

TORSION SPRINGS

Stock sizes in stainless steel and music wire

Henry stainless steel torsion springs are widely useful to store and release energy of rotation or to maintain a pressure over a short distance. Our stock selection includes stainless steel torsion springs with four end positions and music wire springs with three end positions as shown in the drawings.

Henry torsion springs are normally used over a supporting mandrel or arbor. Suggested mandrel sizes allow about 10% clearance at the deflections listed. If greater deflections are used, the arbor size should be reduced. Sufficient room (minimum axial space) must be provided in the assembly for the spring to function properly.

Henry torsion springs should be used in the direction that winds the coils. In the unwinding direction the maximum load is lower because of residual stresses.

Torque values listed are suitable for average conditions. These values can be increased about 20% for static conditions with only slight setting.

Material

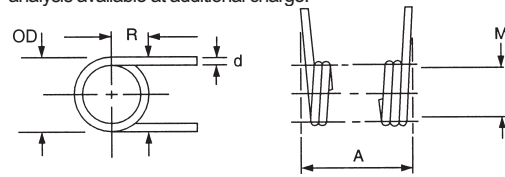
Stainless Steel

Commercial Type 302 ASTM-A313 or AMS 5688 (chemical and physical only)

Music Wire

ASTM-A228 or AMS 5112

Certificate of compliance available on request. Certificate of chemical analysis available at additional charge.



Position of Legs

STAINLESS STEEL SPRINGS

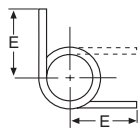


Fig 1. 90° Deflection

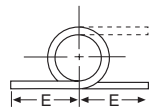


Fig 2. 180° Deflection

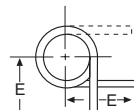


Fig 3. 270° Deflection

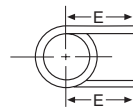


Fig 4. 360° Deflection

MUSIC WIRE SPRINGS

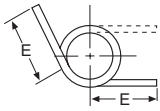


Fig 5. 120° Deflection

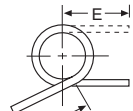


Fig 6. 210° Deflection

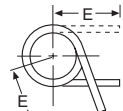


Fig 7. 300° Deflection

Henry torsion springs are also available in various materials such as:

- Hard Drawn Steel
- Oil Tempered Wire
- Chrome Vanadium
- Chrome Silicon
- Phosphor Bronze
- Inconel®
- Monel®
- Beryllium Copper
- Elgiloy®
- Zinc Coated Music

Please contact Henry's engineering team for design and application assistance.

Ends

Straight torsion ends are standard.

Special end treatment available. Allow additional time.

Finish

Plain finish is standard. Allow additional time for special finishes.

Direction of Helix

Must be specified by adding a suffix to the catalog number. Use L for left-hand wound, or R for right-hand wound. See illustration below. Coil count is for reference only.

Tolerances

Torque is for reference only and should not be specified.

O.D. ±2% Stainless Steel

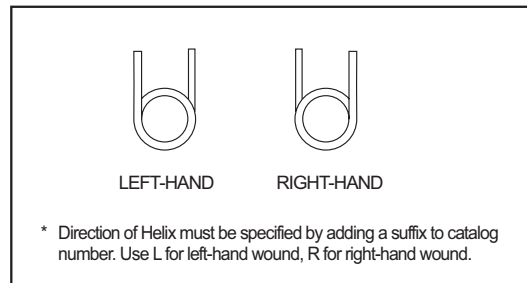
±2% Music Wire

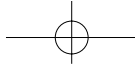
For inspection purposes, the load should be applied at 1/2 leg length (E). Using other lengths appreciably alters the active length of wire and affects the test results.

The reference torque values listed can be translated to the approximate direct load by use of the formula $P = M/E_n$ where P is the load applied at the new length E_n . Example: for part T012-090-055, what is the load when $E_n = 0.187$? $P = M/E_n = 0.047/0.187 = 0.251b$.

Torque values at intermediate deflections can be computed by direct proration. Example: For part T030-180-250, the torque at 90° deflection is 0.312 in-lb (35.3 N-mm)

- d = Wire diameter
- OD = Outside diameter
- T = Torque
- R = Loaded position all parts
- M = Recommended Mandrel Size
- E = Leg length (from centerline)
- A = Min Axial Length (Axial space)
- Fig = Position of legs
- Deg° = Degrees deflection





扭转式弹簧

材质为不锈钢金属线和乐器金属弦线的常备扭转式弹簧
Henry 不锈钢金属线扭转式弹簧广泛地用于储存和释放旋转的能量，或者在短距离上保持压力。我们的不锈钢金属线扭转式弹簧带有四个端头位置，乐器金属弦线扭转式弹簧带有三个端头位置，如图所示。

