

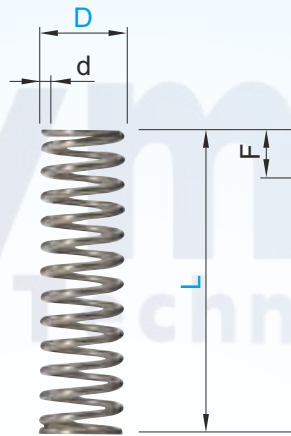
# HEAT PROOF WIRE SPRINGS

## DWMH (40% DEFLECTION) • Heat resistant up to 200°C



### Spring constant

D	Type	DWFH	DWLH	DWMH	DWHH
4				2.0 (0.2)	0.9 (0.3)
5					
6					
8		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 5.9 (kgf/mm) (0.6)
10					
12					
13					N/mm 9.8 (kgf/mm) (1.0)
16					
18		1.0 (0.1)	2.9 (0.3)	4.9 (0.5)	14.7 (1.5)
Fmax.		F=Lx60%	F=Lx50%	F=Lx40%	F=Lx35%



Spring constant  $\pm 10\%$   
 Diameter D  $\varnothing 10$  or less  ${}^0_{-0.5\text{mm}}$   
 $\varnothing 13$  or more  ${}^0_{-0.8\text{mm}}$   
 Free length L 50 or less  $\pm 1\text{mm}$   
 55 or more  $\pm 1.5\text{mm}$

● **DWMH:  $F_{\text{max}}(\text{Allowable Deflection}) = L \times 40\%$**

● **F(Allowable deflection) is due to the measurement at normal temperature (40°C)**  
 Maximum allowable deflection at high temperature (150°/200°C).

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.		
DWMH4 -	5*	0.4	2	3.9(0.4)		
	10*	0.5	5	7.8(0.8)		
	15	0.55	7.2	11.8(1.2)		
	20	0.6	10	15.7(1.6)		
	25	0.6	11.5	19.6(2.0)		
	30	0.6	15	23.5(2.4)		
	35	0.65	17.5	27.5(2.8)		
	40	0.65	20	31.4(3.2)		
DWMH5 -	5*	0.45	2.3	3.9(0.4)		
	10*	0.6	5.4	7.8(0.8)		
	15	0.65	7.8	11.8(1.2)		
	20	0.65	9.1	15.7(1.6)		
	25	0.7	11.2	19.6(2.0)		
	30	0.7	14	23.5(2.4)		
	35	0.7	14	27.5(2.8)		
	40	0.8	21.6	31.4(3.2)		
DWMH6 -	5*	0.5	2	5.9(0.6)		
	10*	0.7	5	11.8(1.2)		
	15*	0.7	8	17.7(1.8)		
	20	0.8	10	23.5(2.4)		
	25*	0.8	12	29.4(3.0)		
	30	0.9	16	35.3(3.6)		
	35*	0.9	18.5	41.2(4.2)		
	40*	0.9	20.5	47.1(4.8)		
DWMH7 -	5*	0.5	2	5.9(0.6)		
	10*	0.7	5	11.8(1.2)		
	15*	0.7	8	17.7(1.8)		
	20	0.8	10	23.5(2.4)		
	25*	0.8	12	29.4(3.0)		
	30	0.9	16	35.3(3.6)		
	35*	0.9	18.5	41.2(4.2)		
	40*	0.9	20.5	47.1(4.8)		
DWMH8 -	10*	0.8	4.5	4	11.8(1.2)	
	15*	0.9	7.5	6	17.7(1.8)	
	20*	0.9	9.5	8	23.5(2.4)	
	25	1.0	12	10	29.4(3.0)	
	30*	1.0	15	12	35.3(3.6)	
	35	1.1	18	14	41.2(4.2)	
	40*	1.1	21	16	47.1(4.8)	
	45*	1.1	24	18	53.0(5.4)	
DWMH9 -	50	1.2	27	20	58.8(6.0)	
	55	1.2	28	22	64.7(6.6)	
	60	1.2	32	24	70.6(7.2)	
	65*	1.2	32	26	76.5(7.8)	
	70*	1.2	37	28	82.4(8.4)	
	80*	1.2	44	32	94.1(9.6)	
	DWMH10 -	10	0.9	4.5	4	11.8(1.2)
		15	1.0	6.5	6	17.7(1.8)
20		1.1	9.5	8	23.5(2.4)	
25*		1.1	12.5	10	29.4(3.0)	
30*		1.1	15	12	35.3(3.6)	
35		1.2	18.5	14	41.2(4.2)	
40*		1.2	20	16	47.1(4.8)	
45*		1.2	22	18	53.0(5.4)	
DWMH11 -	50*	1.2	24	20	58.8(6.0)	
	55	1.4	27	22	64.7(6.6)	
	60	1.4	31	24	70.6(7.2)	
	65	1.4	32	26	76.5(7.8)	
	70*	1.4	34	28	82.4(8.4)	
	80	1.4	35	32	94.1(9.6)	
	DWMH12 -	15	1.1	5	6	14.7(1.5)
		20	1.2	8	8	23.5(2.4)
25*		1.2	10	10	29.4(3.0)	
30		1.4	13.5	12	35.3(3.6)	
35		1.4	15	14	41.2(4.2)	
40*		1.4	18	16	47.1(4.8)	
45*		1.4	21	18	53.0(5.4)	
55		1.6	26	20	58.8(6.0)	
DWMH13 -	60*	1.6	27	22	64.7(6.6)	
	65*	1.6	30	24	70.6(7.2)	
	70*	1.6	30	26	76.5(7.8)	
	80	1.6	35	28	82.4(8.4)	
	90	1.6	38	32	94.1(9.6)	

