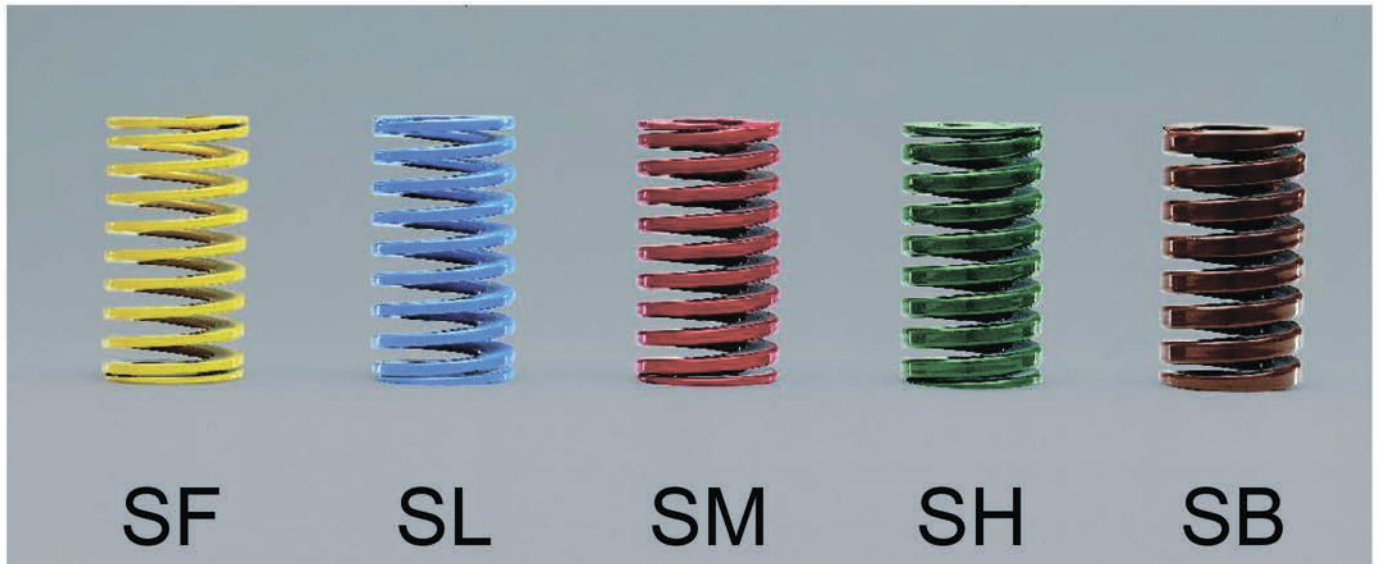


PRESS, DIE AND PLASTIC MOULD COIL SPRINGS (JIS B 5012)



All the essentials you have come to expect are included in JIS B 5012 springs. press die & plastic mould coil springs are interchangeable with other manufacturer's JIS B 5012 spring.

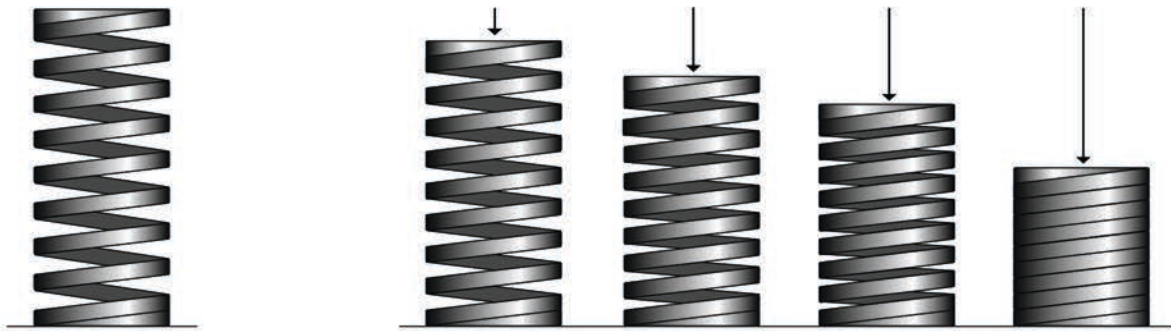
- Dimensional consistency.
- Both ends are closed & ground square to the axis.
- High quality alloy steel, with characteristics to be found in automotive engine valve springs.
Laboratory & dynamically performance tested.
- All springs are compressed to solid to eliminate initial free length reduction.
- Shot peened to reduce stress levels and improve working life.
- Special custom-made springs available, please contact free our technical office.

ORDERING EXAMPLE:

50 SM 30 - 125
↓ ↓
quantity spring code

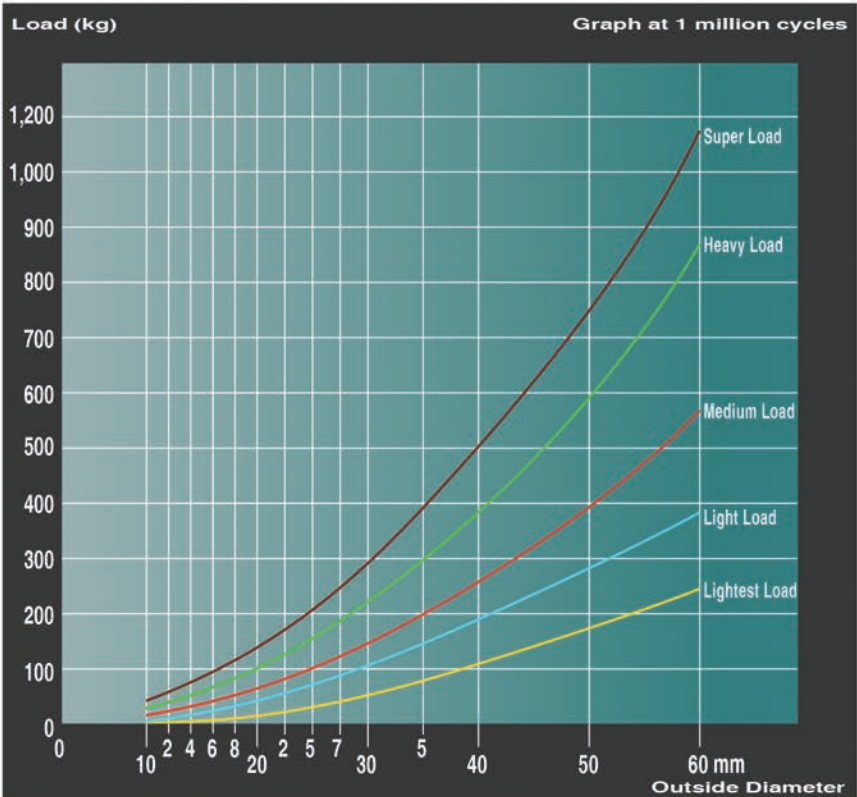
SELECTION OF(JIS B 5012) SPRING

SERIES	LOAD	COLOUR	WORKING CYCLES			
			1,000,000 (% of free length)	500,000 (% of free length)	300,000 (% of free length)	MAX. deflection (% of free length)
SF	Lightest Load	Yellow	40.0 %	45.0 %	50.0 %	58.0 %
SL	Light Load	Blue	32.0 %	36.0 %	40.0 %	48.0 %
SM	Medium Load	Red	25.6 %	28.8 %	32.0 %	38.0 %
SH	Heavy Load	Green	19.2 %	21.6 %	24.0 %	28.0 %
SB	Super Load	Brown	16.0 %	18.0 %	20.0 %	24.0 %



- It is always better to use a higher number of springs at a lower force and lower percentage of travel for longer life, consistent stock control and stripping.
- Preloading deflection should be equal to 5 % free length at least.
- Where the ratio of the free length to diameter is greater than 3,5 then the springs should be guided.

TOLERANCES	
OUTSIDE DIA.	+ 0.0 mm - 0.7 mm
INSIDE DIA.	+ 0.7 mm + 0.1 mm
FREE LENGTH	± 1 % ± 0.5 mm <i>at least</i>
LOAD	± 10 %
COILING	Right



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
10	5					10 (98.1)		9 (88.3)		8 (78.5)
		20	SF 10 - 020	1.00	10.0		9.0		8.0	
		25	SF 10 - 025	0.80	12.5		11.2		10.0	
		30	SF 10 - 030	0.67	15.0		13.5		12.0	
		35	SF 10 - 035	0.57	17.5		15.7		14.0	
		40	SF 10 - 040	0.50	20.0		18.0		16.0	
		45	SF 10 - 045	0.44	22.5		20.2		18.0	
		50	SF 10 - 050	0.40	25.0		22.5		20.0	
		55	SF 10 - 055	0.36	27.5		24.7		22.0	
		60	SF 10 - 060	0.33	30.0		27.0		24.0	
		65	SF 10 - 065	0.31	32.5		29.2		26.0	
		70	SF 10 - 070	0.29	35.0		31.5		28.0	
		75	SF 10 - 075	0.27	37.5		33.7		30.0	
		80	SF 10 - 080	0.25	40.0		36.0		32.0	
12	6					14 (137.3)		12.5 (122.6)		11 (107.9)
		20	SF 12 - 020	1.40	10.0		9.0		8.0	
		25	SF 12 - 025	1.12	12.5		11.2		10.0	
		30	SF 12 - 030	0.93	15.0		13.5		12.0	
		35	SF 12 - 035	0.80	17.5		15.7		14.0	
		40	SF 12 - 040	0.70	20.0		18.0		16.0	
		45	SF 12 - 045	0.62	22.5		20.2		18.0	
		50	SF 12 - 050	0.56	25.0		22.5		20.0	
		55	SF 12 - 055	0.51	27.5		24.7		22.0	
		60	SF 12 - 060	0.47	30.0		27.0		24.0	
		65	SF 12 - 065	0.43	32.5		29.2		26.0	
		70	SF 12 - 070	0.40	35.0		31.5		28.0	
		75	SF 12 - 075	0.37	37.5		33.7		30.0	
		80	SF 12 - 080	0.35	40.0		36.0		32.0	
14	7					18 (176.5)		16 (156.9)		14.5 (142.2)
		25	SF 14 - 025	1.44	12.5		11.2		10.0	
		30	SF 14 - 030	1.20	15.0		13.5		12.0	
		35	SF 14 - 035	1.03	17.5		15.7		14.0	
		40	SF 14 - 040	0.90	20.0		18.0		16.0	
		45	SF 14 - 045	0.80	22.5		20.2		18.0	
		50	SF 14 - 050	0.72	25.0		22.5		20.0	
		55	SF 14 - 055	0.65	27.5		24.7		22.0	
		60	SF 14 - 060	0.60	30.0		27.0		24.0	
		65	SF 14 - 065	0.55	32.5		29.2		26.0	
		70	SF 14 - 070	0.51	35.0		31.5		28.0	
		75	SF 14 - 075	0.48	37.5		33.7		30.0	
		80	SF 14 - 080	0.45	40.0		36.0		32.0	
		90	SF 14 - 090	0.40	45.0		40.5		36.0	
16	8					21 (206)		19 (186.3)		17 (166.7)
		25	SF 16 - 025	1.68	12.5		11.2		10.0	
		30	SF 16 - 030	1.40	15.0		13.5		12.0	
		35	SF 16 - 035	1.20	17.5		15.7		14.0	
		40	SF 16 - 040	1.05	20.0		18.0		16.0	
		45	SF 16 - 045	0.94	22.5		20.2		18.0	
		50	SF 16 - 050	0.84	25.0		22.5		20.0	
		55	SF 16 - 055	0.77	27.5		24.7		22.0	
		60	SF 16 - 060	0.70	30.0		27.0		24.0	
		65	SF 16 - 065	0.65	32.5		29.2		26.0	
		70	SF 16 - 070	0.60	35.0		31.5		28.0	
		75	SF 16 - 075	0.56	37.5		33.7		30.0	
		80	SF 16 - 080	0.53	40.0		36.0		32.0	
		90	SF 16 - 090	0.47	45.0		40.5		36.0	
		100	SF 16 - 100	0.42	50.0		45.0		40.0	



