



**Warning
警告**

Please adhere to the following items when using our products. Due to their condition of use, springs can scatter upon breaking and be a cause of injury.

- Please do not use TF with a deflection exceeding Free length × 50.0%
- Please do not use TL with a deflection exceeding Free length × 40.0%
- Please do not use TM with a deflection exceeding Free length × 32.0%
- Please do not use TH with a deflection exceeding Free length × 24.0%
- Please do not use TB with a deflection exceeding Free length × 20.0%
- Please install the spring in a slightly compressed condition (state of initial pressure).

使用时请遵守以下事项。使用方法不当，有可能因断裂弹簧的飞散等导致人身伤害。

- TF 的使用压缩量不可超过自由长 × 50.0%
- TL 的使用压缩量不可超过自由长 × 40.0%
- TM 的使用压缩量不可超过自由长 × 32.0%
- TH 的使用压缩量不可超过自由长 × 24.0%
- TB 的使用压缩量不可超过自由长 × 20.0%
- 在设置弹簧时，应使弹簧在受压缩的状态（有预压的状态）下使用。

② Table of standards | 规格表



Lightest load 轻小负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 40.0% 1,000,000 cycles 自由长 × 40.0% 100万次		Free length × 45.0% 500,000 cycles 自由长 × 45.0% 50万次		Free length × 50.0% 300,000 cycles 自由长 × 50.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TF 8 × 10	8	4	10	15.24	{ 1.55 }	4.0	58.8 { 6.0 }	4.5	68.6 { 7.0 }	5.0	78.5 { 8.0 }
15			15	10.16	{ 1.04 }	6.0		6.8		7.5	
20			20	7.62	{ 0.78 }	8.0		9.0		10.0	
25			25	6.10	{ 0.62 }	10.0		11.3		12.5	
30			30	5.08	{ 0.52 }	12.0		13.5		15.0	
35			35	4.36	{ 0.44 }	14.0		15.8		17.5	
40			40	3.81	{ 0.39 }	16.0		18.0		20.0	
45			45	3.39	{ 0.35 }	18.0		20.3		22.5	
50			50	3.05	{ 0.31 }	20.0		22.5		25.0	
55			55	2.77	{ 0.28 }	22.0		24.8		27.5	
60			60	2.54	{ 0.26 }	24.0		27.0		30.0	
65			65	2.35	{ 0.24 }	26.0		29.3		32.5	
70			70	2.18	{ 0.22 }	28.0		31.5		35.0	
75			75	2.03	{ 0.21 }	30.0		33.8		37.5	
80	80	1.91	{ 0.19 }	32.0	36.0	40.0					
TF 10 × 20	10	5	20	9.81	{ 1.00 }	8.0	78.5 { 8.0 }	9.0	88.3 { 9.0 }	10.0	98.1 { 10.0 }
25			25	7.85	{ 0.80 }	10.0		11.3		12.5	
30			30	6.54	{ 0.67 }	12.0		13.5		15.0	
35			35	5.61	{ 0.57 }	14.0		15.8		17.5	
40			40	4.91	{ 0.50 }	16.0		18.0		20.0	
45			45	4.36	{ 0.44 }	18.0		20.3		22.5	
50			50	3.92	{ 0.40 }	20.0		22.5		25.0	
55			55	3.57	{ 0.36 }	22.0		24.8		27.5	
60			60	3.27	{ 0.33 }	24.0		27.0		30.0	
65			65	3.02	{ 0.31 }	26.0		29.3		32.5	
70			70	2.80	{ 0.29 }	28.0		31.5		35.0	
75			75	2.62	{ 0.27 }	30.0		33.8		37.5	
80			80	2.45	{ 0.25 }	32.0		36.0		40.0	
90			90	2.18	{ 0.22 }	36.0		40.5		45.0	

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Lightest load 轻小负荷

Table of standards
Lightest load
规格表
TF
轻小负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 40.0% 1,000,000 cycles 自由长 × 40.0% 100万次		Free length × 45.0% 500,000 cycles 自由长 × 45.0% 50万次		Free length × 50.0% 300,000 cycles 自由长 × 50.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TF 12 × 20	12	6	20	13.62	{ 1.39 }	8.0	107.9 { 11.0 }	9.0	122.6 { 12.5 }	10.0	137.3 { 14.0 }
25			25	10.90	{ 1.11 }	10.0		11.3		12.5	
30			30	9.08	{ 0.93 }	12.0		13.5		15.0	
35			35	7.78	{ 0.79 }	14.0		15.8		17.5	
40			40	6.81	{ 0.69 }	16.0		18.0		20.0	
45			45	6.05	{ 0.62 }	18.0		20.3		22.5	
50			50	5.45	{ 0.56 }	20.0		22.5		25.0	
55			55	4.95	{ 0.51 }	22.0		24.8		27.5	
60			60	4.54	{ 0.46 }	24.0		27.0		30.0	
65			65	4.19	{ 0.43 }	26.0		29.3		32.5	
70			70	3.89	{ 0.40 }	28.0		31.5		35.0	
75			75	3.63	{ 0.37 }	30.0		33.8		37.5	
80			80	3.41	{ 0.35 }	32.0		36.0		40.0	
90			90	3.03	{ 0.31 }	36.0		40.5		45.0	
TF 14 × 25	14	7	25	13.95	{ 1.42 }	10.0	142.2 { 14.5 }	11.3	156.9 { 16.0 }	12.5	176.5 { 18.0 }
30			30	11.62	{ 1.19 }	12.0		13.5		15.0	
35			35	9.96	{ 1.02 }	14.0		15.8		17.5	
40			40	8.72	{ 0.89 }	16.0		18.0		20.0	
45			45	7.75	{ 0.79 }	18.0		20.3		22.5	
50			50	6.97	{ 0.71 }	20.0		22.5		25.0	
55			55	6.34	{ 0.65 }	22.0		24.8		27.5	
60			60	5.81	{ 0.59 }	24.0		27.0		30.0	
65			65	5.36	{ 0.55 }	26.0		29.3		32.5	
70			70	4.98	{ 0.51 }	28.0		31.5		35.0	
75			75	4.65	{ 0.47 }	30.0		33.8		37.5	
80			80	4.36	{ 0.44 }	32.0		36.0		40.0	
90			90	3.87	{ 0.40 }	36.0		40.5		45.0	
100			100	3.49	{ 0.36 }	40.0		45.0		50.0	
TF 16 × 25	16	8	25	16.56	{ 1.69 }	10.0	166.7 { 17.0 }	11.3	186.3 { 19.0 }	12.5	206 { 21.0 }
30			30	13.80	{ 1.41 }	12.0		13.5		15.0	
35			35	11.83	{ 1.21 }	14.0		15.8		17.5	
40			40	10.35	{ 1.06 }	16.0		18.0		20.0	
45			45	9.20	{ 0.94 }	18.0		20.3		22.5	
50			50	8.28	{ 0.84 }	20.0		22.5		25.0	
55			55	7.53	{ 0.77 }	22.0		24.8		27.5	
60			60	6.90	{ 0.70 }	24.0		27.0		30.0	
65			65	6.37	{ 0.65 }	26.0		29.3		32.5	
70			70	5.91	{ 0.60 }	28.0		31.5		35.0	
75			75	5.52	{ 0.56 }	30.0		33.8		37.5	
80			80	5.18	{ 0.53 }	32.0		36.0		40.0	
90			90	4.60	{ 0.47 }	36.0		40.5		45.0	
100			100	4.14	{ 0.42 }	40.0		45.0		50.0	
125	125	3.31	{ 0.34 }	50.0	56.3	62.5					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Lightest load 轻小负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 40.0% 1,000,000 cycles 自由长 × 40.0% 100万次		Free length × 45.0% 500,000 cycles 自由长 × 45.0% 50万次		Free length × 50.0% 300,000 cycles 自由长 × 50.0% 30万次	
				Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]		
TF 18 × 25	18	9	25	20.09	{ 2.05 }	10.0	206 { 21.0 }	11.3	226 { 23.0 }	12.5	255 { 26.0 }
30			30	16.74	{ 1.71 }	12.0		13.5		15.0	
35			35	14.35	{ 1.46 }	14.0		15.8		17.5	
40			40	12.56	{ 1.28 }	16.0		18.0		20.0	
45			45	11.16	{ 1.14 }	18.0		20.3		22.5	
50			50	10.04	{ 1.02 }	20.0		22.5		25.0	
55			55	9.13	{ 0.93 }	22.0		24.8		27.5	
60			60	8.37	{ 0.85 }	24.0		27.0		30.0	
65			65	7.73	{ 0.79 }	26.0		29.3		32.5	
70			70	7.17	{ 0.73 }	28.0		31.5		35.0	
75			75	6.70	{ 0.68 }	30.0		33.8		37.5	
80			80	6.28	{ 0.64 }	32.0		36.0		40.0	
90			90	5.58	{ 0.57 }	36.0		40.5		45.0	
100			100	5.02	{ 0.51 }	40.0		45.0		50.0	
125	125	4.02	{ 0.41 }	50.0	56.3	62.5					
TF 20 × 25	20	11	25	25.24	{ 2.57 }	10.0	255 { 26.0 }	11.3	284 { 29.0 }	12.5	314 { 32.0 }
30			30	21.04	{ 2.15 }	12.0		13.5		15.0	
35			35	18.03	{ 1.84 }	14.0		15.8		17.5	
40			40	15.78	{ 1.61 }	16.0		18.0		20.0	
45			45	14.02	{ 1.43 }	18.0		20.3		22.5	
50			50	12.62	{ 1.29 }	20.0		22.5		25.0	
55			55	11.47	{ 1.17 }	22.0		24.8		27.5	
60			60	10.52	{ 1.07 }	24.0		27.0		30.0	
65			65	9.71	{ 0.99 }	26.0		29.3		32.5	
70			70	9.02	{ 0.92 }	28.0		31.5		35.0	
75			75	8.41	{ 0.86 }	30.0		33.8		37.5	
80			80	7.89	{ 0.80 }	32.0		36.0		40.0	
90			90	7.01	{ 0.72 }	36.0		40.5		45.0	
100			100	6.31	{ 0.64 }	40.0		45.0		50.0	
125	125	5.05	{ 0.51 }	50.0	56.3	62.5					
150	150	4.21	{ 0.43 }	60.0	67.5	75.0					
TF 22 × 25	22	11	25	31.38	{ 3.20 }	10.0	314 { 32.0 }	11.3	353 { 36.0 }	12.5	392 { 40.0 }
30			30	26.15	{ 2.67 }	12.0		13.5		15.0	
35			35	22.41	{ 2.29 }	14.0		15.8		17.5	
40			40	19.61	{ 2.00 }	16.0		18.0		20.0	
45			45	17.43	{ 1.78 }	18.0		20.3		22.5	
50			50	15.69	{ 1.60 }	20.0		22.5		25.0	
55			55	14.26	{ 1.45 }	22.0		24.8		27.5	
60			60	13.07	{ 1.33 }	24.0		27.0		30.0	
65			65	12.07	{ 1.23 }	26.0		29.3		32.5	
70			70	11.21	{ 1.14 }	28.0		31.5		35.0	
75			75	10.46	{ 1.07 }	30.0		33.8		37.5	
80			80	9.81	{ 1.00 }	32.0		36.0		40.0	
90			90	8.72	{ 0.89 }	36.0		40.5		45.0	
100			100	7.84	{ 0.80 }	40.0		45.0		50.0	
125	125	6.28	{ 0.64 }	50.0	56.3	62.5					
150	150	5.23	{ 0.53 }	60.0	67.5	75.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Lightest load 轻小负荷

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TF

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 40.0% 1,000,000 cycles 自由长 × 40.0% 100万次		Free length × 45.0% 500,000 cycles 自由长 × 45.0% 50万次		Free length × 50.0% 300,000 cycles 自由长 × 50.0% 30万次				
				Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]					
TF 25 × 25	25	13.5	25	39.20	{ 4.00 }	10.0	392	11.3	441	12.5	490			
30			30	32.67	{ 3.33 }	12.0		13.5		15.0				
35			35	28.00	{ 2.86 }	14.0		15.8		17.5				
40			40	24.50	{ 2.50 }	16.0		18.0		20.0				
45			45	21.78	{ 2.22 }	18.0		20.3		22.5				
50			50	19.60	{ 2.00 }	20.0		22.5		25.0				
55			55	17.82	{ 1.82 }	22.0		24.8		27.5				
60			60	16.33	{ 1.67 }	24.0		27.0		30.0				
65			65	15.08	{ 1.54 }	26.0		29.3		32.5				
70			70	14.00	{ 1.43 }	28.0		{ 40.0 }		31.5		{ 45.0 }	35.0	{ 50.0 }
75			75	13.07	{ 1.33 }	30.0		33.8		37.5				
80			80	12.25	{ 1.25 }	32.0		36.0		40.0				
90			90	10.89	{ 1.11 }	36.0		40.5		45.0				
100			100	9.80	{ 1.00 }	40.0		45.0		50.0				
125			125	7.84	{ 0.80 }	50.0		56.3		62.5				
150			150	6.53	{ 0.67 }	60.0		67.5		75.0				
175			175	5.60	{ 0.57 }	70.0		78.8		87.5				
200	200	4.90	{ 0.50 }	80.0	90.0	100.0								
TF 27 × 25	27	13.5	25	47.11	{ 4.80 }	10.0	471	11.3	530	12.5	588			
30			30	39.26	{ 4.00 }	12.0		13.5		15.0				
35			35	33.65	{ 3.43 }	14.0		15.8		17.5				
40			40	29.44	{ 3.00 }	16.0		18.0		20.0				
45			45	26.17	{ 2.67 }	18.0		20.3		22.5				
50			50	23.56	{ 2.40 }	20.0		22.5		25.0				
55			55	21.41	{ 2.18 }	22.0		24.8		27.5				
60			60	19.63	{ 2.00 }	24.0		27.0		30.0				
65			65	18.12	{ 1.85 }	26.0		29.3		32.5				
70			70	16.83	{ 1.72 }	28.0		{ 48.0 }		31.5		{ 54.0 }	35.0	{ 60.0 }
75			75	15.70	{ 1.60 }	30.0		33.8		37.5				
80			80	14.72	{ 1.50 }	32.0		36.0		40.0				
90			90	13.09	{ 1.33 }	36.0		40.5		45.0				
100			100	11.78	{ 1.20 }	40.0		45.0		50.0				
125			125	9.42	{ 0.96 }	50.0		56.3		62.5				
150			150	7.85	{ 0.80 }	60.0		67.5		75.0				
175			175	6.73	{ 0.69 }	70.0		78.8		87.5				
200	200	5.89	{ 0.60 }	80.0	90.0	100.0								

