

# MOELLER

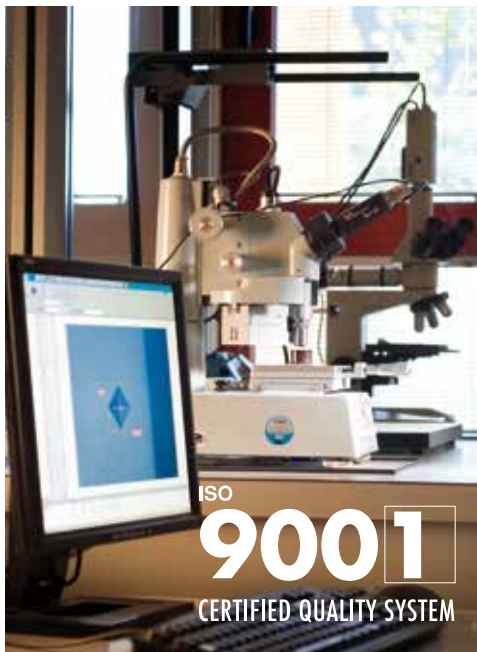
## PRECISION TOOL

YOUR GLOBAL PARTNER FOR STANDARD & SPECIAL DIE COMPONENTS

### MECHANICAL DIE SPRINGS



The World's Leading Mechanical  
Die Spring Manufacturer



**EN** Ongoing research and development, along with strict quality assurance procedures in compliance with ISO 9001, ensure very high levels of dimensional accuracy, durability and reliability.

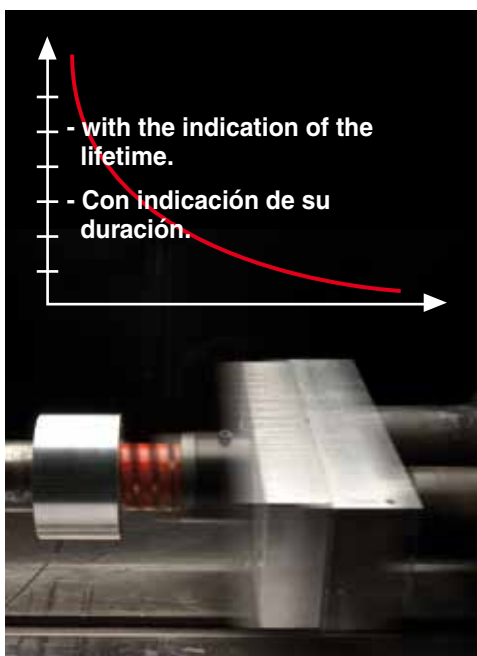
**ES** La continuada actividad de investigación y desarrollo unida a los severos controles de proceso, según el estándar ISO 9001, garantizan un producto con características dimensionales, de duración y fiabilidad superiores.

**EN** CAD SPRINGS, the first and revolutionary integrated software to calculate, select and generate Special Springs' products, available also on CADenas Partserver library.

**ES** CAD SPRINGS, el primer y revolucionario software integrado de cálculo, selección y creación paramétrica de los muelles para moldes Special Springs, disponible también sobre partserver de CADenas.



[www.partserver.com](http://www.partserver.com)



- with the indication of the lifetime.  
- Con indicación de su duración.

**EN** Ongoing in-house reliability tests allow Special Springs to provide estimated service life values of springs in compliance of working deflections and recommendations. The stated service life values are not guaranteed due to the impossibility to consider all variables on the real working conditions of the springs.

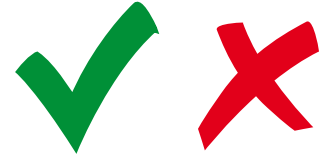
**ES** Continuados tests internos de fiabilidad han permitido indicar valores de duración en función de las deflexiones y de las recomendaciones de uso. Estos valores no son garantizados debido al elevado número de variables en las reales condiciones de trabajo.



