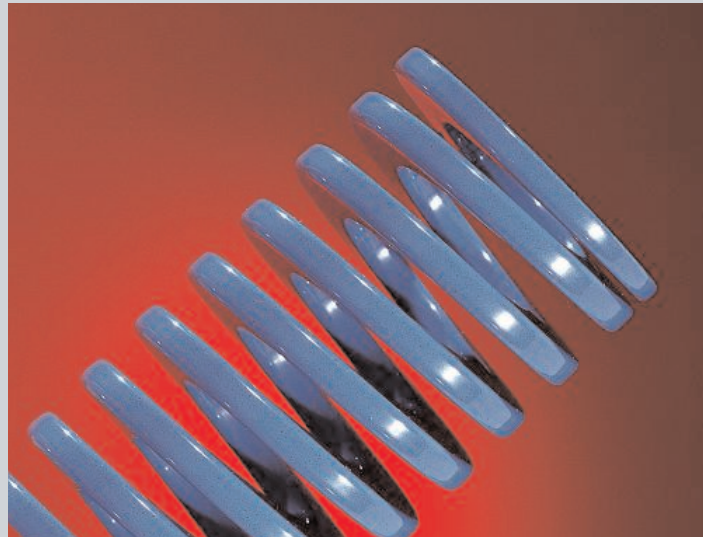


Molle metriche, standard giapponese
J.I.S. B5012

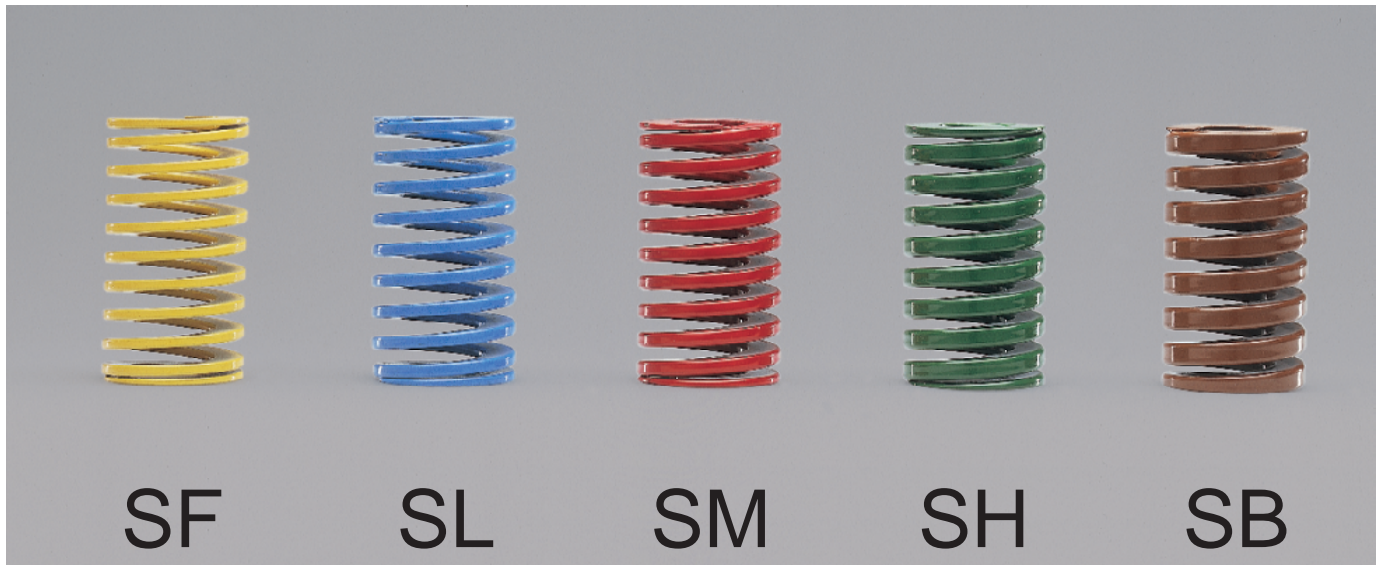
Metric die springs, Japanese standard
J.I.S. B5012

Schraubendruckfedern nach japanischen
J.I.S. B5012

Ressorts métriques, norme japonais
J.I.S. B5012



SPECIAL SPRINGS 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. Special 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.

