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 TR or TY with a deflection exceeding Free length 50.0%
· 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。
· TR、TY 弹簧的使用压缩量不可超过自由长 × 50.0%
· 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

TR

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 (N/mm)	Spring Constant 弹簧常数 (kgf/mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Deflection 压缩量 (mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Load 负荷 N {kgf}	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Deflection 压缩量 (mm)	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Load 负荷 N {kgf}	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Deflection 压缩量 (mm)	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Load 负荷 N {kgf}
TR 14.5 × 20	14.5	9.0	20	10.90	{1.11}	8.0	88.3 {9.0}	9.0	98.1 {10.0}	10.0	107.9 {11.0}
25			25	8.72	{0.89}	10.0		11.3		12.5	
30			30	7.27	{0.74}	12.0		13.5		15.0	
35			35	6.23	{0.64}	14.0		15.8		17.5	
40			40	5.45	{0.56}	16.0		18.0		20.0	
45			45	4.84	{0.49}	18.0		20.3		22.5	
50			50	4.36	{0.44}	20.0		22.5		25.0	
55			55	3.96	{0.40}	22.0		24.8		27.5	
60			60	3.63	{0.37}	24.0		27.0		30.0	
65			65	3.35	{0.34}	26.0		29.3		32.5	
70			70	3.11	{0.32}	28.0		31.5		35.0	
75			75	2.91	{0.30}	30.0		33.8		37.5	
80			80	2.73	{0.28}	32.0		36.0		40.0	
90			90	2.42	{0.25}	36.0		40.5		45.0	
100			100	2.18	{0.22}	40.0		45.0		50.0	
125			125	1.74	{0.18}	50.0		56.3		62.5	
TR 17 × 25	17.0	11.0	25	14.82	{1.51}	10.0	147.1 {15.0}	11.3	166.7 {17.0}	12.5	186.3 {19.0}
30			30	12.35	{1.26}	12.0		13.5		15.0	
35			35	10.58	{1.08}	14.0		15.8		17.5	
40			40	9.26	{0.94}	16.0		18.0		20.0	
45			45	8.23	{0.84}	18.0		20.3		22.5	
50			50	7.41	{0.76}	20.0		22.5		25.0	
55			55	6.74	{0.69}	22.0		24.8		27.5	
60			60	6.17	{0.63}	24.0		27.0		30.0	
65			65	5.70	{0.58}	26.0		29.3		32.5	
70			70	5.29	{0.54}	28.0		31.5		35.0	
75			75	4.94	{0.50}	30.0		33.8		37.5	
80			80	4.63	{0.47}	32.0		36.0		40.0	
90			90	4.12	{0.42}	36.0		40.5		45.0	
100			100	3.70	{0.38}	40.0		45.0		50.0	
125			125	2.96	{0.30}	50.0		56.3		62.5	
150			150	2.47	{0.25}	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)