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
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Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 40.0% 1,000,000 cycles 自由长 × 40.0% 100万次		Free length × 45.0% 500,000 cycles 自由长 × 45.0% 50万次		Free length × 50.0% 300,000 cycles 自由长 × 50.0% 30万次						
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]					
TF 30 × 25	30	16	25	56.62	{ 5.77 }	10.0	569 { 58.0 }	11.3	637 { 65.0 }	12.5	706 { 72.0 }					
30			30	47.19	{ 4.81 }	12.0		13.5		15.0						
35			35	40.44	{ 4.12 }	14.0		15.8		17.5						
40			40	35.39	{ 3.61 }	16.0		18.0		20.0						
45			45	31.46	{ 3.21 }	18.0		20.3		22.5						
50			50	28.31	{ 2.89 }	20.0		22.5		25.0						
55			55	25.74	{ 2.62 }	22.0		24.8		27.5						
60			60	23.59	{ 2.41 }	24.0		27.0		30.0						
65			65	21.78	{ 2.22 }	26.0		29.3		32.5						
70			70	20.22	{ 2.06 }	28.0		31.5		35.0						
75			75	18.87	{ 1.92 }	30.0		33.8		37.5						
80			80	17.69	{ 1.80 }	32.0		36.0		40.0						
90			90	15.73	{ 1.60 }	36.0		40.5		45.0						
100			100	14.16	{ 1.44 }	40.0		45.0		50.0						
125			125	11.32	{ 1.15 }	50.0		56.3		62.5						
150			150	9.44	{ 0.96 }	60.0		67.5		75.0						
175			175	8.09	{ 0.82 }	70.0		78.8		87.5						
200	200	7.08	{ 0.72 }	80.0	90.0	100.0										
TF 35 × 40	35	19	40	47.94	{ 4.89 }	16.0	765 { 78.0 }	18.0	863 { 88.0 }	20.0	961 { 98.0 }					
45			45	42.62	{ 4.35 }	18.0		20.3		22.5						
50			50	38.36	{ 3.91 }	20.0		22.5		25.0						
55			55	34.87	{ 3.56 }	22.0		24.8		27.5						
60			60	31.96	{ 3.26 }	24.0		27.0		30.0						
65			65	29.50	{ 3.01 }	26.0		29.3		32.5						
70			70	27.40	{ 2.79 }	28.0		31.5		35.0						
75			75	25.57	{ 2.61 }	30.0		33.8		37.5						
80			80	23.97	{ 2.44 }	32.0		36.0		40.0						
90			90	21.31	{ 2.17 }	36.0		40.5		45.0						
100			100	19.18	{ 1.96 }	40.0		45.0		50.0						
125			125	15.34	{ 1.56 }	50.0		56.3		62.5						
150			150	12.79	{ 1.30 }	60.0		67.5		75.0						
175			175	10.96	{ 1.12 }	70.0		78.8		87.5						
200			200	9.59	{ 0.98 }	80.0		90.0		100.0						
TF 40 × 40			40	22	40	62.67		{ 6.39 }		16.0		1,000 { 102.0 }	18.0	1,128 { 115.0 }	20.0	1,255 { 128.0 }
45					45	55.70		{ 5.68 }		18.0			20.3		22.5	
50	50	50.13			{ 5.11 }	20.0	22.5	25.0								
55	55	45.58			{ 4.65 }	22.0	24.8	27.5								
60	60	41.78			{ 4.26 }	24.0	27.0	30.0								
65	65	38.56			{ 3.93 }	26.0	29.3	32.5								
70	70	35.81			{ 3.65 }	28.0	31.5	35.0								
75	75	33.42			{ 3.41 }	30.0	33.8	37.5								
80	80	31.33			{ 3.20 }	32.0	36.0	40.0								
90	90	27.85			{ 2.84 }	36.0	40.5	45.0								
100	100	25.07			{ 2.56 }	40.0	45.0	50.0								
125	125	20.05			{ 2.04 }	50.0	56.3	62.5								
150	150	16.71			{ 1.70 }	60.0	67.5	75.0								
175	175	14.32			{ 1.46 }	70.0	78.8	87.5								
200	200	12.53			{ 1.28 }	80.0	90.0	100.0								
225	225	11.14			{ 1.14 }	90.0	101.3	112.5								
250	250	10.03			{ 1.02 }	100.0	112.5	125.0								
275	275	9.12	{ 0.93 }	110.0	123.8	137.5										
300	300	8.36	{ 0.85 }	120.0	135.0	150.0										

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



NEW 新产品 TF70

Lightest load 轻小负荷

Table of standards
规格表
TF
轻小负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 40.0% 1,000,000 cycles 自由长 × 40.0% 100万次		Free length × 45.0% 500,000 cycles 自由长 × 45.0% 50万次		Free length × 50.0% 300,000 cycles 自由长 × 50.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TF 50 × 50	50	27.5	50	78.44	{ 8.00 }	20.0	1,569 {160.0}	22.5	1,765 {180.0}	25.0	1,961 {200.0}
55			55	71.31	{ 7.27 }	22.0		24.8		27.5	
60			60	65.37	{ 6.67 }	24.0		27.0		30.0	
65			65	60.34	{ 6.15 }	26.0		29.3		32.5	
70			70	56.03	{ 5.71 }	28.0		31.5		35.0	
75			75	52.30	{ 5.33 }	30.0		33.8		37.5	
80			80	49.03	{ 5.00 }	32.0		36.0		40.0	
90			90	43.58	{ 4.44 }	36.0		40.5		45.0	
100			100	39.22	{ 4.00 }	40.0		45.0		50.0	
125			125	31.38	{ 3.20 }	50.0		56.3		62.5	
150			150	26.15	{ 2.67 }	60.0		67.5		75.0	
175			175	22.41	{ 2.29 }	70.0		78.8		87.5	
200			200	19.61	{ 2.00 }	80.0		90.0		100.0	
225			225	17.43	{ 1.78 }	90.0		101.3		112.5	
250			250	15.69	{ 1.60 }	100.0		112.5		125.0	
275			275	14.26	{ 1.45 }	110.0		123.8		137.5	
300			300	13.07	{ 1.33 }	120.0		135.0		150.0	
350			350	11.21	{ 1.14 }	140.0		157.5		175.0	
400			400	9.81	{ 1.00 }	160.0		180.0		200.0	
450			450	8.72	{ 0.89 }	180.0		202.5		225.0	
500	500	7.84	{ 0.80 }	200.0	225.0	250.0					
TF 60 × 60	60	33	60	94.07	{ 9.59 }	24.0	2,260 {230.5}	27.0	2,540 {259.0}	30.0	2,820 {287.6}
70			70	80.63	{ 8.22 }	28.0		31.5		35.0	
80			80	70.56	{ 7.19 }	32.0		36.0		40.0	
90			90	62.72	{ 6.40 }	36.0		40.5		45.0	
100			100	56.44	{ 5.76 }	40.0		45.0		50.0	
125			125	45.16	{ 4.60 }	50.0		56.3		62.5	
150			150	37.63	{ 3.84 }	60.0		67.5		75.0	
175			175	32.25	{ 3.29 }	70.0		78.8		87.5	
200			200	28.22	{ 2.88 }	80.0		90.0		100.0	
225			225	25.09	{ 2.56 }	90.0		101.3		112.5	
250			250	22.58	{ 2.30 }	100.0		112.5		125.0	
275			275	20.53	{ 2.09 }	110.0		123.8		137.5	
300			300	18.81	{ 1.92 }	120.0		135.0		150.0	
350			350	16.13	{ 1.64 }	140.0		157.5		175.0	
400			400	14.11	{ 1.44 }	160.0		180.0		200.0	
450			450	12.54	{ 1.28 }	180.0		202.5		225.0	
500	500	11.29	{ 1.15 }	200.0	225.0	250.0					
TF 70 × 70	70	38.5	70	114.29	{ 11.65 }	28.0	3,200 {326.3}	31.5	3,600 {367.0}	35.0	4,000 {407.9}
80			80	100.00	{ 10.20 }	32.0		36.0		40.0	
90			90	88.89	{ 9.06 }	36.0		40.5		45.0	
100			100	80.00	{ 8.16 }	40.0		45.0		50.0	
125			125	64.00	{ 6.53 }	50.0		56.3		62.5	
150			150	53.33	{ 5.44 }	60.0		67.5		75.0	
175			175	45.71	{ 4.66 }	70.0		78.8		87.5	
200			200	40.00	{ 4.08 }	80.0		90.0		100.0	
225			225	35.56	{ 3.63 }	90.0		101.3		112.5	
250			250	32.00	{ 3.26 }	100.0		112.5		125.0	
275			275	29.09	{ 2.97 }	110.0		123.8		137.5	
300			300	26.67	{ 2.72 }	120.0		135.0		150.0	
350			350	22.86	{ 2.33 }	140.0		157.5		175.0	

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Light load 轻负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 32.0% 1,000,000 cycles 自由长 × 32.0% 100万次		Free length × 36.0% 500,000 cycles 自由长 × 36.0% 50万次		Free length × 40.0% 300,000 cycles 自由长 × 40.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TL 8 × 10	8	4	10	24.53	{ 2.50 }	3.2	78.5 { 8.0 }	3.6	88.3 { 9.0 }	4.0	98.1 { 10.0 }
15			15	16.35	{ 1.67 }	4.8		5.4		6.0	
20			20	12.26	{ 1.25 }	6.4		7.2		8.0	
25			25	9.81	{ 1.00 }	8.0		9.0		10.0	
30			30	8.18	{ 0.83 }	9.6		10.8		12.0	
35			35	7.01	{ 0.71 }	11.2		12.6		14.0	
40			40	6.13	{ 0.63 }	12.8		14.4		16.0	
45			45	5.45	{ 0.56 }	14.4		16.2		18.0	
50			50	4.91	{ 0.50 }	16.0		18.0		20.0	
55			55	4.46	{ 0.45 }	17.6		19.8		22.0	
60			60	4.09	{ 0.42 }	19.2		21.6		24.0	
65			65	3.77	{ 0.38 }	20.8		23.4		26.0	
70			70	3.50	{ 0.36 }	22.4		25.2		28.0	
75			75	3.27	{ 0.33 }	24.0		27.0		30.0	
80			80	3.07	{ 0.31 }	25.6		28.8		32.0	
TL 10 × 20			10	5	20	17.71		{ 1.81 }		6.4	
25	25	14.17			{ 1.44 }	8.0	9.0	10.0			
30	30	11.81			{ 1.20 }	9.6	10.8	12.0			
35	35	10.12			{ 1.03 }	11.2	12.6	14.0			
40	40	8.85			{ 0.90 }	12.8	14.4	16.0			
45	45	7.87			{ 0.80 }	14.4	16.2	18.0			
50	50	7.08			{ 0.72 }	16.0	18.0	20.0			
55	55	6.44			{ 0.66 }	17.6	19.8	22.0			
60	60	5.90			{ 0.60 }	19.2	21.6	24.0			
65	65	5.45			{ 0.56 }	20.8	23.4	26.0			
70	70	5.06			{ 0.52 }	22.4	25.2	28.0			
75	75	4.72			{ 0.48 }	24.0	27.0	30.0			
80	80	4.43			{ 0.45 }	25.6	28.8	32.0			
90	90	3.94			{ 0.40 }	28.8	32.4	36.0			

