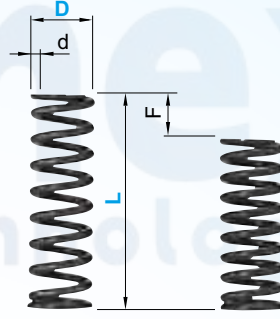


# ROUND WIRE COIL SPRINGS

## DWH (30% Deflection)

### Spring constant

D	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									
5		N/mm 0.1 (kgf/mm) (0.01)						N/mm 5.9 (kgf/mm) (0.6)	N/mm 9.8 (kgf/mm) (1.0)
6			N/mm 0.3 (kgf/mm) (0.03)						
8				N/mm 0.5 (kgf/mm) (0.05)					
10					N/mm 1.0 (kgf/mm) (0.1)				
12		N/mm 0.2 (kgf/mm) (0.02)				N/mm 2.0 (kgf/mm) (0.2)			
13									
14									
16									
18			N/mm 0.5 (kgf/mm) (0.05)						
20				N/mm 1.0 (kgf/mm) (0.1)					
22					N/mm 2.9 (kgf/mm) (0.3)				
27						N/mm 3.9 (kgf/mm) (0.4)			
	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  $-0.05^{+0}$ mm  
 $\phi 12$  or more  $-0.08^{+0}$ mm  
 Free length L 50 or less  $\pm 1.5$ mm  
 55 or more  $\pm 2$ mm

M~SWP~A



**DWH : Fmax. (Maximum Allowable Deflection) = L x 30%**

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.	
DWH4 - 5*	0.45	2.7	1.5	4.9 (0.5)	
	0.45	2.7	3	8.8 (0.9)	
	0.55	5.8	4.5	13.7 (1.4)	
	0.6	8.4	6	17.7 (1.8)	
	0.65	12.4	7.5	22.6 (2.3)	
	0.65	12.4	9	26.5 (2.7)	
DWH5 - 5*	0.6	3.3	1.5	8.8 (0.9)	
	0.7	5.5	3	17.7 (1.8)	
	0.75	7.5	4.5	26.5 (2.7)	
	0.75	7.5	6	35.3 (3.6)	
	0.85	13.6	7.5	44.1 (4.5)	
	0.85	13.6	7.5	44.3 (4.5)	
(35)	0.9	17.1	8.8	51.6 (5.3)	
(40)	0.9	17.1	8.8	51.9 (5.3)	
DWH6 - 5*	0.65	3.3	1.5	8.8 (0.9)	
	0.75	5.2	3	17.7 (1.8)	
	0.8	6.4	4.5	26.5 (2.7)	
	0.9	9.9	6	35.3 (3.6)	
	0.9	9.9	7.5	44.1 (4.5)	
	1.0	16	9	53.0 (5.4)	
	1.0	16	10.5	61.8 (6.3)	
	1.1	25	12	70.6 (7.2)	
	(45)	1.1	25	11.3	66.7 (6.8)
	(50)	1.2	39.6	14.5	58.8 (6.0)
	(55)	1.2	39.6	14	85.3 (8.7)
	(60)	1.2	39.6	14	82.4 (8.4)
	(65)	1.2	39.6	14	82.4 (8.4)
	(70)	1.2	39.6	15	88.3 (9.0)
DWH8 - 10	0.9	5.4	3	17.7 (1.8)	
	1.0	8	4.5	26.5 (2.7)	
	1.1	11.5	6	35.3 (3.6)	
	1.1	11.5	7.5	44.1 (4.5)	
	1.2	16.8	9	53.0 (5.4)	
	1.2	16.8	10.5	61.8 (6.3)	
	1.2	16.8	12	70.6 (7.2)	
	1.3	24.7	13.5	79.4 (8.1)	
	1.3	24.7	15	88.3 (9.0)	
	1.4	35	16.5	97.1 (9.9)	
	1.4	35	18	105.9 (10.8)	
	(65)	1.4	35	17	100.0 (10.2)
	(70)	1.4	35	19	111.8 (11.4)
	DWH10 - 10	1.0	5.4	3	17.7 (1.8)
1.1		7	4.5	26.5 (2.7)	
1.2		9.6	6	35.3 (3.6)	
1.2		9.6	7.5	44.1 (4.5)	
1.3		13.9	9	53.0 (5.4)	
1.4		18	10.5	61.8 (6.3)	
1.4		18	12	70.6 (7.2)	
1.5		25	13.5	79.4 (8.1)	
1.5		25	15	88.3 (9.0)	
1.5		25	16.5	97.1 (9.9)	
1.5		25	18	105.9 (10.8)	
1.6		35	19.5	114.7 (11.7)	
1.6		35	21	123.6 (12.6)	
1.7		45.9	24	141.0 (14.4)	

