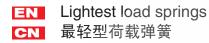
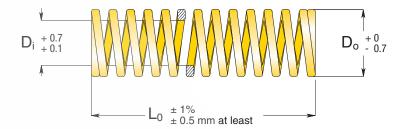
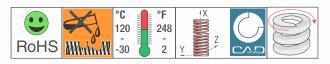
### **SERIES** 系列

### JIS B 5012 - 1986







Code	D <sub>o</sub>	<b>D</b> <sub>i</sub>	Lo	R	<b>*</b>	Α	B		C			E	
型号	Outside Diameter 外径	Inside Diameter 内径	Free Length 自由长度	Spring Constant 弹簧定数	40% L <sub>0</sub>		<b>45</b>	<b>3</b> 45% L₀		\$ 50% L <sub>0</sub>		pprox.	
	ガ圧	LIT	日田区区	± 10%			500.000 cycles		300.000 cycles		do not u		
	mm	mm	mm	Kgf/mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm		Pcs
SF 10 - 020 SF 10 - 025 SF 10 - 030 SF 10 - 040 SF 10 - 045 SF 10 - 050	10	5	20 25 30 35 40 45 50	1.00 0.80 0.67 0.57 0.50 0.44 0.40	8.0 10.0 12.0 14.0 16.0 18.0 20.0	8 (70.5)	9.0 11.2 13.5 15.7 18.0 20.2 22.5	9	10.0 12.5 15.0 17.5 20.0 22.5 25.0	10	11.6 14.5 17.4 20.3 23.2 26.1 29.0		50 50 50 50 50 50 25
SF 10 - 055 SF 10 - 060 SF 10 - 065 SF 10 - 070 SF 10 - 075 SF 10 - 080		_	55 60 65 70 75 80	0.36 0.33 0.31 0.29 0.27 0.25	22.0 24.0 26.0 28.0 30.0 32.0	(78.5)	24.7 27.0 29.2 31.5 33.7 36.0	(88.3)	27.5 30.0 32.5 35.0 37.5 40.0	(98.1)	31.9 34.8 37.7 40.6 43.5 46.4		25 25 25 25 25 25 25
SF 12 - 020 SF 12 - 025 SF 12 - 030 SF 12 - 040 SF 12 - 045 SF 12 - 055 SF 12 - 055 SF 12 - 060 SF 12 - 060 SF 12 - 070 SF 12 - 070 SF 12 - 070 SF 12 - 070	12	6	20 25 30 35 40 45 50 55 60 65 70 75 80	1.40 1.12 0.93 0.80 0.70 0.62 0.56 0.51 0.47 0.43 0.40 0.37	8.0 10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0	11 (107.9)	9.0 11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0	12.5 (122.6)	10.0 12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0	14 (137.3)	11.6 14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4		50 50 50 50 50 50 25 25 25 25 25 25 25 25
SF 14 - 025 SF 14 - 030 SF 14 - 035 SF 14 - 040 SF 14 - 050 SF 14 - 055 SF 14 - 060 SF 14 - 065 SF 14 - 070 SF 14 - 075 SF 14 - 075 SF 14 - 080 SF 14 - 090	14	7	25 30 35 40 45 50 55 60 65 70 75 80 90	1.44 1.20 1.03 0.90 0.80 0.72 0.65 0.60 0.55 0.51 0.48 0.45 0.40	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 36.0	14.5 (142.2)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5	16 (156.9)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0	18 (176.5)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4		50 50 50 50 25 25 25 25 25 25 25 25 20 20
SF 16 - 025 SF 16 - 030 SF 16 - 040 SF 16 - 045 SF 16 - 050 SF 16 - 055 SF 16 - 065 SF 16 - 070 SF 16 - 075 SF 16 - 070 SF 16 - 080 SF 16 - 090 SF 16 - 100	16	8	25 30 35 40 45 50 55 60 65 70 75 80 90 100	1.68 1.40 1.20 1.05 0.94 0.84 0.77 0.70 0.65 0.60 0.56 0.53 0.47 0.42	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 36.0 40.0	17 (166.7)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5 45.0	19 (186.3)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0 50.0	21 (206)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0		50 50 50 25 25 25 25 25 25 25 20 20 20 20

