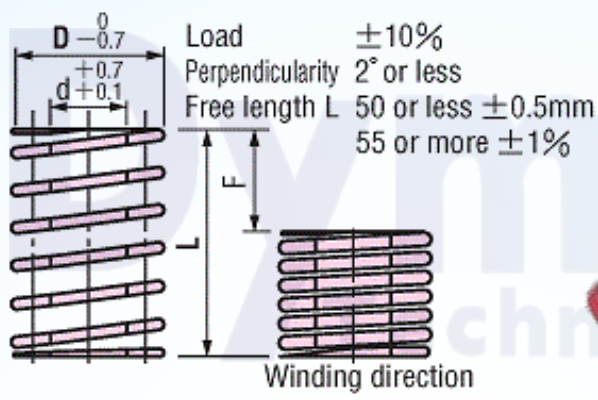


Economy Coil Spring - DE-SWM

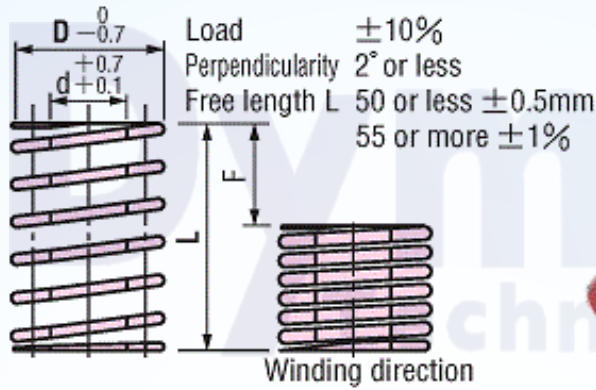


Part Number	D	d	L	Spring Constant		F = L x 25.6%		F = L x 28.8%	
				N/mm {kgf/mm}	Fmm	Load N(Kgf)	Fmm	Load N(Kgf)	
Type D - L	Operation Count			1000000	500000				
DE-SWM6- 15 20 25 30 35 40 45 50 55 60	6	3	15	20.4 (2.08)	3.8	79 (8.0)	4.3	9.0	
			20	15.3 (1.56)	5.1	5.8	8.6		
			25	12.3 (1.25)	6.4	7.2	10.1		
			30	10.2 (1.04)	7.7	11.5	13		
			35	8.8 (0.89)	9	14.4	15.8		
			40	7.7 (0.78)	10.2	17.3	20.2		
			45	6.8 (0.69)	11.5	21.6	25.9		
			50	6.1 (0.63)	12.8	25.9	32		
			55	5.6 (0.57)	14.1	32	38.4		
			60	5.1 (0.52)	15.4	38.4	44.8		
DE-SWM8- 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80	8	4	10	42.9 (4.37)	2.6	110 (11)	2.9	123 (13)	
			15	28.6 (2.91)	3.8	4.3	8.6		
			20	21.5 (2.18)	5.1	5.8	7.2		
			25	17.2 (1.75)	6.4	7.2	8.6		
			30	14.3 (1.46)	7.7	8.6	10.1		
			35	12.2 (1.25)	9	10.1	11.5		
			40	10.7 (1.09)	10.2	11.5	13		
			45	9.5 (0.97)	11.5	13	14.4		
			50	8.6 (0.87)	12.8	14.4	15.8		
			55	7.8 (0.79)	14.1	15.8	17.3		
DE-SWM10- 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 90	10	5	10	61.3 (6.25)	2.6	157 (16)	2.9	176 (18)	
			15	40.9 (4.17)	3.8	4.3	5.8		
			20	30.6 (3.13)	5.1	5.8	7.2		
			25	24.5 (2.50)	6.4	7.2	8.6		
			30	20.4 (2.08)	7.7	8.6	10.1		
			35	17.5 (1.79)	9	10.1	11.5		
			40	15.3 (1.56)	10.2	11.5	13		
			45	13.6 (1.39)	11.5	13	14.4		
			50	12.3 (1.25)	12.8	14.4	15.8		
			55	11.1 (1.14)	14.1	15.8	17.3		
DE-SWM12- 15 20 25 30 35 40 45 50 55 60 65 70 75 80 90	12	6	15	59.2 (6.04)	3.8	227 (23)	4.3	256 (26)	
			20	44.4 (4.53)	5.1	5.8	7.2		
			25	35.5 (3.63)	6.4	7.2	8.6		
			30	29.6 (3.02)	7.7	8.6	10.1		
			35	25.4 (2.59)	9	10.1	11.5		
			40	22.2 (2.27)	10.2	11.5	13		
			45	19.7 (2.01)	11.5	13	14.4		
			50	17.8 (1.81)	12.8	14.4	15.8		
			55	16.2 (1.65)	14.1	15.8	17.3		
			60	14.8 (1.51)	15.4	17.3	20.2		
DE-SWM14- 20 25 30 35 40 45 50 55 60 65 70 75 80 90 100	14	7	20	59.8 (6.09)	5.1	306 (31)	5.8	345 (35)	
			25	47.9 (4.88)	6.4	7.2	8.6		
			30	39.9 (4.08)	7.7	8.6	10.1		
			35	34.2 (3.48)	9	10.1	11.5		
			40	29.9 (3.05)	10.2	11.5	13		
			45	26.6 (2.71)	11.5	13	14.4		
			50	23.9 (2.44)	12.8	14.4	15.8		
			55	21.8 (2.22)	14.1	15.8	17.3		
			60	19.9 (2.03)	15.4	17.3	20.2		
			65	18.4 (1.88)	16.6	18.7	21.6		
DE-SWM16 - 20 25 30 35 40 45 50 55 60 65 70 75 80 90 100	16	8	20	78.1 (7.97)	5.1	400 (41)	5.8	450 (46)	
			25	62.5 (6.38)	6.4	7.2	8.6		
			30	52.1 (5.31)	7.7	8.6	10.1		
			35	44.7 (4.55)	9	10.1	11.5		
			40	39.1 (3.98)	10.2	11.5	13		
			45	34.7 (3.54)	11.5	13	14.4		
			50	31.3 (3.19)	12.8	14.4	15.8		
			55	28.4 (2.90)	14.1	15.8	17.3		
			60	26 (2.66)	15.4	17.3	20.2		
			65	24 (2.45)	16.6	18.7	21.6		

