



Load : ±10%
 Perpendicularity : 2° or less
 Free length L : 50 or less ±0.5mm
 : 55 or more ±1%
 Winding direction : right

Spring

Model	Outer Dia D (mm)	Inner Dia d (mm)	Free Length L (mm)	Spring Const (kgf/mm)	0.3 million		0.5 million		1 million	
					Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)
TB 8 × 10	8	4	10	16.94	2.0	35	1.8	31	1.6	26
			15	11.30	3.0		2.7		2.4	
			20	8.47	4.0		3.6		3.2	
			25	6.78	5.0		4.5		4.0	
			30	5.65	6.0		5.4		4.8	
			35	4.84	7.0		6.3		5.6	
			40	4.24	8.0		7.2		6.4	
			45	3.77	9.0		8.1		7.2	
			50	3.39	10.0		9.0		8.0	
			55	3.08	11.0		9.9		8.8	
			60	2.82	12.0		10.8		9.6	
			65	2.61	13.0		11.7		10.4	
			70	2.42	14.0		12.6		11.2	
			75	2.26	15.0		13.5		12.0	
80	2.12	16.0	14.4	12.8						
90	1.88	18.0	16.2	14.4						
TB 10 × 10	10	5	10	22.78	2.0	45	1.8	41	1.6	36
			15	15.19	3.0		2.7		2.4	
			20	11.25	4.0		3.6		3.2	
			25	9.00	5.0		4.5		4.0	
			30	7.50	6.0		5.4		4.8	
			35	6.43	7.0		6.3		5.6	
			40	5.63	8.0		7.2		6.4	
			45	5.00	9.0		8.1		7.2	
			50	4.50	10.0		9.0		8.0	
			55	4.09	11.0		9.9		8.8	
			60	3.75	12.0		10.8		9.6	
			65	3.47	13.0		11.7		10.4	
			70	3.21	14.0		12.6		11.2	
			75	3.00	15.0		13.5		12.0	
			80	2.82	16.0		14.4		12.8	
			90	2.50	18.0		16.2		14.4	
100	2.25	20.0	18.0	16.0						

Model	Outer Dia D (mm)	Inner Dia d (mm)	Free Length L (mm)	Spring Const (kgf/mm)	0.3 million		0.5 million		1 million	
					Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)
TB 12 × 20	12	6	20	14.50	4.0	58	3.6	52	3.2	46
			25	11.60	5.0		4.5		4.0	
			30	9.67	6.0		5.4		4.8	
			35	8.29	7.0		6.3		5.6	
			40	7.25	8.0		7.2		6.4	
			45	6.44	9.0		8.1		7.2	
			50	5.80	10.0		9.0		8.0	
			55	5.27	11.0		9.9		8.8	
			60	4.83	12.0		10.8		9.6	
			65	4.44	13.0		11.7		10.4	
			70	4.13	14.0		12.6		11.2	
			75	3.85	15.0		13.5		12.0	
			80	3.61	16.0		14.4		12.8	
			90	3.22	18.0		16.2		14.4	
100	2.90	20.0	18.0	16.0						
TB 14 × 20	14	7	20	18.89	4.0	75	3.6	68	3.2	60
			25	15.00	5.0		4.5		4.0	
			30	12.50	6.0		5.4		4.8	
			35	10.27	7.0		6.3		5.6	
			40	9.38	8.0		7.2		6.4	
			45	8.34	9.0		8.1		7.2	
			50	7.50	10.0		9.0		8.0	
			55	6.82	11.0		9.9		8.8	
			60	6.25	12.0		10.8		9.6	
			65	5.77	13.0		11.7		10.4	
			70	5.36	14.0		12.6		11.2	
			75	5.00	15.0		13.5		12.0	
			80	4.69	16.0		14.4		12.8	
			90	4.17	18.0		16.2		14.4	
100	3.75	20.0	18.0	16.0						
125	3.00	25.0	22.5	20.0						
TB 16 × 20	16	8	20	25.00	4.0	100	3.6	90	3.2	80
			25	20.00	5.0		4.5		4.0	
			30	16.67	6.0		5.4		4.8	
			35	14.29	7.0		6.3		5.6	
			40	12.50	8.0		7.2		6.4	
			45	11.11	9.0		8.1		7.2	
			50	10.00	10.0		9.0		8.0	
			55	9.09	11.0		9.9		8.8	
			60	8.34	12.0		10.8		9.6	
			65	7.69	13.0		11.7		10.4	
			70	7.14	14.0		12.6		11.2	
			75	6.67	15.0		13.5		12.0	
			80	6.25	16.0		14.4		12.8	
			90	5.56	18.0		16.2		14.4	
100	5.00	20.0	18.0	16.0						
125	4.00	25.0	22.5	20.0						