### JIS B 5012 - 1986

# 系列 **SERIES** SF

Code	D <sub>o</sub>	Di	Lo	R	<b>!</b>	Α	1	В	1	C	E	
型号	Outside Diameter	Inside Diameter	Free Lenath	Spring Constant	₹ 40	<b>₹ 40% L</b> ₀		5% L <sub>0</sub>	50% L <sub>0</sub>			
	外径	内径	自由长度	弹簧定数	1 000 0	1.000.000 cycles		500.000 cycles		D evelee	approx.	
	mm	mm	mm	± 10% Kgf/mm	mm	Kgf (N)	mm	Kgf (N)	300.000 mm	O cycles Kgf (N)	do not use mm	Pcs
SF 18 - 025 SF 18 - 030 SF 18 - 035 SF 18 - 040 SF 18 - 050 SF 18 - 055 SF 18 - 065 SF 18 - 070 SF 18 - 070 SF 18 - 070 SF 18 - 080 SF 18 - 090 SF 18 - 090	18	9	25 30 35 40 45 50 55 60 65 70 75 80 90 100	2.08 1.74 1.49 1.30 1.16 1.04 0.95 0.87 0.80 0.74 0.70 0.65 0.58 0.52	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 36.0 40.0	21 (206)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5 45.0	23 (225)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0	26 (255)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0	50 50 25 25 25 25 25 25 25 25 25 25
SF 20 - 025 SF 20 - 030 SF 20 - 040 SF 20 - 045 SF 20 - 055 SF 20 - 060 SF 20 - 065 SF 20 - 070 SF 20 - 075 SF 20 - 080 SF 20 - 080 SF 20 - 100 SF 20 - 125 SF 20 - 150	20	11	25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150	2.56 2.13 1.83 1.60 1.42 1.28 1.16 1.07 0.98 0.91 0.85 0.80 0.71 0.64 0.51 0.43	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 36.0 40.0 50.0 60.0	26 (255)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5 45.0 56.2 67.5	29 (284)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0 50.0 62.5 75.0	32 (314)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0 72.5 87.0	50 50 25 25 25 25 25 25 25 25 20 20 20 10
SF 22 - 025 SF 22 - 030 SF 22 - 040 SF 22 - 045 SF 22 - 055 SF 22 - 065 SF 22 - 065 SF 22 - 065 SF 22 - 070 SF 22 - 075 SF 22 - 075 SF 22 - 080 SF 22 - 090 SF 22 - 100 SF 22 - 125 SF 22 - 150	22	11	25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150	3.20 2.67 2.29 2.00 1.78 1.60 1.46 1.33 1.23 1.14 1.07 1.00 0.89 0.80 0.64 0.53	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 36.0 40.0 50.0	32 (314)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5 45.0 56.2 67.5	36 (353)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0 50.0 62.5 75.0	40 (392)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0 72.5 87.0	50 25 25 25 25 25 25 25 25 20 20 20 20 20 10
SF 25 - 025 SF 25 - 030 SF 25 - 040 SF 25 - 045 SF 25 - 055 SF 25 - 060 SF 25 - 060 SF 25 - 070 SF 25 - 075 SF 25 - 080 SF 25 - 090 SF 25 - 100 SF 25 - 125 SF 25 - 150 SF 25 - 175	25	13.5	25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150 175	4.00 3.33 2.85 2.50 2.22 2.00 1.82 1.67 1.54 1.43 1.33 1.25 1.11 1.00 0.80 0.67 0.57	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 36.0 40.0 50.0 60.0 70.0	40 (392)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5 45.0 56.2 67.5 78,7	45 (441)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0 50.0 62.5 75.0 87.5	50 (490)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0 72.5 87.0 101.5	50 25 25 25 25 25 25 25 25 20 20 20 20 20 10 10