Part Number	D	d	L	Spring Constant		F = L x 25.6%		F = L x 28.8%	
				N/mm {kgf/mm}	Fmm	Load N(Kgf)	Fmm	Load N(Kgf)	
Type D - L	Operation Count			1000000	500000				
DE-SWM18 - 20 25 30 35 40 45 50 55 60 65 70	18	9	20	99.6 (10.2)	5.1	510 (52)	5.8	574 (59)	
			25	79.7 (8.13)	6.4	7.2	8.6		
			30	66.4 (6.77)	7.7	8.6	10.1		
			35	56.9 (5.80)	9	10.1	11.5		
			40	49.8 (5.08)	10.2	11.5	13		
			45	44.3 (4.51)	11.5	13	14.4		
			50	39.8 (4.06)	12.8	14.4	15.8		
			55	36.2 (3.69)	14.1	15.8	17.3		
			60	33.2 (3.39)	15.4	17.3	20.2		
			65	30.6 (3.13)	16.6	18.7	21.6		
DE-SWM20- 20 25 30 35 40 45 50 55 60 65 70 75 80 90 100	20	10	20	123 (12.5)	5.1	628 (64)	5.8	706 (72)	
			25	98 (10)	6.4	7.2	8.6		
			30	81.7 (8.33)	7.7	8.6	10.1		
			35	70 (7.14)	9	10.1	11.5		
			40	61.3 (6.25)	10.2	11.5	13		
			45	54.4 (5.55)	11.5	13	14.4		
			50	49 (5.00)	12.8	14.4	15.8		
			55	44.5 (4.55)	14.1	15.8	17.3		
			60	40.8 (4.17)	15.4	17.3	20.2		
			65	37.7 (3.85)	16.6	18.7	21.6		
DE-SWM22- 25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150	22	11	25	119.0 (12.1)	6.4	761 (78)	7.2	856 (87)	
			30	99.1 (10.1)	7.7	8.6	10.1		
			35	84.9 (8.66)	9	10.1	11.5		
			40	74.3 (7.58)	10.2	11.5	13		
			45	66.1 (6.74)	11.5	13	14.4		
			50	59.5 (6.06)	12.8	14.4	15.8		
			55	54 (5.51)	14.1	15.8	17.3		
			60	49.5 (5.05)	15.4	17.3	20.2		
			65	45.7 (4.66)	16.6	18.7	21.6		
			70	42.5 (4.33)	17.9	20.2	21.6		
DE-SWM25- 25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150 175	25	12.5	25	153 (15.6)	6.4	981 (100)	7.2	1103 (113)	
			30	128 (13)	7.7	8.6	10.1		
			35	109 (11.2)	9	10.1	11.5		
			40	95.7 (9.77)	10.2	11.5	13		
			45	85.1 (8.68)	11.5	13	14.4		
			50	76.6 (7.81)	12.8	14.4	15.8		
			55	69.6 (7.10)	14.1	15.8	17.3		
			60	63.8 (6.51)	15.4	17.3	20.2		
			65	58.9 (6.01)	16.6	18.7	21.6		
			70	54.7 (5.58)	17.9	20.2	21.6		
DE-SWM27- 25 30 35 40 45 50 55 60 65 70 75 80 90 100 125 150 175	27	13.5	25	179 (18.3)	6.4	1145 (117)	7.2	1288 (131)	
			30	149.0 (15.2)	7.7	8.6	10.1		
			35	128 (13)	9	10.1	11.5		
			40	112 (11.4)	10.2	11.5	13		
