

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

Smalley Part Number <sup>1,2,5</sup>	Operates in Bore Diameter	Clears Shaft Diameter	Load (N)	Work Height	Free Height <sup>3</sup>	Number of Waves	Number of Turns	Thickness	Radial Wall	Spring Rate <sup>4</sup>
CM06-L1*	6	4	6	.61	1.52	2.5	3	.13	.51	6.59
CM06-L2*	6	4	6	.81	2.03	2.5	4	.13	.51	4.92
CM06-L3*	6	4	6	1.02	2.54	2.5	5	.13	.51	3.95
CM06-L4*	6	4	6	1.22	3.05	2.5	6	.13	.51	3.28
CM06-L5*	6	4	6	1.42	3.56	2.5	7	.13	.51	2.80
CM06-L6*	6	4	6	1.63	4.06	2.5	8	.13	.51	2.47
CM06-L7*	6	4	6	1.83	4.57	2.5	9	.13	.51	2.19
CM06-L8*	6	4	6	2.24	5.59	2.5	11	.13	.51	1.79
CM06-L9*	6	4	6	2.64	6.60	2.5	13	.13	.51	1.52
CM06-M1*	6	4	12	.74	1.52	2.5	3	.15	.61	15.38
CM06-M2	6	4	12	.97	2.03	2.5	4	.15	.61	11.32
CM06-M3*	6	4	12	1.22	2.54	2.5	5	.15	.61	9.09
CM06-M4*	6	4	12	1.47	3.05	2.5	6	.15	.61	7.59
CM06-M5*	6	4	12	1.70	3.56	2.5	7	.15	.61	6.45
CM06-M6*	6	4	12	1.96	4.06	2.5	8	.15	.61	5.71
CM06-M7*	6	4	12	2.18	4.57	2.5	9	.15	.61	5.02
CM06-M8*	6	4	12	2.69	5.59	2.5	11	.15	.61	4.14
CM06-M9*	6	4	12	3.18	6.60	2.5	13	.15	.61	3.51
CM08-L1	8	5	15	1.70	2.82	2.5	3	.20	.81	13.39
CM08-L2	8	5	15	2.39	3.76	2.5	4	.20	.81	10.95
CM08-L3	8	5	15	2.74	4.70	2.5	5	.20	.81	7.65
CM08-L4	8	5	15	3.56	5.64	2.5	6	.20	.81	7.21
CM08-L5	8	5	15	4.01	6.58	2.5	7	.20	.81	5.84
CM08-L6	8	5	15	4.57	7.52	2.5	8	.20	.81	5.08
CM08-L7	8	5	15	5.26	8.46	2.5	9	.20	.81	4.69
CM08-L8	8	5	15	6.35	10.34	2.5	11	.20	.81	3.76
CM08-L9	8	5	15	7.37	12.22	2.5	13	.20	.81	3.09
CM08-M1	8	5	30	1.78	2.82	2.5	3	.25	.81	28.85
CM08-M2	8	5	30	2.54	3.76	2.5	4	.25	.81	24.59
CM08-M3	8	5	30	3.05	4.70	2.5	5	.25	.81	18.18
CM08-M4	8	5	30	3.81	5.64	2.5	6	.25	.81	16.39
CM08-M5	8	5	30	4.32	6.58	2.5	7	.25	.81	13.27
CM08-M6	8	5	30	4.95	7.52	2.5	8	.25	.81	11.67
CM08-M7	8	5	30	5.59	8.46	2.5	9	.25	.81	10.45
CM08-M8	8	5	30	6.86	10.34	2.5	11	.25	.81	8.62
CM08-M9	8	5	30	7.87	12.22	2.5	13	.25	.81	6.90
CM10-L1	10	7	18	1.91	3.96	2.5	3	.20	.81	8.78
CM10-L2	10	7	18	2.54	5.28	2.5	4	.20	.81	6.57
CM10-L3	10	7	18	3.15	6.60	2.5	5	.20	.81	5.22
CM10-L4	10	7	18	3.78	7.92	2.5	6	.20	.81	4.35
CM10-L5	10	7	18	4.42	9.25	2.5	7	.20	.81	3.73
CM10-L6	10	7	18	5.05	10.57	2.5	8	.20	.81	3.26
CM10-L7	10	7	18	5.69	11.89	2.5	9	.20	.81	2.90
CM10-L8	10	7	18	6.32	13.21	2.5	10	.20	.81	2.61
CM10-L9	10	7	18	6.96	14.53	2.5	11	.20	.81	2.38
CM10-M1	10	7	35	2.03	3.96	2.5	3	.28	.81	18.13
CM10-M2	10	7	35	2.79	5.28	2.5	4	.28	.81	14.06
CM10-M3	10	7	35	3.56	6.60	2.5	5	.28	.81	11.51
CM10-M4	10	7	35	4.32	7.92	2.5	6	.28	.81	9.72
CM10-M5	10	7	35	5.08	9.25	2.5	7	.28	.81	8.39
CM10-M6	10	7	35	5.84	10.57	2.5	8	.28	.81	7.40
CM10-M7	10	7	35	6.60	11.89	2.5	9	.28	.81	6.62
CM10-M8	10	7	35	7.37	13.21	2.5	10	.28	.81	5.99
CM10-M9	10	7	35	8.13	14.53	2.5	11	.28	.81	5.47
CM12-L1	12	9	20	1.47	4.34	2.5	3	.20	1.02	6.97
CM12-L2	12	9	20	1.98	5.79	2.5	4	.20	1.02	5.25
CM12-L3	12	9	20	2.46	7.24	2.5	5	.20	1.02	4.18
CM12-L4	12	9	20	2.95	8.69	2.5	6	.20	1.02	3.48
CM12-L5	12	9	20	3.45	10.13	2.5	7	.20	1.02	2.99
CM12-L6	12	9	20	3.94	11.58	2.5	8	.20	1.02	2.62
CM12-L7	12	9	20	4.45	13.03	2.5	9	.20	1.02	2.33
CM12-L8	12	9	20	4.93	14.48	2.5	10	.20	1.02	2.09
CM12-L9	12	9	20	5.44	15.93	2.5	11	.20	1.02	1.91

<sup>1</sup> Use "CM" prefix for plain ends. Use "CMS" prefix for squared-shim ends.

\* Not available with shim ends

<sup>2</sup> Add suffix "-S17" for 17-7 stainless steel.

<sup>3</sup> Reference dimension.

<sup>4</sup> Theoretical dimension; measured in N/mm.

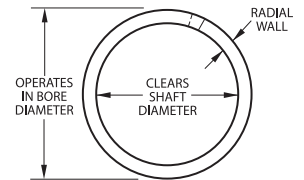
<sup>5</sup> See pages 126-127 for How to Order.