SF JIS

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Code	<b>D</b> <sub>o</sub>	<b>D</b> <sub>i</sub>	Lo	R	<b>+</b>	Α	<b>1</b>	В	Ţ	С	Е	
型号	Outside Diameter			Spring Constant	<b>4</b>	0% L <sub>0</sub>	<b>4</b> 5	₩ 45% L		)% L <sub>0</sub>		
	外径	内径	自由长度	弹簧定数 ± 10%	1 000 0	00 cycles	500 000	) cycles	300.000 cycles		do not use	
	mm	mm	mm	Kgf/mm	mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm	Pcs
SF 27 - 025 SF 27 - 030 SF 27 - 040 SF 27 - 045 SF 27 - 050 SF 27 - 055 SF 27 - 060 SF 27 - 075 SF 27 - 070 SF 27 - 070 SF 27 - 080 SF 27 - 090 SF 27 - 100 SF 27 - 150 SF 27 - 150 SF 27 - 175	27	13.5	25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150 175	4.80 4.00 3.43 3.00 2.67 2.40 2.18 2.00 1.85 1.71 1.60 1.50 1.33 1.20 0.96 0.80 0,69	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 30.0 32.0 36.0 40.0 50.0 60.0 70.0	48 (471)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5 45.0 56.2 67.5 78.7	54 (530)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0 50.0 62.5 75.0 87.5	60 (588)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0 72.5 87.0 101.5	20 20 20 20 20 20 20 20 20 20 10 10 10 5
SF 30 - 025 SF 30 - 030 SF 30 - 040 SF 30 - 045 SF 30 - 050 SF 30 - 065 SF 30 - 065 SF 30 - 070 SF 30 - 075 SF 30 - 080 SF 30 - 100 SF 30 - 125 SF 30 - 150 SF 30 - 175 SF 30 - 200	30	16	25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150 175 200	5.80 4.80 4.13 3.60 3.21 2.88 2.63 2.40 2.22 2.05 1.93 1.80 1.60 1.44 1.15 0.96 0.82 0.72	10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 30.0 32.0 36.0 40.0 50.0 60.0 70.0 80.0	58 (569)	11.2 13.5 15.7 18.0 20.2 22.5 24.7 27.0 29.2 31.5 33.7 36.0 40.5 45.0 56.2 67.5 78.7 90.0	65 <b>(6</b> 37)	12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0 50.0 62.5 75.0 87.5 100.0	72 (706)	14.5 17.4 20.3 23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0 72.5 87.0 101.5 116.0	20 20 20 20 20 20 20 20 20 20 10 10 10 10 5
SFR 35 - 040 SFR 35 - 045 SFR 35 - 050 SFR 35 - 060 SFR 35 - 060 SFR 35 - 070 SFR 35 - 070 SFR 35 - 080 SFR 35 - 090 SFR 35 - 125 SFR 35 - 150 SFR 35 - 175 SFR 35 - 200	35	21	40 45 50 55 60 65 70 75 80 90 100 125 150 175 200	4.90 4.36 3.92 3.56 3.26 3.02 2.80 2.61 2.45 2.17 1.96 1.57 1.30 1.12 0.98	16.0 18.0 20.0 22.0 24.0 26.0 30.0 32.0 36.0 40.0 50.0 60.0 70.0 80.0	78.4 (768.3)	18.0 20.25 22.5 24.75 27.0 29.25 31.5 33.75 36.0 40.5 45.0 56.25 67.5 78.75 90.0	88.2 (864.4)	20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.5 40.0 45.0 50.0 62.5 75.0 87.5 100.0	98 (961)	23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0 72.5 87.0 101.5 116.0	20 20 20 10 10 10 10 10 10 10 5 5 5
SF 40 - 040 SF 40 - 045 SF 40 - 050 SF 40 - 055 SF 40 - 060 SF 40 - 070 SF 40 - 075 SF 40 - 080 SF 40 - 100 SF 40 - 125 SF 40 - 150 SF 40 - 250 SF 40 - 250	40	22	40 45 50 55 60 66 70 75 80 90 125 150 175 200 250	6.38 5.68 5.12 4.65 4.26 3.93 3.65 3.41 3.20 2.84 2.56 2.04 1.70 1.46 1.28 1.02	16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 36.0 40.0 50.0 60.0 70.0 80.0 100.0	102 (1,000)	18.0 20.3 22.5 24.8 27.0 22.0 31.5 30.0 36.0 40.5 45.0 56.2 67.5 78,7 90.0 112.5	115 (1,128)	20.0 22.5 25.0 27.5 30.0 32.5 35.0 37.4 40.0 45.0 50.0 62.5 75.0 87.5 100.0 125.0	128 (1,255)	23.2 26.1 29.0 31.9 34.8 37.7 40.6 43.5 46.4 52.2 58.0 72.5 87.0 101.5 116.0 145.0	20 20 20 20 10 10 10 10 10 10 5 5 5

