

Focus on the design and development of Wave springs, Spiral retaining rings.



Wave Springs

lisheng Wave spring



Lisprings®

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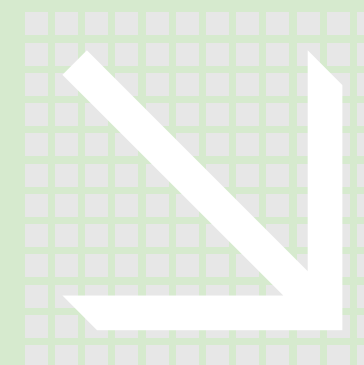
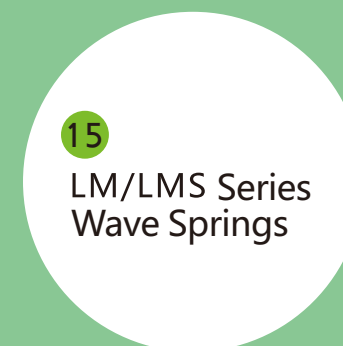
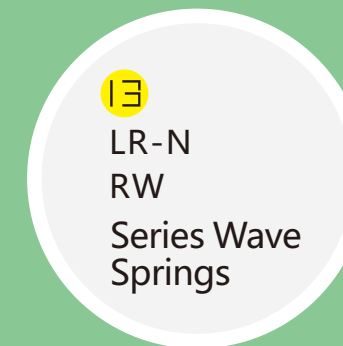
ZHEJIANG-CHINA

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lisheng Wave spring



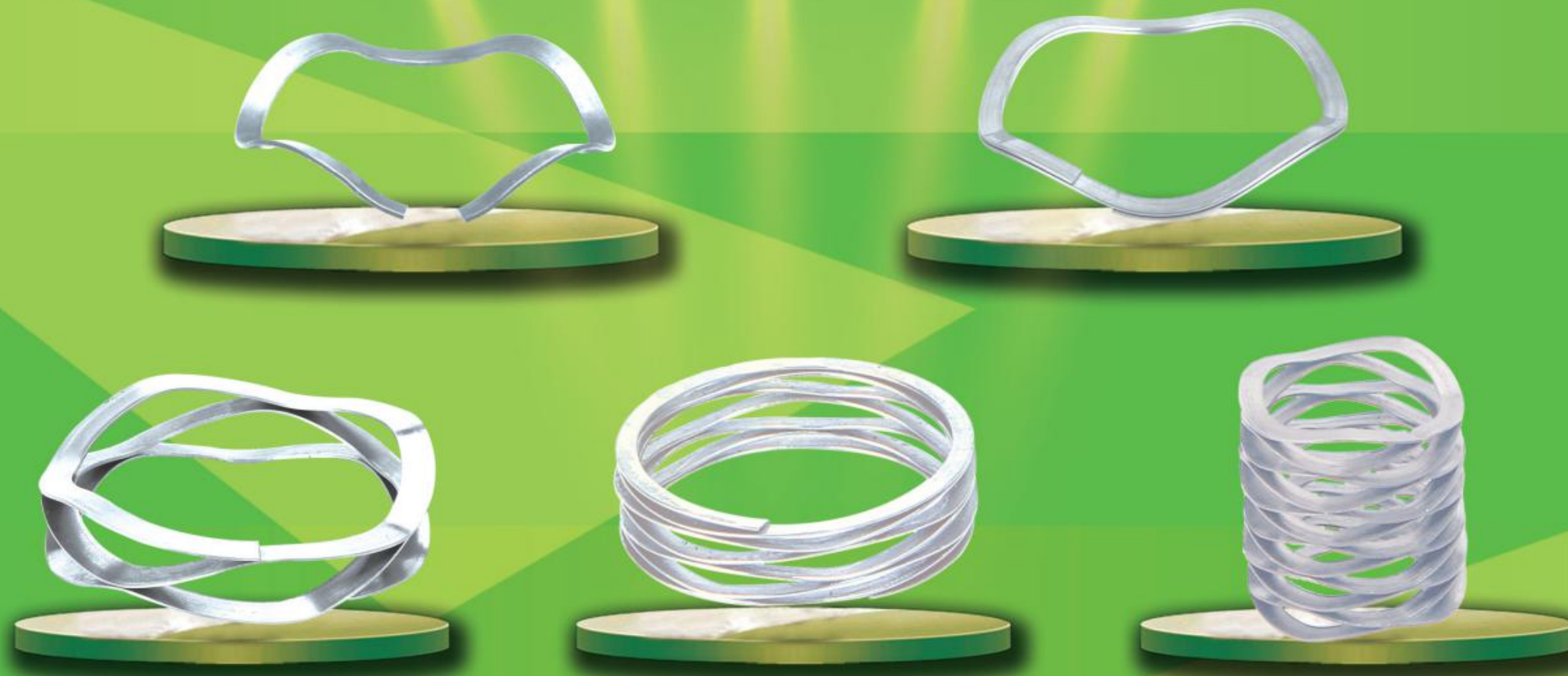
CONTENTS

Wave Springs

Focus on the design and development of Wave springs, Spiral retaining rings

THOSE WRITE Lisheng Spring, DOWN
WAVE SPRING wave spring **Leader in China**

WAVE SPRING



COMPANY SURVEY

The company has successfully passed ISO9001, IATF16949, ISO13485 and AS9100 quality management system certification. Our wave springs and spiral retaining rings are mainly used in aerospace, automobile, petroleum, medical equipment, wind energy, construction machinery, consumer electronics and other industrial products.





COMPANY AUTHENTICATION

- ISO 9001
- ISO 14001
- IATF 16949
- ISO 13485
- AS 9100



Product Introduction

Wave springs are precise flat wire compression springs that fit into assemblies where space is at a premium. Since the overall lengths and operating heights of wave springs are lower than those of conventional round wire springs, they will often reduce the size of the spring cavity by as much as 50%. Of course, this will also reduce the weight and raw material cost of the assembly.

Product Advantages

Wave springs are precise flat wire compression springs that fit into assemblies where space is at a premium.

OVER 3,000 STANDARDS, CARBON AND STAINLESS STEEL,CUSTOM PRODUCTS 5 MM TO 2,000 MM,NO TOOL FEE.



Wave Springs Type

	Multi Turn Wave Springs L/LM		Shim-End Wave Springs LS/LMS		Interlaced Wave Springs
	Gap Type Wave Spring LR/LB/JBT		Overlap Type Wave Spring LR/LB/JBT		Marcel Expanders Wave springs
	Round Wire Wave Springs RW		Nested Wave Springs		Linear Wave Springs LLS

Application examples



Wave Springs are especially suitable for applications requiring weight reduction and limited by small mounting space. Typical applications include aerospace, precision machinery, hydraulic seals and highhors.



Carbon Steel

[Oil Temper]

- This prehardened material is the standard material for wave springs.
- Less expensive option to Stainless Steel.
- Maximum Recommended Operating Temp

Stainless steel

[SUS304H Stainless steel]

304 is the standard stainless steel for spiral retaining rings. This widely used material is specified because of its combination of corrosion resistance and physical properties. 304 obtains its spring temper condition by cold working. Though it is categorized as being a nonmagnetic stainless, 304 becomes slightly magnetic as a result of cold working. It is not hardenable by heat treatment.

[SUS316 Stainless steel]

Nearly identical in physical properties and heat resistance to 302, 316 provides additional corrosion resistance, particularly against pitting, due to its molybdenum chemical content. 316 is generally used in food, chemical and sea water applications. 316 shows less magnetism than 302. However, as with 302, magnetism increases as the wire is cold reduced. This stainless grade is also not hardenable by heat treatment.

[SUS631(17-7PH/C) Stainless steel]

Similar in corrosion resistance to type 302, this alloy is used almost exclusively for wave springs, yet offers both high tensile and yield strengths for special ring applications. In fatigue and high stress applications, 17-7 out performs even the finest grade of carbon steel. Spring properties are achieved by precipitation hardening Condition C to Condition Ch900. As a result, the material may be subjected to a temperature of 650°F (343°C) without a loss of spring properties. 17-7 PH Condition CH900 exhibits magnetism similar to high carbon steel.

Superalloy Rigid INCONELX-750*

This nickel-chromium alloy is used most commonly in high temperature and corrosive environments. Two commonly specified tempers of Inconel are described below. Most commonly, Inconel X-750 is precipitation heat treated to a spring temper condition. In this state, it has temperature resistance to 700°F. The National Association of Corrosion Engineers (NACE) approves this hard temper to specification MR-01-75 (Rc50 maximum) for spiral retaining rings and wave/compression springs.

Material Finishes

[Passivation]

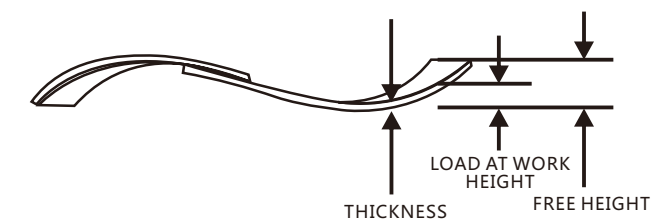
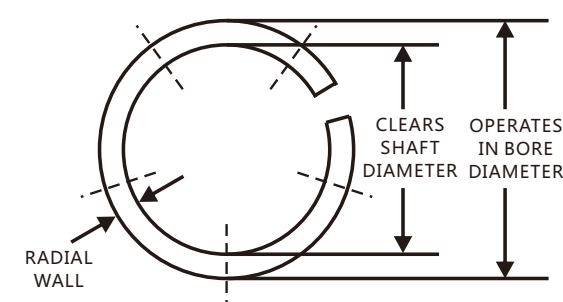
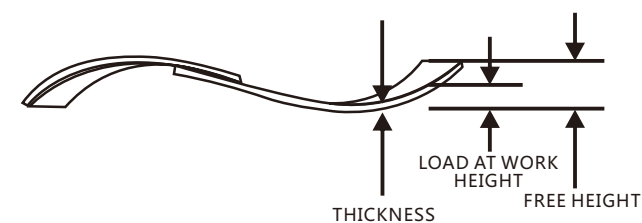
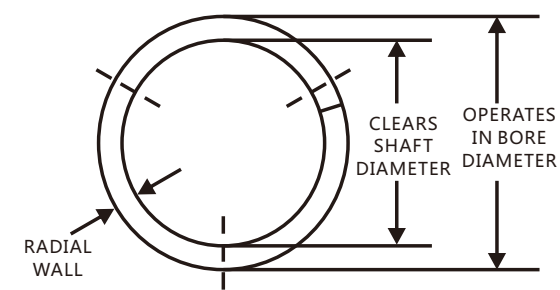
Passivation is an optional cleaning operation for stainless steel. It provides a bright finish and increased corrosion resistance. Passivation dissolves iron particles and other substances, which have become imbedded in the surface of stainless steel during production. If not dissolved, these foreign particles could promote rusting, discoloration or even pitting.

[Vapor Degrease/Ultrasoni]

This is the standard cleaning and finish for all stainless steels. The process removes oil and other organic compounds from the material surface by use of a chlorinated solvent. The solvent effectively removes oil and grease from the exposed surfaces of the ring or spring. Ultrasonics are used in forcing the solvent to act between the turns of the ring.

Vibratory Deburr/Hand Deburr

Though all circumferential surfaces and edges of Spirolox Rings are smooth, sharp corners are always present on the gap ends due to the cut-off operation. To break the sharp corners, achieving a blended/smooth surface finish, rings may either be vibratory or hand deburred to meet your specifications.



Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Bearing O.D. (mm)	O.D. (mm)	I.D. (mm) ¹	Free ² Height (mm)	Thickness (mm)	Number of Waves	Work Height (mm)	Min. Load (N)	Max. Load (N)
JBT-016	16.0	15.4 ±0.4	11.8 ±0.4	1.9	0.3	3	1.0	60	100
JBT-019	19.0	18.6 ±0.4	14.7 ±0.4	2.0	0.3	3	1.0	70	110
JBT-022	22.0	21.4 ±0.4	16.7 ±0.4	2.3	0.4	3	1.2	80	140
JBT-026	26.0	25.0 ±0.4	18.7 ±0.4	2.8	0.4	3	1.2	100	160
JBT-028	28.0	27.2 ±0.4	20.5 ±0.4	2.4	0.4	3	1.2	105	175
JBT-030	30.0	29.0 ±0.6	22.5 ±0.6	2.8	0.5	3	1.2	115	205
JBT-032	32.0	31.4 ±0.6	24.9 ±0.6	3.4	0.5	3	1.2	135	225
JBT-035	35.0	34.0 ±0.6	27.5 ±0.6	2.9	0.4	4	1.5	165	255
JBT-040	40.0	38.6 ±0.6	32.1 ±0.6	3.3	0.5	4	1.5	185	275
JBT-042	42.0	40.6 ±0.6	33.5 ±0.6	2.7	0.5	4	1.5	205	295
JBT-047	47.0	45.5 ±0.6	38.4 ±0.6	3.4	0.5	4	1.5	225	315
JBT-052	52.0	50.5 ±0.6	41.7 ±0.6	3.6	0.6	4	2.0	235	325

¹ Adjust the inner diameter according to the manufacturing process
² Reference dimension.
Theoretical dimension; measured in N/mm.

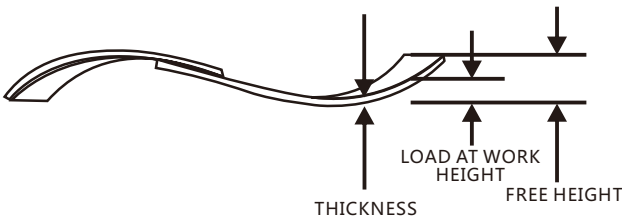
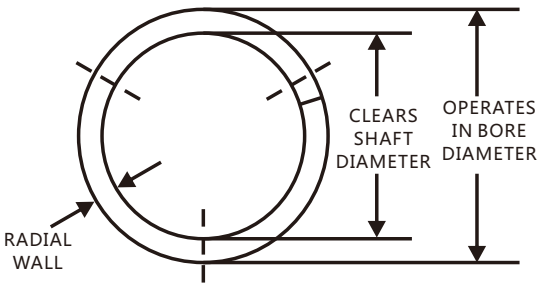


Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Bearing O.D. (mm)	O.D. (mm)	I.D. (mm) ¹	Free ² Height (mm)	Thickness (mm)	Number of Waves	Work Height (mm)	Min. Load (N)	Max. Load (N)
JBT-062	62.0	60.2 ±0.6	50.7 ±0.6	3.7	0.8	4	2.0	285	375
JBT-072	72.0	69.1 ±0.8	59.8 ±0.8	4.7	0.8	4	2.0	340	440
JBT-080	80.0	78.0 ±0.8	69.7 ±0.8	3.9	0.8	5	2.0	390	490
JBT-085	85.0	83.1 ±0.8	74.2 ±0.8	4.3	0.8	5	2.0	420	520
JBT-090	90.0	87.6 ±0.8	78.1 ±0.8	4.8	0.8	5	2.0	450	550
JBT-100	100.0	97.0 ±0.8	87.5 ±0.8	4.7	0.8	5	2.0	475	585
JBT-110	110.0	107.3 ±0.8	97.9 ±0.8	4.9	0.8	6	2.0	505	615
JBT-120	120.0	116.4 ±0.8	106.9 ±0.8	5.8	0.8	6	2.0	515	625
JBT-125	125.0	120.8 ±0.8	111.3 ±0.8	6.2	0.8	6	2.0	515	625
JBT-130	130.0	128.5 ±0.8	112.8 ±0.8	4.7	0.9	6	3.0	525	635
JBT-140	140.0	138.5 ±1.0	122.8 ±1.0	5.2	0.9	6	3.0	525	635
JBT-150	150.0	148.8 ±1.0	129.6 ±1.0	5.3	0.9	6	3.0	540	660
JBT-160	160.0	159.1 ±1.0	140.2 ±1.0	6.0	0.9	6	3.0	560	680
JBT-170	170.0	169.0 ±1.0	143.6 ±1.0	4.5	1.1	6	3.0	570	710
JBT-180	180.0	179.1 ±1.0	153.7 ±1.0	5.0	1.1	6	3.0	640	800
JBT-190	190.0	187.5 ±1.2	162.3 ±1.2	5.2	1.1	7	4.0	820	980
JBT-200	200.0	197.5 ±1.2	172.1 ±1.2	5.6	1.1	7	4.0	900	1060
JBT-215	215.0	212.0 ±1.2	186.6 ±1.2	7.2	1.1	7	4.0	1420	1600
JBT-240	240.0	237.0 ±1.2	211.6 ±1.2	8.8	1.1	7	4.0	1470	1670

¹ Adjust the inner diameter according to the manufacturing process
² Reference dimension.
Theoretical dimension; measured in N/mm.





Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Bearing O.D. (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LB-0035	9.00	6.86	25.8	1.00	1.50	3	.20	0.81	52
LB-0039	10.00	7.49	27.6	1.00	1.57	3	.20	1.02	48
LB-0043	11.00	8.46	29.4	1.00	1.83	3	.20	1.02	35
LB-0047	12.00	9.17	33.4	1.00	1.57	3	.25	1.17	59
LB-0051	13.00	9.53	37.8	1.00	1.57	3	.25	1.47	66
LB-0063	16.00	11.28	44.5	1.57	2.29	3	.25	1.98	65
LB-0075	19.00	14.28	53.4	1.57	3.05	3	.25	1.98	35
LB-0087	22.00	16.46	62.3	1.57	2.79	3	.30	2.39	48
LB-0095	24.00	18.46	66.7	1.57	3.56	3	.30	2.39	35
LB-0102	26.00	18.22	71.2	1.98	2.54	3	.41	3.38	111
LB-0110	28.00	20.22	75.6	1.98	2.79	3	.41	3.38	85
LB-0118	30.00	22.22	84.5	1.98	3.30	3	.41	3.38	66
LB-0126	32.00	24.22	89.0	1.98	3.81	3	.41	3.38	52
LB-0138	35.00	27.22	97.9	1.98	4.57	3	.41	3.38	38
LB-0146	37.00	28.72	102.3	1.98	3.81	3	.46	3.63	58
LB-0158	40.00	31.72	111.2	1.98	5.08	3	.46	3.63	37
LB-0165	42.00	33.72	115.7	1.98	3.05	4	.46	3.63	99
LB-0185	47.00	38.72	129.0	1.98	3.81	4	.46	3.63	68
LB-0205	52.00	43.11	142.4	2.36	3.56	4	.61	3.76	121
LB-0217	55.00	46.11	151.3	2.36	3.81	4	.61	3.76	100
LB-0244	62.00	51.69	169.1	2.36	4.32	4	.61	4.52	85
LB-0268	68.00	57.17	186.9	2.77	4.32	4	.76	4.78	131
LB-0276	70.00	59.17	191.3	2.77	4.32	4	.76	4.78	119
LB-0284	72.00	61.17	195.8	2.77	4.57	4	.76	4.78	108
LB-0295	75.00	64.17	204.7	2.77	5.08	4	.76	4.78	94
LB-0315	80.00	68.66	218.0	2.77	5.59	4	.76	4.78	76
LB-0335	85.00	71.38	231.4	2.77	5.59	4	.76	5.92	83
LB-0354	90.00	76.38	249.2	2.77	6.35	4	.76	5.92	68
LB-0374	95.00	81.38	262.5	2.77	7.37	4	.76	5.92	57

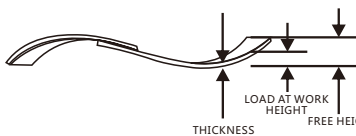
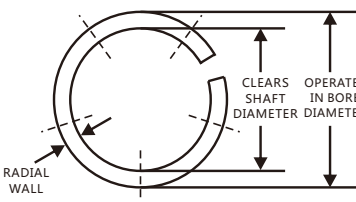
- Add suffix “-S17” for 17-7 stainless steel.
- Wave springs fit snug in housing.
- Reference dimension.
- Theoretical dimension; measured in N/mm.