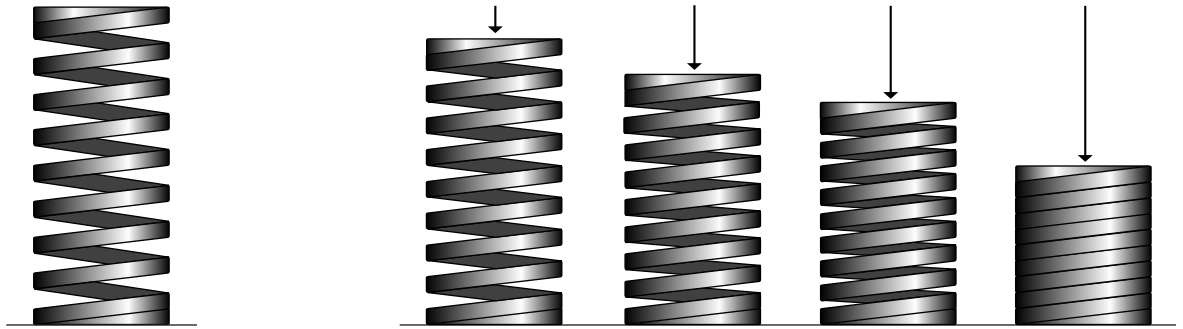
ORDERING EXAMPLE:

50 SM 30 - 125
↓ ↓
quantity spring code



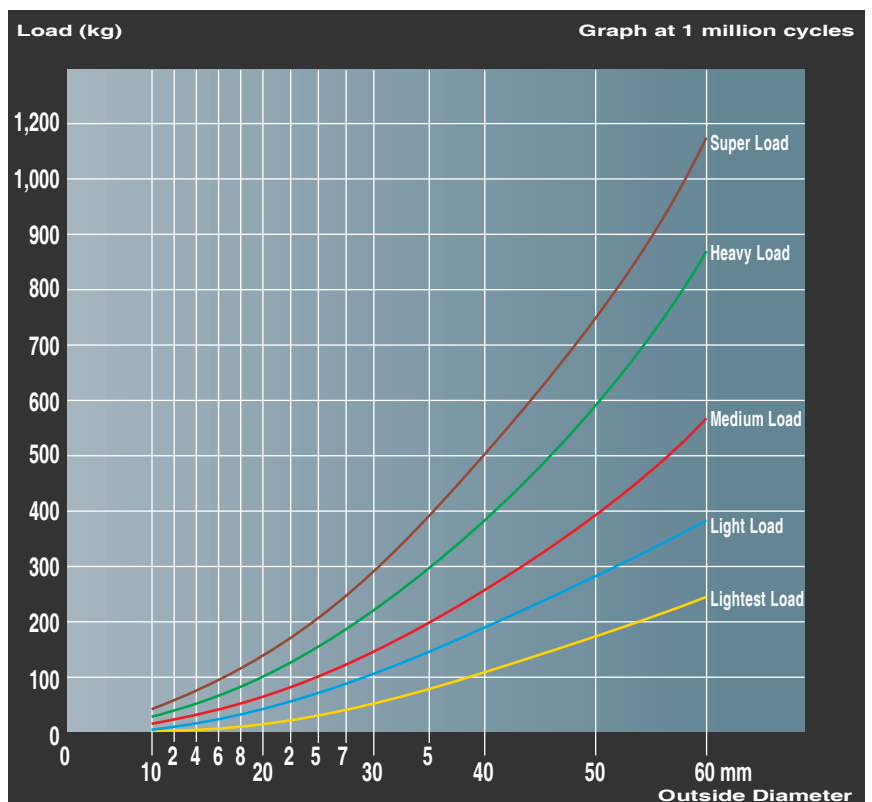
SELECTION OF SPECIAL SPRINGS (JIS B 5012) SPRING

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									
		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	10	22.5	9	20.0	8
		55	SF 10 - 055	0.36	27.5	(98.1)	24.7	(88.3)	22.0	(78.5)
		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									
		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	14	22.5	12.5	20.0	11
		55	SF 12 - 055	0.51	27.5	(137.3)	24.7	(122.6)	22.0	(107.9)
		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									
		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	18	27.0	16	24.0	14.5
		65	SF 14 - 065	0.55	32.5	(176.5)	29.2	(156.9)	26.0	(142.2)
		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									
		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	21	27.0	19	24.0	17
		65	SF 16 - 065	0.65	32.5	(206)	29.2	(186.3)	26.0	(166.7)
		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	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					



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)
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	