Model	Outer Dia D (mm)	Inner Dia d (mm)	Free Length L (mm)	Spring Const (kgf/mm)	0.3 million		0.5 million		1 million	
					Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)
TB 18 × 20	18	9	20	31.39	4.0	125	3.6	113	3.2	100
			25	25.00	5.0		4.5		4.0	
			30	20.84	6.0		5.4		4.8	
			35	17.86	7.0		6.3		5.6	
			40	15.63	8.0		7.2		6.4	
			45	13.89	9.0		8.1		7.2	
			50	12.50	10.0		9.0		8.0	
			55	11.37	11.0		9.9		8.8	
			60	10.42	12.0		10.8		9.6	
			65	9.62	13.0		11.7		10.4	
			70	8.93	14.0		12.6		11.2	
			75	8.34	15.0		13.5		12.0	
			80	7.82	16.0		14.4		12.8	
			90	6.95	18.0		16.2		14.4	
			100	6.26	20.0		18.0		16.0	
TB 20 × 20	20	10	20	40.00	4.0	160	3.6	144	3.2	128
			25	32.00	5.0		4.5		4.0	
			30	26.67	6.0		5.4		4.8	
			35	22.86	7.0		6.3		5.6	
			40	20.00	8.0		7.2		6.4	
			45	17.78	9.0		8.1		7.2	
			50	16.00	10.0		9.0		8.0	
			55	14.55	11.0		9.9		8.8	
			60	13.33	12.0		10.8		9.6	
			65	12.31	13.0		11.7		10.4	
			70	11.43	14.0		12.6		11.2	
			75	10.67	15.0		13.5		12.0	
			80	10.00	16.0		14.4		12.8	
			90	8.89	18.0		16.2		14.4	
			100	8.00	20.0		18.0		16.0	
TB 22 × 25	22	11	25	39.00	5.0	195	4.5	176	4.0	156
			30	32.50	6.0		5.4		4.8	
			35	27.86	7.0		6.3		5.6	
			40	24.38	8.0		7.2		6.4	
			45	21.67	9.0		8.1		7.2	
			50	19.50	10.0		9.0		8.0	
			55	17.73	11.0		9.9		8.8	
			60	16.25	12.0		10.8		9.6	
			65	15.00	13.0		11.7		10.4	
			70	13.93	14.0		12.6		11.2	
			75	13.00	15.0		13.5		12.0	
			80	12.19	16.0		14.4		12.8	
			90	10.83	18.0		16.2		14.4	
			100	9.75	20.0		18.0		16.0	
			125	7.80	25.0		22.5		20.0	
150	6.50	30.0	27.0	24.0						
175	5.57	35.0	31.5	28.0						

Model	Outer Dia D (mm)	Inner Dia d (mm)	Free Length L (mm)	Spring Const (kgf/mm)	0.3 million		0.5 million		1 million	
					Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)
TB 25 × 25	25	12.5	25	49.00	5.0	245	4.5	221	4.0	196
			30	40.80	6.0		5.4		4.8	
			35	35.00	7.0		6.3		5.6	
			40	30.60	8.0		7.2		6.4	
			45	27.20	9.0		8.1		7.2	
			50	24.50	10.0		9.0		8.0	
			55	22.30	11.0		9.9		8.8	
			60	20.40	12.0		10.8		9.6	
			65	18.80	13.0		11.7		10.4	
			70	17.50	14.0		12.6		11.2	
			75	16.30	15.0		13.5		12.0	
			80	15.30	16.0		14.4		12.8	
			90	13.60	18.0		16.2		14.4	
			100	12.30	20.0		18.0		16.0	
			125	9.80	25.0		22.5		20.0	
			150	8.17	30.0		27.0		24.0	
			175	7.00	35.0		31.5		28.0	
200	6.13	40.0	36.0	32.0						
TB 27 × 25	27	13.5	25	58.00	5.0	290	4.5	261	4.0	232
			30	48.33	6.0		5.4		4.8	
			35	41.43	7.0		6.3		5.6	
			40	36.25	8.0		7.2		6.4	
			45	32.22	9.0		8.1		7.2	
			50	29.00	10.0		9.0		8.0	
			55	26.36	11.0		9.9		8.8	
			60	24.17	12.0		10.8		9.6	
			65	22.31	13.0		11.7		10.4	
			70	20.71	14.0		12.6		11.2	
			75	19.33	15.0		13.5		12.0	
			80	18.13	16.0		14.4		12.8	
			90	16.11	18.0		16.2		14.4	
			100	14.50	20.0		18.0		16.0	
			125	11.60	25.0		22.5		20.0	
			150	9.67	30.0		27.0		24.0	
			175	8.28	35.0		31.5		28.0	
200	7.25	40.0	36.0	32.0						
TB 30 × 25	30	15	25	72.00	5.0	360	4.5	324	4.0	288
			30	60.00	6.0		5.4		4.8	
			35	51.43	7.0		6.3		5.6	
			40	45.00	8.0		7.2		6.4	
			45	40.00	9.0		8.1		7.2	
			50	36.00	10.0		9.0		8.0	
			55	32.72	11.0		9.9		8.8	
			60	30.00	12.0		10.8		9.6	
			65	27.69	13.0		11.7		10.4	
			70	25.71	14.0		12.6		11.2	
			75	24.00	15.0		13.5		12.0	
			80	22.50	16.0		14.4		12.8	
			90	20.00	18.0		16.2		14.4	
			100	18.00	20.0		18.0		16.0	