Stock Items in carbon steel and 17-7 PH stainless steel.

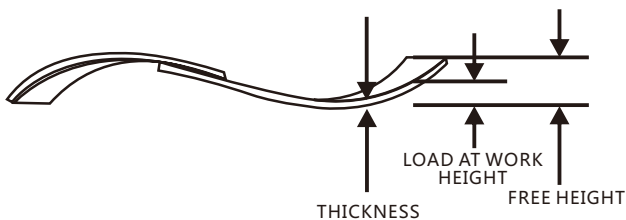
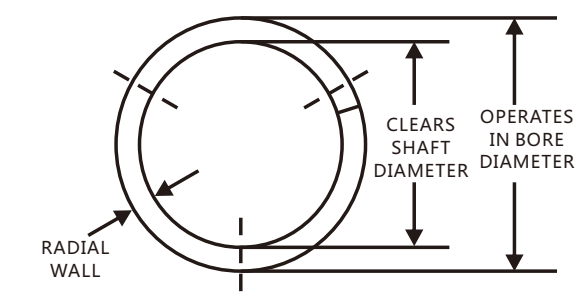
Item No.	Bearing O.D. (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LB-0394	100.00	86.38	275.9	2.77	4.57	5	.76	5.92	157
LB-0413	105.00	91.38	289.2	2.77	5.08	5	.76	5.92	134
LB-0433	110.00	96.38	302.6	2.77	5.33	5	.76	5.92	115
LB-0453	115.00	101.38	315.9	3.18	6.35	5	.76	5.92	99
LB-0472	120.00	106.38	329.3	3.18	7.11	5	.76	5.92	86
LB-0492	125.00	111.38	342.6	3.18	7.62	5	.76	5.92	76
LB-0512	130.00	116.38	356.0	3.18	8.64	5	.76	5.92	67
LB-0532	135.00	121.38	369.3	3.18	9.40	5	.76	5.92	59
LB-0551	140.00	126.38	382.7	3.18	6.86	6	.76	5.92	108
LB-0571	145.00	131.38	396.0	3.18	7.37	6	.76	5.92	97
LB-0591	150.00	136.38	404.9	3.18	7.87	6	.76	5.92	87
LB-0630	160.00	146.38	440.5	3.18	9.40	6	.76	5.92	71
LB-0650	165.00	151.38	453.9	3.18	10.41	6	.76	5.92	64
LB-0669	170.00	156.38	467.2	3.18	11.18	6	.76	5.92	58
LB-0689	175.00	154.16	480.6	3.96	8.13	6	.81	9.53	116
LB-0709	180.00	159.16	493.9	3.96	8.64	6	.81	9.53	105
LB-0728	185.00	164.16	507.3	3.96	9.14	6	.81	9.53	97
LB-0748	190.00	169.16	520.6	3.96	9.91	6	.81	9.53	88
LB-0787	200.00	179.16	547.3	3.96	7.11	7	.81	9.53	174
LB-0807	205.00	184.16	560.7	3.96	7.37	7	.81	9.53	161
LB-0827	210.00	189.16	578.5	3.96	7.87	7	.81	9.53	149
LB-0847	215.00	194.16	591.8	3.96	8.38	7	.81	9.53	138
LB-0866	220.00	199.16	605.2	3.96	8.64	7	.81	9.53	128
LB-0886	225.00	204.16	618.5	3.96	7.11	8	.81	9.53	203
LB-0906	230.00	209.16	631.9	3.96	6.10	9	.81	9.53	303
LB-0925	235.00	214.16	645.2	3.96	6.35	9	.81	9.53	283
LB-0945	240.00	219.16	658.6	3.96	6.35	9	.81	9.53	265
LB-0984	250.00	229.16	685.3	3.96	6.86	9	.81	9.53	232
LB-1024	260.00	239.16	712.0	3.96	7.37	9	.81	9.53	205
LB-1043	265.00	244.16	725.3	3.96	7.62	9	.81	9.53	193
LB-1063	270.00	249.16	743.1	3.96	8.13	9	.81	9.53	182
LB-1102	280.00	259.16	769.8	3.96	8.64	9	.81	9.53	162
LB-1142	290.00	269.16	796.5	3.96	9.40	9	.81	9.53	144
LB-1181	300.00	279.16	823.2	3.96	10.41	9	.81	9.53	129
LB-1221	310.00	289.16	849.9	3.96	7.11	9	1.07	9.53	264
LB-1260	320.00	299.16	876.6	3.96	7.62	9	1.07	9.53	239
LB-1339	340.00	319.16	934.5	3.96	8.64	9	1.07	9.53	198
LB-1378	350.00	329.16	961.1	3.96	9.40	9	1.07	9.53	180
LB-1417	360.00	339.16	987.9	3.96	7.62	10	1.07	9.53	271
LB-1457	370.00	349.16	1014.6	3.96	8.13	10	1.07	9.53	249
LB-1496	380.00	359.16	1041.3	3.96	8.64	10	1.07	9.53	229
LB-1535	390.00	369.16	1072.4	3.96	9.14	10	1.07	9.53	211
LB-1575	400.00	379.16	1099.1	3.96	9.65	10	1.07	9.53	196
LB-1614	410.00	382.82	1125.8	3.96	8.38	10	1.07	12.70	251
LB-1654	420.00	392.82	1152.5	3.96	8.89	10	1.07	12.70	233
LB-1693	430.00	402.82	1179.2	3.96	7.62	11	1.07	12.70	317
LB-1732	440.00	412.82	1205.9	3.96	8.13	11	1.07	12.70	295
LB-1811	460.00	432.82	1263.7	3.96	8.89	11	1.07	12.70	256
LB-1890	480.00	452.82	1317.1	3.96	8.13	12	1.07	12.70	318
LB-1969	500.00	472.82	1370.5	3.96	8.89	12	1.07	12.70	280
LB-2126	540.00	512.82	1481.8	3.96	8.89	13	1.07	12.70	303
LB-2284	580.00	552.82	1593.0	3.96	8.89	14	1.07	12.70	327

- Add suffix “-S17” for 17-7 stainless steel.
- Wave springs fit snug in housing.
- Reference dimension.
- Theoretical dimension; measured in N/mm.



LR Series-Overlap Type Single Turn Wave Springs

LR Series-Gap Type Single Turn Wave Springs



Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LR-0050	12.70	9.91	31.12	1.27	2.16	3	.20	1.02	35.00
LR-0062	15.88	12.19	44.45	1.27	2.41	3	.25	1.47	38.85
LR-0075	19.05	12.70	62.23	1.57	4.06	3	.25	1.98	25.03
LR-0087	22.23	15.75	71.12	1.57	3.30	3	.30	2.39	41.13
LR-0100	25.40	19.81	80.02	1.57	4.06	3	.30	2.39	32.20
LR-0112	28.58	21.34	88.91	1.98	3.30	3	.41	3.38	67.38
LR-0125	31.75	24.38	97.80	1.98	3.81	3	.41	3.38	53.55
LR-0137	34.93	27.69	106.69	1.98	4.83	3	.41	3.38	37.45
LR-0150	38.10	29.72	115.58	1.98	4.32	3	.46	3.63	49.53
LR-0162	41.28	33.27	124.47	1.98	5.08	3	.46	3.63	40.25

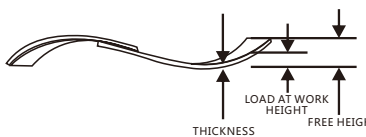
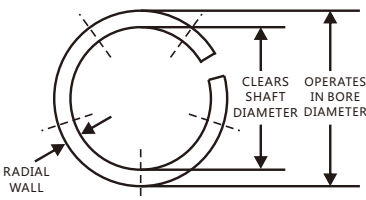
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- Theoretical dimension; measured in N/mm.

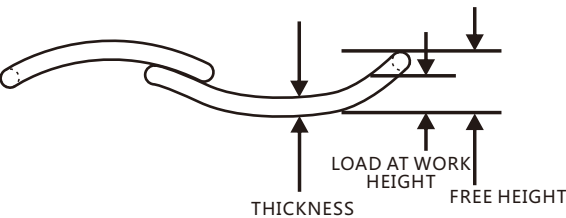
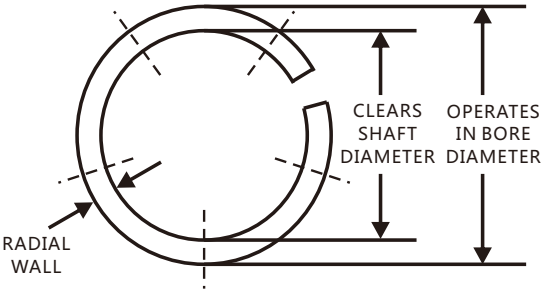
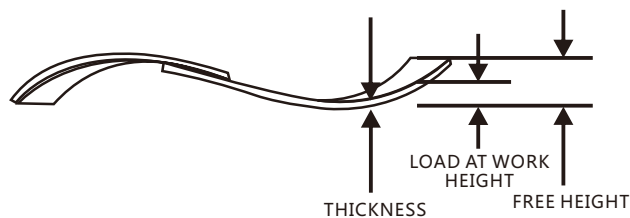
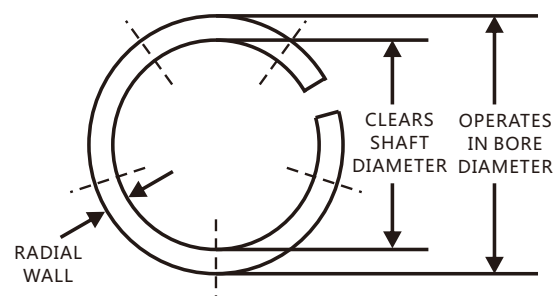


Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Bearing O.D. (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LR-0175	44.45	36.58	133.36	1.98	3.56	4	.46	3.63	84.70
LR-0187	47.63	39.62	142.25	1.98	3.81	4	.46	3.63	77.70
LR-0200	50.80	42.67	151.14	2.36	3.56	4	.61	3.81	126.53
LR-0212	53.98	45.72	160.03	2.36	3.81	4	.61	3.81	110.60
LR-0225	57.15	49.02	168.92	2.36	4.32	4	.61	3.81	86.45
LR-0237	60.33	50.55	177.81	2.36	4.06	4	.61	4.52	104.48
LR-0250	63.50	53.85	186.70	2.36	4.32	4	.61	4.52	95.38
LR-0262	66.68	56.90	195.59	2.36	4.83	4	.61	4.52	79.45
LR-0275	69.85	59.44	204.48	2.77	4.32	4	.76	4.78	131.95
LR-0287	73.03	62.74	213.37	2.77	4.57	4	.76	4.78	118.30
LR-0300	76.20	65.79	222.26	2.77	4.83	4	.76	4.78	107.98
LR-0312	79.38	68.83	231.15	2.77	5.33	4	.76	4.78	90.13
LR-0325	82.55	69.85	240.05	2.77	5.08	4	.76	5.92	103.78
LR-0337	85.73	72.14	248.94	2.77	5.59	4	.76	5.92	88.38
LR-0350	88.90	76.20	257.83	2.77	5.84	4	.76	5.92	83.83
LR-0362	92.08	79.25	266.72	2.77	6.10	4	.76	5.92	80.15
LR-0375	95.25	82.55	275.61	2.77	6.60	4	.76	5.92	71.93
LR-0387	98.43	85.60	284.50	2.77	7.62	4	.76	5.92	58.63
LR-0400	101.60	88.90	293.39	2.77	4.83	5	.76	5.92	142.63
LR-0412	104.78	91.95	297.83	2.77	5.08	5	.76	5.92	128.80
LR-0425	107.95	95.00	306.72	2.77	5.33	5	.76	5.92	119.53
LR-0437	111.13	98.04	311.17	2.77	5.33	5	.76	5.92	121.28
LR-0450	114.30	101.35	320.06	2.77	5.84	5	.76	5.92	104.13
LR-0462	117.48	104.39	324.51	3.18	6.86	5	.76	5.92	88.03
LR-0475	120.65	107.70	333.40	3.18	7.87	5	.76	5.92	70.88
LR-0487	123.83	111.00	337.84	3.18	7.37	5	.76	5.92	80.68
LR-0500	127.00	114.05	346.73	3.18	7.87	5	.76	5.92	73.85
LR-0512	130.18	117.09	355.62	3.18	8.64	5	.76	5.92	65.10
LR-0525	133.35	120.40	364.51	3.18	9.40	5	.76	5.92	58.63
LR-0537	136.53	123.44	373.40	3.18	9.65	5	.76	5.92	57.58
LR-0550	139.70	126.75	382.29	3.18	6.35	6	.76	5.92	120.40
LR-0562	142.88	129.79	391.18	3.18	6.86	6	.76	5.92	106.23
LR-0575	146.05	133.10	400.08	3.18	7.11	6	.76	5.92	101.68
LR-0587	149.23	136.14	408.97	3.18	7.62	6	.76	5.92	92.05
LR-0600	152.40	139.45	417.86	3.18	7.62	6	.76	5.92	93.98
LR-0612	155.58	142.49	426.75	3.18	7.87	6	.76	5.92	90.83
LR-0625	158.75	145.54	435.64	3.18	8.64	6	.76	5.92	79.80
LR-0637	161.93	148.84	444.53	3.18	8.89	6	.76	5.92	77.70
LR-0650	165.10	151.89	453.42	3.18	9.91	6	.76	5.92	67.38
LR-0675	171.45	158.24	462.31	3.18	10.67	6	.76	5.92	61.78
LR-0700	177.80	156.46	471.20	3.96	8.13	6	.81	9.53	113.05
LR-0725	184.15	163.58	480.09	3.96	8.89	6	.81	9.53	97.48
LR-0750	190.50	169.93	488.98	3.96	9.14	6	.81	9.53	94.33
LR-0775	196.85	176.28	506.76	3.96	9.65	6	.81	9.53	89.08
LR-0800	203.20	182.63	524.54	3.96	9.91	6	.81	9.53	88.20
LR-0825	209.55	188.98	542.32	3.96	10.92	6	.81	9.53	77.88
LR-0850	215.90	195.07	560.11	3.96	8.64	7	.81	9.53	119.88
LR-0875	222.25	201.42	577.89	3.96	8.64	7	.81	9.53	123.73
LR-0900	228.60	207.77	595.67	3.96	7.37	8	.81	9.53	175.00
LR-0950	241.30	220.47	631.23	3.96	6.10	9	.81	9.53	295.75
LR-1000	254.00	232.92	666.79	3.96	7.37	9	.81	9.53	195.83
LR-1050	266.70	245.62	702.35	3.96	7.87	9	.81	9.53	179.55
LR-1100	279.40	258.32	737.92	3.96	8.89	9	.81	9.53	149.80
LR-1150	292.10	270.76	773.48	3.96	9.14	9	.81	9.53	149.28
LR-1200	304.80	283.46	809.04	3.96	11.18	9	.81	9.53	112.18
LR-1250	317.50	296.16	844.60	3.96	8.89	10	.81	9.53	171.33
LR-1300	330.20	308.86	880.17	3.96	10.41	10	.81	9.53	136.50
LR-1350	342.90	321.31	915.73	3.96	10.92	10	.81	9.53	131.60
LR-1400	355.60	334.01	951.29	3.96	7.62	12	.81	9.53	260.05
LR-1450	368.30	346.71	982.41	3.96	8.13	12	.81	9.53	235.90
LR-1500	381.00	358.90	1022.41	3.96	8.89	12	.81	9.53	207.55
LR-1550	393.70	371.86	1062.42	3.96	7.87	13	.81	9.53	271.60
LR-1600	406.40	384.56	1102.43	3.96	8.64	13	.81	9.53	235.90

- Add suffix "-S17" for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.





Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LR-0325-N	82.55	71.63	240.05	2.77	5.08	4	.76	4.78	103.78
LR-0337-N	85.73	74.68	248.94	2.77	5.59	4	.76	4.78	88.38
LR-0350-N	88.90	77.98	257.83	2.77	6.60	4	.76	4.78	67.20
LR-0362-N	92.08	81.03	266.72	2.77	6.86	4	.76	4.78	65.28
LR-0375-N	95.25	84.33	275.61	2.77	7.11	4	.76	4.78	63.53
LR-0387-N	98.43	87.38	284.50	2.77	7.87	4	.76	4.78	55.65
LR-0400-N	101.60	90.68	293.39	2.77	5.08	5	.76	4.78	126.88
LR-0412-N	104.78	93.73	297.83	2.77	5.08	5	.76	4.78	128.80
LR-0425-N	107.95	97.03	306.72	2.77	6.10	5	.76	4.78	92.23
LR-0437-N	111.13	100.08	311.17	2.77	5.33	5	.76	4.78	121.28
LR-0450-N	114.30	103.38	320.06	2.77	7.11	5	.76	4.78	73.68
LR-0462-N	117.48	106.43	324.51	3.18	6.86	5	.76	4.78	88.03
LR-0475-N	120.65	109.73	333.40	3.18	8.13	5	.76	4.78	67.38
LR-0487-N	123.83	112.78	337.84	3.18	8.13	5	.76	4.78	68.25
LR-0500-N	127.00	116.08	346.73	3.18	8.89	5	.76	4.78	60.73
LR-0512-N	130.18	119.13	355.62	3.18	8.89	5	.76	4.78	62.30
LR-0525-N	133.35	122.43	364.51	3.18	9.14	5	.76	4.78	61.08
LR-0537-N	136.53	125.48	373.40	3.18	11.18	5	.76	4.78	46.73
LR-0550-N	139.70	128.78	382.29	3.18	7.11	6	.76	4.78	97.13
LR-0562-N	142.88	131.83	391.18	3.18	7.37	6	.76	4.78	93.28
LR-0575-N	146.05	135.13	400.08	3.18	8.64	6	.76	4.78	73.33
LR-0587-N	149.23	138.18	408.97	3.18	8.64	6	.76	4.78	74.90
LR-0600-N	152.40	141.48	417.86	3.18	8.64	6	.76	4.78	76.48
LR-0612-N	155.58	144.53	426.75	3.18	7.11	7	.76	4.78	108.33
LR-0625-N	158.75	147.83	435.64	3.18	7.11	7	.76	4.78	110.60
LR-0637-N	161.93	150.88	444.53	3.18	7.62	7	.76	4.78	99.93
LR-0650-N	165.10	154.18	453.42	3.18	7.62	7	.76	4.78	102.03
LR-0675-N	171.45	160.53	462.31	3.18	7.62	7	.76	4.78	103.95
LR-0700-N	177.80	164.59	471.20	3.96	8.13	7	.76	5.92	113.05
LR-0725-N	184.15	170.94	480.09	3.96	8.38	7	.76	5.92	108.68
LR-0750-N	190.50	177.29	488.98	3.96	9.14	7	.76	5.92	94.33
LR-0775-N	196.85	183.64	506.76	3.96	9.65	7	.76	5.92	89.08

·Add suffix “-S17” for 17-7 stainless steel.
·Reference dimension.
·Theoretical dimension; measured in N/mm.

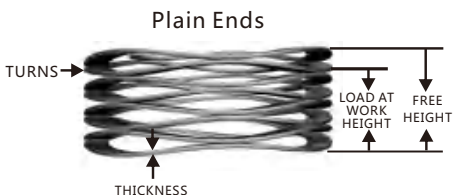
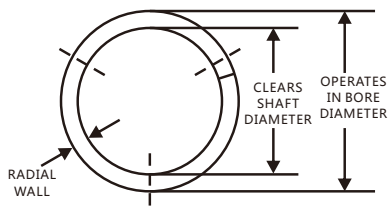


Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Bearing O.D. (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
RW-0050	12.70	10.36	155.6	1.32	1.57	3	.79	612.50	
RW-0062	15.88	13.13	222.3	1.63	1.96	3	.97	673.10	
RW-0075	19.05	15.95	311.2	1.93	2.34	3	1.14	765.60	
RW-0087	22.23	18.80	355.6	2.18	2.64	3	1.30	777.70	
RW-0100	25.40	21.72	400.1	2.41	2.95	3	1.42	750.10	
RW-0112	28.58	24.56	444.5	2.59	3.23	3	1.52	700.00	
RW-0125	31.75	27.46	489.0	2.79	3.51	3	1.65	687.60	
RW-0137	34.93	31.06	533.4	2.41	3.07	4	1.42	807.60	
RW-0150	38.10	34.01	577.9	2.59	3.25	4	1.52	875.00	
RW-0162	41.28	36.68	622.3	2.79	3.48	4	1.65	907.40	
RW-0175	44.45	39.73	666.8	2.87	3.66	4	1.70	846.80	
RW-0187	47.63	42.72	711.2	3.02	3.94	4	1.78	777.70	
RW-0200	50.80	45.80	755.7	3.15	4.19	4	1.83	725.60	
RW-0212	53.98	48.41	800.1	3.28	4.11	4	1.93	954.60	
RW-0225	57.15	51.38	844.6	3.45	4.27	4	2.03	1039.20	
RW-0237	60.33	54.38	889.0	3.58	4.52	4	2.11	945.90	
RW-0250	63.50	57.43	933.5	3.66	4.70	4	2.16	896.40	
RW-0262	66.68	60.30	977.9	3.89	5.16	4	2.29	770.00	
RW-0275	69.85	63.42	1022.4	3.91	5.38	4	2.31	694.10	
RW-0287	73.03	66.50	1066.8	4.01	5.33	4	2.36	807.60	
RW-0300	76.20	70.28	1111.3	3.58	4.55	5	2.11	1151.30	
RW-0312	79.38	73.10	1155.7	3.66	4.67	5	2.16	1137.50	
RW-0325	82.55	76.00	1200.2	3.89	4.83	5	2.29	1277.00	
RW-0337	85.73	79.12	1244.6	3.91	4.95	5	2.31	1195.10	
RW-0350	88.90	82.19	1289.1	4.01	5.11	5	2.36	1180.20	
RW-0362	92.08	85.24	1333.5	4.09	5.23	5	2.41	1166.70	
RW-0375	95.25	88.27	1378.0	4.22	5.38	5	2.49	1179.30	
RW-0387	98.43	91.31	1422.4	4.32	5.28	5	2.54	1473.70	
RW-0400	101.60	94.44	1466.9	4.32	5.72	5	2.54	1050.00	
RW-0412	104.78	97.21	1489.1	4.45	5.61	5	2.67	1274.50	
RW-0425	107.95	100.28	1533.5	4.52	5.72	5	2.67	1284.50	
RW-0437	111.13	103.20	1555.8	4.75	6.10	5	2.79	1155.70	
RW-0450	114.30	106.30	1600.2	4.75	6.27	5	2.79	1050.00	
RW-0462	117.48	109.47	1622.4	4.75	6.43	5	2.79	967.80	
RW-0475	120.65	112.55	1666.9	4.83	6.53	5	2.84	979.50	
RW-0487	123.83	115.70	1689.1	4.83	6.71	5	2.84	898.60	
RW-0500	127.00	118.67	1733.6	4.95	6.73	5	2.95	974.90	
RW-0512	130.18	121.21	1778.0	5.08	6.96	5	3.00	945.90	
RW-0525	133.35	124.28	1822.5	5.18	7.09	5	3.05	956.70	
RW-0537	136.53	127.94	1866.9	4.75	6.22	6	2.79	1267.20	
RW-0550	139.70	131.11	1911.4	4.75	6.38	6	2.79	1175.80	
RW-0562	142.88	134.19	1955.8	4.83	6.22	6	2.84	1400.00	
RW-0575	146.05	137.31	2000.3	4.83	6.38	6	2.84	1291.00	
RW-0587	149.23	140.31	2044.7	5.00	6.65	6	2.95	1238.50	
RW-0600	152.40	143.36	2089.2	5.08	6.81	6	3.00	1209.60	

·Add suffix “-S17” for 17-7 stainless steel.
·Reference dimension.
·Theoretical dimension; measured in N/mm.





Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Cleares Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Turns	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM05-L1	5	3.5	5	1.14	1.84	2.5	3	.13	.46	7.14
LM05-L2	5	3.5	5	1.52	2.45	2.5	4	.13	.46	5.38
LM05-L3	5	3.5	5	1.91	3.06	2.5	5	.13	.46	4.35
LM05-L4	5	3.5	5	2.26	3.68	2.5	6	.13	.46	3.52
LM05-L5	5	3.5	5	2.67	4.29	2.5	7	.13	.46	3.09
LM05-L6	5	3.5	5	3.02	4.90	2.5	8	.13	.46	2.66
LM05-L7	5	3.5	5	3.43	5.52	2.5	9	.13	.46	2.39
LM05-L8	5	3.5	5	4.14	6.74	2.5	11	.13	.46	1.92
LM05-L9	5	3.5	5	4.90	7.97	2.5	13	.13	.46	1.63
LM05-M1	5	3.5	10	1.14	1.89	2.5	3	.15	.46	13.33
LM05-M2	5	3.5	10	1.52	2.52	2.5	4	.15	.46	10.00
LM05-M3	5	3.5	10	1.91	3.15	2.5	5	.15	.46	8.06
LM05-M4	5	3.5	10	2.26	3.78	2.5	6	.15	.46	6.58
LM05-M5	5	3.5	10	2.67	4.41	2.5	7	.15	.46	5.75
LM05-M6	5	3.5	10	3.02	5.04	2.5	8	.15	.46	4.95
LM05-M7	5	3.5	10	3.43	5.67	2.5	9	.15	.46	4.46
LM05-M8	5	3.5	10	4.14	6.93	2.5	11	.15	.46	3.58
LM05-M9	5	3.5	10	4.90	8.19	2.5	13	.15	.46	3.04

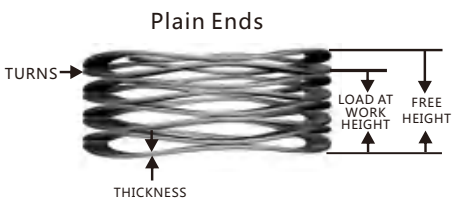
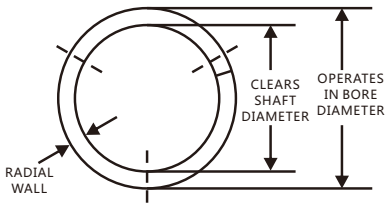
·Use “LM” prefix for plain ends. Use “LMS” prefix for squared-shim ends.
·Add suffix “-S17” for 17-7 stainless steel.
·Reference dimension.
·Theoretical dimension; measured in N/mm.



Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Cleares Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM06-L1*	6	4	6	.61	1.52	2.5	3	.13	.51	6.59
LM06-L2*	6	4	6	.81	2.03	2.5	4	.13	.51	4.92
LM06-L3*	6	4	6	1.02	2.54	2.5	5	.13	.51	3.95
LM06-L4*	6	4	6	1.22	3.05	2.5	6	.13	.51	3.28
LM06-L5*	6	4	6	1.42	3.56	2.5	7	.13	.51	2.80
LM06-L6*	6	4	6	1.63	4.06	2.5	8	.13	.51	2.47
LM06-L7*	6	4	6	1.83	4.57	2.5	9	.13	.51	2.19
LM06-L8*	6	4	6	2.24	5.59	2.5	11	.13	.51	1.79
LM06-L9*	6	4	6	2.64	6.60	2.5	13	.13	.51	1.52
LM06-M1*	6	4	12	.74	1.52	2.5	3	.15	.61	15.38
LM06-M2*	6	4	12	.97	2.03	2.5	4	.15	.61	11.32
LM06-M3*	6	4	12	1.22	2.54	2.5	5	.15	.61	9.09
LM06-M4*	6	4	12	1.47	3.05	2.5	6	.15	.61	7.59
LM06-M5*	6	4	12	1.70	3.56	2.5	7	.15	.61	6.45
LM06-M6*	6	4	12	1.96	4.06	2.5	8	.15	.61	5.71
LM06-M7*	6	4	12	2.18	4.57	2.5	9	.15	.61	5.02
LM06-M8*	6	4	12	2.69	5.59	2.5	11	.15	.61	4.14
LM06-M9*	6	4	12	3.18	6.60	2.5	13	.15	.61	3.51
LM08-L1	8	5	15	1.70	2.82	2.5	3	.20	.81	13.39
LM08-L2	8	5	15	2.39	3.76	2.5	4	.20	.81	10.95
LM08-L3	8	5	15	2.74	4.70	2.5	5	.20	.81	7.65
LM08-L4	8	5	15	3.56	5.64	2.5	6	.20	.81	7.21
LM08-L5	8	5	15	4.01	6.58	2.5	7	.20	.81	5.84
LM08-L6	8	5	15	4.57	7.52	2.5	8	.20	.81	5.08
LM08-L7	8	5	15	5.26	8.46	2.5	9	.20	.81	4.69
LM08-L8	8	5	15	6.35	10.34	2.5	11	.20	.81	3.76
LM08-L9	8	5	15	7.37	12.22	2.5	13	.20	.81	3.09
LM08-M1	8	5	30	1.78	2.82	2.5	3	.25	.81	28.85
LM08-M2	8	5	30	2.54	3.76	2.5	4	.25	.81	24.59
LM08-M3	8	5	30	3.05	4.70	2.5	5	.25	.81	18.18
LM08-M4	8	5	30	3.81	5.64	2.5	6	.25	.81	16.39
LM08-M5	8	5	30	4.32	6.58	2.5	7	.25	.81	13.27
LM08-M6	8	5	30	4.95	7.52	2.5	8	.25	.81	11.67
LM08-M7	8	5	30	5.59	8.46	2.5	9	.25	.81	10.45
LM08-M8	8	5	30	6.86	10.34	2.5	11	.25	.81	8.62
LM08-M9	8	5	30	7.87	12.22	2.5	13	.25	.81	6.90
LM10-L1	10	7	18	1.91	3.96	2.5	3	.20	.81	8.78
LM10-L2	10	7	18	2.54	5.28	2.5	4	.20	.81	6.57
LM10-L3	10	7	18	3.15	6.60	2.5	5	.20	.81	5.22
LM10-L4	10	7	18	3.78	7.92	2.5	6	.20	.81	4.35
LM10-L5	10	7	18	4.42	9.25	2.5	7	.20	.81	3.73
LM10-L6	10	7	18	5.05	10.57	2.5	8	.20	.81	3.26
LM10-L7	10	7	18	5.69	11.89	2.5	9	.20	.81	2.90
LM10-L8	10	7	18	6.32	13.21	2.5	10	.20	.81	2.61
LM10-L9	10	7	18	6.96	14.53	2.5	11	.20	.81	2.38
LM10-M1	10	7	35	2.03	3.96	2.5	3	.28	.81	18.13
LM10-M2	10	7	35	2.79	5.28	2.5	4	.28	.81	14.06
LM10-M3	10	7	35	3.56	6.60	2.5	5	.28	.81	11.51
LM10-M4	10	7	35	4.32	7.92	2.5	6	.28	.81	9.72
LM10-M5	10	7	35	5.08	9.25	2.5	7	.28	.81	8.39
LM10-M6	10	7	35	5.84	10.57	2.5	8	.28	.81	7.40
LM10-M7	10	7	35	6.60	11.89	2.5	9	.28	.81	6.62
LM10-M8	10	7	35	7.37	13.21	2.5	10	.28	.81	5.99
LM10-M9	10	7	35	8.13	14.53	2.5	11	.28	.81	5.47
LM12-L1	12	9	20	1.47	4.34	2.5	3	.20	1.02	6.97
LM12-L2	12	9	20	1.98	5.79	2.5	4	.20	1.02	5.25
LM12-L3	12	9	20	2.46	7.24	2.5	5	.20	1.02	4.18
LM12-L4	12	9	20	2.95	8.69	2.5	6	.20	1.02	3.48
LM12-L5	12	9	20	3.45	10.13	2.5	7	.20	1.02	2.99
LM12-L6	12	9	20	3.94	11.58	2.5	8	.20	1.02	2.62
LM12-L7	12	9	20	4.45	13.03	2.5	9	.20	1.02	2.33
LM12-L8	12	9	20	4.93	14.48	2.5	10	.20	1.02	2.09
LM12-L9	12	9	20	5.44	15.93	2.5	11	.20	1.02	1.91

·Use “LM” prefix for plain ends. Use “LMS” prefix for squared-shim ends.
·Add suffix “-S17” for 17-7 stainless steel.
·Reference dimension.
·Theoretical dimension; measured in N/mm.



Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM12-M1	12	8.5	40	2.36	4.34	2.5	3	.28	1.17	20.20
LM12-M2	12	8.5	40	3.18	5.79	2.5	4	.28	1.17	15.33
LM12-M3	12	8.5	40	3.96	7.24	2.5	5	.28	1.17	12.20
LM12-M4	12	8.5	40	4.75	8.69	2.5	6	.28	1.17	10.15
LM12-M5	12	8.5	40	5.54	10.13	2.5	7	.28	1.17	8.71
LM12-M6	12	8.5	40	6.32	11.58	2.5	8	.28	1.17	7.60
LM12-M7	12	8.5	40	7.11	13.03	2.5	9	.28	1.17	6.76
LM12-M8	12	8.5	40	7.92	14.48	2.5	10	.28	1.17	6.10
LM12-M9	12	8.5	40	8.71	15.93	2.5	11	.28	1.17	5.54
LM12-H1	12	8.5	60	1.98	4.34	2.5	3	.30	1.14	25.42
LM12-H2	12	8.5	60	2.64	5.79	2.5	4	.30	1.14	19.05
LM12-H3	12	8.5	60	3.30	7.24	2.5	5	.30	1.14	15.23
LM12-H4	12	8.5	60	3.99	8.69	2.5	6	.30	1.14	12.77
LM12-H5	12	8.5	60	4.65	10.13	2.5	7	.30	1.14	10.95
LM12-H6	12	8.5	60	5.31	11.58	2.5	8	.30	1.14	9.57
LM12-H7	12	8.5	60	5.97	13.03	2.5	9	.30	1.14	8.50
LM12-H8	12	8.5	60	6.63	14.48	2.5	10	.30	1.14	7.64
LM12-H9	12	8.5	60	7.29	15.93	2.5	11	.30	1.14	6.94
LM14-L1	14	10	22	2.18	4.95	2.5	3	.23	1.47	7.94
LM14-L2	14	10	22	2.95	6.60	2.5	4	.23	1.47	6.03
LM14-L3	14	10	22	3.71	8.26	2.5	5	.23	1.47	4.84
LM14-L4	14	10	22	4.52	9.91	2.5	6	.23	1.47	4.08
LM14-L5	14	10	22	5.33	11.56	2.5	7	.23	1.47	3.53
LM14-L6	14	10	22	6.17	13.21	2.5	8	.23	1.47	3.13
LM14-L7	14	10	22	7.01	14.86	2.5	9	.23	1.47	2.80
LM14-L8	14	10	22	7.85	16.51	2.5	10	.23	1.47	2.54
LM14-L9	14	10	22	8.71	18.16	2.5	11	.23	1.47	2.33
LM14-M1	14	10	50	2.18	4.95	2.5	3	.30	1.52	18.05
LM14-M2	14	10	50	2.95	6.60	2.5	4	.30	1.52	13.70
LM14-M3	14	10	50	3.71	8.26	2.5	5	.30	1.52	10.99
LM14-M4	14	10	50	4.52	9.91	2.5	6	.30	1.52	9.28
LM14-M5	14	10	50	5.33	11.56	2.5	7	.30	1.52	8.03
LM14-M6	14	10	50	6.17	13.21	2.5	8	.30	1.52	7.10
LM14-M7	14	10	50	7.01	14.86	2.5	9	.30	1.52	6.37
LM14-M8	14	10	50	7.85	16.51	2.5	10	.30	1.52	5.77
LM14-M9	14	10	50	8.71	18.16	2.5	11	.30	1.52	5.29
LM14-H1	14	9	80	3.15	4.95	2.5	3	.38	1.52	44.44
LM14-H2	14	9	80	4.19	6.60	2.5	4	.38	1.52	33.20
LM14-H3	14	9	80	5.26	8.26	2.5	5	.38	1.52	26.67
LM14-H4	14	9	80	6.30	9.91	2.5	6	.38	1.52	22.16
LM14-H5	14	9	80	7.34	11.56	2.5	7	.38	1.52	18.96
LM14-H6	14	9	80	8.41	13.21	2.5	8	.38	1.52	16.67
LM14-H7	14	9	80	9.45	14.86	2.5	9	.38	1.52	14.79
LM14-H8	14	9	80	10.49	16.51	2.5	10	.38	1.52	13.29
LM14-H9	14	9	80	11.56	18.16	2.5	11	.38	1.52	12.12
LM15-L1	15	11	25	2.57	5.18	2.5	3	.25	1.47	9.58
LM15-L2	15	11	25	3.43	6.91	2.5	4	.25	1.47	7.18
LM15-L3	15	11	25	4.27	8.64	2.5	5	.25	1.47	5.72
LM15-L4	15	11	25	5.13	10.36	2.5	6	.25	1.47	4.78
LM15-L5	15	11	25	5.99	12.09	2.5	7	.25	1.47	4.10
LM15-L6	15	11	25	6.83	13.82	2.5	8	.25	1.47	3.58
LM15-L7	15	11	25	7.70	15.54	2.5	9	.25	1.47	3.19
LM15-L8	15	11	25	8.53	17.27	2.5	10	.25	1.47	2.86
LM15-L9	15	11	25	9.40	19.00	2.5	11	.25	1.47	2.60
LM15-M1	15	10	50	3.43	5.18	3.5	3	.23	1.47	28.57
LM15-M2	15	10	50	4.57	6.91	3.5	4	.23	1.47	21.37
LM15-M3	15	10	50	5.72	8.64	3.5	5	.23	1.47	17.12
LM15-M4	15	10	50	6.86	10.36	3.5	6	.23	1.47	14.29
LM15-M5	15	10	50	8.00	12.09	3.5	7	.23	1.47	12.22
LM15-M6	15	10	50	9.14	13.82	3.5	8	.23	1.47	10.68
LM15-M7	15	10	50	10.29	15.54	3.5	9	.23	1.47	9.52
LM15-M8	15	10	50	11.43	17.27	3.5	10	.23	1.47	8.56
LM15-M9	15	10	50	12.57	19.00	3.5	11	.23	1.47	7.78

- Use "LM" prefix for plain ends. Use "LMS" prefix for squared-shim ends.
- Add suffix "-S17" for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM15-H1	15	10	80	3.20	5.18	3.5	3	.25	1.47	40.40
LM15-H2	15	10	80	4.19	6.91	3.5	4	.25	1.47	29.41
LM15-H3	15	10	80	5.23	8.64	3.5	5	.25	1.47	23.46
LM15-H4	15	10	80	6.27	10.36	3.5	6	.25	1.47	19.56
LM15-H5	15	10	80	7.32	12.09	3.5	7	.25	1.47	16.77
LM15-H6	15	10	80	8.36	13.82	3.5	8	.25	1.47	14.65
LM15-H7	15	10	80	9.40	15.54	3.5	9	.25	1.47	13.03
LM15-H8	15	10	80	10.46	17.27	3.5	10	.25	1.47	11.75
LM15-H9	15	10	80	11.51	19.00	3.5	11	.25	1.47	10.68
LM16-L1	16	11	25	2.11	5.41	2.5	3	.25	1.47	7.58
LM16-L2	16	11	25	2.79	7.21	2.5	4	.25	1.47	5.66
LM16-L3	16	11	25	3.51	9.02	2.5	5	.25	1.47	4.54
LM16-L4	16	11	25	4.19	10.82	2.5	6	.25	1.47	3.77
LM16-L5	16	11	25	4.90	12.62	2.5	7	.25	1.47	3.24
LM16-L6	16	11	25	6.30	16.23	2.5	9	.25	1.47	2.52
LM16-L7	16	11	25	7.70	19.84	2.5	11	.25	1.47	2.06
LM16-L8	16	11	25	9.09	23.44	2.5	13	.25	1.47	1.74
LM16-M1	16	11	55	3.63	5.41	3.5	3	.25	1.47	30.90
LM16-M2	16	11	55	4.83	7.21	3.5	4	.25	1.47	23.11
LM16-M3	16	11	55	6.05	9.02	3.5	5	.25	1.47	18.52
LM16-M4	16	11	55	7.24	10.82	3.5	6	.25	1.47	15.36
LM16-M5	16	11	55	8.46	12.62	3.5	7	.25	1.47	13.22
LM16-M6	16	11	55	10.87	16.23	3.5	9	.25	1.47	10.26
LM16-M7	16	11	55	13.28	19.84	3.5	11	.25	1.47	8.38
LM16-M8	16	11	55	15.70	23.44	3.5	13	.25	1.47	7.11
LM16-H1	16	11	90	3.30	5.41	3.5	3	.30	1.52	42.65
LM16-H2	16	11	90	4.57	7.21	3.5	4	.30	1.52	34.09
LM16-H3	16	11	90	5.59	9.02	3.5	5	.30	1.52	26.24
LM16-H4	16	11	90	6.86	10.82	3.5	6	.30	1.52	22.73
LM16-H5	16	11	90	7.87	12.62	3.5	7	.30	1.52	18.95
LM16-H6	16	11	90	10.16	16.23	3.5	9	.30	1.52	14.83
LM16-H7	16	11	90	12.45	19.84	3.5	11	.30	1.52	12.18
LM16-H8	16	11	90	14.73	23.44	3.5	13	.30	1.52	10.33
LM18-L1	18	13	30	3.63	5.72	3.5	3	.20	1.80	14.35
LM18-L2	18	13	30	4.75	7.62	3.5	4	.20	1.80	10.45
LM18-L3	18	13	30	5.94	9.53	3.5	5	.20	1.80	8.36
LM18-L4	18	13	30	7.14	11.43	3.5	6	.20	1.80	6.99
LM18-L5	18	13	30	8.31	13.34	3.5	7	.20	1.80	5.96
LM18-L6	18	13	30	10.69	17.15	3.5	9	.20	1.80	4.64
LM18-L7	18	13	30	14.25	22.86	3.5	12	.20	1.80	3.48
LM18-M1	18	13	55	3.68	5.72	3.5	3	.25	1.83	26.96
LM18-M2	18	13	55	4.98	7.62	3.5	4	.25	1.83	20.83
LM18-M3	18	13	55	6.22	9.53	3.5	5	.25	1.83	16.62
LM18-M4	18	13	55	7.47	11.43	3.5	6	.25	1.83	13.89
LM18-M5	18	13	55	8.74	13.34	3.5	7	.25	1.83	11.96
LM18-M6	18	13	55	11.23	17.15	3.5	9	.25	1.83	9.29
LM18-M7	18	13	55	14.96	22.86	3.5	12	.25	1.83	6.96
LM18-H1	18	13	90	3.84	5.72	3.5	3	.30	1.83	47.87
LM18-H2	18	13	90	5.13	7.62	3.5	4	.30	1.83	36.14
LM18-H3	18	13	90	6.40	9.53	3.5	5	.30	1.83	28.75
LM18-H4	18	13	90	7.70	11.43	3.5	6	.30	1.83	24.13
LM18-H5	18	13	90	8.97	13.34	3.5	7	.30	1.83	20.59
LM18-H6	18	13	90	11.53	17.15	3.5	9	.30	1.83	16.01
LM18-H7	18	13	90	15.37	22.86	3.5	12	.30	1.83	12.02
LM20-L1	20	15	35	2.72	6.32	3.5	3	.20	1.80	9.72
LM20-L2	20	15	35	3.61	8.43	3.5	4	.20	1.80	7.26
LM20-L3	20	15	35	4.52	10.54	3.5	5	.20	1.80	5.81
LM20-L4	20	15	35	5.41	12.65	3.5	6	.20	1.80	4.83
LM20-L5	20	15	35	6.32	14.76	3.5	7	.20	1.80	4.15
LM20-L6	20	15	35	8.13	18.97	3.5	9	.20	1.80	3.23
LM20-L7	20	15	35	10.82	25.30	3.5	12	.20	1.80	2.42
LM20-M1	20	14	70	3.05	6.32	3.5	3	.25	1.98	21.41
LM20-M2	20	14	70	4.06	8.43	3.5	4	.25	1.98	16.02
LM20-M3	20	14	70	5.08	10.54	3.5	5	.25	1.98	12.82

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM20-M4	20	14	70	6.27	12.65	3.5	6	.25	1.98	10.97
LM20-M5	20	14	70	7.32	14.76	3.5	7	.25	1.98	9.41
LM20-M6	20	14	70	9.17	18.97	3.5	9	.25	1.98	7.14
LM20-M7	20	14	70	12.22	25.30	3.5	12	.25	1.98	5.35
LM20-H1	20	14	100	4.24	6.32	3.5	3	.33	2.01	48.08
LM20-H2	20	14	100	5.66	8.43	3.5	4	.33	2.01	36.10
LM20-H3	20	14	100	7.06	10.54	3.5	5	.33	2.01	28.74
LM20-H4	20	14	100	8.48	12.65	3.5	6	.33	2.01	23.98
LM20-H5	20	14	100	9.91	14.76	3.5	7	.33	2.01	20.62
LM20-H6	20	14	100	12.73	18.97	3.5	9	.33	2.01	16.03
LM20-H7	20	14	100	16.97	25.30	3.5	12	.33	2.01	12.00
LM25-L1	25	19	50	2.06	6.63	3.5	3	.25	2.18	10.94
LM25-L2	25	19	50	2.74	8.84	3.5	4	.25	2.18	8.20
LM25-L3	25	19	50	3.43	11.05	3.5	5	.25	2.18	6.56
LM25-L4	25	19	50	4.11	13.26	3.5	6	.25	2.18	5.46
LM25-L5	25	19	50	4.80	15.47	3.5	7	.25	2.18	4.69
LM25-L6	25	19	50	6.20	19.89	3.5	9	.25	2.18	3.65
LM25-L7	25	19	50	8.26	26.52	3.5	12	.25	2.18	2.74
LM25-M1	25	19	80	2.95	6.63	3.5	3	.30	2.39	21.74
LM25-M2	25	19	80	3.94	8.84	3.5	4	.30	2.39	16.33
LM25-M3	25	19	80	4.90	11.05	3.5	5	.30	2.39	13.01
LM25-M4	25	19	80	5.89	13.26	3.5	6	.30	2.39	10.85
LM25-M5	25	19	80	6.88	15.47	3.5	7	.30	2.39	9.31
LM25-M6	25	19	80	8.84	19.89	3.5	9	.30	2.39	7.24
LM25-M7	25	19	80	11.79	26.52	3.5	12	.30	2.39	5.43
LM25-H1	25	19	110	4.04	6.63	3.5	3	.38	2.39	42.47
LM25-H2	25	19	110	5.38	8.84	3.5	4	.38	2.39	31.79
LM25-H3	25	19	110	6.73	11.05	3.5	5	.38	2.39	25.46
LM25-H4	25	19	110	8.08	13.26	3.5	6	.38	2.39	21.24
LM25-H5	25	19	110	9.40	15.47	3.5	7	.38	2.39	18.12
LM25-H6	25	19	110	12.12	19.89	3.5	9	.38	2.39	14.16
LM25-H7	25	19	110	16.15	26.52	3.5	12	.38	2.39	10.61
LM28-L1	28	22	50	3.76	7.24	3.5	3	.30	2.39	14.37
LM28-L2	28	22	50	5.00	9.65	3.5	4	.30	2.39	10.75
LM28-L3	28	22	50	6.27	12.07	3.5	5	.30	2.39	8.62
LM28-L4	28	22	50	7.52	14.48	3.5	6	.30	2.39	7.18
LM28-L5	28	22	50	8.79	16.89	3.5	7	.30	2.39	6.17
LM28-L6	28	22	50	10.03	19.30	3.5	8	.30	2.39	5.39
LM28-L7	28	22	50	11.28	21.72	3.5	9	.30	2.39	4.79
LM28-L8	28	22	50	13.79	26.54	3.5	11	.30	2.39	3.92
LM28-L9	28	22	50	16.31	31.37	3.5	13	.30	2.39	3.32
LM28-M1	28	22	80	4.39	7.24	3.5	3	.38	2.39	28.07
LM28-M2	28	22	80	5.84	9.65	3.5	4	.38	2.39	21.00
LM28-M3	28	22	80	7.32	12.07	3.5	5	.38	2.39	16.84
LM28-M4	28	22	80	8.79	14.48	3.5	6	.38	2.39	14.06
LM28-M5	28	22	80	10.24	16.89	3.5	7	.38	2.39	12.03
LM28-M6	28	22	80	11.71	19.30	3.5	8	.38	2.39	10.54
LM28-M7	28	22	80	13.18	21.72	3.5	9	.38	2.39	9.37
LM28-M8	28	22	80	16.10	26.54	3.5	11	.38	2.39	7.66
LM28-M9	28	22	80	19.02	31.37	3.5	13	.38	2.39	6.48
LM28-H1	28	22	130	4.57	7.24	3.5	3	.46	2.39	48.69
LM28-H2	28	22	130	6.07	9.65	3.5	4	.46	2.39	36.31
LM28-H3	28	22	130	7.59	12.07	3.5	5	.46	2.39	29.02
LM28-H4	28	22	130	9.12	14.48	3.5	6	.46	2.39	24.25
LM28-H5	28	22	130	10.64	16.89	3.5	7	.46	2.39	20.80
LM28-H6	28	22	130	12.17	19.30	3.5	8	.46	2.39	18.23
LM28-H7	28	22	130	13.69	21.72	3.5	9	.46	2.39	16.19
LM28-H8	28	22	130	16.71	26.54	3.5	11	.46	2.39	13.22
LM28-H9	28	22	130	19.76	31.37	3.5	13	.46	2.39	11.20
LM30-L1	30	24	50	3.18	7.62	3.5	3	.30	2.39	11.26
LM30-L2	30	24	50	4.22	10.16	3.5	4	.30	2.39	8.42
LM30-L3	30	24	50	5.28	12.70	3.5	5	.30	2.39	6.74
LM30-L4	30	24	50	6.32	15.24	3.5	6	.30	2.39	5.61
LM30-L5	30	24	50	7.39	17.78	3.5	7	.30	2.39	4.81

- Use "LM" prefix for plain ends. Use "LMS" prefix for squared-shim ends.
- Add suffix "-S17" for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM30-L6	30	24	50	8.43	20.32	3.5	8	.30	2.39	4.21
LM30-L7	30	24	50	9.50	22.86	3.5	9	.30	2.39	3.74
LM30-L8	30	24	50	11.61	27.94	3.5	11	.30	2.39	3.06
LM30-L9	30	24	50	13.72	33.02	3.5	13	.30	2.39	2.59
LM30-M1	30	24	90	3.51	7.62	3.5	3	.38	2.39	21.90
LM30-M2	30	24	90	4.70	10.16	3.5	4	.38	2.39	16.48
LM30-M3	30	24	90	5.87	12.70	3.5	5	.38	2.39	13.18
LM30-M4	30	24	90	7.04	15.24	3.5	6	.38	2.39	10.98
LM30-M5	30	24	90	8.20	17.78	3.5	7	.38	2.39	9.39
LM30-M6	30	24	90	9.37	20.32	3.5	8	.38	2.39	8.22
LM30-M7	30	24	90	10.54	22.86	3.5	9	.38	2.39	7.31
LM30-M8	30	24	90	12.90	27.94	3.5	11	.38	2.39	5.98
LM30-M9	30	24	90	15.24	33.02	3.5	13	.38	2.39	5.06
LM30-H1	30	24	130	4.19	7.62	3.5	3	.46	2.39	37.90
LM30-H2	30	24	130	5.59	10.16	3.5	4	.46	2.39	28.45
LM30-H3	30	24	130	6.99	12.70	3.5	5	.46	2.39	22.77
LM30-H4	30	24	130	8.38	15.24	3.5	6	.46	2.39	18.95
LM30-H5	30	24	130	9.78	17.78	3.5	7	.46	2.39	16.25
LM30-H6	30	24	130	11.18	20.32	3.5	8	.46	2.39	14.22
LM30-H7	30	24	130	12.57	22.86	3.5	9	.46	2.39	12.63
LM30-H8	30	24	130	15.37	27.94	3.5	11	.46	2.39	10.34
LM30-H9	30	24	130	18.16	33.02	3.5	13	.46	2.39	8.75
LM35-L1	35	27	70	3.94	8.38	3.5	3	.36	3.18	15.77
LM35-L2	35	27	70	5.23	11.18	3.5	4	.36	3.18	11.76
LM35-L3	35	27	70	6.55	13.97	3.5	5	.36	3.18	9.43
LM35-L4	35	27	70	7.87	16.76	3.5	6	.36	3.18	7.87
LM35-L5	35	27	70	9.17	19.56	3.5	7	.36	3.18	6.74
LM35-L6	35	27	70	10.49	22.35	3.5	8	.36	3.18	5.90
LM35-L7	35	27	70	11.81	25.15	3.5	9	.36	3.18	5.25
LM35-L8	35	27	70	14.43	30.73	3.5	11	.36	3.18	4.29
LM35-L9	35	27	70	17.04	36.32	3.5	13	.36	3.18	3.63
LM35-M1	35	27	110	4.14	8.38	3.5	3	.41	3.38	25.94
LM35-M2	35	27	110	5.51	11.18	3.5	4	.41	3.38	19.40
LM35-M3	35	27	110	6.88	13.97	3.5	5	.41	3.38	15.51
LM35-M4	35	27	110	8.26	16.76	3.5	6	.41	3.38	12.94
LM35-M5	35	27	110	9.63	19.56	3.5	7	.41	3.38	11.08
LM35-M6	35	27	110	11.02	22.35	3.5	8	.41	3.38	9.71
LM35-M7	35	27	110	12.40	25.15	3.5	9	.41	3.38	8.63
LM35-M8	35	27	110	15.14	30.73	3.5	11	.41	3.38	7.06
LM35-M9	35	27	110	17.91	36.32	3.5	13	.41	3.38	5.98
LM35-H1	35	27	160	4.04	8.38	3.5	3	.46	3.38	36.87
LM35-H2	35	27	160	5.38	11.18	3.5	4	.46	3.38	27.59
LM35-H3	35	27	160	6.73	13.97	3.5	5	.46	3.38	22.10
LM35-H4	35	27	160	8.08	16.76	3.5	6	.46	3.38	18.43
LM35-H5	35	27	160	9.42	19.56	3.5	7	.46	3.38	15.78
LM35-H6	35	27	160	10.77	22.35	3.5	8	.46	3.38	13.82
LM35-H7	35	27	160	12.12	25.15	3.5	9	.46	3.38	12.28
LM35-H8	35	27	160	14.81	30.73	3.5	11	.46	3.38	10.05
LM35-H9	35	27	160	17.50	36.32	3.5	13	.46	3.38	8.50
LM40-L1	40	30	100	2.90	9.14	3.5	3	.41	3.38	16.03
LM40-L2	40	30	100	3.86	12.19	3.5	4	.41	3.38	12.00
LM40-L3	40	30	100	4.80	15.24	3.5	5	.41	3.38	9.58
LM40-L4	40	30	100	5.77	18.29	3.5	6	.41	3.38	7.99
LM40-L5	40	30	100	6.73	21.34	3.5	7	.41	3.38	6.84
LM40-L6	40	30	100	7.70	24.38	3.5	8	.41	3.38	6.00
LM40-L7	40	30	100	8.66	27.43	3.5	9	.41	3.38	5.33
LM40-L8	40	30	100	10.59	33.53	3.5	11	.41	3.38	4.36
LM40-L9	40	30	100	12.52	39.62	3.5	13	.41	3.38	3.69
LM40-M1	40	30	150	5.44	9.14	3.5	3	.53	3.63	40.54
LM40-M2	40	30	150	7.24	12.19	3.5	4	.53	3.63	30.30
LM40-M3	40	30	150	9.04	15.24	3.5	5	.53	3.63	24.19
LM40-M4	40	30	150	10.85	18.29	3.5	6	.53	3.63	20.16
LM40-M5	40	30	150	12.65	21.34	3.5	7	.53	3.63	17.26