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Light load 轻负荷

Table of standards
TL
轻负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 32.0% 1,000,000 cycles 自由长 × 32.0% 100万次		Free length × 36.0% 500,000 cycles 自由长 × 36.0% 50万次		Free length × 40.0% 300,000 cycles 自由长 × 40.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TL 12 × 20	12	6	20	25.88	{ 2.64 }	6.4	166.7 { 17.0 }	7.2	186.3 { 19.0 }	8.0	206 { 21.0 }
25			25	20.70	{ 2.11 }	8.0		9.0		10.0	
30			30	17.25	{ 1.76 }	9.6		10.8		12.0	
35			35	14.79	{ 1.51 }	11.2		12.6		14.0	
40			40	12.94	{ 1.32 }	12.8		14.4		16.0	
45			45	11.50	{ 1.17 }	14.4		16.2		18.0	
50			50	10.35	{ 1.06 }	16.0		18.0		20.0	
55			55	9.41	{ 0.96 }	17.6		19.8		22.0	
60			60	8.63	{ 0.88 }	19.2		21.6		24.0	
65			65	7.96	{ 0.81 }	20.8		23.4		26.0	
70			70	7.39	{ 0.75 }	22.4		25.2		28.0	
75			75	6.90	{ 0.70 }	24.0		27.0		30.0	
80			80	6.47	{ 0.66 }	25.6		28.8		32.0	
90			90	5.75	{ 0.59 }	28.8		32.4		36.0	
TL 14 × 25	14	7	25	27.22	{ 2.78 }	8.0	216 { 22.0 }	9.0	245 { 25.0 }	10.0	275 { 28.0 }
30			30	22.69	{ 2.31 }	9.6		10.8		12.0	
35			35	19.44	{ 1.98 }	11.2		12.6		14.0	
40			40	17.01	{ 1.73 }	12.8		14.4		16.0	
45			45	15.12	{ 1.54 }	14.4		16.2		18.0	
50			50	13.61	{ 1.39 }	16.0		18.0		20.0	
55			55	12.37	{ 1.26 }	17.6		19.8		22.0	
60			60	11.34	{ 1.16 }	19.2		21.6		24.0	
65			65	10.47	{ 1.07 }	20.8		23.4		26.0	
70			70	9.72	{ 0.99 }	22.4		25.2		28.0	
75			75	9.07	{ 0.93 }	24.0		27.0		30.0	
80			80	8.51	{ 0.87 }	25.6		28.8		32.0	
90			90	7.56	{ 0.77 }	28.8		32.4		36.0	
100			100	6.81	{ 0.69 }	32.0		36.0		40.0	
TL 16 × 25	16	8	25	34.89	{ 3.56 }	8.0	275 { 28.0 }	9.0	314 { 32.0 }	10.0	343 { 35.0 }
30			30	29.07	{ 2.96 }	9.6		10.8		12.0	
35			35	24.92	{ 2.54 }	11.2		12.6		14.0	
40			40	21.81	{ 2.22 }	12.8		14.4		16.0	
45			45	19.38	{ 1.98 }	14.4		16.2		18.0	
50			50	17.44	{ 1.78 }	16.0		18.0		20.0	
55			55	15.86	{ 1.62 }	17.6		19.8		22.0	
60			60	14.54	{ 1.48 }	19.2		21.6		24.0	
65			65	13.42	{ 1.37 }	20.8		23.4		26.0	
70			70	12.46	{ 1.27 }	22.4		25.2		28.0	
75			75	11.63	{ 1.19 }	24.0		27.0		30.0	
80			80	10.90	{ 1.11 }	25.6		28.8		32.0	
90			90	9.69	{ 0.99 }	28.8		32.4		36.0	
100			100	8.72	{ 0.89 }	32.0		36.0		40.0	
125	125	6.98	{ 0.71 }	40.0	45.0	50.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Light load 轻负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 32.0% 1,000,000 cycles 自由长 × 32.0% 100万次		Free length × 36.0% 500,000 cycles 自由长 × 36.0% 50万次		Free length × 40.0% 300,000 cycles 自由长 × 40.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TL 18 × 25	18	9	25	42.44	{ 4.33 }	8.0	333 { 34.0 }	9.0	382 { 39.0 }	10.0	422 { 43.0 }
30			30	35.37	{ 3.61 }	9.6		10.8		12.0	
35			35	30.32	{ 3.09 }	11.2		12.6		14.0	
40			40	26.53	{ 2.71 }	12.8		14.4		16.0	
45			45	23.58	{ 2.40 }	14.4		16.2		18.0	
50			50	21.22	{ 2.16 }	16.0		18.0		20.0	
55			55	19.29	{ 1.97 }	17.6		19.8		22.0	
60			60	17.69	{ 1.80 }	19.2		21.6		24.0	
65			65	16.32	{ 1.66 }	20.8		23.4		26.0	
70			70	15.16	{ 1.55 }	22.4		25.2		28.0	
75			75	14.15	{ 1.44 }	24.0		27.0		30.0	
80			80	13.26	{ 1.35 }	25.6		28.8		32.0	
90			90	11.79	{ 1.20 }	28.8		32.4		36.0	
100			100	10.61	{ 1.08 }	32.0		36.0		40.0	
125	125	8.49	{ 0.87 }	40.0	45.0	50.0					
TL 20 × 25	20	10	25	53.44	{ 5.45 }	8.0	422 { 43.0 }	9.0	481 { 49.0 }	10.0	530 { 54.0 }
30			30	44.54	{ 4.54 }	9.6		10.8		12.0	
35			35	38.17	{ 3.89 }	11.2		12.6		14.0	
40			40	33.40	{ 3.41 }	12.8		14.4		16.0	
45			45	29.69	{ 3.03 }	14.4		16.2		18.0	
50			50	26.72	{ 2.72 }	16.0		18.0		20.0	
55			55	24.29	{ 2.48 }	17.6		19.8		22.0	
60			60	22.27	{ 2.27 }	19.2		21.6		24.0	
65			65	20.56	{ 2.10 }	20.8		23.4		26.0	
70			70	19.09	{ 1.95 }	22.4		25.2		28.0	
75			75	17.81	{ 1.82 }	24.0		27.0		30.0	
80			80	16.70	{ 1.70 }	25.6		28.8		32.0	
90			90	14.85	{ 1.51 }	28.8		32.4		36.0	
100			100	13.36	{ 1.36 }	32.0		36.0		40.0	
125	125	10.69	{ 1.09 }	40.0	45.0	50.0					
150	150	8.91	{ 0.91 }	48.0	54.0	60.0					
TL 22 × 25	22	11	25	65.33	{ 6.66 }	8.0	530 { 54.0 }	9.0	588 { 60.0 }	10.0	657 { 67.0 }
30			30	54.44	{ 5.55 }	9.6		10.8		12.0	
35			35	46.67	{ 4.76 }	11.2		12.6		14.0	
40			40	40.83	{ 4.16 }	12.8		14.4		16.0	
45			45	36.30	{ 3.70 }	14.4		16.2		18.0	
50			50	32.67	{ 3.33 }	16.0		18.0		20.0	
55			55	29.70	{ 3.03 }	17.6		19.8		22.0	
60			60	27.22	{ 2.78 }	19.2		21.6		24.0	
65			65	25.13	{ 2.56 }	20.8		23.4		26.0	
70			70	23.33	{ 2.38 }	22.4		25.2		28.0	
75			75	21.78	{ 2.22 }	24.0		27.0		30.0	
80			80	20.42	{ 2.08 }	25.6		28.8		32.0	
90			90	18.15	{ 1.85 }	28.8		32.4		36.0	
100			100	16.33	{ 1.67 }	32.0		36.0		40.0	
125	125	13.07	{ 1.33 }	40.0	45.0	50.0					
150	150	10.89	{ 1.11 }	48.0	54.0	60.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Light load 轻负荷

Table of standards
Light load
规格标准
轻负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 32.0% 1,000,000 cycles 自由长 × 32.0% 100万次		Free length × 36.0% 500,000 cycles 自由长 × 36.0% 50万次		Free length × 40.0% 300,000 cycles 自由长 × 40.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TL 25 × 25	25	12.5	25	82.78	{ 8.44 }	8.0	657 { 67.0 }	9.0	745 { 76.0 }	10.0	824 { 84.0 }
30			30	68.98	{ 7.03 }	9.6		10.8		12.0	
35			35	59.13	{ 6.03 }	11.2		12.6		14.0	
40			40	51.74	{ 5.28 }	12.8		14.4		16.0	
45			45	45.99	{ 4.69 }	14.4		16.2		18.0	
50			50	41.39	{ 4.22 }	16.0		18.0		20.0	
55			55	37.63	{ 3.84 }	17.6		19.8		22.0	
60			60	34.49	{ 3.52 }	19.2		21.6		24.0	
65			65	31.84	{ 3.25 }	20.8		23.4		26.0	
70			70	29.56	{ 3.01 }	22.4		25.2		28.0	
75			75	27.59	{ 2.81 }	24.0		27.0		30.0	
80			80	25.87	{ 2.64 }	25.6		28.8		32.0	
90			90	22.99	{ 2.34 }	28.8		32.4		36.0	
100			100	20.69	{ 2.11 }	32.0		36.0		40.0	
125			125	16.56	{ 1.69 }	40.0		45.0		50.0	
150			150	13.80	{ 1.41 }	48.0		54.0		60.0	
175			175	11.83	{ 1.21 }	56.0		63.0		70.0	
200	200	10.35	{ 1.06 }	64.0	72.0	80.0					
TL 27 × 25	27	13.5	25	98.11	{ 10.00 }	8.0	785 { 80.0 }	9.0	883 { 90.0 }	10.0	981 { 100.0 }
30			30	81.76	{ 8.34 }	9.6		10.8		12.0	
35			35	70.08	{ 7.15 }	11.2		12.6		14.0	
40			40	61.32	{ 6.25 }	12.8		14.4		16.0	
45			45	54.51	{ 5.56 }	14.4		16.2		18.0	
50			50	49.06	{ 5.00 }	16.0		18.0		20.0	
55			55	44.60	{ 4.55 }	17.6		19.8		22.0	
60			60	40.88	{ 4.17 }	19.2		21.6		24.0	
65			65	37.74	{ 3.85 }	20.8		23.4		26.0	
70			70	35.04	{ 3.57 }	22.4		25.2		28.0	
75			75	32.70	{ 3.33 }	24.0		27.0		30.0	
80			80	30.66	{ 3.13 }	25.6		28.8		32.0	
90			90	27.25	{ 2.78 }	28.8		32.4		36.0	
100			100	24.53	{ 2.50 }	32.0		36.0		40.0	
125			125	19.62	{ 2.00 }	40.0		45.0		50.0	
150			150	16.35	{ 1.67 }	48.0		54.0		60.0	
175			175	14.02	{ 1.43 }	56.0		63.0		70.0	
200	200	12.26	{ 1.25 }	64.0	72.0	80.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Light load 轻负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 32.0% 1,000,000 cycles 自由长 × 32.0% 100万次		Free length × 36.0% 500,000 cycles 自由长 × 36.0% 50万次		Free length × 40.0% 300,000 cycles 自由长 × 40.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TL 30 × 25	30	15	25	118.78	{ 12.11 }	8.0	951 { 97.0 }	9.0	1,069 { 109.0 }	10.0	1,187 { 121.0 }
30			30	98.98	{ 10.09 }	9.6		10.8			
35			35	84.84	{ 8.65 }	11.2		12.6			
40			40	74.24	{ 7.57 }	12.8		14.4			
45			45	65.99	{ 6.73 }	14.4		16.2			
50			50	59.39	{ 6.06 }	16.0		18.0			
55			55	53.99	{ 5.51 }	17.6		19.8			
60			60	49.49	{ 5.05 }	19.2		21.6			
65			65	45.68	{ 4.66 }	20.8		23.4			
70			70	42.42	{ 4.33 }	22.4		25.2			
75			75	39.59	{ 4.04 }	24.0		27.0			
80			80	37.12	{ 3.78 }	25.6		28.8			
90			90	32.99	{ 3.36 }	28.8		32.4			
100			100	29.69	{ 3.03 }	32.0		36.0			
125			125	23.76	{ 2.42 }	40.0		45.0			
150			150	19.80	{ 2.02 }	48.0		54.0			
175			175	16.97	{ 1.73 }	56.0		63.0			
200	200	14.85	{ 1.51 }	64.0	72.0						
TL 35 × 40	35	17.5	40	101.46	{ 10.35 }	12.8	1,295 { 132.1 }	14.4	1,461 { 149.0 }	16.0	1,618 { 165.0 }
45			45	90.19	{ 9.20 }	14.4		16.2			
50			50	81.17	{ 8.28 }	16.0		18.0			
55			55	73.79	{ 7.52 }	17.6		19.8			
60			60	67.64	{ 6.90 }	19.2		21.6			
65			65	62.44	{ 6.37 }	20.8		23.4			
70			70	57.98	{ 5.91 }	22.4		25.2			
75			75	54.11	{ 5.52 }	24.0		27.0			
80			80	50.73	{ 5.17 }	25.6		28.8			
90			90	45.09	{ 4.60 }	28.8		32.4			
100			100	40.58	{ 4.14 }	32.0		36.0			
125			125	32.47	{ 3.31 }	40.0		45.0			
150			150	27.06	{ 2.76 }	48.0		54.0			
175			175	23.19	{ 2.36 }	56.0		63.0			
200	200	20.29	{ 2.07 }	64.0	72.0						
TL 40 × 40	40	20	40	132.15	{ 13.48 }	12.8	1,697 { 173.0 }	14.4	1,903 { 194.1 }	16.0	2,120 { 216.2 }
45			45	117.47	{ 11.98 }	14.4		16.2			
50			50	105.72	{ 10.78 }	16.0		18.0			
55			55	96.11	{ 9.80 }	17.6		19.8			
60			60	88.10	{ 8.98 }	19.2		21.6			
65			65	81.32	{ 8.29 }	20.8		23.4			
70			70	75.52	{ 7.70 }	22.4		25.2			
75			75	70.48	{ 7.19 }	24.0		27.0			
80			80	66.08	{ 6.74 }	25.6		28.8			
90			90	58.73	{ 5.99 }	28.8		32.4			
100			100	52.86	{ 5.39 }	32.0		36.0			
125			125	42.29	{ 4.31 }	40.0		45.0			
150			150	35.24	{ 3.59 }	48.0		54.0			
175			175	30.21	{ 3.08 }	56.0		63.0			
200			200	26.43	{ 2.70 }	64.0		72.0			
225			225	23.49	{ 2.40 }	72.0		81.0			
250			250	21.14	{ 2.16 }	80.0		90.0			
275	275	19.22	{ 1.96 }	88.0	99.0						
300	300	17.62	{ 1.80 }	96.0	108.0						

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



NEW 新产品 TL70

Light load 轻负荷

Table of standards
轻负荷
TL

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 32.0% 1,000,000 cycles 自由长 × 32.0% 100万次		Free length × 36.0% 500,000 cycles 自由长 × 36.0% 50万次		Free length × 40.0% 300,000 cycles 自由长 × 40.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TL 50 × 50	50	25	50	165.56	{16.88}	16.0	2,650 {270.2}	18.0	2,980 {303.9}	20.0	3,310 {337.5}
55			55	150.51	{15.35}	17.6		19.8		22.0	
60			60	137.96	{14.07}	19.2		21.6		24.0	
65			65	127.35	{12.99}	20.8		23.4		26.0	
70			70	118.25	{12.06}	22.4		25.2		28.0	
75			75	110.37	{11.25}	24.0		27.0		30.0	
80			80	103.47	{10.55}	25.6		28.8		32.0	
90			90	91.98	{9.38}	28.8		32.4		36.0	
100			100	82.78	{8.44}	32.0		36.0		40.0	
125			125	66.22	{6.75}	40.0		45.0		50.0	
150			150	55.19	{5.63}	48.0		54.0		60.0	
175			175	47.30	{4.82}	56.0		63.0		70.0	
200			200	41.39	{4.22}	64.0		72.0		80.0	
225			225	36.79	{3.75}	72.0		81.0		90.0	
250			250	33.11	{3.38}	80.0		90.0		100.0	
275			275	30.10	{3.07}	88.0		99.0		110.0	
300			300	27.59	{2.81}	96.0		108.0		120.0	
350			350	23.65	{2.41}	112.0		126.0		140.0	
400			400	20.69	{2.11}	128.0		144.0		160.0	
450			450	18.40	{1.88}	144.0		162.0		180.0	
500	500	16.56	{1.69}	160.0	180.0	200.0					
TL 60 × 60	60	30	60	198.61	{20.25}	19.2	3,810 {388.5}	21.6	4,290 {437.5}	24.0	4,770 {486.4}
70			70	170.24	{17.36}	22.4		25.2		28.0	
80			80	148.96	{15.19}	25.6		28.8		32.0	
90			90	132.41	{13.50}	28.8		32.4		36.0	
100			100	119.17	{12.15}	32.0		36.0		40.0	
125			125	95.33	{9.72}	40.0		45.0		50.0	
150			150	79.44	{8.10}	48.0		54.0		60.0	
175			175	68.10	{6.94}	56.0		63.0		70.0	
200			200	59.58	{6.08}	64.0		72.0		80.0	
225			225	52.96	{5.40}	72.0		81.0		90.0	
250			250	47.67	{4.86}	80.0		90.0		100.0	
275			275	43.33	{4.42}	88.0		99.0		110.0	
300			300	39.72	{4.05}	96.0		108.0		120.0	
350			350	34.05	{3.47}	112.0		126.0		140.0	
400			400	29.79	{3.04}	128.0		144.0		160.0	
450			450	26.48	{2.70}	144.0		162.0		180.0	
500	500	23.83	{2.43}	160.0	180.0	200.0					
TL 70 × 70	70	38.5	70	217.86	{22.22}	22.4	4,880 {497.6}	25.2	5,490 {559.8}	28.0	6,100 {622.0}
80			80	190.63	{19.44}	25.6		28.8		32.0	
90			90	169.44	{17.28}	28.8		32.4		36.0	
100			100	152.50	{15.55}	32.0		36.0		40.0	
125			125	122.00	{12.44}	40.0		45.0		50.0	
150			150	101.67	{10.37}	48.0		54.0		60.0	
175			175	87.14	{8.89}	56.0		63.0		70.0	
200			200	76.25	{7.78}	64.0		72.0		80.0	
225			225	67.78	{6.91}	72.0		81.0		90.0	
250			250	61.00	{6.22}	80.0		90.0		100.0	
275			275	55.45	{5.65}	88.0		99.0		110.0	
300			300	50.83	{5.18}	96.0		108.0		120.0	
350	350	43.57	{4.44}	112.0	126.0	140.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Warning
警告

Please adhere to the following items when using our products. Due to their condition of use, springs can scatter upon breaking and be a cause of injury.

