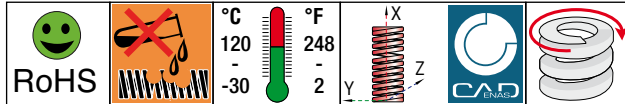
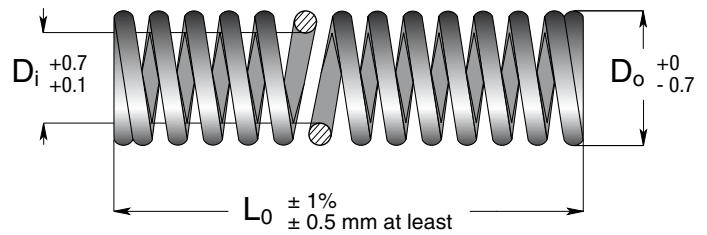
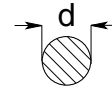


Round Wire

SERIES L

- IT** Molle non colorate con oliatura antiruggine.
- EN** Not painted springs with anti-rust lubricant.
- DE** Unlackierte Federn mit Rostschutzölung.
- FR** Ressorts non-peints avec huilage antirouille.
- ES** Muelles no pintados con lubricación antióxido.
- PT** Molas não coloridas com oleamento anti-ferrugem.



D_o diametro esterno della molla.
spring outside diameter.
Außendurchmesser Feder.
diamètre extérieur du ressort.
diámetro externo del muelle.
diâmetro exterior da mola.

D_i diametro interno della molla.
spring inside diameter.
Innendurchmesser Feder.
diamètre intérieur du ressort.
diámetro interior del muelle.
diâmetro interno da mola.

d diametro del filo.
wire diameter.
Drahtdurchmesser.
diamètre du fil.
diámetro del hilo.
diâmetro de fio.

L₀ lunghezza libera della molla.
spring free length.
Länge der unbelasteten Feder.
longueur libre du ressort.
longitud libre del muelle.
comprimento livre da mola.

R carico (N) necessario per deflettere la molla di 1 mm.
spring rate, load (N) required for 1 mm deflection.
Federrate, erforderliche Spannung für 1 mm Federweg.
charge (N) exigée pour comprimer le ressort 1mm.
carga (N) necesaria para desviar el muelle de 1 milímetro.
carga (N) necessária para defletir a mola de 1 milímetro.

A deflessione totale consigliata per una durata della molla maggiore a 3.000.000 di cicli.
advised total working deflection for more than 3.000.000 cycles.
Empfohlener Gesamtfederweg für eine Lebensdauer der Feder von mehr als 3.000.000 Zyklen.
déflexion totale conseillée pour une durée du ressort supérieure à

3.000.000 de cycles.
deflexión total aconsejada para una duración del muelle superior a 3.000.000 de ciclos.
deflexão total aconselhada para duração da mola superior a 3.000.000 de ciclos.

B deflessione totale consigliata per una durata della molla di circa 1.500.000 di cicli.
advised total working deflection for about 1.500.000 cycles.
Empfohlener Gesamtfederweg für eine Lebensdauer der Feder für eine durchschnittliche Lebensdauer von 1.500.000 Zyklen.
déflexion totale conseillée pour une durée du ressort d'environ 1.500.000 cycles.
eflexión total aconsejada para una duración del muelle de aproximadamente 1.500.000 de ciclos.
deflexão total aconselhada para duração da mola de cerca 1.500.000 de ciclos.

C deflessione totale consigliata per una durata della molla di circa 300.000 - 500.000 cicli.
advised total working deflection for about 300.000 - 500.000 cycles.
Empfohlener Gesamtfederweg für eine Lebensdauer der Feder von ca. 300.000 bis 500.000 Zyklen.
déflexion totale conseillée pour une durée du ressort d'environ 300.000 - 500.000 cycles.
deflexión total aconsejada para una duración del muelle de aproximadamente 300.000 - 500.000 ciclos.
deflexão total aconselhada para duração da mola de cerca 300.000 - 500.000 ciclos.

D deflessione totale massima per una durata della molla di circa 100.000 - 200.000 cicli.
advised total working deflection for about 100.000 - 200.000 cycles.
Maximaler Gesamtfederweg für eine Lebensdauer der Feder von ca. 100.000 bis 200.000 Zyklen.
déflexion totale maximum pour une durée du ressort d'environ 100.000 - 200.000 cycles.
deflexión total máxima para una duración del muelle de aproximadamente 100.000 - 200.000 ciclos.
deflexão total máxima para duração da mola de cerca 100.000 - 200.000 ciclos.