TR

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 (N／mm)	Spring Constant 弹簧常数 (kgf／mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Deflection 压缩量 (mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Load 负荷 N {kgf}	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Deflection 压缩量 (mm)	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Load 负荷 N {kgf}	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Deflection 压缩量 (mm)	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Load 负荷 N {kgf}
TR 21 × 30	21.0	13.0	30	13.80	{1.41}	12.0	166.7 {17.0}	13.5	186.3 {19.0}	15.0	205.9 {21.0}
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	
150			150	2.76	{0.28}	60.0		67.5		75.0	
TR 26 × 30	26.0	16.5	30	26.87	{2.74}	12.0	323.6 {33.0}	13.5	362.8 {37.0}	15.0	402.1 {41.0}
35			35	23.03	{2.35}	14.0		15.8		17.5	
40			40	20.16	{2.06}	16.0		18.0		20.0	
45			45	17.92	{1.83}	18.0		20.3		22.5	
50			50	16.12	{1.64}	20.0		22.5		25.0	
55			55	14.66	{1.49}	22.0		24.8		27.5	
60			60	13.44	{1.37}	24.0		27.0		30.0	
65			65	12.40	{1.26}	26.0		29.3		32.5	
70			70	11.52	{1.17}	28.0		31.5		35.0	
75			75	10.75	{1.10}	30.0		33.8		37.5	
80			80	10.08	{1.03}	32.0		36.0		40.0	
90			90	8.96	{0.91}	36.0		40.5		45.0	
100			100	8.06	{0.82}	40.0		45.0		50.0	
110			110	7.33	{0.75}	44.0		49.5		55.0	
125			125	6.45	{0.66}	50.0		56.3		62.5	
150			150	5.37	{0.55}	60.0		67.5		75.0	
175			175	4.61	{0.47}	70.0		78.8		87.5	
200			200	4.03	{0.41}	80.0		90.0		100.0	
TR 32 × 40	32.0	21.0	40	25.06	{2.56}	16.0	402.1 {41.0}	18.0	451.1 {46.0}	20.0	500.1 {51.0}
45			45	22.28	{2.27}	18.0		20.3		22.5	
50			50	20.05	{2.04}	20.0		22.5		25.0	
60			60	16.71	{1.70}	24.0		27.0		30.0	
70			70	14.32	{1.46}	28.0		31.5		35.0	
80			80	12.53	{1.28}	32.0		36.0		40.0	
90			90	11.14	{1.14}	36.0		40.5		45.0	
100			100	10.02	{1.02}	40.0		45.0		50.0	
110			110	9.11	{0.93}	44.0		49.5		55.0	
125			125	8.02	{0.82}	50.0		56.3		62.5	
150			150	6.68	{0.68}	60.0		67.5		75.0	
175			175	5.73	{0.58}	70.0		78.8		87.5	
200			200	5.01	{0.51}	80.0		90.0		100.0	
250			250	4.01	{0.41}	100.0		112.5		125.0	
300			300	3.34	{0.34}	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)

TR

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 (N/mm)	Spring Constant 弹簧常数 (kgf/mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Deflection 压缩量 (mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Load 负荷 N {kgf}	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Deflection 压缩量 (mm)	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Load 负荷 N {kgf}	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Deflection 压缩量 (mm)	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Load 负荷 N {kgf}
TR 39 × 40	39.0	26.0	40	27.24	{2.78}	16.0	431.5 {44.0}	18.0	490.3 {50.0}	20.0	539.4 {55.0}
45			45	24.21	{2.47}	18.0		20.3		22.5	
50			50	21.79	{2.22}	20.0		22.5		25.0	
60			60	18.16	{1.85}	24.0		27.0		30.0	
70			70	15.57	{1.59}	28.0		31.5		35.0	
80			80	13.62	{1.39}	32.0		36.0		40.0	
90			90	12.11	{1.23}	36.0		40.5		45.0	
100			100	10.90	{1.11}	40.0		45.0		50.0	
110			110	9.91	{1.01}	44.0		49.5		55.0	
125			125	8.72	{0.89}	50.0		56.3		62.5	
150			150	7.26	{0.74}	60.0		67.5		75.0	
175			175	6.23	{0.63}	70.0		78.8		87.5	
200			200	5.45	{0.56}	80.0		90.0		100.0	
250			250	4.36	{0.44}	100.0		112.5		125.0	
300			300	3.63	{0.37}	120.0		135.0		150.0	
TR 46 × 50	46.0	32.0	50	24.41	{2.49}	20.0	490.3 {50.0}	22.5	549.2 {56.0}	25.0	608.0 {62.0}
60			60	20.34	{2.07}	24.0		27.0		30.0	
70			70	17.43	{1.78}	28.0		31.5		35.0	
80			80	15.26	{1.56}	32.0		36.0		40.0	
90			90	13.56	{1.38}	36.0		40.5		45.0	
100			100	12.20	{1.24}	40.0		45.0		50.0	
110			110	11.09	{1.13}	44.0		49.5		55.0	
125			125	9.76	{1.00}	50.0		56.3		62.5	
150			150	8.14	{0.83}	60.0		67.5		75.0	
175			175	6.97	{0.71}	70.0		78.8		87.5	
200			200	6.10	{0.62}	80.0		90.0		100.0	
250			250	4.88	{0.50}	100.0		112.5		125.0	
300			300	4.07	{0.41}	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)