- The deflection rate varies with usage for TLR dia. 30, 35, 40, 50 and 60.
- Upon utilization, please confirm the usage and the deflection of the product.
- Please do not use TLR dia. 30 with a deflection exceeding Free length × 45.0%
- Please do not use TLR dia. 35 with a deflection exceeding Free length × 50.0%
- Please do not use TLR dia. 40, 50 or 60 with a deflection exceeding Free length × 40.0%

使用时请遵守以下事项。使用方法不当，有可能因断裂弹簧的飞散等导致人身伤害。

- TLR30、TLR35、TLR40·50·60 弹簧的相同使用次数所对应的压缩比各不相同。使用时请充分确认使用次数和所使用的压缩量。
- TLR30 弹簧的使用压缩量不可超过自由长 × 45.0%。
- TLR35 弹簧的使用压缩量不可超过自由长 × 50.0%。
- TLR40·50·60 弹簧的使用压缩量不可超过自由长 × 40.0%。
- 在设置弹簧时，应使弹簧在受压缩的状态（有预压的状态）下使用。

Table of standards
规格表

TLR

TLR

NEW 新产品 TLR

② Table of standards 规格表

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 36.0% 1,000,000 cycles 自由长 × 36.0% 100万次		Free length × 40.0% 500,000 cycles 自由长 × 40.0% 50万次		Free length × 45.0% 300,000 cycles 自由长 × 45.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TLR 30 × 30	(30)	16	30	65.41	{ 6.67 }	10.8	706 { 72.0 }	12.0	785 { 80.0 }	13.5	883 { 90.0 }
35			35	56.06	{ 5.72 }	12.6		14.0		15.8	
40			40	49.06	{ 5.00 }	14.4		16.0		18.0	
45			45	43.60	{ 4.45 }	16.2		18.0		20.3	
50			50	39.24	{ 4.00 }	18.0		20.0		22.5	
55			55	35.68	{ 3.64 }	19.8		22.0		24.8	
60			60	32.70	{ 3.33 }	21.6		24.0		27.0	
65			65	30.19	{ 3.08 }	23.4		26.0		29.3	
70			70	28.03	{ 2.86 }	25.2		28.0		31.5	
75			75	26.16	{ 2.67 }	27.0		30.0		33.8	
80			80	24.53	{ 2.50 }	28.8		32.0		36.0	
90			90	21.80	{ 2.22 }	32.4		36.0		40.5	
100			100	19.62	{ 2.00 }	36.0		40.0		45.0	
125			125	15.70	{ 1.60 }	45.0		50.0		56.3	
150			150	13.08	{ 1.33 }	54.0		60.0		67.5	
175			175	11.21	{ 1.14 }	63.0		70.0		78.8	
TLR 35 × 40	(35)	20	40	52.95	{ 5.40 }	16.0	874 { 86.4 }	18.0	953 { 97.2 }	20.0	1,059 { 108.0 }
45			45	47.07	{ 4.80 }	18.0		20.3		22.5	
50			50	42.36	{ 4.32 }	20.0		22.5		25.0	
55			55	38.51	{ 3.93 }	22.0		24.8		27.5	
60			60	35.30	{ 3.60 }	24.0		27.0		30.0	
65			65	32.58	{ 3.32 }	26.0		29.3		32.5	
70			70	30.26	{ 3.09 }	28.0		31.5		35.0	
75			75	28.24	{ 2.88 }	30.0		33.8		37.5	
80			80	26.48	{ 2.70 }	32.0		36.0		40.0	
90			90	23.53	{ 2.40 }	36.0		40.5		45.0	
100			100	21.18	{ 2.16 }	40.0		45.0		50.0	
125			125	16.94	{ 1.73 }	50.0		56.3		62.5	
150			150	14.12	{ 1.44 }	60.0		67.5		75.0	
175			175	12.10	{ 1.23 }	70.0		78.8		87.5	
200			200	10.59	{ 1.08 }	80.0		90.0		100.0	

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 32.0% 1,000,000 cycles 自由长 × 32.0% 100万次		Free length × 36.0% 500,000 cycles 自由长 × 36.0% 50万次		Free length × 40.0% 300,000 cycles 自由长 × 40.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TLR 40 × 50	(40)	26	50	84.85	{ 8.65 }	16.0	1,358 {138.4}	18.0	1,527 {155.7}	20.0	1,697 {173.0}
60			60	70.71	{ 7.21 }	19.2		21.6		24.0	
70			70	60.61	{ 6.18 }	22.4		25.2		28.0	
80			80	53.03	{ 5.41 }	25.6		28.8		32.0	
90			90	47.14	{ 4.81 }	28.8		32.4		36.0	
100			100	42.43	{ 4.33 }	32.0		36.0		40.0	
125			125	33.94	{ 3.46 }	40.0		45.0		50.0	
150			150	28.28	{ 2.88 }	48.0		54.0		60.0	
175			175	24.24	{ 2.47 }	56.0		63.0		70.0	
200			200	21.21	{ 2.16 }	64.0		72.0		80.0	
250			250	16.97	{ 1.73 }	80.0		90.0		100.0	
TLR 50 × 60			(50)	30	60	106.25		{ 10.83 }		19.2	
70	70	91.07			{ 9.29 }	22.4	25.2	28.0			
80	80	79.69			{ 8.13 }	25.6	28.8	32.0			
90	90	70.83			{ 7.22 }	28.8	32.4	36.0			
100	100	63.75			{ 6.50 }	32.0	36.0	40.0			
125	125	51.00			{ 5.20 }	40.0	45.0	50.0			
150	150	42.50			{ 4.33 }	48.0	54.0	60.0			
175	175	36.43			{ 3.71 }	56.0	63.0	70.0			
200	200	31.88			{ 3.25 }	64.0	72.0	80.0			
250	250	25.50			{ 2.60 }	80.0	90.0	100.0			
300	300	21.25			{ 2.17 }	96.0	108.0	120.0			
350	350	18.21			{ 1.86 }	112.0	126.0	140.0			
400	400	15.94			{ 1.63 }	128.0	144.0	160.0			
450	450	14.17			{ 1.44 }	144.0	162.0	180.0			
500	500	12.75			{ 1.30 }	160.0	180.0	200.0			
TLR 60 × 70	(60)	35	70	128.89	{ 13.14 }	22.4	2,887 {294.4}	25.2	3,248 {331.2}	28.0	3,609 {368.0}
80			80	112.78	{ 11.50 }	25.6		28.8		32.0	
90			90	100.25	{ 10.22 }	28.8		32.4		36.0	
100			100	90.23	{ 9.20 }	32.0		36.0		40.0	
125			125	72.18	{ 7.36 }	40.0		45.0		50.0	
150			150	60.15	{ 6.13 }	48.0		54.0		60.0	
175			175	51.56	{ 5.26 }	56.0		63.0		70.0	
200			200	45.11	{ 4.60 }	64.0		72.0		80.0	
250			250	36.09	{ 3.68 }	80.0		90.0		100.0	
300			300	30.08	{ 3.07 }	96.0		108.0		120.0	
350			350	25.78	{ 2.63 }	112.0		126.0		140.0	
400			400	22.56	{ 2.30 }	128.0		144.0		160.0	
450			450	20.05	{ 2.04 }	144.0		162.0		180.0	
500			500	18.05	{ 1.84 }	160.0		180.0		200.0	

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Medium load 中等负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 25.6% 1,000,000 cycles 自由长 × 25.6% 100万次		Free length × 28.8% 500,000 cycles 自由长 × 28.8% 50万次		Free length × 32.0% 300,000 cycles 自由长 × 32.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TM 8 × 10	8	4	10	42.57	{ 4.34 }	2.6	107.9 { 11.0 }	2.9	122.6 { 12.5 }	3.2	137.3 { 14.0 }
15			15	28.38	{ 2.89 }	3.8		4.3			
20			20	21.28	{ 2.17 }	5.1		5.8			
25			25	17.03	{ 1.74 }	6.4		7.2			
30			30	14.19	{ 1.45 }	7.7		8.6			
35			35	12.16	{ 1.24 }	9.0		10.1			
40			40	10.64	{ 1.09 }	10.2		11.5			
45			45	9.46	{ 0.96 }	11.5		13.0			
50			50	8.51	{ 0.87 }	12.8		14.4			
55			55	7.74	{ 0.79 }	14.1		15.8			
60			60	7.09	{ 0.72 }	15.4		17.3			
65			65	6.55	{ 0.67 }	16.6		18.7			
70			70	6.08	{ 0.62 }	17.9		20.2			
75			75	5.68	{ 0.58 }	19.2		21.6			
80			80	5.32	{ 0.54 }	20.5		23.0			
TM 10 × 20			10	5	20	30.64		{ 3.12 }		5.1	
25	25	24.51			{ 2.50 }	6.4	7.2				
30	30	20.43			{ 2.08 }	7.7	8.6				
35	35	17.51			{ 1.79 }	9.0	10.1				
40	40	15.32			{ 1.56 }	10.2	11.5				
45	45	13.62			{ 1.39 }	11.5	13.0				
50	50	12.26			{ 1.25 }	12.8	14.4				
55	55	11.14			{ 1.14 }	14.1	15.8				
60	60	10.21			{ 1.04 }	15.4	17.3				
65	65	9.43			{ 0.96 }	16.6	18.7				
70	70	8.75			{ 0.89 }	17.9	20.2				
75	75	8.17			{ 0.83 }	19.2	21.6				
80	80	7.66			{ 0.78 }	20.5	23.0				
90	90	6.81			{ 0.69 }	23.0	25.9				
TM 12 × 20	12	6	20	44.27	{ 4.51 }	5.1	226 { 23.0 }	5.8	255 { 26.0 }	6.4	284 { 29.0 }
25			25	35.42	{ 3.61 }	6.4		7.2			
30			30	29.51	{ 3.01 }	7.7		8.6			
35			35	25.30	{ 2.58 }	9.0		10.1			
40			40	22.14	{ 2.26 }	10.2		11.5			
45			45	19.68	{ 2.01 }	11.5		13.0			
50			50	17.71	{ 1.81 }	12.8		14.4			
55			55	16.10	{ 1.64 }	14.1		15.8			
60			60	14.76	{ 1.50 }	15.4		17.3			
65			65	13.62	{ 1.39 }	16.6		18.7			
70			70	12.65	{ 1.29 }	17.9		20.2			
75			75	11.81	{ 1.20 }	19.2		21.6			
80			80	11.07	{ 1.13 }	20.5		23.0			
90			90	9.84	{ 1.00 }	23.0		25.9			

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)