Load (N) = R (N/mm) x Deflection (mm)

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## 系列 **SERIES** SF

Code	D <sub>o</sub>	<b>D</b> <sub>i</sub>	Lo	R	<b>\</b>	Α	1	В	Ţ	С	E		
型号	Outside Diameter	Inside	Free Length	Spring Constant	\$ 40	<b>₹ 40% L</b> ₀		5% L <sub>0</sub>	<b>S</b> 50	)% L <sub>0</sub>			
	外径	内径	自由长度			, = _0					approx.		
				± 10%	1.000.00		500.000 cycles		300.000 cycles		do not use	D	
SFR 40 - 040	mm	mm	mm 40	Kgf/mm 4.00	mm 16.0	Kgf (N)	mm 18.0	Kgf (N)	mm 20.0	Kgf (N)	mm 23.2	Pcs 20	
SFR 40 - 050			50	3.20	20.0		22.5		25.0		29.0	20	
SFR 40 - 060 SFR 40 - 070			60 70	2.60 2.35	24.0 28.0		27.0 31.5		30.0 35.0		34.8 40.6	10 10	
SFR 40 - 080			80	2.05	32.0	50	36.0	F0 F	40.0	0.5	46.4	10	
SFR 40 - 090 SFR 40 - 100	40	26	90	1.80 1.50	36.0 40.0	52 (509.6)	40.5 45.0	58.5 (573.3)	45.0 50.0	65 (637)	52.2 58.0	10 10	
SFR 40 - 125 SFR 40 - 150 SFR 40 - 175			125	1.15	50.0	(/	56.25	( /	62.5	( )	72.5	5	
			150 175	0.90 0.75	60.0 70.0		67.5 78,75		75.0 87.5		87.0 101.5	5 5	
SFR 40 - 200			200	0.60	80.0		90.0		100.0		116.0	5	
SFR 40 - 250			250	0.40	100.0		112,5		125.0		145.0	2	
SF 50 - 050 SF 50 - 055			50 55	8.00 7.27	20.0 22.0		22.5 24.8		25.0 27.5		29.0 31.9	5	
SF 50 - 060			60	6.66	24.0		27.0		30.0		34.8	5 5	
SF 50 - 066 SF 50 - 070			65 70	6.15 5.71	26.0 28.0		29.3 31.5		32.5 35.0		37.7 40.6	5 5	
SF 50 - 075			75	5.33	33.8		33.8		37.5		43.5	5	
SF 50 - 080 SF 50 - 090	50	27.5	5 90 4. 100 4. 125 3.	5.00 4.44	32.0 36.0	160	36.0 40.5	180	40.0 45.0	200	46.4 52.2	5 5	
SF 50 - 100	00			100	4.00	40.0	(1,569)	45.0	(1,765)	50.0	(1,961)	58.0	5
SF 50 - 125 SF 50 - 150				3.20 2.66	50.0 60.0 70.0		56.2 67.5	C	62.5 75.0		72.5 87.0	5 2	
SF 50 - 175			175	2.28			78,7		87.5		101.5	2	
SF 50 - 200 SF 50 - 250			200 250	2.00 1.60	80.0 100.0		90.0 112,5		100.0 125.0		116.0 145.0	2	
SF 50 - 300			300	1.33	120.0		135.0		150.0		174.0	2	