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
18	9	25	SF 18 - 025	2.08	12.5	26 (255)	11.2	23 (225)	10.0	21 (206)
		30	SF 18 - 030	1.74	15.0		13.5		12.0	
		35	SF 18 - 035	1.49	17.5		15.7		14.0	
		40	SF 18 - 040	1.30	20.0		18.0		16.0	
		45	SF 18 - 045	1.16	22.5		20.2		18.0	
		50	SF 18 - 050	1.04	25.0		22.5		20.0	
		55	SF 18 - 055	0.95	27.5		24.7		22.0	
		60	SF 18 - 060	0.87	30.0		27.0		24.0	
		65	SF 18 - 065	0.80	32.5		29.2		26.0	
		70	SF 18 - 070	0.74	35.0		31.5		28.0	
		75	SF 18 - 075	0.70	37.5		33.7		30.0	
		80	SF 18 - 080	0.65	40.0		36.0		32.0	
		90	SF 18 - 090	0.58	45.0		40.5		36.0	
		100	SF 18 - 100	0.52	50.0		45.0		40.0	
20	11	25	SF 20 - 025	2.56	12.5	32 (314)	11.2	29 (284)	10.0	26 (255)
		30	SF 20 - 030	2.13	15.0		13.5		12.0	
		35	SF 20 - 035	1.83	17.5		15.7		14.0	
		40	SF 20 - 040	1.60	20.0		18.0		16.0	
		45	SF 20 - 045	1.42	22.5		20.2		18.0	
		50	SF 20 - 050	1.28	25.0		22.5		20.0	
		55	SF 20 - 055	1.16	27.5		24.7		22.0	
		60	SF 20 - 060	1.07	30.0		27.0		24.0	
		65	SF 20 - 065	0.98	32.5		29.2		26.0	
		70	SF 20 - 070	0.91	35.0		31.5		28.0	
		75	SF 20 - 075	0.85	37.5		33.7		30.0	
		80	SF 20 - 080	0.80	40.0		36.0		32.0	
		90	SF 20 - 090	0.71	45.0		40.5		36.0	
		100	SF 20 - 100	0.64	50.0		45.0		40.0	
		125	SF 20 - 125	0.51	62.5		56.2		50.0	
		150	SF 20 - 150	0.43	75.0		67.5		60.0	
22	11	25	SF 22 - 025	3.20	12.5	40 (392)	11.2	36 (353)	10.0	32 (314)
		30	SF 22 - 030	2.67	15.0		13.5		12.0	
		35	SF 22 - 035	2.29	17.5		15.7		14.0	
		40	SF 22 - 040	2.00	20.0		18.0		16.0	
		45	SF 22 - 045	1.78	22.5		20.2		18.0	
		50	SF 22 - 050	1.60	25.0		22.5		20.0	
		55	SF 22 - 055	1.46	27.5		24.7		22.0	
		60	SF 22 - 060	1.33	30.0		27.0		24.0	
		65	SF 22 - 065	1.23	32.5		29.2		26.0	
		70	SF 22 - 070	1.14	35.0		31.5		28.0	
		75	SF 22 - 075	1.07	37.5		33.7		30.0	
		80	SF 22 - 080	1.00	40.0		36.0		32.0	
		90	SF 22 - 090	0.89	45.0		40.5		36.0	
		100	SF 22 - 100	0.80	50.0		45.0		40.0	
		125	SF 22 - 125	0.64	62.5		56.2		50.0	
		150	SF 22 - 150	0.53	75.0		67.5		60.0	
25	13.5	25	SF 25 - 025	4.00	12.5	50 (490)	11.2	45 (441)	10.0	40 (392)
		30	SF 25 - 030	3.33	15.0		13.5		12.0	
		35	SF 25 - 035	2.85	17.5		15.7		14.0	
		40	SF 25 - 040	2.50	20.0		18.0		16.0	
		45	SF 25 - 045	2.22	22.5		20.2		18.0	
		50	SF 25 - 050	2.00	25.0		22.5		20.0	
		55	SF 25 - 055	1.82	27.5		24.7		22.0	
		60	SF 25 - 060	1.67	30.0		27.0		24.0	
		65	SF 25 - 065	1.54	32.5		29.2		26.0	
		70	SF 25 - 070	1.43	35.0		31.5		28.0	
		75	SF 25 - 075	1.33	37.5		33.7		30.0	
		80	SF 25 - 080	1.25	40.0		36.0		32.0	
		90	SF 25 - 090	1.11	45.0		40.5		36.0	
		100	SF 25 - 100	1.00	50.0		45.0		40.0	
		125	SF 25 - 125	0.80	62.5		56.2		50.0	
		150	SF 25 - 150	0.67	75.0		67.5		60.0	
		175	SF 25 - 175	0.57	87.5		78.7		70.0	

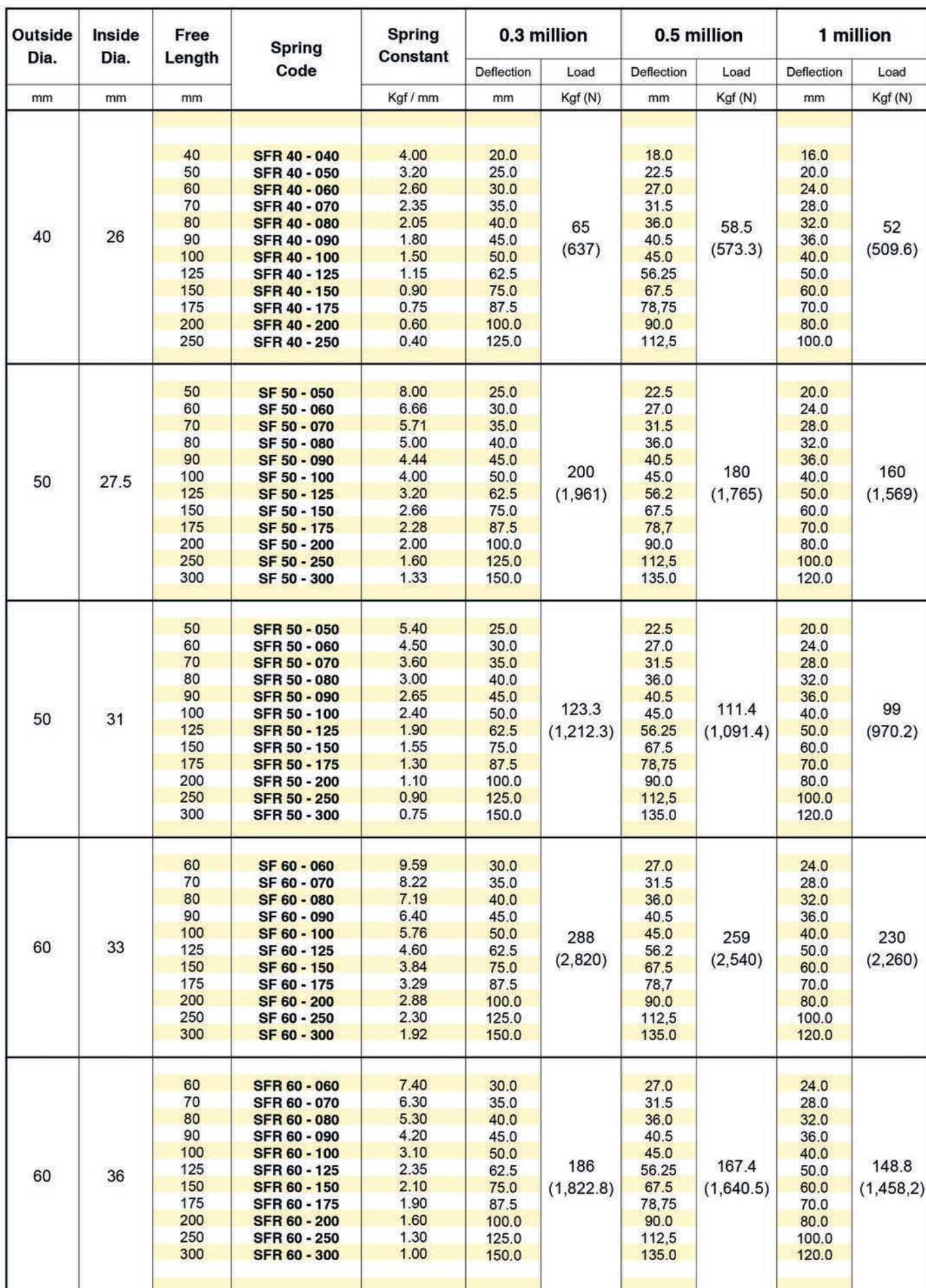
SF

LIGHTEST LOAD SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
27	13.5	25	SF 27 - 025	4.80	12.5	60 (588)	11.2	54 (530)	10.0	48 (471)
		30	SF 27 - 030	4.00	15.0		13.5		12.0	
		35	SF 27 - 035	3.43	17.5		15.7		14.0	
		40	SF 27 - 040	3.00	20.0		18.0		16.0	
		45	SF 27 - 045	2.67	22.5		20.2		18.0	
		50	SF 27 - 050	2.40	25.0		22.5		20.0	
		55	SF 27 - 055	2.18	27.5		24.7		22.0	
		60	SF 27 - 060	2.00	30.0		27.0		24.0	
		65	SF 27 - 065	1.85	32.5		29.2		26.0	
		70	SF 27 - 070	1.71	35.0		31.5		28.0	
		75	SF 27 - 075	1.60	37.5		33.7		30.0	
		80	SF 27 - 080	1.50	40.0		36.0		32.0	
		90	SF 27 - 090	1.33	45.0		40.5		36.0	
		100	SF 27 - 100	1.20	50.0		45.0		40.0	
		125	SF 27 - 125	0.96	62.5		56.2		50.0	
		150	SF 27 - 150	0.80	75.0		67.5		60.0	
		175	SF 27 - 175	0.69	87.5		78,7		70.0	
30	16	25	SF 30 - 025	5.80	12.5	72 (706)	11.2	65 (637)	10.0	58 (569)
		30	SF 30 - 030	4.80	15.0		13.5		12.0	
		35	SF 30 - 035	4.13	17.5		15.7		14.0	
		40	SF 30 - 040	3.60	20.0		18.0		16.0	
		45	SF 30 - 045	3.21	22.5		20.2		18.0	
		50	SF 30 - 050	2.88	25.0		22.5		20.0	
		55	SF 30 - 055	2.63	27.5		24.7		22.0	
		60	SF 30 - 060	2.40	30.0		27.0		24.0	
		65	SF 30 - 065	2.22	32.5		29.2		26.0	
		70	SF 30 - 070	2.05	35.0		31.5		28.0	
		75	SF 30 - 075	1.93	37.5		33.7		30.0	
		80	SF 30 - 080	1.80	40.0		36.0		32.0	
		90	SF 30 - 090	1.60	45.0		40.5		36.0	
		100	SF 30 - 100	1.44	50.0		45.0		40.0	
		125	SF 30 - 125	1.15	62.5		56.2		50.0	
		150	SF 30 - 150	0.96	75.0		67.5		60.0	
		175	SF 30 - 175	0.82	87.5		78,7		70.0	
		200	SF 30 - 200	0.72	100.0		90.0		80.0	
35	21	40	SFR 35 - 040	4.90	20.0	98 (961)	18.0	88.2 (864.4)	16.0	78.4 (768.3)
		45	SFR 35 - 045	4.36	22.5		20.25		18.0	
		50	SFR 35 - 050	3.92	25.0		22.5		20.0	
		55	SFR 35 - 055	3.56	27.5		24.75		22.0	
		60	SFR 35 - 060	3.26	30.0		27.0		24.0	
		65	SFR 35 - 065	3.02	32.5		29.25		26.0	
		70	SFR 35 - 070	2.80	35.0		31.5		28.0	
		75	SFR 35 - 075	2.61	37.5		33.75		30.0	
		80	SFR 35 - 080	2.45	40.0		36.0		32.0	
		90	SFR 35 - 090	2.17	45.0		40.5		36.0	
		100	SFR 35 - 100	1.96	50.0		45.0		40.0	
		125	SFR 35 - 125	1.57	62.5		56.25		50.0	
		150	SFR 35 - 150	1.30	75.0		67.5		60.0	
		175	SFR 35 - 175	1.12	87.5		78,75		70.0	
		200	SFR 35 - 200	0.98	100.0		90.0		80.0	
40	22	40	SF 40 - 040	6.38	20.0	128 (1,255)	18.0	115 (1,128)	16.0	102 (1,000)
		50	SF 40 - 050	5.12	25.0		22.5		20.0	
		60	SF 40 - 060	4.26	30.0		27.0		24.0	
		70	SF 40 - 070	3.65	35.0		31.5		28.0	
		80	SF 40 - 080	3.20	40.0		36.0		32.0	
		90	SF 40 - 090	2.84	45.0		40.5		36.0	
		100	SF 40 - 100	2.56	50.0		45.0		40.0	
		125	SF 40 - 125	2.04	62.5		56.2		50.0	
		150	SF 40 - 150	1.70	75.0		67.5		60.0	
		175	SF 40 - 175	1.46	87.5		78,7		70.0	
		200	SF 40 - 200	1.28	100.0		90.0		80.0	
		250	SF 40 - 250	1.02	125.0		112,5		100.0	

JIS B 5012



SL

LIGHT LOAD SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
10	5	20	SL 10 - 020	1.81	8.0	14.5 (142.2)	7.2	13 (127.5)	6.4	11.5 (112.8)
		25	SL 10 - 025	1.45	10.0		9.0		8.0	
		30	SL 10 - 030	1.21	12.0		10.8		9.6	
		35	SL 10 - 035	1.03	14.0		12.6		11.2	
		40	SL 10 - 040	0.90	16.0		14.4		12.8	
		45	SL 10 - 045	0.80	18.0		16.2		14.4	
		50	SL 10 - 050	0.73	20.0		18.0		16.0	
		55	SL 10 - 055	0.66	22.0		19.8		17.6	
		60	SL 10 - 060	0.60	24.0		21.6		19.2	
		65	SL 10 - 065	0.55	26.0		23.4		20.8	
		70	SL 10 - 070	0.51	28.0		25.2		22.4	
		75	SL 10 - 075	0.48	30.0		27.0		24.0	
		80	SL 10 - 080	0.45	32.0		28.8		25.6	
12	6	20	SL 12 - 020	2.63	8.0	21 (206)	7.2	19 (186.3)	6.4	17 (166.7)
		25	SL 12 - 025	2.10	10.0		9.0		8.0	
		30	SL 12 - 030	1.75	12.0		10.8		9.6	
		35	SL 12 - 035	1.50	14.0		12.6		11.2	
		40	SL 12 - 040	1.32	16.0		14.4		12.8	
		45	SL 12 - 045	1.17	18.0		16.2		14.4	
		50	SL 12 - 050	1.05	20.0		18.0		16.0	
		55	SL 12 - 055	0.96	22.0		19.8		17.6	
		60	SL 12 - 060	0.88	24.0		21.6		19.2	
		65	SL 12 - 065	0.81	26.0		23.4		20.8	
		70	SL 12 - 070	0.75	28.0		25.2		22.4	
		75	SL 12 - 075	0.70	30.0		27.0		24.0	
		80	SL 12 - 080	0.66	32.0		28.8		25.6	
14	7	25	SL 14 - 025	2.80	10.0	28 (275)	9.0	25 (245)	8.0	22 (216)
		30	SL 14 - 030	2.34	12.0		10.8		9.6	
		35	SL 14 - 035	2.00	14.0		12.6		11.2	
		40	SL 14 - 040	1.75	16.0		14.4		12.8	
		45	SL 14 - 045	1.56	18.0		16.2		14.4	
		50	SL 14 - 050	1.40	20.0		18.0		16.0	
		55	SL 14 - 055	1.27	22.0		19.8		17.6	
		60	SL 14 - 060	1.17	24.0		21.6		19.2	
		65	SL 14 - 065	1.08	26.0		23.4		20.8	
		70	SL 14 - 070	1.00	28.0		25.2		22.4	
		75	SL 14 - 075	0.93	30.0		27.0		24.0	
		80	SL 14 - 080	0.87	32.0		28.8		25.6	
		90	SL 14 - 090	0.77	36.0		32.4		28.8	
16	8	25	SL 16 - 025	3.50	10.0	35 (343)	9.0	32 (314)	8.0	28 (275)
		30	SL 16 - 030	2.92	12.0		10.8		9.6	
		35	SL 16 - 035	2.50	14.0		12.6		11.2	
		40	SL 16 - 040	2.19	16.0		14.4		12.8	
		45	SL 16 - 045	1.95	18.0		16.2		14.4	
		50	SL 16 - 050	1.75	20.0		18.0		16.0	
		55	SL 16 - 055	1.60	22.0		19.8		17.6	
		60	SL 16 - 060	1.46	24.0		21.6		19.2	
		65	SL 16 - 065	1.35	26.0		23.4		20.8	
		70	SL 16 - 070	1.25	28.0		25.2		22.4	
		75	SL 16 - 075	1.17	30.0		27.0		24.0	
		80	SL 16 - 080	1.10	32.0		28.8		25.6	
		90	SL 16 - 090	0.98	36.0		32.4		28.8	
		100	SL 16 - 100	0.88	40.0		36.0		32.0	
18	9	25	SL 18 - 025	4.30	10.0	43 (422)	9.0	39 (382)	8.0	34 (333)
		30	SL 18 - 030	3.58	12.0		10.8		9.6	
		35	SL 18 - 035	3.07	14.0		12.6		11.2	
		40	SL 18 - 040	2.69	16.0		14.4		12.8	
		45	SL 18 - 045	2.39	18.0		16.2		14.4	
		50	SL 18 - 050	2.15	20.0		18.0		16.0	
		55	SL 18 - 055	1.96	22.0		19.8		17.6	
		60	SL 18 - 060	1.79	24.0		21.6		19.2	
		65	SL 18 - 065	1.66	26.0		23.4		20.8	
		70	SL 18 - 070	1.54	28.0		25.2		22.4	
		75	SL 18 - 075	1.44	30.0		27.0		24.0	
		80	SL 18 - 080	1.35	32.0		28.8		25.6	
		90	SL 18 - 090	1.20	36.0		32.4		28.8	
		100	SL 18 - 100	1.07	40.0		36.0		32.0	