Table of standards
规格表
TM
中等负荷



Medium load 中等负荷

Table of standards Medium load 规格表 中等负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 25.6% 1,000,000 cycles 自由长 × 25.6% 100万次		Free length × 28.8% 500,000 cycles 自由长 × 28.8% 50万次		Free length × 32.0% 300,000 cycles 自由长 × 32.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TM 14 × 25	14	7	25	47.64	{ 4.86 }	6.4	304 { 31.0 }	7.2	343 { 35.0 }	8.0	383 { 39.1 }
30			30	39.70	{ 4.05 }	7.7		8.6		9.6	
35			35	34.03	{ 3.47 }	9.0		10.1		11.2	
40			40	29.77	{ 3.04 }	10.2		11.5		12.8	
45			45	26.47	{ 2.70 }	11.5		13.0		14.4	
50			50	23.82	{ 2.43 }	12.8		14.4		16.0	
55			55	21.65	{ 2.21 }	14.1		15.8		17.6	
60			60	19.85	{ 2.02 }	15.4		17.3		19.2	
65			65	18.32	{ 1.87 }	16.6		18.7		20.8	
70			70	17.01	{ 1.73 }	17.9		20.2		22.4	
75			75	15.88	{ 1.62 }	19.2		21.6		24.0	
80			80	14.89	{ 1.52 }	20.5		23.0		25.6	
90			90	13.23	{ 1.35 }	23.0		25.9		28.8	
100			100	11.91	{ 1.21 }	25.6		28.8		32.0	
TM 16 × 25	16	8	25	62.64	{ 6.39 }	6.4	402 { 41.0 }	7.2	451 { 46.0 }	8.0	500 { 51.0 }
30			30	52.20	{ 5.32 }	7.7		8.6		9.6	
35			35	44.74	{ 4.56 }	9.0		10.1		11.2	
40			40	39.15	{ 3.99 }	10.2		11.5		12.8	
45			45	34.80	{ 3.55 }	11.5		13.0		14.4	
50			50	31.32	{ 3.19 }	12.8		14.4		16.0	
55			55	28.47	{ 2.90 }	14.1		15.8		17.6	
60			60	26.10	{ 2.66 }	15.4		17.3		19.2	
65			65	24.09	{ 2.46 }	16.6		18.7		20.8	
70			70	22.37	{ 2.28 }	17.9		20.2		22.4	
75			75	20.88	{ 2.13 }	19.2		21.6		24.0	
80			80	19.57	{ 2.00 }	20.5		23.0		25.6	
90			90	17.40	{ 1.77 }	23.0		25.9		28.8	
100			100	15.66	{ 1.60 }	25.6		28.8		32.0	
125	125	12.53	{ 1.28 }	32.0	36.0	40.0					
TM 18 × 25	18	9	25	79.03	{ 8.06 }	6.4	510 { 52.0 }	7.2	569 { 58.0 }	8.0	637 { 65.0 }
30			30	65.86	{ 6.72 }	7.7		8.6		9.6	
35			35	56.45	{ 5.76 }	9.0		10.1		11.2	
40			40	49.39	{ 5.04 }	10.2		11.5		12.8	
45			45	43.90	{ 4.48 }	11.5		13.0		14.4	
50			50	39.51	{ 4.03 }	12.8		14.4		16.0	
55			55	35.92	{ 3.66 }	14.1		15.8		17.6	
60			60	32.93	{ 3.36 }	15.4		17.3		19.2	
65			65	30.40	{ 3.10 }	16.6		18.7		20.8	
70			70	28.22	{ 2.88 }	17.9		20.2		22.4	
75			75	26.34	{ 2.69 }	19.2		21.6		24.0	
80			80	24.70	{ 2.52 }	20.5		23.0		25.6	
90			90	21.95	{ 2.24 }	23.0		25.9		28.8	
100			100	19.76	{ 2.01 }	25.6		28.8		32.0	
125	125	15.81	{ 1.61 }	32.0	36.0	40.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Medium load 中等负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 25.6% 1,000,000 cycles 自由长 × 25.6% 100万次		Free length × 28.8% 500,000 cycles 自由长 × 28.8% 50万次		Free length × 32.0% 300,000 cycles 自由长 × 32.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TM 20 × 25	20	10	25	98.06	{10.00}	6.4	628 {64.0}	7.2	706 {72.0}	8.0	785 {80.0}
30			30	81.71	{8.33}	7.7		8.6		9.6	
35			35	70.04	{7.14}	9.0		10.1		11.2	
40			40	61.28	{6.25}	10.2		11.5		12.8	
45			45	54.48	{5.55}	11.5		13.0		14.4	
50			50	49.03	{5.00}	12.8		14.4		16.0	
55			55	44.57	{4.54}	14.1		15.8		17.6	
60			60	40.86	{4.17}	15.4		17.3		19.2	
65			65	37.71	{3.85}	16.6		18.7		20.8	
70			70	35.02	{3.57}	17.9		20.2		22.4	
75			75	32.69	{3.33}	19.2		21.6		24.0	
80			80	30.64	{3.12}	20.5		23.0		25.6	
90			90	27.24	{2.78}	23.0		25.9		28.8	
100			100	24.51	{2.50}	25.6		28.8		32.0	
125			125	19.61	{2.00}	32.0		36.0		40.0	
150	150	16.34	{1.67}	38.4	43.2	48.0					
TM 22 × 25	22	11	25	118.47	{12.08}	6.4	765 {78.0}	7.2	853 {87.0}	8.0	951 {97.0}
30			30	98.73	{10.07}	7.7		8.6		9.6	
35			35	84.62	{8.63}	9.0		10.1		11.2	
40			40	74.05	{7.55}	10.2		11.5		12.8	
45			45	65.82	{6.71}	11.5		13.0		14.4	
50			50	59.24	{6.04}	12.8		14.4		16.0	
55			55	53.85	{5.49}	14.1		15.8		17.6	
60			60	49.36	{5.03}	15.4		17.3		19.2	
65			65	45.57	{4.65}	16.6		18.7		20.8	
70			70	42.31	{4.31}	17.9		20.2		22.4	
75			75	39.49	{4.03}	19.2		21.6		24.0	
80			80	37.02	{3.78}	20.5		23.0		25.6	
90			90	32.91	{3.36}	23.0		25.9		28.8	
100			100	29.62	{3.02}	25.6		28.8		32.0	
125			125	23.69	{2.42}	32.0		36.0		40.0	
150	150	19.75	{2.01}	38.4	43.2	48.0					
TM 25 × 25	25	12.5	25	152.50	{15.55}	6.4	981 {100.0}	7.2	1,098 {112.0}	8.0	1,226 {125.0}
30			30	127.08	{12.96}	7.7		8.6		9.6	
35			35	108.93	{11.11}	9.0		10.1		11.2	
40			40	95.31	{9.72}	10.2		11.5		12.8	
45			45	84.72	{8.64}	11.5		13.0		14.4	
50			50	76.25	{7.78}	12.8		14.4		16.0	
55			55	69.32	{7.07}	14.1		15.8		17.6	
60			60	63.54	{6.48}	15.4		17.3		19.2	
65			65	58.65	{5.98}	16.6		18.7		20.8	
70			70	54.46	{5.55}	17.9		20.2		22.4	
75			75	50.83	{5.18}	19.2		21.6		24.0	
80			80	47.66	{4.86}	20.5		23.0		25.6	
90			90	42.36	{4.32}	23.0		25.9		28.8	
100			100	38.13	{3.89}	25.6		28.8		32.0	
125			125	30.50	{3.11}	32.0		36.0		40.0	
150	150	25.42	{2.59}	38.4	43.2	48.0					
175	175	21.79	{2.22}	44.8	50.4	56.0					
200	200	19.06	{1.94}	51.2	57.6	64.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
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Table of standards
规格表
TM
Medium load



Medium load 中等负荷

Table of standards Medium load 规格表 中等负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 25.6% 1,000,000 cycles 自由长 × 25.6% 100万次		Free length × 28.8% 500,000 cycles 自由长 × 28.8% 50万次		Free length × 32.0% 300,000 cycles 自由长 × 32.0% 30万次						
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]					
TM 27 × 25	27	13.5	25	178.47	{18.20}	6.4	1,147 {117.0}	7.2	1,285 {131.0}	8.0	1,432 {146.0}					
30			30	148.73	{15.17}	7.7		8.6		9.6						
35			35	127.48	{13.00}	9.0		10.1		11.2						
40			40	111.55	{11.37}	10.2		11.5		12.8						
45			45	99.15	{10.11}	11.5		13.0		14.4						
50			50	89.24	{9.10}	12.8		14.4		16.0						
55			55	81.12	{8.27}	14.1		15.8		17.6						
60			60	74.36	{7.58}	15.4		17.3		19.2						
65			65	68.64	{7.00}	16.6		18.7		20.8						
70			70	63.74	{6.50}	17.9		20.2		22.4						
75			75	59.49	{6.07}	19.2		21.6		24.0						
80			80	55.77	{5.69}	20.5		23.0		25.6						
90			90	49.58	{5.06}	23.0		25.9		28.8						
100			100	44.62	{4.55}	25.6		28.8		32.0						
125			125	35.69	{3.64}	32.0		36.0		40.0						
150			150	29.75	{3.03}	38.4		43.2		48.0						
175			175	25.50	{2.60}	44.8		50.4		56.0						
200			200	22.31	{2.27}	51.2		57.6		64.0						
TM 30 × 25			30	15	25	219.31		{22.36}		6.4		1,412 {144.0}	7.2	1,579 {161.0}	8.0	1,765 {180.0}
30					30	182.75		{18.64}		7.7			8.6		9.6	
35	35	156.65			{15.97}	9.0	10.1	11.2								
40	40	137.07			{13.98}	10.2	11.5	12.8								
45	45	121.84			{12.42}	11.5	13.0	14.4								
50	50	109.65			{11.18}	12.8	14.4	16.0								
55	55	99.68			{10.16}	14.1	15.8	17.6								
60	60	91.38			{9.32}	15.4	17.3	19.2								
65	65	84.35			{8.60}	16.6	18.7	20.8								
70	70	78.32			{7.99}	17.9	20.2	22.4								
75	75	73.10			{7.45}	19.2	21.6	24.0								
80	80	68.53			{6.99}	20.5	23.0	25.6								
90	90	60.92			{6.21}	23.0	25.9	28.8								
100	100	54.83			{5.59}	25.6	28.8	32.0								
125	125	43.86			{4.47}	32.0	36.0	40.0								
150	150	36.55			{3.73}	38.4	43.2	48.0								
175	175	31.33			{3.19}	44.8	50.4	56.0								
200	200	27.41			{2.80}	51.2	57.6	64.0								
TM 35 × 40	35	17.5			40	187.50	{19.12}	10.2	1,912 {195.0}	11.5	2,160 {220.3}		12.8		2,400 {244.7}	
45					45	166.67	{17.00}	11.5		13.0			14.4			
50			50	150.00	{15.30}	12.8	14.4	16.0								
55			55	136.36	{13.91}	14.1	15.8	17.6								
60			60	125.00	{12.75}	15.4	17.3	19.2								
65			65	115.38	{11.77}	16.6	18.7	20.8								
70			70	107.14	{10.93}	17.9	20.2	22.4								
75			75	100.00	{10.20}	19.2	21.6	24.0								
80			80	93.75	{9.56}	20.5	23.0	25.6								
90			90	83.33	{8.50}	23.0	25.9	28.8								
100			100	75.00	{7.65}	25.6	28.8	32.0								
125			125	60.00	{6.12}	32.0	36.0	40.0								
150			150	50.00	{5.10}	38.4	43.2	48.0								
175			175	42.86	{4.37}	44.8	50.4	56.0								
200			200	37.50	{3.82}	51.2	57.6	64.0								

1N = 0.102 Kgf

1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)

负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Medium load 中等负荷

Table of standards
规格表
中等负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 25.6% 1,000,000 cycles 自由长 × 25.6% 100万次		Free length × 28.8% 500,000 cycles 自由长 × 28.8% 50万次		Free length × 32.0% 300,000 cycles 自由长 × 32.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TM 40 × 40	40	20	40	244.79	{24.96}	10.2	{2,510 {256.0}}	11.5	{2,820 {287.6}}	12.8	{3,140 {320.2}}
45			45	217.59	{22.19}	11.5		13.0		14.4	
50			50	195.83	{19.97}	12.8		14.4		16.0	
55			55	178.03	{18.15}	14.1		15.8		17.6	
60			60	163.19	{16.64}	15.4		17.3		19.2	
65			65	150.64	{15.36}	16.6		18.7		20.8	
70			70	139.88	{14.26}	17.9		20.2		22.4	
75			75	130.56	{13.31}	19.2		21.6		24.0	
80			80	122.40	{12.48}	20.5		23.0		25.6	
90			90	108.80	{11.09}	23.0		25.9		28.8	
100			100	97.92	{9.98}	25.6		28.8		32.0	
125			125	78.33	{7.99}	32.0		36.0		40.0	
150			150	65.28	{6.66}	38.4		43.2		48.0	
175			175	55.95	{5.71}	44.8		50.4		56.0	
200			200	48.96	{4.99}	51.2		57.6		64.0	
225			225	43.52	{4.44}	57.6		64.8		72.0	
250			250	39.17	{3.99}	64.0		72.0		80.0	
275	275	35.61	{3.63}	70.4	79.2	88.0					
300	300	32.64	{3.33}	76.8	86.4	96.0					
TM 50 × 50	50	25	50	306.25	{31.23}	12.8	{3,920 {399.7}}	14.4	{4,410 {449.7}}	16.0	{4,900 {499.7}}
55			55	278.41	{28.39}	14.1		15.8		17.6	
60			60	255.21	{26.02}	15.4		17.3		19.2	
65			65	235.58	{24.02}	16.6		18.7		20.8	
70			70	218.75	{22.31}	17.9		20.2		22.4	
75			75	204.17	{20.82}	19.2		21.6		24.0	
80			80	191.41	{19.52}	20.5		23.0		25.6	
90			90	170.14	{17.35}	23.0		25.9		28.8	
100			100	153.13	{15.61}	25.6		28.8		32.0	
125			125	122.50	{12.49}	32.0		36.0		40.0	
150			150	102.08	{10.41}	38.4		43.2		48.0	
175			175	87.50	{8.92}	44.8		50.4		56.0	
200			200	76.56	{7.81}	51.2		57.6		64.0	
225			225	68.06	{6.94}	57.6		64.8		72.0	
250			250	61.25	{6.25}	64.0		72.0		80.0	
275			275	55.68	{5.68}	70.4		79.2		88.0	
300			300	51.04	{5.20}	76.8		86.4		96.0	
350	350	43.75	{4.46}	89.6	100.8	112.0					
TM 60 × 60	60	30	60	367.48	{37.47}	15.4	{5,640 {575.1}}	17.3	{6,350 {647.5}}	19.2	{7,060 {719.9}}
70			70	314.98	{32.12}	17.9		20.2		22.4	
80			80	275.61	{28.10}	20.5		23.0		25.6	
90			90	244.98	{24.98}	23.0		25.9		28.8	
100			100	220.49	{22.48}	25.6		28.8		32.0	
125			125	176.39	{17.99}	32.0		36.0		40.0	
150			150	146.99	{14.99}	38.4		43.2		48.0	
175			175	125.99	{12.85}	44.8		50.4		56.0	
200			200	110.24	{11.24}	51.2		57.6		64.0	
225			225	97.99	{9.99}	57.6		64.8		72.0	
250			250	88.19	{8.99}	64.0		72.0		80.0	
275			275	80.18	{8.18}	70.4		79.2		88.0	
300			300	73.50	{7.49}	76.8		86.4		96.0	
350			350	63.00	{6.42}	89.6		100.8		112.0	

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



NEW 新产品 TM70

Medium load 中等负荷

Table of standards
Medium load
规格表
中等负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 25.6% 1,000,000 cycles 自由长 × 25.6% 100万次		Free length × 28.8% 500,000 cycles 自由长 × 28.8% 50万次		Free length × 32.0% 300,000 cycles 自由长 × 32.0% 30万次	
				(N/mm)	{ kgf/mm }	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TM 70 × 70	70	38.5	70	379.46	{ 38.69 }	17.9	6,800 {693.4}	20.2	7,650 {780.1}	22.4	8,500 {866.8}
80			80	332.03	{ 33.86 }	20.5		23.0		25.6	
90			90	295.14	{ 30.10 }	23.0		25.9		28.8	
100			100	265.63	{ 27.09 }	25.6		28.8		32.0	
125			125	212.50	{ 21.67 }	32.0		36.0		40.0	
150			150	177.08	{ 18.06 }	38.4		43.2		48.0	
175			175	151.79	{ 15.48 }	44.8		50.4		56.0	
200			200	132.81	{ 13.54 }	51.2		57.6		64.0	
225			225	118.06	{ 12.04 }	57.6		64.8		72.0	
250			250	106.25	{ 10.83 }	64.0		72.0		80.0	
275			275	96.59	{ 9.85 }	70.4		79.2		88.0	
300			300	88.54	{ 9.03 }	76.8		86.4		96.0	
350			350	75.89	{ 7.74 }	89.6		100.8		112.0	