TY

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 (N/mm)	Spring Constant 弹簧常数 (kgf/mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Deflection 压缩量 (mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Load 负荷 N {kgf}	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Deflection 压缩量 (mm)	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Load 负荷 N {kgf}	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Deflection 压缩量 (mm)	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Load 负荷 N {kgf}
TY 14.5 × 20	14.5	9.0	20	18.52	{1.89}	8.0	147.1 {15.0}	9.0	166.7 {17.0}	10.0	186.3 {19.0}
25			25	14.82	{1.51}	10.0		11.3		12.5	
30			30	12.35	{1.26}	12.0		13.5		15.0	
35			35	10.58	{1.08}	14.0		15.8		17.5	
40			40	9.26	{0.94}	16.0		18.0		20.0	
45			45	8.23	{0.84}	18.0		20.3		22.5	
50			50	7.41	{0.76}	20.0		22.5		25.0	
55			55	6.74	{0.69}	22.0		24.8		27.5	
60			60	6.17	{0.63}	24.0		27.0		30.0	
65			65	5.70	{0.58}	26.0		29.3		32.5	
70			70	5.29	{0.54}	28.0		31.5		35.0	
75			75	4.94	{0.50}	30.0		33.8		37.5	
80			80	4.63	{0.47}	32.0		36.0		40.0	
90			90	4.12	{0.42}	36.0		40.5		45.0	
100			100	3.70	{0.38}	40.0		45.0		50.0	
125			125	2.96	{0.30}	50.0		56.3		62.5	
TY 17 × 25	17.0	11.0	25	21.80	{2.22}	10.0	215.7 {22.0}	11.3	245.2 {25.0}	12.5	274.6 {28.0}
30			30	18.16	{1.85}	12.0		13.5		15.0	
35			35	15.57	{1.59}	14.0		15.8		17.5	
40			40	13.62	{1.39}	16.0		18.0		20.0	
45			45	12.11	{1.23}	18.0		20.3		22.5	
50			50	10.90	{1.11}	20.0		22.5		25.0	
55			55	9.91	{1.01}	22.0		24.8		27.5	
60			60	9.08	{0.93}	24.0		27.0		30.0	
65			65	8.38	{0.85}	26.0		29.3		32.5	
70			70	7.78	{0.79}	28.0		31.5		35.0	
75			75	7.27	{0.74}	30.0		33.8		37.5	
80			80	6.81	{0.69}	32.0		36.0		40.0	
90			90	6.05	{0.62}	36.0		40.5		45.0	
100			100	5.45	{0.56}	40.0		45.0		50.0	
125			125	4.36	{0.44}	50.0		56.3		62.5	
150			150	3.63	{0.37}	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)