Manufactured in USA

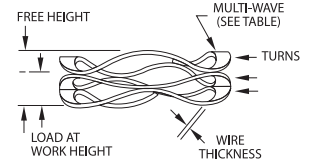


### Product Dimensions

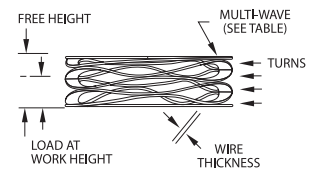
All dimensions in millimeters unless otherwise specified.



#### Plain Ends



#### Shim Ends



### Order Options

CM 030-L1

#### End options:

Plain ends . . . . . CM  
Squared-shim ends . . . . . CMS

#### Material option:

Carbon Steel . . . . . (blank)  
Stainless Steel . . . . . -S17

# CM/CMS Series Metric Crest-To-Crest® Springs

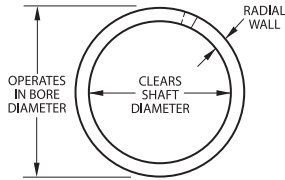


Stock Items in carbon steel and 17-7 PH/C stainless steel.

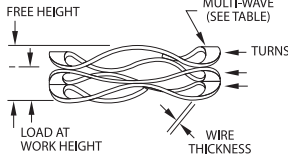
Smalley Part Number <sup>1,2,5</sup>	Operates in Bore Diameter	Clears Shaft Diameter	Load (N)	Work Height	Free Height <sup>3</sup>	Number of Waves	Number of Turns	Thickness	Radial Wall	Spring Rate <sup>4</sup>
CM12-M1	12	8.5	40	2.36	4.34	2.5	3	.28	1.17	20.20
CM12-M2	12	8.5	40	3.18	5.79	2.5	4	.28	1.17	15.33
CM12-M3	12	8.5	40	3.96	7.24	2.5	5	.28	1.17	12.20
CM12-M4	12	8.5	40	4.75	8.69	2.5	6	.28	1.17	10.15
CM12-M5	12	8.5	40	5.54	10.13	2.5	7	.28	1.17	8.71
CM12-M6	12	8.5	40	6.32	11.58	2.5	8	.28	1.17	7.60
CM12-M7	12	8.5	40	7.11	13.03	2.5	9	.28	1.17	6.76
CM12-M8	12	8.5	40	7.92	14.48	2.5	10	.28	1.17	6.10
CM12-M9	12	8.5	40	8.71	15.93	2.5	11	.28	1.17	5.54
CM12-H1	12	8.5	60	1.98	4.34	2.5	3	.30	1.14	25.42
CM12-H2	12	8.5	60	2.64	5.79	2.5	4	.30	1.14	19.05
CM12-H3	12	8.5	60	3.30	7.24	2.5	5	.30	1.14	15.23
CM12-H4	12	8.5	60	3.99	8.69	2.5	6	.30	1.14	12.77
CM12-H5	12	8.5	60	4.65	10.13	2.5	7	.30	1.14	10.95
CM12-H6	12	8.5	60	5.31	11.58	2.5	8	.30	1.14	9.57
CM12-H7	12	8.5	60	5.97	13.03	2.5	9	.30	1.14	8.50
CM12-H8	12	8.5	60	6.63	14.48	2.5	10	.30	1.14	7.64
CM12-H9	12	8.5	60	7.29	15.93	2.5	11	.30	1.14	6.94
CM14-L1	14	10	22	2.18	4.95	2.5	3	.23	1.47	7.94
CM14-L2	14	10	22	2.95	6.60	2.5	4	.23	1.47	6.03
CM14-L3	14	10	22	3.71	8.26	2.5	5	.23	1.47	4.84
CM14-L4	14	10	22	4.52	9.91	2.5	6	.23	1.47	4.08
CM14-L5	14	10	22	5.33	11.56	2.5	7	.23	1.47	3.53
CM14-L6	14	10	22	6.17	13.21	2.5	8	.23	1.47	3.13
CM14-L7	14	10	22	7.01	14.86	2.5	9	.23	1.47	2.80
CM14-L8	14	10	22	7.85	16.51	2.5	10	.23	1.47	2.54
CM14-L9	14	10	22	8.71	18.16	2.5	11	.23	1.47	2.33
CM14-M1	14	10	50	2.18	4.95	2.5	3	.30	1.52	18.05
CM14-M2	14	10	50	2.95	6.60	2.5	4	.30	1.52	13.70
CM14-M3	14	10	50	3.71	8.26	2.5	5	.30	1.52	10.99
CM14-M4	14	10	50	4.52	9.91	2.5	6	.30	1.52	9.28
CM14-M5	14	10	50	5.33	11.56	2.5	7	.30	1.52	8.03
CM14-M6	14	10	50	6.17	13.21	2.5	8	.30	1.52	7.10
CM14-M7	14	10	50	7.01	14.86	2.5	9	.30	1.52	6.37
CM14-M8	14	10	50	7.85	16.51	2.5	10	.30	1.52	5.77
CM14-M9	14	10	50	8.71	18.16	2.5	11	.30	1.52	5.29
CM14-H1	14	9	80	3.15	4.95	2.5	3	.38	1.52	44.44
CM14-H2	14	9	80	4.19	6.60	2.5	4	.38	1.52	33.20
CM14-H3	14	9	80	5.26	8.26	2.5	5	.38	1.52	26.67
CM14-H4	14	9	80	6.30	9.91	2.5	6	.38	1.52	22.16
CM14-H5	14	9	80	7.34	11.56	2.5	7	.38	1.52	18.96
CM14-H6	14	9	80	8.41	13.21	2.5	8	.38	1.52	16.67
CM14-H7	14	9	80	9.45	14.86	2.5	9	.38	1.52	14.79
CM14-H8	14	9	80	10.49	16.51	2.5	10	.38	1.52	13.29
CM14-H9	14	9	80	11.56	18.16	2.5	11	.38	1.52	12.12
CM15-L1	15	11	25	2.57	5.18	2.5	3	.25	1.47	9.58
CM15-L2	15	11	25	3.43	6.91	2.5	4	.25	1.47	7.18
CM15-L3	15	11	25	4.27	8.64	2.5	5	.25	1.47	5.72
CM15-L4	15	11	25	5.13	10.36	2.5	6	.25	1.47	4.78
CM15-L5	15	11	25	5.99	12.09	2.5	7	.25	1.47	4.10
CM15-L6	15	11	25	6.83	13.82	2.5	8	.25	1.47	3.58
CM15-L7	15	11	25	7.70	15.54	2.5	9	.25	1.47	3.19
CM15-L8	15	11	25	8.53	17.27	2.5	10	.25	1.47	2.86
CM15-L9	15	11	25	9.40	19.00	2.5	11	.25	1.47	2.60
CM15-M1	15	10	50	3.43	5.18	3.5	3	.23	1.47	28.57
CM15-M2	15	10	50	4.57	6.91	3.5	4	.23	1.47	21.37
CM15-M3	15	10	50	5.72	8.64	3.5	5	.23	1.47	17.12
CM15-M4	15	10	50	6.86	10.36	3.5	6	.23	1.47	14.29
CM15-M5	15	10	50	8.00	12.09	3.5	7	.23	1.47	12.22
CM15-M6	15	10	50	9.14	13.82	3.5	8	.23	1.47	10.68
CM15-M7	15	10	50	10.29	15.54	3.5	9	.23	1.47	9.52
CM15-M8	15	10	50	11.43	17.27	3.5	10	.23	1.47	8.56
CM15-M9	15	10	50	12.57	19.00	3.5	11	.23	1.47	7.78

