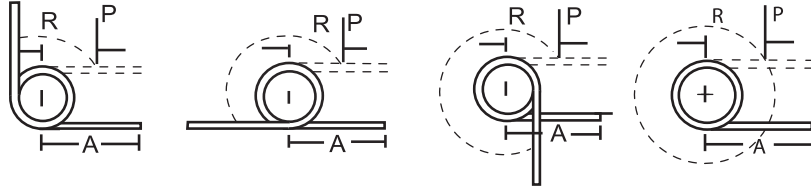


Springs

Torsion Springs - 90° - 360° Free Position

Music wire (Plated) or Stainless steel (Passivated) Stock torsion springs have been carefully designed to represent the most commonly used specifications. For your convenience and ease of selection the Torsion springs section is divided into four categories by free position of legs (90°, 180°, 270°, 360°).

90° Deflection 180° Deflection 270° Deflection 360° Deflection



90° Free Position 180° Free Position 270° Free Position 360° Free Position

"R" - Position of load
 "R" - In all case is 1/2 the value of "A"
 "A" - Is length of leg.

General Note

- Lengths of legs are show as "A" in sketches below. It is to be noted that "R" (Radius in inches) where force is applied is always 1/2 of "A" (Length of legs). Dotted lines of legs show loaded position where values of "T" (Torque) will be achieved at "R" (Radius).

- To Translate torque values to direct load : Use formula $P=T/R$

P = Load applied at radius(R)

T = Torque

Example : Part LTL 012 A 01 What is the load where R = .187, Using $P = T/R = .050/.187 = .267$ lbs.

- To Calculate torque values other than those listed a direct proportion may be used. Example : Part LTL 012 A 01 Torque show in catalog listing is .250 inch/lbs. for 180° deflection; Therefore, torque at 90° deflection would be .125 inch/lbs. Inspection of load - Loads should always be checked at the radius ("R" value) When ordering please choose either LTL (Left hand wound) or LTR (Righth hand wound) for required application.

Specifications

- ▶ Material : Music wire, 302 stainless steel
- ▶ Plating : Zinc plated .0002" (ASTM B-633)
- ▶ Passivation : (ASTM A-967)(Mil Spec. No. QQ-P-35)
- ▶ Tolerances on torque : 10%
- ▶ Tolerances on free position :

From 3 to 10 total coils (Incl.) ±10°

From 11 to 20 total coils (Incl.) ±15°

Tolerances on Outside Diameter

Inches		Millimeters	
.093"	- .125"	±.004"	2.36 - 3.17 ±.10mm
.126"	- .200"	±.005"	3.18 - 5.08 ±.13mm
.201"	- .300"	±.007"	5.09 - 7.62 ±.18mm
.301"	- .410"	±.010"	7.63 - 10.41 ±.26mm
.411"	- .500"	±.013"	10.42 - 12.7 ±.33mm
.501"	- .700"	±.015"	12.71 - 17.78 ±.38mm
.701"	- .875"	±.020"	17.79 - 22.23 ±.51mm
.876"	- 1.125"	±.025"	22.24 - 28.58 ±.64mm
1.126"	- 1.218"	±.030"	28.59 - 30.94 ±.76mm
1.219"	- 1.250"	±.035"	30.95 - 31.75 ±.89mm

Number	* Price (Pkg./20)		Mfr's	Free Posit.	Wire Dia.		Outside Dia.		T Torque		R Radius		Suggested Mandrel Size		A Length of Leg	L Body Length Approx
	Alloy	302			In.	mm	In.	mm	In-lb	kg-mm	In.	mm	In.	mm	In.	In.
8T01 2001	---	---	LT 012A 01	90	.012	0.30	.105	2.67	.050	0.576	.187	4.75	.065	1.65	0.375	.054
8T01 2002	---	---	LT 012A 02	180			.110	2.79			.187	4.75	.067	1.70	0.375	.086
8T01 4002	---	---	LT 014A 02	180	.014	.36	.133	3.38	.075	0.864	.250	6.35	.062	1.57	0.500	.103
8T01 4003	---	---	LT 014A 03	270			.124	3.15			.250	6.35	.062	1.57	0.500	.156
8T01 5002	---	---	LT 015B 02	180			.131	3.33	.100	1.15	.250	6.35	.078	1.98	0.500	.107
8T01 5004	---	---	LT 015B 04	180	.015	.38	.184	4.67			.375	9.52	.109	2.77	0.750	.075
8T01 7001	---	---	LT 017C 01	90			.160	4.06	.125	1.44	.250	6.35	.093	2.36	0.500	.077
8T01 7005	---	---	LT 017C 05	270			.259	6.58			.375	9.52	.175	4.44	0.750	.120
8T01 8002	---	---	LT 018C 02	180			.165	4.19			.250	6.35	.109	2.77	0.500	.150
8T01 8004	---	---	LT 018C 04	180	.018	.46	.217	5.51	.150	1.73	.375	9.52	.140	3.56	0.750	.109
8T01 8006	---	---	LT 018C 06	360			.234	5.94			.375	9.52	.156	3.96	0.750	.200
8T02 0003	---	---	LT 020D 03	270			.175	4.44			.375	9.52	.105	2.67	0.750	.240
8T02 0004	---	---	LT 020D 04	180	.020	.51	.242	6.15	.200	2.30	.500	12.70	.160	4.06	1.000	.125
8T02 0006	---	---	LT 020D 06	360			.254	6.45			.500	12.70	.172	4.37	1.000	.215
8T02 1002	---	---	LT 021D 02	180			.186	4.72			.375	9.52	.109	2.77	0.750	.173
8T02 1004	---	---	LT 021D 04	180	.021	.53	.248	6.30	.250	2.88	.500	12.70	.156	3.96	1.000	.127
8T02 1005	---	---	LT 021D 05	270			.246	6.25			.500	12.70	.148	3.76	1.000	.195

* Alloy - Music wire and Type 302 Stainless Steel.