通常 Henry 扭转式弹簧在一个支撑的心轴或者柄轴上使用。建议心轴的尺寸在列出的变形量可以允许有约10%的间隙。如果变形量较大，则柄轴的尺寸要减小。为了使弹簧功能处于良好状态，组件里的空间（最小轴向空间）必须充足。

Henry 扭转式弹簧应在沿着缠绕线圈的方向上使用。因为残余应力，所以在松开的方向上，最大的负荷较低。

列出的扭矩值是推荐的最大的扭矩。这些数值在静态条件下只需稍微调试就能够增加约20%。

材质

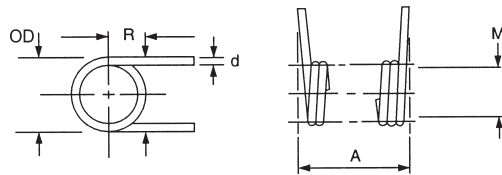
不锈钢金属线

302不锈钢，ASTM-A313 或 AMS 5688 回火的弹簧（仅理化处理）

乐器金属弦线

ASTM-A228 或 AMS 5112

合格证证书免费提供；化学分析证书须支付额外的费用。



支杆位置图

不锈钢金属线弹簧

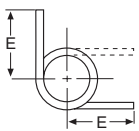


图1. 90° 变形量

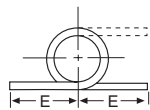


图 2. 180° 变形量

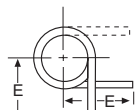


图 3. 270° 变形量

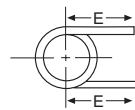


图 4. 360° 变形量

乐器金属弦线弹簧

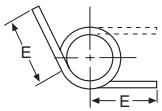


图 5. 120° 变形量

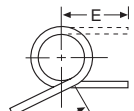


图 6. 210° 变形量

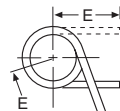


图 7. 300° 变形量

Henry 扭转弹簧也提供各种材料，如：

- 硬拉钢
- 油回火钢丝
- 铬钒钢
- 铬硅钢
- 磷青铜
- Inconel®
- Monel®
- 铍铜
- Elgiloy®
- 镀锌琴钢丝

末端

标准末端为直的扭转末端。

提供特殊末端处理，需要额外的时间。

末道漆层

普通钢丝末道漆层，允许用额外的时间进行特殊末道漆层。

螺旋方向

须在编号后添加一个后缀进行说明，字母“L”表示左手螺旋方向，“R”表示右手螺旋方向。如下所示。线圈数量仅供参考。

公差

扭矩仅供参考，不应指定。

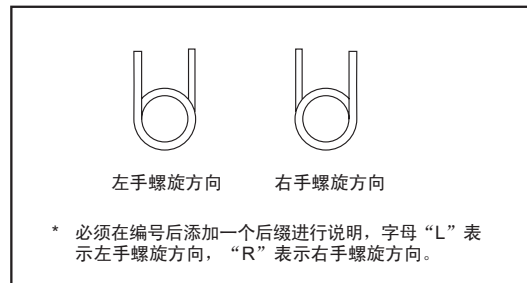
外径 ±2% 不锈钢线
±2% 钢琴线

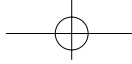
在进行检查时，该负荷应作用于1/2支杆长度（E）上。使用其它长度会稍微改变钢丝的现行长度和影响试验效果。

通过公式 $P = M/En$ ，列出的参考扭矩值能够转化为近似直接负荷，式中，P是作用于新的长度 En 上的负荷。例如：部件 T012-090-055，当 $En = 0.187$? $P = M/En = 0.047 / 0.187 = 0.25lb$ ，负荷是多少？

在中间变形量的扭矩值可以通过直接比例计算。例如：部件T030-180-250，90° 变形量的扭矩值是0.312in-lb (35.3 N-mm)。

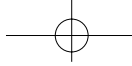
- d = 线径
- OD = 外径
- T = 扭矩
- R = 承载位置
- M = 建议心轴尺寸
- E = 支杆长度（从中心线开始）
- A = 最小轴向长度（轴向间距）
- Fig = 支杆位置
- Deg° = 变形量



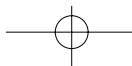


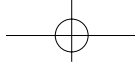
TORSION SPRINGS - STAINLESS STEEL
 扭转式弹簧 - 不锈钢金属线