## Product Dimensions

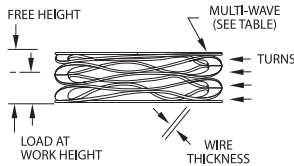
All dimensions in millimeters unless otherwise specified.



### Plain Ends



### Shim Ends



## Order Options

CM 030-L1

### End options:

Plain ends . . . . . CM  
 Squared-shim ends . . . . . CMS

### Material option:

Carbon Steel . . . . . (blank)  
 Stainless Steel . . . . . -S17

<sup>1</sup> Use "CM" prefix for plain ends. Use "CMS" prefix for squared-shim ends.

<sup>2</sup> Add suffix "-S17" for 17-7 stainless steel.

<sup>3</sup> Reference dimension.

<sup>4</sup> Theoretical dimension; measured in N/mm.

<sup>5</sup> See pages 126-127 for How to Order.

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

Smalley Part Number <sup>1,2,5</sup>	Operates in Bore Diameter	Clears Shaft Diameter	Load (N)	Work Height	Free Height <sup>3</sup>	Number of Waves	Number of Turns	Thickness	Radial Wall	Spring Rate <sup>4</sup>
CM15-H1	15	10	80	3.20	5.18	3.5	3	.25	1.47	40.40
CM15-H2	15	10	80	4.19	6.91	3.5	4	.25	1.47	29.41
CM15-H3	15	10	80	5.23	8.64	3.5	5	.25	1.47	23.46
CM15-H4	15	10	80	6.27	10.36	3.5	6	.25	1.47	19.56
CM15-H5	15	10	80	7.32	12.09	3.5	7	.25	1.47	16.77
CM15-H6	15	10	80	8.36	13.82	3.5	8	.25	1.47	14.65
CM15-H7	15	10	80	9.40	15.54	3.5	9	.25	1.47	13.03
CM15-H8	15	10	80	10.46	17.27	3.5	10	.25	1.47	11.75
CM15-H9	15	10	80	11.51	19.00	3.5	11	.25	1.47	10.68
CM16-L1	16	11	25	2.11	5.41	2.5	3	.25	1.47	7.58
CM16-L2	16	11	25	2.79	7.21	2.5	4	.25	1.47	5.66
CM16-L3	16	11	25	3.51	9.02	2.5	5	.25	1.47	4.54
CM16-L4	16	11	25	4.19	10.82	2.5	6	.25	1.47	3.77
CM16-L5	16	11	25	4.90	12.62	2.5	7	.25	1.47	3.24
CM16-L6	16	11	25	6.30	16.23	2.5	9	.25	1.47	2.52
CM16-L7	16	11	25	7.70	19.84	2.5	11	.25	1.47	2.06
CM16-L8	16	11	25	9.09	23.44	2.5	13	.25	1.47	1.74
CM16-M1	16	11	55	3.63	5.41	3.5	3	.25	1.47	30.90
CM16-M2	16	11	55	4.83	7.21	3.5	4	.25	1.47	23.11
CM16-M3	16	11	55	6.05	9.02	3.5	5	.25	1.47	18.52
CM16-M4	16	11	55	7.24	10.82	3.5	6	.25	1.47	15.36
CM16-M5	16	11	55	8.46	12.62	3.5	7	.25	1.47	13.22
CM16-M6	16	11	55	10.87	16.23	3.5	9	.25	1.47	10.26
CM16-M7	16	11	55	13.28	19.84	3.5	11	.25	1.47	8.38
CM16-M8	16	11	55	15.70	23.44	3.5	13	.25	1.47	7.11
CM16-H1	16	11	90	3.30	5.41	3.5	3	.30	1.52	42.65
CM16-H2	16	11	90	4.57	7.21	3.5	4	.30	1.52	34.09
CM16-H3	16	11	90	5.59	9.02	3.5	5	.30	1.52	26.24
CM16-H4	16	11	90	6.86	10.82	3.5	6	.30	1.52	22.73
CM16-H5	16	11	90	7.87	12.62	3.5	7	.30	1.52	18.95
CM16-H6	16	11	90	10.16	16.23	3.5	9	.30	1.52	14.83
CM16-H7	16	11	90	12.45	19.84	3.5	11	.30	1.52	12.18
CM16-H8	16	11	90	14.73	23.44	3.5	13	.30	1.52	10.33
CM18-L1	18	13	30	3.63	5.72	3.5	3	.20	1.80	14.35
CM18-L2	18	13	30	4.75	7.62	3.5	4	.20	1.80	10.45
CM18-L3	18	13	30	5.94	9.53	3.5	5	.20	1.80	8.36
CM18-L4	18	13	30	7.14	11.43	3.5	6	.20	1.80	6.99
CM18-L5	18	13	30	8.31	13.34	3.5	7	.20	1.80	5.96
CM18-L6	18	13	30	10.69	17.15	3.5	9	.20	1.80	4.64
CM18-L7	18	13	30	14.25	22.86	3.5	12	.20	1.80	3.48
CM18-M1	18	13	55	3.68	5.72	3.5	3	.25	1.83	26.96
CM18-M2	18	13	55	4.98	7.62	3.5	4	.25	1.83	20.83
CM18-M3	18	13	55	6.22	9.53	3.5	5	.25	1.83	16.62
CM18-M4	18	13	55	7.47	11.43	3.5	6	.25	1.83	13.89
CM18-M5	18	13	55	8.74	13.34	3.5	7	.25	1.83	11.96
CM18-M6	18	13	55	11.23	17.15	3.5	9	.25	1.83	9.29
CM18-M7	18	13	55	14.96	22.86	3.5	12	.25	1.83	6.96
CM18-H1	18	13	90	3.84	5.72	3.5	3	.30	1.83	47.87
CM18-H2	18	13	90	5.13	7.62	3.5	4	.30	1.83	36.14
CM18-H3	18	13	90	6.40	9.53	3.5	5	.30	1.83	28.75
CM18-H4	18	13	90	7.70	11.43	3.5	6	.30	1.83	24.13
CM18-H5	18	13	90	8.97	13.34	3.5	7	.30	1.83	20.59
CM18-H6	18	13	90	11.53	17.15	3.5	9	.30	1.83	16.01
CM18-H7	18	13	90	15.37	22.86	3.5	12	.30	1.83	12.02
CM20-L1	20	15	35	2.72	6.32	3.5	3	.20	1.80	9.72
CM20-L2	20	15	35	3.61	8.43	3.5	4	.20	1.80	7.26
CM20-L3	20	15	35	4.52	10.54	3.5	5	.20	1.80	5.81
CM20-L4	20	15	35	5.41	12.65	3.5	6	.20	1.80	4.83
CM20-L5	20	15	35	6.32	14.76	3.5	7	.20	1.80	4.15
CM20-L6	20	15	35	8.13	18.97	3.5	9	.20	1.80	3.23
CM20-L7	20	15	35	10.82	25.30	3.5	12	.20	1.80	2.42
CM20-M1	20	14	70	3.05	6.32	3.5	3	.25	1.98	21.41
CM20-M2	20	14	70	4.06	8.43	3.5	4	.25	1.98	16.02
CM20-M3	20	14	70	5.08	10.54	3.5	5	.25	1.98	12.82