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM40-M6	40	30	150	14.48	24.38	3.5	8	.53	3.63	15.15
LM40-M7	40	30	150	16.28	27.43	3.5	9	.53	3.63	13.45
LM40-M8	40	30	150	19.89	33.53	3.5	11	.53	3.63	11.00
LM40-M9	40	30	150	23.50	39.62	3.5	13	.53	3.63	9.31
LM40-H1	40	30	300	5.66	9.14	4.5	3	.46	3.38	86.21
LM40-H2	40	30	300	7.54	12.19	4.5	4	.46	3.38	64.52
LM40-H3	40	30	300	9.42	15.24	4.5	5	.46	3.38	51.55
LM40-H4	40	30	300	11.33	18.29	4.5	6	.46	3.38	43.10
LM40-H5	40	30	300	13.21	21.34	4.5	7	.46	3.38	36.90
LM40-H6	40	30	300	15.09	24.38	4.5	8	.46	3.38	32.29
LM40-H7	40	30	300	16.97	27.43	4.5	9	.46	3.38	28.68
LM40-H8	40	30	300	20.75	33.53	4.5	11	.46	3.38	23.47
LM40-H9	40	30	300	24.54	39.62	4.5	13	.46	3.38	19.89
LM45-L1	45	35	110	3.38	9.91	3.5	3	.46	3.63	16.85
LM45-L2	45	35	110	4.52	13.21	3.5	4	.46	3.63	12.66
LM45-L3	45	35	110	5.64	16.51	3.5	5	.46	3.63	10.12
LM45-L4	45	35	110	6.76	19.81	3.5	6	.46	3.63	8.43
LM45-L5	45	35	110	7.90	23.11	3.5	7	.46	3.63	7.23
LM45-L6	45	35	110	9.02	26.42	3.5	8	.46	3.63	6.32
LM45-L7	45	35	110	10.16	29.72	3.5	9	.46	3.63	5.62
LM45-L8	45	35	110	12.40	36.32	3.5	11	.46	3.63	4.60
LM45-L9	45	35	110	14.66	42.93	3.5	13	.46	3.63	3.89
LM45-M1	45	35	225	5.33	9.91	4.5	3	.46	3.63	49.13
LM45-M2	45	35	225	6.99	13.21	4.5	4	.46	3.63	36.17
LM45-M3	45	35	225	9.14	16.51	4.5	5	.46	3.63	30.53
LM45-M4	45	35	225	10.80	19.81	4.5	6	.46	3.63	24.97
LM45-M5	45	35	225	12.70	23.11	4.5	7	.46	3.63	21.61
LM45-M6	45	35	225	14.48	26.42	4.5	8	.46	3.63	18.84
LM45-M7	45	35	225	16.26	29.72	4.5	9	.46	3.63	16.72
LM45-M8	45	35	225	19.81	36.32	4.5	11	.46	3.63	13.63
LM45-M9	45	35	225	23.37	42.93	4.5	13	.46	3.63	11.50
LM45-H1	45	35	400	6.43	9.91	4.5	3	.61	3.76	114.94
LM45-H2	45	35	400	8.38	13.21	4.5	4	.61	3.76	82.82
LM45-H3	45	35	400	11.20	16.51	4.5	5	.61	3.76	75.33
LM45-H4	45	35	400	12.95	19.81	4.5	6	.61	3.76	58.31
LM45-H5	45	35	400	15.37	23.11	4.5	7	.61	3.76	51.68
LM45-H6	45	35	400	17.27	26.42	4.5	8	.61	3.76	43.72
LM45-H7	45	35	400	19.68	29.72	4.5	9	.61	3.76	39.88
LM45-H8	45	35	400	24.26	36.32	4.5	11	.61	3.76	33.17
LM45-H9	45	35	400	28.45	42.93	4.5	13	.61	3.76	27.62
LM50-L1	50	40	110	4.83	10.29	3.5	3	.53	3.63	20.15
LM50-L2	50	40	110	6.10	13.72	3.5	4	.53	3.63	14.44
LM50-L3	50	40	110	7.87	17.15	3.5	5	.53	3.63	11.85
LM50-L4	50	40	110	9.40	20.57	3.5	6	.53	3.63	9.85
LM50-L5	50	40	110	11.30	24.00	3.5	7	.53	3.63	8.66
LM50-L6	50	40	110	12.70	27.43	3.5	8	.53	3.63	7.47
LM50-L7	50	40	110	14.99	30.86	3.5	9	.53	3.63	6.93
LM50-L8	50	40	110	18.16	37.72	3.5	11	.53	3.63	5.62
LM50-L9	50	40	110	21.34	44.58	3.5	13	.53	3.63	4.73
LM50-L10	50	40	110	24.64	51.44	3.5	15	.53	3.63	4.10
LM50-M1	50	40	225	4.62	10.29	4.5	3	.46	3.63	39.68
LM50-M2	50	40	225	5.84	13.72	4.5	4	.46	3.63	30.53
LM50-M3	50	40	225	7.49	17.15	4.5	5	.46	3.63	23.29
LM50-M4	50	40	225	8.89	20.57	4.5	6	.46	3.63	19.26
LM50-M5	50	40	225	10.54	24.00	4.5	7	.46	3.63	16.72
LM50-M6	50	40	225	11.89	27.43	4.5	8	.46	3.63	14.48
LM50-M7	50	40	225	13.59	30.86	4.5	9	.46	3.63	13.03
LM50-M8	50	40	225	16.71	37.72	4.5	11	.46	3.63	10.71
LM50-M9	50	40	225	19.61	44.58	4.5	13	.46	3.63	9.01
LM50-M10	50	40	225	22.48	51.44	4.5	15	.46	3.63	7.77
LM50-H1	50	40	400	5.92	10.29	4.5	3	.61	3.76	91.53
LM50-H2	50	40	400	7.80	13.72	4.5	4	.61	3.76	67.57
LM50-H3	50	40	400	10.16	17.15	4.5	5	.61	3.76	57.22
LM50-H4	50	40	400	11.79	20.57	4.5	6	.61	3.76	45.56
LM50-H5	50	40	400	14.15	24.00	4.5	7	.61	3.76	40.61
LM50-H6	50	40	400	15.62	27.43	4.5	8	.61	3.76	33.87

-Use "LM" prefix for plain ends. Use "LMS" prefix for squared-shim ends.
-Add suffix "-S17" for 17-7 stainless steel.
-Reference dimension.
-Theoretical dimension; measured in N/mm.

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
LM50-H7	50	40	400	17.91	30.86	4.5	9	.61	3.76	30.89
LM50-H8	50	40	400	21.54	37.72	4.5	11	.61	3.76	24.72
LM50-H9	50	40	400	25.65	44.58	4.5	13	.61	3.76	21.13
LM50-H10	50	40	400	29.21	51.44	4.5	15	.61	3.76	17.99
LM55-L1	55	45	125	5.59	11.05	3.5	3	.61	3.76	22.89
LM55-L2	55	45	125	7.72	14.73	3.5	4	.61	3.76	17.83
LM55-L3	55	45	125	9.68	18.41	3.5	5	.61	3.76	14.30
LM55-L4	55	45	125	11.48	22.10	3.5	6	.61	3.76	11.77
LM55-L5	55	45	125	13.92	25.78	3.5	7	.61	3.76	10.54
LM55-L6	55	45	125	15.52	29.46	3.5	8	.61	3.76	8.97
LM55-L7	55	45	125	18.41	33.15	3.5	9	.61	3.76	8.49
LM55-L8	55	45	125	21.67	40.51	3.5	11	.61	3.76	6.63
LM55-L9	55	45	125	25.65	47.88	3.5	13	.61	3.76	5.62
LM55-L10	55	45	125	29.77	55.25	3.5	15	.61	3.76	4.91
LM55-M1	55	45	250	3.10	11.05	4.5	3	.46	3.63	31.45
LM55-M2	55	45	250	4.11	14.73	4.5	4	.46	3.63	23.54
LM55-M3	55	45	250	5.16	18.41	4.5	5	.46	3.63	18.85
LM55-M4	55	45	250	6.20	22.10	4.5	6	.46	3.63	15.72
LM55-M5	55	45	250	7.21	25.78	4.5	7	.46	3.63	13.46
LM55-M6	55	45	250	8.26	29.46	4.5	8	.46	3.63	11.79
LM55-M7	55	45	250	9.27	33.15	4.5	9	.46	3.63	10.47
LM55-M8	55	45	250	11.33	40.51	4.5	11	.46	3.63	8.57
LM55-M9	55	45	250	13.41	47.88	4.5	13	.46	3.63	7.25
LM55-M10	55	45	250	15.47	55.25	4.5	15	.46	3.63	6.28
LM55-H1	55	45	400	5.31	11.05	4.5	3	.61	3.76	69.69
LM55-H2	55	45	400	7.24	14.73	4.5	4	.61	3.76	53.40
LM55-H3	55	45	400	9.09	18.41	4.5	5	.61	3.76	42.87
LM55-H4	55	45	400	10.64	22.10	4.5	6	.61	3.76	34.90
LM55-H5	55	45	400	12.24	25.78	4.5	7	.61	3.76	29.54
LM55-H6	55	45	400	14.10	29.46	4.5	8	.61	3.76	26.04
LM55-H7	55	45	400	15.82	33.15	4.5	9	.61	3.76	23.08
LM55-H8	55	45	400	19.30	40.51	4.5	11	.61	3.76	18.86
LM55-H9	55	45	400	23.11	47.88	4.5	13	.61	3.76	16.15
LM55-H10	55	45	400	26.54	55.25	4.5	15	.61	3.76	13.93
LM60-L1	60	50	135	5.59	11.43	4.5	3	.46	3.63	23.12
LM60-L2	60	50	135	7.47	15.24	4.5	4	.46	3.63	17.37
LM60-L3	60	50	135	9.32	19.05	4.5	5	.46	3.63	13.87
LM60-L4	60	50	135	11.20	22.86	4.5	6	.46	3.63	11.58
LM60-L5	60	50	135	13.06	26.67	4.5	7	.46	3.63	9.92
LM60-L6	60	50	135	14.94	30.48	4.5	8	.46	3.63	8.69
LM60-L7	60	50	135	16.79	34.29	4.5	9	.46	3.63	7.71
LM60-L8	60	50	135	20.52	41.91	4.5	11	.46	3.63	6.31
LM60-L9	60	50	135	24.26	49.53	4.5	13	.46	3.63	5.34
LM60-L10	60	50	135	27.99	57.15	4.5	15	.46	3.63	4.63
LM60-M1	60	50	275	6.65	11.43	4.5	3	.61	3.76	57.53
LM60-M2	60	50	275	8.86	15.24	4.5	4	.61	3.76	43.10
LM60-M3	60	50	275	11.07	19.05	4.5	5	.61	3.76	34.46
LM60-M4	60	50	275	13.28	22.86	4.5	6	.61	3.76	28.71
LM60-M5	60	50	275	15.49	26.67	4.5	7	.61	3.76	24.60
LM60-M6	60	50	275	17.70	30.48	4.5	8	.61	3.76	21.52
LM60-M7	60	50	275	19.94	34.29	4.5	9	.61	3.76	19.16
LM60-M8	60	50	275	24.36	41.91	4.5	11	.61	3.76	15.67
LM60-M9	60	50	275	28.78	49.53	4.5	13	.61	3.76	13.25
LM60-M10	60	50	275	33.22	57.15	4.5	15	.61	3.76	11.49
LM60-H1	60	50	450	7.75	11.43	4.5	3	.76	4.01	122.28
LM60-H2	60	50	450	10.31	15.24	4.5	4	.76	4.01	91.28
LM60-H3	60	50	450	12.90	19.05	4.5	5	.76	4.01	73.17
LM60-H4	60	50	450	15.47	22.86	4.5	6	.76	4.01	60.89
LM60-H5	60	50	450	18.06	26.67	4.5	7	.76	4.01	52.26
LM60-H6	60	50	450	20.62	30.48	4.5	8	.76	4.01	45.64
LM60-H7	60	50	450	23.22	34.29	4.5	9	.76	4.01	40.65
LM60-H8	60	50	450	28.37	41.91	4.5	11	.76	4.01	33.23
LM60-H9	60	50	450	33.53	49.53	4.5	13	.76	4.01	28.13
LM60-H10	60	50	450	38.68	57.15	4.5	15	.76	4.01	24.36

Stock Items in carbon steel and 17-7 PH stainless steel.

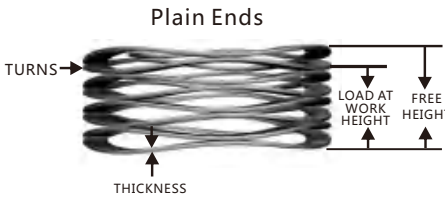
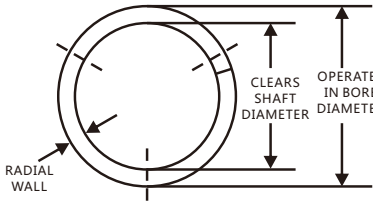
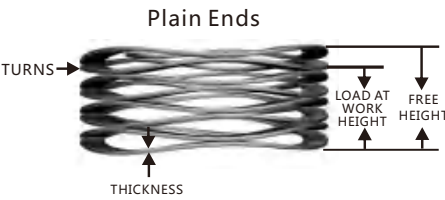
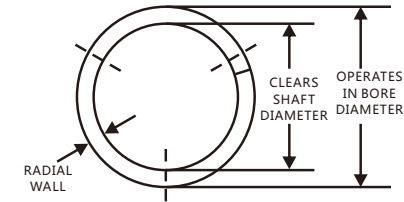
Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L018-L1	4.78	3.18	4.45	0.89	1.91	2.5	3	.10	0.38	4.38
L018-L2	4.78	3.18	4.45	1.17	2.54	2.5	4	.10	0.38	3.24
L018-L3	4.78	3.18	4.45	1.45	3.18	2.5	5	.10	0.38	2.57
L018-L4	4.78	3.18	4.45	1.73	3.81	2.5	6	.10	0.38	2.14
L018-L5	4.78	3.18	4.45	2.01	4.45	2.5	7	.10	0.38	1.82
L018-L6	4.78	3.18	4.45	2.29	5.08	2.5	8	.10	0.38	1.59
L018-L7	4.78	3.18	4.45	2.57	5.74	2.5	9	.10	0.38	1.40
L018-L8	4.78	3.18	4.45	3.12	7.01	2.5	11	.10	0.38	1.14
L018-L9	4.78	3.18	4.45	3.68	8.28	2.5	13	.10	0.38	0.96
L018-M1	4.78	3.18	9.78	1.19	2.26	2.5	3	.13	0.51	9.17
L018-M2	4.78	3.18	9.78	1.60	3.02	2.5	4	.13	0.51	6.88
L018-M3	4.78	3.18	9.78	2.01	3.78	2.5	5	.13	0.51	5.50
L018-M4	4.78	3.18	9.78	2.41	4.55	2.5	6	.13	0.51	4.59
L018-M5	4.78	3.18	9.78	2.82	5.31	2.5	7	.13	0.51	3.92
L018-M6	4.78	3.18	9.78	3.23	6.07	2.5	8	.13	0.51	3.43
L018-M7	4.78	3.18	9.78	3.63	6.81	2.5	9	.13	0.51	3.08
L018-M8	4.78	3.18	9.78	4.42	8.33	2.5	11	.13	0.51	2.50
L018-M9	4.78	3.18	9.78	5.16	9.86	2.5	13	.13	0.51	2.08
L021-L1	5.56	3.56	6.67	1.02	2.01	2.5	3	.13	0.51	6.74
L021-L2	5.56	3.56	6.67	1.35	2.67	2.5	4	.13	0.51	5.04
L021-L3	5.56	3.56	6.67	1.68	3.33	2.5	5	.13	0.51	4.04
L021-L4	5.56	3.56	6.67	2.03	3.99	2.5	6	.13	0.51	3.41
L021-L5	5.56	3.56	6.67	2.34	4.65	2.5	7	.13	0.51	2.89
L021-L6	5.56	3.56	6.67	2.69	5.31	2.5	8	.13	0.51	2.56
L021-L7	5.56	3.56	6.67	3.05	5.99	2.5	9	.13	0.51	2.26
L021-L8	5.56	3.56	6.67	3.71	7.32	2.5	11	.13	0.51	1.86
L021-L9	5.56	3.56	6.67	4.34	8.64	2.5	13	.13	0.51	1.56
L021-M1	5.56	3.56	20.00	1.30	2.03	2.5	3	.20	0.51	27.16
L021-M2	5.56	3.56	20.00	1.73	2.72	2.5	4	.20	0.51	20.20
L021-M3	5.56	3.56	20.00	2.16	3.38	2.5	5	.20	0.51	16.42
L021-M4	5.56	3.56	20.00	2.57	4.06	2.5	6	.20	0.51	13.35
L021-M5	5.56	3.56	20.00	3.00	4.75	2.5	7	.20	0.51	11.41
L021-M6	5.56	3.56	20.00	3.43	5.44	2.5	8	.20	0.51	9.98
L021-M7	5.56	3.56	20.00	3.86	6.10	2.5	9	.20	0.51	8.94
L021-M8	5.56	3.56	20.00	4.75	7.47	2.5	11	.20	0.51	7.37
L021-M9	5.56	3.56	20.00	5.51	8.81	2.5	13	.20	0.51	6.06