SL LIGHT LOAD SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
20	10	25	SL 20 - 025	5.40	10.0	54 (530)	9.0	49 (481)	8.0	43 (422)
		30	SL 20 - 030	4.50	12.0		10.8		9.6	
		35	SL 20 - 035	3.86	14.0		12.6		11.2	
		40	SL 20 - 040	3.38	16.0		14.4		12.8	
		45	SL 20 - 045	3.00	18.0		16.2		14.4	
		50	SL 20 - 050	2.70	20.0		18.0		16.0	
		55	SL 20 - 055	2.45	22.0		19.8		17.6	
		60	SL 20 - 060	2.25	24.0		21.6		19.2	
		65	SL 20 - 065	2.08	26.0		23.4		20.8	
		70	SL 20 - 070	1.93	28.0		25.2		22.4	
		75	SL 20 - 075	1.80	30.0		27.0		24.0	
		80	SL 20 - 080	1.69	32.0		28.8		25.6	
		90	SL 20 - 090	1.50	36.0		32.4		28.8	
		100	SL 20 - 100	1.35	40.0		36.0		32.0	
		125	SL 20 - 125	1.08	50.0		45.0		40.0	
		150	SL 20 - 150	0.90	60.0		54.0		48.0	
22	11	25	SL 22 - 025	6.70	10.0	67 (657)	9.0	60 (588)	8.0	54 (530)
		30	SL 22 - 030	5.60	12.0		10.8		9.6	
		35	SL 22 - 035	4.80	14.0		12.6		11.2	
		40	SL 22 - 040	4.20	16.0		14.4		12.8	
		45	SL 22 - 045	3.72	18.0		16.2		14.4	
		50	SL 22 - 050	3.35	20.0		18.0		16.0	
		55	SL 22 - 055	3.05	22.0		19.8		17.6	
		60	SL 22 - 060	2.80	24.0		21.6		19.2	
		65	SL 22 - 065	2.58	26.0		23.4		20.8	
		70	SL 22 - 070	2.40	28.0		25.2		22.4	
		75	SL 22 - 075	2.23	30.0		27.0		24.0	
		80	SL 22 - 080	2.10	32.0		28.8		25.6	
		90	SL 22 - 090	1.86	36.0		32.4		28.8	
		100	SL 22 - 100	1.68	40.0		36.0		32.0	
		125	SL 22 - 125	1.34	50.0		45.0		40.0	
		150	SL 22 - 150	1.12	60.0		54.0		48.0	
25	12.5	25	SL 25 - 025	8.40	10.0	84 (824)	9.0	76 (745)	8.0	67 (657)
		30	SL 25 - 030	7.00	12.0		10.8		9.6	
		35	SL 25 - 035	6.00	14.0		12.6		11.2	
		40	SL 25 - 040	5.25	16.0		14.4		12.8	
		45	SL 25 - 045	4.67	18.0		16.2		14.4	
		50	SL 25 - 050	4.20	20.0		18.0		16.0	
		55	SL 25 - 055	3.82	22.0		19.8		17.6	
		60	SL 25 - 060	3.50	24.0		21.6		19.2	
		65	SL 25 - 065	3.23	26.0		23.4		20.8	
		70	SL 25 - 070	3.00	28.0		25.2		22.4	
		75	SL 25 - 075	2.80	30.0		27.0		24.0	
		80	SL 25 - 080	2.63	32.0		28.8		25.6	
		90	SL 25 - 090	2.33	36.0		32.4		28.8	
		100	SL 25 - 100	2.10	40.0		36.0		32.0	
		125	SL 25 - 125	1.68	50.0		45.0		40.0	
		150	SL 25 - 150	1.40	60.0		54.0		48.0	
		175	SL 25 - 175	1.20	70.0		63.0		56.0	
27	13.5	25	SL 27 - 025	10.00	10.0	100 (981)	9.0	90 (883)	8.0	80 (785)
		30	SL 27 - 030	8.33	12.0		10.8		9.6	
		35	SL 27 - 035	7.14	14.0		12.6		11.2	
		40	SL 27 - 040	6.25	16.0		14.4		12.8	
		45	SL 27 - 045	5.56	18.0		16.2		14.4	
		50	SL 27 - 050	5.00	20.0		18.0		16.0	
		55	SL 27 - 055	4.55	22.0		19.8		17.6	
		60	SL 27 - 060	4.17	24.0		21.6		19.2	
		65	SL 27 - 065	3.85	26.0		23.4		20.8	
		70	SL 27 - 070	3.57	28.0		25.2		22.4	
		75	SL 27 - 075	3.33	30.0		27.0		24.0	
		80	SL 27 - 080	3.13	32.0		28.8		25.6	
		90	SL 27 - 090	2.78	36.0		32.4		28.8	
		100	SL 27 - 100	2.50	40.0		36.0		32.0	
		125	SL 27 - 125	2.00	50.0		45.0		40.0	
		150	SL 27 - 150	1.67	60.0		54.0		48.0	
		175	SL 27 - 175	1.43	70.0		63.0		56.0	



SL

LIGHT LOAD SPRINGS

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Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
30	16	25	SLR 30 - 025	12.11	10.0	114 (1,117.2)	9.0	102.6 (1,005.5)	8.0	91.2 (893.8)
		30	SLR 30 - 030	10.08	12.0		10.8		9.6	
		35	SLR 30 - 035	8.65	14.0		12.6		11.2	
		40	SLR 30 - 040	7.56	16.0		14.4		12.8	
		45	SLR 30 - 045	6.73	18.0		16.2		14.4	
		50	SLR 30 - 050	6.05	20.0		18.0		16.0	
		55	SLR 30 - 055	5.50	22.0		19.8		17.6	
		60	SLR 30 - 060	5.04	24.0		21.6		19.2	
		65	SLR 30 - 065	4.65	26.0		23.4		20.8	
		70	SLR 30 - 070	4.32	28.0		25.2		22.4	
		75	SLR 30 - 075	4.03	30.0		27.0		24.0	
		80	SLR 30 - 080	3.78	32.0		28.8		25.6	
		90	SLR 30 - 090	3.36	36.0		32.4		28.8	
		100	SLR 30 - 100	3.02	40.0		36.0		32.0	
		125	SLR 30 - 125	2.42	50.0		45.0		40.0	
		150	SLR 30 - 150	2.01	60.0		54.0		48.0	
		175	SLR 30 - 175	1.72	70.0		63.0		56.0	
		200	SLR 30 - 200	1.51	80.0		72.0		64.0	
35	17.5	40	SL 35 - 040	10.31	16.0	165 (1,618)	14.4	149 (1,461)	12.8	132 (1,295)
		45	SL 35 - 045	9.17	18.0		16.2		14.4	
		50	SL 35 - 050	8.25	20.0		18.0		16.0	
		55	SL 35 - 055	7.50	22.0		19.8		17.6	
		60	SL 35 - 060	6.87	24.0		21.6		19.2	
		65	SL 35 - 065	6.35	26.0		23.4		20.8	
		70	SL 35 - 070	5.89	28.0		25.2		22.4	
		75	SL 35 - 075	5.50	30.0		27.0		24.0	
		80	SL 35 - 080	5.15	32.0		28.8		25.6	
		90	SL 35 - 090	4.58	36.0		32.4		28.8	
		100	SL 35 - 100	4.12	40.0		36.0		32.0	
		125	SL 35 - 125	3.30	50.0		45.0		40.0	
		150	SL 35 - 150	2.75	60.0		54.0		48.0	
		175	SL 35 - 175	2.35	70.0		63.0		56.0	
		200	SL 35 - 200	2.06	80.0		72.0		64.0	
35	20.5	40	SLR 35 - 040	9.15	16.0	143.2 (1,403.4)	14.4	128.9 (1,263.2)	12.8	114.6 (1,123.1)
		45	SLR 35 - 045	8.42	18.0		16.2		14.4	
		50	SLR 35 - 050	7.85	20.0		18.0		16.0	
		55	SLR 35 - 055	7.42	22.0		19.8		17.6	
		60	SLR 35 - 060	6.70	24.0		21.6		19.2	
		65	SLR 35 - 065	6.25	26.0		23.4		20.8	
		70	SLR 35 - 070	5.45	28.0		25.2		22.4	
		75	SLR 35 - 075	5.28	30.0		27.0		24.0	
		80	SLR 35 - 080	4.90	32.0		28.8		25.6	
		90	SLR 35 - 090	4.20	36.0		32.4		28.8	
		100	SLR 35 - 100	3.75	40.0		36.0		32.0	
		125	SLR 35 - 125	3.00	50.0		45.0		40.0	
		150	SLR 35 - 150	2.40	60.0		54.0		48.0	
		175	SLR 35 - 175	2.20	70.0		63.0		56.0	
		200	SLR 35 - 200	1.80	80.0		72.0		64.0	
40	20	40	SL 40 - 040	13.50	16.0	216 (2,120)	14.4	194 (1,903)	12.8	173 (1,697)
		50	SL 40 - 050	10.80	20.0		18.0		16.0	
		60	SL 40 - 060	9.00	24.0		21.6		19.2	
		70	SL 40 - 070	7.71	28.0		25.2		22.4	
		80	SL 40 - 080	6.75	32.0		28.8		25.6	
		90	SL 40 - 090	6.00	36.0		32.4		28.8	
		100	SL 40 - 100	5.40	40.0		36.0		32.0	
		125	SL 40 - 125	4.32	50.0		45.0		40.0	
		150	SL 40 - 150	3.60	60.0		54.0		48.0	
		175	SL 40 - 175	3.08	70.0		63.0		56.0	
		200	SL 40 - 200	2.70	80.0		72.0		64.0	
		250	SL 40 - 250	2.16	100.0		90.0		80.0	

SL LIGHT LOAD SPRINGS

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Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
40	25.5	40	SLR 40 - 040	9.30	16.0	139.4 (1,366.1)	14.4	125.5 (1,229.9)	12.8	111.5 (1,092.7)
		50	SLR 40 - 050	7.75	20.0		18.0		16.0	
		60	SLR 40 - 060	6.20	24.0		21.6		19.2	
		70	SLR 40 - 070	5.00	28.0		25.2		22.4	
		80	SLR 40 - 080	4.35	32.0		28.8		25.6	
		90	SLR 40 - 090	3.85	36.0		32.4		28.8	
		100	SLR 40 - 100	3.50	40.0		36.0		32.0	
		125	SLR 40 - 125	2.80	50.0		45.0		40.0	
		150	SLR 40 - 150	2.25	60.0		54.0		48.0	
		175	SLR 40 - 175	1.95	70.0		63.0		56.0	
		200	SLR 40 - 200	1.65	80.0		72.0		64.0	
		250	SLR 40 - 250	1.50	100.0		90.0		80.0	
50	25	50	SL 50 - 050	16.89	20.0	338 (3,310)	18.0	304 (2,980)	16.0	270 (2,650)
		60	SL 50 - 060	14.08	24.0		21.6		19.2	
		70	SL 50 - 070	12.07	28.0		25.2		22.4	
		80	SL 50 - 080	10.56	32.0		28.8		25.6	
		90	SL 50 - 090	9.38	36.0		32.4		28.8	
		100	SL 50 - 100	8.45	40.0		36.0		32.0	
		125	SL 50 - 125	6.76	50.0		45.0		40.0	
		150	SL 50 - 150	5.63	60.0		54.0		48.0	
		175	SL 50 - 175	4.82	70.0		63.0		56.0	
		200	SL 50 - 200	4.22	80.0		72.0		64.0	
		250	SL 50 - 250	3.38	100.0		90.0		80.0	
		300	SL 50 - 300	2.81	120.0		108.0		96.0	
50	30.5	50	SLR 50 - 050	11.90	20.0	251 (2,459.8)	18.0	225.9 (2,213.8)	16.0	200.8 (1,967.8)
		60	SLR 50 - 060	10.60	24.0		21.6		19.2	
		70	SLR 50 - 070	9.00	28.0		25.2		22.4	
		80	SLR 50 - 080	7.65	32.0		28.8		25.6	
		90	SLR 50 - 090	6.75	36.0		32.4		28.8	
		100	SLR 50 - 100	5.85	40.0		36.0		32.0	
		125	SLR 50 - 125	4.90	50.0		45.0		40.0	
		150	SLR 50 - 150	3.55	60.0		54.0		48.0	
		175	SLR 50 - 175	3.00	70.0		63.0		56.0	
		200	SLR 50 - 200	2.65	80.0		72.0		64.0	
		250	SLR 50 - 250	2.40	100.0		90.0		80.0	
		300	SLR 50 - 300	2.20	120.0		108.0		96.0	
60	30	60	SL 60 - 060	20.25	24.0	486 (4,770)	21.6	437 (4,290)	19.2	389 (3,810)
		70	SL 60 - 070	17.35	28.0		25.2		22.4	
		80	SL 60 - 080	15.18	32.0		28.8		25.6	
		90	SL 60 - 090	13.50	36.0		32.4		28.8	
		100	SL 60 - 100	12.15	40.0		36.0		32.0	
		125	SL 60 - 125	9.72	50.0		45.0		40.0	
		150	SL 60 - 150	8.10	60.0		54.0		48.0	
		175	SL 60 - 175	6.94	70.0		63.0		56.0	
		200	SL 60 - 200	6.07	80.0		72.0		64.0	
		250	SL 60 - 250	4.86	100.0		90.0		80.0	
		300	SL 60 - 300	4.05	120.0		108.0		96.0	
60	35.5	60	SLR 60 - 060	16.80	24.0	387.6 (3,798.5)	21.6	384.8 (3,771)	19.2	310.1 (3,039)
		70	SLR 60 - 070	14.40	28.0		25.2		22.4	
		80	SLR 60 - 080	12.10	32.0		28.8		25.6	
		90	SLR 60 - 090	10.65	36.0		32.4		28.8	
		100	SLR 60 - 100	9.80	40.0		36.0		32.0	
		125	SLR 60 - 125	8.50	50.0		45.0		40.0	
		150	SLR 60 - 150	6.80	60.0		54.0		48.0	
		175	SLR 60 - 175	6.00	70.0		63.0		56.0	
		200	SLR 60 - 200	5.20	80.0		72.0		64.0	
		250	SLR 60 - 250	3.90	100.0		90.0		80.0	
		300	SLR 60 - 300	3.10	120.0		108.0		96.0	