Code	D _o		D _i		L ₀	R	A		B		C		D	
	Outside Diameter	Inside Diameter	Free Length	Spring Constant			16% L ₀	24% L ₀	28% L ₀	32% L ₀				
	d			± 10%		+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000					
	mm	mm	mm	N/mm	mm	N	N	N	N	mm	N	mm	N	
L 3 - 010			10	2.94	1.6									
L 3 - 015	3	2	15	1.96	2.4	4.4								
L 3 - 020			20	0.98	3.2									
L 3 - 025		0,4	25	0.98	4									
L 4 - 010			10	4.9	1.6									
L 4 - 015			15	2.94	2.4									
L 4 - 020	4	2,6	20	2.94	3.2	7.8								
L 4 - 025			25	1.96	4									
L 4 - 030		0,6	30	1.96	4.8									
L 6 - 015			15	7.85	2.4									
L 6 - 020			20	5.88	3.2									
L 6 - 025	6	4	25	4.9	4	17.7								
L 6 - 030			30	3.92	4.8									
L 6 - 035		0,9	35	2.94	5.6									

How to order: L 6 - 030

(Series) [D_H] - [L₀]

1 N = 0.1 daN = 0.102 kgf

Load (N) = R (N/mm) x Deflection (mm)

Special Springs 25-012

TR

L

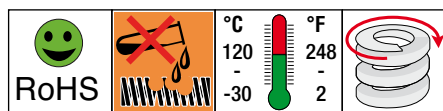
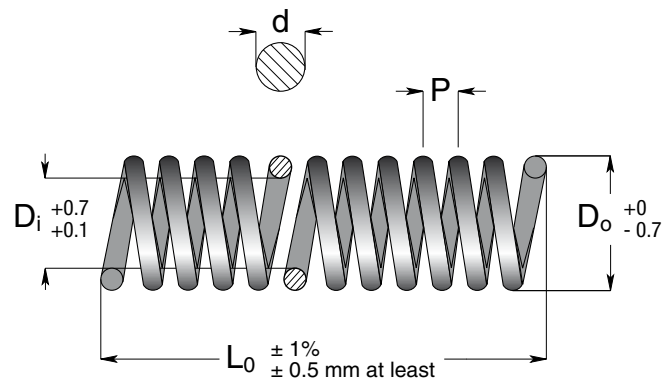
Code	D _o		L ₀ Free Length	R Spring Constant ± 10%	A 16% L ₀ + 3.000.000		B 24% L ₀ ~ 1.500.000		C 28% L ₀ 300 - 500.000		D 32% L ₀ 100 - 200.000		
	Outside Diameter	Inside Diameter			mm		mm		mm		mm		
	d	d			N/mm	N	N	N	N	N	N	N	
L 8 - 015	8	5,4	15	12.75	2.4	31.4	3.6	47.1	4.2	55.6	4.8	62.8	
L 8 - 020			20	9.81	3.2		4.8		5.6		6.4		
L 8 - 025			25	7.85	4		6		7.0		8		
L 8 - 030			30	6.86	4.8		7.2		8.4		9.6		
L 8 - 035			35	5.88	5.6		8.4		9.8		11.2		
L 8 - 040	1,2	40	4.9	6.4	9.6	11.2	12.8						
L 10 - 025	10	6,5	25	12.75	4	49	6	73.6	7.0	85.8	8	98	
L 10 - 030			30	9.81	4.8		7.2		8.4		9.6		
L 10 - 035			35	8.83	5.6		8.4		9.8		11.2		
L 10 - 040			40	7.85	6.4		9.6		11.2		12.8		
L 10 - 045			45	6.86	7.2		10.8		12.6		14.4		
L 10 - 050	1,5	50	5.88	8	12	14.0	16						
L 12 - 025	12	8	25	17.65	4	70.6	6	106.9	7.0	124.1	8	141.2	
L 12 - 030			30	14.71	4.8		7.2		8.4		9.6		
L 12 - 035			35	12.75	5.6		8.4		9.8		11.2		
L 12 - 040			40	10.79	6.4		9.6		11.2		12.8		
L 12 - 045			45	9.81	7.2		10.8		12.6		14.4		
L 12 - 050	1,8	50	8.83	8	12	14.0	16						
L 12 - 055		55	7.85	8.8	13.2	15.4	17.6						
L 12 - 060		60	7.85	9.6	14.4	16.8	19.2						
L 14 - 025		14	9,3	25	24.52	4	96.1	6	144.2	7.0	167.7	8	192.2
L 14 - 030				30	19.61	4.8		7.2		8.4		9.4	