- Use "LM" prefix for plain ends. Use "LMS" prefix for squared-shim ends.
- Add suffix "-S17" for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L025-L1*	6.35	3.81	8.89	0.84	1.91	2.5	3	.15	0.61	8.40
L025-L2*	6.35	3.81	8.89	1.27	2.54	2.5	4	.15	0.61	7.00
L025-L3*	6.35	3.81	8.89	1.52	3.18	2.5	5	.15	0.61	5.43
L025-L4*	6.35	3.81	8.89	1.91	3.81	2.5	6	.15	0.61	4.73
L025-L5*	6.35	3.81	8.89	2.16	4.45	2.5	7	.15	0.61	3.85
L025-L6*	6.35	3.81	8.89	2.41	5.08	2.5	8	.15	0.61	3.33
L025-L7*	6.35	3.81	8.89	3.05	5.72	2.5	9	.15	0.61	3.33
L025-L8*	6.35	3.81	8.89	3.56	6.99	2.5	11	.15	0.61	2.63
L025-L9*	6.35	3.81	8.89	4.32	8.26	2.5	13	.15	0.61	2.28
L025-M1*	6.35	3.81	22.23	0.94	1.91	2.5	3	.20	0.61	23.10
L025-M2*	6.35	3.81	22.23	1.22	2.54	2.5	4	.20	0.61	16.80
L025-M3*	6.35	3.81	22.23	1.65	3.18	2.5	5	.20	0.61	14.53
L025-M4*	6.35	3.81	22.23	1.91	3.81	2.5	6	.20	0.61	11.73
L025-M5*	6.35	3.81	22.23	2.29	4.45	2.5	7	.20	0.61	10.33
L025-M6*	6.35	3.81	22.23	2.54	5.08	2.5	8	.20	0.61	8.75
L025-M7*	6.35	3.81	22.23	3.05	5.72	2.5	9	.20	0.61	8.40
L025-M8*	6.35	3.81	22.23	3.76	6.99	2.5	11	.20	0.61	6.83
L025-M9*	6.35	3.81	22.23	4.45	8.26	2.5	13	.20	0.61	5.78
L031-L1	7.92	5.08	13.34	1.78	2.90	2.5	3	.20	0.81	11.90
L031-L2	7.92	5.08	13.34	2.44	3.86	2.5	4	.20	0.81	9.45
L031-L3	7.92	5.08	13.34	3.00	4.83	2.5	5	.20	0.81	7.35
L031-L4	7.92	5.08	13.34	3.68	5.79	2.5	6	.20	0.81	6.30
L031-L5	7.92	5.08	13.34	4.19	6.76	2.5	7	.20	0.81	5.25
L031-L6	7.92	5.08	13.34	4.95	7.72	2.5	8	.20	0.81	4.90
L031-L7	7.92	5.08	13.34	5.46	8.69	2.5	9	.20	0.81	4.20
L031-L8	7.92	5.08	13.34	6.65	10.62	2.5	11	.20	0.81	3.33
L031-L9	7.92	5.08	13.34	7.85	12.55	2.5	13	.20	0.81	2.80
L031-M1	7.92	5.08	26.67	1.83	2.90	2.5	3	.25	0.81	25.03
L031-M2	7.92	5.08	26.67	2.44	3.86	2.5	4	.25	0.81	18.73
L031-M3	7.92	5.08	26.67	3.12	4.83	2.5	5	.25	0.81	15.75
L031-M4	7.92	5.08	26.67	3.66	5.79	2.5	6	.25	0.81	12.43
L031-M5	7.92	5.08	26.67	4.47	6.76	2.5	7	.25	0.81	11.73
L031-M6	7.92	5.08	26.67	5.00	7.72	2.5	8	.25	0.81	9.80
L031-M7	7.92	5.08	26.67	5.77	8.69	2.5	9	.25	0.81	9.10
L031-M8	7.92	5.08	26.67	7.06	10.62	2.5	11	.25	0.81	7.53
L031-M9	7.92	5.08	26.67	8.53	12.55	2.5	13	.25	0.81	6.65
L037-L1	9.53	6.35	17.78	1.57	3.81	2.5	3	.20	0.81	7.88
L037-L2	9.53	6.35	17.78	2.49	5.08	2.5	4	.20	0.81	6.83
L037-L3	9.53	6.35	17.78	2.74	6.35	2.5	5	.20	0.81	4.90
L037-L4	9.53	6.35	17.78	3.43	7.62	2.5	6	.20	0.81	4.20
L037-L5	9.53	6.35	17.78	3.81	8.89	2.5	7	.20	0.81	3.50
L037-L6	9.53	6.35	17.78	4.67	10.16	2.5	8	.20	0.81	3.33
L037-L7	9.53	6.35	17.78	4.95	11.43	2.5	9	.20	0.81	2.80
L037-L8	9.53	6.35	17.78	5.79	12.70	2.5	10	.20	0.81	2.63
L037-L9	9.53	6.35	17.78	6.10	13.97	2.5	11	.20	0.81	2.28
L037-M1	9.53	6.35	31.12	2.06	3.81	2.5	3	.28	0.81	17.68
L037-M2	9.53	6.35	31.12	3.02	5.08	2.5	4	.28	0.81	15.05
L037-M3	9.53	6.35	31.12	3.68	6.35	2.5	5	.28	0.81	11.73
L037-M4	9.53	6.35	31.12	4.57	7.62	2.5	6	.28	0.81	10.15
L037-M5	9.53	6.35	31.12	5.13	8.89	2.5	7	.28	0.81	8.23
L037-M6	9.53	6.35	31.12	6.10	10.16	2.5	8	.28	0.81	7.70
L037-M7	9.53	6.35	31.12	6.65	11.43	2.5	9	.28	0.81	6.48
L037-M8	9.53	6.35	31.12	7.57	12.70	2.5	10	.28	0.81	6.13
L037-M9	9.53	6.35	31.12	8.31	13.97	2.5	11	.28	0.81	5.43

- Use "LM" prefix for plain ends. Use "LMS" prefix for squared-shim ends.
- Add suffix "-S17" for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.



Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L043-L1	11.10	7.14	17.78	1.60	4.19	2.5	3	.20	1.02	6.83
L043-L2	11.10	7.14	17.78	2.36	5.59	2.5	4	.20	1.02	5.43
L043-L3	11.10	7.14	17.78	2.77	6.99	2.5	5	.20	1.02	4.20
L043-L4	11.10	7.14	17.78	3.63	8.38	2.5	6	.20	1.02	3.68
L043-L5	11.10	7.14	17.78	4.06	9.78	2.5	7	.20	1.02	3.15
L043-L6	11.10	7.14	17.78	4.95	11.18	2.5	8	.20	1.02	2.80
L043-L7	11.10	7.14	17.78	5.33	12.57	2.5	9	.20	1.02	2.45
L043-L8	11.10	7.14	17.78	6.10	13.97	2.5	10	.20	1.02	2.28
L043-L9	11.10	7.14	17.78	6.60	15.37	2.5	11	.20	1.02	2.10
L043-M1	11.10	7.14	35.56	2.08	4.19	2.5	3	.28	1.17	16.80
L043-M2	11.10	7.14	35.56	2.92	5.59	2.5	4	.28	1.17	13.30
L043-M3	11.10	7.14	35.56	3.61	6.99	2.5	5	.28	1.17	10.50
L043-M4	11.10	7.14	35.56	4.55	8.38	2.5	6	.28	1.17	9.28
L043-M5	11.10	7.14	35.56	5.03	9.78	2.5	7	.28	1.17	7.53
L043-M6	11.10	7.14	35.56	5.87	11.18	2.5	8	.28	1.17	6.65
L043-M7	11.10	7.14	35.56	6.48	12.57	2.5	9	.28	1.17	5.78
L043-M8	11.10	7.14	35.56	7.37	13.97	2.5	10	.28	1.17	5.43
L043-M9	11.10	7.14	35.56	8.10	15.37	2.5	11	.28	1.17	4.90
L050-L1	12.70	7.92	22.23	1.57	4.57	2.5	3	.20	1.42	7.35
L050-L2	12.70	7.92	22.23	2.29	6.10	2.5	4	.20	1.42	5.78
L050-L3	12.70	7.92	22.23	2.72	7.62	2.5	5	.20	1.42	4.55
L050-L4	12.70	7.92	22.23	3.45	9.14	2.5	6	.20	1.42	3.85
L050-L5	12.70	7.92	22.23	3.81	10.67	2.5	7	.20	1.42	3.33
L050-L6	12.70	7.92	22.23	4.57	12.19	2.5	8	.20	1.42	2.98
L050-L7	12.70	7.92	22.23	4.95	13.72	2.5	9	.20	1.42	2.45
L050-L8	12.70	7.92	22.23	5.59	15.24	2.5	10	.20	1.42	2.28
L050-L9	12.70	7.92	22.23	6.10	16.76	2.5	11	.20	1.42	2.10
L050-M1	12.70	7.92	44.45	1.65	4.57	2.5	3	.25	1.47	15.23
L050-M2	12.70	7.92	44.45	2.34	6.10	2.5	4	.25	1.47	11.90
L050-M3	12.70	7.92	44.45	2.90	7.62	2.5	5	.25	1.47	9.45
L050-M4	12.70	7.92	44.45	3.73	9.14	2.5	6	.25	1.47	8.23
L050-M5	12.70	7.92	44.45	4.11	10.67	2.5	7	.25	1.47	6.83
L050-M6	12.70	7.92	44.45	4.98	12.19	2.5	8	.25	1.47	6.13
L050-M7	12.70	7.92	44.45	5.26	13.72	2.5	9	.25	1.47	5.25
L050-M8	12.70	7.92	44.45	6.25	15.24	2.5	10	.25	1.47	4.90
L050-M9	12.70	7.92	44.45	6.71	16.76	2.5	11	.25	1.47	4.38
L050-H1	12.70	7.92	66.68	1.91	4.57	2.5	3	.30	1.52	25.03
L050-H2	12.70	7.92	66.68	2.79	6.10	2.5	4	.30	1.52	20.13
L050-H3	12.70	7.92	66.68	3.45	7.62	2.5	5	.30	1.52	15.93
L050-H4	12.70	7.92	66.68	4.24	9.14	2.5	6	.30	1.52	13.65
L050-H5	12.70	7.92	66.68	4.62	10.67	2.5	7	.30	1.52	11.03
L050-H6	12.70	7.92	66.68	5.49	12.19	2.5	8	.30	1.52	9.98
L050-H7	12.70	7.92	66.68	6.10	13.72	2.5	9	.30	1.52	8.75
L050-H8	12.70	7.92	66.68	7.11	15.24	2.5	10	.30	1.52	8.23
L050-H9	12.70	7.92	66.68	7.92	16.76	2.5	11	.30	1.52	7.53
L056-L1	14.27	9.53	22.23	2.03	4.95	2.5	3	.23	1.47	7.53
L056-L2	14.27	9.53	22.23	3.18	6.60	2.5	4	.23	1.47	6.48
L056-L3	14.27	9.53	22.23	3.43	8.26	2.5	5	.23	1.47	4.55
L056-L4	14.27	9.53	22.23	4.57	9.91	2.5	6	.23	1.47	4.20
L056-L5	14.27	9.53	22.23	4.83	11.56	2.5	7	.23	1.47	3.33
L056-L6	14.27	9.53	22.23	5.84	13.21	2.5	8	.23	1.47	2.98
L056-L7	14.27	9.53	22.23	6.60	14.86	2.5	9	.23	1.47	2.63
L056-L8	14.27	9.53	22.23	7.24	16.51	2.5	10	.23	1.47	2.45
L056-L9	14.27	9.53	22.23	8.00	18.16	2.5	11	.23	1.47	2.28

·Use "LM" prefix for plain ends. Use "LMS" prefix for squared-shim ends.
·Add suffix "-S17" for 17-7 stainless steel.
·Reference dimension.
·Theoretical dimension; measured in N/mm.

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L056-M1	14.27	9.53	48.90	2.18	4.95	2.5	3	.30	1.52	17.68
L056-M2	14.27	9.53	48.90	3.12	6.60	2.5	4	.30	1.52	14.00
L056-M3	14.27	9.53	48.90	3.68	8.26	2.5	5	.30	1.52	10.68
L056-M4	14.27	9.53	48.90	4.75	9.91	2.5	6	.30	1.52	9.45
L056-M5	14.27	9.53	48.90	5.31	11.56	2.5	7	.30	1.52	7.88
L056-M6	14.27	9.53	48.90	6.43	13.21	2.5	8	.30	1.52	7.18
L056-M7	14.27	9.53	48.90	6.93	14.86	2.5	9	.30	1.52	6.13
L056-M8	14.27	9.53	48.90	8.08	16.51	2.5	10	.30	1.52	5.78
L056-M9	14.27	9.53	48.90	8.71	18.16	2.5	11	.30	1.52	5.25
L056-H1	14.27	9.53	80.02	2.36	4.95	2.5	3	.38	1.52	30.80
L056-H2	14.27	9.53	80.02	3.45	6.60	2.5	4	.38	1.52	25.38
L056-H3	14.27	9.53	80.02	4.19	8.26	2.5	5	.38	1.52	19.78
L056-H4	14.27	9.53	80.02	5.38	9.91	2.5	6	.38	1.52	17.68
L056-H5	14.27	9.53	80.02	6.22	11.56	2.5	7	.38	1.52	15.05
L056-H6	14.27	9.53	80.02	7.16	13.21	2.5	8	.38	1.52	13.30
L056-H7	14.27	9.53	80.02	8.20	14.86	2.5	9	.38	1.52	12.08
L056-H8	14.27	9.53	80.02	9.14	16.51	2.5	10	.38	1.52	10.85
L056-H9	14.27	9.53	80.02	10.36	18.16	2.5	11	.38	1.52	10.33
L062-L1	15.88	11.43	26.67	1.40	4.57	2.5	3	.25	1.47	8.40
L062-L2	15.88	11.43	26.67	1.73	6.10	2.5	4	.25	1.47	6.13
L062-L3	15.88	11.43	26.67	2.16	7.62	2.5	5	.25	1.47	4.90
L062-L4	15.88	11.43	26.67	2.69	9.14	2.5	6	.25	1.47	4.20
L062-L5	15.88	11.43	26.67	3.25	10.67	2.5	7	.25	1.47	3.68
L062-L6	15.88	11.43	26.67	4.19	13.72	2.5	9	.25	1.47	2.80
L062-L7	15.88	11.43	26.67	5.13	16.76	2.5	11	.25	1.47	2.28
L062-L8	15.88	11.43	26.67	6.05	19.81	2.5	13	.25	1.47	1.93
L062-M1	15.88	11.43	53.34	2.64	4.57	3.5	3	.25	1.47	27.65
L062-M2	15.88	11.43	53.34	3.30	6.10	3.5	4	.25	1.47	19.08
L062-M3	15.88	11.43	53.34	4.45	7.62	3.5	5	.25	1.47	16.80
L062-M4	15.88	11.43	53.34	5.23	9.14	3.5	6	.25	1.47	13.65
L062-M5	15.88	11.43	53.34	6.25	10.67	3.5	7	.25	1.47	12.08
L062-M6	15.88	11.43	53.34	8.05	13.72	3.5	9	.25	1.47	9.45
L062-M7	15.88	11.43	53.34	9.80	16.76	3.5	11	.25	1.47	7.70
L062-M8	15.88	11.43	53.34	11.53	19.81	3.5	13	.25	1.47	6.48
L062-H1	15.88	11.43	88.91	2.59	4.57	3.5	3	.30	1.52	44.80
L062-H2	15.88	11.43	88.91	3.43	6.10	3.5	4	.30	1.52	33.25
L062-H3	15.88	11.43	88.91	4.45	7.62	3.5	5	.30	1.52	28.00
L062-H4	15.88	11.43	88.91	5.21	9.14	3.5	6	.30	1.52	22.58
L062-H5	15.88	11.43	88.91	6.22	10.67	3.5	7	.30	1.52	19.95
L062-H6	15.88	11.43	88.91	8.00	13.72	3.5	9	.30	1.52	15.58
L062-H7	15.88	11.43	88.91	9.91	16.76	3.5	11	.30	1.52	12.95
L062-H8	15.88	11.43	88.91	11.81	19.81	3.5	13	.30	1.52	11.03
L075-L1	19.05	13.97	31.12	3.61	6.35	3.5	3	.20	1.8	11.38
L075-L2	19.05	13.97	31.12	4.75	8.46	3.5	4	.20	1.8	8.40
L075-L3	19.05	13.97	31.12	6.25	10.59	3.5	5	.20	1.8	7.18
L075-L4	19.05	13.97	31.12	7.24	12.70	3.5	6	.20	1.8	5.78
L075-L5	19.05	13.97	31.12	8.84	14.81	3.5	7	.20	1.8	5.25
L075-L6	19.05	13.97	31.12	11.33	19.05	3.5	9	.20	1.8	4.03
L075-L7	19.05	13.97	31.12	14.73	25.40	3.5	12	.20	1.8	2.98
L075-M1	19.05	13.97	57.79	4.04	6.35	3.5	3	.25	1.98	25.03
L075-M2	19.05	13.97	57.79	5.16	8.46	3.5	4	.25	1.98	17.50
L075-M3	19.05	13.97	57.79	6.86	10.59	3.5	5	.25	1.98	15.40
L075-M4	19.05	13.97	57.79	7.98	12.70	3.5	6	.25	1.98	12.25
L075-M5	19.05	13.97	57.79	9.68	14.81	3.5	7	.25	1.98	11.20
L075-M6	19.05	13.97	57.79	12.42	19.05	3.5	9	.25	1.98	8.75
L075-M7	19.05	13.97	57.79	16.48	25.40	3.5	12	.25	1.98	6.48
L075-H1	19.05	13.97	97.80	4.29	6.35	3.5	3	.33	2.01	47.60
L075-H2	19.05	13.97	97.80	5.46	8.46	3.5	4	.33	2.01	32.55
L075-H3	19.05	13.97	97.80	7.39	10.59	3.5	5	.33	2.01	30.63
L075-H4	19.05	13.97	97.80	8.51	12.70	3.5	6	.33	2.01	23.28
L075-H5	19.05	13.97	97.80	10.29	14.81	3.5	7	.33	2.01	21.70
L075-H6	19.05	13.97	97.80	13.36	19.05	3.5	9	.33	2.01	17.15
L075-H7	19.05	13.97	97.80	17.75	25.40	3.5	12	.33	2.01	12.78