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
10	5	20	SM 10 - 020	3.13	6.4	20 (196.1)	5.8	18 (176.5)	5.1	16 (156.9)
		25	SM 10 - 025	2.50	8.0		7.2		6.4	
		30	SM 10 - 030	2.08	9.6		8.6		7.7	
		35	SM 10 - 035	1.78	11.2		10.1		9.0	
		40	SM 10 - 040	1.56	12.8		11.5		10.2	
		45	SM 10 - 045	1.38	14.4		13.0		11.5	
		50	SM 10 - 050	1.25	16.0		14.4		12.8	
		55	SM 10 - 055	1.13	17.6		15.8		14.1	
		60	SM 10 - 060	1.04	19.2		17.3		15.4	
		65	SM 10 - 065	0.96	20.8		18.7		16.6	
		70	SM 10 - 070	0.89	22.4		20.2		17.9	
		75	SM 10 - 075	0.83	24.0		21.6		19.2	
		80	SM 10 - 080	0.78	25.6		23.0		20.5	
12	6	20	SM 12 - 020	4.53	6.4	29 (284)	5.8	26 (255)	5.1	23 (226)
		25	SM 12 - 025	3.62	8.0		7.2		6.4	
		30	SM 12 - 030	3.02	9.6		8.6		7.7	
		35	SM 12 - 035	2.58	11.2		10.1		9.0	
		40	SM 12 - 040	2.27	12.8		11.5		10.2	
		45	SM 12 - 045	2.01	14.4		13.0		11.5	
		50	SM 12 - 050	1.81	16.0		14.4		12.8	
		55	SM 12 - 055	1.64	17.6		15.8		14.1	
		60	SM 12 - 060	1.51	19.2		17.3		15.4	
		65	SM 12 - 065	1.39	20.8		18.7		16.6	
		70	SM 12 - 070	1.29	22.4		20.2		17.9	
		75	SM 12 - 075	1.20	24.0		21.6		19.2	
		80	SM 12 - 080	1.13	25.6		23.0		20.5	
14	7	25	SM 14 - 025	4.87	8.0	39 (383)	7.2	35 (343)	6.4	31 (304)
		30	SM 14 - 030	4.06	9.6		8.6		7.7	
		35	SM 14 - 035	3.48	11.2		10.1		9.0	
		40	SM 14 - 040	3.04	12.8		11.5		10.2	
		45	SM 14 - 045	2.70	14.4		13.0		11.5	
		50	SM 14 - 050	2.43	16.0		14.4		12.8	
		55	SM 14 - 055	2.21	17.6		15.8		14.1	
		60	SM 14 - 060	2.03	19.2		17.3		15.4	
		65	SM 14 - 065	1.87	20.8		18.7		16.6	
		70	SM 14 - 070	1.74	22.4		20.2		17.9	
		75	SM 14 - 075	1.62	24.0		21.6		19.2	
		80	SM 14 - 080	1.52	25.6		23.0		20.5	
		90	SM 14 - 090	1.35	28.8		25.9		23.0	
16	8	25	SM 16 - 025	6.39	8.0	51 (500)	7.2	46 (451)	6.4	41 (402)
		30	SM 16 - 030	5.32	9.6		8.6		7.7	
		35	SM 16 - 035	4.55	11.2		10.1		9.0	
		40	SM 16 - 040	3.98	12.8		11.5		10.2	
		45	SM 16 - 045	3.54	14.4		13.0		11.5	
		50	SM 16 - 050	3.18	16.0		14.4		12.8	
		55	SM 16 - 055	2.89	17.6		15.8		14.1	
		60	SM 16 - 060	2.65	19.2		17.3		15.4	
		65	SM 16 - 065	2.45	20.8		18.7		16.6	
		70	SM 16 - 070	2.27	22.4		20.2		17.9	
		75	SM 16 - 075	2.11	24.0		21.6		19.2	
		80	SM 16 - 080	1.99	25.6		23.0		20.5	
		90	SM 16 - 090	1.77	28.8		25.9		23.0	
		100	SM 16 - 100	1.59	32.0		28.8		25.6	

SM

MEDIUM LOAD SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
18	9									
		25	SM 18 - 025	8.12	8.0		7.2		6.4	
		30	SM 18 - 030	6.77	9.6		8.6		7.7	
		35	SM 18 - 035	5.80	11.2		10.1		9.0	
		40	SM 18 - 040	5.07	12.8		11.5		10.2	
		45	SM 18 - 045	4.51	14.4		13.0		11.5	
		50	SM 18 - 050	4.06	16.0		14.4		12.8	
		55	SM 18 - 055	3.69	17.6	65	15.8	58	14.1	52
		60	SM 18 - 060	3.38	19.2	(637)	17.3	(569)	15.4	(510)
		65	SM 18 - 065	3.12	20.8		18.7		16.6	
		70	SM 18 - 070	2.90	22.4		20.2		17.9	
		75	SM 18 - 075	2.70	24.0		21.6		19.2	
		80	SM 18 - 080	2.53	25.6		23.0		20.5	
		90	SM 18 - 090	2.25	28.8		25.9		23.0	
		100	SM 18 - 100	2.02	32.0		28.8		25.6	
20	10									
		25	SM 20 - 025	10.00	8.0		7.2		6.4	
		30	SM 20 - 030	8.33	9.6		8.6		7.7	
		35	SM 20 - 035	7.14	11.2		10.1		9.0	
		40	SM 20 - 040	6.25	12.8		11.5		10.2	
		45	SM 20 - 045	5.55	14.4		13.0		11.5	
		50	SM 20 - 050	5.00	16.0		14.4		12.8	
		55	SM 20 - 055	4.54	17.6		15.8		14.1	
		60	SM 20 - 060	4.16	19.2	80	17.3	72	15.4	64
		65	SM 20 - 065	3.84	20.8	(785)	18.7	(706)	16.6	(628)
		70	SM 20 - 070	3.57	22.4		20.2		17.9	
		75	SM 20 - 075	3.33	24.0		21.6		19.2	
		80	SM 20 - 080	3.12	25.6		23.0		20.5	
		90	SM 20 - 090	2.77	28.8		25.9		23.0	
		100	SM 20 - 100	2.50	32.0		28.8		25.6	
22	11									
		25	SM 22 - 025	12.13	8.0		7.2		6.4	
		30	SM 22 - 030	10.10	9.6		8.6		7.7	
		35	SM 22 - 035	8.65	11.2		10.1		9.0	
		40	SM 22 - 040	7.57	12.8		11.5		10.2	
		45	SM 22 - 045	6.74	14.4		13.0		11.5	
		50	SM 22 - 050	6.06	16.0		14.4		12.8	
		55	SM 22 - 055	5.50	17.6		15.8		14.1	
		60	SM 22 - 060	5.05	19.2	97	17.3	87	15.4	78
		65	SM 22 - 065	4.66	20.8	(951)	18.7	(853)	16.6	(765)
		70	SM 22 - 070	4.33	22.4		20.2		17.9	
		75	SM 22 - 075	4.04	24.0		21.6		19.2	
		80	SM 22 - 080	3.78	25.6		23.0		20.5	
		90	SM 22 - 090	3.36	28.8		25.9		23.0	
		100	SM 22 - 100	3.03	32.0		28.8		25.6	
		125	SM 22 - 125	2.42	40.0		36.0		32.0	
		150	SM 22 - 150	2.01	48.0		43.2		38.4	



SM

MEDIUM LOAD SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
25	12.5	25	SM 25 - 025	15.63	8.0	125 (1,226)	7.2	112 (1,098)	6.4	100 (981)
		30	SM 25 - 030	13.02	9.6		8.6		7.7	
		35	SM 25 - 035	11.20	11.2		10.0		9.0	
		40	SM 25 - 040	9.76	12.8		11.5		10.2	
		45	SM 25 - 045	8.68	14.4		13.0		11.5	
		50	SM 25 - 050	7.81	16.0		14.4		12.8	
		55	SM 25 - 055	7.10	17.6		15.8		14.1	
		60	SM 25 - 060	6.51	19.2		17.3		15.4	
		65	SM 25 - 065	6.00	20.8		18.7		16.6	
		70	SM 25 - 070	5.58	22.4		20.2		17.9	
		75	SM 25 - 075	5.21	24.0		21.6		19.2	
		80	SM 25 - 080	4.88	25.6		23.0		20.5	
		90	SM 25 - 090	4.34	28.8		25.9		23.0	
		100	SM 25 - 100	3.90	32.0		28.8		25.6	
		125	SM 25 - 125	3.12	40.0		36.0		32.0	
		150	SM 25 - 150	2.60	48.0		43.2		38.4	
		175	SM 25 - 175	2.23	56.0		50.4		44.8	
27	13.5	25	SM 27 - 025	18.25	8.0	146 (1,432)	7.2	131 (1,285)	6.4	117 (1,147)
		30	SM 27 - 030	15.20	9.6		8.6		7.7	
		35	SM 27 - 035	13.04	11.2		10.0		9.0	
		40	SM 27 - 040	11.40	12.8		11.5		10.2	
		45	SM 27 - 045	10.14	14.4		13.0		11.5	
		50	SM 27 - 050	9.12	16.0		14.4		12.8	
		55	SM 27 - 055	8.30	17.6		15.8		14.1	
		60	SM 27 - 060	7.60	19.2		17.3		15.4	
		65	SM 27 - 065	7.00	20.8		18.7		16.6	
		70	SM 27 - 070	6.51	22.4		20.2		17.9	
		75	SM 27 - 075	6.08	24.0		21.6		19.2	
		80	SM 27 - 080	5.70	25.6		23.0		20.5	
		90	SM 27 - 090	5.06	28.8		25.9		23.0	
		100	SM 27 - 100	4.56	32.0		28.8		25.6	
		125	SM 27 - 125	3.65	40.0		36.0		32.0	
		150	SM 27 - 150	3.04	48.0		43.2		38.4	
		175	SM 27 - 175	2.61	56.0		50.4		44.8	
30	15	25	SM 30 - 025	22.50	8.0	180 (1,785)	7.2	161 (1,579)	6.4	144 (1,412)
		30	SM 30 - 030	18.75	9.6		8.6		7.7	
		35	SM 30 - 035	16.10	11.2		10.0		9.0	
		40	SM 30 - 040	14.06	12.8		11.5		10.2	
		45	SM 30 - 045	12.50	14.4		13.0		11.5	
		50	SM 30 - 050	11.25	16.0		14.4		12.8	
		55	SM 30 - 055	10.23	17.6		15.8		14.1	
		60	SM 30 - 060	9.37	19.2		17.3		15.4	
		65	SM 30 - 065	8.65	20.8		18.7		16.6	
		70	SM 30 - 070	8.03	22.4		20.2		17.9	
		75	SM 30 - 075	7.50	24.0		21.6		19.2	
		80	SM 30 - 080	7.03	25.6		23.0		20.5	
		90	SM 30 - 090	6.25	28.8		25.9		23.0	
		100	SM 30 - 100	5.62	32.0		28.8		25.6	
		125	SM 30 - 125	4.50	40.0		36.0		32.0	
		150	SM 30 - 150	3.75	48.0		43.2		38.4	
		175	SM 30 - 175	3.21	56.0		50.4		44.8	
		200	SM 30 - 200	2.81	64.0		57.6		51.2	

