

Round Coil Springs

WH, WB: O.D. Datum Type



WH:Fmax. (allowable deflection)=Lx30%

d	Solid Length	F max.	Load N(kgf) max.	Part Number TypeD-L	Unit Price 10 - 19 pcs.
0.45	2.7	1.5	4.9(0.5)	WH4- 5*	
0.45	2.7	3	8.8(0.9)	10*	
0.55	5.8	4.5	13.7(1.4)	15	
0.6	8.4	6	17.7(1.8)	20	
0.65	12.4	7.5	22.6(2.3)	25	
0.65	12.4	9	26.5(2.7)	30	
0.6	3.3	1.5	8.8(0.9)	WH5- 5*	
0.7	5.5	3	17.7(1.8)	10	
0.75	7.5	4.5	26.5(2.7)	15	
0.75	7.5	6	35.3(3.6)	20	
0.85	13.6	7.5	44.3(4.5)	25	
0.85	13.6	9	51.6(5.3)	(30)	
0.9	17.1	8.8	51.6(5.3)	(35)	
0.9	17.1	8.8	51.9(5.3)	(40)	
0.65	3.3	1.5	8.8(0.9)	WH6- 5*	
0.75	5.2	3	17.7(1.8)	10	
0.8	6.4	4.5	26.5(2.7)	15	
0.9	9.9	6	35.3(3.6)	20	
0.9	9.9	7.5	44.3(4.5)	25	
1.0	16	9	53.0(5.4)	30	
1.0	16	10.5	61.8(6.3)	35	
1.1	25	12	70.6(7.2)	40	
1.1	25	13.5	79.4(8.1)	(45)	
1.2	39.6	10	58.8(6.0)	(50)	
1.2	39.6	14.5	85.3(8.7)	(55)	
1.2	39.6	14	82.4(8.4)	(60)	
1.2	39.6	14	82.4(8.4)	(65)	
1.2	39.6	15	88.3(9.0)	(70)	
0.9	5.4	3	17.7(1.8)	WH8- 10	
1.0	8	4.5	26.5(2.7)	15	
1.1	11.5	6	35.3(3.6)	20	
1.1	11.5	7.5	44.3(4.5)	25	
1.2	16.8	9	53.0(5.4)	30	
1.2	16.8	10.5	61.8(6.3)	35	
1.2	16.8	12	70.6(7.2)	40	
1.3	24.7	13.5	79.4(8.1)	45	
1.3	24.7	15	88.3(9.0)	50	
1.4	35	16.5	97.1(9.9)	55	
1.4	35	18	105.9(10.8)	60	
1.4	35	17	100.0(10.2)	(65)	
1.4	35	19	111.8(11.4)	(70)	
1.0	5.4	3	17.7(1.8)	WH10- 10	
1.1	7	4.5	26.5(2.7)	15	
1.2	9.6	6	35.3(3.6)	20	
1.2	9.6	7.5	44.3(4.5)	25	
1.3	13.9	9	53.0(5.4)	30	
1.4	18	10.5	61.8(6.3)	35	
1.4	18	12	70.6(7.2)	40	
1.5	25	13.5	79.4(8.1)	45	
1.5	25	15	88.3(9.0)	50	
1.5	25	16.5	97.1(9.9)	55	
1.5	25	18	105.9(10.8)	60	
1.6	35	19.5	114.7(11.7)	65	
1.6	35	21	123.6(12.6)	70	
1.7	45.9	24	141.0(14.4)	80	

• Load calculation method = Spring constant x Deflection (Int'l Unit) N=N/mmxFmm kgf=kgf/mmxFmm (kgf=Nx0.101972)
 *The values of solid length are for reference only. There may be some variations depending on the lot.
 • Usage Count: 1 Million Times
 • Product Outline **P.327**
 • How to use coil springs, and precautions **P.328**