Catalog Number 编号	d Wire Diameter d 线径		OD Outside Diameter OD 外径		Fig. Position of Ends Fig. 末端位置	Deflection Degree 变形量	T Approximate Torque Reference T 扭矩近似值 (参考)		Test Point 1/2 E 测试点 1/2 E		M Suggested Mandrel Size M 建议心轴尺寸		E Leg Length E 支杆长度		A Min. Axial Space** A 最小轴间距离	
	in	mm	in	mm			in-lb	N-mm	in	mm	in	mm	in	mm	in	mm
T012-090-055			0.093	2.36	1	90					0.055	1.40			0.054	1.37
T012-180-067			0.109	2.77	2	180			0.187	4.75	0.067	1.70	0.375	9.52	0.090	2.29
T012-270-062	0.012	0.30	0.102	2.59	3	270					0.062	1.57			0.139	3.53
T012-180-109			0.166	4.22	2	180	0.047	5.31			0.109	2.77			0.066	1.68
T012-270-109			0.170	4.32	3	270					0.109	2.77			0.090	2.29
T012-360-109			0.174	4.42	4	360			0.250	6.35	0.109	2.77	0.500	12.70	0.114	2.90
T014-090-063			0.124	3.15	1	90					0.063	1.60			0.067	1.70
T014-180-078			0.133	3.38	2	180					0.078	1.98			0.105	2.67
T014-270-063	0.014	0.36	0.124	3.15	3	270	0.070	7.91			0.063	1.60			0.161	4.09
T014-180-109			0.194	4.93	2	180					0.109	2.77			0.077	1.96
T014-270-125			0.201	5.11	3	270			0.375	9.52	0.125	3.18	0.750	19.05	0.105	2.67
T014-360-125			0.204	5.18	4	360					0.125	3.18			0.133	3.38
T015-090-062			0.110	2.79	1	90					0.062	1.57			0.068	1.71
T015-180-078			0.130	3.30	2	180			0.250	6.35	0.078	1.98	0.500	12.70	0.113	2.86
T015-270-078	0.015	0.38	0.124	3.15	3	270	0.093	10.51			0.078	1.98			0.173	4.39
T015-180-109			0.183	4.65	2	180					0.109	2.77			0.083	2.10
T015-270-109			0.199	5.05	3	270			0.375	9.52	0.109	2.77	0.750	19.05	0.113	2.86
T015-360-109			0.207	5.26	4	360					0.109	2.77			0.143	3.62
T017-090-093			0.160	4.06	1	90					0.093	2.36			0.081	2.06
T017-180-093			0.172	4.37	2	180			0.250	6.35	0.093	2.36	0.500	12.70	0.128	3.24
T017-270-093	0.017	0.43	0.160	4.06	3	270	0.117	13.22			0.093	2.36			0.196	4.97
T017-180-156			0.249	6.32	2	180					0.156	3.96			0.094	2.39
T017-270-156			0.259	6.58	3	270			0.375	9.52	0.156	3.96	0.750	19.05	0.128	3.24
T017-360-140			0.235	5.97	4	360					0.140	3.56			0.170	4.32
T018-090-109			0.177	4.50	1	90					0.109	2.77			0.081	2.06
T018-180-109			0.164	4.17	2	180			0.250	6.35	0.109	2.77	0.500	12.70	0.153	3.89
T018-270-109			0.160	4.06	3	270					0.109	2.77			0.228	5.79