1N = 0.102 Kgf
1N(牛顿) = 0.102 Kgf(千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷(N) = 弹簧常数(N/mm) × 压缩量(mm)



Heavy load 重负荷

Table of standards
规格表
重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 19.2% 1,000,000 cycles 自由长 × 19.2% 100万次		Free length × 21.6% 500,000 cycles 自由长 × 21.6% 50万次		Free length × 24.0% 300,000 cycles 自由长 × 24.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TH 8 × 10	8	4	10	86.25	{ 8.80 }	1.9	166.7 { 17.0 }	2.2	186.3 { 19.0 }	2.4	206 { 21.0 }
15			15	57.50	{ 5.86 }	2.9		3.2		3.6	
20			20	43.13	{ 4.40 }	3.8		4.3		4.8	
25			25	34.50	{ 3.52 }	4.8		5.4		6.0	
30			30	28.75	{ 2.93 }	5.8		6.5		7.2	
35			35	24.64	{ 2.51 }	6.7		7.6		8.4	
40			40	21.56	{ 2.20 }	7.7		8.6		9.6	
45			45	19.17	{ 1.95 }	8.6		9.7		10.8	
50			50	17.25	{ 1.76 }	9.6		10.8		12.0	
55			55	15.68	{ 1.60 }	10.6		11.9		13.2	
60			60	14.38	{ 1.47 }	11.5		13.0		14.4	
65			65	13.27	{ 1.35 }	12.5		14.0		15.6	
70			70	12.32	{ 1.26 }	13.4		15.1		16.8	
75			75	11.50	{ 1.17 }	14.4		16.2		18.0	
80			80	10.78	{ 1.10 }	15.4		17.3		19.2	
TH 10 × 20	10	5	20	61.34	{ 6.26 }	3.8	235 { 24.0 }	4.3	265 { 27.0 }	4.8	294 { 30.0 }
25			25	49.07	{ 5.00 }	4.8		5.4		6.0	
30			30	40.90	{ 4.17 }	5.8		6.5		7.2	
35			35	35.05	{ 3.57 }	6.7		7.6		8.4	
40			40	30.67	{ 3.13 }	7.7		8.6		9.6	
45			45	27.26	{ 2.78 }	8.6		9.7		10.8	
50			50	24.54	{ 2.50 }	9.6		10.8		12.0	
55			55	22.31	{ 2.27 }	10.6		11.9		13.2	
60			60	20.45	{ 2.09 }	11.5		13.0		14.4	
65			65	18.87	{ 1.92 }	12.5		14.0		15.6	
70			70	17.53	{ 1.79 }	13.4		15.1		16.8	
75			75	16.36	{ 1.67 }	14.4		16.2		18.0	
80			80	15.34	{ 1.56 }	15.4		17.3		19.2	
90			90	13.63	{ 1.39 }	17.3		19.4		21.6	
TH 12 × 20			12	6	20	86.34		{ 8.80 }		3.8	
25	25	69.07			{ 7.04 }	4.8	5.4	6.0			
30	30	57.56			{ 5.87 }	5.8	6.5	7.2			
35	35	49.34			{ 5.03 }	6.7	7.6	8.4			
40	40	43.17			{ 4.40 }	7.7	8.6	9.6			
45	45	38.37			{ 3.91 }	8.6	9.7	10.8			
50	50	34.54			{ 3.52 }	9.6	10.8	12.0			
55	55	31.40			{ 3.20 }	10.6	11.9	13.2			
60	60	28.78			{ 2.93 }	11.5	13.0	14.4			
65	65	26.57			{ 2.71 }	12.5	14.0	15.6			
70	70	24.67			{ 2.52 }	13.4	15.1	16.8			
75	75	23.02			{ 2.35 }	14.4	16.2	18.0			
80	80	21.59			{ 2.20 }	15.4	17.3	19.2			
90	90	19.19			{ 1.96 }	17.3	19.4	21.6			

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Heavy load 重负荷

Table of standards
重负荷
TH
重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 19.2% 1,000,000 cycles 自由长 × 19.2% 100万次		Free length × 21.6% 500,000 cycles 自由长 × 21.6% 50万次		Free length × 24.0% 300,000 cycles 自由长 × 24.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TH 14 × 25	14	7	25	96.30	{ 9.82 }	4.8	461 { 47.0 }	5.4	520 { 53.0 }	6.0	579 { 59.0 }
30			30	80.25	{ 8.18 }	5.8		6.5		7.2	
35			35	68.78	{ 7.01 }	6.7		7.6		8.4	
40			40	60.19	{ 6.14 }	7.7		8.6		9.6	
45			45	53.50	{ 5.46 }	8.6		9.7		10.8	
50			50	48.15	{ 4.91 }	9.6		10.8		12.0	
55			55	43.77	{ 4.46 }	10.6		11.9		13.2	
60			60	40.12	{ 4.09 }	11.5		13.0		14.4	
65			65	37.04	{ 3.78 }	12.5		14.0		15.6	
70			70	34.39	{ 3.51 }	13.4		15.1		16.8	
75			75	32.10	{ 3.27 }	14.4		16.2		18.0	
80			80	30.09	{ 3.07 }	15.4		17.3		19.2	
90			90	26.75	{ 2.73 }	17.3		19.4		21.6	
100			100	24.07	{ 2.45 }	19.2		21.6		24.0	
TH 16 × 25	16	8	25	125.37	{ 12.78 }	4.8	608 { 62.0 }	5.4	677 { 69.0 }	6.0	755 { 77.0 }
30			30	104.48	{ 10.65 }	5.8		6.5		7.2	
35			35	89.55	{ 9.13 }	6.7		7.6		8.4	
40			40	78.36	{ 7.99 }	7.7		8.6		9.6	
45			45	69.65	{ 7.10 }	8.6		9.7		10.8	
50			50	62.69	{ 6.39 }	9.6		10.8		12.0	
55			55	56.99	{ 5.81 }	10.6		11.9		13.2	
60			60	52.24	{ 5.33 }	11.5		13.0		14.4	
65			65	48.22	{ 4.92 }	12.5		14.0		15.6	
70			70	44.78	{ 4.57 }	13.4		15.1		16.8	
75			75	41.79	{ 4.26 }	14.4		16.2		18.0	
80			80	39.18	{ 4.00 }	15.4		17.3		19.2	
90			90	34.83	{ 3.55 }	17.3		19.4		21.6	
100			100	31.34	{ 3.20 }	19.2		21.6		24.0	
125	125	25.07	{ 2.56 }	24.0	27.0	30.0					
TH 18 × 25	18	9	25	157.96	{ 16.11 }	4.8	765 { 78.0 }	5.4	853 { 87.0 }	6.0	951 { 97.0 }
30			30	131.64	{ 13.42 }	5.8		6.5		7.2	
35			35	112.83	{ 11.51 }	6.7		7.6		8.4	
40			40	98.73	{ 10.07 }	7.7		8.6		9.6	
45			45	87.76	{ 8.95 }	8.6		9.7		10.8	
50			50	78.98	{ 8.05 }	9.6		10.8		12.0	
55			55	71.80	{ 7.32 }	10.6		11.9		13.2	
60			60	65.82	{ 6.71 }	11.5		13.0		14.4	
65			65	60.75	{ 6.20 }	12.5		14.0		15.6	
70			70	56.42	{ 5.75 }	13.4		15.1		16.8	
75			75	52.65	{ 5.37 }	14.4		16.2		18.0	
80			80	49.36	{ 5.03 }	15.4		17.3		19.2	
90			90	43.88	{ 4.47 }	17.3		19.4		21.6	
100			100	39.49	{ 4.03 }	19.2		21.6		24.0	
125	125	31.59	{ 3.22 }	24.0	27.0	30.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Heavy load 重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 19.2% 1,000,000 cycles 自由长 × 19.2% 100万次		Free length × 21.6% 500,000 cycles 自由长 × 21.6% 50万次		Free length × 24.0% 300,000 cycles 自由长 × 24.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TH 20 × 25	20	10	25	196.11	{ 20.00 }	4.8	941 { 96.0 }	5.4	1,059 { 108.0 }	6.0	1,177 { 120.0 }
30			30	163.43	{ 16.66 }	5.8		6.5		7.2	
35			35	140.08	{ 14.28 }	6.7		7.6		8.4	
40			40	122.57	{ 12.50 }	7.7		8.6		9.6	
45			45	108.95	{ 11.11 }	8.6		9.7		10.8	
50			50	98.06	{ 10.00 }	9.6		10.8		12.0	
55			55	89.14	{ 9.09 }	10.6		11.9		13.2	
60			60	81.71	{ 8.33 }	11.5		13.0		14.4	
65			65	75.43	{ 7.69 }	12.5		14.0		15.6	
70			70	70.04	{ 7.14 }	13.4		15.1		16.8	
75			75	65.37	{ 6.67 }	14.4		16.2		18.0	
80			80	61.28	{ 6.25 }	15.4		17.3		19.2	
90			90	54.48	{ 5.55 }	17.3		19.4		21.6	
100			100	49.03	{ 5.00 }	19.2		21.6		24.0	
125			125	39.22	{ 4.00 }	24.0		27.0		30.0	
150	150	32.69	{ 3.33 }	28.8	32.4	36.0					
TH 22 × 25	22	11	25	236.11	{ 24.08 }	4.8	1,138 { 116.0 }	5.4	1,275 { 130.0 }	6.0	1,422 { 145.0 }
30			30	196.76	{ 20.06 }	5.8		6.5		7.2	
35			35	168.65	{ 17.20 }	6.7		7.6		8.4	
40			40	147.57	{ 15.05 }	7.7		8.6		9.6	
45			45	131.17	{ 13.38 }	8.6		9.7		10.8	
50			50	118.06	{ 12.04 }	9.6		10.8		12.0	
55			55	107.32	{ 10.94 }	10.6		11.9		13.2	
60			60	98.38	{ 10.03 }	11.5		13.0		14.4	
65			65	90.81	{ 9.26 }	12.5		14.0		15.6	
70			70	84.33	{ 8.60 }	13.4		15.1		16.8	
75			75	78.70	{ 8.03 }	14.4		16.2		18.0	
80			80	73.78	{ 7.52 }	15.4		17.3		19.2	
90			90	65.59	{ 6.69 }	17.3		19.4		21.6	
100			100	59.03	{ 6.02 }	19.2		21.6		24.0	
125			125	47.22	{ 4.82 }	24.0		27.0		30.0	
150	150	39.35	{ 4.01 }	28.8	32.4	36.0					
TH 25 × 25	25	12.5	25	306.85	{ 31.29 }	4.8	1,471 { 150.0 }	5.4	1,657 { 169.0 }	6.0	1,834 { 187.0 }
30			30	255.71	{ 26.08 }	5.8		6.5		7.2	
35			35	219.18	{ 22.35 }	6.7		7.6		8.4	
40			40	191.78	{ 19.56 }	7.7		8.6		9.6	
45			45	170.47	{ 17.38 }	8.6		9.7		10.8	
50			50	153.43	{ 15.65 }	9.6		10.8		12.0	
55			55	139.48	{ 14.22 }	10.6		11.9		13.2	
60			60	127.85	{ 13.04 }	11.5		13.0		14.4	
65			65	118.02	{ 12.03 }	12.5		14.0		15.6	
70			70	109.59	{ 11.18 }	13.4		15.1		16.8	
75			75	102.28	{ 10.43 }	14.4		16.2		18.0	
80			80	95.89	{ 9.78 }	15.4		17.3		19.2	
90			90	85.24	{ 8.69 }	17.3		19.4		21.6	
100			100	76.71	{ 7.82 }	19.2		21.6		24.0	
125			125	61.37	{ 6.26 }	24.0		27.0		30.0	
150	150	51.14	{ 5.22 }	28.8	32.4	36.0					
175	175	43.84	{ 4.47 }	33.6	37.8	42.0					
200	200	38.36	{ 3.91 }	38.4	43.2	48.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负 荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Heavy load 重负荷

Table of standards Heavy load 重负荷表

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 19.2% 1,000,000 cycles 自由长 × 19.2% 100万次		Free length × 21.6% 500,000 cycles 自由长 × 21.6% 50万次		Free length × 24.0% 300,000 cycles 自由长 × 24.0% 30万次						
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]					
TH 27 × 25	27	13.5	25	357.78	{ 36.48 }	4.8	1,716 { 175.0 }	5.4	1,932 { 197.0 }	6.0	2,150 { 219.2 }					
30			298.15	{ 30.40 }	5.8	6.5		7.2								
35			255.56	{ 26.06 }	6.7	7.6		8.4								
40			223.61	{ 22.80 }	7.7	8.6		9.6								
45			198.77	{ 20.27 }	8.6	9.7		10.8								
50			178.89	{ 18.24 }	9.6	10.8		12.0								
55			162.63	{ 16.58 }	10.6	11.9		13.2								
60			149.07	{ 15.20 }	11.5	13.0		14.4								
65			137.61	{ 14.03 }	12.5	14.0		15.6								
70			127.78	{ 13.03 }	13.4	15.1		16.8								
75			119.26	{ 12.16 }	14.4	16.2		18.0								
80			111.81	{ 11.40 }	15.4	17.3		19.2								
90			99.38	{ 10.13 }	17.3	19.4		21.6								
100			89.44	{ 9.12 }	19.2	21.6		24.0								
125			71.56	{ 7.30 }	24.0	27.0		30.0								
150			59.63	{ 6.08 }	28.8	32.4		36.0								
175			51.11	{ 5.21 }	33.6	37.8		42.0								
200			44.72	{ 4.56 }	38.4	43.2		48.0								
TH 30 × 25			30	15	25	440.74		{ 44.94 }		4.8		2,120 { 216.2 }	5.4	2,380 { 242.7 }	6.0	2,648 { 270.0 }
30					367.28	{ 37.45 }		5.8		6.5			7.2			
35	314.81	{ 32.10 }			6.7	7.6	8.4									
40	275.46	{ 28.09 }			7.7	8.6	9.6									
45	244.86	{ 24.97 }			8.6	9.7	10.8									
50	220.37	{ 22.47 }			9.6	10.8	12.0									
55	200.34	{ 20.43 }			10.6	11.9	13.2									
60	183.64	{ 18.73 }			11.5	13.0	14.4									
65	169.52	{ 17.29 }			12.5	14.0	15.6									
70	157.41	{ 16.05 }			13.4	15.1	16.8									
75	146.91	{ 14.98 }			14.4	16.2	18.0									
80	137.73	{ 14.04 }			15.4	17.3	19.2									
90	122.43	{ 12.48 }			17.3	19.4	21.6									
100	110.19	{ 11.24 }			19.2	21.6	24.0									
125	88.15	{ 8.99 }			24.0	27.0	30.0									
150	73.46	{ 7.49 }			28.8	32.4	36.0									
175	62.96	{ 6.42 }			33.6	37.8	42.0									
200	55.09	{ 5.62 }			38.4	43.2	48.0									
TH 35 × 40	35	17.5			40	375.00	{ 38.24 }	7.7	2,870 { 292.7 }	8.6	3,240 { 330.4 }		9.6		3,600 { 367.1 }	
45					333.33	{ 33.99 }	8.6	9.7		10.8						
50			300.00	{ 30.59 }	9.6	10.8	12.0									
55			272.73	{ 27.81 }	10.6	11.9	13.2									
60			250.00	{ 25.49 }	11.5	13.0	14.4									
65			230.77	{ 23.53 }	12.5	14.0	15.6									
70			214.29	{ 21.85 }	13.4	15.1	16.8									
75			200.00	{ 20.39 }	14.4	16.2	18.0									
80			187.50	{ 19.12 }	15.4	17.3	19.2									
90			166.67	{ 17.00 }	17.3	19.4	21.6									
100			150.00	{ 15.30 }	19.2	21.6	24.0									
125			120.00	{ 12.24 }	24.0	27.0	30.0									
150			100.00	{ 10.20 }	28.8	32.4	36.0									
175			85.71	{ 8.74 }	33.6	37.8	42.0									
200			75.00	{ 7.65 }	38.4	43.2	48.0									