<sup>1</sup> Use "CM" prefix for plain ends. Use "CMS" prefix for squared-shim ends.

<sup>2</sup> Add suffix "-S17" for 17-7 stainless steel.

<sup>3</sup> Reference dimension.

<sup>4</sup> Theoretical dimension; measured in N/mm.

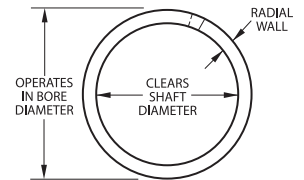
<sup>5</sup> See pages 126-127 for How to Order.

**Manufactured in USA**

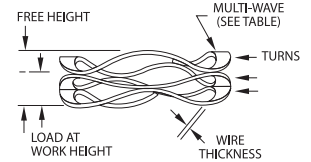


### Product Dimensions

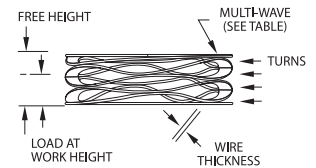
All dimensions in millimeters unless otherwise specified.



#### Plain Ends



#### Shim Ends



### Order Options

**CM030-L1**

**End options:**  
 Plain ends . . . . . **CM**  
 Squared-shim ends . . . . . **CMS**

**Material option:**  
 Carbon Steel . . . . . **(blank)**  
 Stainless Steel . . . . . **-S17**

# CM/CMS Series Metric Crest-To-Crest® Springs

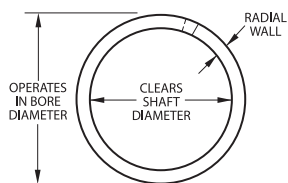


Stock Items in carbon steel and 17-7 PH/C stainless steel.

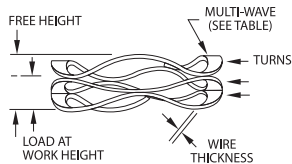
Smalley Part Number <sup>1,2,5</sup>	Operates in Bore Diameter	Clears Shaft Diameter	Load (N)	Work Height	Free Height <sup>3</sup>	Number of Waves	Number of Turns	Thickness	Radial Wall	Spring Rate <sup>4</sup>
CM20-M4	20	14	70	6.27	12.65	3.5	6	.25	1.98	10.97
CM20-M5	20	14	70	7.32	14.76	3.5	7	.25	1.98	9.41
CM20-M6	20	14	70	9.17	18.97	3.5	9	.25	1.98	7.14
CM20-M7	20	14	70	12.22	25.30	3.5	12	.25	1.98	5.35
CM20-H1	20	14	100	4.24	6.32	3.5	3	.33	2.01	48.08
CM20-H2	20	14	100	5.66	8.43	3.5	4	.33	2.01	36.10
CM20-H3	20	14	100	7.06	10.54	3.5	5	.33	2.01	28.74
CM20-H4	20	14	100	8.48	12.65	3.5	6	.33	2.01	23.98
CM20-H5	20	14	100	9.91	14.76	3.5	7	.33	2.01	20.62
CM20-H6	20	14	100	12.73	18.97	3.5	9	.33	2.01	16.03
CM20-H7	20	14	100	16.97	25.30	3.5	12	.33	2.01	12.00
CM25-L1	25	19	50	2.06	6.63	3.5	3	.25	2.18	10.94
CM25-L2	25	19	50	2.74	8.84	3.5	4	.25	2.18	8.20
CM25-L3	25	19	50	3.43	11.05	3.5	5	.25	2.18	6.56
CM25-L4	25	19	50	4.11	13.26	3.5	6	.25	2.18	5.46
CM25-L5	25	19	50	4.80	15.47	3.5	7	.25	2.18	4.69
CM25-L6	25	19	50	6.20	19.89	3.5	9	.25	2.18	3.65
CM25-L7	25	19	50	8.26	26.52	3.5	12	.25	2.18	2.74
CM25-M1	25	19	80	2.95	6.63	3.5	3	.30	2.39	21.74
CM25-M2	25	19	80	3.94	8.84	3.5	4	.30	2.39	16.33
CM25-M3	25	19	80	4.90	11.05	3.5	5	.30	2.39	13.01
CM25-M4	25	19	80	5.89	13.26	3.5	6	.30	2.39	10.85
CM25-M5	25	19	80	6.88	15.47	3.5	7	.30	2.39	9.31
CM25-M6	25	19	80	8.84	19.89	3.5	9	.30	2.39	7.24
CM25-M7	25	19	80	11.79	26.52	3.5	12	.30	2.39	5.43
CM25-H1	25	19	110	4.04	6.63	3.5	3	.38	2.39	42.47
CM25-H2	25	19	110	5.38	8.84	3.5	4	.38	2.39	31.79
CM25-H3	25	19	110	6.73	11.05	3.5	5	.38	2.39	25.46
CM25-H4	25	19	110	8.08	13.26	3.5	6	.38	2.39	21.24
CM25-H5	25	19	110	9.40	15.47	3.5	7	.38	2.39	18.12
CM25-H6	25	19	110	12.12	19.89	3.5	9	.38	2.39	14.16
CM25-H7	25	19	110	16.15	26.52	3.5	12	.38	2.39	10.61
CM28-L1	28	22	50	3.76	7.24	3.5	3	.30	2.39	14.37
CM28-L2	28	22	50	5.00	9.65	3.5	4	.30	2.39	10.75
CM28-L3	28	22	50	6.27	12.07	3.5	5	.30	2.39	8.62
CM28-L4	28	22	50	7.52	14.48	3.5	6	.30	2.39	7.18
CM28-L5	28	22	50	8.79	16.89	3.5	7	.30	2.39	6.17
CM28-L6	28	22	50	10.03	19.30	3.5	8	.30	2.39	5.39
CM28-L7	28	22	50	11.28	21.72	3.5	9	.30	2.39	4.79
CM28-L8	28	22	50	13.79	26.54	3.5	11	.30	2.39	3.92
CM28-L9	28	22	50	16.31	31.37	3.5	13	.30	2.39	3.32
CM28-M1	28	22	80	4.39	7.24	3.5	3	.38	2.39	28.07
CM28-M2	28	22	80	5.84	9.65	3.5	4	.38	2.39	21.00
CM28-M3	28	22	80	7.32	12.07	3.5	5	.38	2.39	16.84
CM28-M4	28	22	80	8.79	14.48	3.5	6	.38	2.39	14.06
CM28-M5	28	22	80	10.24	16.89	3.5	7	.38	2.39	12.03
CM28-M6	28	22	80	11.71	19.30	3.5	8	.38	2.39	10.54
CM28-M7	28	22	80	13.18	21.72	3.5	9	.38	2.39	9.37
CM28-M8	28	22	80	16.10	26.54	3.5	11	.38	2.39	7.66
CM28-M9	28	22	80	19.02	31.37	3.5	13	.38	2.39	6.48
CM28-H1	28	22	130	4.57	7.24	3.5	3	.46	2.39	48.69
CM28-H2	28	22	130	6.07	9.65	3.5	4	.46	2.39	36.31
CM28-H3	28	22	130	7.59	12.07	3.5	5	.46	2.39	29.02
CM28-H4	28	22	130	9.12	14.48	3.5	6	.46	2.39	24.25
CM28-H5	28	22	130	10.64	16.89	3.5	7	.46	2.39	20.80
CM28-H6	28	22	130	12.17	19.30	3.5	8	.46	2.39	18.23
CM28-H7	28	22	130	13.69	21.72	3.5	9	.46	2.39	16.19
CM28-H8	28	22	130	16.71	26.54	3.5	11	.46	2.39	13.22
CM28-H9	28	22	130	19.76	31.37	3.5	13	.46	2.39	11.20
CM30-L1	30	24	50	3.18	7.62	3.5	3	.30	2.39	11.26
CM30-L2	30	24	50	4.22	10.16	3.5	4	.30	2.39	8.42
CM30-L3	30	24	50	5.28	12.70	3.5	5	.30	2.39	6.74
CM30-L4	30	24	50	6.32	15.24	3.5	6	.30	2.39	5.61
CM30-L5	30	24	50	7.39	17.78	3.5	7	.30	2.39	4.81