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L087-L1	22.23	15.24	53.34	2.97	6.35	3.5	3	.25	2.18	15.75
L087-L2	22.23	15.24	53.34	4.01	8.46	3.5	4	.25	2.18	12.08
L087-L3	22.23	15.24	53.34	5.26	10.59	3.5	5	.25	2.18	9.98
L087-L4	22.23	15.24	53.34	6.15	12.70	3.5	6	.25	2.18	8.23
L087-L5	22.23	15.24	53.34	7.29	14.81	3.5	7	.25	2.18	7.18
L087-L6	22.23	15.24	53.34	9.60	19.05	3.5	9	.25	2.18	5.60
L087-L7	22.23	15.24	53.34	12.65	25.40	3.5	12	.25	2.18	4.20
L087-M1	22.23	15.24	80.02	3.15	6.35	3.5	3	.30	2.39	25.90
L087-M2	22.23	15.24	80.02	4.17	8.46	3.5	4	.30	2.39	18.90
L087-M3	22.23	15.24	80.02	5.44	10.59	3.5	5	.30	2.39	15.58
L087-M4	22.23	15.24	80.02	6.40	12.70	3.5	6	.30	2.39	13.30
L087-M5	22.23	15.24	80.02	7.52	14.81	3.5	7	.30	2.39	11.55
L087-M6	22.23	15.24	80.02	9.78	19.05	3.5	9	.30	2.39	8.75
L087-M7	22.23	15.24	80.02	12.93	25.40	3.5	12	.30	2.39	6.65
L087-H1	22.23	15.24	111.13	4.22	6.35	3.5	3	.38	2.39	52.15
L087-H2	22.23	15.24	111.13	5.44	8.46	3.5	4	.38	2.39	36.75
L087-H3	22.23	15.24	111.13	7.06	10.59	3.5	5	.38	2.39	31.50
L087-H4	22.23	15.24	111.13	8.31	12.70	3.5	6	.38	2.39	25.38
L087-H5	22.23	15.24	111.13	10.03	14.81	3.5	7	.38	2.39	23.28
L087-H6	22.23	15.24	111.13	12.95	19.05	3.5	9	.38	2.39	18.20
L087-H7	22.23	15.24	111.13	17.02	25.40	3.5	12	.38	2.39	13.65
L100-L1	25.40	18.54	53.34	2.13	6.35	3.5	3	.25	2.18	12.60
L100-L2	25.40	18.54	53.34	2.74	8.46	3.5	4	.25	2.18	9.28
L100-L3	25.40	18.54	53.34	3.68	10.59	3.5	5	.25	2.18	7.70
L100-L4	25.40	18.54	53.34	4.19	12.70	3.5	6	.25	2.18	6.30
L100-L5	25.40	18.54	53.34	5.11	14.81	3.5	7	.25	2.18	5.43
L100-L6	25.40	18.54	53.34	6.55	19.05	3.5	9	.25	2.18	4.20
L100-L7	25.40	18.54	53.34	8.69	25.40	3.5	12	.25	2.18	3.15
L100-L8	25.40	18.54	53.34	11.30	31.75	3.5	15	.25	2.18	2.63
L100-L9	25.40	18.54	53.34	13.18	38.10	3.5	18	.25	2.18	2.10
L100-L10	25.40	18.54	53.34	16.08	44.45	3.5	21	.25	2.18	1.93
L100-L11	25.40	18.54	53.34	18.03	50.80	3.5	24	.25	2.18	1.58
L100-M1	25.40	18.54	80.02	2.21	6.35	3.5	3	.30	2.39	19.25
L100-M2	25.40	18.54	80.02	2.87	8.46	3.5	4	.30	2.39	14.35
L100-M3	25.40	18.54	80.02	3.76	10.59	3.5	5	.30	2.39	11.73
L100-M4	25.40	18.54	80.02	4.45	12.70	3.5	6	.30	2.39	9.63
L100-M5	25.40	18.54	80.02	5.38	14.81	3.5	7	.30	2.39	8.58
L100-M6	25.40	18.54	80.02	7.01	19.05	3.5	9	.30	2.39	6.65
L100-M7	25.40	18.54	80.02	9.14	25.40	3.5	12	.30	2.39	4.90
L100-M8	25.40	18.54	80.02	11.48	31.75	3.5	15	.30	2.39	4.03
L100-M9	25.40	18.54	80.02	13.94	38.10	3.5	18	.30	2.39	3.33
L100-M10	25.40	18.54	80.02	16.51	44.45	3.5	21	.30	2.39	2.80
L100-M11	25.40	18.54	80.02	18.29	50.80	3.5	24	.30	2.39	2.45
L100-H1	25.40	18.54	111.13	3.33	6.35	3.5	3	.38	2.39	36.75
L100-H2	25.40	18.54	111.13	4.42	8.46	3.5	4	.38	2.39	27.48
L100-H3	25.40	18.54	111.13	5.77	10.59	3.5	5	.38	2.39	23.10
L100-H4	25.40	18.54	111.13	6.76	12.70	3.5	6	.38	2.39	18.73
L100-H5	25.40	18.54	111.13	8.10	14.81	3.5	7	.38	2.39	16.63
L100-H6	25.40	18.54	111.13	10.31	19.05	3.5	9	.38	2.39	12.78
L100-H7	25.40	18.54	111.13	13.74	25.40	3.5	12	.38	2.39	9.45
L100-H8	25.40	18.54	111.13	17.48	31.75	3.5	15	.38	2.39	7.88
L100-H9	25.40	18.54	111.13	20.65	38.10	3.5	18	.38	2.39	6.30
L100-H10	25.40	18.54	111.13	24.31	44.45	3.5	21	.38	2.39	5.60
L100-H11	25.40	18.54	111.13	27.51	50.80	3.5	24	.38	2.39	4.73

- Use “LM” prefix for plain ends. Use “LMS” prefix for squared-shim ends.
- Add suffix “-S17” for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L112-L1	28.58	21.59	53.34	3.71	7.62	3.5	3	.30	2.39	13.65
L112-L2	28.58	21.59	53.34	4.72	10.16	3.5	4	.30	2.39	9.80
L112-L3	28.58	21.59	53.34	6.35	12.70	3.5	5	.30	2.39	8.40
L112-L4	28.58	21.59	53.34	7.49	15.24	3.5	6	.30	2.39	6.83
L112-L5	28.58	21.59	53.34	8.74	17.78	3.5	7	.30	2.39	5.95
L112-L6	28.58	21.59	53.34	9.96	20.32	3.5	8	.30	2.39	5.08
L112-L7	28.58	21.59	53.34	12.40	25.40	3.5	10	.30	2.39	4.03
L112-L8	28.58	21.59	53.34	16.74	33.02	3.5	13	.30	2.39	3.33
L112-L9	28.58	21.59	53.34	20.50	40.64	3.5	16	.30	2.39	2.63
L112-L10	28.58	21.59	53.34	25.83	50.80	3.5	20	.30	2.39	2.10
L112-M1	28.58	21.59	88.91	4.06	7.62	3.5	3	.38	2.39	25.03
L112-M2	28.58	21.59	88.91	5.13	10.16	3.5	4	.38	2.39	17.68
L112-M3	28.58	21.59	88.91	6.86	12.70	3.5	5	.38	2.39	15.23
L112-M4	28.58	21.59	88.91	8.08	15.24	3.5	6	.38	2.39	12.43
L112-M5	28.58	21.59	88.91	9.68	17.78	3.5	7	.38	2.39	11.03
L112-M6	28.58	21.59	88.91	10.85	20.32	3.5	8	.38	2.39	9.45
L112-M7	28.58	21.59	88.91	13.61	25.40	3.5	10	.38	2.39	7.53
L112-M8	28.58	21.59	88.91	17.98	33.02	3.5	13	.38	2.39	5.95
L112-M9	28.58	21.59	88.91	21.87	40.64	3.5	16	.38	2.39	4.73
L112-M10	28.58	21.59	88.91	27.64	50.80	3.5	20	.38	2.39	3.85
L112-H1	28.58	21.59	133.36	4.52	7.62	3.5	3	.46	2.39	43.05
L112-H2	28.58	21.59	133.36	5.82	10.16	3.5	4	.46	2.39	30.63
L112-H3	28.58	21.59	133.36	7.70	12.70	3.5	5	.46	2.39	26.60
L112-H4	28.58	21.59	133.36	8.89	15.24	3.5	6	.46	2.39	21.00
L112-H5	28.58	21.59	133.36	10.69	17.78	3.5	7	.46	2.39	18.90
L112-H6	28.58	21.59	133.36	11.94	20.32	3.5	8	.46	2.39	15.93
L112-H7	28.58	21.59	133.36	15.06	25.40	3.5	10	.46	2.39	12.95
L112-H8	28.58	21.59	133.36	19.99	33.02	3.5	13	.46	2.39	10.15
L112-H9	28.58	21.59	133.36	24.28	40.64	3.5	16	.46	2.39	8.23
L112-H10	28.58	21.59	133.36	30.53	50.80	3.5	20	.46	2.39	6.65
L125-L1	31.75	25.40	53.34	2.13	6.35	3.5	3	.30	2.39	9.80
L125-L2	31.75	25.40	53.34	2.87	8.46	3.5	4	.30	2.39	7.35
L125-L3	31.75	25.40	53.34	3.78	10.59	3.5	5	.30	2.39	5.95
L125-L4	31.75	25.40	53.34	4.37	12.70	3.5	6	.30	2.39	4.90
L125-L5	31.75	25.40	53.34	5.26	14.81	3.5	7	.30	2.39	4.20
L125-L6	31.75	25.40	53.34	5.77	16.91	3.5	8	.30	2.39	3.68
L125-L7	31.75	25.40	53.34	7.65	20.32	3.5	10	.30	2.39	2.98
L125-L8	31.75	25.40	53.34	10.03	25.40	3.5	13	.30	2.39	2.28
L125-L9	31.75	25.40	53.34	11.86	30.48	3.5	16	.30	2.39	1.93
L125-L10	31.75	25.40	53.34	15.01	38.10	3.5	20	.30	2.39	1.58
L125-M1	31.75	25.40	88.91	3.15	6.35	3.5	3	.38	2.39	19.95
L125-M2	31.75	25.40	88.91	4.19	8.46	3.5	4	.38	2.39	14.88
L125-M3	31.75	25.40	88.91	5.46	10.59	3.5	5	.38	2.39	12.25
L125-M4	31.75	25.40	88.91	6.43	12.70	3.5	6	.38	2.39	10.15
L125-M5	31.75	25.40	88.91	7.70	14.81	3.5	7	.38	2.39	8.75
L125-M6	31.75	25.40	88.91	8.66	16.91	3.5	8	.38	2.39	7.70
L125-M7	31.75	25.40	88.91	10.85	20.32	3.5	10	.38	2.39	6.13
L125-M8	31.75	25.40	88.91	14.66	25.40	3.5	13	.38	2.39	4.90
L125-M9	31.75	25.40	88.91	17.58	30.48	3.5	16	.38	2.39	3.85
L125-M10	31.75	25.40	88.91	22.00	38.10	3.5	20	.38	2.39	3.15
L125-H1	31.75	25.40	133.36	4.01	6.35	3.5	3	.48	2.39	36.75
L125-H2	31.75	25.40	133.36	5.33	8.46	3.5	4	.48	2.39	27.65
L125-H3	31.75	25.40	133.36	6.91	10.59	3.5	5	.48	2.39	23.10
L125-H4	31.75	25.40	133.36	8.13	12.70	3.5	6	.48	2.39	18.73
L125-H5	31.75	25.40	133.36	9.75	14.81	3.5	7	.48	2.39	16.63
L125-H6	31.75	25.40	133.36	11.00	16.91	3.5	8	.48	2.39	14.35
L125-H7	31.75	25.40	133.36	13.67	20.32	3.5	10	.48	2.39	11.38
L125-H8	31.75	25.40	133.36	18.21	25.40	3.5	13	.48	2.39	8.93
L125-H9	31.75	25.40	133.36	22.30	30.48	3.5	16	.48	2.39	7.35
L125-H10	31.75	25.40	133.36	28.02	38.10	3.5	20	.48	2.39	5.78

- Use “LM” prefix for plain ends. Use “LMS”

Stock Items in carbon steel and 17-7 PH stainless steel.

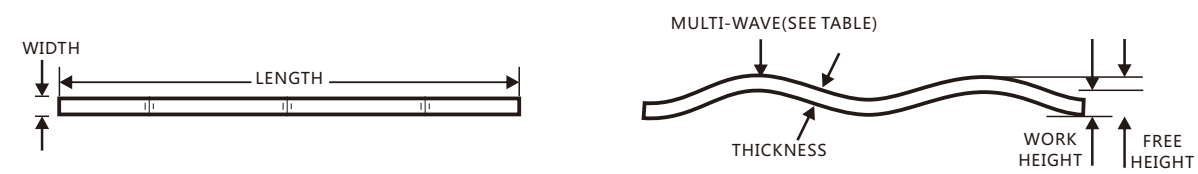
Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L137-L1	34.93	26.16	66.68	1.91	7.62	3.5	3	.30	3.38	11.73
L137-L2	34.93	26.16	66.68	2.51	10.16	3.5	4	.30	3.38	8.75
L137-L3	34.93	26.16	66.68	3.28	12.70	3.5	5	.30	3.38	7.00
L137-L4	34.93	26.16	66.68	3.94	15.24	3.5	6	.30	3.38	5.95
L137-L5	34.93	26.16	66.68	4.55	17.78	3.5	7	.30	3.38	5.08
L137-L6	34.93	26.16	66.68	5.23	20.32	3.5	8	.30	3.38	4.38
L137-L7	34.93	26.16	66.68	6.50	25.40	3.5	10	.30	3.38	3.50
L137-L8	34.93	26.16	66.68	8.66	33.02	3.5	13	.30	3.38	2.80
L137-L9	34.93	26.16	66.68	10.77	40.64	3.5	16	.30	3.38	2.28
L137-L10	34.93	26.16	66.68	13.46	50.80	3.5	20	.30	3.38	1.75
L137-M1	34.93	26.16	111.13	3.61	7.62	3.5	3	.41	3.38	27.65
L137-M2	34.93	26.16	111.13	4.72	10.16	3.5	4	.41	3.38	20.48
L137-M3	34.93	26.16	111.13	6.10	12.70	3.5	5	.41	3.38	16.80
L137-M4	34.93	26.16	111.13	7.14	15.24	3.5	6	.41	3.38	13.65
L137-M5	34.93	26.16	111.13	8.64	17.78	3.5	7	.41	3.38	12.08
L137-M6	34.93	26.16	111.13	9.75	20.32	3.5	8	.41	3.38	10.50
L137-M7	34.93	26.16	111.13	12.34	25.40	3.5	10	.41	3.38	8.58
L137-M8	34.93	26.16	111.13	16.05	33.02	3.5	13	.41	3.38	6.48
L137-M9	34.93	26.16	111.13	20.02	40.64	3.5	16	.41	3.38	5.43
L137-M10	34.93	26.16	111.13	24.94	50.80	3.5	20	.41	3.38	4.38
L137-H1	34.93	26.16	155.58	3.78	7.62	3.5	3	.46	3.38	40.60
L137-H2	34.93	26.16	155.58	4.80	10.16	3.5	4	.46	3.38	29.05
L137-H3	34.93	26.16	155.58	6.27	12.70	3.5	5	.46	3.38	24.15
L137-H4	34.93	26.16	155.58	7.29	15.24	3.5	6	.46	3.38	19.60
L137-H5	34.93	26.16	155.58	8.71	17.78	3.5	7	.46	3.38	17.15
L137-H6	34.93	26.16	155.58	9.91	20.32	3.5	8	.46	3.38	14.88
L137-H7	34.93	26.16	155.58	12.45	25.40	3.5	10	.46	3.38	12.08
L137-H8	34.93	26.16	155.58	16.41	33.02	3.5	13	.46	3.38	9.45
L137-H9	34.93	26.16	155.58	20.14	40.64	3.5	16	.46	3.38	7.53
L137-H10	34.93	26.16	155.58	25.40	50.80	3.5	20	.46	3.38	6.13
L150-L1	38.10	28.96	88.91	3.28	7.62	3.5	3	.41	3.38	20.48
L150-L2	38.10	28.96	88.91	4.17	10.16	3.5	4	.41	3.38	14.88
L150-L3	38.10	28.96	88.91	5.41	12.70	3.5	5	.41	3.38	12.25
L150-L4	38.10	28.96	88.91	6.27	15.24	3.5	6	.41	3.38	9.98
L150-L5	38.10	28.96	88.91	7.65	17.78	3.5	7	.41	3.38	8.75
L150-L6	38.10	28.96	88.91	8.56	20.32	3.5	8	.41	3.38	7.53
L150-L7	38.10	28.96	88.91	10.92	25.40	3.5	10	.41	3.38	6.13
L150-L8	38.10	28.96	88.91	14.35	33.02	3.5	13	.41	3.38	4.73
L150-L9	38.10	28.96	88.91	17.63	40.64	3.5	16	.41	3.38	3.85
L150-L10	38.10	28.96	88.91	22.00	50.80	3.5	20	.41	3.38	3.15
L150-M1	38.10	28.96	155.58	3.10	7.62	3.5	3	.46	3.38	34.48
L150-M2	38.10	28.96	155.58	4.01	10.16	3.5	4	.46	3.38	25.38
L150-M3	38.10	28.96	155.58	5.23	12.70	3.5	5	.46	3.38	20.83
L150-M4	38.10	28.96	155.58	6.12	15.24	3.5	6	.46	3.38	16.98
L150-M5	38.10	28.96	155.58	7.39	17.78	3.5	7	.46	3.38	15.05
L150-M6	38.10	28.96	155.58	8.23	20.32	3.5	8	.46	3.38	12.95
L150-M7	38.10	28.96	155.58	10.39	25.40	3.5	10	.46	3.38	10.33
L150-M8	38.10	28.96	155.58	13.72	33.02	3.5	13	.46	3.38	8.05
L150-M9	38.10	28.96	155.58	16.69	40.64	3.5	16	.46	3.38	6.48
L150-M10	38.10	28.96	155.58	21.21	50.80	3.5	20	.46	3.38	5.25
L150-H1	38.10	28.96	266.72	4.22	7.62	4.5	3	.46	3.38	78.40
L150-H2	38.10	28.96	266.72	5.49	10.16	4.5	4	.46	3.38	57.05
L150-H3	38.10	28.96	266.72	7.06	12.70	4.5	5	.46	3.38	47.25
L150-H4	38.10	28.96	266.72	8.36	15.24	4.5	6	.46	3.38	38.68
L150-H5	38.10	28.96	266.72	9.91	17.78	4.5	7	.46	3.38	33.95
L150-H6	38.10	28.96	266.72	11.25	20.32	4.5	8	.46	3.38	29.40
L150-H7	38.10	28.96	266.72	14.10	25.40	4.5	10	.46	3.38	23.63
L150-H8	38.10	28.96	266.72	18.44	33.02	4.5	13	.46	3.38	18.38
L150-H9	38.10	28.96	266.72	22.61	40.64	4.5	16	.46	3.38	14.88
L150-H10	38.10	28.96	266.72	28.42	50.80	4.5	20	.46	3.38	11.90

·Use "LM" prefix for plain ends. Use "LMS" prefix for squared-shim ends.
·Add suffix "-S17" for 17-7 stainless steel.
·Reference dimension.
·Theoretical dimension; measured in N/mm.

