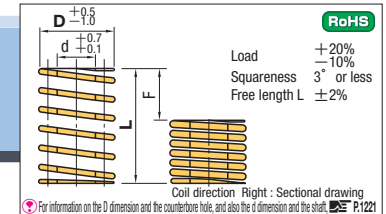


COIL SPRINGS

— MEDIUM DEFLECTION SWS —



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×40%		
			Fmm	Load N(kgf)	Type D—L	1~19
10.5	5.5	20	10.90 {1.11}	8.0	SWS10.5—20	20
		25	8.72 {0.89}	10.0		25
		30	7.27 {0.74}	12.0		30
		35	6.23 {0.64}	14.0		35
		40	5.45 {0.56}	16.0		40
		45	4.84 {0.49}	18.0		45
		50	4.36 {0.44}	20.0		50
		55	3.96 {0.40}	22.0		55
		60	3.63 {0.37}	24.0		60
		65	3.35 {0.34}	26.0		65
12.5	6.5	20	15.25 {1.56}	8.0	SWS12.5—20	20
		25	12.20 {1.24}	10.0		25
		30	10.17 {1.04}	12.0		30
		35	8.71 {0.89}	14.0		35
		40	7.63 {0.78}	16.0		40
		45	6.78 {0.69}	18.0		45
		50	6.10 {0.62}	20.0		50
		55	5.55 {0.57}	22.0		55
		60	5.08 {0.52}	24.0		60
		65	4.69 {0.48}	26.0		65
14.5	8.5	20	24.50 {2.50}	8.0	SWS14.5—20	20
		25	19.61 {2.00}	10.0		25
		30	16.33 {1.67}	12.0		30
		35	14.00 {1.43}	14.0		35
		40	12.25 {1.25}	16.0		40
		45	10.89 {1.11}	18.0		45
		50	9.80 {1.00}	20.0		50
		55	8.91 {0.91}	22.0		55
		60	8.17 {0.83}	24.0		60
		65	7.54 {0.77}	26.0		65

Quotation

D	d	L	Spring constant		Part Number	U/Price
			N/mm{kgf/mm}	F=L×40%		
			Fmm	Load N(kgf)	Type D—L	1~19
17	10.5	25	29.42 {3.00}	10.0	SWS 17—25	25
		30	24.52 {2.50}	12.0		30
		35	21.01 {2.14}	14.0		35
		40	18.39 {1.88}	16.0		40
		45	16.34 {1.67}	18.0		45
		50	14.71 {1.50}	20.0		50
		55	13.37 {1.36}	22.0		55
		60	12.26 {1.25}	24.0		60
		65	11.32 {1.15}	26.0		65
		70	10.51 {1.07}	28.0		70
21	13.5	30	35.17 {3.59}	12.0	SWS 21—30	30
		35	30.14 {3.07}	14.0		35
		40	26.38 {2.69}	16.0		40
		45	23.44 {2.39}	18.0		45
		50	21.10 {2.15}	20.0		50
		55	19.18 {1.96}	22.0		55
		60	17.58 {1.79}	24.0		60
		65	16.23 {1.66}	26.0		65
		70	15.07 {1.54}	28.0		70
		75	14.07 {1.43}	30.0		75
26	16.5	30	47.42 {4.84}	12.0	SWS 26—30	30
		35	40.64 {4.14}	14.0		35
		40	35.56 {3.63}	16.0		40
		45	31.61 {3.22}	18.0		45
		50	28.45 {2.90}	20.0		50
		55	25.86 {2.64}	22.0		55
		60	23.71 {2.42}	24.0		60
		65	21.88 {2.23}	26.0		65
		70	20.32 {2.07}	28.0		70
		75	18.97 {1.93}	30.0		75

Quotation

D	d	L	Spring constant		Part Number	U/Price
			N/mm{kgf/mm}	F=L×40%		
			Fmm	Load N(kgf)	Type D—L	1~19
31	21	40	49.00 {5.00}	16.0	SWS 31—40	40
		45	43.56 {4.44}	18.0		45
		50	39.20 {4.00}	20.0		50
		55	35.64 {3.63}	22.0		55
		60	32.67 {3.33}	24.0		60
		65	30.15 {3.07}	26.0		65
		70	28.00 {2.86}	28.0		70
		75	26.13 {2.66}	30.0		75
		80	24.50 {2.50}	32.0		80
		90	21.78 {2.22}	36.0		90
37	26	40	52.13 {5.32}	16.0	SWS 37—40	40
		45	46.33 {4.72}	18.0		45
		50	41.70 {4.25}	20.0		50
		55	37.91 {3.87}	22.0		55
		60	34.75 {3.54}	24.0		60
		65	32.08 {3.27}	26.0		65
		70	29.79 {3.04}	28.0		70
		75	27.80 {2.83}	30.0		75
		80	26.06 {2.66}	32.0		80
		90	23.17 {2.36}	36.0		90

Quotation

D	d	L	Spring constant		Part Number	U/Price
			N/mm{kgf/mm}	F=L×40%		
			Fmm	Load N(kgf)	Type D—L	1~19
44.5	31	50	50.15 {5.11}	20.0	SWS 44.5—50	50
		60	41.79 {4.26}	24.0		60
		70	35.82 {3.65}	28.0		70
		80	31.34 {3.20}	32.0		80
		90	27.86 {2.84}	36.0		90
		100	25.08 {2.56}	40.0		100
		110	22.80 {2.32}	44.0		110
		120	20.90 {2.13}	48.0		120
		130	19.29 {1.97}	52.0		130
		140	17.91 {1.83}	56.0		140
46	33	50	63.74 {6.50}	20.0	SWS 46—50	50
		60	53.12 {5.42}	24.0		60
		70	45.53 {4.64}	28.0		70
		80	39.84 {4.06}	32.0		80
		90	35.41 {3.61}	36.0		90
		100	31.87 {3.25}	40.0		100
		110	28.97 {2.95}	44.0		110
		120	26.56 {2.71}	48.0		120
		125	25.50 {2.60}	50.0		125
		130	24.52 {2.50}	52.0		130
52	37	60	65.42 {6.67}	24.0	SWS 52—60	60
		70	56.07 {5.72}	28.0		70
		80	49.06 {5.00}	32.0		80
		90	43.61 {4.45}	36.0		90
		100	39.25 {4.00}	40.0		100
		110	35.68 {3.64}	44.0		110
		120	32.71 {3.34}	48.0		120
		130	30.19 {3.08}	52.0		130
		140	28.04 {2.86}	56.0		140
		150	26.17 {2.67}	60.0		150

Quotation

M 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×45%)

📄 Product guide **P.1219**

📖 Instructions and notes for coil springs **P.1221**

📐 Load deflection diagram **P.1258**

📞 Order **Part Number**
SWS21—100

🚚 Days to Ship **Quotation**

🏷️ Price **Quotation**

🔄 Alterations (NT) — Part Number
NT — SWS 31—70

📄 Quotation

Alteration	Code	Spec.	Details
No painting	NT	<p>Paint peeling Peel the coating by shot peening.</p> <ul style="list-style-type: none"> 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