

# Bearing Preload

## 5 Wave and Greater Gap End Construction (Cont.)

## Metric Series

Spirolox P/N	Bearing Outside $\phi$	Load Newtons P	Work Height $H_w$	Free Height $H_f$ (Ref.)	Number Of Waves N	Spring Thickness F**	Radial Wall E**	Spring Rate N/mm* $K_R$
TB 906	230	631.9	3.96	5.1	9	0.89	9.53	570
TB 925	235	645.2	3.96	5.2	9	0.89	9.53	532
TB 945	240	658.6	3.96	5.3	9	0.89	9.53	498
TB 984	250	685.3	3.96	5.5	9	0.89	9.53	439
TB 1024	260	712.0	3.96	5.8	9	0.89	9.53	388
TB 1043	265	725.3	3.96	5.9	9	0.89	9.53	366
TB 1063	270	743.1	3.96	6.1	9	0.89	9.53	345
TB 1102	280	769.8	3.96	6.5	9	0.89	9.53	308
TB 1142	290	796.5	3.96	6.8	9	0.89	9.53	276
TB 1181	300	823.2	3.96	7.3	9	0.89	9.53	249
TB 1221	310	849.9	3.96	6.1	9	1.07	9.53	392
TB 1260	320	876.6	3.96	6.4	9	1.07	9.53	355
TB 1339	340	934.5	3.96	7.1	9	1.07	9.53	295
TB 1378	350	961.1	3.96	7.5	9	1.07	9.53	270
TB 1417	360	987.9	3.96	6.6	10	1.07	9.53	377
TB 1457	370	1014.6	3.96	6.9	10	1.07	9.53	346
TB 1496	380	1041.3	3.96	7.2	10	1.07	9.53	319
TB 1535	390	1072.4	3.96	7.6	10	1.07	9.53	294
TB 1575	400	1099.1	3.96	8.0	10	1.07	9.53	272
TB 1614	410	1125.8	3.96	7.7	10	1.07	11.10	297
TB 1654	420	1152.5	3.96	8.1	10	1.07	11.10	276
TB 1693	430	1179.2	3.96	7.1	11	1.07	11.10	376
TB 1732	440	1205.9	3.96	7.4	11	1.07	11.10	350
TB 1811	460	1263.7	3.96	8.1	11	1.07	11.10	305
TB 1890	480	1317.1	3.96	7.4	12	1.07	11.10	380
TB 1969	500	1370.5	3.96	8.1	12	1.07	11.10	335
TB 2126	540	1481.8	3.96	8.0	13	1.07	11.10	364
TB 2284	580	1593.0	3.96	8.0	14	1.07	11.10	394

\* Spring rate theoretical.

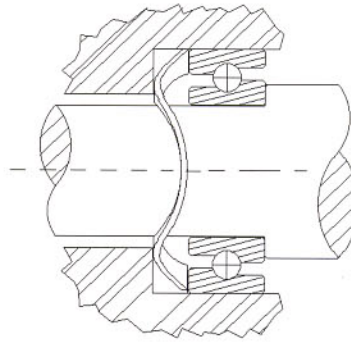
\*\* Material size subject to change.

All dimensions metric.



# Bearing Preload Cross-Reference Guide

To select the appropriate Spirolox wave spring for your bearing size, use the handy cross-reference guide presented on this page. The numbers listed for the various categories represent standard bearing part numbers and/or the suffix of a standard bearing size.