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
35	17.5	40	SM 35 - 040	19.14	12.8	245 (2,400)	11.5	220 (2,160)	10.2	195 (1,912)
		45	SM 35 - 045	17.01	14.4		13.0		11.5	
		50	SM 35 - 050	15.31	16.0		14.4		12.8	
		55	SM 35 - 055	13.92	17.6		15.8		14.0	
		60	SM 35 - 060	12.76	19.2		17.3		15.4	
		65	SM 35 - 065	11.77	20.8		18.7		16.6	
		70	SM 35 - 070	10.93	22.4		20.2		17.9	
		75	SM 35 - 075	10.20	24.0		21.6		19.2	
		80	SM 35 - 080	9.57	25.6		23.0		20.5	
		90	SM 35 - 090	8.50	28.8		25.9		23.0	
		100	SM 35 - 100	7.65	32.0		28.8		25.6	
		125	SM 35 - 125	6.12	40.0		36.0		32.0	
		150	SM 35 - 150	5.10	48.0		43.2		38.4	
		175	SM 35 - 175	4.37	56.0		50.4		44.8	
		200	SM 35 - 200	3.82	64.0		57.6		51.2	
40	20	40	SM 40 - 040	25.02	12.8	320 (3,140)	11.5	288 (2,820)	10.2	256 (2,510)
		50	SM 40 - 050	20.00	16.0		14.4		12.8	
		60	SM 40 - 060	16.60	19.2		17.3		15.4	
		70	SM 40 - 070	14.28	22.4		20.2		17.9	
		80	SM 40 - 080	12.50	25.6		23.0		20.5	
		90	SM 40 - 090	11.11	28.8		25.9		23.0	
		100	SM 40 - 100	10.00	32.0		28.8		25.6	
		125	SM 40 - 125	8.00	40.0		36.0		32.0	
		150	SM 40 - 150	6.66	48.0		43.2		38.4	
		175	SM 40 - 175	5.71	56.0		50.4		44.8	
		200	SM 40 - 200	5.00	64.0		57.6		51.2	
		250	SM 40 - 250	4.00	80.0		72.0		64.0	
50	25	50	SM 50 - 050	31.25	16.0	500 (4,900)	14.4	450 (4,410)	12.8	400 (3,920)
		60	SM 50 - 060	26.04	19.2		17.3		15.4	
		70	SM 50 - 070	22.32	22.4		20.2		17.9	
		80	SM 50 - 080	19.53	25.6		23.0		20.5	
		90	SM 50 - 090	17.36	28.8		25.9		23.0	
		100	SM 50 - 100	15.62	32.0		28.8		25.6	
		125	SM 50 - 125	12.50	40.0		36.0		32.0	
		150	SM 50 - 150	10.41	48.0		43.2		38.4	
		175	SM 50 - 175	8.92	56.0		50.4		44.8	
		200	SM 50 - 200	7.81	64.0		57.6		51.2	
		250	SM 50 - 250	6.25	80.0		72.0		64.0	
		300	SM 50 - 300	5.20	96.0		86.4		76.8	
60	30	60	SM 60 - 060	37.40	19.2	720 (7,060)	17.3	648 (6,350)	15.4	575 (5,640)
		70	SM 60 - 070	32.10	22.4		20.2		17.9	
		80	SM 60 - 080	28.12	25.6		23.0		20.5	
		90	SM 60 - 090	25.00	28.8		25.9		23.0	
		100	SM 60 - 100	22.50	32.0		28.8		25.6	
		125	SM 60 - 125	18.00	40.0		36.0		32.0	
		150	SM 60 - 150	15.00	48.0		43.2		38.4	
		175	SM 60 - 175	12.85	56.0		50.4		44.8	
		200	SM 60 - 200	11.25	64.0		57.6		51.2	
		250	SM 60 - 250	9.00	80.0		72.0		64.0	
		300	SM 60 - 300	7.50	96.0		86.4		76.8	



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
10	5	20	SH 10 - 020	6.25	4.8	30 (294)	4.3	27 (265)	3.8	24 (235)
		25	SH 10 - 025	5.00	6.0		5.4		4.8	
		30	SH 10 - 030	4.16	7.2		6.5		5.8	
		35	SH 10 - 035	3.57	8.4		7.5		6.7	
		40	SH 10 - 040	3.15	9.6		8.6		7.7	
		45	SH 10 - 045	2.77	10.8		9.7		8.6	
		50	SH 10 - 050	2.50	12.0		10.8		9.6	
		55	SH 10 - 055	2.27	13.2		11.8		10.6	
		60	SH 10 - 060	2.08	14.4		13.0		11.5	
		65	SH 10 - 065	1.92	15.6		14.0		12.5	
		70	SH 10 - 070	1.79	16.8		15.1		13.4	
		75	SH 10 - 075	1.67	18.0		16.2		14.4	
		80	SH 10 - 080	1.56	19.2		17.3		15.4	
12	6	20	SH 12 - 020	8.90	4.8	43 (422)	4.3	38 (373)	3.8	34 (333)
		25	SH 12 - 025	7.10	6.0		5.4		4.8	
		30	SH 12 - 030	5.97	7.2		6.5		5.8	
		35	SH 12 - 035	5.11	8.4		7.5		6.7	
		40	SH 12 - 040	4.47	9.6		8.6		7.7	
		45	SH 12 - 045	3.98	10.8		9.7		8.6	
		50	SH 12 - 050	3.58	12.0		10.8		9.6	
		55	SH 12 - 055	3.25	13.2		11.8		10.6	
		60	SH 12 - 060	2.98	14.4		13.0		11.5	
		65	SH 12 - 065	2.74	15.6		14.0		12.5	
		70	SH 12 - 070	2.54	16.8		15.1		13.4	
		75	SH 12 - 075	2.37	18.0		16.2		14.4	
		80	SH 12 - 080	2.21	19.2		17.3		15.4	
14	7	25	SH 14 - 025	9.83	6.0	59 (579)	5.4	53 (520)	4.8	47 (461)
		30	SH 14 - 030	8.19	7.2		6.5		5.8	
		35	SH 14 - 035	7.02	8.4		7.5		6.7	
		40	SH 14 - 040	6.14	9.6		8.6		7.7	
		45	SH 14 - 045	5.46	10.8		9.7		8.6	
		50	SH 14 - 050	4.91	12.0		10.8		9.6	
		55	SH 14 - 055	4.46	13.2		11.8		10.6	
		60	SH 14 - 060	4.09	14.4		13.0		11.5	
		65	SH 14 - 065	3.78	15.6		14.0		12.5	
		70	SH 14 - 070	3.51	16.8		15.1		13.4	
		75	SH 14 - 075	3.27	18.0		16.2		14.4	
		80	SH 14 - 080	3.07	19.2		17.3		15.4	
		90	SH 14 - 090	2.72	21.6		19.4		17.3	
16	8	25	SH 16 - 025	12.83	6.0	77 (755)	5.4	69 (677)	4.8	62 (608)
		30	SH 16 - 030	10.69	7.2		6.5		5.8	
		35	SH 16 - 035	9.16	8.4		7.5		6.7	
		40	SH 16 - 040	8.02	9.6		8.6		7.7	
		45	SH 16 - 045	7.12	10.8		9.7		8.6	
		50	SH 16 - 050	6.41	12.0		10.8		9.6	
		55	SH 16 - 055	5.83	13.2		11.8		10.6	
		60	SH 16 - 060	5.34	14.4		13.0		11.5	
		65	SH 16 - 065	4.93	15.6		14.0		12.5	
		70	SH 16 - 070	4.58	16.8		15.1		13.4	
		75	SH 16 - 075	4.28	18.0		16.2		14.4	
		80	SH 16 - 080	4.01	19.2		17.3		15.4	
		90	SH 16 - 090	3.57	21.6		19.4		17.3	
		100	SH 16 - 100	3.21	24.0		21.6		19.2	

SH

HEAVY LOAD SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
18	9	25	SH 18 - 025	16.16	6.0	97 (951)	5.4	87 (853)	4.8	78 (765)
		30	SH 18 - 030	13.47	7.2		6.5		5.8	
		35	SH 18 - 035	11.54	8.4		7.5		6.7	
		40	SH 18 - 040	10.10	9.6		8.6		7.7	
		45	SH 18 - 045	8.98	10.8		9.7		8.6	
		50	SH 18 - 050	8.08	12.0		10.8		9.6	
		55	SH 18 - 055	7.34	13.2		11.8		10.6	
		60	SH 18 - 060	6.73	14.4		13.0		11.5	
		65	SH 18 - 065	6.21	15.6		14.0		12.5	
		70	SH 18 - 070	5.77	16.8		15.1		13.4	
		75	SH 18 - 075	5.39	18.0		16.2		14.4	
		80	SH 18 - 080	5.05	19.2		17.3		15.4	
		90	SH 18 - 090	4.50	21.6		19.4		17.3	
		100	SH 18 - 100	4.04	24.0		21.6		19.2	
20	10	25	SH 20 - 025	20.00	6.0	120 (1,177)	5.4	108 (1,059)	4.8	96 (941)
		30	SH 20 - 030	16.66	7.2		6.5		5.8	
		35	SH 20 - 035	14.28	8.4		7.5		6.7	
		40	SH 20 - 040	12.50	9.6		8.6		7.7	
		45	SH 20 - 045	11.11	10.8		9.7		8.6	
		50	SH 20 - 050	10.00	12.0		10.8		9.6	
		55	SH 20 - 055	9.09	13.2		11.8		10.6	
		60	SH 20 - 060	8.33	14.4		13.0		11.5	
		65	SH 20 - 065	7.69	15.6		14.0		12.5	
		70	SH 20 - 070	7.14	16.8		15.1		13.4	
		75	SH 20 - 075	6.67	18.0		16.2		14.4	
		80	SH 20 - 080	6.25	19.2		17.3		15.4	
		90	SH 20 - 090	5.55	21.6		19.4		17.3	
		100	SH 20 - 100	5.00	24.0		21.6		19.2	
22	11	25	SH 22 - 025	24.16	6.0	145 (1,422)	5.4	130 (1,275)	4.8	116 (1,138)
		30	SH 22 - 030	20.13	7.2		6.5		5.8	
		35	SH 22 - 035	17.30	8.4		7.5		6.7	
		40	SH 22 - 040	15.10	9.6		8.6		7.7	
		45	SH 22 - 045	13.40	10.8		9.7		8.6	
		50	SH 22 - 050	12.08	12.0		10.8		9.6	
		55	SH 22 - 055	10.94	13.2		11.8		10.6	
		60	SH 22 - 060	10.06	14.4		13.0		11.5	
		65	SH 22 - 065	9.28	15.6		14.0		12.5	
		70	SH 22 - 070	8.63	16.8		15.1		13.4	
		75	SH 22 - 075	8.04	18.0		16.2		14.4	
		80	SH 22 - 080	7.55	19.2		17.3		15.4	
		90	SH 22 - 090	6.71	21.6		19.4		17.3	
		100	SH 22 - 100	6.04	24.0		21.6		19.2	
		125	SH 22 - 125	4.83	30.0		27.0		24.0	
		150	SH 22 - 150	4.02	36.0		32.4		28.8	



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
25	12.5	25	SH 25 - 025	31.20	6.0	187 (1,834)	5.4	169 (1,657)	4.8	150 (1,471)
		30	SH 25 - 030	25.97	7.2		6.5		5.8	
		35	SH 25 - 035	22.38	8.4		7.5		6.7	
		40	SH 25 - 040	19.47	9.6		8.6		7.7	
		45	SH 25 - 045	17.40	10.8		9.7		8.6	
		50	SH 25 - 050	15.58	12.0		10.8		9.6	
		55	SH 25 - 055	14.20	13.2		11.9		10.6	
		60	SH 25 - 060	12.98	14.4		13.0		11.5	
		65	SH 25 - 065	12.00	15.6		14.0		12.5	
		70	SH 25 - 070	11.13	19.8		15.1		13.4	
		75	SH 25 - 075	10.40	18.0		16.2		14.4	
		80	SH 25 - 080	9.73	16.2		17.3		15.4	
		90	SH 25 - 090	8.65	21.6		19.4		17.3	
		100	SH 25 - 100	7.79	24.0		21.6		19.2	
		125	SH 25 - 125	6.23	30.0		27.0		24.0	
		150	SH 25 - 150	5.20	36.0		32.4		28.8	
		175	SH 25 - 175	4.46	42.0		37.8		33.6	
27	13.5	25	SH 27 - 025	36.40	6.0	219 (2,150)	5.4	197 (1,932)	4.8	175 (1,716)
		30	SH 27 - 030	30.41	7.2		6.5		5.8	
		35	SH 27 - 035	26.20	8.4		7.5		6.7	
		40	SH 27 - 040	22.81	9.6		8.6		7.7	
		45	SH 27 - 045	20.30	10.8		9.7		8.6	
		50	SH 27 - 050	18.25	12.0		10.8		9.6	
		55	SH 27 - 055	16.50	13.2		11.9		10.6	
		60	SH 27 - 060	15.20	14.4		13.0		11.5	
		65	SH 27 - 065	14.00	15.6		14.0		12.5	
		70	SH 27 - 070	13.03	16.8		15.1		13.4	
		75	SH 27 - 075	12.10	18.0		16.2		14.4	
		80	SH 27 - 080	11.40	19.2		17.3		15.4	
		90	SH 27 - 090	10.13	21.6		19.4		17.3	
		100	SH 27 - 100	9.12	24.0		21.6		19.2	
		125	SH 27 - 125	7.30	30.0		27.0		24.0	
		150	SH 27 - 150	6.08	36.0		32.4		28.8	
		175	SH 27 - 175	5.21	42.0		37.8		33.6	
30	15	25	SH 30 - 025	45.00	6.0	270 (2,550)	5.4	243 (2,380)	4.8	216 (2,120)
		30	SH 30 - 030	37.50	7.2		6.5		5.8	
		35	SH 30 - 035	32.26	8.4		7.5		6.7	
		40	SH 30 - 040	28.12	9.6		8.6		7.7	
		45	SH 30 - 045	25.00	10.8		9.7		8.6	
		50	SH 30 - 050	22.50	12.0		10.8		9.6	
		55	SH 30 - 055	20.40	13.2		11.9		10.6	
		60	SH 30 - 060	18.75	14.4		13.0		11.5	
		65	SH 30 - 065	17.30	15.6		14.0		12.5	
		70	SH 30 - 070	16.07	16.8		15.1		13.4	
		75	SH 30 - 075	15.00	18.0		16.2		14.4	
		80	SH 30 - 080	14.06	19.2		17.3		15.4	
		90	SH 30 - 090	12.50	21.6		19.4		17.3	
		100	SH 30 - 100	11.25	24.0		21.6		19.2	
		125	SH 30 - 125	9.00	30.0		27.0		24.0	
		150	SH 30 - 150	7.50	36.0		32.4		28.8	
		175	SH 30 - 175	6.42	42.0		37.8		33.6	
		200	SH 30 - 200	5.62	48.0		43.2		38.4	