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)
40	26	40	SFR 40 - 040	4.00	20.0	65 (637)	18.0	58.5 (573.3)	16.0	52 (509.6)
		50	SFR 40 - 050	3.20	25.0		22.5		20.0	
		60	SFR 40 - 060	2.60	30.0		27.0		24.0	
		70	SFR 40 - 070	2.35	35.0		31.5		28.0	
		80	SFR 40 - 080	2.05	40.0		36.0		32.0	
		90	SFR 40 - 090	1.80	45.0		40.5		36.0	
		100	SFR 40 - 100	1.50	50.0		45.0		40.0	
		125	SFR 40 - 125	1.15	62.5		56.25		50.0	
		150	SFR 40 - 150	0.90	75.0		67.5		60.0	
		175	SFR 40 - 175	0.75	87.5		78.75		70.0	
		200	SFR 40 - 200	0.60	100.0		90.0		80.0	
		250	SFR 40 - 250	0.40	125.0		112.5		100.0	
50	27.5	50	SF 50 - 050	8.00	25.0	200 (1,961)	22.5	180 (1,765)	20.0	160 (1,569)
		60	SF 50 - 060	6.66	30.0		27.0		24.0	
		70	SF 50 - 070	5.71	35.0		31.5		28.0	
		80	SF 50 - 080	5.00	40.0		36.0		32.0	
		90	SF 50 - 090	4.44	45.0		40.5		36.0	
		100	SF 50 - 100	4.00	50.0		45.0		40.0	
		125	SF 50 - 125	3.20	62.5		56.2		50.0	
		150	SF 50 - 150	2.66	75.0		67.5		60.0	
		175	SF 50 - 175	2.28	87.5		78.7		70.0	
		200	SF 50 - 200	2.00	100.0		90.0		80.0	
		250	SF 50 - 250	1.60	125.0		112.5		100.0	
		300	SF 50 - 300	1.33	150.0		135.0		120.0	
50	31	50	SFR 50 - 050	5.40	25.0	123.3 (1,212.3)	22.5	111.4 (1,091.4)	20.0	99 (970.2)
		60	SFR 50 - 060	4.50	30.0		27.0		24.0	
		70	SFR 50 - 070	3.60	35.0		31.5		28.0	
		80	SFR 50 - 080	3.00	40.0		36.0		32.0	
		90	SFR 50 - 090	2.65	45.0		40.5		36.0	
		100	SFR 50 - 100	2.40	50.0		45.0		40.0	
		125	SFR 50 - 125	1.90	62.5		56.25		50.0	
		150	SFR 50 - 150	1.55	75.0		67.5		60.0	
		175	SFR 50 - 175	1.30	87.5		78.75		70.0	
		200	SFR 50 - 200	1.10	100.0		90.0		80.0	
		250	SFR 50 - 250	0.90	125.0		112.5		100.0	
		300	SFR 50 - 300	0.75	150.0		135.0		120.0	
60	33	60	SF 60 - 060	9.59	30.0	288 (2,820)	27.0	259 (2,540)	24.0	230 (2,260)
		70	SF 60 - 070	8.22	35.0		31.5		28.0	
		80	SF 60 - 080	7.19	40.0		36.0		32.0	
		90	SF 60 - 090	6.40	45.0		40.5		36.0	
		100	SF 60 - 100	5.76	50.0		45.0		40.0	
		125	SF 60 - 125	4.60	62.5		56.2		50.0	
		150	SF 60 - 150	3.84	75.0		67.5		60.0	
		175	SF 60 - 175	3.29	87.5		78.7		70.0	
		200	SF 60 - 200	2.88	100.0		90.0		80.0	
		250	SF 60 - 250	2.30	125.0		112.5		100.0	
		300	SF 60 - 300	1.92	150.0		135.0		120.0	
		60	36	60	SFR 60 - 060		7.40		30.0	
70	SFR 60 - 070			6.30	35.0	31.5	28.0			
80	SFR 60 - 080			5.30	40.0	36.0	32.0			
90	SFR 60 - 090			4.20	45.0	40.5	36.0			
100	SFR 60 - 100			3.10	50.0	45.0	40.0			
125	SFR 60 - 125			2.35	62.5	56.25	50.0			
150	SFR 60 - 150			2.10	75.0	67.5	60.0			
175	SFR 60 - 175			1.90	87.5	78.75	70.0			
200	SFR 60 - 200			1.60	100.0	90.0	80.0			
250	SFR 60 - 250			1.30	125.0	112.5	100.0			
300	SFR 60 - 300			1.00	150.0	135.0	120.0			



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	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

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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)
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	mm	mm		Kgf / mm	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	
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			