TY

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 (N/mm)	Spring Constant 弹簧常数 (kgf/mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Deflection 压缩量 (mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Load 负荷 N {kgf}	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Deflection 压缩量 (mm)	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Load 负荷 N {kgf}	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Deflection 压缩量 (mm)	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Load 负荷 N {kgf}
TY 21 × 30	21.0	13.0	30	23.24	{2.37}	12.0	284.4 {29.0}	13.5	313.8 {32.0}	15.0	353.0 {36.0}
35			35	19.92	{2.03}	14.0		15.8		17.5	
40			40	17.43	{1.78}	16.0		18.0		20.0	
45			45	15.50	{1.58}	18.0		20.3		22.5	
50			50	13.95	{1.42}	20.0		22.5		25.0	
55			55	12.68	{1.29}	22.0		24.8		27.5	
60			60	11.62	{1.19}	24.0		27.0		30.0	
65			65	10.73	{1.09}	26.0		29.3		32.5	
70			70	9.96	{1.02}	28.0		31.5		35.0	
75			75	9.30	{0.95}	30.0		33.8		37.5	
80			80	8.72	{0.89}	32.0		36.0		40.0	
90			90	7.75	{0.79}	36.0		40.5		45.0	
100			100	6.97	{0.71}	40.0		45.0		50.0	
125			125	5.58	{0.57}	50.0		56.3		62.5	
150			150	4.65	{0.47}	60.0		67.5		75.0	
TY 26 × 30	26.0	16.5	30	34.87	{3.56}	12.0	411.9 {42.0}	13.5	470.7 {48.0}	15.0	519.8 {53.0}
35			35	29.89	{3.05}	14.0		15.8		17.5	
40			40	26.15	{2.67}	16.0		18.0		20.0	
45			45	23.24	{2.37}	18.0		20.3		22.5	
50			50	20.92	{2.13}	20.0		22.5		25.0	
55			55	19.02	{1.94}	22.0		24.8		27.5	
60			60	17.43	{1.78}	24.0		27.0		30.0	
65			65	16.09	{1.64}	26.0		29.3		32.5	
70			70	14.94	{1.52}	28.0		31.5		35.0	
75			75	13.95	{1.42}	30.0		33.8		37.5	
80			80	13.08	{1.33}	32.0		36.0		40.0	
90			90	11.62	{1.19}	36.0		40.5		45.0	
100			100	10.46	{1.07}	40.0		45.0		50.0	
110			110	9.51	{0.97}	44.0		49.5		55.0	
125			125	8.37	{0.85}	50.0		56.3		62.5	
150			150	6.97	{0.71}	60.0		67.5		75.0	
175			175	5.98	{0.61}	70.0		78.8		87.5	
200			200	5.23	{0.53}	80.0		90.0		100.0	
TY 32 × 40	32.0	21.0	40	34.87	{3.56}	16.0	559.0 {57.0}	18.0	627.6 {64.0}	20.0	696.3 {71.0}
45			45	30.99	{3.16}	18.0		20.3		22.5	
50			50	27.89	{2.84}	20.0		22.5		25.0	
60			60	23.24	{2.37}	24.0		27.0		30.0	
70			70	19.92	{2.03}	28.0		31.5		35.0	
80			80	17.43	{1.78}	32.0		36.0		40.0	
90			90	15.50	{1.58}	36.0		40.5		45.0	
100			100	13.95	{1.42}	40.0		45.0		50.0	
110			110	12.68	{1.29}	44.0		49.5		55.0	
125			125	11.16	{1.14}	50.0		56.3		62.5	
150			150	9.30	{0.95}	60.0		67.5		75.0	
175			175	7.97	{0.81}	70.0		78.8		87.5	
200			200	6.97	{0.71}	80.0		90.0		100.0	
250			250	5.58	{0.57}	100.0		112.5		125.0	
300			300	4.65	{0.47}	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)

TY

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 (N／mm)	Spring Constant 弹簧常数 (kgf／mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Deflection 压缩量 (mm)	Free length×40.0% 1,000,000 cycles 自由长×40.0% 100万次 Load 负荷 N {kgf}	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Deflection 压缩量 (mm)	Free length×45.0% 500,000 cycles 自由长×45.0% 50万次 Load 负荷 N {kgf}	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Deflection 压缩量 (mm)	Free length×50.0% 300,000 cycles 自由长×50.0% 30万次 Load 负荷 N {kgf}
TY 39 × 40	39.0	26.0	40	45.77	{4.67}	16.0	725.7 {74.0}	18.0	823.8 {84.0}	20.0	912.0 {93.0}
45			45	40.68	{4.15}	18.0		20.3		22.5	
50			50	36.61	{3.73}	20.0		22.5		25.0	
60			60	30.51	{3.11}	24.0		27.0		30.0	
70			70	26.15	{2.67}	28.0		31.5		35.0	
80			80	22.88	{2.33}	32.0		36.0		40.0	
90			90	20.34	{2.07}	36.0		40.5		45.0	
100			100	18.31	{1.87}	40.0		45.0		50.0	
110			110	16.64	{1.70}	44.0		49.5		55.0	
125			125	14.65	{1.49}	50.0		56.3		62.5	
150			150	12.20	{1.24}	60.0		67.5		75.0	
175			175	10.46	{1.07}	70.0		78.8		87.5	
200			200	9.15	{0.93}	80.0		90.0		100.0	
250			250	7.32	{0.75}	100.0		112.5		125.0	
300			300	6.10	{0.62}	120.0		135.0		150.0	
TY 46 × 50	46.0	32.0	50	48.81	{4.98}	20.0	970.9 {99.0}	22.5	1,098 {112.0}	25.0	1,216 {124.0}
60			60	40.68	{4.15}	24.0		27.0		30.0	
70			70	34.87	{3.56}	28.0		31.5		35.0	
80			80	30.51	{3.11}	32.0		36.0		40.0	
90			90	27.12	{2.77}	36.0		40.5		45.0	
100			100	24.41	{2.49}	40.0		45.0		50.0	
110			110	22.19	{2.26}	44.0		49.5		55.0	
125			125	19.53	{1.99}	50.0		56.3		62.5	
150			150	16.27	{1.66}	60.0		67.5		75.0	
175			175	13.95	{1.42}	70.0		78.8		87.5	
200			200	12.20	{1.24}	80.0		90.0		100.0	
250			250	9.76	{1.00}	100.0		112.5		125.0	
300			300	8.14	{0.83}	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）