T018-180-140	0.018	0.46	0.216	5.49	2	180	0.140	15.82			0.140	3.56			0.117	2.97
T018-270-156			0.245	6.22	3	270					0.156	3.96			0.150	3.81
T018-360-156			0.233	5.92	4	360			0.375	9.52	0.156	3.96	0.750	19.05	0.210	5.33
T020-090-109			0.191	4.85	1	90					0.109	2.77			0.095	2.41
T020-180-109			0.179	4.55	2	180					0.109	2.77			0.170	4.32
T020-270-093	0.020	0.51	0.175	4.45	3	270	0.187	21.10			0.093	2.36			0.250	6.35
T020-180-140			0.242	6.15	2	180					0.140	3.56			0.130	3.30
T020-270-172			0.268	6.81	3	270			0.500	12.70	0.172	4.37	1.000	25.40	0.165	4.19
T020-360-156			0.254	6.45	4	360					0.156	3.96			0.250	6.35
T021-090-109			0.186	4.72	1	90					0.109	2.77			0.095	2.40
T021-180-109			0.185	4.70	2	180			0.375	9.52	0.109	2.77	0.750	19.05	0.179	4.53
T021-270-109	0.021	0.53	0.184	4.67	3	270	0.218	24.60			0.109	2.77			0.266	6.76
T021-180-156			0.247	6.27	2	180					0.156	3.96			0.137	3.47
T021-270-187			0.283	7.19	3	270			0.500	12.70	0.187	4.75	1.000	25.40	0.179	4.53
T021-360-187			0.271	6.88	4	360					0.187	4.75			0.242	6.15
T023-090-109			0.204	5.18	1	90					0.109	2.77			0.109	2.77
T023-180-109			0.191	4.85	2	180			0.375	9.52	0.109	2.77	0.750	19.05	0.196	4.98
T023-270-109	0.023	0.58	0.187	4.75	3	270	0.308	34.80			0.109	2.77			0.288	7.30
T023-180-156			0.259	6.58	2	180					0.156	3.96			0.150	3.81
T023-270-156			0.251	6.38	3	270			0.500	12.70	0.156	3.96	1.000	25.40	0.219	5.55
T023-360-172			0.271	6.88	4	360					0.172	4.37			0.265	6.72
T025-090-140			0.235	5.97	1	90					0.140	3.56			0.113	2.86
T025-180-140			0.224	5.69	2	180			0.375	9.52	0.140	3.56	0.750	19.05	0.213	5.40
T025-270-140	0.025	0.64	0.219	5.56	3	270	0.375	42.40			0.140	3.56			0.316	8.03
T025-180-203			0.304	7.72	2	180					0.203	5.16			0.163	4.13
T025-270-218			0.340	8.64	3	270					0.218	5.54			0.213	5.40
T025-360-218			0.324	8.23	4	360					0.218	5.54			0.288	7.32
T028-090-156			0.267	6.78	1	90					0.156	3.96			0.133	3.38
T028-180-140			0.249	6.32	2	180			0.500	12.70	0.140	3.56	1.000	25.40	0.238	6.05
T028-270-140	0.028	0.71	0.245	6.22	3	270	0.515	58.20			0.140	3.56			0.350	8.89
T028-180-203			0.340	8.64	2	180					0.203	5.16			0.182	4.62
T028-270-203			0.329	8.36	3	270					0.203	5.16			0.266	6.76
T028-360-218			0.355	9.02	4	360					0.218	5.54			0.350	8.89