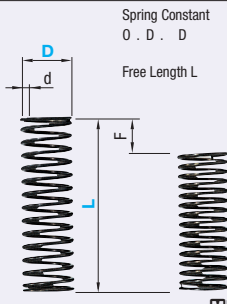
WH:Fmax. (allowable deflection)=Lx30%

d	Solid Length	F max.	Load N(kgf) max.	Part Number TypeD-L	Unit Price 10 - 19 pcs.
1.2	6.9	3	17.7(1.8)	WH12- 10	
1.3	9.1	4.5	26.5(2.7)	15	
1.3	9.1	6	35.3(3.6)	20	
1.3	9.1	7.5	44.3(4.5)	25	
1.4	11.9	9	53.0(5.4)	30	
1.4	11.9	10.5	61.8(6.3)	35	
1.5	15.4	12	70.6(7.2)	40	
1.5	15.4	13.5	79.4(8.1)	45	
1.6	20.4	15	88.3(9.0)	50	
1.6	20.4	16.5	97.1(9.9)	55	
1.7	26.8	18	105.9(10.8)	60	
1.7	26.8	19.5	114.7(11.7)	65	
1.8	35.1	21	123.6(12.6)	70	
1.9	45.6	24	141.0(14.4)	80	
1.3	6.2	3	29.4(3.0)	WH13- 10	
1.5	9.3	4.5	44.1(4.5)	15	
1.6	12.3	6	58.8(6.0)	20	
1.6	12.3	7.5	73.5(7.5)	25	
1.7	15	9	88.3(9.0)	30	
1.7	15	10.5	103.0(10.5)	35	
1.8	19	12	117.7(12.0)	40	
1.9	25	13.5	132.4(13.5)	45	
1.9	25	15	147.1(15.0)	50	
2.0	30	16.5	161.8(16.5)	55	
2.0	30	18	176.5(18.0)	60	
2.1	39	19.5	191.2(19.5)	65	
2.1	39	21	205.9(21.0)	70	
2.1	39	24	235.4(24.0)	80	
1.6	10.4	4.5	44.1(4.5)	WH14- 15	
1.6	10.4	6	58.8(6.0)	20	
1.6	10.4	7.5	73.5(7.5)	25	
1.7	12.8	9	88.3(9.0)	30	
1.7	12.8	10.5	103.0(10.5)	35	
1.9	20	12	117.7(12.0)	40	
1.9	20	13.5	132.4(13.5)	45	
2.1	30.5	15	147.1(15.0)	50	
2.1	30.5	16.5	161.8(16.5)	55	
2.1	30.5	18	176.5(18.0)	60	
2.2	37.4	19.5	191.2(19.5)	65	
2.2	37.4	21	205.9(21.0)	70	
2.3	47.2	24	235.4(24.0)	80	
1.7	10.2	4.5	44.1(4.5)	WH16- 15	
1.8	12.6	6	58.8(6.0)	20	
1.9	14.5	7.5	73.5(7.5)	25	
1.9	14.5	9	88.3(9.0)	30	
2.0	18	10.5	103.0(10.5)	35	
2.1	21	12	117.7(12.0)	40	
2.2	26	13.5	132.4(13.5)	45	
2.2	26	15	147.1(15.0)	50	
2.2	26	16.5	161.8(16.5)	55	
2.3	32	18	176.5(18.0)	60	
2.3	32	19.5	191.2(19.5)	65	
2.4	38	21	205.9(21.0)	70	
2.5	47.5	24	235.4(24.0)	80	

• Allowable Deflection of (L) Size
 WH5-30Fmax.=Lx25% WH6-55Fmax.=Lx26% WH8 -70Fmax. =Lx27%
 WH5-35Fmax.=Lx25% WH6-60Fmax.=Lx23% WH18-90Fmax.=Lx29%
 WH5-40Fmax.=Lx22% WH6-65Fmax.=Lx21% WH18-100Fmax.=Lx24%
 WH6-45Fmax.=Lx25% WH6-70Fmax.=Lx21% WH22-90Fmax.=Lx29%
 WH6-50Fmax.=Lx20% WH8-65Fmax.=Lx26% WH22-100Fmax.=Lx26%

*Both ends of * marked WH Type springs are not ground.

WH WB



Spring Constant $\pm 10\%$
 0. D . D $\begin{matrix} \text{Ø10 or Less } -0.5\text{mm} \\ \text{Ø12 or More } -0.8\text{mm} \\ \text{50 or Less } \pm 1.5\text{mm} \\ \text{55 or More } \pm 2\text{mm} \end{matrix}$
 Free Length L

RoHS

Material SWP-A

Spring Constant $\text{ØD12 and 14 for WY Type and D12,14 and 20 for WT Type are not available.}$

d	WY	WR	WF	WT	WM	WH	WB
2							
3							
4							
5	N/mm 0.1 (kgf/mm) (0.01)						
6							
8							
10	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)
12	N/mm 0.2 (kgf/mm) (0.02)					N/mm 9.8 (kgf/mm) (1.0)	N/mm 19.6 (kgf/mm) (2.0)
13							
14							
16							
18							
20	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 14.7 (kgf/mm) (1.5)	N/mm 29.4(3.0)
22							
27							N/mm 29.4(kgf/mm) (3.0)
Fmax.	F=Lx75%	F=Lx60%	F=Lx45%	F=Lx40%	F=Lx40%	F=Lx35%	F=Lx30%