TU

型号	外径 (mm)	内径 (mm)	自由长 (mm)	弹簧常数 (N/mm)	自由长×60% 100万次		自由长×62.5% 50万次		自由长×65% 30万次	
					压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)
TU 10.5 × 20	10.5	6	20	5.72	12.0	68.6	12.5	71.5	13.0	74.3
25			25	4.57	15.0		15.6		16.3	
30			30	3.81	18.0		18.8		19.5	
35			35	3.27	21.0		21.9		22.8	
40			40	2.86	24.0		25.0		26.0	
45			45	2.54	27.0		28.1		29.3	
50			50	2.29	30.0		31.3		32.5	
55			55	2.08	33.0		34.4		35.8	
60			60	1.91	36.0		37.5		39.0	
65			65	1.76	39.0		40.6		42.3	
70			70	1.63	42.0		43.8		45.5	
75			75	1.52	45.0		46.9		48.8	
80			80	1.43	48.0		50.0		52.0	
TU 12.5 × 15	12.5	7	15	8.71	9.0	78.4	9.4	81.7	9.8	84.9
20			20	6.53	12.0		12.5		13.0	
25			25	5.23	15.0		15.6		16.3	
30			30	4.36	18.0		18.8		19.5	
35			35	3.73	21.0		21.9		22.8	
40			40	3.27	24.0		25.0		26.0	
45			45	2.90	27.0		28.1		29.3	
50			50	2.61	30.0		31.3		32.5	
55			55	2.38	33.0		34.4		35.8	
60			60	2.18	36.0		37.5		39.0	
65			65	2.01	39.0		40.6		42.3	
70			70	1.87	42.0		43.8		45.5	
75			75	1.74	45.0		46.9		48.8	
80			80	1.63	48.0		50.0		52.0	
90			90	1.45	54.0		56.3		58.5	
100			100	1.31	60.0		62.5		65.0	
TU 14.5 × 20	14.5	8.5	20	8.18	12.0	98.1	12.5	102.2	13.0	106.3
25			25	6.54	15.0		15.6		16.3	
30			30	5.45	18.0		18.8		19.5	
35			35	4.67	21.0		21.9		22.8	
40			40	4.09	24.0		25.0		26.0	
45			45	3.63	27.0		28.1		29.3	
50			50	3.27	30.0		31.3		32.5	
55			55	2.97	33.0		34.4		35.8	
60			60	2.73	36.0		37.5		39.0	
65			65	2.52	39.0		40.6		42.3	
70			70	2.34	42.0		43.8		45.5	
75			75	2.18	45.0		46.9		48.8	
80			80	2.04	48.0		50.0		52.0	
90			90	1.82	54.0		56.3		58.5	
100			100	1.64	60.0		62.5		65.0	
110			110	1.49	66.0		68.8		71.5	
120			120	1.36	72.0		75.0		78.0	
125			125	1.31	75.0		78.1		81.3	
150			150	1.09	90.0		93.8		97.5	