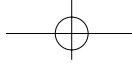


TORSION SPRINGS - STAINLESS STEEL 扭转式弹簧 - 不锈钢金属线																
Catalog Number 编号	d Wire Diameter d 线径		OD Outside Diameter OD 外径		Fig. Position of Ends Fig. 末端位置	Deflection Degree 变形量	T Approximate Torque Reference T 扭矩近似值 (参考)		Test Point 1/2 E 测试点 1/2 E		M Suggested Mandrel Size M 建议心轴尺寸		E Leg Length E 支杆长度		A Min. Axial Space** A 最小轴向间距	
	in	mm	in	mm			in-lb	N-mm	in	mm	in	mm	in	mm	in	mm
T030-090-172			0.281	7.14	1	90					0.172	4.37			0.135	3.43
T030-180-172			0.272	6.91	2	180					0.172	4.37			0.255	6.48
T030-270-172	0.030	0.76	0.270	6.86	3	270	0.625	70.60			0.172	4.37			0.380	9.65
T030-180-250			0.394	10.01	2	180					0.250	6.35			0.195	4.95
T030-270-250			0.377	9.58	3	270					0.250	6.35			0.280	7.11
T030-360-250			0.410	10.41	4	360			0.500	12.70	0.250	6.35	1.000	25.40	0.346	8.79
T032-090-172			0.288	7.32	1	90					0.172	4.36			0.152	3.86
T032-180-156			0.270	6.86	2	180					0.156	3.96			0.272	6.91
T032-270-156	0.032	0.81	0.264	6.71	3	270	0.820	92.70			0.156	3.96			0.432	10.97
T032-180-218			0.366	9.30	2	180					0.218	5.54			0.208	5.28
T032-270-218			0.354	8.99	3	270					0.218	5.54			0.304	7.72
T032-360-234			0.382	9.70	4	360					0.234	5.95			0.368	9.35
T035-090-187			0.315	8.00	1	90					0.187	4.75			0.158	4.00
T035-180-187			0.303	7.70	2	180					0.187	4.75			0.298	7.56
T035-270-187	0.035	0.89	0.311	7.90	3	270	1.000	113.00			0.187	4.75			0.442	11.23
T035-180-281			0.450	11.43	2	180					0.281	7.14			0.228	5.78
T035-270-281			0.435	11.05	3	270					0.281	7.14			0.333	8.45
T035-360-312			0.471	11.96	4	360					0.312	7.92			0.405	10.29
T038-090-234			0.386	9.80	1	90					0.234	5.94			0.180	4.57
T038-180-218			0.368	9.35	2	180			0.625	15.88	0.218	5.54	1.250	31.75	0.323	8.20
T038-270-218	0.038	0.97	0.353	8.97	3	270	1.190	134.50			0.218	5.54			0.475	12.07
T038-180-312			0.487	12.37	2	180					0.312	7.92			0.361	9.17
T038-270-312			0.477	12.12	3	270					0.312	7.92			0.475	12.07
T038-360-328			0.514	13.06	4	360					0.328	8.33			0.475	12.07
T040-090-187			0.309	7.85	1	90					0.187	4.75			0.220	5.59
T040-180-218			0.348	8.84	2	180					0.218	5.54			0.380	9.65
T040-270-218	0.040	1.02	0.358	9.09	3	270	1.375	155.40			0.218	5.54			0.550	13.97
T040-180-343			0.518	13.16	2	180					0.343	8.71			0.260	6.60
T040-270-343			0.511	12.98	3	270			1.000	25.40	0.343	8.71	2.000	50.80	0.380	9.65
T040-360-343			0.507	12.88	4	360					0.343	8.71			0.508	12.90
T045-090-203			0.357	9.07	1	90					0.203	5.16			0.259	6.58
T045-180-218			0.377	9.58	2	180			0.625	15.88	0.218	5.54	1.250	31.75	0.428	10.86
T045-270-234	0.045	1.14	0.382	9.70	3	270	2.000	226.00			0.234	5.94			0.608	15.43
T045-180-359			0.575	14.61	2	180					0.359	9.12			0.293	7.44
T045-270-359			0.556	14.12	3	270			1.000	25.40	0.359	9.12	2.000	50.80	0.428	10.86
T045-360-359			0.549	13.94	4	360					0.359	9.12			0.563	14.29
T048-090-218			0.375	9.53	1	90					0.218	5.54			0.264	6.71
T048-180-250			0.404	10.26	2	180			0.625	15.88	0.250	6.35	1.250	31.75	0.456	11.58
T048-270-250	0.048	1.22	0.416	10.57	3	270	2.500	282.00			0.250	6.35			0.660	16.76
T048-180-406			0.618	15.70	2	180					0.406	10.31			0.312	7.92
T048-270-406			0.600	15.24	3	270					0.406	10.31			0.456	11.58
T048-360-406			0.594	15.09	4	360					0.406	10.31			0.610	15.49
T051-090-234			0.408	10.36	1	90					0.234	5.94			0.293	7.44
T051-180-250			0.430	10.92	2	180					0.250	6.35			0.485	12.32
T051-270-266	0.051	1.30	0.439	11.15	3	270	2.900	328.00			0.266	6.76			0.689	17.49
T051-180-344			0.556	14.12	2	180					0.344	8.74			0.383	9.72
T051-270-359			0.571	14.50	3	270					0.359	9.12			0.536	13.60
T051-360-406			0.628	15.95	4	360					0.406	10.31			0.638	16.19
T054-090-296			0.484	12.29	1	90					0.296	7.52			0.310	7.87
T054-180-312			0.509	12.93	2	180			1.000	25.40	0.312	7.92	2.000	50.80	0.512	13.00
T054-270-312	0.054	1.37	0.514	13.06	3	270	3.275	370.00			0.312	7.92			0.715	18.16
T054-180-421			0.654	16.61	2	180					0.421	10.69			0.405	10.29
T054-270-437			0.664	16.87	3	270					0.437	11.10			0.567	14.40
T054-360-453			0.694	17.63	4	360					0.453	11.51			0.705	17.91
T059-090-296			0.499	12.67	1	90					0.296	7.52			0.340	8.64
T059-180-328			0.526	13.36	2	180					0.328	8.33			0.561	14.24
T059-270-328	0.059	1.50	0.537	13.64	3	270	4.200	475.00			0.328	8.33			0.797	20.23
T059-180-437			0.681	17.30	2	180					0.437	11.10			0.445	11.30
T059-270-453			0.699	17.75	3	270					0.453	11.51			0.620	15.74
T059-360-459			0.709	18.01	4	360					0.456	11.66			0.797	20.23

