



Load $\pm 10\%$
 Perpendicularity 2° or less
 Free length L 50 or less $\pm 0.5\text{mm}$
 55 or more $\pm 1\%$
 Winding Direction : Right

Part No. Type D-L	D	d	L	Spring Constant N/mm(kgf/mm)	F = L x 50%		F = L x 55%		F = L x 60%		
					Fmm	Load N(kgf)	Fmm	Load N(kgf)	Fmm	Load N(kgf)	
Operation Count											
					1,000,000	500,000	300,000				
DSWC6 - 15	6	3	15	3.60 (0.37)	7.5	8.3	Out Of Range				
20			2.70 (0.28)	10.0	11.0						
25			2.16 (0.22)	12.5	27	30	13.8				
30			1.80 (0.18)	15.0	(2.8)	(3.0)	18.0	32			
35			1.54 (0.16)	17.5			21.0	(3.3)			
40			1.35 (0.14)	20.0			24.0				
DSWC8 - 15	8	4.6	15	3.81 (0.39)	7.5	8.3	Out Of Range				
20			2.86 (0.29)	10.0	11.0	12.0					
25			2.29 (0.23)	12.5	13.8	15.0					
30			1.91 (0.19)	15.0	16.5	18.0					
35			1.63 (0.17)	17.5	19.3	21.0					
40			1.43 (0.15)	20.0	22.0	24.0					
45			1.27 (0.13)	22.5	29	31	24.8	34			
50			1.14 (0.12)	25.0	(2.9)	(3.2)	27.5	(3.5)			
55			1.04 (0.11)	27.5			30.3				
60			0.95 (0.10)	30.0			33.0				
65			0.88 (0.09)	32.5			35.8				
70			0.82 (0.08)	35.0			38.5				
75	0.76 (0.08)	37.5			41.3						
80	0.72 (0.07)	40.0			44.0						
DSWC10 - 15	10	5.8	15	6.10 (0.62)	7.5	8.3	Out Of Range				
20			4.58 (0.47)	10.0	11.0	12.0					
25			3.66 (0.37)	12.5	13.8	15.0					
30			3.05 (0.31)	15.0	16.5	18.0					
35			2.62 (0.27)	17.5	19.3	21.0					
40			2.29 (0.23)	20.0	22.0	24.0					
45			2.03 (0.21)	22.5	46	50	24.8	55			
50			1.83 (0.19)	25.0	(4.7)	(5.1)	27.5	(5.6)			
55			1.66 (0.17)	27.5			30.3				
60			1.53 (0.16)	30.0			33.0				
65			1.41 (0.14)	32.5			35.8				
70			1.31 (0.13)	35.0			38.5				
75	1.22 (0.12)	37.5			41.3						
80	1.14 (0.12)	40.0			44.0						
90	1.02 (0.10)	45.0			49.5						
DSWC12 - 20	12	7.4	20	5.48 (0.56)	10.0	11.0	Out Of Range				
25			4.38 (0.45)	12.5	13.8	15.0					
30			3.65 (0.37)	15.0	16.5	18.0					
35			3.13 (0.32)	17.5	19.3	21.0					
40			2.74 (0.28)	20.0	22.0	24.0					
45			2.43 (0.25)	22.5	24.8	27.0					
50			2.19 (0.22)	25.0	55	60	27.5	66			
55			1.99 (0.20)	27.5	(5.6)	(6.1)	30.3	(6.7)			
60			1.83 (0.19)	30.0			33.0				
65			1.68 (0.17)	32.5			35.8				
70			1.56 (0.16)	35.0			38.5				
75			1.46 (0.15)	37.5			41.3				
80	1.37 (0.14)	40.0			44.0						
90	1.22 (0.12)	45.0			49.5						
DSWC14 - 25	14	8.5	25	8.17 (0.83)	12.5	13.8	Out Of Range				
30			6.81 (0.69)	15.0	16.5	18.0					
35			5.84 (0.60)	17.5	19.3	21.0					
40			5.11 (0.52)	20.0	22.0	24.0					
45			4.54 (0.46)	22.5	24.8	27.0					
50			4.09 (0.42)	25.0	27.5	30.0					
55			3.71 (0.38)	27.5	102	112	30.3	123			
60			3.41 (0.35)	30.0	(10.4)	(11.4)	33.0	(12.5)			
65			3.14 (0.32)	32.5			35.8				
70			2.92 (0.30)	35.0			38.5				
75			2.72 (0.28)	37.5			41.3				
80			2.55 (0.26)	40.0			44.0				
90	2.27 (0.23)	45.0			49.5						
100	2.04 (0.21)	50.0			55.0						

