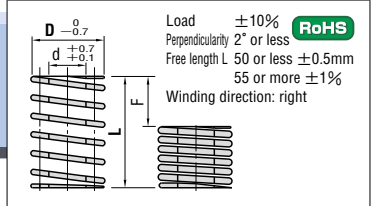
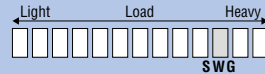


COIL SPRINGS

—SWG—



D	d	L	Spring constant			Catalog No.	Base unit price	
			N/mm (kgf/mm)	Fmm	Load N (kgf)			
Operation count			F=LX16%	F=LX18%	F=LX20%	Type D-L	1~19 pieces	
			1,000,000	500,000	300,000			
10	5	15	163 (16.7)	2.4	2.7	Out of range	SWG10-15	
		20	123 (12.5)	3.2	3.6	4.0		
		25	98.1 (10.0)	4.0	4.5	5.0		
		30	81.7 (8.3)	4.8	5.4	6.0		
		35	70.0 (7.1)	5.6	6.3	7.0		
		40	61.3 (6.3)	6.4	7.2	8.0		
		45	54.5 (5.6)	7.2	8.1	9.0		
		50	49.0 (5)	8.0	392 (40)	441 (45)		490 (50)
		55	44.6 (4.5)	8.8	9.9	11.0		
		60	40.9 (4.2)	9.6	10.8	12.0		
		65	37.7 (3.8)	10.4	11.7	13.0		
		70	35.0 (3.6)	11.2	12.6	14.0		
		75	32.7 (3.3)	12.0	13.5	15.0		
		80	30.6 (3.1)	12.8	14.4	16.0		
		90	27.2 (2.8)	14.4	16.2	18.0		
100	24.5 (2.5)	16.0	18.0	20.0				
12	6	15	245 (25.0)	2.4	2.7	Out of range	SWG12-15	
		20	184 (18.8)	3.2	3.6	4.0		
		25	147 (15.0)	4.0	4.5	5.0		
		30	123 (12.5)	4.8	5.4	6.0		
		35	105 (10.7)	5.6	6.3	7.0		
		40	91.9 (9.4)	6.4	7.2	8.0		
		45	81.7 (8.3)	7.2	8.1	9.0		
		50	73.5 (7.5)	8.0	588 (60)	662 (68)		735 (75)
		55	66.9 (6.8)	8.8	9.9	11.0		
		60	61.3 (6.3)	9.6	10.8	12.0		
		65	56.6 (5.8)	10.4	11.7	13.0		
		70	52.5 (5.4)	11.2	12.6	14.0		
		75	49.0 (5.0)	12.0	13.5	15.0		
		80	46.0 (4.7)	12.8	14.4	16.0		
		90	40.9 (4.2)	14.4	16.2	18.0		
100	36.8 (3.8)	16.0	18.0	20.0				
14	7	20	238 (24.3)	3.2	3.6	Out of range	SWG14-20	
		25	190 (19.4)	4.0	4.5	5.0		
		30	159 (16.2)	4.8	5.4	6.0		
		35	136 (13.9)	5.6	6.3	7.0		
		40	119 (12.1)	6.4	7.2	8.0		
		45	106 (10.8)	7.2	8.1	9.0		
		50	95.1 (9.7)	8.0	761 (78)	856 (87)		951 (97)
		55	86.5 (8.8)	8.8	9.9	11.0		
		60	79.3 (8.1)	9.6	10.8	12.0		
		65	73.2 (7.5)	10.4	11.7	13.0		
		70	67.9 (6.9)	11.2	12.6	14.0		
		75	63.4 (6.5)	12.0	13.5	15.0		
		80	59.5 (6.1)	12.8	14.4	16.0		
		90	52.8 (5.4)	14.4	16.2	18.0		
		100	47.6 (4.9)	16.0	18.0	20.0		
16	8	20	319 (32.5)	3.2	3.6	Out of range	SWG16-20	
		25	255 (26.0)	4.0	4.5	5.0		
		30	212 (21.7)	4.8	5.4	6.0		
		35	182 (18.6)	5.6	6.3	7.0		
		40	159 (16.3)	6.4	7.2	8.0		
		45	142 (14.4)	7.2	8.1	9.0		
		50	127 (13.0)	8.0	1020 (104)	1147 (117)		1275 (130)
		55	116 (11.8)	8.8	9.9	11.0		
		60	106 (10.8)	9.6	10.8	12.0		
		65	98.1 (10.0)	10.4	11.7	13.0		
		70	91.1 (9.3)	11.2	12.6	14.0		
		75	85.0 (8.7)	12.0	13.5	15.0		
		80	79.7 (8.1)	12.8	14.4	16.0		
		90	70.8 (7.2)	14.4	16.2	18.0		
		100	63.7 (6.5)	16.0	18.0	20.0		