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)
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	65 (637)	7.2	58 (569)	6.4	52 (510)
		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		15.8		14.1	
		60	SM 18 - 060	3.38	19.2		17.3		15.4	
		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	80 (785)	7.2	72 (706)	6.4	64 (628)
		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		17.3		15.4	
		65	SM 20 - 065	3.84	20.8		18.7		16.6	
		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					
125	SM 20 - 125	2.00	40.0	36.0	32.0					
150	SM 20 - 150	1.67	48.0	43.2	38.4					
22	11	25	SM 22 - 025	12.13	8.0	97 (951)	7.2	87 (853)	6.4	78 (765)
		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		17.3		15.4	
		65	SM 22 - 065	4.66	20.8		18.7		16.6	
		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					

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)
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	



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)
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	
		125	SH 20 - 125	4.00	30.0		27.0		24.0	
150	SH 20 - 150	3.33	36.0	32.4	28.8					
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					



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	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	16.8		15.1		13.4	
		75	SH 25 - 075	10.40	18.0		16.2		14.4	
		80	SH 25 - 080	9.73	19.2		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	





SUPER 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	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					





SUPER 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	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					



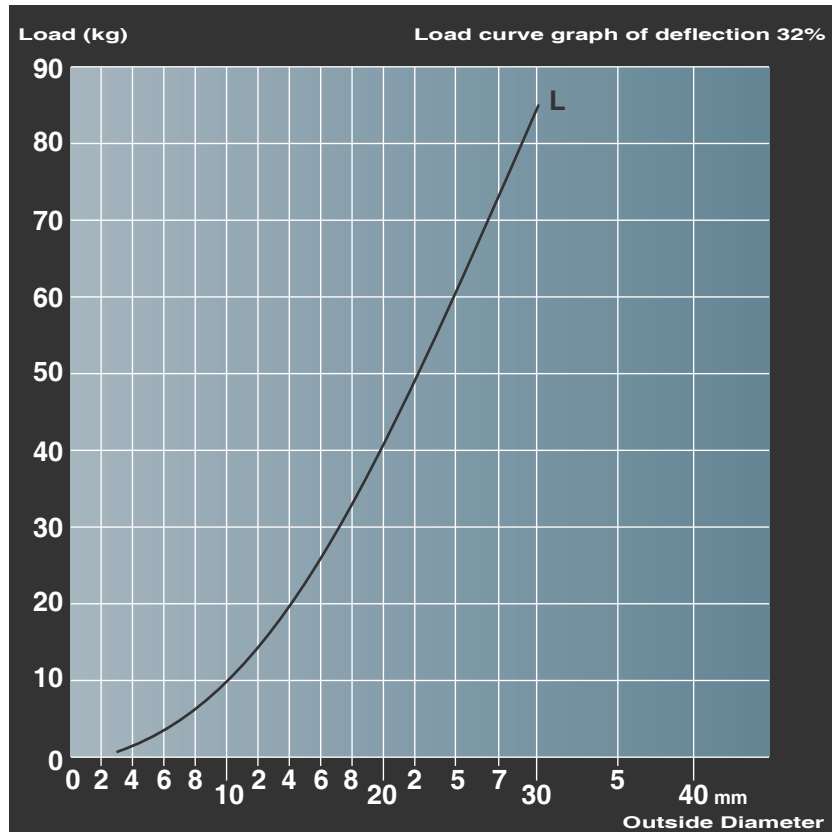
Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	0.3 million		0.5 million		1 million	
					Deflection	Load	Deflection	Load	Deflection	Load
mm	mm	mm		Kgf / mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
35	17.5	40	SB 35 - 040	61.25	8.0	490 (4,810)	7.2	441 (4,320)	6.4	392 (3,840)
		45	SB 35 - 045	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	



SPECIAL SPRINGS 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	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)
3	2.0	10	L 3 - 010	0.3	3.2	0.90	2.4	0.68	1.6	0.45
		15	L 3 - 015	0.2	4.8	(8.8)	3.6	(6.7)	2.4	(4.4)
		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	2.4	1.20	1.6	0.80
		15	L 4 - 015	0.3	4.8	(15.7)	3.6	(11.8)	2.4	(7.9)
		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	3.6	2.70	2.4	1.80
		20	L 6 - 020	0.6	6.4	(35.3)	4.8	(26.5)	3.2	(17.7)
		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	3.6	4.80	2.4	3.20
		20	L 8 - 020	1.0	6.4	(62.8)	4.8	(47.1)	3.2	(31.4)
		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	