Series Serie	Standard Standard	Color Color	Cross section wire Sección del perfil	Load Carga				
					+ 3,000,000 cycles	~ 1,500,000 cycles	300 - 500,000 cycles	100 - 200,000 cycles
<b>RSL</b>	Special Springs Std 	Light green Verde claro (RAL6019)		Super-light Super-ligero	30 % L <sub>0</sub>	40% L <sub>0</sub>	45% L <sub>0</sub>	50% L <sub>0</sub>
<b>RLL</b>	ISO 10243 	Green Verde (RAL 6002)		Light Ligero	25% L <sub>0</sub>	30% L <sub>0</sub>	35% L <sub>0</sub>	40% L <sub>0</sub>
<b>RML</b>	ISO 10243 	Blue Azul marino (RAL 5003)		Medium Medio	25% L <sub>0</sub>	30% L <sub>0</sub>	33.75% L <sub>0</sub>	37.5% L <sub>0</sub>
<b>RHL</b>	ISO 10243 	Red Rojo (RAL 3000)		Heavy Fuerte	20% L <sub>0</sub>	25% L <sub>0</sub>	27.5% L <sub>0</sub>	30% L <sub>0</sub>
<b>REL</b>	ISO 10243 	Yellow Amarillo (RAL 1004)		Extra-Heavy Extra-Fuerte	17% L <sub>0</sub>	20% L <sub>0</sub>	22.5% L <sub>0</sub>	25% L <sub>0</sub>
<b>RUL</b>	Special Springs Std 	Silver Plateado (RAL 9006)		Ultra-Heavy Ultra-Fuerte	10% L <sub>0</sub>	12% L <sub>0</sub>	13.5% L <sub>0</sub>	15% L <sub>0</sub>
<b>RWL</b>	Special Springs Std 	White Blanco (RAL 9016)		Hyper-strong Hyper-fuerte	5% L <sub>0</sub>	6.5% L <sub>0</sub>	7.5% L <sub>0</sub>	8.3 - 14% L <sub>0</sub>
<b>CG</b>	Special Springs Std 	Green Verde (RAL 6002)		Light Ligero	25% L <sub>0</sub>	30% L <sub>0</sub>	35% L <sub>0</sub>	40% L <sub>0</sub>
<b>CB</b>	Special Springs Std 	Blue Azul (RAL 5003)		Medium Medio	25% L <sub>0</sub>	30% L <sub>0</sub>	33.75% L <sub>0</sub>	37.5% L <sub>0</sub>
<b>CR</b>	Special Springs Std 	Red Rojo (RAL 3000)		Heavy Fuerte	20% L <sub>0</sub>	25% L <sub>0</sub>	27.5% L <sub>0</sub>	30% L <sub>0</sub>
<b>L</b>	Special Springs Std 	Not painted Muelles no pintados		-	16% L <sub>0</sub>	24% L <sub>0</sub>	28% L <sub>0</sub>	32% L <sub>0</sub>
<b>OLS</b>	US Standard 	Silver-Blue Plateado-Azul (RAL 5003)		Light Ligero	25% L <sub>0</sub>	40% L <sub>0</sub>	45% L <sub>0</sub>	50% L <sub>0</sub>
<b>OMS</b>	US Standard 	Silver-Red Prata-Rojo (RAL 3000)		Medium Médio	20% L <sub>0</sub>	25% L <sub>0</sub>	31% L <sub>0</sub>	37% L <sub>0</sub>
<b>OHS</b>	US Standard 	Silver-Gold Prata-Oro (RAL XXXX)		Heavy Fuerte	15% L <sub>0</sub>	20% L <sub>0</sub>	25% L <sub>0</sub>	30% L <sub>0</sub>
<b>OES</b>	US Standard 	Silver-Green Prata-Verde (RAL 6002)		Extra-Heavy Extra-Fuerte	15% L <sub>0</sub>	20% L <sub>0</sub>	22.5% L <sub>0</sub>	25% L <sub>0</sub>

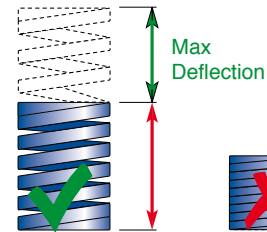
**EN** Correct use of Special Springs' products assures higher performance levels with respect to the lifetime values indicated. Incorrect uses can significantly reduce the expected lifetime and may cause damages or injury.

**ES** El uso correcto de los muelles Special Springs asegura prestaciones muy superiores a las indicaciones de duración indicadas. Utilizaciones incorrectas reducen significativamente los valores de duración y pueden provocar situaciones de peligro y daños.