			45	99.4 (10.1)	11.5	13	14.4		
			50	89.4 (9.13)	12.8	14.4	15.8		
			55	81.3 (8.30)	14.1	15.8	17.3		
			60	74.5 (7.60)	15.4	17.3	20.2		
			65	68.8 (7.02)	16.6	18.7	21.6		
			70	63.9 (6.52)	17.9	20.2	21.6		



Economy Coil Spring - DE-SWM



Part Number	D	d	L	Spring Constant	F = L x 40%		F = L x 45%	
				N/mm (kgf/mm)	Fmm	Load N(Kgf)	Fmm	Load N(Kgf)
Type D - L	Operation Count			100000	50000			
DE-SWM30 - 25	30	15	25	221 (22.5)	6.4	1412	7.2	1589
30			184 (18.8)	7.7	(144)	8.6	(162)	
35			158 (16.1)	9		10.1		
40			138 (14.1)	10.2		11.5		
45			123 (12.5)	11.5		13		
50			110 (11.3)	12.8		14.4		
55			100 (10.2)	14.1		15.8		
60			91.9 (9.38)	15.4		17.3		
65			84.9 (8.65)	16.6		18.7		
70			78.8 (8.04)	17.9		20.2		
75			73.5 (7.50)	19.2		21.6		
80			69 (7.03)	20.5		23		
90			61.3 (6.25)	23		25.9		
100			55.2 (5.63)	25.6		28.8		
125			44.1 (4.50)	32		36		
150			36.8 (3.75)	38.4		43.2		
175	31.5 (3.21)	44.8		50.4				
200	27.6 (2.81)	51.2		57.6				
DE-SWM35 - 40	35	17.5	40	188 (19.1)	10.2	1921	11.5	2161
45			167 (17)	11.5	(196)	12.9	(220)	
50			150 (15.3)	12.8		14.4		
55			136 (13.9)	14.1		15.8		
60			125 (12.8)	15.4		17.3		
65			115 (11.8)	16.6		18.7		
70			107 (10.9)	17.9		20.2		
75			100 (10.2)	19.2		21.6		
80			93.8 (9.57)	20.5		23		
90			83.4 (8.51)	23		25.9		
100			75 (7.66)	25.6		28.8		
125			60 (6.13)	32		36		
150			50 (5.10)	38.4		43.2		
175			42.9 (4.38)	44.8		50.4		
200			37.5 (3.83)	51.2		57.6		
DE-SWM40 - 40			40	20	40	245 (25)	10.2	2510
45	218 (22.2)	11.5			(256)	13	(288)	
50	196 (20)	12.8				14.4		
55	178 (18.2)	14.1				15.8		
60	163 (16.7)	15.4				17.3		
65	151 (15.4)	16.6				18.7		
70	140 (14.3)	17.9				20.2		
75	131 (13.3)	19.2				21.6		
80	123 (12.5)	20.5				23		
90	109 (11.1)	23				25.9		
100	98.1 (10)	25.6				28.8		
125	78.5 (8.00)	32				36		
150	65.4 (6.67)	38.4				43.2		
175	56 (5.71)	44.8				50.4		
200	49 (5.00)	51.2				57.6		
225	43.6 (4.44)	57.6				64.8		
250	39.2 (4.00)	64		72				
275	35.7 (3.64)	70.4		79.2				
300	32.7 (3.33)	76.8		86.4				

