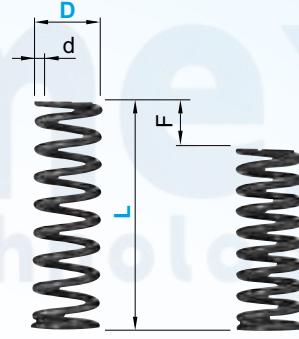


ROUND WIRE COIL SPRINGS

DWB (25% Deflection)

Spring constant

Type	DWY	DWR	DWF	DWL	DWT	DWM	DWH	DWB
2				0.5 (0.05)	1.5 (0.15)	2.0 (0.2)	2.9 (0.3)	3.9 (0.4) 4.9 (0.5)
3								
4	N/mm 0.1 (kgf/mm) (0.01)							
5		N/mm 0.3 (kgf/mm) (0.03)	N/mm 0.5 (kgf/mm) (0.05)	N/mm 1.0 (kgf/mm) (0.1)	N/mm 2.0 (kgf/mm) (0.2)	N/mm 2.9 (kgf/mm) (0.3)	N/mm 5.9 (kgf/mm) (0.6)	N/mm 9.8 (kgf/mm) (1.0)
6								
8								
10	N/mm 0.2 (kgf/mm) (0.02)							
12								
13								
14								
16								
18		N/mm 0.5 (kgf/mm) (0.05)	N/mm 1.0 (kgf/mm) (0.1)	N/mm 2.9 (kgf/mm) (0.3)	N/mm 3.9 (kgf/mm) (0.4)	N/mm 4.9 (kgf/mm) (0.5)	N/mm 9.8 (kgf/mm) (1.0)	N/mm 19.6 (kgf/mm) (2.0)
20								
22								
27								
Fmax.	F=Lx75%	F=Lx60%	F=Lx45%	F=Lx40%	F=Lx40%	F=Lx35%	F=Lx30%	F=Lx25%



Spring constant $\pm 10\%$
 Outer dia. D $\phi 10$ or less $\pm 0.5mm$
 $\phi 12$ or more $\pm 0.8mm$
 Free length L 50 or less $\pm 1mm$
 55 or more $\pm 1.5mm$

M~SWP~A



● DWB : Fmax. (Maximum Allowable Deflection) = L x 25%

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.	
DWB3	5*	0.4	3.2	1.3	4.9 (0.5)
	10*	0.5	6.5	2.5	9.8 (1.0)
	15*	0.55	10.5	3.8	14.7 (1.5)
	20*	0.55	12.7	5	19.6 (2.0)
	25*	0.6	17.4	6.3	24.5 (2.5)
	30*	0.6	21.0	7.5	29.4 (3.0)
	35*	0.65	24.0	8.8	34.3 (3.5)
	40*	0.65	27.0	10.0	39.2 (4.0)
DWB4	5*	0.5	3	1.3	5.9 (0.6)
	10	0.6	6	2.5	12.3 (1.3)
	15	0.65	9.8	3.8	18.1 (1.9)
	20	0.7	12.6	5	24.5 (2.5)
	25	0.75	16.5	6.3	30.4 (3.1)
	30	0.75	20.3	7.5	36.8 (3.8)
	35	0.8	24	8.8	43.1 (4.4)
	40	0.8	28	10	49.0 (5.0)
	45	0.8	29	11.3	55.4 (5.7)
	50	0.85	34	12.5	61.3 (6.3)
DWB5	10	0.65	3.3	1.3	12.7 (1.3)
	15	0.8	7	2.5	24.5 (2.5)
	20	0.9	13	5	49.0 (5.0)
	25	0.9	13	6.3	61.8 (6.3)
	30	1.0	21	7.5	73.5 (7.5)
	35	1.0	25	8.8	86.3 (8.8)
	40	1.0	25	10	98.1 (10.0)
	45	1.1	31	11.3	110.8 (11.3)
	50	1.1	34	12.5	122.6 (12.5)
	55	1.1	39	13.8	135.3 (13.8)
	60	1.1	43	15	147.1 (15.0)
	65	1.1	46	16.3	159.8 (16.3)
	70	1.2	50	17.5	171.6 (17.5)
DWB6	5	0.7	3.5	1.3	12.7 (1.3)
	10	0.9	7	2.5	24.5 (2.5)
	15	0.9	7.5	3.8	37.3 (3.8)
	20	1.0	11.5	5	49.0 (5.0)
	25	1.1	17.5	6.3	61.8 (6.3)
	30	1.1	19.5	7.5	73.5 (7.5)
	35	1.1	20	8.8	86.3 (8.8)
	40	1.2	28	10	98.1 (10.0)
	45	1.2	30	11.3	110.8 (11.3)
	50	1.2	32	12.5	122.6 (12.5)
	55	1.2	32	13.8	135.3 (13.8)
	60	1.3	43	15	147.1 (15.0)
	65	1.3	46	16.3	159.8 (16.3)
	70	1.3	50	17.5	171.6 (17.5)
	80	1.4	57	20	196.1 (20.0)
DWR8	10	1.0	6	2.5	24.5 (2.5)
	15	1.2	10.8	3.8	37.3 (3.8)
	20	1.2	11.5	5	49.0 (5.0)
	25	1.3	17	6.3	61.8 (6.3)
	30	1.3	17	7.5	73.5 (7.5)
	35	1.4	24.5	8.8	86.3 (8.8)
	40	1.4	25.2	10	98.1 (10.0)
	45	1.5	32	11.3	110.8 (11.3)
	50	1.5	33	12.5	122.6 (12.5)
	55	1.5	36.5	13.8	135.3 (13.8)
	60	1.5	36.5	15	147.1 (15.0)
	65	1.6	48	16.3	159.8 (16.3)
	70	1.6	48	17.5	171.6 (17.5)
	80	1.6	55	20	196.1 (20.0)