Model	Outer Dia D (mm)	Inner Dia d (mm)	Free Length L (mm)	Spring Const (kgf/mm)	0.3 million		0.5 million		1 million	
					Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)
TB 30 × 125	30	15	125	14.40	25.0	360	22.5	324	20.0	288
			150	12.00	30.0		27.0		24.0	
			175	10.28	35.0		31.5		28.0	
			200	9.00	40.0		36.0		32.0	
TB 35 × 35	35	17.5	35	69.94	7.0	490	6.3	441	5.6	392
			40	61.25	8.0		7.2		6.4	
			45	54.44	9.0		8.1		7.2	
			50	49.00	10.0		9.0		8.0	
			55	44.54	11.0		9.9		8.8	
			60	40.83	12.0		10.8		9.6	
			65	37.69	13.0		11.7		10.4	
			70	35.00	14.0		12.6		11.2	
			75	32.67	15.0		13.5		12.0	
			80	30.62	16.0		14.4		12.8	
			90	27.22	18.0		16.2		14.4	
			100	24.50	20.0		18.0		16.0	
			125	19.60	25.0		22.5		20.0	
			150	16.33	30.0		27.0		24.0	
			175	14.00	35.0		31.5		28.0	
			200	12.25	40.0		36.0		32.0	
TB 40 × 40	40	20	40	80.00	8.0	640	7.2	576	6.4	512
			45	71.11	9.0		8.1		7.2	
			50	64.00	10.0		9.0		8.0	
			55	58.18	11.0		9.9		8.8	
			60	53.33	12.0		10.8		9.6	
			65	49.23	13.0		11.7		10.4	
			70	45.71	14.0		12.6		11.2	
			75	42.67	15.0		13.5		12.0	
			80	40.00	16.0		14.4		12.8	
			90	35.55	18.0		16.2		14.4	
			100	32.00	20.0		18.0		16.0	
			125	25.60	25.0		22.5		20.0	
			150	21.33	30.0		27.0		24.0	
			175	18.28	35.0		31.5		28.0	
			200	16.00	40.0		36.0		32.0	
			225	14.22	45.0		40.5		36.0	
250	12.80	50.0	45.0	40.0						
275	11.64	55.0	49.5	44.0						
300	10.67	60.0	54.0	48.0						
TB 50 × 50	50	25	50	100.00	10.0	1000	9.0	900	8.0	800
			55	90.91	11.0		9.9		8.8	
			60	83.33	12.0		10.8		9.6	
			65	76.92	13.0		11.7		10.4	
			70	71.42	14.0		12.6		11.2	
			75	66.67	15.0		13.5		12.0	
			80	62.50	16.0		14.4		12.8	
			90	55.55	18.0		16.2		14.4	
			100	50.00	20.0		18.0		16.0	
125	40.00	25.0	22.5	20.0						

Model	Outer Dia D (mm)	Inner Dia d (mm)	Free Length L (mm)	Spring Const (kgf/mm)	0.3 million		0.5 million		1 million	
					Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)	Deflection F (mm)	Load kgf(N)
TB 50 × 150	50	25	150	33.33	30.0	1000	27.0	900	24.0	800
175			175	28.57	35.0		31.5		28.0	
200			200	25.00	40.0		36.0		32.0	
225			225	22.22	45.0		40.5		36.0	
250			250	20.00	50.0		45.0		40.0	
275			275	18.18	55.0		49.5		44.0	
300			300	16.66	60.0		54.0		48.0	
350			350	14.29	70.0		63.0		56.0	
TB 60 × 60			60	30	60		120.00		12.0	
70	70	102.86			14.0	12.6	11.2			
80	80	90.00			16.0	14.4	12.8			
90	90	80.00			18.0	16.2	14.4			
100	100	72.00			20.0	18.0	16.0			
125	125	57.60			25.0	22.5	20.0			
150	150	48.00			30.0	27.0	24.0			
175	175	41.14			35.0	31.5	28.0			
200	200	36.00			40.0	36.0	32.0			
225	225	32.00			45.0	40.5	36.0			
250	250	28.80			50.0	45.0	40.0			
275	275	26.18			55.0	49.5	44.0			
300	300	24.00			60.0	54.0	48.0			
350	350	20.57			70.0	63.0	56.0			



Order Example

TYPE	D	L
TB	D30	L200