SFR 50 - 050			50	5.40	20.0		22.5		25.0		29.0	5	
SFR 50 - 060 SFR 50 - 070		7( 8)	60 70	4.50 3.60	24.0 28.0		27.0 31.5		30.0 35.0	123.3 (1,212.3)	34.8 40.6	5 5	
SFR 50 - 080			80	3.00	32.0		36.0		40.0		46.4	5 5	
SFR 50 - 090 SFR 50 - 100			90	2.65 2.40	36.0 40.0	99	40.5 45.0	111.4	45.0 50.0		52.2 58.0	5 5	
SFR 50 - 125	50	0 31	125 1.90	1.90	50.0	(970.2)	56.25	(1,091.4)	62.5		72.5	5	
SFR 50 - 150 SFR 50 - 175			150 175	1.55 1.30	60.0 70.0 80.0 100.0		67.5 78,75	<mark>78,75</mark> 90.0	75.0 87.5		87.0 101.5	2 2	
SFR 50 - 200			200 250	1.10			90.0		100.0		116.0	2	
SFR 50 - 250 SFR 50 - 300			300	0.90 0.75	120.0		112,5 135.0		125.0 150.0		145.0 174.0	2 2	
SF 60 - 060			60	9.59	24.0		27.0		30.0		34.8	5	
SF 60 - 070		4	70	8.22	28.0		31.5		35.0		40.6	5	
SF 60 - 080 SF 60 - 090		000	80 90	7.19 6.40	32.0 36.0		36.0 40.5		40.0 45.0		46.4 52.2	5 5	
SF 60 - 100 SF 60 - 125	60		100	5.76	40.0	230	45.0	259	50.0	288	58.0	5 2	
SF 60 - 125	60	33	125 150	4.60 3.84	<b>5</b> 0.0 60.0	(2,260)	56.2 67.5	(2,540)	62.5 75.0	(2,820)	72.5 87.0	2	
SF 60 - 175 SF 60 - 200		200	175	3.29 2.88	70.0 80.0		78,7 90.0		87.5 100.0		101.5 116.0	2 2	
SF 60 - 250			250	2.30	100.0		112,5		125.0		145.0	2	
SF 60 - 300			300	1.92	120.0		135.0		150.0		174.0	2	
SFR 60 - 060			60	7.40	24.0		27.0		30.0		34.8	5	
SFR 60 - 070 SFR 60 - 080			70 80	6.30 5.30	28.0 32.0		31.5 36.0		35.0 40.0		40.6 46.4	5 5	
SFR 60 - 090			90	4.20	36.0		40.5		45.0		52.2	5	
SFR 60 - 100 SFR 60 - 125	60	36	100 125	3.10 2.35	40.0 50.0	148.8	45.0 56.25	167.4	50.0 62.5	186	58.0 72.5	5 2	
SFR 60 - 150			150	2.10	60.0	(1,458,2)	67.5	(1,640.5)	75.0	(1,822.8)	87.0	2	
SFR 60 - 175 SFR 60 - 200			175 200	1.90 1.60	70.0 80.0		78,75 90.0		87.5 100.0		101.5 116.0	2 2	
SFR 60 - 250			250	1.30	100.0		112,5		125.0		145.0	2	
SFR 60 - 300			300	1.00	120.0		135.0		150.0		174.0	2	

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