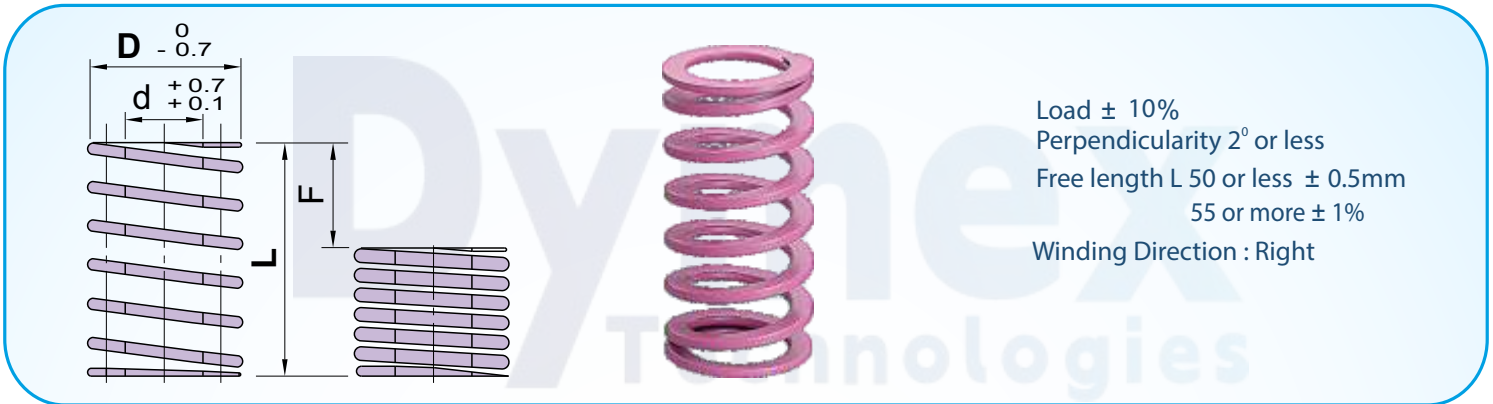
Part No. Type D-L	D	d	L	Spring Constant N/mm(kgf/mm)	F = L x 50%		F = L x 55%		F = L x 60%	
					Fmm	Load N(kgf)	Fmm	Load N(kgf)	Fmm	Load N(kgf)
Operation Count										
					1,000,000	500,000	300,000			
DSWC16 - 25	16	9.5	25	9.15 (0.93)	12.5	13.8	Out Of Range			
30			7.63 (0.78)	15.0	16.5	18.0				
35			6.54 (0.67)	17.5	19.3	21.0				
40			5.72 (0.58)	20.0	22.0	24.0				
45			5.08 (0.52)	22.5	24.8	27.0				
50			4.58 (0.47)	25.0	27.5	30.0				
55			4.16 (0.42)	27.5	114	126	30.3	137		
60			3.81 (0.39)	30.0	(11.7)	(12.8)	33.0	(14.0)		
65			3.52 (0.36)	32.5			35.8			
70			3.27 (0.33)	35.0			38.5			
75			3.05 (0.31)	37.5			41.3			
80			2.86 (0.29)	40.0			44.0			
90	2.54 (0.26)	45.0			49.5					
100	2.29 (0.23)	50.0			55.0					
125	1.83 (0.19)	62.5			68.8					
DSWC18 - 25	18	11	25	10.46 (1.07)	12.5	13.8	Out Of Range			
30			8.72 (0.89)	15.0	16.5	18.0				
35			7.47 (0.76)	17.5	19.3	21.0				
40			6.54 (0.67)	20.0	22.0	24.0				
45			5.81 (0.59)	22.5	24.8	27.0				
50			5.23 (0.53)	25.0	27.5	30.0				
55			4.75 (0.48)	27.5	131	144	30.3	157		
60			4.36 (0.44)	30.0	(13.3)	(14.7)	33.0	(16.0)		
65			4.02 (0.41)	32.5			35.8			
70			3.74 (0.38)	35.0			38.5			
75			3.49 (0.36)	37.5			41.3			
80			3.27 (0.33)	40.0			44.0			