WB:Fmax. (allowable deflection)=Lx25%

d	Solid Length	F max.	Load N(kgf) max.	Part Number TypeD-L	Unit Price 10 - 19 pcs.
0.4	3.2	1.3	4.9(0.5)	WB3- 5*	
0.5	6.5	2.5	9.8(1.0)	10*	
0.55	10.5	3.8	14.7(1.5)	15*	
0.55	12.7	5	19.6(2.0)	20*	
0.6	17.4	6.3	24.5(2.5)	25*	
0.6	21.0	7.5	29.4(3.0)	30*	
0.65	24.0	8.8	34.3(3.5)	35*	
0.65	27.0	10.0	39.2(4.0)	40*	
0.5	3	1.3	5.9(0.6)	WB4- 5*	
0.6	6	2.5	12.3(1.3)	10	
0.65	9.8	3.8	18.1(1.9)	15	
0.7	12.6	5	24.5(2.5)	20	
0.75	16.5	6.3	30.4(3.1)	25	
0.75	20.3	7.5	36.8(3.8)	30	
0.8	24	8.8	43.1(4.4)	35	
0.8	28	10	49.0(5.0)	40	
0.8	29	11.3	55.4(5.7)	45	
0.85	34	12.5	61.3(6.3)	50	
0.65	3.3	1.3	12.7(1.3)	WB5- 5	
0.8	7	2.5	24.5(2.5)	10	
0.8	7	3.8	37.3(3.8)	15	
0.9	13	5	49.0(5.0)	20	
0.9	13	6.3	61.8(6.3)	25	
1.0	21	7.5	73.5(7.5)	30	
1.0	25	8.8	86.3(8.8)	35	
1.0	25	10	98.1(10.0)	40	
1.1	31	11.3	110.8(11.3)	45	
1.1	34	12.5	122.6(12.5)	50	
1.1	39	13.8	135.3(13.8)	55	
1.1	43	15	147.1(15.0)	60	
1.1	46	16.3	159.8(16.3)	65	
1.2	50	17.5	171.6(17.5)	70	
0.7	3.5	1.3	12.7(1.3)	WB6- 5	
0.9	7	2.5	24.5(2.5)	10	
0.9	7.5	3.8	37.3(3.8)	15	
1.0	11.5	5	49.0(5.0)	20	
1.1	17.5	6.3	61.8(6.3)	25	
1.1	19.5	7.5	73.5(7.5)	30	
1.1	20	8.8	86.3(8.8)	35	
1.2	28	10	98.1(10.0)	40	
1.2	30	11.3	110.8(11.3)	45	
1.2	32	12.5	122.6(12.5)	50	
1.2	32	13.8	135.3(13.8)	55	
1.3	43	15	147.1(15.0)	60	
1.3	46	16.3	159.8(16.3)	65	
1.3	50	17.5	171.6(17.5)	70	
1.4	57	20	196.1(20.0)	80	
1.0	6	2.5	24.5(2.5)	WB8- 10	
1.2	10.8	3.8	37.3(3.8)	15	
1.2	11.5	5	49.0(5.0)	20	
1.3	17	6.3	61.8(6.3)	25	
1.3	17	7.5	73.5(7.5)	30	
1.4	24.5	8.8	86.3(8.8)	35	
1.4	25.2	10	98.1(10.0)	40	
1.5	32	11.3	110.8(11.3)	45	
1.5	33	12.5	122.6(12.5)	50	
1.5	36.5	13.8	135.3(13.8)	55	
1.5	36.5	15	147.1(15.0)	60	
1.6	48	16.3	159.8(16.3)	65	
1.6	48	17.5	171.6(17.5)	70	
1.6	55	20	196.1(20.0)	80	

• Load calculation method = Spring constant x Deflection (Int'l Unit) N=N/mmxFmm kgf=kgf/mmxFmm (kgf=Nx0.101972)

d	Solid Length	F max.	Load N(kgf) max.	Part Number TypeD-L	Unit Price 10 - 19 pcs.
2.0	10	3.8	74.5(7.6)	WB16- 15	
2.1	12.5	5	98.1(10.0)	20	
2.3	17	6.3	123.6(12.6)	25	
2.3	18.5	7.5	147.1(15.0)	30	
2.4	21.5	8.8	172.6(17.6)	35	
2.4	21.5	10	196.1(20.0)	40	
2.5	27.5	11.3	221.6(22.6)	45	
2.5	27.5	12.5	245.2(25.0)</		