1N＝0.102Kgf

负荷（N）＝弹簧常数（N/mm）×压缩量（mm）

TU

型号	外径 (mm)	内径 (mm)	自由长 (mm)	弹簧常数 (N/mm)	自由长×60% 100万次		自由长×62.5% 50万次		自由长×65% 30万次	
					压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)
TU 17 × 30	17	10.5	30	8.17	18.0	147	18.8	153.1	19.5	159.3
35			35	7.00	21.0		21.9		22.8	
40			40	6.13	24.0		25.0		26.0	
45			45	5.44	27.0		28.1		29.3	
50			50	4.90	30.0		31.3		32.5	
55			55	4.45	33.0		34.4		35.8	
60			60	4.08	36.0		37.5		39.0	
65			65	3.77	39.0		40.6		42.3	
70			70	3.50	42.0		43.8		45.5	
75			75	3.27	45.0		46.9		48.8	
80			80	3.06	48.0		50.0		52.0	
90			90	2.72	54.0		56.3		58.5	
100			100	2.45	60.0		62.5		65.0	
110			110	2.23	66.0		68.8		71.5	
120			120	2.04	72.0		75.0		78.0	
125			125	1.96	75.0		78.1		81.3	
150			150	1.63	90.0		93.8		97.5	
175			175	1.40	105.0		109.4		113.8	
TU 21 × 25	21	13.5	25	15.04	15.0	225.6	15.6	235.0	16.3	244.4
30			30	12.53	18.0		18.8		19.5	
35			35	10.74	21.0		21.9		22.8	
40			40	9.40	24.0		25.0		26.0	
45			45	8.36	27.0		28.1		29.3	
50			50	7.52	30.0		31.3		32.5	
55			55	6.84	33.0		34.4		35.8	
60			60	6.27	36.0		37.5		39.0	
65			65	5.78	39.0		40.6		42.3	
70			70	5.37	42.0		43.8		45.5	
75			75	5.01	45.0		46.9		48.8	
80			80	4.70	48.0		50.0		52.0	
90			90	4.18	54.0		56.3		58.5	
100			100	3.76	60.0		62.5		65.0	
110			110	3.42	66.0		68.8		71.5	
120			120	3.13	72.0		75.0		78.0	
125			125	3.01	75.0		78.1		81.3	
130			130	2.89	78.0		81.3		84.5	
140			140	2.69	84.0		87.5		91.0	
150			150	2.51	90.0		93.8		97.5	
175			175	2.15	105.0		109.4		113.8	
200			200	1.88	120.0		125.0		130.0	

1N＝0.102Kgf

负荷（N）＝弹簧常数（N/mm）×压缩量（mm）

TU

型号	外径 (mm)	内径 (mm)	自由长 (mm)	弹簧常数 (N/mm)	自由长×60% 100万次		自由长×62.5% 50万次		自由长×65% 30万次	
					压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)
TU 26 × 30			30	16.34	18.0		18.8		19.5	
35			35	14.01	21.0		21.9		22.8	
40			40	12.26	24.0		25.0		26.0	
45			45	10.90	27.0		28.1		29.3	
50			50	9.81	30.0		31.3		32.5	
55			55	8.92	33.0		34.4		35.8	
60			60	8.17	36.0		37.5		39.0	
65			65	7.54	39.0		40.6		42.3	
70			70	7.00	42.0		43.8		45.5	
75			75	6.54	45.0		46.9		48.8	
80			80	6.13	48.0		50.0		52.0	
90	26	16.5	90	5.45	54.0	294.2	56.3	306.5	58.5	318.7
100			100	4.90	60.0		62.5		65.0	
110			110	4.46	66.0		68.8		71.5	
120			120	4.09	72.0		75.0		78.0	
125			125	3.92	75.0		78.1		81.3	
130			130	3.77	78.0		81.3		84.5	
140			140	3.50	84.0		87.5		91.0	
150			150	3.27	90.0		93.8		97.5	
175			175	2.80	105.0		109.4		113.8	
200			200	2.45	120.0		125.0		130.0	
225			225	2.18	135.0		140.6		146.3	
250			250	1.96	150.0		156.3		162.5	
TU 31 × 35			35	17.75	21.0		21.9		22.8	
40			40	15.53	24.0		25.0		26.0	
45			45	13.80	27.0		28.1		29.3	
50			50	12.42	30.0		31.3		32.5	
55			55	11.29	33.0		34.4		35.8	
60			60	10.35	36.0		37.5		39.0	
65			65	9.56	39.0		40.6		42.3	
70			70	8.87	42.0		43.8		45.5	
75			75	8.28	45.0		46.9		48.8	
80			80	7.76	48.0		50.0		52.0	
90			90	6.90	54.0		56.3		58.5	
100			100	6.21	60.0		62.5		65.0	
110	31	21	110	5.65	66.0	372.7	68.8	388.2	71.5	403.8
120			120	5.18	72.0		75.0		78.0	
125			125	4.97	75.0		78.1		81.3	
130			130	4.78	78.0		81.3		84.5	
140			140	4.44	84.0		87.5		91.0	
150			150	4.14	90.0		93.8		97.5	
160			160	3.88	96.0		100.0		104.0	
170			170	3.65	102.0		106.3		110.5	
175			175	3.55	105.0		109.4		113.8	
180			180	3.45	108.0		112.5		117.0	
190			190	3.27	114.0		118.8		123.5	
200			200	3.11	120.0		125.0		130.0	
250			250	2.48	150.0		156.3		162.5	
300			300	2.07	180.0		187.5		195.0	