SH HEAVY LOAD SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
35	17.5	40	SH 35 - 040	38.22	9.6	367 (3,600)	8.6	330 (3,240)	7.7	293 (2,870)
		45	SH 35 - 045	33.98	10.8		9.7		8.6	
		50	SH 35 - 050	30.58	12.0		10.8		9.6	
		55	SH 35 - 055	27.80	13.2		11.9		10.5	
		60	SH 35 - 060	25.48	14.4		13.0		11.5	
		65	SH 35 - 065	23.53	15.6		14.0		12.5	
		70	SH 35 - 070	21.84	16.8		15.1		13.4	
		75	SH 35 - 075	20.39	18.0		16.2		14.4	
		80	SH 35 - 080	19.11	19.2		17.3		15.4	
		90	SH 35 - 090	16.99	21.6		19.4		17.3	
		100	SH 35 - 100	15.29	24.0		21.6		19.2	
		125	SH 35 - 125	12.23	30.0		27.0		24.0	
		150	SH 35 - 150	10.19	36.0		32.4		28.8	
		175	SH 35 - 175	8.73	42.0		37.8		33.6	
		200	SH 35 - 200	7.64	48.0		43.2		38.4	
40	20	40	SH 40 - 040	50.00	9.6	480 (4,710)	8.6	432 (4,240)	7.7	384 (3,770)
		50	SH 40 - 050	40.00	12.0		10.8		9.6	
		60	SH 40 - 060	33.33	14.4		13.0		11.5	
		70	SH 40 - 070	28.57	16.8		15.1		13.4	
		80	SH 40 - 080	25.00	19.2		17.3		15.4	
		90	SH 40 - 090	22.22	21.6		19.4		17.3	
		100	SH 40 - 100	20.00	24.0		21.6		19.2	
		125	SH 40 - 125	16.00	30.0		27.0		24.0	
		150	SH 40 - 150	13.33	36.0		32.4		28.8	
		175	SH 40 - 175	11.42	42.0		37.8		33.6	
		200	SH 40 - 200	10.00	48.0		43.2		38.4	
		250	SH 40 - 250	8.00	60.0		54.0		48.0	
50	25	50	SH 50 - 050	62.50	12.0	750 (7,360)	10.8	675 (6,620)	9.6	600 (5,880)
		60	SH 50 - 060	52.08	14.4		13.0		11.5	
		70	SH 50 - 070	44.64	16.8		15.1		13.4	
		80	SH 50 - 080	39.06	19.2		17.3		15.4	
		90	SH 50 - 090	34.72	21.6		19.4		17.3	
		100	SH 50 - 100	31.25	24.0		21.6		19.2	
		125	SH 50 - 125	25.00	30.0		27.0		24.0	
		150	SH 50 - 150	20.83	36.0		32.4		28.8	
		175	SH 50 - 175	17.85	42.0		37.8		33.6	
		200	SH 50 - 200	15.62	48.0		43.2		38.4	
		250	SH 50 - 250	12.50	60.0		54.0		48.0	
		300	SH 50 - 300	10.41	72.0		64.8		57.6	
60	30	60	SH 60 - 060	75.00	14.4	1,080 (10,590)	13.0	973 (9,540)	11.5	864 (8,470)
		70	SH 60 - 070	64.28	16.8		15.1		13.4	
		80	SH 60 - 080	56.25	19.2		17.3		15.4	
		90	SH 60 - 090	50.00	21.6		19.4		17.3	
		100	SH 60 - 100	45.00	24.0		21.6		19.2	
		125	SH 60 - 125	36.00	30.0		27.0		24.0	
		150	SH 60 - 150	30.00	36.0		32.4		28.8	
		175	SH 60 - 175	25.71	42.0		37.8		33.6	
		200	SH 60 - 200	22.50	48.0		43.2		38.4	
		250	SH 60 - 250	18.00	60.0		54.0		48.0	
		300	SH 60 - 300	15.00	72.0		64.8		57.6	



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
10	5	20	SB 10 - 020	11.25	4.0	45 (441)	3.6	41 (402)	3.2	36 (353)
		25	SB 10 - 025	9.00	5.0		4.5		4.0	
		30	SB 10 - 030	7.50	6.0		5.4		4.8	
		35	SB 10 - 035	6.43	7.0		6.3		5.6	
		40	SB 10 - 040	5.63	8.0		7.2		6.4	
		45	SB 10 - 045	5.00	9.0		8.1		7.2	
		50	SB 10 - 050	4.50	10.0		9.0		8.0	
		55	SB 10 - 055	4.09	11.0		9.9		8.8	
		60	SB 10 - 060	3.75	12.0		10.8		9.6	
		65	SB 10 - 065	3.47	13.0		11.7		10.4	
		70	SB 10 - 070	3.21	14.0		12.6		11.2	
		75	SB 10 - 075	3.00	15.0		13.5		12.0	
		80	SB 10 - 080	2.82	16.0		14.4		12.8	
12	6	20	SB 12 - 020	14.50	4.0	58 (569)	3.6	52 (510)	3.2	46 (451)
		25	SB 12 - 025	11.60	5.0		4.5		4.0	
		30	SB 12 - 030	9.67	6.0		5.4		4.8	
		35	SB 12 - 035	8.29	7.0		6.3		5.6	
		40	SB 12 - 040	7.25	8.0		7.2		6.4	
		45	SB 12 - 045	6.44	9.0		8.1		7.2	
		50	SB 12 - 050	5.80	10.0		9.0		8.0	
		55	SB 12 - 055	5.27	11.0		9.9		8.8	
		60	SB 12 - 060	4.83	12.0		10.8		9.6	
		65	SB 12 - 065	4.44	13.0		11.7		10.4	
		70	SB 12 - 070	4.13	14.0		12.6		11.2	
		75	SB 12 - 075	3.85	15.0		13.5		12.0	
		80	SB 12 - 080	3.61	16.0		14.4		12.8	
14	7	25	SB 14 - 025	15.00	5.0	75 (736)	4.5	68 (667)	4.0	60 (588)
		30	SB 14 - 030	12.50	6.0		5.4		4.8	
		35	SB 14 - 035	10.72	7.0		6.3		5.6	
		40	SB 14 - 040	9.38	8.0		7.2		6.4	
		45	SB 14 - 045	8.34	9.0		8.1		7.2	
		50	SB 14 - 050	7.50	10.0		9.0		8.0	
		55	SB 14 - 055	6.82	11.0		9.9		8.8	
		60	SB 14 - 060	6.25	12.0		10.8		9.6	
		65	SB 14 - 065	5.77	13.0		11.7		10.4	
		70	SB 14 - 070	5.36	14.0		12.6		11.2	
		75	SB 14 - 075	5.00	15.0		13.5		12.0	
		80	SB 14 - 080	4.69	16.0		14.4		12.8	
		90	SB 14 - 090	4.17	18.0		16.2		14.4	
16	8	25	SB 16 - 025	20.00	5.0	100 (981)	4.5	90 (883)	4.0	80 (785)
		30	SB 16 - 030	16.67	6.0		5.4		4.8	
		35	SB 16 - 035	14.29	7.0		6.3		5.6	
		40	SB 16 - 040	12.50	8.0		7.2		6.4	
		45	SB 16 - 045	11.11	9.0		8.1		7.2	
		50	SB 16 - 050	10.00	10.0		9.0		8.0	
		55	SB 16 - 055	9.09	11.0		9.9		8.8	
		60	SB 16 - 060	8.34	12.0		10.8		9.6	
		65	SB 16 - 065	7.69	13.0		11.7		10.4	
		70	SB 16 - 070	7.14	14.0		12.6		11.2	
		75	SB 16 - 075	6.67	15.0		13.5		12.0	
		80	SB 16 - 080	6.25	16.0		14.4		12.8	
		90	SB 16 - 090	5.56	18.0		16.2		14.4	
		100	SB 16 - 100	5.00	20.0		18.0		16.0	

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
18	9	25	SB 18 - 025	25.00	5.0	125 (1,226)	4.5	113 (1,108)	4.0	100 (981)
		30	SB 18 - 030	20.84	6.0		5.4		4.8	
		35	SB 18 - 035	17.86	7.0		6.3		5.6	
		40	SB 18 - 040	15.63	8.0		7.2		6.4	
		45	SB 18 - 045	13.89	9.0		8.1		7.2	
		50	SB 18 - 050	12.50	10.0		9.0		8.0	
		55	SB 18 - 055	11.37	11.0		9.9		8.8	
		60	SB 18 - 060	10.42	12.0		10.8		9.6	
		65	SB 18 - 065	9.62	13.0		11.7		10.4	
		70	SB 18 - 070	8.93	14.0		12.6		11.2	
		75	SB 18 - 075	8.34	15.0		13.5		12.0	
		80	SB 18 - 080	7.82	16.0		14.4		12.8	
		90	SB 18 - 090	6.95	18.0		16.2		14.4	
		100	SB 18 - 100	6.26	20.0		18.0		16.0	
20	10	25	SB 20 - 025	32.00	5.0	160 (1,569)	4.5	144 (1,412)	4.0	128 (1,255)
		30	SB 20 - 030	26.67	6.0		5.4		4.8	
		35	SB 20 - 035	22.86	7.0		6.3		5.6	
		40	SB 20 - 040	20.00	8.0		7.2		6.4	
		45	SB 20 - 045	17.78	9.0		8.1		7.2	
		50	SB 20 - 050	16.00	10.0		9.0		8.0	
		55	SB 20 - 055	14.55	11.0		9.9		8.8	
		60	SB 20 - 060	13.33	12.0		10.8		9.6	
		65	SB 20 - 065	12.31	13.0		11.7		10.4	
		70	SB 20 - 070	11.43	14.0		12.6		11.2	
		75	SB 20 - 075	10.67	15.0		13.5		12.0	
		80	SB 20 - 080	10.00	16.0		14.4		12.8	
		90	SB 20 - 090	8.89	18.0		16.2		14.4	
		100	SB 20 - 100	8.00	20.0		18.0		16.0	
		125	SB 20 - 125	6.40	25.0		22.5		20.0	
		150	SB 20 - 150	5.33	30.0		27.0		24.0	
22	11	25	SB 22 - 025	39.00	5.0	195 (1,912)	4.5	176 (1,726)	4.0	156 (1,530)
		30	SB 22 - 030	32.50	6.0		5.4		4.8	
		35	SB 22 - 035	27.86	7.0		6.3		5.6	
		40	SB 22 - 040	24.38	8.0		7.2		6.4	
		45	SB 22 - 045	21.67	9.0		8.1		7.2	
		50	SB 22 - 050	19.50	10.0		9.0		8.0	
		55	SB 22 - 055	17.73	11.0		9.9		8.8	
		60	SB 22 - 060	16.25	12.0		10.8		9.6	
		65	SB 22 - 065	15.00	13.0		11.7		10.4	
		70	SB 22 - 070	13.93	14.0		12.6		11.2	
		75	SB 22 - 075	13.00	15.0		13.5		12.0	
		80	SB 22 - 080	12.19	16.0		14.4		12.8	
		90	SB 22 - 090	10.83	18.0		16.2		14.4	
		100	SB 22 - 100	9.75	20.0		18.0		16.0	
		125	SB 22 - 125	7.80	25.0		22.5		20.0	
		150	SB 22 - 150	6.50	30.0		27.0		24.0	



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
25	12.5	25	SB 25 - 025	49.00	5.0	245 (2,400)	4.5	221 (2,170)	4.0	196 (1,922)
		30	SB 25 - 030	40.80	6.0		5.4		4.8	
		35	SB 25 - 035	35.00	7.0		6.3		5.6	
		40	SB 25 - 040	30.60	8.0		7.2		6.4	
		45	SB 25 - 045	27.20	9.0		8.1		7.2	
		50	SB 25 - 050	24.50	10.0		9.0		8.0	
		55	SB 25 - 055	22.30	11.0		9.9		8.8	
		60	SB 25 - 060	20.40	12.0		10.8		9.6	
		65	SB 25 - 065	18.80	13.0		11.7		10.4	
		70	SB 25 - 070	17.50	14.0		12.6		11.2	
		75	SB 25 - 075	16.30	15.0		13.5		12.0	
		80	SB 25 - 080	15.30	16.0		14.4		12.8	
		90	SB 25 - 090	13.60	18.0		16.2		14.4	
		100	SB 25 - 100	12.30	20.0		18.0		16.0	
		125	SB 25 - 125	9.80	25.0		22.5		20.0	
		150	SB 25 - 150	8.17	30.0		27.0		24.0	
		175	SB 25 - 175	7.00	35.0		31.5		28.0	
27	13.5	25	SB 27 - 025	58.00	5.0	290 (2,840)	4.5	261 (2,560)	4.0	232 (2,280)
		30	SB 27 - 030	48.33	6.0		5.4		4.8	
		35	SB 27 - 035	41.43	7.0		6.3		5.6	
		40	SB 27 - 040	36.25	8.0		7.2		6.4	
		45	SB 27 - 045	32.22	9.0		8.1		7.2	
		50	SB 27 - 050	29.00	10.0		9.0		8.0	
		55	SB 27 - 055	26.36	11.0		9.9		8.8	
		60	SB 27 - 060	24.17	12.0		10.8		9.6	
		65	SB 27 - 065	22.31	13.0		11.7		10.4	
		70	SB 27 - 070	20.71	14.0		12.6		11.2	
		75	SB 27 - 075	19.33	15.0		13.5		12.0	
		80	SB 27 - 080	18.13	16.0		14.4		12.8	
		90	SB 27 - 090	16.11	18.0		16.2		14.4	
		100	SB 27 - 100	14.50	20.0		18.0		16.0	
		125	SB 27 - 125	11.60	25.0		22.5		20.0	
		150	SB 27 - 150	9.67	30.0		27.0		24.0	
		175	SB 27 - 175	8.28	35.0		31.5		28.0	
30	15	25	SB 30 - 025	72.00	5.0	360 (3,530)	4.5	324 (3,180)	4.0	288 (2,820)
		30	SB 30 - 030	60.00	6.0		5.4		4.8	
		35	SB 30 - 035	51.43	7.0		6.3		5.6	
		40	SB 30 - 040	45.00	8.0		7.2		6.4	
		45	SB 30 - 045	40.00	9.0		8.1		7.2	
		50	SB 30 - 050	36.00	10.0		9.0		8.0	
		55	SB 30 - 055	32.72	11.0		9.9		8.8	
		60	SB 30 - 060	30.00	12.0		10.8		9.6	
		65	SB 30 - 065	27.69	13.0		11.7		10.4	
		70	SB 30 - 070	25.71	14.0		12.6		11.2	
		75	SB 30 - 075	24.00	15.0		13.5		12.0	
		80	SB 30 - 080	22.50	16.0		14.4		12.8	
		90	SB 30 - 090	20.00	18.0		16.2		14.4	
		100	SB 30 - 100	18.00	20.0		18.0		16.0	
		125	SB 30 - 125	14.40	25.0		22.5		20.0	
		150	SB 30 - 150	12.00	30.0		27.0		24.0	
		175	SB 30 - 175	10.28	35.0		31.5		28.0	
		200	SB 30 - 200	9.00	40.0		36.0		32.0	