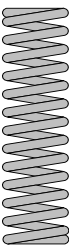




ROUND WIRE COIL SPRINGS

JIS B 5012

Outside Dia.	Inside Dia.	Free Length	Spring Code	Spring Constant	32 %		24 %		16 %	
					Deflection	Load	Deflection	Load	Deflection	Load
					mm	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	
		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

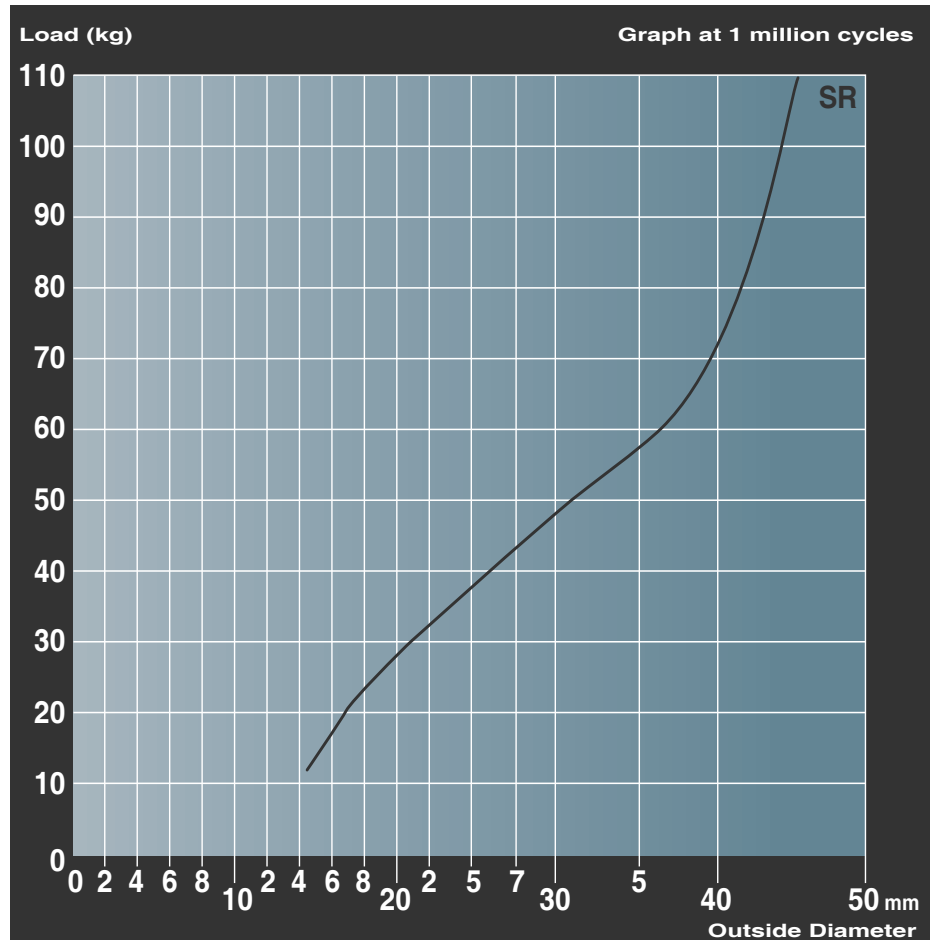
Spring Code	Outside Diameter	Inside Diameter	Free Length	Pitch
	mm	mm	mm	
L 03 - 300	3	2.0	300	1.04
L 04 - 300	4	2.6	300	1.50
L 06 - 300	6	4.0	300	2.00
L 08 - 300	8	5.4	300	2.80
L 10 - 300	10	6.5	300	3.50
L 12 - 300	12	8.0	300	4.30
L 14 - 300	14	9.3	300	4.80
L 16 - 300	16	10.7	300	5.50
L 18 - 300	18	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



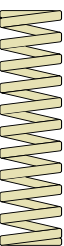
SPECIAL SPRINGS PLASTIC MOULD COIL SPRINGS

- 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. mm	Inside Dia. mm	Free Length mm	Spring Code	Spring Costant Kgf / mm	1 million 50 %		Solid Length mm
					Deflection mm	Load Kgf (N)	
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			



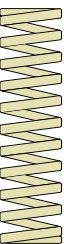
SR SERIES

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
250	SR 31 - 250	0.40	125.0	100			
300	SR 31 - 300	0.33	150.0	120			
37	26	40	SR 37 - 040	3.00	20.0	60 (588.4)	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
		190	SR 37 - 190	0.63	95.0		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			
46	33	50	SR 46 - 050	4.40	25.0	110 (1,078.7)	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			



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