**EN** Do not exceed the maximum deflection due to a high risk of sudden failure and resulting damage to the tool.

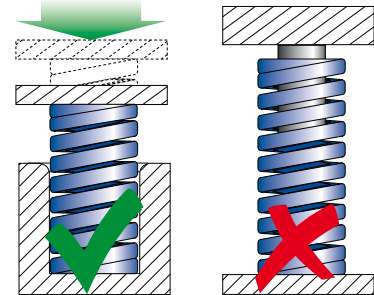
**ES** No utilizar los muelles sobrepasando la deflexión máxima indicada. Peligro de roturas imprevistas y daños al troquel.



**EN** The greater the pre-load the longer the lifetime for the same total deflection. Thus, longer springs with same total force, will assure longer lifetime. It is recommended to always apply a minimum pre-load of 5% of the free length. Absent or insufficient pre-load causes unexpected failure to the springs.

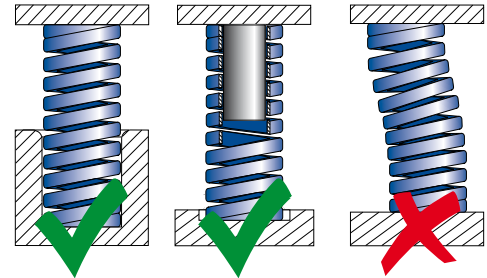
**ES** A paridad de deflexión total, cuanto mayor es la precarga, mayor será la duración de los muelles. Por eso, los muelles de mayor longitud a paridad de fuerza total garantizan una mayor duración. Aconsejamos una precarga mínima del 5% de la longitud libre. Falta o la insuficiencia de precarga, puede llevar a des aflojamientos repentinos de los muelles.

Pre-load  $\geq 5\% L_0$



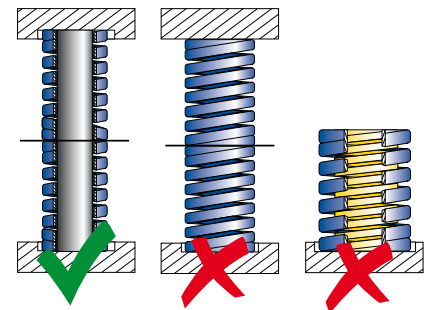
**EN** Proper guiding is essential to long life. It is recommended to always guide springs with a free length /diameter ratio exceeding 3.5.

**ES** Cuanto mayor sea el conjunto de dispositivos de guía, mayor será la duración de los muelles. Es siempre necesario guiar todos los muelles con una relación de longitud/diámetro mayor de 3,5.



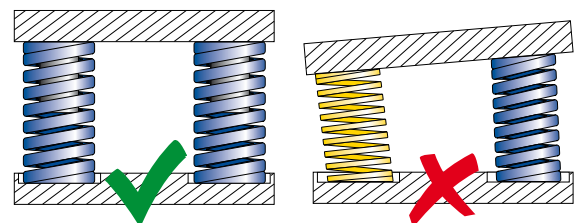
**EN** Avoid the use of insufficiently guided, stacked springs or nested springs due to high risk of serious damage and injury.

**ES** Evitar el uso de muelles superpuestos que no estén completamente guiados o insertados los unos en los otros. Peligro de daños a personas o cosas.



**EN** When using different types of springs simultaneously, ensure that deflections and forces guarantee a balanced load. Always ensure the best perpendicularity between surfaces to avoid early failure of the springs.

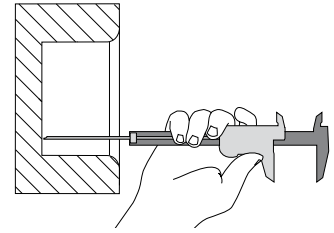
**ES** Si utilizan muelles diferentes simultáneamente, comprueben que las deflexiones y las fuerzas estén equilibradas. Siempre garanticen la máxima perpendicularidad entre los planos de contacto para evitar prematuros aflojamientos de los muelles.





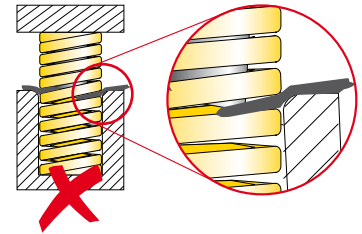
**EN** Tool maintenance (grinding, die sharpening) can vary the original working deflection of the springs because of the subsequent decrease in shut height. Always check and re-set the original working stroke. Failure to respect this requirement may result in high risk of early failures or damages to the tool.

