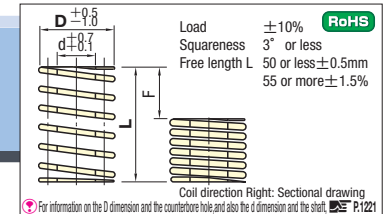


COIL SPRINGS

— HIGH DEFLECTION SWR —



F (Allowable deflection) is due to the measurement at normal temperature (40°C). Refer to P.1220 for the maximum allowable deflection at high temperature (150°C/200°C).

D	d	L	Spring constant		Part Number	U/Price
			N/mm{kgf/mm}	F=L×50% Fmm		
10.5	6.0	15	10.46 {1.07}	7.5	SWR 10.5— 15	1~19
		20	7.85 {0.80}	10.0		
		25	6.28 {0.64}	12.5		
		30	5.23 {0.53}	15.0		
		35	4.48 {0.46}	17.5		
		40	3.92 {0.40}	20.0		
		45	3.49 {0.36}	22.5		
		50	3.14 {0.32}	25.0		
		55	2.85 {0.29}	27.5		
		60	2.62 {0.27}	30.0		
		65	2.41 {0.25}	32.5		
		70	2.24 {0.23}	35.0		
		75	2.09 {0.21}	37.5		
		80	1.96 {0.20}	40.0		
		12.5	7.0	15		
20	8.83 {0.90}			10.0		
25	7.06 {0.72}			12.5		
30	5.88 {0.60}			15.0		
35	5.04 {0.51}			17.5		
40	4.41 {0.45}			20.0		
45	3.92 {0.40}			22.5		
50	3.53 {0.36}			25.0		
55	3.21 {0.33}			27.5		
60	2.94 {0.30}			30.0		
65	2.72 {0.28}			32.5		
70	2.52 {0.26}			35.0		
75	2.35 {0.24}			37.5		
80	2.21 {0.23}			40.0		
90	1.96 {0.20}			45.0		
100	1.77 {0.18}	50.0				
14.5	8.5	15	17.00 {1.73}	7.5	SWR 14.5— 15	1~19
		20	12.75 {1.30}	10.0		
		25	10.20 {1.04}	12.5		
		30	8.50 {0.87}	15.0		
		35	7.28 {0.74}	17.5		
		40	6.37 {0.65}	20.0		
		45	5.67 {0.58}	22.5		
		50	5.10 {0.52}	25.0		
		55	4.64 {0.47}	27.5		
		60	4.25 {0.43}	30.0		
		65	3.92 {0.40}	32.5		
		70	3.64 {0.37}	35.0		
		75	3.40 {0.35}	37.5		
		80	3.19 {0.33}	40.0		
		90	2.83 {0.29}	45.0		
100	2.55 {0.26}	50.0				
125	2.04 {0.21}	62.5				
150	1.70 {0.17}	75.0				