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.
DWH12 - 10	1.2	6.9	3	17.7 (1.8)
	1.3	9.1	4.5	26.5 (2.7)
	1.3	9.1	6	35.3 (3.6)
	1.3	9.1	7.5	44.1 (4.5)
	1.4	11.9	9	53.0 (5.4)
	1.4	11.9	10.5	61.8 (6.3)
	1.5	15.4	12	70.6 (7.2)
	1.5	15.4	13.5	79.4 (8.1)
	1.6	20.4	15	88.3 (9.0)
	1.6	20.4	16.5	97.1 (9.9)
	1.7	26.8	18	105.9 (10.8)
	1.7	26.8	19.5	114.7 (11.7)
	1.8	35.1	21	123.6 (12.6)
	1.9	45.6	24	141.0 (14.4)
DWH13 - 10	1.3	6.2	3	29.4 (3.0)
	1.5	9.3	4.5	44.1 (4.5)
	1.6	12.3	6	58.8 (6.0)
	1.6	12.3	7.5	73.5 (7.5)
	1.7	15	9	88.3 (9.0)
	1.7	15	10.5	103.0 (10.5)
	1.8	19	12	117.7 (12.0)
	1.9	25	13.5	132.4 (13.5)
	1.9	25	15	147.1 (15.0)
	2.0	30	16.5	161.8 (16.5)
	2.0	30	18	176.5 (18.0)
	2.1	39	19.5	191.2 (19.5)
	2.1	39	21	205.9 (21.0)
	2.1	39	24	235.4 (24.0)
DWH14 - 15	1.6	10.4	4.5	44.1 (4.5)
	1.6	10.4	6	58.8 (6.0)
	1.6	10.4	7.5	73.5 (7.5)
	1.7	12.8	9	88.3 (9.0)
	1.7	12.8	10.5	103.0 (10.5)
	1.9	20	12	117.7 (12.0)
	1.9	20	13.5	132.4 (13.5)
	2.1	30.5	15	147.1 (15.0)
	2.1	30.5	16.5	161.8 (16.5)
	2.1	30.5	18	176.5 (18.0)
	2.2	37.4	19.5	191.2 (19.5)
	2.2	37.4	21	205.9 (21.0)
	2.3	47.2	24	235.4 (24.0)
	DWH16 - 15	1.7	10.2	4.5
1.8		12.6	6	58.8 (6.0)
1.9		14.5	7.5	73.5 (7.5)
1.9		14.5	9	88.3 (9.0)
2.0		18	10.5	103.0 (10.5)
2.1		21	12	117.7 (12.0)
2.2		26	13.5	132.4 (13.5)
2.2		26	15	147.1 (15.0)
2.2		26	16.5	161.8 (16.5)
2.3		32	18	176.5 (18.0)
2.3		32	19.5	191.2 (19.5)
2.4		38	21	205.9 (21.0)
2.5		47.5	24	235.4 (24.0)

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.	
DWH18 - 20	2.1	12.6	6	88.3 (9.0)	
	2.2	15.4	7.5	109.8 (11.2)	
	2.2	15.4	9	132.4 (13.5)	
	2.3	18.4	10.5	154.0 (15.7)	
	2.4	21.6	12	176.5 (18.0)	
	2.5	25	13.5	199.1 (20.3)	
	2.5	25	15	220.6 (22.5)	
	2.6	30	16.5	242.2 (24.7)	
	2.6	30	18	264.8 (27.0)	
	2.8	42	19.5	286.4 (29.2)	
	2.8	42	21	308.9 (31.5)	
	2.9	49.3	24	353.0 (36.0)	
	(90)	3.0	57	26.1	397.2 (40.5)
	(100)	3.0	57	24	441.3 (45.0)
DWH20 - 20	2.2	12.7	6	88.3 (9.0)	
	2.3	15	7.5	109.8 (11.2)	
	2.3	15	9	132.4 (13.5)	
	2.5	20	10.5	154.0 (15.7)	
	2.5	20	12	176.5 (18.0)	
	2.5	20	13.5	199.1 (20.3)	
	2.6	22.8	15	220.6 (22.5)	
	2.6	22.8	16.5	242.2 (24.7)	
	2.8	30.8	18	264.8 (27.0)	
	2.8	30.8	19.5	286.4 (29.2)	
	3.0	42	21	308.9 (31.5)	
	3.0	42	24	353.0 (36.0)	
	3.2	56.8	27	397.2 (40.5)	
	3.2	56.8	30	441.3 (45.0)	
DWH22 - 20	2.3	12.7	6	88.3 (9.0)	
	2.5	16.7	7.5	109.8 (11.2)	
	2.5	16.7	9	132.4 (13.5)	
	2.6	18.2	10.5	154.0 (15.7)	
	2.8	25	12	176.5 (18.0)	
	2.8	25	13.5	199.1 (20.3)	
	2.8	25	15	220.6 (22.5)	
	3.0	33	16.5	242.2 (24.7)	
	3.0	33	18	264.8 (27.0)	
	3.0	33	19.5	286.4 (29.2)	
	3.2	43	21	308.9 (31.5)	
	3.2	43	24	353.0 (36.0)	
	(90)	3.2	43	26.1	397.2 (40.5)
	(100)	3.5	64.4	26	441.3 (45.0)
DWH27 - 30	2.8	16.8	9	132.4 (13.5)	
	2.8	16.8	10.5	154.0 (15.7)	
	2.9	18.8	12	176.5 (18.0)	
	2.9	19.4	13.5	199.1 (20.3)	
	3.2	25.5	15	220.6 (22.5)	
	3.2	25.5	16.5	242.2 (24.7)	
	3.5	35.5	18	264.8 (27.0)	
	3.5	35.5	19.5	286.4 (29.2)	
	3.5	35.5	21	308.9 (31.5)	
	3.5	35.5	24	353.0 (36.0)	
	3.5	35.5	27	397.2 (40.5)	
	4.0	68	30	441.3 (45.0)	

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

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  
 No grinding on either end of WH types marked with \*.  
 No grinding on either end of WT types marked\* with.

Maximum allowable deflection for size (L)

- DWH5 - 30 Fmax. = L×25%
- DWH5 - 35 Fmax. = L×25%
- DWH5 - 40 Fmax. = L×22%
- DWM6 - 45 Fmax. = L×25%
- DWM6 - 50 Fmax. = L×20%
- DWM6 - 55 Fmax. = L×26%
- DWM6 - 60 Fmax. = L×23%
- DWM6 - 65 Fmax. = L×21%
- DWM6 - 70 Fmax. = L×21%
- DWM6 - 75 Fmax. = L×26%