Part Number	D	d	L	Spring Constant	F = L x 40%		F = L x 45%			
				N/mm (kgf/mm)	Fmm	Load N(Kgf)	Fmm	Load N(Kgf)		
Type D - L	Operation Count			100000	50000					
DE-SWM50 - 50	50	25	50	306 (31.2)	12.8	3920	14.4	4410		
55			278 (28.4)	14.1	(400)	15.8	(450)			
60			255 (26)	15.4		17.3				
65			236 (24)	16.6		18.7				
70			219 (22.3)	17.9		20.2				
75			204 (20.8)	19.2		21.6				
80			191 (19.5)	20.5		23				
90			170 (17.3)	23		25.9				
100			153 (15.6)	25.6		28.8				
125			123 (12.5)	32		36				
150			102 (10.4)	38.4		43.2				
175			87.5 (8.92)	44.8		50.4				
200			76.6 (7.81)	51.2		57.6				
225			68.1 (6.94)	57.6		64.8				
250			61.3 (6.25)	64		72				
275			55.7 (5.68)	70.4		79.2				
300	51.0 (5.20)	76.8		86.4						
350	43.8 (4.46)	89.6		100.8						
DE-SWM60 - 60	60	33	60	368 (37.5)	15.4	5645	17.3	6350		
70			315 (32.1)	17.9	(576)	20.2	(648)			
80			276 (28.1)	20.5		23				
90			245 (25.0)	23		25.9				
100			221 (22.5)	25.6		28.8				
125			176 (18.0)	32		36				
150			147 (15.0)	38.4		43.2				
175			126 (12.8)	44.8		50.4				
200			110 (11.2)	51.2		57.6				
225			98 (10.0)	57.6		64.8				
250			88.2 (8.99)	64		72				
275			80.2 (8.18)	70.4		79.2				
300			73.5 (7.49)	76.8		86.4				
350			63.0 (6.42)	89.6		100.8				
DE-SWM70 - 70			70	38.5	70	372 (37.9)	17.9	6664	20.2	7497
80					325 (33.2)	20.5	(680)	23	(764)	
90	289 (29.5)	23				25.9				
100	260 (26.5)	25.6				28.8				
125	208 (21.2)	32				36				
150	174 (17.7)	38.4				43.2				
175	149 (15.2)	44.8				50.4				
200	130 (13.3)	51.2				57.6				
250	104 (10.6)	64				72				
300	86.8 (8.85)	76.8				86.4				
350	74.4 (7.58)	89.6				100.8				

● Load calculation method: Load = Spring constant x Deflection

(SI units) $N = N/mm \times Fmm$

$kgf = kgf/mm \times Fmm$

$(kgf = N \times 0.101972)$

ORDERING GUIDE



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