1N＝0.102Kgf

负荷（N）＝弹簧常数（N/mm）×压缩量（mm）

TU

型号	外径 (mm)	内径 (mm)	自由长 (mm)	弹簧常数 (N/mm)	自由长×60% 100万次		自由长×62.5% 50万次		自由长×65% 30万次	
					压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)	压缩量 (mm)	负荷 (N)
TU 37 × 40	37	26	40	19.20	24.0	460.9	25.0	480.1	26.0	499.3
45			45	17.07	27.0		28.1		29.3	
50			50	15.36	30.0		31.3		32.5	
55			55	13.97	33.0		34.4		35.8	
60			60	12.80	36.0		37.5		39.0	
65			65	11.82	39.0		40.6		42.3	
70			70	10.97	42.0		43.8		45.5	
75			75	10.24	45.0		46.9		48.8	
80			80	9.60	48.0		50.0		52.0	
90			90	8.54	54.0		56.3		58.5	
100			100	7.68	60.0		62.5		65.0	
110			110	6.98	66.0		68.8		71.5	
120			120	6.40	72.0		75.0		78.0	
130			130	5.91	78.0		81.3		84.5	
140			140	5.49	84.0		87.5		91.0	
150			150	5.12	90.0		93.8		97.5	
160			160	4.80	96.0		100.0		104.0	
170			170	4.52	102.0		106.3		110.5	
180			180	4.27	108.0		112.5		117.0	
190			190	4.04	114.0		118.8		123.5	
200			200	3.84	120.0		125.0		130.0	
225			225	3.41	135.0		140.6		146.3	
250			250	3.07	150.0		156.3		162.5	
275			275	2.79	165.0		171.9		178.8	
300			300	2.56	180.0		187.5		195.0	
TU 43 × 50	43	31	50	19.61	30.0	588.4	31.3	612.9	32.5	637.4
60			60	16.34	36.0		37.5		39.0	
70			70	14.01	42.0		43.8		45.5	
80			80	12.26	48.0		50.0		52.0	
90			90	10.90	54.0		56.3		58.5	
100			100	9.81	60.0		62.5		65.0	
110			110	8.92	66.0		68.8		71.5	
120			120	8.17	72.0		75.0		78.0	
130			130	7.54	78.0		81.3		84.5	
140			140	7.00	84.0		87.5		91.0	
150			150	6.54	90.0		93.8		97.5	
160			160	6.13	96.0		100.0		104.0	
170			170	5.77	102.0		106.3		110.5	
180			180	5.45	108.0		112.5		117.0	
190			190	5.16	114.0		118.8		123.5	
200			200	4.90	120.0		125.0		130.0	
225			225	4.36	135.0		140.6		146.3	
250			250	3.92	150.0		156.3		162.5	
275			275	3.57	165.0		171.9		178.8	
300			300	3.27	180.0		187.5		195.0	

1N＝0.102Kgf

负荷（N）＝弹簧常数（N/mm）×压缩量（mm）