## Product Dimensions

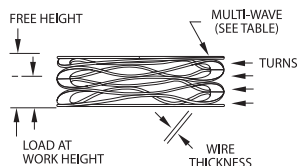
All dimensions in millimeters unless otherwise specified.



### Plain Ends



### Shim Ends



## Order Options

CM 030-L1

### End options:

Plain ends . . . . . CM  
Squared-shim ends . . . . . CMS

### Material option:

Carbon Steel . . . . . [blank]  
Stainless Steel . . . . . -S17

<sup>1</sup> Use "CM" prefix for plain ends. Use "CMS" prefix for squared-shim ends.

<sup>2</sup> Add suffix "-S17" for 17-7 stainless steel.

<sup>3</sup> Reference dimension.

<sup>4</sup> Theoretical dimension; measured in N/mm.

<sup>5</sup> See pages 126-127 for How to Order.

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

Smalley Part Number <sup>1,2,5</sup>	Operates in Bore Diameter	Clears Shaft Diameter	Load (N)	Work Height	Free Height <sup>3</sup>	Number of Waves	Number of Turns	Thickness	Radial Wall	Spring Rate <sup>4</sup>
CM30-L6	30	24	50	8.43	20.32	3.5	8	.30	2.39	4.21
CM30-L7	30	24	50	9.50	22.86	3.5	9	.30	2.39	3.74
CM30-L8	30	24	50	11.61	27.94	3.5	11	.30	2.39	3.06
CM30-L9	30	24	50	13.72	33.02	3.5	13	.30	2.39	2.59
CM30-M1	30	24	90	3.51	7.62	3.5	3	.38	2.39	21.90
CM30-M2	30	24	90	4.70	10.16	3.5	4	.38	2.39	16.48
CM30-M3	30	24	90	5.87	12.70	3.5	5	.38	2.39	13.18
CM30-M4	30	24	90	7.04	15.24	3.5	6	.38	2.39	10.98
CM30-M5	30	24	90	8.20	17.78	3.5	7	.38	2.39	9.39
CM30-M6	30	24	90	9.37	20.32	3.5	8	.38	2.39	8.22
CM30-M7	30	24	90	10.54	22.86	3.5	9	.38	2.39	7.31
CM30-M8	30	24	90	12.90	27.94	3.5	11	.38	2.39	5.98
CM30-M9	30	24	90	15.24	33.02	3.5	13	.38	2.39	5.06
CM30-H1	30	24	130	4.19	7.62	3.5	3	.46	2.39	37.90
CM30-H2	30	24	130	5.59	10.16	3.5	4	.46	2.39	28.45
CM30-H3	30	24	130	6.99	12.70	3.5	5	.46	2.39	22.77
CM30-H4	30	24	130	8.38	15.24	3.5	6	.46	2.39	18.95
CM30-H5	30	24	130	9.78	17.78	3.5	7	.46	2.39	16.25
CM30-H6	30	24	130	11.18	20.32	3.5	8	.46	2.39	14.22
CM30-H7	30	24	130	12.57	22.86	3.5	9	.46	2.39	12.63
CM30-H8	30	24	130	15.37	27.94	3.5	11	.46	2.39	10.34
CM30-H9	30	24	130	18.16	33.02	3.5	13	.46	2.39	8.75
CM35-L1	35	27	70	3.94	8.38	3.5	3	.36	3.18	15.77
CM35-L2	35	27	70	5.23	11.18	3.5	4	.36	3.18	11.76
CM35-L3	35	27	70	6.55	13.97	3.5	5	.36	3.18	9.43
CM35-L4	35	27	70	7.87	16.76	3.5	6	.36	3.18	7.87
CM35-L5	35	27	70	9.17	19.56	3.5	7	.36	3.18	6.74
CM35-L6	35	27	70	10.49	22.35	3.5	8	.36	3.18	5.90
CM35-L7	35	27	70	11.81	25.15	3.5	9	.36	3.18	5.25
CM35-L8	35	27	70	14.43	30.73	3.5	11	.36	3.18	4.29
CM35-L9	35	27	70	17.04	36.32	3.5	13	.36	3.18	3.63
CM35-M1	35	27	110	4.14	8.38	3.5	3	.41	3.38	25.94
