Coil Spring

For Ultra High Deflection SWY

D	d	L	Spring Constant N/mm{kgf/mm}	F=Lx65% Fmm	F=Lx65% Load N{kgf}	Part Number Type D-L	Unit Price
11	7	20	2.26{0.23}	13.0	29.4 {3.0}	SWY 11- 20	
		25	1.81{0.18}	16.3		25	
		30	1.51{0.15}	19.5		30	
		35	1.29{0.13}	22.8		35	
		40	1.13{0.12}	26.0		40	
		45	1.01{0.10}	29.3		45	
		50	0.91{0.092}	32.5		50	
		55	0.82{0.084}	35.8		55	
		60	0.75{0.077}	39.0		60	
		65	0.70{0.071}	42.3		65	
		70	0.65{0.066}	45.5		70	
		75	0.60{0.061}	48.8		75	
		80	0.57{0.058}	52.0		80	
		90	0.50 {0.051}	58.5		90	
		100	0.45{0.046}	65.0		100	
12.5	8.5	20	3.09{0.32}	13.0	40.2 {4.1}	SWY 12.5- 20	
		25	2.47{0.25}	16.3		25	
		30	2.06{0.21}	19.5		30	
		35	1.77{0.18}	22.8		35	
		40	1.55{0.16}	26.0		40	
		45	1.37{0.14}	29.3		45	
		50	1.24{0.13}	32.5		50	
		55	1.12{0.11}	35.8		55	
		60	1.03{0.11}	39.0		60	
		65	0.95{0.10}	42.3		65	
		70	0.88{0.090}	45.5		70	
		75	0.82{0.084}	48.8		75	
		80	0.77{0.079}	52.0		80	
		90	0.69{0.070}	58.5		90	
		100	0.62{0.063}	65.0		100	
		110	0.56{0.057}	71.5		110	
		120	0.52{0.053}	78.0		120	
		125	0.49{0.050}	81.3		125	
16.5	10.5	20	7.02{0.72}	13.0	91.2 {9.3}	SWY 16.5- 20	
		25	5.61{0.57}	16.3		25	
		30	4.68{0.48}	19.5		30	
		35	4.01{0.41}	22.8		35	
		40	3.51{0.36}	26.0		40	
		45	3.12{0.32}	29.3		45	
		50	2.81{0.29}	32.5		50	
		55	2.55{0.26}	35.8		55	
		60	2.34{0.24}	39.0		60	
		65	2.16{0.22}	42.3		65	
		70	2.00{0.20}	45.5		70	
		75	1.87{0.19}	48.8		75	
		80	1.75{0.18}	52.0		80	
		90	1.56{0.16}	58.5		90	
		100	1.40{0.14}	65.0		100	
		110	1.28{0.13}	71.5		110	
		120	1.17{0.12}	78.0		120	
		125	1.12{0.11}	81.3		125	
		150	0.94{0.10}	97.5		150	