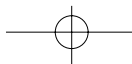


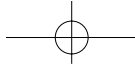


TORSION SPRINGS - STAINLESS STEEL 扭转式弹簧 - 不锈钢金属线																
Catalog Number 编号	d Wire Diameter d 线径		OD Outside Diameter OD 外径		Fig. Position of Ends Fig. 末端位置	Deflection Degree 变形量	T Approximate Torque Reference T 扭矩近似值 (参考)		Test Point 1/2 E 测试点 1/2 E		M Suggested Mandrel Size M 建议心轴尺寸		E Leg Length E 支杆长度		A Min. Axial Space** A 最小轴向间距	
	in	mm	in	mm			in-lb	N-mm	in	mm	in	mm	in	mm	in	mm
T063-090-343			0.560	14.22	1	90					0.343	8.71			0.362	9.19
T063-180-359			0.591	15.01	2	180					0.359	9.12			0.600	15.24
T063-270-375	0.063	1.60	0.600	15.24	3	270	5.150	582.00			0.375	9.53			0.851	21.60
T063-180-500			0.767	19.48	2	180					0.500	12.70			0.475	12.07
T063-270-516			0.784	19.91	3	270					0.516	13.11			0.662	16.80
T063-360-516			0.798	20.27	4	360					0.516	13.11			0.851	21.60
T070-090-359			0.593	15.06	1	90					0.359	9.12			0.400	10.16
T070-180-390			0.625	15.88	2	180					0.390	9.91			0.665	16.89
T070-270-390	0.070	1.78	0.639	16.23	3	270	7.000	791.00			0.390	9.91			0.945	24.00
T070-180-515			0.810	20.57	2	180					0.515	13.08			0.525	13.34
T070-270-531			0.826	20.98	3	270					0.531	13.49			0.735	18.67
T070-360-546			0.843	21.41	4	360			1.000	25.40	0.546	13.87	2.000	50.80	0.945	24.00
T075-090-375			0.635	16.13	1	90					0.375	9.53			0.430	10.92
T075-180-422			0.675	17.15	2	180					0.422	10.72			0.713	18.10
T075-270-500	0.075	1.91	0.700	17.78	3	270	8.750	989.00			0.440	12.70			1.013	25.72
T075-180-484			0.775	19.69	2	180					0.484	12.29			0.640	16.26
T075-270-531			0.825	20.96	3	270					0.531	13.49			0.863	21.91
T075-360-640			0.975	24.77	4	360					0.640	16.26			1.050	26.67
T078-090-406			0.678	17.22	1	90					0.406	10.31			0.450	11.43
T078-180-453			0.728	18.49	2	180					0.453	11.51			0.741	18.82
T078-270-453	0.078	1.98	0.728	18.49	3	270	9.750	1102.00			0.453	11.51			1.030	26.16
T078-180-500			0.803	20.40	2	180					0.500	12.70			0.663	16.84
T078-270-546			0.853	21.67	3	270					0.546	13.87			0.897	22.78
T078-360-578			0.903	22.94	4	360					0.578	14.68			1.131	28.73
T085-090-422			0.715	18.16	1	90					0.422	10.72			0.489	12.42
T085-180-469			0.760	19.30	2	180					0.469	11.91			0.808	20.52
T085-270-500	0.085	2.16	0.790	20.07	3	270	12.000	1356.00	1.250	31.75	0.500	12.70	2.500	63.50	1.148	29.15
T085-180-641			0.994	25.25	2	180					0.641	16.28			0.638	16.21
T085-270-672			1.040	26.42	3	270					0.672	17.07			0.893	22.67
T085-360-688			1.054	26.77	4	360					0.688	17.48			1.148	29.15
T095-090-453			0.776	19.71	1	90					0.453	11.51			0.546	13.87
T095-180-531			0.869	22.07	2	180					0.531	13.49			0.903	22.94
T095-270-578	0.095	2.41	0.925	23.50	3	270	16.000	1808.00	1.500	38.10	0.578	14.68	3.000	76.20	1.283	32.58
T095-180-734			1.131	28.73	2	180					0.734	18.64			0.713	18.11
T095-270-797			1.203	30.56	3	270					0.797	20.24			0.998	25.34
T095-360-813			1.225	31.12	4	360					0.813	20.65			1.283	32.58
T105-090-500			0.848	21.54	1	90					0.500	12.70			0.604	15.34
T105-180-609			0.982	24.94	2	180					0.609	15.47			0.998	25.35
T105-270-703	0.105	2.67	1.090	27.69	3	270	21.000	2373.00	1.750	44.45	0.703	17.86	3.500	88.90	1.418	36.00
T105-180-813			1.248	31.70	2	180					0.813	20.65			0.788	20.02
T105-270-891			1.342	34.09	3	270					0.891	22.63			1.103	28.00
T105-360-906			1.369	34.77	4	360					0.906	23.01			1.418	36.00
T115-090-594			0.978	24.84	1	90					0.594	15.09			0.661	16.79
T115-180-641			1.043	26.49	2	180					0.641	16.28			1.093	27.76
T115-270-688	0.115	2.92	1.086	27.58	3	270	28.000	3164.00			0.688	17.48			1.553	39.43
T115-180-859			1.347	34.21	2	180					0.859	21.82			0.863	21.92
T115-270-938			1.435	36.45	3	270					0.938	23.83			1.208	30.67
T115-360-969			1.465	37.21	4	360					0.969	24.61			1.553	39.43
T125-090-591			0.989	25.12	1	90					0.591	15.01			0.844	21.44
T125-180-666			1.082	27.48	2	180					0.666	16.92			1.438	36.53
T125-270-751	0.125	3.18	1.189	30.20	3	270	32.000	3616.00	2.000	50.80	0.751	19.08	4.000	101.60	1.938	49.21
T125-180-885			1.356	34.44	2	180					0.885	22.48			1.188	30.18
T125-270-1013			1.516	38.51	3	270					1.013	25.73			1.563	39.69
T125-360-1084			1.605	40.77	4	360					1.084	27.53			1.938	49.21
T135-090-666			1.102	27.99	1	90					0.666	16.92			0.911	23.14
T135-180-735			1.189	30.20	2	180					0.735	18.67			1.553	39.45
T135-270-825	0.135	3.43	1.301	33.05	3	270	40.000	4519.00			0.825	20.96			2.093	53.15
T135-180-977			1.491	37.87	2	180					0.977	24.82			1.283	32.59
T135-270-1112			1.660	42.16	3	270					1.112	28.24			1.688	42.86
T135-360-1188			1.755	44.58	4	360					1.188	30.18			2.093	53.15