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.	
DWB10	10	1.2	6	2.5	24.5 (2.5)
	15	1.3	8.5	3.8	37.3 (3.8)
	20	1.4	12	5	49.0 (5.0)
	25	1.5	16.5	6.3	61.8 (6.3)
	30	1.5	17	7.5	73.5 (7.5)
	35	1.6	23	8.8	86.3 (8.8)
	40	1.6	24	10	98.1 (10.0)
	45	1.7	30	11.3	110.8 (11.3)
	50	1.7	31.5	12.5	122.6 (12.5)
	55	1.8	40	13.8	135.3 (13.8)
	60	1.8	40	15	147.1 (15.0)
	65	1.8	43	16.3	159.8 (16.3)
	70	1.8	43	17.5	171.6 (17.5)
	80	1.8	54	20	196.1 (20.0)
DWB12	10	1.4	6.5	2.5	24.5 (2.5)
	15	1.4	7.7	3.8	36.3 (3.7)
	20	1.6	12.5	5	49.0 (5.0)
	25	1.6	13.6	6.3	60.8 (6.2)
	30	1.7	18	7.5	73.5 (7.5)
	35	1.8	22.5	8.8	85.3 (8.7)
	40	1.8	24	10	98.1 (10.0)
	45	1.8	24	11.3	109.8 (11.2)
	50	1.9	34	12.5	122.6 (12.5)
	55	2.0	38	13.8	134.4 (13.7)
	60	2.0	40	15	147.1 (15.0)
	65	2.0	42	16.3	158.9 (16.2)
	70	2.1	48.5	17.5	171.6 (17.5)
	80	2.1	52.5	20	196.1 (20.0)
DWB13	10	1.6	6.4	2.5	49.0 (5.0)
	15	1.8	11	3.8	74.5 (7.6)
	20	1.8	11	5	98.1 (10.0)
	25	2.0	17	6.3	123.6 (12.6)
	30	2.0	18	7.5	147.1 (15.0)
	35	2.1	22	8.8	172.6 (17.6)
	40	2.1	22	10	196.1 (20.0)
	45	2.3	32	11.3	221.6 (22.6)
	50	2.3	32	12.5	245.2 (25.0)
	55	2.4	40	13.8	270.7 (27.6)
	60	2.4	42	15	294.2 (30.0)
	65	2.4	42	16.3	319.7 (32.6)
	70	2.5	50	17.5	343.2 (35.0)
	80	2.5	50	20	392.3 (40.0)
DWB14	15	1.8	9	3.8	72.6 (7.4)
	20	2.0	13	5	98.1 (10.0)
	25	2.0	14	6.3	121.6 (12.4)
	30	2.1	18	7.5	147.1 (15.0)
	35	2.1	23	8.8	170.6 (17.4)
	40	2.3	26.3	10	196.1 (20.0)
	45	2.3	27.6	11.3	219.7 (22.4)
	50	2.4	31	12.5	245.2 (25.0)
	55	2.5	37.5	13.8	268.7 (27.4)
	60	2.5	41	15	294.2 (30.0)
	65	2.5	43.5	16.3	317.7 (32.4)
	70	2.6	48	17.5	343.2 (35.0)
	80	2.6	52	20	392.3 (40.0)