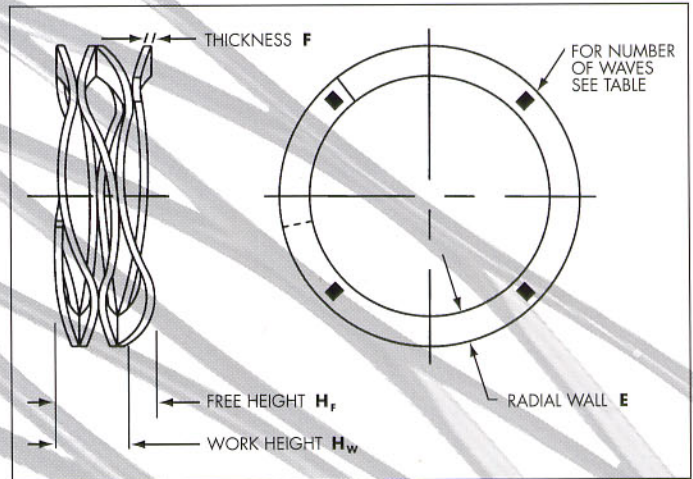
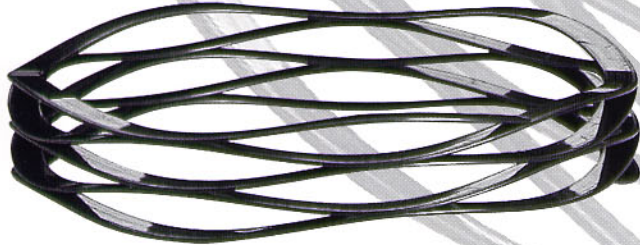
Bearing OD (mm)	Extremely Light 61900	Light 6200	Medium 6300	Heavy 6400	Spirolox Part Number
16					TB-63
19					TB-75
22	61900				TB-87
24	61901				TB-95
26					TB-102
28	61902				TB-110
30	61903	6200			TB-118
32		6201			TB-126
35		6202	6300		TB-138
37	61904		6301		TB-146
40		6203			TB-158
42	61905		6302		TB-165
47	61906	6204	6303		TB-185
52		6205	6304		TB-205
55	61907				TB-217
62	61908	6206	6305	6403	TB-244
68	61909				TB-268
70					TB-276
72	61910	6207	6306	6404	TB-284
75					TB-295
80	61911	6208	6307	6405	TB-315
85	61912	6209			TB-335
90	61913	6210	6308	6406	TB-354
95					TB-374
100	61914	6211	6309	6407	TB-394
105	61915				TB-413
110	61916	6212	6310	6408	TB-433
115					TB-453
120	61917	6213	6311	6409	TB-472
125	61918	6214			TB-492
130	61919	6215	6312	6410	TB-512
135					TB-532
140	61920	6216	6313	6411	TB-551
145	61921				TB-571
150	61922	6217	6314	6412	TB-591
160		6218	6315	6413	TB-630
165	61924				TB-650
170		6219	6316		TB-669

Bearing OD (mm)	Extremely Light 61900	Light 6200	Medium 6300	Heavy 6400	Spirolox Part Number
175					TB-689
180	61926	6220	6317	6414	TB-709
185					TB-728
190	61928	6221	6318	6415	TB-748
200		6222	6319	6416	TB-787
205					TB-807
210	61930			6417	TB-827
215		6224	6320		TB-847
220	61932				TB-866
225			6321	6418	TB-886
230	61934	6226			TB-906
235					TB-925
240			6322		TB-945
250	61936	6228		6419	TB-984
260	61938		6324		TB-1024
265				6420	TB-1043
270		6230			TB-1063
280	61940		6326		TB-1102
290		6232		6421	TB-1142
300			6328		TB-1181
310		6234			TB-1221
320		6236	6330	6422	TB-1260
340		6238	6332		TB-1339
350					TB-1378
360		6240	6334		TB-1417
370					TB-1457
380			6336		TB-1496
390					TB-1535
400		6244	6338		TB-1575
410					TB-1614
420			6340		TB-1654
430					TB-1693
440		6248	6342		TB-1732
460			6344		TB-1811
480		6252			TB-1890
500		6256	6348		TB-1969
540		6260	6352		TB-2126
580		6264	6356		TB-2284



# Peak-to-Peak Springs

These springs are lighter and offer a space savings over round wire coiled springs, with the same spring force. Series CM sizes range from .625" through 2" bore diameter, and are manufactured with multiple turns. Available in light, medium, or heavy-duty spring force. Materials: carbon steel and 17-7PH stainless steel. Other materials available (page 4). Contact factory for design assistance.