CM35-M2	35	27	110	5.51	11.18	3.5	4	.41	3.38	19.40
CM35-M3	35	27	110	6.88	13.97	3.5	5	.41	3.38	15.51
CM35-M4	35	27	110	8.26	16.76	3.5	6	.41	3.38	12.94
CM35-M5	35	27	110	9.63	19.56	3.5	7	.41	3.38	11.08
CM35-M6	35	27	110	11.02	22.35	3.5	8	.41	3.38	9.71
CM35-M7	35	27	110	12.40	25.15	3.5	9	.41	3.38	8.63
CM35-M8	35	27	110	15.14	30.73	3.5	11	.41	3.38	7.06
CM35-M9	35	27	110	17.91	36.32	3.5	13	.41	3.38	5.98
CM35-H1	35	27	160	4.04	8.38	3.5	3	.46	3.38	36.87
CM35-H2	35	27	160	5.38	11.18	3.5	4	.46	3.38	27.59
CM35-H3	35	27	160	6.73	13.97	3.5	5	.46	3.38	22.10
CM35-H4	35	27	160	8.08	16.76	3.5	6	.46	3.38	18.43
CM35-H5	35	27	160	9.42	19.56	3.5	7	.46	3.38	15.78
CM35-H6	35	27	160	10.77	22.35	3.5	8	.46	3.38	13.82
CM35-H7	35	27	160	12.12	25.15	3.5	9	.46	3.38	12.28
CM35-H8	35	27	160	14.81	30.73	3.5	11	.46	3.38	10.05
CM35-H9	35	27	160	17.50	36.32	3.5	13	.46	3.38	8.50
CM40-L1	40	30	100	2.90	9.14	3.5	3	.41	3.38	16.03
CM40-L2	40	30	100	3.86	12.19	3.5	4	.41	3.38	12.00
CM40-L3	40	30	100	4.80	15.24	3.5	5	.41	3.38	9.58
CM40-L4	40	30	100	5.77	18.29	3.5	6	.41	3.38	7.99
CM40-L5	40	30	100	6.73	21.34	3.5	7	.41	3.38	6.84
CM40-L6	40	30	100	7.70	24.38	3.5	8	.41	3.38	6.00
CM40-L7	40	30	100	8.66	27.43	3.5	9	.41	3.38	5.33
CM40-L8	40	30	100	10.59	33.53	3.5	11	.41	3.38	4.36
CM40-L9	40	30	100	12.52	39.62	3.5	13	.41	3.38	3.69
CM40-M1	40	30	150	5.44	9.14	3.5	3	.53	3.63	40.54
CM40-M2	40	30	150	7.24	12.19	3.5	4	.53	3.63	30.30
CM40-M3	40	30	150	9.04	15.24	3.5	5	.53	3.63	24.19
CM40-M4	40	30	150	10.85	18.29	3.5	6	.53	3.63	20.16
CM40-M5	40	30	150	12.65	21.34	3.5	7	.53	3.63	17.26

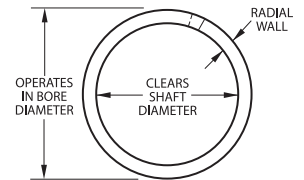
<sup>1</sup> Use "CM" prefix for plain ends. Use "CMS" prefix for squared-shim ends.  
<sup>2</sup> Add suffix "-S17" for 17-7 stainless steel.  
<sup>3</sup> Reference dimension.  
<sup>4</sup> Theoretical dimension; measured in N/mm.  
<sup>5</sup> See pages 126-127 for How to Order.

Manufactured in USA

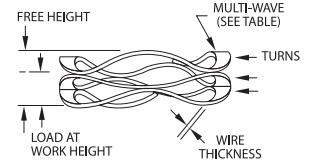


### Product Dimensions

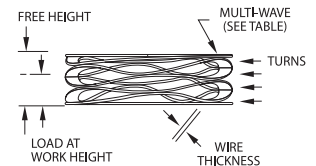
All dimensions in millimeters unless otherwise specified.



#### Plain Ends



#### Shim Ends



### Order Options

CM 030-L1

End options:  
 Plain ends . . . . . CM  
 Squared-shim ends . . . . . CMS

Material option:  
 Carbon Steel . . . . . (blank)  
 Stainless Steel . . . . . -S17

# CM/CMS Series Metric Crest-To-Crest® Springs

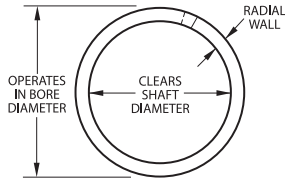


Stock Items in carbon steel and 17-7 PH/C stainless steel.