**ES** Las mantenuciones del molde pueden modificar la deflexión de trabajo original de los muelles. Controlar y restablecer siempre las deflexiones iniciales. Peligro de prematuros aflojamientos de los muelles o daños al molde.



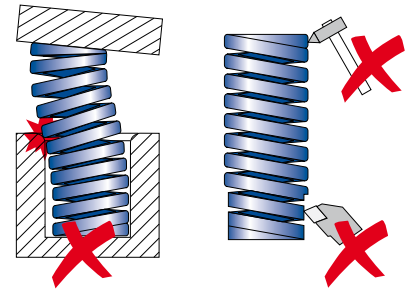
**EN** The presence of scraps or any solids between coils causes a reduction of deflection, overload and early failure of the springs and damage to the tool may result. Provide shields/guards to protect springs from scraps as necessary.

**ES** La presencia de cuerpos extraños entre las espiras de los muelles provoca reducciones de carrera, sobrecargas y rupturas de los muelles con daños al molde. Siempre buscar y eliminar estos organismos.



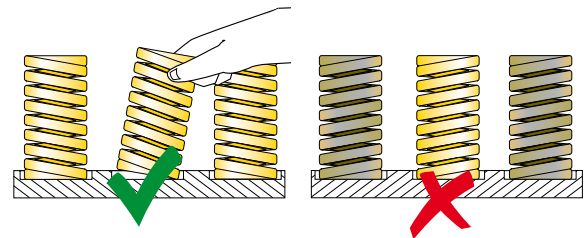
**EN** Any alteration on the surface of the springs (cutting, grinding, scratching, etc.) may significantly reduce the lifetime. Always replace damaged springs with new ones.

**ES** Cualquier daño sobre la superficie de los muelles (cortes, abrasiones, amoladuras) puede reducir significativamente la duración. Sustituir siempre los muelles dañados.



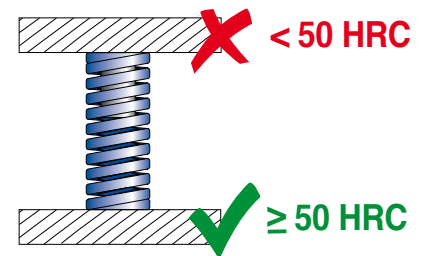
**EN** If one spring collapses, an imbalanced load will occur with possible subsequent damage to the other springs. Replace all springs as a set. Advance planned maintenance prevents damages and saves money.

**ES** Un muelle colapsado crea un desequilibrio de las cargas con daños a los demás muelles o al molde. Siempre sustituir todos los muelles. Una sustitución programada de los muelles previene daños y reduce costes.



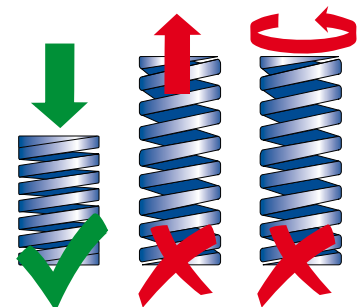
**EN** The springs are made with hardened, premium alloy steel. To prevent wear and abrasion of surfaces in contact with the springs, please use adequate material and hardness for optimal use.

**ES** Los muelles son fabricados con acero templado. Para prevenir el desgaste y la abrasión de la superficies en contacto con los muelles se recomienda usar materiales y durezas adecuados para un uso óptimo.



**EN** Do not apply forces other than in the compression direction. Using compression springs as extension or torsion springs will cause deformation and sudden failure. The improper use of springs may bring unforeseen accidents with damage and injury.

**ES** No aplicar fuerzas que no sean de compresión. Utilizar los muelles en tracción o torsión es causa de deformación y rotura. El uso inadecuado de los muelles puede comportar incidentes imprevisibles con daños a cosas y personas.



## Method of calculation - Método de cálculo

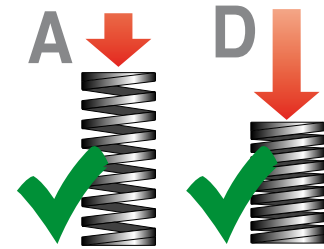
**EN** Spring constant is the load required in N or *lbs* to deflect a spring by 1 mm or *0.1 inch*.