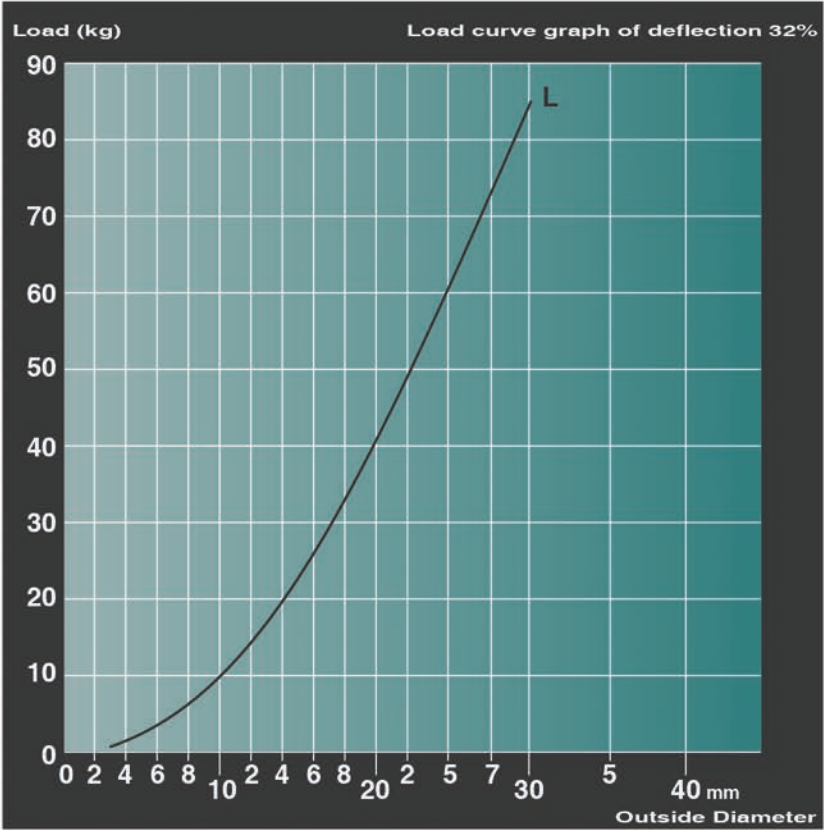
Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
35	17.5	40	SB 35 - 040	61.25	8.0	490 (4,810)	7.2	441 (4,320)	6.4	392 (3,840)
		45	SB 35 - 045	54.44	9.0		8.1		7.2	
		50	SB 35 - 050	49.00	10.0		9.0		8.0	
		55	SB 35 - 055	44.54	11.0		9.9		8.8	
		60	SB 35 - 060	40.83	12.0		10.8		9.6	
		65	SB 35 - 065	37.69	13.0		11.7		10.4	
		70	SB 35 - 070	35.00	14.0		12.6		11.2	
		75	SB 35 - 075	32.67	15.0		13.5		12.0	
		80	SB 35 - 080	30.62	16.0		14.4		12.8	
		90	SB 35 - 090	27.22	18.0		16.2		14.4	
		100	SB 35 - 100	24.50	20.0		18.0		16.0	
		125	SB 35 - 125	19.60	25.0		22.5		20.0	
		150	SB 35 - 150	16.33	30.0		27.0		24.0	
		175	SB 35 - 175	14.00	35.0		31.5		28.0	
		200	SB 35 - 200	12.25	40.0		36.0		32.0	
40	20	40	SB 40 - 040	80.00	8.0	640 (6,280)	7.2	576 (5,650)	6.4	512 (5,020)
		50	SB 40 - 050	64.00	10.0		9.0		8.0	
		60	SB 40 - 060	53.33	12.0		10.8		9.6	
		70	SB 40 - 070	45.71	14.0		12.6		11.2	
		80	SB 40 - 080	40.00	16.0		14.4		12.8	
		90	SB 40 - 090	35.55	18.0		16.2		14.4	
		100	SB 40 - 100	32.00	20.0		18.0		16.0	
		125	SB 40 - 125	25.60	25.0		22.5		20.0	
		150	SB 40 - 150	21.33	30.0		27.0		24.0	
		175	SB 40 - 175	18.28	35.0		31.5		28.0	
		200	SB 40 - 200	16.00	40.0		36.0		32.0	
		250	SB 40 - 250	12.80	50.0		45.0		40.0	
50	25	50	SB 50 - 050	100.00	10.0	1,000 (9,810)	9.0	900 (8,830)	8.0	800 (7,850)
		60	SB 50 - 060	83.33	12.0		10.8		9.6	
		70	SB 50 - 070	71.42	14.0		12.6		11.2	
		80	SB 50 - 080	62.50	16.0		14.4		12.8	
		90	SB 50 - 090	55.55	18.0		16.2		14.4	
		100	SB 50 - 100	50.00	20.0		18.0		16.0	
		125	SB 50 - 125	40.00	25.0		22.5		20.0	
		150	SB 50 - 150	33.33	30.0		27.0		24.0	
		175	SB 50 - 175	28.57	35.0		31.5		28.0	
		200	SB 50 - 200	25.00	40.0		36.0		32.0	
		250	SB 50 - 250	20.00	50.0		45.0		40.0	
		300	SB 50 - 300	16.66	60.0		54.0		48.0	
60	30	60	SB 60 - 060	120.00	12.0	1,440 (14,120)	10.8	1,296 (12,710)	9.6	1,152 (11,300)
		70	SB 60 - 070	102.86	14.0		12.6		11.2	
		80	SB 60 - 080	90.00	16.0		14.4		12.8	
		90	SB 60 - 090	80.00	18.0		16.2		14.4	
		100	SB 60 - 100	72.00	20.0		18.0		16.0	
		125	SB 60 - 125	57.60	25.0		22.5		20.0	
		150	SB 60 - 150	48.00	30.0		27.0		24.0	
		175	SB 60 - 175	41.14	35.0		31.5		28.0	
		200	SB 60 - 200	36.00	40.0		36.0		32.0	
		250	SB 60 - 250	28.80	50.0		45.0		40.0	
		300	SB 60 - 300	24.00	60.0		54.0		48.0	



ROUND WIRE COIL SPRINGS (JIS B 5012)

Complete range of low cost high performances round wire coil springs, perfect for any

TOLERANCES	
OUTSIDE DIA.	+ 0.0 mm - 0.7 mm
INSIDE DIA.	+ 0.7 mm + 0.1 mm
FREE LENGTH	± 1 % ± 0.5 mm <i>at least</i>
LOAD	± 10 %
COILING	Right



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	32 %		24 %		16 %	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
3	2.0	10	L 3 - 010	0.3	3.2	0.90 (8.8)	2.4	0.68 (6.7)	1.6	0.45 (4.4)
		15	L 3 - 015	0.2	4.8		3.6		2.4	
		20	L 3 - 020	0.1	6.4		4.8		3.2	
		25	L 3 - 025	0.1	8.0		6.0		4.0	
4	2.6	10	L 4 - 010	0.5	3.2	1.60 (15.7)	2.4	1.20 (11.8)	1.6	0.80 (7.9)
		15	L 4 - 015	0.3	4.8		3.6		2.4	
		20	L 4 - 020	0.3	6.4		4.8		3.2	
		25	L 4 - 025	0.2	8.0		6.0		4.0	
		30	L 4 - 030	0.2	9.6		7.2		4.8	
6	4.0	15	L 6 - 015	0.8	4.8	3.60 (35.3)	3.6	2.70 (26.5)	2.4	1.80 (17.7)
		20	L 6 - 020	0.6	6.4		4.8		3.2	
		25	L 6 - 025	0.5	8.0		6.0		4.0	
		30	L 6 - 030	0.4	9.6		7.2		4.8	
		35	L 6 - 035	0.3	11.2		8.4		5.6	
8	5.4	15	L 8 - 015	1.3	4.8	6.40 (62.8)	3.6	4.80 (47.1)	2.4	3.20 (31.4)
		20	L 8 - 020	1.0	6.4		4.8		3.2	
		25	L 8 - 025	0.8	8.0		6.0		4.0	
		30	L 8 - 030	0.7	9.6		7.2		4.8	
		35	L 8 - 035	0.6	11.2		8.4		5.6	
		40	L 8 - 040	0.5	12.8		9.6		6.4	



ROUND WIRE COIL SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	32 %		24 %		16 %	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
10	6.5	25	L 10 - 025	1.3	8.0	10.0 (98.1)	6.0	7.50 (73.6)	4.0	5.00 (49.0)
		30	L 10 - 030	1.0	9.6		7.2		4.8	
		35	L 10 - 035	0.9	11.2		8.4		5.6	
		40	L 10 - 040	0.8	12.8		9.6		6.4	
		45	L 10 - 045	0.7	14.4		10.8		7.2	
		50	L 10 - 050	0.6	16.0		12.0		8.0	
12	8.0	25	L 12 - 025	1.8	8.0	14.4 (141.2)	6.0	10.8 (105.9)	4.0	7.20 (70.6)
		30	L 12 - 030	1.5	9.6		7.2		4.8	
		35	L 12 - 035	1.3	11.2		8.4		5.6	
		40	L 12 - 040	1.1	12.8		9.6		6.4	
		45	L 12 - 045	1.0	14.4		10.8		7.2	
		50	L 12 - 050	0.9	16.0		12.0		8.0	
		55	L 12 - 055	0.8	17.6		13.2		8.8	
		60	L 12 - 060	0.8	19.2		14.4		9.6	
14	9.3	25	L 14 - 025	2.5	8.0	19.6 (192.2)	6.0	14.70 (144.2)	4.0	9.80 (96.1)
		30	L 14 - 030	2.0	9.6		7.2		4.8	
		35	L 14 - 035	1.8	11.2		8.4		5.6	
		40	L 14 - 040	1.5	12.8		9.6		6.4	
		45	L 14 - 045	1.4	14.4		10.8		7.2	
		50	L 14 - 050	1.2	16.0		12.0		8.0	
		55	L 14 - 055	1.1	17.6		13.2		8.8	
		60	L 14 - 060	1.0	19.2		14.4		9.6	
		65	L 14 - 065	0.9	20.8		15.6		10.4	
		70	L 14 - 070	0.9	22.4		16.8		11.2	
16	10.7	25	L 16 - 025	3.2	8.0	25.6 (251.1)	6.0	19.20 (188.3)	4.0	12.80 (125.5)
		30	L 16 - 030	2.7	9.6		7.2		4.8	
		35	L 16 - 035	2.3	11.2		8.4		5.6	
		40	L 16 - 040	2.0	12.8		9.6		6.4	
		45	L 16 - 045	1.8	14.4		10.8		7.2	
		50	L 16 - 050	1.6	16.0		12.0		8.0	
		55	L 16 - 055	1.5	17.6		13.2		8.8	
		60	L 16 - 060	1.3	19.2		14.4		9.6	
		65	L 16 - 065	1.2	20.8		15.6		10.4	
		70	L 16 - 070	1.1	22.4		16.8		11.2	
		75	L 16 - 075	1.1	24.0		18.0		12.0	
		80	L 16 - 080	1.0	25.6		19.2		12.8	
18	12	25	L 18 - 025	4.1	8.0	32.40 (317.7)	6.0	24.30 (238.3)	4.0	16.20 (158.9)
		30	L 18 - 030	3.4	9.6		7.2		4.8	
		35	L 18 - 035	2.9	11.2		8.4		5.6	
		40	L 18 - 040	2.5	12.8		9.6		6.4	
		45	L 18 - 045	2.3	14.4		10.8		7.2	
		50	L 18 - 050	2.0	16.0		12.0		8.0	
		55	L 18 - 055	1.8	17.6		13.2		8.8	
		60	L 18 - 060	1.7	19.2		14.4		9.6	
		65	L 18 - 065	1.6	20.8		15.6		10.4	
		70	L 18 - 070	1.5	22.4		16.8		11.2	
		75	L 18 - 075	1.4	24.0		18.0		12.0	
		80	L 18 - 080	1.3	25.6		19.2		12.8	
		90	L 18 - 090	1.1	28.8		21.6		14.4	
20	13.5	25	L 20 - 025	5.0	8.0	40.00 (392.3)	6.0	30.00 (294.2)	4.0	20.00 (196.1)
		30	L 20 - 030	4.2	9.6		7.2		4.8	
		35	L 20 - 035	3.6	11.2		8.4		5.6	
		40	L 20 - 040	3.1	12.8		9.6		6.4	
		45	L 20 - 045	2.8	14.4		10.8		7.2	
		50	L 20 - 050	2.5	16.0		12.0		8.0	
		55	L 20 - 055	2.3	17.6		13.2		8.8	
		60	L 20 - 060	2.1	19.2		14.4		9.6	
		65	L 20 - 065	1.9	20.8		15.6		10.4	
		70	L 20 - 070	1.8	22.4		16.8		11.2	
		75	L 20 - 075	1.7	24.0		18.0		12.0	
		80	L 20 - 080	1.6	25.6		19.2		12.8	
		90	L 20 - 090	1.4	28.8		21.6		14.4	
		100	L 20 - 100	1.3	32.0		24.0		16.0	