## Peak-to-Peak Springs

## Inch Series

Spirolox P/N	Bore $\phi$	Shaft $\phi$	Load Lbs. P	Work Height $H_w$	Free Height $H_f$ (Ref.)	Number of Turns L	Number of Waves N	Spring Thickness F **	Radial Wall E **	Spring Rate* Lbs./In.
CML 62- 3	0.625	0.450	6	0.055	0.160	3	2.5	0.010	0.058	57
CML 62- 4	0.625	0.450	6	0.068	0.210	4	2.5	0.010	0.058	42
CML 62- 5	0.625	0.450	6	0.085	0.260	5	2.5	0.010	0.058	34
CML 62- 6	0.625	0.450	6	0.106	0.320	6	2.5	0.010	0.058	28
CML 62- 7	0.625	0.450	6	0.128	0.370	7	2.5	0.010	0.058	25
CML 62- 9	0.625	0.450	6	0.165	0.480	9	2.5	0.010	0.058	19
CML 62-11	0.625	0.450	6	0.202	0.590	11	2.5	0.010	0.058	15
CML 62-13	0.625	0.450	6	0.238	0.690	13	2.5	0.010	0.058	13
CMM 62- 3	0.625	0.450	12	0.104	0.150	3	3.5	0.010	0.058	261
CMM 62- 4	0.625	0.450	12	0.130	0.190	4	3.5	0.010	0.058	200
CMM 62- 5	0.625	0.450	12	0.175	0.250	5	3.5	0.010	0.058	160
CMM 62- 6	0.625	0.450	12	0.206	0.300	6	3.5	0.010	0.058	128
CMM 62- 7	0.625	0.450	12	0.246	0.350	7	3.5	0.010	0.058	115
CMM 62- 9	0.625	0.450	12	0.317	0.450	9	3.5	0.010	0.058	90
CMM 62-11	0.625	0.450	12	0.386	0.550	11	3.5	0.010	0.058	73
CMM 62-13	0.625	0.450	12	0.454	0.650	13	3.5	0.010	0.058	61
CML 75- 3	0.750	0.550	7	0.142	0.220	3	3.5	0.008	0.071	90
CML 75- 4	0.750	0.550	7	0.187	0.290	4	3.5	0.008	0.071	68
CML 75- 5	0.750	0.550	7	0.246	0.370	5	3.5	0.008	0.071	56
CML 75- 6	0.750	0.550	7	0.285	0.440	6	3.5	0.008	0.071	45
CML 75- 7	0.750	0.550	7	0.348	0.520	7	3.5	0.008	0.071	41
CML 75- 9	0.750	0.550	7	0.446	0.670	9	3.5	0.008	0.071	31
CML 75-12	0.750	0.550	7	0.580	0.880	12	3.5	0.008	0.071	23
CMM 75- 3	0.750	0.550	13	0.159	0.220	3	3.5	0.010	0.078	213
CMM 75- 4	0.750	0.550	13	0.203	0.290	4	3.5	0.010	0.078	149
CMM 75- 5	0.750	0.550	13	0.270	0.380	5	3.5	0.010	0.078	118
CMM 75- 6	0.750	0.550	13	0.314	0.440	6	3.5	0.010	0.078	103
CMM 75- 7	0.750	0.550	13	0.381	0.520	7	3.5	0.010	0.078	94
CMM 75- 9	0.750	0.550	13	0.489	0.670	9	3.5	0.010	0.078	72
CMM 75-12	0.750	0.550	13	0.649	0.900	12	3.5	0.010	0.078	52
CMH 75- 3	0.750	0.550	22	0.169	0.220	3	3.5	0.013	0.079	431
CMH 75- 4	0.750	0.550	22	0.215	0.280	4	3.5	0.013	0.079	338
CMH 75- 5	0.750	0.550	22	0.291	0.370	5	3.5	0.013	0.079	278
CMH 75- 6	0.750	0.550	22	0.335	0.430	6	3.5	0.013	0.079	232
CMH 75- 7	0.750	0.550	22	0.405	0.510	7	3.5	0.013	0.079	210

\* Spring rate theoretical.