1N = 0.102 Kgf

1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)

负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Heavy load 重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 19.2% 1,000,000 cycles 自由长 × 19.2% 100万次		Free length × 21.6% 500,000 cycles 自由长 × 21.6% 50万次		Free length × 24.0% 300,000 cycles 自由长 × 24.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TH 40 × 40	40	20	40	490.74	{ 50.04 }	7.7	3,770 { 384.4 }	8.6	4,240 { 432.4 }	9.6	4,710 { 480.3 }
45			45	436.21	{ 44.48 }	8.6		9.7			
50			50	392.59	{ 40.03 }	9.6		10.8			
55			55	356.90	{ 36.39 }	10.6		11.9			
60			60	327.16	{ 33.36 }	11.5		13.0			
65			65	301.99	{ 30.79 }	12.5		14.0			
70			70	280.42	{ 28.60 }	13.4		15.1			
75			75	261.73	{ 26.69 }	14.4		16.2			
80			80	245.37	{ 25.02 }	15.4		17.3			
90			90	218.11	{ 22.24 }	17.3		19.4			
100			100	196.30	{ 20.02 }	19.2		21.6			
125			125	157.04	{ 16.01 }	24.0		27.0			
150			150	130.86	{ 13.34 }	28.8		32.4			
175			175	112.17	{ 11.44 }	33.6		37.8			
200			200	98.15	{ 10.01 }	38.4		43.2			
225			225	87.24	{ 8.90 }	43.2		48.6			
250			250	78.52	{ 8.01 }	48.0		54.0			
275	275	71.38	{ 7.28 }	52.8	59.4						
300	300	65.43	{ 6.67 }	57.6	64.8						
TH 50 × 50	50	25	50	612.96	{ 62.50 }	9.6	5,880 { 599.6 }	10.8	6,620 { 675.1 }	12.0	7,360 { 750.5 }
55			55	557.24	{ 56.82 }	10.6		11.9			
60			60	510.80	{ 52.09 }	11.5		13.0			
65			65	471.51	{ 48.08 }	12.5		14.0			
70			70	437.83	{ 44.65 }	13.4		15.1			
75			75	408.64	{ 41.67 }	14.4		16.2			
80			80	383.10	{ 39.07 }	15.4		17.3			
90			90	340.53	{ 34.72 }	17.3		19.4			
100			100	306.48	{ 31.25 }	19.2		21.6			
125			125	245.19	{ 25.00 }	24.0		27.0			
150			150	204.32	{ 20.83 }	28.8		32.4			
175			175	175.13	{ 17.86 }	33.6		37.8			
200			200	153.24	{ 15.63 }	38.4		43.2			
225			225	136.21	{ 13.89 }	43.2		48.6			
250			250	122.59	{ 12.50 }	48.0		54.0			
275			275	111.45	{ 11.36 }	52.8		59.4			
300			300	102.16	{ 10.42 }	57.6		64.8			
350	350	87.57	{ 8.93 }	67.2	75.6						
TH 60 × 60	60	30	60	736.11	{ 75.06 }	11.5	8,470 { 863.7 }	13.0	9,540 { 972.8 }	14.4	10,590 { 1080 }
70			70	630.95	{ 64.34 }	13.4		15.1			
80			80	552.08	{ 56.30 }	15.4		17.3			
90			90	490.74	{ 50.04 }	17.3		19.4			
100			100	441.67	{ 45.04 }	19.2		21.6			
125			125	353.33	{ 36.03 }	24.0		27.0			
150			150	294.44	{ 30.02 }	28.8		32.4			
175			175	252.38	{ 25.74 }	33.6		37.8			
200			200	220.83	{ 22.52 }	38.4		43.2			
225			225	196.30	{ 20.02 }	43.2		48.6			
250			250	176.67	{ 18.01 }	48.0		54.0			
275			275	160.61	{ 16.38 }	52.8		59.4			
300			300	147.22	{ 15.01 }	57.6		64.8			
350	350	126.19	{ 12.87 }	67.2	75.6						

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负 荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



NEW 新产品 TH70

Heavy load 重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 19.2% 1,000,000 cycles 自由长 × 19.2% 100万次		Free length × 21.6% 500,000 cycles 自由长 × 21.6% 50万次		Free length × 24.0% 300,000 cycles 自由长 × 24.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TH 70 × 70	70	38.5	70	773.81	{ 78.91 }	13.4	10,400 { 1061 }	15.1	11,700 { 1193 }	16.8	13,000 { 1326 }
80			80	677.08	{ 69.04 }	15.4		17.3		19.2	
90			90	601.85	{ 61.37 }	17.3		19.4		21.6	
100			100	541.67	{ 55.23 }	19.2		21.6		24.0	
125			125	433.33	{ 44.19 }	24.0		27.0		30.0	
150			150	361.11	{ 36.82 }	28.8		32.4		36.0	
175			175	309.52	{ 31.56 }	33.6		37.8		42.0	
200			200	270.83	{ 27.62 }	38.4		43.2		48.0	
225			225	240.74	{ 24.55 }	43.2		48.6		54.0	
250			250	216.67	{ 22.09 }	48.0		54.0		60.0	
275			275	196.97	{ 20.09 }	52.8		59.4		66.0	
300			300	180.56	{ 18.41 }	57.6		64.8		72.0	
350			350	154.76	{ 15.78 }	67.2		75.6		84.0	

1N = 0.102 Kgf

1N(牛顿) = 0.102 Kgf(千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)

负荷(N) = 弹簧常数(N/mm) × 压缩量(mm)

Table of standards Heavy load TH 重负荷



Extra heavy load 极重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 16.0% 1,000,000 cycles 自由长 × 16.0% 100万次		Free length × 18.0% 500,000 cycles 自由长 × 18.0% 50万次		Free length × 20.0% 300,000 cycles 自由长 × 20.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TB 8 × 10	8	4	10	166.11	{ 16.94 }	1.6	{ 255 }	1.8	{ 299 }	2.0	{ 343 }
15			15	110.74	{ 11.29 }	2.4		2.7		3.0	
20			20	83.06	{ 8.47 }	3.2		3.6		4.0	
25			25	66.44	{ 6.78 }	4.0		4.5		5.0	
30			30	55.37	{ 5.65 }	4.8		5.4		6.0	
35			35	47.46	{ 4.84 }	5.6		6.3		7.0	
40			40	41.53	{ 4.23 }	6.4		7.2		8.0	
45			45	36.91	{ 3.76 }	7.2		8.1		9.0	
50			50	33.22	{ 3.39 }	8.0		9.0		10.0	
55			55	30.20	{ 3.08 }	8.8		9.9		11.0	
60			60	27.69	{ 2.82 }	9.6		10.8		12.0	
65			65	25.56	{ 2.61 }	10.4		11.7		13.0	
70			70	23.73	{ 2.42 }	11.2		12.6		14.0	
75			75	22.15	{ 2.26 }	12.0		13.5		15.0	
80			80	20.76	{ 2.12 }	12.8		14.4		16.0	
TB 10 × 20	10	5	20	111.67	{ 11.39 }	3.2	{ 353 }	3.6	{ 402 }	4.0	{ 441 }
25			25	89.33	{ 9.11 }	4.0		4.5		5.0	
30			30	74.44	{ 7.59 }	4.8		5.4		6.0	
35			35	63.81	{ 6.51 }	5.6		6.3		7.0	
40			40	55.83	{ 5.69 }	6.4		7.2		8.0	
45			45	49.63	{ 5.06 }	7.2		8.1		9.0	
50			50	44.67	{ 4.55 }	8.0		9.0		10.0	
55			55	40.61	{ 4.14 }	8.8		9.9		11.0	
60			60	37.22	{ 3.80 }	9.6		10.8		12.0	
65			65	34.36	{ 3.50 }	10.4		11.7		13.0	
70			70	31.90	{ 3.25 }	11.2		12.6		14.0	
75			75	29.78	{ 3.04 }	12.0		13.5		15.0	
80			80	27.92	{ 2.85 }	12.8		14.4		16.0	
90			90	24.81	{ 2.53 }	14.4		16.2		18.0	
TB 12 × 20			12	6	20	141.67		{ 14.45 }		3.2	
25	25	113.33			{ 11.56 }	4.0	4.5	5.0			
30	30	94.44			{ 9.63 }	4.8	5.4	6.0			
35	35	80.95			{ 8.25 }	5.6	6.3	7.0			
40	40	70.83			{ 7.22 }	6.4	7.2	8.0			
45	45	62.96			{ 6.42 }	7.2	8.1	9.0			
50	50	56.67			{ 5.78 }	8.0	9.0	10.0			
55	55	51.52			{ 5.25 }	8.8	9.9	11.0			
60	60	47.22			{ 4.82 }	9.6	10.8	12.0			
65	65	43.59			{ 4.44 }	10.4	11.7	13.0			
70	70	40.48			{ 4.13 }	11.2	12.6	14.0			
75	75	37.78			{ 3.85 }	12.0	13.5	15.0			
80	80	35.42			{ 3.61 }	12.8	14.4	16.0			
90	90	31.48			{ 3.21 }	14.4	16.2	18.0			

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)

Table of standards
规格表
极重负荷
TB



Extra heavy load 极重负荷

Table of standards
Extra heavy load
规格表
极重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 16.0% 1,000,000 cycles 自由长 × 16.0% 100万次		Free length × 18.0% 500,000 cycles 自由长 × 18.0% 50万次		Free length × 20.0% 300,000 cycles 自由长 × 20.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TB 14 × 25	14	7	25	148.22	{ 15.11 }	4.0	588 { 60.0 }	4.5	667 { 68.0 }	5.0	736 { 75.1 }
30			30	123.52	{ 12.60 }	4.8		5.4		6.0	
35			35	105.87	{ 10.80 }	5.6		6.3		7.0	
40			40	92.64	{ 9.45 }	6.4		7.2		8.0	
45			45	82.35	{ 8.40 }	7.2		8.1		9.0	
50			50	74.11	{ 7.56 }	8.0		9.0		10.0	
55			55	67.37	{ 6.87 }	8.8		9.9		11.0	
60			60	61.76	{ 6.30 }	9.6		10.8		12.0	
65			65	57.01	{ 5.81 }	10.4		11.7		13.0	
70			70	52.94	{ 5.40 }	11.2		12.6		14.0	
75			75	49.41	{ 5.04 }	12.0		13.5		15.0	
80			80	46.32	{ 4.72 }	12.8		14.4		16.0	
90			90	41.17	{ 4.20 }	14.4		16.2		18.0	
100			100	37.06	{ 3.78 }	16.0		18.0		20.0	
TB 16 × 25	16	8	25	196.22	{ 20.01 }	4.0	785 { 80.0 }	4.5	883 { 90.0 }	5.0	981 { 100.0 }
30			30	163.52	{ 16.67 }	4.8		5.4		6.0	
35			35	140.16	{ 14.29 }	5.6		6.3		7.0	
40			40	122.64	{ 12.51 }	6.4		7.2		8.0	
45			45	109.01	{ 11.12 }	7.2		8.1		9.0	
50			50	98.11	{ 10.00 }	8.0		9.0		10.0	
55			55	89.19	{ 9.10 }	8.8		9.9		11.0	
60			60	81.76	{ 8.34 }	9.6		10.8		12.0	
65			65	75.47	{ 7.70 }	10.4		11.7		13.0	
70			70	70.08	{ 7.15 }	11.2		12.6		14.0	
75			75	65.41	{ 6.67 }	12.0		13.5		15.0	
80			80	61.32	{ 6.25 }	12.8		14.4		16.0	
90			90	54.51	{ 5.56 }	14.4		16.2		18.0	
100			100	49.06	{ 5.00 }	16.0		18.0		20.0	
125	125	39.24	{ 4.00 }	20.0	22.5	25.0					
TB 18 × 25	18	9	25	246.22	{ 25.11 }	4.0	981 { 100.0 }	4.5	1,108 { 113.0 }	5.0	1,226 { 125.0 }
30			30	205.19	{ 20.92 }	4.8		5.4		6.0	
35			35	175.87	{ 17.93 }	5.6		6.3		7.0	
40			40	153.89	{ 15.69 }	6.4		7.2		8.0	
45			45	136.79	{ 13.95 }	7.2		8.1		9.0	
50			50	123.11	{ 12.55 }	8.0		9.0		10.0	
55			55	111.92	{ 11.41 }	8.8		9.9		11.0	
60			60	102.59	{ 10.46 }	9.6		10.8		12.0	
65			65	94.70	{ 9.66 }	10.4		11.7		13.0	
70			70	87.94	{ 8.97 }	11.2		12.6		14.0	
75			75	82.07	{ 8.37 }	12.0		13.5		15.0	
80			80	76.94	{ 7.85 }	12.8		14.4		16.0	
90			90	68.40	{ 6.97 }	14.4		16.2		18.0	
100			100	61.56	{ 6.28 }	16.0		18.0		20.0	
125	125	49.24	{ 5.02 }	20.0	22.5	25.0					