TORSION SPRINGS - STAINLESS STEEL 扭转式弹簧 - 不锈钢金属线																
Catalog Number 编号	d Wire Diameter d 线径		OD Outside Diameter OD 外径		Fig. Position of Ends Fig. 末端位置	Deflection Degree 变形量	T Approximate Torque Reference T 扭矩近似值 (参考)		Test Point 1/2 E 测试点 1/2 E		M Suggested Mandrel Size M 建议心轴尺寸		E Leg Length E 支杆长度		A Min. Axial Space** A 最小轴向间距	
	in	mm	in	mm	Fig.		in-lb	N-mm	in	mm	in	mm	in	mm	in	mm
T016-120-125			0.190	4.830	5	120									0.091	0.091
T016-210-125	0.016	0.410	0.188	4.780	6	210	0.110	12.00	0.375	9.52	0.125	3.180	0.750	19.05	0.135	0.135
T016-300-125			0.188	4.780	7	300									0.179	0.179
T020-120-187			0.273	6.990	5	120									0.113	0.113
T020-210-187	0.020	0.510	0.274	6.960	6	210	0.180	20.00			0.187	4.750			0.168	0.168
T020-300-187			0.273	6.930	7	300									0.223	0.223
T024-120-250			0.362	9.190	5	120									0.136	0.136
T024-210-250	0.024	0.610	0.360	9.140	6	210	0.280	32.00							0.202	0.202
T024-300-250			0.359	9.120	7	300									0.268	0.268
T026-120-250			0.366	9.300	5	120							1.000	25.40	0.147	0.147
T026-210-250	0.026	0.660	0.364	9.250	6	210	0.380	43.00	0.500	12.70					0.219	0.219
T026-300-250			0.364	9.250	7	300									0.290	0.290
T029-120-250			0.365	9.270	5	120	0.470	53.00							0.193	0.193
T029-210-250	0.029	0.740	0.366	9.300	6	210	0.510	58.00			0.250	6.350			0.273	0.273
T029-300-250			0.367	9.320	7	300	0.530	60.00							0.353	0.353
T032-120-250			0.371	9.420	5	120	0.690	78.00							0.213	0.213
T032-210-250	0.032	0.810	0.369	9.370	6	210	0.660	75.00							0.333	0.333
T032-300-250			0.371	9.420	7	300	0.700	79.00							0.421	0.421
T035-120-250			0.377	9.580	5	120	0.960	108.00							0.233	0.233
T035-210-250	0.035	0.890	0.375	9.530	6	210	0.920	104.00							0.365	0.365
T035-300-250			0.377	9.580	7	300	0.990	112.00							0.461	0.461
T038-120-375			0.547	13.890	5	120	1.210	137.00			0.375	9.530			0.215	0.215
T038-210-312	0.038	0.970	0.461	11.710	6	210	1.190	134.00	0.625	15.88	0.312	7.920	1.250	31.75	0.358	0.358
T038-300-312			0.462	11.730	7	300	1.240	140.00			0.312	7.920			0.462	0.462
T040-120-375			0.552	14.020	5	120	1.480	167.00			0.375	9.530			0.227	0.227
T040-210-312	0.040	1.020	0.465	11.810	6	210	1.460	165.00							0.377	0.377
T040-300-312			0.463	11.760	7	300	1.370	155.00							0.527	0.527
T042-120-312			0.467	11.860	5	120	1.550	175.00							0.280	0.280
T042-210-312	0.042	1.070	0.465	11.810	6	210	1.510	170.00			0.312	7.920			0.438	0.438
T042-300-312			0.464	11.790	7	300	1.500	169.00							0.595	0.595
T045-120-312			0.474	12.040	5	120	2.030	229.00							0.300	0.300
T045-210-312	0.045	1.140	0.471	11.960	6	210	1.980	224.00							0.469	0.469
T045-300-312			0.470	11.940	7	300	1.960	221.00							0.638	0.638
T049-120-375			0.559	14.200	5	120	2.450	277.00							0.327	0.327
T049-210-375	0.049	1.240	0.556	14.120	6	210	2.360	266.00							0.511	0.511
T049-300-375			0.558	14.170	7	300	2.540	287.00	1.000	25.40					0.645	0.645
T055-120-375			0.564	14.330	5	120	3.160	357.00							0.422	0.422
T055-210-375	0.055	1.400	0.564	14.330	6	210	3.310	374.00					2.000	50.80	0.628	0.628
T055-300-375			0.564	14.330	7	300	3.380	382.00			0.375	9.530			0.834	0.834
T059-120-375			0.572	14.530	5	120	4.150	469.00							0.453	0.453
T059-210-375	0.059	1.500	0.569	14.450	6	210	3.930	444.00							0.733	0.733
T059-300-375			0.570	14.480	7	300	4.120	465.00							0.954	0.954
T063-120-375			0.575	14.610	5	120	4.540	513.00							0.546	0.546
T063-210-375	0.063	1.600	0.578	14.680	6	210	5.070	572.00							0.782	0.782
T063-300-375			0.577	14.660	7	300	4.970	561.00							1.082	1.082
T072-120-500			0.749	19.020	5	120	7.110	803.00							0.552	0.552
T072-210-500	0.072	1.830	0.750	19.050	6	210	7.400	835.00							0.822	0.822
T072-300-500			0.750	19.050	7	300	7.520	849.00							1.092	1.092
T081-120-500			0.761	19.330	5	120	9.390	1060.00			0.500	12.700			0.702	0.702
T081-210-500	0.081	2.060	0.764	19.410	6	210	10.470	1182.00							1.006	1.006
T081-300-500			0.763	19.380	7	300	10.240	1156.00	1.250	31.75			2.500	63.50	1.391	1.391
T085-120-625			0.926	23.520	5	120	11.110	1254.00							0.652	0.652
T085-210-625	0.085	2.160	0.927	23.550	6	210	11.570	1306.00							0.971	0.971
T085-300-625			0.927	23.550	7	300	11.760	1328.00							1.289	1.289
T092-120-625			0.940	23.880	5	120	14.940	1687.00			0.625	15.880			0.706	0.706
T092-210-625	0.092	2.340	0.936	23.770	6	210	14.110	1593.00							1.143	1.143
T092-300-625			0.938	23.830	7	300	14.790	1670.00	1.500	38.10			3.000	76.20	1.488	1.488
T096-120-625			0.949	24.100	5	120	17.630	1990.00							0.736	0.736
T096-210-625	0.096	2.440	0.944	23.980	6	210	16.650	1880.00							1.192	1.192
T096-300-625			0.943	23.950	7	300	16.290	1839.00							1.648	1.648





