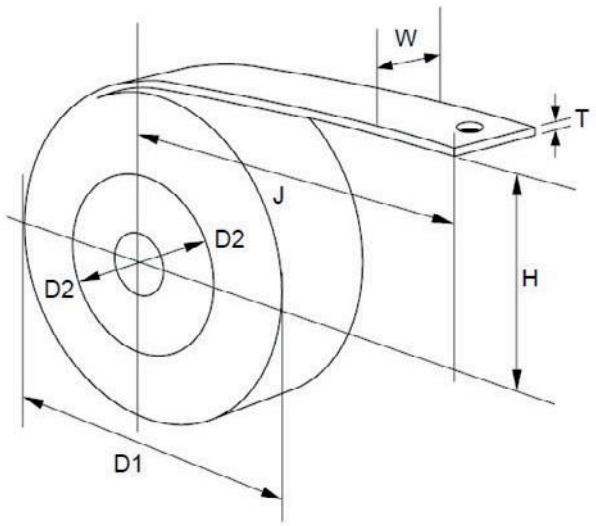
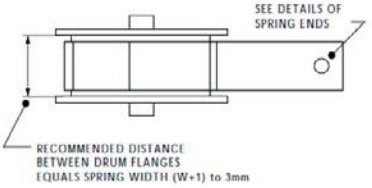
Newtons	Kg/F	mm	W	T	L	mm	mm	mm	mm	spring mm	ENDS	No.	
59,8	6,1	1340	51	0,4	1600	46	55	40	69	39	F	SR49	15000
70,6	7,2	2100	38	0,64	2500	73	86	62	108	60	G	SR50	15000
82,7	8,4	1850	51	0,56	2200	64	76	54	95	53	K	SR51	15000
93,8	9,6	2100	51	0,64	2500	73	86	62	108	60	K	SR52	15000
0,26	0,03	150	3	0,05	200	8	9	6	11	7	E	SR53	40000
0,38	0,04	230	3	0,08	300	12	13	9	17	10	E	SR54	40000
0,5	0,05	150	6	0,05	200	8	9	6	11	7	E	SR55	40000
0,8	0,08	300	5	0,1	400	16	18	13	22	13	E	SR56	40000
1	0,10	230	8	0,08	300	12	13	9	17	10	E	SR57	40000
1,6	0,16	300	10	0,1	400	16	18	13	22	13	D	SR58	40000
2	0,20	390	10	0,13	500	20	22	16	27	17	D	SR59	40000
2,6	0,26	390	13	0,13	500	20	22	16	27	17	D	SR60	40000
3,1	0,32	460	13	0,15	600	24	26	19	33	20	A	SR61	40000
3,9	0,40	460	16	0,15	600	24	26	19	33	20	A	SR62	40000
4,7	0,48	620	14	0,2	800	32	35	25	44	27	A	SR63	40000
6,5	0,67	770	16	0,26	1000	40	44	32	55	34	A	SR64	40000
7,8	0,80	770	19	0,26	1000	40	44	32	55	34	A	SR65	40000
9,3	0,95	930	19	0,3	1200	48	53	38	66	40	A	SR66	40000
10,9	1,10	1085	19	0,35	1400	56	62	44	77	47	A	SR67	40000
12,5	1,3	930	25	0,3	1200	48	53	38	66	40	C	SR68	40000
14,5	1,5	1085	25	0,35	1400	56	62	44	77	47	C	SR69	40000
16,6	1,7	1200	25	0,4	1600	64	71	50	88	53	C	SR70	40000
18,6	1,9	1400	25	0,46	1800	72	80	57	100	60	C	SR71	40000
21,8	2,2	1085	38	0,35	1400	56	62	44	77	47	F	SR72	40000
25	2,5	930	51	0,3	1200	48	53	38	66	40	F	SR73	40000
28	2,9	1400	38	0,46	1800	72	80	57	100	60	F	SR74	40000
33,2	3,4	1200	51	0,4	1600	64	71	50	88	53	F	SR75	40000
39	4	1950	38	0,64	2500	101	111	79	138	84	G	SR76	40000
46	4,7	1400	51	0,56	2200	88	97	69	122	73	K	SR77	40000
52	5,3	1800	51	0,64	2500	101	111	79	138	84	K	SR78	40000