D	d	L	Spring constant		Part Number	U/Price
			N/mm{kgf/mm}	F=L×50% Fmm		
17	10.5	20	19.61 {2.00}	10.0	SWR 17— 20	1~19
		25	15.69 {1.60}	12.5		
		30	13.08 {1.33}	15.0		
		35	11.21 {1.14}	17.5		
		40	9.81 {1.00}	20.0		
		45	8.72 {0.89}	22.5		
		50	7.85 {0.80}	25.0		
		55	7.13 {0.73}	27.5		
		60	6.54 {0.67}	30.0		
		65	6.03 {0.62}	32.5		
		70	5.60 {0.57}	35.0		
		75	5.23 {0.53}	37.5		
		80	4.90 {0.50}	40.0		
		90	4.36 {0.44}	45.0		
		100	3.92 {0.40}	50.0		
21	13.5	25	23.54 {2.40}	12.5	SWR 21— 25	1~19
		30	19.61 {2.00}	15.0		
		35	16.81 {1.71}	17.5		
		40	14.71 {1.50}	20.0		
		45	13.08 {1.33}	22.5		
		50	11.77 {1.20}	25.0		
		55	10.70 {1.09}	27.5		
		60	9.81 {1.00}	30.0		
		65	9.05 {0.92}	32.5		
		70	8.41 {0.86}	35.0		
		75	7.85 {0.80}	37.5		
		80	7.35 {0.75}	40.0		
		90	6.54 {0.67}	45.0		
		100	5.88 {0.60}	50.0		
		110	5.35 {0.55}	55.0		
120	4.90 {0.50}	60.0				
125	4.71 {0.48}	62.5				
130	4.53 {0.46}	65.0				
140	4.20 {0.43}	70.0				
150	3.92 {0.40}	75.0				
175	3.36 {0.34}	87.5				
200	2.94 {0.30}	100.0				
26	16.5	25	31.38 {3.20}	12.5	SWR 26— 25	1~19
		30	26.15 {2.67}	15.0		
		35	22.42 {2.29}	17.5		
		40	19.61 {2.00}	20.0		
		45	17.43 {1.78}	22.5		
		50	15.69 {1.60}	25.0		
		55	14.26 {1.45}	27.5		
		60	13.08 {1.33}	30.0		
		65	12.07 {1.23}	32.5		
		70	11.21 {1.14}	35.0		
		75	10.46 {1.07}	37.5		
		80	9.81 {1.00}	40.0		
		90	8.72 {0.89}	45.0		
		100	7.85 {0.80}	50.0		
		110	7.13 {0.73}	55.0		
120	6.54 {0.67}	60.0				
125	6.28 {0.64}	62.5				
130	6.03 {0.62}	65.0				
140	5.60 {0.57}	70.0				
150	5.23 {0.53}	75.0				
175	4.48 {0.46}	87.5				
200	3.92 {0.40}	100.0				
225	3.49 {0.36}	112.5				
250	3.14 {0.32}	125.0				

D	d	L	Spring constant		Part Number	U/Price				
			N/mm{kgf/mm}	F=L×50% Fmm						
31	21	35	28.02 {2.86}	17.5	SWR 31— 35	1~19				
		40	24.52 {2.50}	20.0						
		45	21.79 {2.22}	22.5						
		50	19.61 {2.00}	25.0						
		55	17.83 {1.82}	27.5						
		60	16.34 {1.67}	30.0						
		65	15.09 {1.54}	32.5						
		70	14.01 {1.43}	35.0						
		75	13.08 {1.33}	37.5						
		80	12.26 {1.25}	40.0						
		90	10.90 {1.11}	45.0						
		100	9.81 {1.00}	50.0						
		110	8.92 {0.91}	55.0						
		120	8.17 {0.83}	60.0						
		125	7.85 {0.80}	62.5						
37	26	130	7.54 {0.77}	65.0	SWR 37— 35	1~19				
		140	7.00 {0.71}	70.0						
		150	6.54 {0.67}	75.0						
		160	6.13 {0.63}	80.0						
		170	5.77 {0.59}	85.0						
		175	5.60 {0.57}	87.5						
		180	5.45 {0.56}	90.0						
		190	5.16 {0.53}	95.0						
		200	4.90 {0.50}	100.0						
		250	3.92 {0.40}	125.0						
		300	3.27 {0.33}	150.0						
		37	26	35			33.62 {3.43}	17.5	SWR 37— 35	1~19
				40			29.42 {3.00}	20.0		
				45			26.15 {2.67}	22.5		
				50			23.54 {2.40}	25.0		
55	21.40 {2.18}			27.5						
60	19.61 {2.00}			30.0						
65	18.10 {1.85}			32.5						
70	16.81 {1.71}			35.0						
75	15.69 {1.60}			37.5						
80	14.71 {1.50}			40.0						
90	13.08 {1.33}			45.0						
100	11.77 {1.20}			50.0						
110	10.70 {1.09}			55.0						
120	9.81 {1.00}			60.0						
125	9.41 {0.96}			62.5						
130	9.05 {0.92}	65.0								
140	8.41 {0.86}	70.0								
150	7.85 {0.80}	75.0								
160	7.35 {0.75}	80.0								
170	6.92 {0.71}	85.0								
175	6.72 {0.69}	87.5								
180	6.54 {0.67}	90.0								
190	6.19 {0.63}	95.0								
200	5.88 {0.60}	100.0								
250	4.71 {0.48}	125.0								
300	3.92 {0.40}	150.0								