D	d	L	Spring constant			Catalog No.	Base unit price
			N/mm (kgf/mm)	Fmm	Load N (kgf)		
Operation count			F=LX16%	F=LX18%	F=LX20%	Type D-L	1~19 pieces
			1,000,000	500,000	300,000		
18	9	20	392 (40.0)	3.2	3.6	Out of range	SWG18-20
		25	314 (32.0)	4.0	4.5	5.0	
		30	262 (26.7)	4.8	5.4	6.0	
		35	224 (22.9)	5.6	6.3	7.0	
		40	196 (20.0)	6.4	7.2	8.0	
		45	174 (17.8)	7.2	8.1	9.0	
		50	157 (16.0)	8.0	9.0	10.0	
		55	143 (14.5)	8.8	9.9	11.0	
		60	131 (13.3)	9.6	10.8	12.0	
		65	121 (12.3)	10.4	11.7	13.0	
		70	112 (11.4)	11.2	12.6	14.0	
		75	105 (10.7)	12.0	13.5	15.0	
		80	98.1 (10.0)	12.8	14.4	16.0	
		90	87.2 (8.9)	14.4	16.2	18.0	
		100	78.5 (8.0)	16.0	18.0	20.0	
20	10	20	515 (52.5)	3.2	3.6	Out of range	SWG20-20
		25	412 (42.0)	4.0	4.5	5.0	
		30	343 (35.0)	4.8	5.4	6.0	
		35	294 (30.0)	5.6	6.3	7.0	
		40	257 (26.3)	6.4	7.2	8.0	
		45	229 (23.3)	7.2	8.1	9.0	
		50	206 (21.0)	8.0	9.0	10.0	
		55	187 (19.1)	8.8	9.9	11.0	
		60	172 (17.5)	9.6	10.8	12.0	
		65	158 (16.2)	10.4	11.7	13.0	
		70	147 (15.0)	11.2	12.6	14.0	
		75	137 (14.0)	12.0	13.5	15.0	
		80	129 (13.1)	12.8	14.4	16.0	
		90	114 (11.7)	14.4	16.2	18.0	
		100	103 (10.5)	16.0	18.0	20.0	
125	82.4 (8.4)	20.0	22.5	25.0			
22	11	20	588 (60.0)	3.2	3.6	Out of range	SWG22-20
		25	471 (48.0)	4.0	4.5	5.0	
		30	392 (40.0)	4.8	5.4	6.0	
		35	336 (34.3)	5.6	6.3	7.0	
		40	294 (30.0)	6.4	7.2	8.0	
		45	262 (26.7)	7.2	8.1	9.0	
		50	235 (24.0)	8.0	9.0	10.0	
		55	214 (21.8)	8.8	9.9	11.0	
		60	196 (20.0)	9.6	10.8	12.0	
		65	181 (18.5)	10.4	11.7	13.0	
		70	168 (17.1)	11.2	12.6	14.0	
		75	157 (16.0)	12.0	13.5	15.0	
		80	147 (15.0)	12.8	14.4	16.0	
		90	131 (13.3)	14.4	16.2	18.0	
		100	118 (12.0)	16.0	18.0	20.0	
125	94.1 (9.6)	20.0	22.5	25.0			
25	12.5	20	760 (77.5)	3.2	3.6	Out of range	SWG25-20
		25	608 (62.0)	4.0	4.5	5.0	
		30	507 (51.7)	4.8	5.4	6.0	
		35	434 (44.3)	5.6	6.3	7.0	
		40	380 (38.8)	6.4	7.2	8.0	
		45	338 (34.4)	7.2	8.1	9.0	
		50	304 (31.0)	8.0	9.0	10.0	
		55	276 (28.2)	8.8	9.9	11.0	
		60	253 (25.8)	9.6	10.8	12.0	
		65	234 (23.8)	10.4	11.7	13.0	
		70	217 (22.1)	11.2	12.6	14.0	
		75	203 (20.7)	12.0	13.5	15.0	
		80	190 (19.4)	12.8	14.4	16.0	
		90	169 (17.2)	14.4	16.2	18.0	
		100	152 (15.5)	16.0	18.0	20.0	
125	121.6 (12.4)	20.0	22.5	25.0			