L 14 - 035	35			17.65	5.6	8.4		9.8		11.2			
L 14 - 040	40			14.71	6.4	9.6		11.2		12.8			
L 14 - 045	45			13.73	7.2	10.8		12.6		14.4			
L 14 - 050	2,2	50	11.77	8	12	14.0	16						
L 14 - 055		55	10.79	8.8	13.2	15.4	17.6						
L 14 - 060		60	9.81	9.6	14.4	16.8	19.2						
L 14 - 065		65	8.83	10.4	15.6	18.2	20.8						
L 14 - 070		70	8.83	11.2	16.8	19.6	22.4						
L 16 - 025	16	10,7	25	31.38	4	125.5	6	188.3	7.0	219.8	8	251.1	
L 16 - 030			30	26.48	4.8		7.2		8.4		9.4		
L 16 - 035			35	22.56	5.6		8.4		9.8		11.2		
L 16 - 040			40	19.61	6.4		9.6		11.2		12.8		
L 16 - 045			45	17.65	7.2		10.8		12.6		14.4		
L 16 - 050	2,4	50	15.69	8	12	14.0	16						
L 16 - 055		55	14.71	8.8	13.2	15.4	17.6						
L 16 - 060		60	12.75	9.6	14.4	16.8	19.2						
L 16 - 065		65	11.77	10.4	15.6	18.2	20.8						
L 16 - 070		70	10.79	11.2	16.8	19.6	22.4						
L 16 - 075	2,4	75	10.79	12	18	21.0	24						
L 16 - 080		80	9.81	12.8	19.2	22.4	25.6						
L 18 - 025		18	12	25	40.21	4	158.9	6	238.3	7.0	280.4	8	317.7
L 18 - 030				30	33.34	4.8		7.2		8.4		9.4	
L 18 - 035				35	28.44	5.6		8.4		9.8		11.2	
L 18 - 040	40			24.52	6.4	9.6		11.2		12.8			
L 18 - 045	45			22.56	7.2	10.8		12.6		14.4			
L 18 - 050	2,8	50	19.61	8	12	14.0	16						
L 18 - 055		55	17.65	8.8	13.2	15.4	17.6						
L 18 - 060		60	16.67	9.6	14.4	16.8	19.2						
L 18 - 065		65	15.69	10.4	15.6	18.2	20.8						
L 18 - 070		70	14.71	11.2	16.8	19.6	22.4						
L 18 - 075	2,8	75	13.73	12	18	21.0	24						
L 18 - 080		80	12.75	12.8	19.2	22.4	25.6						
L 18 - 090		90	10.79	14.4	21.6	25.2	28.8						
L 20 - 025		20	13,5	25	49.03	4	196.1	6	294.2	7.0	346.3	8	392.3
L 20 - 030				30	41.19	4.8		7.2		8.4		9.4	
L 20 - 035	35			35.3	5.6	8.4		9.8		11.2			
L 20 - 040	40			30.4	6.4	9.6		11.2		12.8			
L 20 - 045	45			27.46	7.2	10.8		12.6		14.4			
L 20 - 050	3	50	24.52	8	12	14.0	16						
L 20 - 055		55	22.56	8.8	13.2	15.4	17.6						
L 20 - 060		60	20.59	9.6	14.4	16.8	19.2						
L 20 - 065		65	18.63	10.4	15.6	18.2	20.8						
L 20 - 070		70	17.65	11.2	16.8	19.6	22.4						
L 20 - 075	3	75	16.67	12	18	21.0	24						
L 20 - 080		80	15.69	12.8	19.2	22.4	25.6						
L 20 - 090		90	13.73	14.4	21.6	25.2	28.8						
L 20 - 100		100	12.75	16	24	28.0	32						