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.		
DWMH14 -	15	1.2	5.5	6	17.7(1.8)	
	20	1.4	9	8	23.5(2.4)	
	25*	1.4	11	10	29.4(3.0)	
	30	1.6	15	12	35.3(3.6)	
	35*	1.6	18	14	41.2(4.2)	
	40*	1.6	21	16	47.1(4.8)	
	45	1.8	24	18	53.0(5.4)	
	50	1.8	24	20	58.8(6.0)	
DWMH15 -	55	1.8	25	22	64.7(6.6)	
	60*	1.8	30	24	70.6(7.2)	
	65*	1.8	27	26	76.5(7.8)	
	70*	1.8	35	28	82.4(8.4)	
	80	2.0	42	32	94.1(9.6)	
	90	2.0	48	36	105.9(10.8)	
	DWMH16 -	15	1.6	8	8	39.2(4.0)
		25	1.8	13	10	49.0(5.0)
30*		1.8	16	12	58.8(6.0)	
35		2.0	19	14	68.6(7.0)	
40*		2.0	21	16	78.5(8.0)	
45		2.1	24	18	88.3(9.0)	
50*		2.1	26	20	98.0(10.0)	
55*		2.1	28	22	107.9(11.0)	
DWMH17 -	60*	2.1	30	24	117.7(12.0)	
	65	2.3	35	26	127.5(13.0)	
	70	2.3	36	28	137.3(14.0)	
	80	2.3	42	32	156.9(16.0)	
	90*	2.3	51	36	176.5(18.0)	
	100*	2.5	56	40	196.1(20.0)	

Part No. Type D-L	d	Height Solid	F max.	Load N(kgf) max.		
DWMH18 -	15	1.2	5.5	6	17.7(1.8)	
	20	1.4	9	8	23.5(2.4)	
	25*	1.4	11	10	29.4(3.0)	
	30	1.6	15	12	35.3(3.6)	
	35*	1.6	18	14	41.2(4.2)	
	40*	1.6	21	16	47.1(4.8)	
	45	1.8	24	18	53.0(5.4)	
	50	1.8	24	20	58.8(6.0)	
DWMH19 -	55	1.8	25	22	64.7(6.6)	
	60*	1.8	30	24	70.6(7.2)	
	65*	1.8	27	26	76.5(7.8)	
	70*	1.8	35	28	82.4(8.4)	
	80	2.0	42	32	94.1(9.6)	
	90	2.0	48	36	105.9(10.8)	
	DWMH20 -	15	1.6	8	8	39.2(4.0)
		25	1.8	13	10	49.0(5.0)
30*		1.8	16	12	58.8(6.0)	
35		2.0	19	14	68.6(7.0)	
40*		2.0	21	16	78.5(8.0)	
45		2.1	24	18	88.3(9.0)	
50*		2.1	26	20	98.0(10.0)	
55*		2.1	28	22	107.9(11.0)	
DWMH21 -	60*	2.1	30	24	117.7(12.0)	
	65	2.3	35	26	127.5(13.0)	
	70	2.3	36	28	137.3(14.0)	
	80	2.3	42	32	156.9(16.0)	
	90*	2.3	51	36	176.5(18.0)	
	100*	2.5	56	40	196.1(20.0)	

● **N (load) = N/mm (spring constant) × Fmm (deflection)**  
 Load (kgf) = Load N × 0.101972

- No grinding on both ends of springs marked with\*
- The solid height values are for reference only. There may be some dispersions depending on the lot.
- Times used: 1 million
- Instructions and notes for coil springs
- Coil springs marked with ● have spring seat(s) on one end or both ends in order to reduce excessive stress or potential breakage when deflecting.  
 (The seat becomes 4 rolling extent from 0.5)  
 Solid height/spring constant values are the same as those without spring seats.