90	2.91 (0.30)	45.0			49.5					
100	2.62 (0.27)	50.0			55.0					
125	2.09 (0.21)	62.5			68.8					
DSWC20 - 25	20	12.5	25	14.38 (1.47)	12.5	13.8	Out Of Range			
30			11.99 (1.22)	15.0	16.5	18.0				
35			10.27 (1.05)	17.5	19.3	21.0				
40			8.99 (0.92)	20.0	22.0	24.0				
45			7.99 (0.81)	22.5	24.8	27.0				
50			7.19 (0.73)	25.0	27.5	30.0				
55			6.54 (0.67)	27.5	180	198	30.3	216		
60			5.99 (0.61)	30.0	(18.3)	(20.2)	33.0	(22)		
65			5.53 (0.56)	32.5			35.8			
70			5.14 (0.52)	35.0			38.5			
75			4.79 (0.49)	37.5			41.3			
80			4.49 (0.46)	40.0			44.0			
90	4.00 (0.41)	45.0			49.5					
100	3.60 (0.37)	50.0			55.0					
125	2.88 (0.29)	62.5			68.8					
150	2.40 (0.24)	75.0			82.5					
DSWC22 - 25	22	13.5	25	19.61 (2.00)	12.5	13.8	Out Of Range			
30			16.34 (1.67)	15.0	16.5	18.0				
35			14.01 (1.43)	17.5	19.3	21.0				
40			12.26 (1.25)	20.0	22.0	24.0				
45			10.90 (1.11)	22.5	24.8	27.0				
50			9.81 (1.00)	25.0	27.5	30.0				
55			8.92 (0.91)	27.5	30.3	33.0				
60			8.17 (0.83)	30.0	245	270	33.0	294		
65			7.54 (0.77)	32.5	(25)	(27.5)	35.8	(30.3)		
70			7.00 (0.71)	35.0			38.5			
75			6.54 (0.67)	37.5			41.3			
80			6.13 (0.63)	40.0			44.0			
90	5.45 (0.56)	45.0			49.5					
100	4.90 (0.50)	50.0			55.0					
125	3.92 (0.40)	62.5			68.8					
150	3.27 (0.33)	75.0			82.5					