Stock Items in carbon steel and 17-7 PH stainless steel.

Item No.	Operates in Bore Diameter (mm)	Clears Shaft Diameter (mm)	Load (N)	Work Height (mm)	Free Height (mm)	Number of Waves	Number of Turns	Thickness (mm)	Radial Wall (mm)	Spring Rate (N/mm)
L175-L1	44.45	34.04	111.13	3.94	9.53	3.5	3	.46	3.63	19.95
L175-L2	44.45	34.04	111.13	5.08	12.70	3.5	4	.46	3.63	14.53
L175-L3	44.45	34.04	111.13	6.73	15.88	3.5	5	.46	3.63	12.08
L175-L4	44.45	34.04	111.13	7.87	19.05	3.5	6	.46	3.63	9.98
L175-L5	44.45	34.04	111.13	9.32	22.10	3.5	7	.46	3.63	8.75
L175-L6	44.45	34.04	111.13	10.54	25.40	3.5	8	.46	3.63	7.53
L175-L7	44.45	34.04	111.13	13.28	31.75	3.5	10	.46	3.63	5.95
L175-L8	44.45	34.04	111.13	16.21	38.10	3.5	12	.46	3.63	5.08
L175-L9	44.45	34.04	111.13	18.72	44.45	3.5	14	.46	3.63	4.38
L175-L10	44.45	34.04	111.13	21.44	50.80	3.5	16	.46	3.63	3.85
L175-M1	44.45	34.04	222.26	4.78	9.53	4.5	3	.46	3.63	46.73
L175-M2	44.45	34.04	222.26	6.20	12.70	4.5	4	.46	3.63	34.13
L175-M3	44.45	34.04	222.26	8.00	15.88	4.5	5	.46	3.63	28.18
L175-M4	44.45	34.04	222.26	9.50	19.05	4.5	6	.46	3.63	23.28
L175-M5	44.45	34.04	222.26	11.48	22.10	4.5	7	.46	3.63	21.00
L175-M6	44.45	34.04	222.26	12.83	25.40	4.5	8	.46	3.63	17.68
L175-M7	44.45	34.04	222.26	15.98	31.75	4.5	10	.46	3.63	14.18
L175-M8	44.45	34.04	222.26	19.51	38.10	4.5	12	.46	3.63	11.90
L175-M9	44.45	34.04	222.26	22.83	44.45	4.5	14	.46	3.63	10.33
L175-M10	44.45	34.04	222.26	26.06	50.80	4.5	16	.46	3.63	8.93
L175-H1	44.45	34.04	400.08	5.89	9.53	4.5	3	.61	3.76	110.08
L175-H2	44.45	34.04	400.08	7.98	12.70	4.5	4	.61	3.76	84.70
L175-H3	44.45	34.04	400.08	10.39	15.88	4.5	5	.61	3.76	72.98
L175-H4	44.45	34.04	400.08	12.24	19.05	4.5	6	.61	3.76	58.80
L175-H5	44.45	34.04	400.08	14.66	22.10	4.5	7	.61	3.76	53.73
L175-H6	44.45	34.04	400.08	16.54	25.40	4.5	8	.61	3.76	45.15
L175-H7	44.45	34.04	400.08	20.65	31.75	4.5	10	.61	3.76	36.05
L175-H8	44.45	34.04	400.08	24.89	38.10	4.5	12	.61	3.76	30.28
L175-H9	44.45	34.04	400.08	29.13	44.45	4.5	14	.61	3.76	26.08
L175-H10	44.45	34.04	400.08	33.45	50.80	4.5	16	.61	3.76	23.10
L200-L1	50.80	40.64	111.13	2.39	9.53	3.5	3	.46	3.63	15.58
L200-L2	50.80	40.64	111.13	3.05	12.70	3.5	4	.46	3.63	11.55
L200-L3	50.80	40.64	111.13	4.01	15.88	3.5	5	.46	3.63	9.45
L200-L4	50.80	40.64	111.13	4.55	19.05	3.5	6	.46	3.63	7.70
L200-L5	50.80	40.64	111.13	5.51	22.10	3.5	7	.46	3.63	6.65
L200-L6	50.80	40.64	111.13	6.17	25.40	3.5	8	.46	3.63	5.78
L200-L7	50.80	40.64	111.13	7.77	31.75	3.5	10	.46	3.63	4.55
L200-L8	50.80	40.64	111.13	9.27	38.10	3.5	12	.46	3.63	3.85
L200-L9	50.80	40.64	111.13	11.00	44.45	3.5	14	.46	3.63	3.33
L200-L10	50.80	40.64	111.13	12.45	50.80	3.5	16	.46	3.63	2.98
L200-M1	50.80	40.64	222.26	3.56	9.53	4.5	3	.46	3.63	37.28
L200-M2	50.80	40.64	222.26	4.67	12.70	4.5	4	.46	3.63	27.65
L200-M3	50.80	40.64	222.26	6.22	15.88	4.5	5	.46	3.63	23.10
L200-M4	50.80	40.64	222.26	7.06	19.05	4.5	6	.46	3.63	18.55
L200-M5	50.80	40.64	222.26	8.76	22.10	4.5	7	.46	3.63	16.63
L200-M6	50.80	40.64	222.26	10.03	25.40	4.5	8	.46	3.63	14.53
L200-M7	50.80	40.64	222.26	12.65	31.75	4.5	10	.46	3.63	11.55
L200-M8	50.80	40.64	222.26	15.06	38.10	4.5	12	.46	3.63	9.63
L200-M9	50.80	40.64	222.26	17.63	44.45	4.5	14	.46	3.63	8.23
L200-M10	50.80	40.64	222.26	20.32	50.80	4.5	16	.46	3.63	7.35
L200-H1	50.80	40.64	400.08	5.00	9.53	4.5	3	.61	3.76	88.55
L200-H2	50.80	40.64	400.08	6.55	12.70	4.5	4	.61	3.76	65.10
L200-H3	50.80	40.64	400.08	8.43	15.88	4.5	5	.61	3.76	53.73
L200-H4	50.80	40.64	400.08	9.88	19.05	4.5	6	.61	3.76	43.58
L200-H5	50.80	40.64	400.08	11.81	22.10	4.5	7	.61	3.76	38.85
L200-H6	50.80	40.64	400.08	13.34	25.40	4.5	8	.61	3.76	33.08
L200-H7	50.80	40.64	400.08	16.79	31.75	4.5	10	.61	3.76	26.78
L200-H8	50.80	40.64	400.08	19.84	38.10	4.5	12	.61	3.76	21.88
L200-H9	50.80	40.64	400.08	23.90	44.45	4.5	14	.61	3.76	19.43
L200-H10	50.80	40.64	400.08	27.15	50.80	4.5	16	.61	3.76	16.98

LLS Series-Linear Springs



Product Dimensions All dimensions in millimeters unless otherwise specified.

Part Number.	Number of Waves	Thickness (mm)	Width (mm)	Length (mm)	Free Height (mm)	Load (N)	Work Height (mm)	Spring Rate (N/mm)
LLS12188-1	1	.30	4.78	38.10	5.72	6.67	3.18	1.93
LLS12188-2	2	.30	4.78	76.20	5.72	24.92	3.18	15.93
LLS12188-3	3	.30	4.78	114.30	5.72	46.27	3.18	23.80
LLS12188-4	4	.30	4.78	152.40	5.72	65.85	3.18	31.85
LLS12250-1	1	.30	6.35	38.10	5.72	9.79	3.18	2.63
LLS12250-2	2	.30	6.35	76.20	5.72	34.70	3.18	21.18
LLS12250-3	3	.30	6.35	114.30	5.72	61.84	3.18	31.68
LLS12250-4	4	.30	6.35	152.40	5.72	88.09	3.18	42.35
LLS12312-1	1	.30	7.92	38.10	5.72	12.90	3.18	3.33
LLS12312-2	2	.30	7.92	76.20	5.72	45.38	3.18	26.43
LLS12312-3	3	.30	7.92	114.30	5.72	78.31	3.18	39.55
LLS12312-4	4	.30	7.92	152.40	5.72	115.68	3.18	52.85
LLS12375-1	1	.30	9.53	38.10	5.72	15.57	3.18	4.03
LLS12375-2	2	.30	9.53	76.20	5.72	50.28	3.18	31.68
LLS12375-3	3	.30	9.53	114.30	5.72	89.43	3.18	47.60
LLS12375-4	4	.30	9.53	152.40	5.72	112.12	3.18	63.35
LLS20188-1	1	.51	4.78	47.63	6.35	13.35	3.81	4.73
LLS20188-2	2	.51	4.78	95.25	6.35	50.72	3.81	37.63
LLS20188-3	3	.51	4.78	142.88	6.35	104.56	3.81	56.53
LLS20188-4	4	.51	4.78	190.50	6.35	144.60	3.81	75.43
LLS20250-1	1	.51	6.35	47.63	6.35	24.92	3.81	6.30
LLS20250-2	2	.51	6.35	95.25	6.35	78.31	3.81	50.05
LLS20250-3	3	.51	6.35	142.88	6.35	141.04	3.81	75.25
LLS20250-4	4	.51	6.35	190.50	6.35	199.77	3.81	100.28
LLS20312-1	1	.51	7.92	47.63	6.35	26.70	3.81	7.88
LLS20312-2	2	.51	7.92	95.25	6.35	91.21	3.81	62.48
LLS20312-3	3	.51	7.92	142.88	6.35	155.28	3.81	93.80
LLS20312-4	4	.51	7.92	190.50	6.35	226.02	3.81	125.13
LLS20375-1	1	.51	9.53	47.63	6.35	28.47	3.81	9.45
LLS20375-2	2	.51	9.53	95.25	6.35	103.67	3.81	75.25
LLS20375-3	3	.51	9.53	142.88	6.35	231.36	3.81	112.70
LLS20375-4	4	.51	9.53	190.50	6.35	331.47	3.81	150.33
LLS25188-1	1	.64	4.78	57.15	6.99	15.57	4.45	5.25
LLS25188-2	2	.64	4.78	114.30	6.99	68.52	4.45	42.53
LLS25188-3	3	.64	4.78	171.45	6.99	124.13	4.45	63.88
LLS25188-4	4	.64	4.78	228.60	6.99	189.09	4.45	85.23
LLS25250-1	1	.64	6.35	57.15	6.99	28.92	4.45	7.00
LLS25250-2	2	.64	6.35	114.30	6.99	96.55	4.45	56.70
LLS25250-3	3	.64	6.35	171.45	6.99	154.39	4.45	85.05
LLS25250-4	4	.64	6.35	228.60	6.99	224.68	4.45	113.23
LLS25312-1	1	.64	7.92	57.15	6.99	29.36	4.45	8.93
LLS25312-2	2	.64	7.92	114.30	6.99	106.78	4.45	70.70
LLS25312-3	3	.64	7.92	171.45	6.99	192.21	4.45	106.05
LLS25312-4	4	.64	7.92	228.60	6.99	275.85	4.45	141.40
LLS25375-1	1	.64	9.53	57.15	6.99	34.26	4.45	10.68
LLS25375-2	2	.64	9.53	114.30	6.99	130.81	4.45	85.05
LLS25375-3	3	.64	9.53	171.45	6.99	239.37	4.45	127.40
LLS25375-4	4	.64	9.53	228.60	6.99	342.14	4.45	169.93

- Add suffix “-S17” for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.



LLS Series-Linear Springs



Product Dimensions All dimensions in millimeters unless otherwise specified.

Part Number.	Number of Waves	Thickness (mm)	Width (mm)	Length (mm)	Free Height (mm)	Load (N)	Work Height (mm)	Spring Rate (N/mm)
LLS38188-1	1	.97	4.78	66.68	7.62	33.37	5.08	11.73
LLS38188-2	2	.97	4.78	133.35	7.62	111.23	5.08	94.15
LLS38188-3	3	.97	4.78	200.03	7.62	271.40	5.08	141.40
LLS38188-4	4	.97	4.78	266.70	7.62	400.43	5.08	188.48
LLS38250-1	1	.97	6.35	66.68	7.62	52.95	5.08	15.58
LLS38250-2	2	.97	6.35	133.35	7.62	203.33	5.08	125.30
LLS38250-3	3	.97	6.35	200.03	7.62	330.58	5.08	187.95
LLS38250-4	4	.97	6.35	266.70	7.62	496.09	5.08	250.60
LLS38312-1	1	.97	7.92	66.68	7.62	44.05	5.08	19.60
LLS38312-2	2	.97	7.92	133.35	7.62	219.35	5.08	156.28
LLS38312-3	3	.97	7.92	200.03	7.62	391.53	5.08	234.50
LLS38312-4	4	.97	7.92	266.70	7.62	714.99	5.08	312.73
LLS38375-1	1	.97	9.53	66.68	7.62	75.19	5.08	23.45
LLS38375-2	2	.97	9.53	133.35	7.62	274.52	5.08	187.95
LLS38375-3	3	.97	9.53	200.03	7.62	467.17	5.08	281.93
LLS38375-4	4	.97	9.53	266.70	7.62	680.73	5.08	375.90
LLS45188-1	1	1.14	4.78	76.20	8.26	40.04	5.72	13.13
LLS45188-2	2	1.14	4.78	152.40	8.26	160.17	5.72	104.83
LLS45188-3	3	1.14	4.78	228.60	8.26	289.20	5.72	157.15
LLS45188-4	4	1.14	4.78	304.80	8.26	395.98	5.72	209.65
LLS45250-1	1	1.14	6.35	76.20	8.26	55.62	5.72	17.50
LLS45250-2	2	1.14	6.35	152.40	8.26	189.09	5.72	139.48
LLS45250-3	3	1.14	6.35	228.60	8.26	369.28	5.72	209.13
LLS45250-4	4	1.14	6.35	304.80	8.26	536.13	5.72	278.78
LLS45312-1	1	1.14	7.92	76.20	8.26	65.40	5.72	21.70
LLS45312-2	2	1.14	7.92	152.40	8.26	268.29	5.72	173.95
LLS45312-3	3	1.14	7.92	228.60	8.26	484.52	5.72	260.93
LLS45312-4	4	1.14	7.92	304.80	8.26	582.85	5.72	347.90
LLS45375-1	1	1.14	9.53	76.20	8.26	90.76	5.72	26.08
LLS45375-2	2	1.14	9.53	152.40	8.26	325.24	5.72	209.13
LLS45375-3	3	1.14	9.53	228.60	8.26	593.97	5.72	313.60
LLS45375-4	4	1.14	9.53	304.80	8.26	845.35	5.72	418.25
LLS62188-1	1	1.57	4.78	85.73	8.89	63.62	6.35	24.15
LLS62188-2	2	1.57	4.78	171.45	8.89	300.32	6.35	192.50
LLS62188-3	3	1.57	4.78	257.18	8.89	469.39	6.35	288.75
LLS62188-4	4	1.57	4.78	304.80	8.89	709.65	6.35	385.00
LLS62250-1	1	1.57	6.35	85.73	8.89	100.11	6.35	32.03
LLS62250-2	2	1.57	6.35	171.45	8.89	462.72	6.35	256.03
LLS62250-3	3	1.57	6.35	257.18	8.89	716.32	6.35	384.13
LLS62250-4	4	1.57	6.35	304.80	8.89	1041.11	6.35	512.05
LLS62312-1	1	1.57	7.92	85.73	8.89	123.69	6.35	39.90
LLS62312-2	2	1.57	7.92	171.45	8.89	462.72	6.35	319.55
LLS62312-3	3	1.57	7.92	257.18	8.89	776.39	6.35	479.33
LLS62312-4	4	1.57	7.92	304.80	8.89	1167.92	6.35	639.10
LLS62375-1	1	1.57	9.53	85.73	8.89	186.87	6.35	47.95
LLS62375-2	2	1.57	9.53	171.45	8.89	620.66	6.35	384.13
LLS62375-3	3	1.57	9.53	257.18	8.89	1067.81	6.35	576.10
LLS62375-4	4	1.57	9.53	304.80	8.89	1570.57	6.35	768.08

- Add suffix “-S17” for 17-7 stainless steel.
- Reference dimension.
- Theoretical dimension; measured in N/mm.