TORSION SPRINGS - STAINLESS STEEL 扭转式弹簧 - 不锈钢金属线																
Catalog Number 编号	d Wire Diameter d 线径		OD Outside Diameter OD 外径		Fig. Position of Ends Fig. 末端位置	Deflection Degree 变形量	T Approximate Torque Reference T 扭矩近似值 (参考)		Test Point 1/2 E 测试点 1/2 E		M Suggested Mandrel Size M 建议心轴尺寸		E Leg Length E 支杆长度		A Min. Axial Space** A 最小轴向间距	
	in	mm	in	mm			in-lb	N-mm	in	mm	in	mm	in	mm	in	mm
T105-120-750			1.117	28.370	5	120	21.280	2403.00							0.805	0.805
T105-210-750	0.105	2.670	1.118	28.400	6	210	22.240	2511.00	1.750	44.45			3.500	88.90	1.199	1.199
T105-300-750			1.114	28.300	7	300	21.040	2375.00							1.698	1.698
T112-120-750			1.132	28.750	5	120	27.090	3058.00							0.859	0.859
T112-210-750	0.112	2.840	1.126	28.600	6	210	25.680	2899.00							1.391	1.391
T112-300-750			1.128	28.650	7	300	26.940	3042.00			0.750	19.050			1.811	1.811
T125-120-750			1.148	29.160	5	120	35.240	3979.00							1.084	1.084
T125-210-750	0.125	3.180	1.148	29.160	6	210	35.870	4050.00	2.000	50.80			4.000	101.60	1.678	1.678
T125-300-750			1.145	29.080	7	300	34.020	3841.00							2.396	2.396
T135-120-750			1.162	29.510	5	120	41.240	4656.00							1.305	1.305
T135-210-750	0.135	3.430	1.160	29.460	6	210	41.090	4639.00							2.082	2.082
T135-300-750			1.162	29.510	7	300	43.290	4887.00							2.723	2.723