SYMBOLS

W = Spring material width
T = Spring material thickness
L = Spring length (reference only)
J = Minimum extension for constant force
H = Off-set distance
D2 = Storage drum diameter
D1 = Outside diameter of spring when fully wound on storage drum



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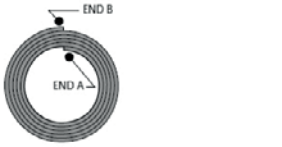
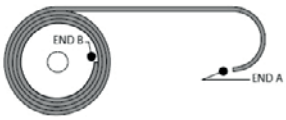
EXTENSION SPRINGS

How the spring is assembled on drum *(not supplied)*



Spring as supplied resembles a tight roll of metal tape



Outer end of spring to be first wrap on storage drum

Methods of using extension springs

MULTIPLE MOUNTINGS

TANDEM

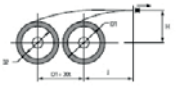


Chart Extensions Less by (D1+3ot)

FRONT TO FRONT

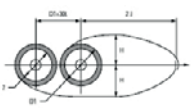
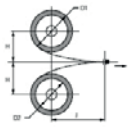
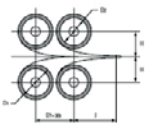


Chart Extensions less by (D1+3ot+l)

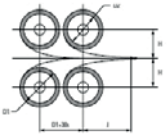
BACK TO BACK



Extensions as Charts

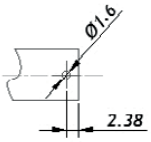


BACK TO BACK & TANDEM

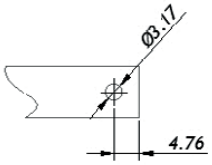


Extension shortened by (D1+3ot)

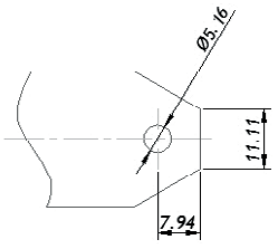
TYPE E EXTENSION



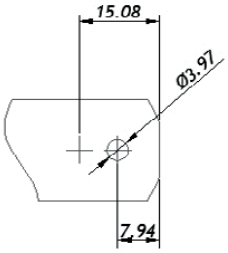
TYPE D EXTENSION



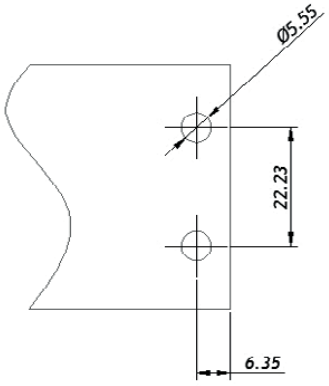
TYPE C EXTENSION



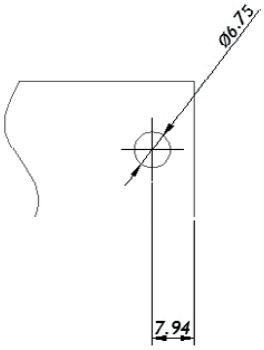
TYPE A EXTENSION



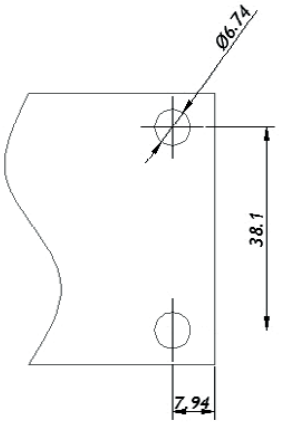
TYPE F EXTENSION



TYPE G EXTENSION



TYPE K EXTENSION



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