\*\* Material size subject to change



**Peak-to-Peak Springs (Cont.)**

**Inch Series**

Spirolox P/N	Bore $\phi$	Shaft $\phi$	Load Lbs. P	Work Height $H_w$	Free Height $H_f$ (Ref.)	Number of Turns L	Number of Waves N	Spring Thickness F**	Radial Wall E**	Spring Rate* Lbs./In.
CMH 75- 9	0.750	0.550	22	0.526	0.670	9	3.5	0.013	0.079	153
CMH 75-12	0.750	0.550	22	0.699	0.890	12	3.5	0.013	0.079	115
CML 87- 3	0.875	0.600	12	0.117	0.190	3	3.5	0.010	0.097	164
CML 87- 4	0.875	0.600	12	0.158	0.250	4	3.5	0.010	0.097	130
CML 87- 5	0.875	0.600	12	0.207	0.320	5	3.5	0.010	0.097	106
CML 87- 6	0.875	0.600	12	0.242	0.380	6	3.5	0.010	0.097	87
CML 87- 7	0.875	0.600	12	0.287	0.450	7	3.5	0.010	0.097	74
CML 87- 9	0.875	0.600	12	0.378	0.590	9	3.5	0.010	0.097	57
CML 87-12	0.875	0.600	12	0.498	0.780	12	3.5	0.010	0.097	43
CMM 87- 3	0.875	0.600	18	0.124	0.190	3	3.5	0.012	0.094	273
CMM 87- 4	0.875	0.600	18	0.164	0.250	4	3.5	0.012	0.094	209
CMM 87- 5	0.875	0.600	18	0.214	0.320	5	3.5	0.012	0.094	170
CMM 87- 6	0.875	0.600	18	0.252	0.380	6	3.5	0.012	0.094	141
CMM 87- 7	0.875	0.600	18	0.296	0.450	7	3.5	0.012	0.094	117
CMM 87- 9	0.875	0.600	18	0.385	0.580	9	3.5	0.012	0.094	92
CMM 87-12	0.875	0.600	18	0.509	0.770	12	3.5	0.012	0.094	69
CMH 87- 3	0.875	0.600	25	0.166	0.220	3	3.5	0.014	0.094	463
CMH 87- 4	0.875	0.600	25	0.214	0.290	4	3.5	0.014	0.094	329
CMH 87- 5	0.875	0.600	25	0.278	0.370	5	3.5	0.014	0.094	272
CMH 87- 6	0.875	0.600	25	0.327	0.440	6	3.5	0.014	0.094	221
CMH 87- 7	0.875	0.600	25	0.395	0.530	7	3.5	0.014	0.094	185
CMH 87- 9	0.875	0.600	25	0.510	0.680	9	3.5	0.014	0.094	147
CMH 87-12	0.875	0.600	25	0.670	0.890	12	3.5	0.014	0.094	114
CML 100-3	1.000	0.730	12	0.084	0.190	3	3.5	0.010	0.097	113
CML 100-4	1.000	0.730	12	0.108	0.260	4	3.5	0.010	0.097	79
CML 100-5	1.000	0.730	12	0.145	0.330	5	3.5	0.010	0.097	65
CML 100-6	1.000	0.730	12	0.165	0.390	6	3.5	0.010	0.097	53
CML 100-7	1.000	0.730	12	0.201	0.470	7	3.5	0.010	0.097	45
CML 100-9	1.000	0.730	12	0.258	0.600	9	3.5	0.010	0.097	35
CML 100-12	1.000	0.730	12	0.342	0.800	12	3.5	0.010	0.097	26
CML 100-15	1.000	0.730	12	0.445	1.010	15	3.5	0.010	0.097	21
CML 100-18	1.000	0.730	12	0.519	1.200	18	3.5	0.010	0.097	18
CML 100-21	1.000	0.730	12	0.633	1.430	21	3.5	0.010	0.097	15
CML 100-24	1.000	0.730	12	0.710	1.620	24	3.5	0.010	0.097	13
CMM 100-3	1.000	0.730	18	0.087	0.190	3	3.5	0.012	0.094	175
CMM 100-4	1.000	0.730	18	0.113	0.250	4	3.5	0.012	0.094	131
CMM 100-5	1.000	0.730	18	0.148	0.320	5	3.5	0.012	0.094	105
CMM 100-6	1.000	0.730	18	0.175	0.380	6	3.5	0.012	0.094	88
CMM 100-7	1.000	0.730	18	0.212	0.450	7	3.5	0.012	0.094	76
CMM 100-9	1.000	0.730	18	0.276	0.580	9	3.5	0.012	0.094	59
CMM 100-12	1.000	0.730	18	0.360	0.770	12	3.5	0.012	0.094	44
CMM 100-15	1.000	0.730	18	0.452	0.970	15	3.5	0.012	0.094	35
CMM 100-18	1.000	0.730	18	0.549	1.170	18	3.5	0.012	0.094	29
CMM 100-21	1.000	0.730	18	0.650	1.370	21	3.5	0.012	0.094	25
CMM 100-24	1.000	0.730	18	0.720	1.540	24	3.5	0.012	0.094	22
CMH 100-3	1.000	0.730	25	0.131	0.220	3	3.5	0.014	0.094	281
CMH 100-4	1.000	0.730	25	0.174	0.290	4	3.5	0.014	0.094	216
CMH 100-5	1.000	0.730	25	0.227	0.380	5	3.5	0.014	0.094	163
CMH 100-6	1.000	0.730	25	0.266	0.450	6	3.5	0.014	0.094	136
CMH 100-7	1.000	0.730	25	0.319	0.530	7	3.5	0.014	0.094	118
CMH 100-9	1.000	0.730	25	0.406	0.680	9	3.5	0.014	0.094	91
CMH 100-12	1.000	0.730	25	0.541	0.900	12	3.5	0.014	0.094	70
CMH 100-15	1.000	0.730	25	0.688	1.140	15	3.5	0.014	0.094	55
CMH 100-18	1.000	0.730	25	0.813	1.350	18	3.5	0.014	0.094	47
CMH 100-21	1.000	0.730	25	0.957	1.590	21	3.5	0.014	0.094	39
CMH 100-24	1.000	0.730	25	1.083	1.800	24	3.5	0.014	0.094	35
CML 112-3	1.125	0.850	12	0.146	0.240	3	3.5	0.012	0.094	128
CML 112-4	1.125	0.850	12	0.186	0.320	4	3.5	0.012	0.094	90
CML 112-5	1.125	0.850	12	0.250	0.410	5	3.5	0.012	0.094	75
CML 112-6	1.125	0.850	12	0.295	0.490	6	3.5	0.012	0.094	62