Ordering Example **Part Number** SWY 12.5-40

D	d	L	Spring Constant N/mm{kgf/mm}	F=Lx65% Fmm	F=Lx65% Load N{kgf}	Part Number Type D-L	Unit Price
20.5	13.5	30	5.58{0.57}	19.5	108.9 {11.1}	SWY20.5- 30	
		35	4.78{0.49}	22.8		35	
		40	4.19{0.43}	26.0		40	
		45	3.72{0.38}	29.3		45	
		50	3.35{0.34}	32.5		50	
		55	3.04{0.31}	35.8		55	
		60	2.79{0.28}	39.0		60	
		65	2.58{0.26}	42.3		65	
		70	2.39{0.24}	45.5		70	
		75	2.23{0.23}	48.8		75	
		80	2.09{0.21}	52.0		80	
		90	1.86{0.19}	58.5		90	
		100	1.67{0.17}	65.0		100	
		110	1.52{0.16}	71.5		110	
		120	1.40{0.14}	78.0		120	
		125	1.34{0.14}	81.3		125	
		130	1.29{0.13}	84.5		130	
		140	1.20{0.12}	91.0		140	
		150	1.12{0.11}	97.5		150	
24.5	16.5	30	6.99{0.71}	19.5	136.3 {13.9}	SWY24.5- 30	
		35	5.99{0.61}	22.8		35	
		40	5.24{0.53}	26.0		40	
		45	4.66{0.48}	29.3		45	
		50	4.19{0.43}	32.5		50	
		55	3.81{0.39}	35.8		55	
		60	3.50{0.36}	39.0		60	
		65	3.23{0.33}	42.3		65	
		70	3.00{0.31}	45.5		70	
		75	2.80{0.29}	48.8		75	
		80	2.62{0.27}	52.0		80	
		90	2.33{0.24}	58.5		90	
		100	2.10{0.21}	65.0		100	
		110	1.91{0.19}	71.5		110	
		120	1.75{0.18}	78.0		120	
		125	1.68{0.17}	81.3		125	
		130	1.61{0.16}	84.5		130	
		140	1.50{0.15}	91.0		140	
		150	1.40{0.14}	97.5		150	
		175	1.20{0.12}	113.8		175	
		200	1.05{0.11}	130.0		200	
30	21	35	8.79{0.90}	22.8	200.1 {20.4}	SWY 30- 35	
		40	7.69{0.78}	26.0		40	
		45	6.84{0.70}	29.3		45	
		50	6.16{0.63}	32.5		50	
		55	5.60{0.57}	35.8		55	
		60	5.13 {0.52}	39.0		60	
		65	4.74{0.48}	42.3		65	
		70	4.40{0.45}	45.5		70	
		75	4.10{0.42}	48.8		75	
		80	3.85{0.39}	52.0		80	
		90	3.42{0.35}	58.5		90	
		100	3.08{0.31}	65.0		100	
		110	2.80{0.29}	71.5		110	
		120	2.56{0.26}	78.0		120	
		125	2.46{0.25}	81.3		125	
		130	2.37{0.24}	84.5		130	
		140	2.20{0.22}	91.0		140	
		150	2.05{0.21}	97.5		150	
		160	1.92{0.20}	104.0		160	
		170	1.81{0.18}	110.5		170	
		175	1.76{0.18}	113.8		175	
		180	1.71{0.17}	117.0		180	
		190	1.62{0.17}	123.5		190	
		200	1.54{0.16}	130.0		200	
		250	1.23{0.13}	162.5		250	
		300	1.03{0.10}	195.0		300	

D	d	L	Spring Constant N/mm{kgf/mm}	F=Lx65% Fmm	F=Lx65% Load N{kgf}	Part Number Type D-L	Unit Price
37	26	40	11.32{1.15}	26.0	294.2 {30.0}	SWY 37- 40	
		45	10.06{1.03}	29.3		45	
		50	9.05{0.92}	32.5		50	
		55	8.23{0.84}	35.8		55	
		60	7.54{0.77}	39.0		60	
		65	6.96{0.71}	42.3		65	
		70	6.47{0.66}	45.5		70	
		75	6.03{0.62}	48.8		75	
		80	5.66{0.58}	52.0		80	
		90	5.03{0.51}	58.5		90	
		100	4.53{0.46}	65.0		100	
		110	4.11{0.42}	71.5		110	
		120	3.77{0.38}	78.0		120	
		130	3.48{0.36}	84.5		130	
		140	3.23{0.33}	91.0		140	
		150	3.02{0.31}	97.5		150	
		160	2.83{0.29}	104.0		160	
		170	2.66{0.27}	110.5		170	
		180	2.51{0.26}	117.0		180	
		190	2.38{0.24}	123.5		190	
		200	2.26{0.23}	130.0		200	
		225	2.01{0.21}	146.3		225	
		250	1.81{0.18}	162.5		250	
		275	1.65{0.17}	178.8		275	
		300	1.51{0.15}	195.0		300	
42	31	50	12.07{1.23}	32.5	392.3 {40.0}	SWY 42- 50	
		60	10.06{1.03}	39.0		60	
		70	8.62{0.88}	45.5		70	
		80	7.54{0.77}	52.0		80	
		90	6.71{0.68}	58.5		90	
		100	6.03{0.62}	65.0		100	
		110	5.49{0.56}	71.5		110	
		120	5.03{0.51}	78.0		120	
		130	4.64{0.47}	84.5		130	
		140	4.31{0.44}	91.0		140	
		150	4.02{0.41}	97.5		150	
		160	3.77{0.38}	104.0		160	
		170	3.55{0.36}	110.5		170	
		180	3.35{0.34}	117.0		180	
		190	3.18{0.32}	123.5		190	
		200	3.02{0.31}	130.0		200	
		225	2.68{0.27}	146.3		225	
		250	2.41{0.25}	162.5		250	
		275	2.19{0.22}	178.8		275	
		300	2.01{0.21}	195.0		300	

Usage count: 1 Million Times (Lx70% is 300,000 Times)

How to use coil springs, and precautions P.328

About D dimension and back facing hole, and D dimension and shaft, see P.1881.

M Material: Oil tempered wires for springs

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