Load calculation method: Load = Spring constant x Deflection

(SI units) $N = N/mm \times Fmm$
 $kgf = kgf/mm \times Fmm$
 $(kgf = N \times 0.101972)$


The maximum deflection for springs shown as "Out of range" is 55%. Do not use such a spring at a deflection exceeding 55%.





Load $\pm 10\%$
 Perpendicularity 2° or less
 Free length L 50 or less $\pm 0.5\text{mm}$
 55 or more $\pm 1\%$
 Winding Direction : Right

Part No. Type D-L	D	d	L	Spring Constant N/mm(kgf/mm)	F = L x 50%		F = L x 55%		F = L x 60%	
					Fmm	Load N(kgf)	Fmm	Load N(kgf)	Fmm	Load N(kgf)
Operation Count										
					1,000,000	500,000	300,000			
DSWC25 - 25	25	16	25	24.19 (2.47)	12.5	13.8	Out Of Range			
30			20.16 (2.06)	15.0	16.5	18.0				
35			17.28 (1.76)	17.5	19.3	21.0				
40			15.12 (1.54)	20.0	22.0	24.0				
45			13.44 (1.37)	22.5	24.8	27.0				
50			12.09 (1.23)	25.0	27.5	30.0				
55			11.00 (1.12)	27.5	30.3	33.0				
60			10.08 (1.03)	30.0	33.0	36.0				
65			9.30 (0.95)	32.5	35.8	39				
70			8.64 (0.88)	35	38.5	42	302	333	363	
75			8.06 (0.82)	37.5	41.3	45.0	(30.8)	(33.9)	(37.0)	
80			7.56 (0.77)	40.0	44.0	48.0				
90			6.72 (0.69)	45.0	49.5	54.0				
100			6.05 (0.62)	50.0	55.0	60.0				
125			4.84 (0.49)	62.5	68.8	75.0				
150			4.03 (0.41)	75.0	82.5	90.0				
175	3.46 (0.35)	87.5	96.3	105.0						
200	3.02 (0.31)	100.0	110.0	120.0						
DSWC27 - 25	27	15.5	25	28.11 (2.87)	12.5	13.8	Out Of Range			
30			23.43 (2.39)	15.0	16.5	18.0				
35			20.08 (2.05)	17.5	19.3	21.0				
40			17.57 (1.79)	20.0	22.0	24.0				
45			15.62 (1.59)	22.5	24.8	27.0				
50			14.06 (1.43)	25.0	27.5	30.0				
55			12.78 (1.30)	27.5	30.3	33.0				
60			11.71 (1.19)	30.0	33.0	36.0				
65			10.81 (1.10)	32.5	35.8	39.0	351	387	422	
70			10.04 (1.02)	35	38.5	42	(35.8)	(39.4)	(43.0)	
75			9.37 (0.96)	37.5	41.3	45.0				
80			8.79 (0.90)	40.0	44.0	48.0				
90			7.81 (0.80)	45.0	49.5	54.0				
100			7.03 (0.72)	50.0	55.0	60.0				
125			5.62 (0.57)	62.5	68.8	75.0				
150			4.69 (0.48)	75.0	82.5	90.0				
175	4.02 (0.41)	87.5	96.3	105.0						
200	3.51 (0.36)	100.0	110.0	120.0						
DSWC30 - 25	30	20	25	31.38 (3.20)	12.5	13.8	Out Of Range			
30			26.15 (2.67)	15.0	16.5	18.0				
35			22.42 (2.29)	17.5	19.3	21.0				
40			19.61 (2.00)	20.0	22.0	24.0				
45			17.43 (1.78)	22.5	24.8	27.0				
50			15.69 (1.60)	25.0	27.5	30.0				
55			14.26 (1.45)	27.5	30.3	33.0				
60			13.08 (1.33)	30.0	33.0	36.0				
65			12.07 (1.23)	32.5	35.8	39	392	431	471	
70			11.21 (1.14)	35	38.5	42	(40.0)	(44.0)	(48.0)	
75			10.46 (1.07)	37.5	41.3	45.0				
80			9.81 (1.00)	40.0	44.0	48.0				
90			8.72 (0.89)	45.0	49.5	54.0				
100			7.85 (0.80)	50.0	55.0	60.0				
125			6.28 (0.64)	62.5	68.8	75.0				
150			5.23 (0.53)	75.0	82.5	90.0				
175	4.48 (0.46)	87.5	96.3	105.0						
200	3.92 (0.40)	100.0	110.0	120.0						

Alteration	Coating removal
	 No coating
Code	NT
Spec.	Removal of the coil spring coating by shot peening ⚠ Springs with the coating removed are extremely susceptible to corrosion. Handle them with care. Corrosion of the spring will result in early breakage. ⚠ There may be greater variation in the load capacity and other characteristics between lots than with ordinary coated products.