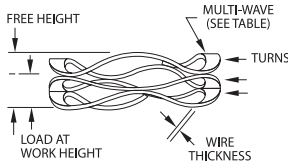
Smalley Part Number <sup>1,2,5</sup>	Operates in Bore Diameter	Clears Shaft Diameter	Load (N)	Work Height	Free Height <sup>3</sup>	Number of Waves	Number of Turns	Thickness	Radial Wall	Spring Rate <sup>4</sup>
CM40-M6	40	30	150	14.48	24.38	3.5	8	.53	3.63	15.15
CM40-M7	40	30	150	16.28	27.43	3.5	9	.53	3.63	13.45
CM40-M8	40	30	150	19.89	33.53	3.5	11	.53	3.63	11.00
CM40-M9	40	30	150	23.50	39.62	3.5	13	.53	3.63	9.31
CM40-H1	40	30	300	5.66	9.14	4.5	3	.46	3.38	86.21
CM40-H2	40	30	300	7.54	12.19	4.5	4	.46	3.38	64.52
CM40-H3	40	30	300	9.42	15.24	4.5	5	.46	3.38	51.55
CM40-H4	40	30	300	11.33	18.29	4.5	6	.46	3.38	43.10
CM40-H5	40	30	300	13.21	21.34	4.5	7	.46	3.38	36.90
CM40-H6	40	30	300	15.09	24.38	4.5	8	.46	3.38	32.29
CM40-H7	40	30	300	16.97	27.43	4.5	9	.46	3.38	28.68
CM40-H8	40	30	300	20.75	33.53	4.5	11	.46	3.38	23.47
CM40-H9	40	30	300	24.54	39.62	4.5	13	.46	3.38	19.89
CM45-L1	45	35	110	3.38	9.91	3.5	3	.46	3.63	16.85
CM45-L2	45	35	110	4.52	13.21	3.5	4	.46	3.63	12.66
CM45-L3	45	35	110	5.64	16.51	3.5	5	.46	3.63	10.12
CM45-L4	45	35	110	6.76	19.81	3.5	6	.46	3.63	8.43
CM45-L5	45	35	110	7.90	23.11	3.5	7	.46	3.63	7.23
CM45-L6	45	35	110	9.02	26.42	3.5	8	.46	3.63	6.32
CM45-L7	45	35	110	10.16	29.72	3.5	9	.46	3.63	5.62
CM45-L8	45	35	110	12.40	36.32	3.5	11	.46	3.63	4.60
CM45-L9	45	35	110	14.66	42.93	3.5	13	.46	3.63	3.89
CM45-M1	45	35	225	5.33	9.91	4.5	3	.46	3.63	49.13
CM45-M2	45	35	225	6.99	13.21	4.5	4	.46	3.63	36.17
CM45-M3	45	35	225	9.14	16.51	4.5	5	.46	3.63	30.53
CM45-M4	45	35	225	10.80	19.81	4.5	6	.46	3.63	24.97
CM45-M5	45	35	225	12.70	23.11	4.5	7	.46	3.63	21.61
CM45-M6	45	35	225	14.48	26.42	4.5	8	.46	3.63	18.84
CM45-M7	45	35	225	16.26	29.72	4.5	9	.46	3.63	16.72
CM45-M8	45	35	225	19.81	36.32	4.5	11	.46	3.63	13.63
CM45-M9	45	35	225	23.37	42.93	4.5	13	.46	3.63	11.50
CM45-H1	45	35	400	6.43	9.91	4.5	3	.61	3.76	114.94
CM45-H2	45	35	400	8.38	13.21	4.5	4	.61	3.76	82.82
CM45-H3	45	35	400	11.20	16.51	4.5	5	.61	3.76	75.33
CM45-H4	45	35	400	12.95	19.81	4.5	6	.61	3.76	58.31
CM45-H5	45	35	400	15.37	23.11	4.5	7	.61	3.76	51.68
CM45-H6	45	35	400	17.27	26.42	4.5	8	.61	3.76	43.72
CM45-H7	45	35	400	19.68	29.72	4.5	9	.61	3.76	39.88
CM45-H8	45	35	400	24.26	36.32	4.5	11	.61	3.76	33.17
CM45-H9	45	35	400	28.45	42.93	4.5	13	.61	3.76	27.62
CM50-L1	50	40	110	4.83	10.29	3.5	3	.53	3.63	20.15
CM50-L2	50	40	110	6.10	13.72	3.5	4	.53	3.63	14.44
CM50-L3	50	40	110	7.87	17.15	3.5	5	.53	3.63	11.85
CM50-L4	50	40	110	9.40	20.57	3.5	6	.53	3.63	9.85
CM50-L5	50	40	110	11.30	24.00	3.5	7	.53	3.63	8.66
CM50-L6	50	40	110	12.70	27.43	3.5	8	.53	3.63	7.47
CM50-L7	50	40	110	14.99	30.86	3.5	9	.53	3.63	6.93
CM50-L8	50	40	110	18.16	37.72	3.5	11	.53	3.63	5.62
CM50-L9	50	40	110	21.34	44.58	3.5	13	.53	3.63	4.73
CM50-L10	50	40	110	24.64	51.44	3.5	15	.53	3.63	4.10
CM50-M1	50	40	225	4.62	10.29	4.5	3	.46	3.63	39.68
CM50-M2	50	40	225	6.35	13.72	4.5	4	.46	3.63	30.53
CM50-M3	50	40	225	7.49	17.15	4.5	5	.46	3.63	23.29
CM50-M4	50	40	225	8.89	20.57	4.5	6	.46	3.63	19.26
CM50-M5	50	40	225	10.54	24.00	4.5	7	.46	3.63	16.72
CM50-M6	50	40	225	11.89	27.43	4.5	8	.46	3.63	14.48
CM50-M7	50	40	225	13.59	30.86	4.5	9	.46	3.63	13.03
CM50-M8	50	40	225	16.71	37.72	4.5	11	.46	3.63	10.71
CM50-M9	50	40	225	19.61	44.58	4.5	13	.46	3.63	9.01
CM50-M10	50	40	225	22.48	51.44	4.5	15	.46	3.63	7.77
CM50-H1	50	40	400	5.92	10.29	4.5	3	.61	3.76	91.53
CM50-H2	50	40	400	7.80	13.72	4.5	4	.61	3.76	67.57
CM50-H3	50	40	400	10.16	17.15	4.5	5	.61	3.76	57.22
CM50-H4	50	40	400	11.79	20.57	4.5	6	.61	3.76	45.56
CM50-H5	50	40	400	14.15	24.00	4.5	7	.61	3.76	40.61
CM50-H6	50	40	400	15.62	27.43	4.5	8	.61	3.76	33.87

## Product Dimensions

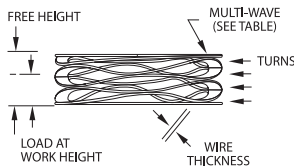
All dimensions in millimeters unless otherwise specified.



### Plain Ends



### Shim Ends



## Order Options

CM 030-L1

### End options:

Plain ends . . . . . CM  
 Squared-shim ends . . . . . CMS

### Material option:

Carbon Steel . . . . . (blank)  
 Stainless Steel . . . . . -S17

<sup>1</sup> Use "CM" prefix for plain ends. Use "CMS" prefix for squared-shim ends.

<sup>2</sup> Add suffix "-S17" for 17-7 stainless steel.

<sup>3</sup> Reference dimension.

<sup>4</sup> Theoretical dimension; measured in N/mm.

<sup>5</sup> See pages 126-127 for How to Order.