\* Spring rate theoretical.

\*\* Material size subject to change.



**Peak-to-Peak Springs (Cont.)**

**Inch Series**

Spirolox P/N	Bore $\phi$	Shaft $\phi$	Load Lbs. P	Work Height $H_w$	Free Height $H_f$ (Ref.)	Number of Turns L	Number of Waves N	Spring Thickness F**	Radial Wall E**	Spring Rate* Lbs./In.
CML 112- 7	1.125	0.850	12	0.344	0.570	7	3.5	0.012	0.094	53
CML 112- 8	1.125	0.850	12	0.392	0.650	8	3.5	0.012	0.094	47
CML 112-10	1.125	0.850	12	0.488	0.810	10	3.5	0.012	0.094	37
CML 112-13	1.125	0.850	12	0.659	1.080	13	3.5	0.012	0.094	29
CML 112-16	1.125	0.850	12	0.807	1.330	16	3.5	0.012	0.094	23
CML 112-20	1.125	0.850	12	1.017	1.670	20	3.5	0.012	0.094	18
CMM 112- 3	1.125	0.850	20	0.160	0.260	3	3.5	0.014	0.094	200
CMM 112- 4	1.125	0.850	20	0.202	0.340	4	3.5	0.014	0.094	145
CMM 112- 5	1.125	0.850	20	0.270	0.440	5	3.5	0.014	0.094	118
CMM 112- 6	1.125	0.850	20	0.318	0.520	6	3.5	0.014	0.094	99
CMM 112- 7	1.125	0.850	20	0.381	0.620	7	3.5	0.014	0.094	84
CMM 112- 8	1.125	0.850	20	0.427	0.700	8	3.5	0.014	0.094	73
CMM 112-10	1.125	0.850	20	0.536	0.880	10	3.5	0.014	0.094	58
CMM 112-13	1.125	0.850	20	0.708	1.150	13	3.5	0.014	0.094	45
CMM 112-16	1.125	0.850	20	0.861	1.410	16	3.5	0.014	0.094	36
CMM 112-20	1.125	0.850	20	1.088	1.770	20	3.5	0.014	0.094	29
CMH 112- 3	1.125	0.850	30	0.178	0.250	3	3.5	0.018	0.094	417
CMH 112- 4	1.125	0.850	30	0.229	0.330	4	3.5	0.018	0.094	297
CMH 112- 5	1.125	0.850	30	0.303	0.420	5	3.5	0.018	0.094	256
CMH 112- 6	1.125	0.850	30	0.350	0.500	6	3.5	0.018	0.094	200
CMH 112- 7	1.125	0.850	30	0.421	0.590	7	3.5	0.018	0.094	178
CMH 112- 8	1.125	0.850	30	0.470	0.660	8	3.5	0.018	0.094	158
CMH 112-10	1.125	0.850	30	0.593	0.830	10	3.5	0.018	0.094	127
CMH 112-13	1.125	0.850	30	0.787	1.100	13	3.5	0.018	0.094	96
CMH 112-16	1.125	0.850	30	0.956	1.340	16	3.5	0.018	0.094	78
CMH 112-20	1.125	0.850	30	1.202	1.690	20	3.5	0.018	0.094	61
CML 125- 3	1.250	1.000	12	0.084	0.230	3	3.5	0.012	0.094	82
CML 125- 4	1.250	1.000	12	0.113	0.310	4	3.5	0.012	0.094	61