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kg (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Extra heavy load 极重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 16.0% 1,000,000 cycles 自由长 × 16.0% 100万次		Free length × 18.0% 500,000 cycles 自由长 × 18.0% 50万次		Free length × 20.0% 300,000 cycles 自由长 × 20.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TB 20 × 25	20	10	25	313.78	{ 32.00 }	4.0	1,255 { 128.0 }	4.5	1,412 { 144.0 }	5.0	1,569 { 160.0 }
30			30	261.48	{ 26.66 }	4.8		5.4		6.0	
35			35	224.13	{ 22.85 }	5.6		6.3		7.0	
40			40	196.11	{ 20.00 }	6.4		7.2		8.0	
45			45	174.32	{ 17.78 }	7.2		8.1		9.0	
50			50	156.89	{ 16.00 }	8.0		9.0		10.0	
55			55	142.63	{ 14.54 }	8.8		9.9		11.0	
60			60	130.74	{ 13.33 }	9.6		10.8		12.0	
65			65	120.68	{ 12.31 }	10.4		11.7		13.0	
70			70	112.06	{ 11.43 }	11.2		12.6		14.0	
75			75	104.59	{ 10.67 }	12.0		13.5		15.0	
80			80	98.06	{ 10.00 }	12.8		14.4		16.0	
90			90	87.16	{ 8.89 }	14.4		16.2		18.0	
100			100	78.44	{ 8.00 }	16.0		18.0		20.0	
125			125	62.76	{ 6.40 }	20.0		22.5		25.0	
150	150	52.30	{ 5.33 }	24.0	27.0	30.0					
TB 22 × 25	22	11	25	383.56	{ 39.11 }	4.0	1,530 { 156.0 }	4.5	1,726 { 176.0 }	5.0	1,912 { 195.0 }
30			30	319.63	{ 32.59 }	4.8		5.4		6.0	
35			35	273.97	{ 27.94 }	5.6		6.3		7.0	
40			40	239.72	{ 24.44 }	6.4		7.2		8.0	
45			45	213.09	{ 21.73 }	7.2		8.1		9.0	
50			50	191.78	{ 19.56 }	8.0		9.0		10.0	
55			55	174.34	{ 17.78 }	8.8		9.9		11.0	
60			60	159.81	{ 16.30 }	9.6		10.8		12.0	
65			65	147.52	{ 15.04 }	10.4		11.7		13.0	
70			70	136.98	{ 13.97 }	11.2		12.6		14.0	
75			75	127.85	{ 13.04 }	12.0		13.5		15.0	
80			80	119.86	{ 12.22 }	12.8		14.4		16.0	
90			90	106.54	{ 10.86 }	14.4		16.2		18.0	
100			100	95.89	{ 9.78 }	16.0		18.0		20.0	
125			125	76.71	{ 7.82 }	20.0		22.5		25.0	
150	150	63.93	{ 6.52 }	24.0	27.0	30.0					
TB 25 × 25	25	12.5	25	482.22	{ 49.17 }	4.0	1,922 { 196.0 }	4.5	2,170 { 221.3 }	5.0	2,400 { 244.7 }
30			30	401.85	{ 40.98 }	4.8		5.4		6.0	
35			35	344.44	{ 35.12 }	5.6		6.3		7.0	
40			40	301.39	{ 30.73 }	6.4		7.2		8.0	
45			45	267.90	{ 27.32 }	7.2		8.1		9.0	
50			50	241.11	{ 24.59 }	8.0		9.0		10.0	
55			55	219.19	{ 22.35 }	8.8		9.9		11.0	
60			60	200.93	{ 20.49 }	9.6		10.8		12.0	
65			65	185.47	{ 18.91 }	10.4		11.7		13.0	
70			70	172.22	{ 17.56 }	11.2		12.6		14.0	
75			75	160.74	{ 16.39 }	12.0		13.5		15.0	
80			80	150.69	{ 15.37 }	12.8		14.4		16.0	
90			90	133.95	{ 13.66 }	14.4		16.2		18.0	
100			100	120.56	{ 12.29 }	16.0		18.0		20.0	
125			125	96.44	{ 9.83 }	20.0		22.5		25.0	
150	150	80.37	{ 8.20 }	24.0	27.0	30.0					
175	175	68.89	{ 7.02 }	28.0	31.5	35.0					
200	200	60.28	{ 6.15 }	32.0	36.0	40.0					

Table of standards
规格表
极重负荷
TB

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)
负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Extra heavy load 极重负荷

Table of standards
Extra heavy load
规格表
极重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 16.0% 1,000,000 cycles 自由长 × 16.0% 100万次		Free length × 18.0% 500,000 cycles 自由长 × 18.0% 50万次		Free length × 20.0% 300,000 cycles 自由长 × 20.0% 30万次						
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]					
TB 27 × 25	27	13.5	25	568.89	58.01	4.0	2,280 {232.5}	4.5	2,560 {261.1}	5.0	2,840 {289.6}					
30			30	474.07	48.34	4.8		5.4		6.0						
35			35	406.35	41.44	5.6		6.3		7.0						
40			40	355.56	36.26	6.4		7.2		8.0						
45			45	316.05	32.23	7.2		8.1		9.0						
50			50	284.44	29.01	8.0		9.0		10.0						
55			55	258.59	26.37	8.8		9.9		11.0						
60			60	237.04	24.17	9.6		10.8		12.0						
65			65	218.80	22.31	10.4		11.7		13.0						
70			70	203.17	20.72	11.2		12.6		14.0						
75			75	189.63	19.34	12.0		13.5		15.0						
80			80	177.78	18.13	12.8		14.4		16.0						
90			90	158.02	16.11	14.4		16.2		18.0						
100			100	142.22	14.50	16.0		18.0		20.0						
125			125	113.78	11.60	20.0		22.5		25.0						
150			150	94.81	9.67	24.0		27.0		30.0						
175			175	81.27	8.29	28.0		31.5		35.0						
200			200	71.11	7.25	32.0		36.0		40.0						
TB 30 × 25			30	15	25	706.67		72.06		4.0		2,820 {287.6}	4.5	3,180 {324.3}	5.0	3,530 {360.0}
30					30	588.89		60.05		4.8			5.4		6.0	
35	35	504.76			51.47	5.6	6.3	7.0								
40	40	441.67			45.04	6.4	7.2	8.0								
45	45	392.59			40.03	7.2	8.1	9.0								
50	50	353.33			36.03	8.0	9.0	10.0								
55	55	321.21			32.75	8.8	9.9	11.0								
60	60	294.44			30.02	9.6	10.8	12.0								
65	65	271.79			27.72	10.4	11.7	13.0								
70	70	252.38			25.74	11.2	12.6	14.0								
75	75	235.56			24.02	12.0	13.5	15.0								
80	80	220.83			22.52	12.8	14.4	16.0								
90	90	196.30			20.02	14.4	16.2	18.0								
100	100	176.67			18.01	16.0	18.0	20.0								
125	125	141.33			14.41	20.0	22.5	25.0								
150	150	117.78			12.01	24.0	27.0	30.0								
175	175	100.95			10.29	28.0	31.5	35.0								
200	200	88.33			9.01	32.0	36.0	40.0								
TB 35 × 40	35	17.5			40	600.00	61.18	6.4	3,840 {391.6}	7.2	4,320 {440.5}		8.0		4,810 {490.5}	
45					45	533.33	54.38	7.2		8.1			9.0			
50			50	480.00	48.95	8.0	9.0	10.0								
55			55	436.36	44.50	8.8	9.9	11.0								
60			60	400.00	40.79	9.6	10.8	12.0								
65			65	369.23	37.65	10.4	11.7	13.0								
70			70	342.86	34.96	11.2	12.6	14.0								
75			75	320.00	32.63	12.0	13.5	15.0								
80			80	300.00	30.59	12.8	14.4	16.0								
90			90	266.67	27.19	14.4	16.2	18.0								
100			100	240.00	24.47	16.0	18.0	20.0								
125			125	192.00	19.58	20.0	22.5	25.0								
150			150	160.00	16.32	24.0	27.0	30.0								
175			175	137.14	13.98	28.0	31.5	35.0								
200	200	120.00	12.24	32.0	36.0	40.0										

1N = 0.102 Kgf

1N (牛顿) = 0.102 Kg (千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)

负荷 (N) = 弹簧常数 (N/mm) × 压缩量 (mm)



Extra heavy load 极重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 16.0% 1,000,000 cycles 自由长 × 16.0% 100万次		Free length × 18.0% 500,000 cycles 自由长 × 18.0% 50万次		Free length × 20.0% 300,000 cycles 自由长 × 20.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TB 40 × 40	40	20	40	784.72	{ 80.02 }	6.4	5,020 { 511.9 }	7.2	5,650 { 576.1 }	8.0	6,280 { 640.4 }
45			45	697.53	{ 71.13 }	7.2		8.1			
50			50	627.78	{ 64.02 }	8.0		9.0			
55			55	570.71	{ 58.20 }	8.8		9.9			
60			60	523.15	{ 53.35 }	9.6		10.8			
65			65	482.91	{ 49.24 }	10.4		11.7			
70			70	448.41	{ 45.73 }	11.2		12.6			
75			75	418.52	{ 42.68 }	12.0		13.5			
80			80	392.36	{ 40.01 }	12.8		14.4			
90			90	348.77	{ 35.56 }	14.4		16.2			
100			100	313.89	{ 32.01 }	16.0		18.0			
125			125	251.11	{ 25.61 }	20.0		22.5			
150			150	209.26	{ 21.34 }	24.0		27.0			
175			175	179.37	{ 18.29 }	28.0		31.5			
200			200	156.94	{ 16.00 }	32.0		36.0			
225			225	139.51	{ 14.23 }	36.0		40.5			
250			250	125.56	{ 12.80 }	40.0		45.0			
275	275	114.14	{ 11.64 }	44.0	49.5						
300	300	104.63	{ 10.67 }	48.0	54.0						
TB 50 × 50	50	25	50	981.11	{ 100.0 }	8.0	7,850 { 800.5 }	9.0	8,830 { 900.4 }	10.0	9,810 { 1000 }
55			55	891.92	{ 90.95 }	8.8		9.9			
60			60	817.59	{ 83.37 }	9.6		10.8			
65			65	754.70	{ 76.96 }	10.4		11.7			
70			70	700.79	{ 71.46 }	11.2		12.6			
75			75	654.07	{ 66.70 }	12.0		13.5			
80			80	613.19	{ 62.53 }	12.8		14.4			
90			90	545.06	{ 55.58 }	14.4		16.2			
100			100	490.56	{ 50.02 }	16.0		18.0			
125			125	392.44	{ 40.02 }	20.0		22.5			
150			150	327.04	{ 33.35 }	24.0		27.0			
175			175	280.32	{ 28.58 }	28.0		31.5			
200			200	245.28	{ 25.01 }	32.0		36.0			
225			225	218.02	{ 22.23 }	36.0		40.5			
250			250	196.22	{ 20.01 }	40.0		45.0			
275			275	178.38	{ 18.19 }	44.0		49.5			
300			300	163.52	{ 16.67 }	48.0		54.0			
350	350	140.16	{ 14.29 }	56.0	63.0						
TB 60 × 60	60	30	60	1176.85	{ 120.0 }	9.6	11,300 { 1152 }	10.8	12,710 { 1296 }	12.0	14,120 { 1440 }
70			70	1008.73	{ 102.9 }	11.2		12.6			
80			80	882.64	{ 90.00 }	12.8		14.4			
90			90	784.57	{ 80.00 }	14.4		16.2			
100			100	706.11	{ 72.00 }	16.0		18.0			
125			125	564.89	{ 57.60 }	20.0		22.5			
150			150	470.74	{ 48.00 }	24.0		27.0			
175			175	403.49	{ 41.14 }	28.0		31.5			
200			200	353.06	{ 36.00 }	32.0		36.0			
225			225	313.83	{ 32.00 }	36.0		40.5			
250			250	282.44	{ 28.80 }	40.0		45.0			
275			275	256.77	{ 26.18 }	44.0		49.5			
300			300	235.37	{ 24.00 }	48.0		54.0			
350	350	201.75	{ 20.57 }	56.0	63.0						

1N = 0.102 Kgf
1N (牛顿) = 0.102 Kgf (千克)

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Extra heavy load 极重负荷

Model 型号	Outside Diameter 外径 (mm)	Inside Diameter 内径 (mm)	Free length 自由长 (mm)	Spring Constant 弹簧常数		Free length × 16.0% 1,000,000 cycles 自由长 × 16.0% 100万次		Free length × 18.0% 500,000 cycles 自由长 × 18.0% 50万次		Free length × 20.0% 300,000 cycles 自由长 × 20.0% 30万次	
				(N/mm)	(kgf/mm)	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]	Deflection 压缩量 (mm)	Load 负荷 N [kgf]
TB 70 × 70	70	38.5	70	1285.71	{ 131.1 }	11.2	14,400 {1468}	12.6	16,200 {1652}	14.0	18,000 {1836}
80			80	1125.00	{ 114.7 }	12.8		14.4		16.0	
90			90	1000.00	{ 102.0 }	14.4		16.2		18.0	
100			100	900.00	{ 91.77 }	16.0		18.0		20.0	
125			125	720.00	{ 73.42 }	20.0		22.5		25.0	
150			150	600.00	{ 61.18 }	24.0		27.0		30.0	
175			175	514.29	{ 52.44 }	28.0		31.5		35.0	
200			200	450.00	{ 45.89 }	32.0		36.0		40.0	
225			225	400.00	{ 40.79 }	36.0		40.5		45.0	
250			250	360.00	{ 36.71 }	40.0		45.0		50.0	
275			275	327.27	{ 33.37 }	44.0		49.5		55.0	
300			300	300.00	{ 30.59 }	48.0		54.0		60.0	
350			350	257.14	{ 26.22 }	56.0		63.0		70.0	

1N = 0.102 Kgf

1N(牛顿) = 0.102 Kgf(千克)

Load (N) = Spring Constant (N/mm) × Deflection (mm)

负荷(N) = 弹簧常数(N/mm) × 压缩量(mm)