Round Wire

SERIES L

Code	D _o Outside Diameter	D _i Inside Diameter	L ₀ Free Length	R Spring Constant	A 16% L ₀		B 24% L ₀		C 28% L ₀		D 32% L ₀	
					mm	N	mm	N	mm	N	mm	N
L 22 - 025	22	14,7	25	59.82	4	237.3	6	7.0	8	415.9	17.6	474.6
L 22 - 030			30	49.03	4.8		7.2	8.4	9.4			
L 22 - 035			35	42.17	5.6		8.4	9.8	11.2			
L 22 - 040			40	37.27	6.4		9.6	11.2	12.8			
L 22 - 045			45	33.34	7.2		10.8	12.6	14.4			
L 22 - 050			50	29.42	8		12	14.0	16			
L 22 - 055			55	27.46	8.8		13.2	15.4	17.6			
L 22 - 060			60	24.52	9.6		14.4	16.8	19.2			
L 22 - 065			65	22.56	10.4		15.6	18.2	20.8			
L 22 - 070			70	21.57	11.2		16.8	19.6	22.4			
L 22 - 075	75	19.61	12	18	21.0	24						
L 22 - 080	80	18.63	12.8	19.2	22.4	25.6						
L 22 - 090	90	16.67	14.4	21.6	25.2	28.8						
L 22 - 100	3,4	100	14.71	16	24	28.0	32					
L 25 - 025	25	17	25	76.49	4	307	6	7.0	8	537.9	17.6	613.9
L 25 - 030			30	63.74	4.8		7.2	8.4	9.6			
L 25 - 035			35	54.92	5.6		8.4	9.8	11.2			
L 25 - 040			40	48.05	6.4		9.6	11.2	12.8			
L 25 - 045			45	42.17	7.2		10.8	12.6	14.4			
L 25 - 050			50	38.25	8		12	14.0	16			
L 25 - 055			55	35.3	8.8		13.2	15.4	17.6			
L 25 - 060			60	32.36	9.6		14.4	16.8	19.2			
L 25 - 065			65	29.42	10.4		15.6	18.2	20.8			
L 25 - 070			70	27.46	11.2		16.8	19.6	22.4			
L 25 - 075	75	25.5	12	18	21.0	24						
L 25 - 080	80	23.54	12.8	19.2	22.4	25.6						
L 25 - 090	90	21.57	14.4	21.6	25.2	28.8						
L 25 - 100	3,8	100	19.61	16	24	28.0	32					
L 30 - 050	30	20	50	51.94	8	414	12	14.0	16	724.6	19.2	828
L 30 - 060			60	44.1	9.6		14.4	16.8	19.2			
L 30 - 070			70	37.24	11.2		16.8	19.6	22.4			
L 30 - 080			80	32.34	12.8		19.2	22.4	25.6			
L 30 - 090			90	28.42	14.4		21.6	25.2	28.8			
L 30 - 100			100	25.48	16		24	28.0	32			
L 30 - 125	4,5	125	20.58	20	30	35.0	40					

- IT** Spezzoni con terminali aperti
- EN** Long size open ends
- DE** Meterware
- FR** Ressorts avec longueur ébauché
- ES** Piezas desmochadas con terminales abiertos
- PT** Pontas de refugo com terminais abertos



Code	D _o Outside Diameter	D _i Inside Diameter	d Wire Diameter	L ₀ Free Length	P Pitch
	mm	mm	mm	mm	mm
L 03 - 300	3	2.0	0.4	300	1.04
L 04 - 300	4	2.6	0.6	300	1.50
L 06 - 300	6	4.0	0.9	300	2.00
L 08 - 300	8	5.4	1.2	300	2.80
L 10 - 300	10	6.5	1.5	300	3.50
L 12 - 300	12	8.0	1.8	300	4.30
L 14 - 300	14	9.3	2.2	300	4.80
L 16 - 300	16	10.7	2.4	300	5.50
L 18 - 300	18	12.0	2.8	300	5.30
L 20 - 300	20	13.5	3.0	300	6.80
L 22 - 300	22	14.7	3.4	300	6.70
L 25 - 300	25	17.0	3.8	300	8.20

How to order: L 6 - 300

(Series D_H - L_0)

1 N = 0.1 daN = 0.102 kgf Load (N) = R (N/mm) x Deflection (mm)

Special Springs 27-012