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.	
DWB16	15	2.0	10	3.8	74.5 (7.6)
	20	2.1	12.5	5	98.1 (10.0)
	25	2.3	17	6.3	123.6 (12.6)
	30	2.3	18.5	7.5	147.1 (15.0)
	35	2.4	21.5	8.8	172.6 (17.6)
	40	2.4	21.5	10	196.1 (20.0)
	45	2.5	27.5	11.3	221.6 (22.6)
	50	2.5	27.5	12.5	245.2 (25.0)
	55	2.6	32	13.8	270.7 (27.6)
	60	2.6	32	15	294.2 (30.0)
	65	2.8	46	16.3	319.7 (32.6)
	70	2.8	46	17.5	343.2 (35.0)
	80	2.9	55	20	392.3 (40.0)
DWB18	20	2.5	13.5	5	147.1 (15.0)
	25	2.6	17	6.3	185.3 (18.9)
	30	2.6	17	7.5	220.6 (22.5)
	35	2.8	23.5	8.8	258.9 (26.4)
	40	2.9	27.5	10	294.2 (30.0)
	45	2.9	27.5	11.3	332.4 (33.9)
	50	3.0	33	12.5	367.7 (37.5)
	55	3.0	33	13.8	406.0 (41.4)
	60	3.2	43	15	441.3 (45.0)
	65	3.2	44.5	16.3	479.5 (48.9)
	70	3.2	44.5	17.5	514.8 (52.5)
	80	3.4	58	20	588.4 (60.0)
	90	3.4	61	22.5	661.9 (67.5)
	100	3.5	71	25	735.5 (75.0)
DWB22	20	2.8	13.5	5	147.1 (15.0)
	25	2.9	16	6.3	185.3 (18.9)
	30	3.0	18	7.5	220.6 (22.5)
	35	3.0	18	8.8	258.9 (26.4)
	40	3.2	24	10	294.2 (30.0)
	45	3.2	24	11.3	332.4 (33.9)
	50	3.5	36	12.5	367.7 (37.5)
	55	3.5	36	13.8	406.0 (41.4)
	60	3.5	36	15	441.3 (45.0)
	65	3.6	45	16.3	479.5 (48.9)
	70	3.6	45	17.5	514.8 (52.5)
	80	3.8	57	20	588.4 (60.0)
	90	3.8	57	22.5	661.9 (67.5)
	100	4.0	72	25	735.5 (75.0)
DWB27	30	3.5	19	7.5	220.6 (22.5)
	35	3.6	21	8.8	258.9 (26.4)
	40	3.6	21	10	294.2 (30.0)
	45	3.8	30	11.3	332.4 (33.9)
	50	3.8	30	12.5	367.7 (37.5)
	55	4.0	38	13.8	406.0 (41.4)
	60	4.0	38	15	441.3 (45.0)
	65	4.0	38	16.3	479.5 (48.9)
	70	4.0	38	17.5	514.8 (52.5)
	80	4.3	57	20	588.4 (60.0)
	90	4.5	63	22.5	661.9 (67.5)
	100	4.5	67	25	735.5 (75.0)

No grinding on either end of WB types marked with *.
 The solid height values are for reference only.
 There may be some variation between lots.

Operation count: 1 million
 Instructions and precautions for the use of coil springs

● Load calculation method: Load = Spring constant x Deflection
 (SI units) N = N/mm x Fmm
 kgf = kgf/mm x Fmm
 (kgf = N x 0.101972)