ROUND WIRE COIL SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	32 %		24 %		16 %	
					Deflection	Load	Deflection	Load	Deflection	Load
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
22	14.7	25	L 22 - 025	6.1	8.0	48.40 (474.6)	6.0	36.30 (356.0)	4.0	24.20 (237.3)
		30	L 22 - 030	5.0	9.6		7.2		4.8	
		35	L 22 - 035	4.3	11.2		8.4		5.6	
		40	L 22 - 040	3.8	12.8		9.6		6.4	
		45	L 22 - 045	3.4	14.4		10.8		7.2	
		50	L 22 - 050	3.0	16.0		12.0		8.0	
		55	L 22 - 055	2.8	17.6		13.2		8.8	
		60	L 22 - 060	2.5	19.2		14.4		9.6	
		65	L 22 - 065	2.3	20.8		15.6		10.4	
		70	L 22 - 070	2.2	22.4		16.8		11.2	
		75	L 22 - 075	2.0	24.0		18.0		12.0	
		80	L 22 - 080	1.9	25.6		19.2		12.8	
		90	L 22 - 090	1.7	28.8		21.6		14.4	
		100	L 22 - 100	1.5	32.0		24.0		16.0	
25	17	25	L 25 - 025	7.8	8.0	62.60 (613.9)	6.0	47.00 (460.9)	4.0	31.30 (307.0)
		30	L 25 - 030	6.5	9.6		7.2		4.8	
		35	L 25 - 035	5.6	11.2		8.4		5.6	
		40	L 25 - 040	4.9	12.8		9.6		6.4	
		45	L 25 - 045	4.3	14.4		10.8		7.2	
		50	L 25 - 050	3.9	16.0		12.0		8.0	
		55	L 25 - 055	3.6	17.6		13.2		8.8	
		60	L 25 - 060	3.3	19.2		14.4		9.6	
		65	L 25 - 065	3.0	20.8		15.6		10.4	
		70	L 25 - 070	2.8	22.4		16.8		11.2	
		75	L 25 - 075	2.6	24.0		18.0		12.0	
		80	L 25 - 080	2.4	25.6		19.2		12.8	
		90	L 25 - 090	2.2	28.8		21.6		14.4	
		100	L 25 - 100	2.0	32.0		24.0		16.0	
30	20	50	L 30 - 050	5.3	16.0	84.50 (828)	12.0	63.40 (621)	8.0	42.20 (414)
		60	L 30 - 060	4.5	19.2		14.4		9.6	
		70	L 30 - 070	3.8	22.4		16.8		11.2	
		80	L 30 - 080	3.3	25.6		19.2		12.8	
		90	L 30 - 090	2.9	28.8		21.6		14.4	
		100	L 30 - 100	2.6	32.0		24.0		16.0	
		125	L 30 - 125	2.1	40.0		30.0		20.0	

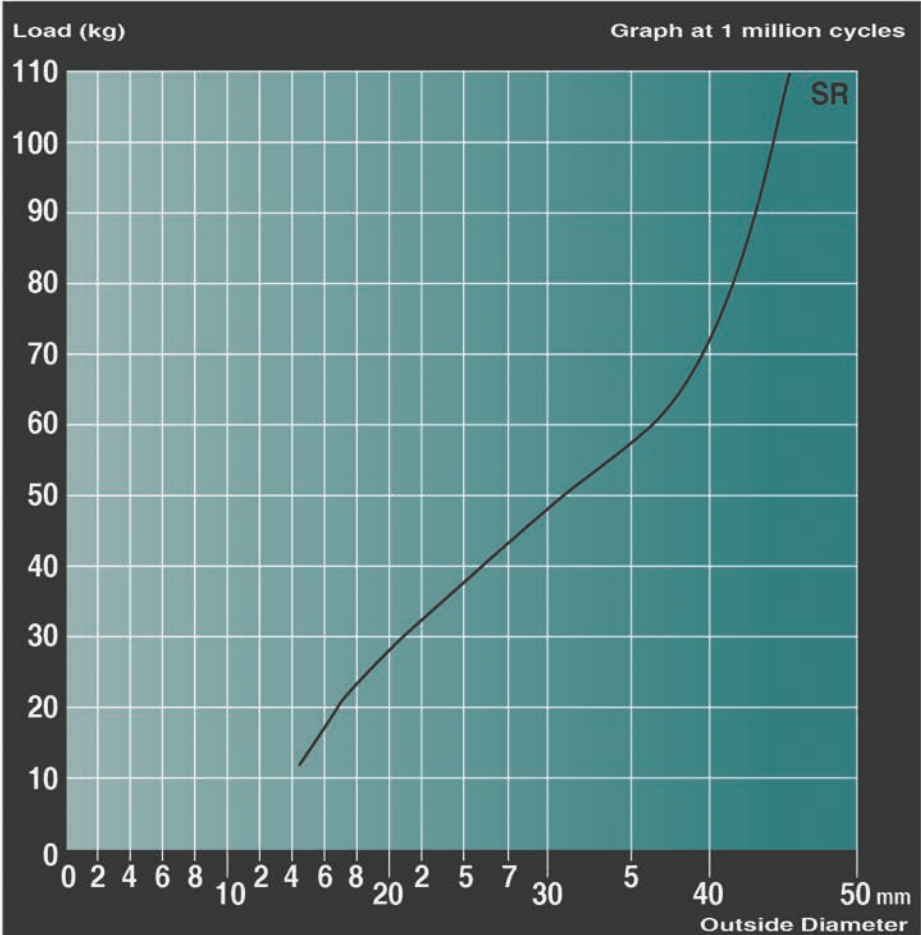
LONG SIZE OPEN ENDS

Spring Code	Outside Diameter	Inside Diameter	Free Lenght	Pitch
	mm	mm	mm	
L 03 - 300	3	2.0	300	1.04
L 04 - 300	4	2.6	300	1.50
L 06 - 300	6	4.0	300	2.00
L 08 - 300	8	5.4	300	2.80
L 10 - 300	10	6.5	300	3.50
L 12 - 300	12	8.0	300	4.30
L 14 - 300	14	9.3	300	4.80
L 16 - 300	16	10.7	300	5.50
L 18 - 300	18	12.0	300	5.30
L 20 - 300	20	13.5	300	6.80
L 22 - 300	22	14.7	300	6.70
L 25 - 300	25	17.0	300	8.20

PLASTIC MOULD COIL SPRINGS

- High deflection springs for mould retrain pin
- Maximum deflection 60 %
- Spring life at 50 % deflection of free length is 1,000,000 cycles
- When working at a temperature of around 200°C and a deflection of 50 % there will be a

TOLERANCES	
COLOUR	Ivory Ral 1014
OUTSIDE DIA.	+ 0.0 mm - 1.2 mm
INSIDE DIA.	+ 1.2 mm + 0.0 mm
FREE LENGTH	± 2 % ± 0.5 mm <i>at least</i>
SQUARENESS	Below 2°
LOAD	± 10 %
COILING	Right
DEFLECTION (% of free length)	40 ÷ 50 %
MAX. DEFL. (% of free length)	60 %



Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Costant	1 million 50 %		Solid Length
					Deflection	Load	
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm
14.5	8.5	20	SR 14 - 020	1.30	10.0	13 (127.5)	8
		25	SR 14 - 025	1.04	12.5		10
		30	SR 14 - 030	0.87	15.0		12
		35	SR 14 - 035	0.74	17.5		14
		40	SR 14 - 040	0.65	20.0		16
		45	SR 14 - 045	0.58	22.5		18
		50	SR 14 - 050	0.52	25.0		20
		55	SR 14 - 055	0.47	27.5		22
		60	SR 14 - 060	0.43	30.0		24
		65	SR 14 - 065	0.40	32.5		26
		70	SR 14 - 070	0.37	35.0		28
		75	SR 14 - 075	0.35	37.5		30
		80	SR 14 - 080	0.33	40.0		32
		90	SR 14 - 090	0.29	45.0		36
		100	SR 14 - 100	0.26	50.0		40
		125	SR 14 - 125	0.21	62.5		50



SR SERIES

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Costant	1 million 50 %		Solid Length
					Deflection	Load	
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm
17	10.5	25	SR 17 - 025	1.60	12.5	20 (196.1)	10
		30	SR 17 - 030	1.33	15.0		12
		35	SR 17 - 035	1.14	17.5		14
		40	SR 17 - 040	1.00	20.0		16
		45	SR 17 - 045	0.89	22.5		18
		50	SR 17 - 050	0.80	25.0		20
		55	SR 17 - 055	0.73	27.5		22
		60	SR 17 - 060	0.67	30.0		24
		65	SR 17 - 065	0.62	32.5		26
		70	SR 17 - 070	0.57	35.0		28
		75	SR 17 - 075	0.53	37.5		30
		80	SR 17 - 080	0.50	40.0		32
		90	SR 17 - 090	0.44	45.0		36
		100	SR 17 - 100	0.40	50.0		40
		125	SR 17 - 125	0.32	62.5		50
		150	SR 17 - 150	0.27	75.0		60
21	13.5	30	SR 21 - 030	2.00	15.0	30 (294.1)	12
		35	SR 21 - 035	1.71	17.5		14
		40	SR 21 - 040	1.50	20.0		16
		45	SR 21 - 045	1.33	22.5		18
		50	SR 21 - 050	1.20	25.0		20
		55	SR 21 - 055	1.09	27.5		22
		60	SR 21 - 060	1.00	30.0		24
		65	SR 21 - 065	0.92	32.5		26
		70	SR 21 - 070	0.86	35.0		28
		75	SR 21 - 075	0.80	37.5		30
		80	SR 21 - 080	0.75	40.0		32
		90	SR 21 - 090	0.67	45.0		36
		100	SR 21 - 100	0.60	50.0		40
		110	SR 21 - 110	0.55	55.0		44
		120	SR 21 - 120	0.50	60.0		48
		125	SR 21 - 125	0.48	62.5		50
		130	SR 21 - 130	0.46	65.0		52
		140	SR 21 - 140	0.43	70.0		56
		150	SR 21 - 150	0.40	75.0		60
26	16.5	30	SR 26 - 030	2.67	15.0	40 (392.3)	12
		35	SR 26 - 035	2.29	17.5		14
		40	SR 26 - 040	2.00	20.0		16
		45	SR 26 - 045	1.78	22.5		18
		50	SR 26 - 050	1.60	25.0		20
		55	SR 26 - 055	1.45	27.5		22
		60	SR 26 - 060	1.33	30.0		24
		65	SR 26 - 065	1.23	32.5		26
		70	SR 26 - 070	1.14	35.0		28
		75	SR 26 - 075	1.07	37.5		30
		80	SR 26 - 080	1.00	40.0		32
		90	SR 26 - 090	0.89	45.0		36
		100	SR 26 - 100	0.80	50.0		40
		110	SR 26 - 110	0.73	55.0		44
		120	SR 26 - 120	0.67	60.0		48
		125	SR 26 - 125	0.64	62.5		50
		130	SR 26 - 130	0.62	65.0		52
		140	SR 26 - 140	0.57	70.0		56
		150	SR 26 - 150	0.53	75.0		60
		175	SR 26 - 175	0.46	87.5		70
		200	SR 26 - 200	0.40	100.0		80

SR SERIES

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Costant	1 million 50 %		Solid Length
					Deflection	Load	
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm
31	21	40	SR 31 - 040	2.50	20.0	50 (490.3)	16
		45	SR 31 - 045	2.22	22.5		18
		50	SR 31 - 050	2.00	25.0		20
		60	SR 31 - 060	1.67	30.0		24
		70	SR 31 - 070	1.43	35.0		28
		80	SR 31 - 080	1.25	40.0		32
		90	SR 31 - 090	1.11	45.0		36
		100	SR 31 - 100	1.00	50.0		40
		110	SR 31 - 110	0.91	55.0		44
		120	SR 31 - 120	0.83	60.0		48
		125	SR 31 - 125	0.80	62.5		50
		130	SR 31 - 130	0.77	65.0		52
		140	SR 31 - 140	0.71	70.0		56
		150	SR 31 - 150	0.67	75.0		60
		160	SR 31 - 160	0.63	80.0		64
		170	SR 31 - 170	0.59	85.0		68
		175	SR 31 - 175	0.57	87.5		70
		180	SR 31 - 180	0.56	90.0		72
		190	SR 31 - 190	0.53	95.0		76
		200	SR 31 - 200	0.50	100.0		80
37	26	250	SR 31 - 250	0.40	125.0	60 (588.4)	100
		300	SR 31 - 300	0.33	150.0		120
		40	SR 37 - 040	3.00	20.0		16
		45	SR 37 - 045	2.67	22.5		18
		50	SR 37 - 050	2.40	25.0		20
		60	SR 37 - 060	2.00	30.0		24
		70	SR 37 - 070	1.71	35.0		28
		80	SR 37 - 080	1.50	40.0		32
		90	SR 37 - 090	1.33	45.0		36
		100	SR 37 - 100	1.20	50.0		40
		110	SR 37 - 110	1.09	55.0		44
		120	SR 37 - 120	1.00	60.0		48
		125	SR 37 - 125	0.96	62.5		50
		130	SR 37 - 130	0.92	65.0		52
		140	SR 37 - 140	0.86	70.0		56
		150	SR 37 - 150	0.80	75.0		60
		160	SR 37 - 160	0.75	80.0		64
		170	SR 37 - 170	0.71	85.0		68
		175	SR 37 - 175	0.69	87.5		70
		180	SR 37 - 180	0.67	90.0		72
46	33	190	SR 37 - 190	0.63	95.0	110 (1,078.7)	76
		200	SR 37 - 200	0.60	100.0		80
		250	SR 37 - 250	0.48	125.0		100
		300	SR 37 - 300	0.40	150.0		120
		50	SR 46 - 050	4.40	25.0		20
		60	SR 46 - 060	3.67	30.0		24
		70	SR 46 - 070	3.14	35.0		28
		80	SR 46 - 080	2.75	40.0		32
		90	SR 46 - 090	2.44	45.0		36
		100	SR 46 - 100	2.20	50.0		40
		110	SR 46 - 110	2.00	55.0		44
		120	SR 46 - 120	1.83	60.0		48
		125	SR 46 - 125	1.76	62.5		50
		130	SR 46 - 130	1.69	65.0		52
		140	SR 46 - 140	1.57	70.0		56
		150	SR 46 - 150	1.47	75.0		60
		175	SR 46 - 175	1.26	87.5		70
		200	SR 46 - 200	1.10	100.0		80
		225	SR 46 - 225	0.98	112.5		90
		250	SR 46 - 250	0.88	125.0		100
		275	SR 46 - 275	0.80	137.5		110
		300	SR 46 - 300	0.73	150.0		120