D	d	L	Spring constant			Catalog No.	Base unit price
			N/mm (kgf/mm)	Fmm	Load N (kgf)		
Operation count			F=LX16%	F=LX18%	F=LX20%	Type D-L	1~19 pieces
			1,000,000	500,000	300,000		
27	13.5	20	907 (92.5)	3.2	3.6	Out of range	SWG27-20
		25	726 (74.0)	4.0	4.5	5.0	
		30	605 (61.7)	4.8	5.4	6.0	
		35	518 (52.9)	5.6	6.3	7.0	
		40	454 (46.3)	6.4	7.2	8.0	
		45	403 (41.1)	7.2	8.1	9.0	
		50	363 (37.0)	8.0	9.0	10.0	
		55	330 (33.6)	8.8	9.9	11.0	
		60	302 (30.8)	9.6	10.8	12.0	
		65	279 (28.5)	10.4	11.7	13.0	
		70	259 (26.4)	11.2	12.6	14.0	
		75	242 (24.7)	12.0	13.5	15.0	
		80	227 (23.1)	12.8	14.4	16.0	
		90	202 (20.6)	14.4	16.2	18.0	
		100	181 (18.5)	16.0	18.0	20.0	
125	145 (14.8)	20.0	22.5	25.0			
150	121 (12.3)	24.0	27.0	30.0			
30	15	20	1177 (120.0)	3.2	3.6	Out of range	SWG30-20
		25	941 (96.0)	4.0	4.5	5.0	
		30	785 (80.0)	4.8	5.4	6.0	
		35	672 (68.6)	5.6	6.3	7.0	
		40	588 (60.0)	6.4	7.2	8.0	
		45	523 (53.3)	7.2	8.1	9.0	
		50	471 (48.0)	8.0	9.0	10.0	
		55	428 (43.6)	8.8	9.9	11.0	
		60	392 (40.0)	9.6	10.8	12.0	
		65	362 (36.9)	10.4	11.7	13.0	
		70	336 (34.3)	11.2	12.6	14.0	
		75	314 (32.0)	12.0	13.5	15.0	
		80	294 (30.0)	12.8	14.4	16.0	
		90	262 (26.7)	14.4	16.2	18.0	
		100	235 (24.0)	16.0	18.0	20.0	
125	188 (19.2)	20.0	22.5	25.0			
150	157 (16.0)	24.0	27.0	30.0			
175	134 (13.7)	28.0	31.5	35.0			
200	118 (12.0)	32.0	36.0	40.0			
35	17.5	30	1030 (105.0)	4.8	5.4	6.0	SWG35-30
		35	883 (90.0)	5.6	6.3	7.0	
		40	772 (78.8)	6.4	7.2	8.0	
		45	686 (70.0)	7.2	8.1	9.0	
		50	618 (63.0)	8.0	9.0	10.0	
		55	562 (57.3)	8.8	9.9	11.0	
		60	515 (52.5)	9.6	10.8	12.0	
		65	475 (48.5)	10.4	11.7	13.0	
		70	441 (45.0)	11.2	12.6	14.0	
		75	412 (42.0)	12.0	13.5	15.0	
		80	386 (39.4)	12.8	14.4	16.0	
		90	343 (35.0)	14.4	16.2	18.0	
		100	309 (31.5)	16.0	18.0	20.0	
		125	247 (25.2)	20.0	22.5	25.0	
		150	206 (21.0)	24.0	27.0	30.0	
175	177 (18.0)	28.0	31.5	35.0			
200	154 (15.8)	32.0	36.0	40.0			

D	d	L	Spring constant			Catalog No.	Base unit price
			N/mm (kgf/mm)	Fmm	Load N (kgf)		
Operation count			F=LX16%	F=LX18%	F=LX20%	Type D-L	1~19 pieces
			1,000,000	500,000	300,000		
40	20	35	1149 (117.1)	5.6	6.3	7.0	SWG40-35
		40	1005 (102.5)	6.4	7.2	8.0	
		45	893 (91.1)	7.2	8.1	9.0	
		50					