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

Smalley Part Number <sup>1,2,5</sup>	Operates in Bore Diameter	Clears Shaft Diameter	Load (N)	Work Height	Free Height <sup>3</sup>	Number of Waves	Number of Turns	Thickness	Radial Wall	Spring Rate <sup>4</sup>
CM50-H7	50	40	400	17.91	30.86	4.5	9	.61	3.76	30.89
CM50-H8	50	40	400	21.54	37.72	4.5	11	.61	3.76	24.72
CM50-H9	50	40	400	25.65	44.58	4.5	13	.61	3.76	21.13
CM50-H10	50	40	400	29.21	51.44	4.5	15	.61	3.76	17.99
CM55-L1	55	45	125	5.59	11.05	3.5	3	.61	3.76	22.89
CM55-L2	55	45	125	7.72	14.73	3.5	4	.61	3.76	17.83
CM55-L3	55	45	125	9.68	18.41	3.5	5	.61	3.76	14.30
CM55-L4	55	45	125	11.48	22.10	3.5	6	.61	3.76	11.77
CM55-L5	55	45	125	13.92	25.78	3.5	7	.61	3.76	10.54
CM55-L6	55	45	125	15.52	29.46	3.5	8	.61	3.76	8.97
CM55-L7	55	45	125	18.41	33.15	3.5	9	.61	3.76	8.49
CM55-L8	55	45	125	21.67	40.51	3.5	11	.61	3.76	6.63
CM55-L9	55	45	125	25.65	47.88	3.5	13	.61	3.76	5.62
CM55-L10	55	45	125	29.77	55.25	3.5	15	.61	3.76	4.91
CM55-M1	55	45	250	3.10	11.05	4.5	3	.46	3.63	31.45
CM55-M2	55	45	250	4.11	14.73	4.5	4	.46	3.63	23.54
CM55-M3	55	45	250	5.16	18.41	4.5	5	.46	3.63	18.85
CM55-M4	55	45	250	6.20	22.10	4.5	6	.46	3.63	15.72
CM55-M5	55	45	250	7.21	25.78	4.5	7	.46	3.63	13.46
CM55-M6	55	45	250	8.26	29.46	4.5	8	.46	3.63	11.79
CM55-M7	55	45	250	9.27	33.15	4.5	9	.46	3.63	10.47
CM55-M8	55	45	250	11.33	40.51	4.5	11	.46	3.63	8.57
CM55-M9	55	45	250	13.41	47.88	4.5	13	.46	3.63	7.25
CM55-M10	55	45	250	15.47	55.25	4.5	15	.46	3.63	6.28
CM55-H1	55	45	400	5.31	11.05	4.5	3	.61	3.76	69.69
CM55-H2	55	45	400	7.24	14.73	4.5	4	.61	3.76	53.40
CM55-H3	55	45	400	9.09	18.41	4.5	5	.61	3.76	42.87
CM55-H4	55	45	400	10.64	22.10	4.5	6	.61	3.76	34.90
CM55-H5	55	45	400	12.24	25.78	4.5	7	.61	3.76	29.54
CM55-H6	55	45	400	14.10	29.46	4.5	8	.61	3.76	26.04
CM55-H7	55	45	400	15.82	33.15	4.5	9	.61	3.76	23.08
CM55-H8	55	45	400	19.30	40.51	4.5	11	.61	3.76	18.86
CM55-H9	55	45	400	23.11	47.88	4.5	13	.61	3.76	16.15
CM55-H10	55	45	400	26.54	55.25	4.5	15	.61	3.76	13.93
CM60-L1	60	50	135	5.59	11.43	4.5	3	.46	3.63	23.12
CM60-L2	60	50	135	7.47	15.24	4.5	4	.46	3.63	17.37
CM60-L3	60	50	135	9.32	19.05	4.5	5	.46	3.63	13.87
CM60-L4	60	50	135	11.20	22.86	4.5	6	.46	3.63	11.58
CM60-L5	60	50	135	13.06	26.67	4.5	7	.46	3.63	9.92
CM60-L6	60	50	135	14.94	30.48	4.5	8	.46	3.63	8.69
CM60-L7	60	50	135	16.79	34.29	4.5	9	.46	3.63	7.71
CM60-L8	60	50	135	20.52	41.91	4.5	11	.46	3.63	6.31
CM60-L9	60	50	135	24.26	49.53	4.5	13	.46	3.63	5.34
CM60-L10	60	50	135	27.99	57.15	4.5	15	.46	3.63	4.63
CM60-M1	60	50	275	6.65	11.43	4.5	3	.61	3.76	57.53
CM60-M2	60	50	275	8.86	15.24	4.5	4	.61	3.76	43.10
CM60-M3	60	50	275	11.07	19.05	4.5	5	.61	3.76	34.46
CM60-M4	60	50	275	13.28	22.86	4.5	6	.61	3.76	28.71
CM60-M5	60	50	275	15.49	26.67	4.5	7	.61	3.76	24.60
CM60-M6	60	50	275	17.70	30.48	4.5	8	.61	3.76	21.52
CM60-M7	60	50	275	19.94	34.29	4.5	9	.61	3.76	19.16
CM60-M8	60	50	275	24.36	41.91	4.5	11	.61	3.76	15.67
CM60-M9	60	50	275	28.78	49.53	4.5	13	.61	3.76	13.25
CM60-M10	60	50	275	33.22	57.15	4.5	15	.61	3.76	11.49
CM60-H1	60	50	450	7.75	11.43	4.5	3	.76	4.01	122.28
CM60-H2	60	50	450	10.31	15.24	4.5	4	.76	4.01	91.28
CM60-H3	60	50	450	12.90	19.05	4.5	5	.76	4.01	73.17
CM60-H4	60	50	450	15.47	22.86	4.5	6	.76	4.01	60.89
CM60-H5	60	50	450	18.06	26.67	4.5	7	.76	4.01	52.26
CM60-H6	60	50	450	20.62	30.48	4.5	8	.76	4.01	45.64
CM60-H7	60	50	450	23.22	34.29	4.5	9	.76	4.01	40.65
CM60-H8	60	50	450	28.37	41.91	4.5	11	.76	4.01	33.23
CM60-H9	60	50	450	33.53	49.53	4.5	13	.76	4.01	28.13
CM60-H10	60	50	450	38.68	57.15	4.5	15	.76	4.01	24.36

<sup>1</sup> Use "CM" prefix for plain ends. Use "CMS" prefix for squared-shim ends.

<sup>2</sup> Add suffix "-S17" for 17-7 stainless steel.

<sup>3</sup> Reference dimension.

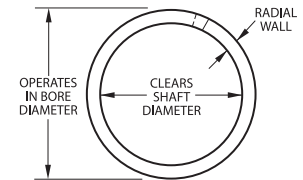
<sup>4</sup> Theoretical dimension; measured in N/mm.

<sup>5</sup> See pages 126-127 for How to Order.

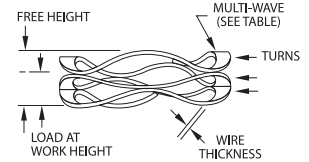


### Product Dimensions

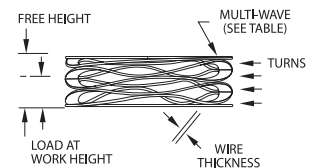
All dimensions in millimeters unless otherwise specified.



#### Plain Ends



#### Shim Ends



### Order Options

CM 030-L1

#### End options:

Plain ends . . . . . CM  
 Squared-shim ends . . . . . CMS

#### Material option:

Carbon Steel . . . . . (blank)  
 Stainless Steel . . . . . -S17