D	d	L	Spring constant		Part Number	U/Price				
			N/mm{kgf/mm}	F=L×50% Fmm						
43	31	50	33.34 {3.40}	25.0	SWR 43— 50	1~19				
		60	27.79 {2.83}	30.0						
		70	23.82 {2.43}	35.0						
		80	20.84 {2.13}	40.0						
		90	18.52 {1.89}	45.0						
		100	16.67 {1.70}	50.0						
		110	15.16 {1.55}	55.0						
		120	13.89 {1.42}	60.0						
		130	12.82 {1.31}	65.0						
		140	11.91 {1.21}	70.0						
		150	11.11 {1.13}	75.0						
		160	10.42 {1.06}	80.0						
		170	9.81 {1.00}	85.0						
		180	9.26 {0.94}	90.0						
		190	8.77 {0.89}	95.0						
46	33	200	8.34 {0.85}	100.0	SWR 46— 50	1~19				
		225	7.41 {0.76}	112.5						
		250	6.67 {0.68}	125.0						
		275	6.06 {0.62}	137.5						
		300	5.56 {0.57}	150.0						
		50	36	50			43.15 {4.40}	25.0	SWR 50— 50	1~19
				60			35.96 {3.67}	30.0		
				70			30.82 {3.14}	35.0		
				80			26.97 {2.75}	40.0		
				90			23.97 {2.44}	45.0		
				100			21.57 {2.20}	50.0		
				110			19.61 {2.00}	55.0		
				120			17.98 {1.83}	60.0		
				125			17.26 {1.76}	62.5		
				130			16.60 {1.69}	65.0		
140	15.41 {1.57}			70.0						
150	14.38 {1.47}			75.0						
175	12.33 {1.26}			87.5						
200	10.79 {1.10}			100.0						
225	9.59 {0.98}			112.5						
250	8.63 {0.88}	125.0								
275	7.85 {0.80}	137.5								
300	7.19 {0.73}	150.0								
50	36	50	52.96 {5.40}	25.0	SWR 50— 50	1~19				
		60	44.13 {4.50}	30.0						
		70	37.83 {3.86}	35.0						
		80	33.10 {3.38}	40.0						
		90	29.42 {3.00}	45.0						
		100	26.48 {2.70}	50.0						
		110	24.07 {2.45}	55.0						
		120	22.06 {2.25}	60.0						
		130	20.37 {2.08}	65.0						
		140	18.91 {1.93}	70.0						
		150	17.65 {1.80}	75.0						
		175	15.13 {1.54}	87.5						
		200	13.24 {1.35}	100.0						
		225	11.77 {1.20}	112.5						
		250	10.59 {1.08}	125.0						
275	9.63 {0.98}	137.5								
300	8.83 {0.90}	150.0								
350	7.57 {0.77}	175.0								
400	6.62 {0.68}	200.0								

Equivalent of SWOSC—V (Steel Wire Oil Temper Silicon for Valve)

Load calculation method: Load=Spring constant×Deflection
(International unit) N=N/mm×Fmm

kgf=kgf/mm×Fmm
(kgf=N×0.101972)

Times used: 1 million (300 thousand times for L×55%)

Product guide P.1219

Instructions and notes for coil springs P.1221

Load deflection diagram P.1258

Order Part Number
SWR37—40

Days to Ship Quotation

Price Quotation

Alterations (NT) — Part Number
NT — SWR 31—60
Quotation

Alteration	Code	Spec.	Details
No painting	NT	Paint peeling Peel the coating by shot peening. Since the springs which have undergone the painting peeling are easy to rust, be careful in handling. A rusted spring could cause early breakage. Compared to painted springs, there may be some dispersions in terms of load, etc. depending on the lot.	P.1257