CML 125- 5	1.250	1.000	12	0.149	0.400	5	3.5	0.012	0.094	48
CML 125- 6	1.250	1.000	12	0.172	0.460	6	3.5	0.012	0.094	42
CML 125- 7	1.250	1.000	12	0.207	0.550	7	3.5	0.012	0.094	35
CML 125- 8	1.250	1.000	12	0.227	0.620	8	3.5	0.012	0.094	31
CML 125-10	1.250	1.000	12	0.301	0.790	10	3.5	0.012	0.094	25
CML 125-13	1.250	1.000	12	0.395	1.030	13	3.5	0.012	0.094	19
CML 125-16	1.250	1.000	12	0.467	1.250	16	3.5	0.012	0.094	15
CML 125-20	1.250	1.000	12	0.591	1.570	20	3.5	0.012	0.094	12
CMM 125- 3	1.250	1.000	20	0.124	0.280	3	3.5	0.014	0.094	128
CMM 125- 4	1.250	1.000	20	0.165	0.370	4	3.5	0.014	0.094	98
CMM 125- 5	1.250	1.000	20	0.215	0.470	5	3.5	0.014	0.094	78
CMM 125- 6	1.250	1.000	20	0.253	0.560	6	3.5	0.014	0.094	65
CMM 125- 7	1.250	1.000	20	0.303	0.660	7	3.5	0.014	0.094	56
CMM 125- 8	1.250	1.000	20	0.341	0.750	8	3.5	0.014	0.094	49
CMM 125-10	1.250	1.000	20	0.427	0.940	10	3.5	0.014	0.094	39
CMM 125-13	1.250	1.000	20	0.577	1.240	13	3.5	0.014	0.094	30
CMM 125-16	1.250	1.000	20	0.692	1.510	16	3.5	0.014	0.094	24
CMM 125-20	1.250	1.000	20	0.866	1.890	20	3.5	0.014	0.094	20
CMH 125- 3	1.250	1.000	30	0.158	0.270	3	3.5	0.018	0.094	268
CMH 125- 4	1.250	1.000	30	0.210	0.350	4	3.5	0.018	0.094	214
CMH 125- 5	1.250	1.000	30	0.272	0.453	5	3.5	0.018	0.094	166
CMH 125- 6	1.250	1.000	30	0.320	0.540	6	3.5	0.018	0.094	136
CMH 125- 7	1.250	1.000	30	0.384	0.640	7	3.5	0.018	0.094	117
CMH 125- 8	1.250	1.000	30	0.433	0.720	8	3.5	0.018	0.094	105
CMH 125-10	1.250	1.000	30	0.538	0.900	10	3.5	0.018	0.094	83
CMH 125-13	1.250	1.000	30	0.717	1.190	13	3.5	0.018	0.094	63
CMH 125-16	1.250	1.000	30	0.878	1.460	16	3.5	0.018	0.094	52
CMH 125-20	1.250	1.000	30	1.103	1.830	20	3.5	0.018	0.094	41
CML 137- 3	1.375	1.030	15	0.075	0.250	3	3.5	0.012	0.122	86
CML 137- 4	1.375	1.030	15	0.099	0.330	4	3.5	0.012	0.122	65
CML 137- 5	1.375	1.030	15	0.129	0.420	5	3.5	0.012	0.122	52
CML 137- 6	1.375	1.030	15	0.155	0.510	6	3.5	0.012	0.122	42

\* Spring rate theoretical.

\*\* Material size subject to change.