**ES** La constante de los muelles es la carga requerida en N o *lbs* para comprimir un muelle 1 mm ó *0,1 pulgadas*.

**R** ± 10%  
Spring Constant

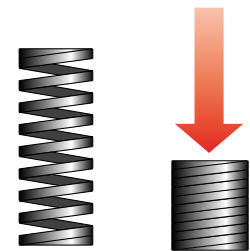
**EN** Special Springs verifies the consistency of springs constant values by measurements of load in the range of deflections stated and between columns A and D.

**ES** Special Springs verifica la coherencia de los valores de los muelles mediante mediciones de la carga en el rango de las deflexiones indicadas en las columnas A y D



**EN** If the measurements of the spring constant is made with deflections below the values stated in column A, or with deflections over the values stated in column D, the results obtained can be out of the tolerance of +/- 10% on the nominal value.

**ES** Si las mediciones se hacen con mínimos por debajo de los valores indicados en la columna A, o máximos por encima de los indicados en la columna D, los resultados obtenidos pueden estar fuera de la tolerancia de +/- 10% del valor nominal.



## Example of calculation of the spring constant RHL100-100 - Ejemplo de cálculo de la constante RHL100-100

**1** - deflect the spring to a value  $x_1$  5 mm - *0.2 inch*, (as indicated in column A) and measure the force  $F_1$  (N - *lbs*)

**1** - comprimir el muelle 5 mm - *0.2 pulgadas*, valor  $x_1$  como se indica en la columna A y medir la fuerza  $F_1$  (N - *pulgadas*)

**2** - deflect the springs to a value  $x_2$  7,5 mm - *0.3 inch* (as indicated in column A) and measure the force  $F_2$  (N - *lbs*)

**2** - comprimir el muelle 7,5 mm - *0.3 pulgadas*, valor  $x_2$  como se indica en la columna D y medir la fuerza  $F_2$  (N - *pulgadas*)

**3** - calculate the springs constant R by following formula  $R = (F_2 - F_1) / (x_2 - x_1)$

**3** - calcular la constante R con la siguiente fórmula  $R = (F_2 - F_1) / (x_2 - x_1)$

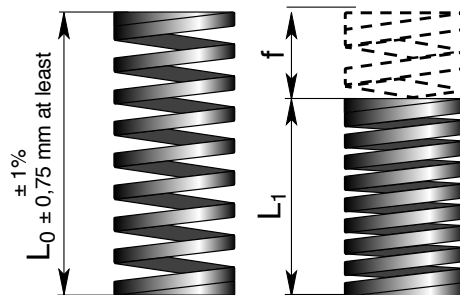
**4** - in this case R will match the value of 375 N/mm ± 10% - *214.3 lbs/0.1 inch ± 10%* as indicated in column R

**4** - en este caso R coincidirá con el valor de 375 N/mm ± 10% - *214.3 lbs/0.1 pulgadas ± 10%* como se indica en la columna R

## Method of calculation - Método de cálculo

**EN** The force of one spring at given deflection is the result of spring constant R (N/mm - lbs/0.1 inch) multiplied by the deflection f (mm - inch). This value is always influenced by the tolerances of the springs constant R (N/mm - lbs/0.1 inch) that is ± 10%, and the tolerance of free length of the springs L<sub>0</sub> (mm - inch) ± 1% with min. 0,75 mm - 0.03 inch.

**ES** La fuerza de un muelle con una compresión determinada es el resultado de la constante R (N/mm - lbs/0.1 pulgadas) multiplicado por la deflexión f (mm - pulgadas). Este valor está influido por las tolerancias de la constante R (N/mm - lbs/0.1 pulgadas) ± 10% y la longitud libre L<sub>0</sub> (mm - pulgadas) ± 1% con un mínimo de 0,75 mm - 0.03 pulgadas.



**EN** For a better understanding, the example below shows the calculation of the nominal value of force and the min and max values possible for the spring RHL 125-300 at a given length L<sub>1</sub> of 55,1 mm - 2.17 inch as follows:

**ES** Para una mejor comprensión, calculamos el valor nominal de fuerza y los valores mínimo y máximo admitidos para el muelle RHL 125-30 con L<sub>1</sub> de 55,1 mm - 2.17 pulgadas como sigue:

$R = 172 \text{ N/mm} \pm 10\% - 98.3 \text{ lbs/0.1 inch} \pm 10\%$	$L_0 = 76 \text{ mm} \pm 1\% - 2.99 \text{ inch} \pm 1\%$
$R_{\min} = 154,8 \text{ N/mm} \pm 10\% - 88.4 \text{ lbs/0.1 inch} \pm 10\%$	$L_{\min} = 75,24 \text{ mm} - 2.96 \text{ inch} \pm 1\%$
$R_{\max} = 189,2 \text{ N/mm} \pm 10\% - 108.0 \text{ lbs/0.1 inch} \pm 10\%$	$L_{\max} = 76,76 \text{ mm} - 3.02 \text{ inch} \pm 1\%$

**EN** Nominal value of force (F<sub>nom</sub>) will be:

**ES** Así el valor nominal de fuerza (F<sub>nom</sub>) sería:

$$F_{\text{nom}} = R \cdot (L_0 - L_1)$$

$$F_{\text{nom}} = 172 \cdot (76 - 55,1)$$

$$F_{\text{nom}} = 3595 \text{ N}$$

$$F_{\text{nom}} = 98.3 \cdot (2.99 - 2.17)$$

$$F_{\text{nom}} = 80.6 \text{ lbs/0.1}$$

**EN** Min value of force (F<sub>min</sub>) will be:

**ES** El valor mínimo de fuerza (F<sub>min</sub>) sería:

$$F_{\text{min}} = R_{\text{min}} \cdot (L_0 - L_1) - (L_0 - L_{\text{min}}) \cdot R_{\text{min}}$$

$$F_{\text{min}} = 154,8 \cdot 20,9 - 0,76 \cdot 154,8$$

$$F_{\text{min}} = 3117,67 \text{ (N)}$$

$$F_{\text{min}} = 88.4 \cdot 0.82 - 0.03 \cdot 88.4$$

$$F_{\text{min}} = 69.8 \text{ lbs/0.1}$$

**EN** Max value of force (F<sub>max</sub>) will be:

**ES** El valor máximo de fuerza (F<sub>max</sub>) sería:

$$F_{\text{max}} = R_{\text{max}} \cdot (L_0 - L_1) + (L_{\text{max}} - L_0) \cdot R_{\text{max}}$$

$$F_{\text{max}} = 189,2 \cdot 20,9 + 0,76 \cdot 189,2$$

$$F_{\text{max}} = 4098,07 \text{ (N)}$$

$$F_{\text{max}} = 108.0 \cdot 0.82 + 0.03 \cdot 108.0$$

$$F_{\text{max}} = 91.8 \text{ lbs/0.1}$$



# Springs Selection

**EN** The following selection guideline is essential for an easy and fast selection of the springs. Please specify the following working parameters: expected lifetime (ex.: 3,000,000 cycles), hole diameter (ex.: 16 mm), total force (ex.: 380 N) and total working deflection including pre-load (ex.: 5 mm).

**ES** El criterio siguiente permite una fácil y rápida selección de los muelles: es suficiente definir los siguientes parámetros de proyecto: duración (ej. 3,000,000 ciclos), diámetro de alojamiento (ej. 16 mm), fuerza total (ej. 380 N) y deflexión total de uso con pre-carga (ej. 5 mm).

**EN** Through the tabs on pages 7 and 8 cross the expected lifetime section (ex.: 3,000,000 cycles) with the hole diameter required (ex.: 16 mm).

**ES** Las tablas de las páginas 7 y 8 permiten identificar el valor de duración (3,000,000) y diámetro de alojamiento (16 mm) requeridos.

RECTANGULAR WIRE SECTION

Estimated Life	Hole diameter (mm)								Series	
	10	12,5	16	20	25	32	40	50		63
+ 3,000,000 cycles	-	-	-	220	410	485	745	1560	-	RSL
	70	130	185	315	560	830	1130	2320	3250	RLL
	110	190	330	525	845	1520	2030	3050	5310	RML
	125	200	380	935	1560	2530	3270	4860	8440	RHL
	145	230	455	1090	1760	2800	4770	6820	11890	REL
-	-	-	-	4090	6350	7700	12280	-	-	RUL

**EN** The intersection of the expected lifetime with the hole diameter shows different forces. Select the one closest to your need.

**ES** De la intersección del número de ciclos y diámetro se obtienen una serie de fuerzas. Elegir la fuerza más cercana a aquella requerida redondeando por exceso si fuese preciso.

RECTANGULAR WIRE SECTION

Estimated Life	Hole diameter (mm)								Series	
	10	12,5	16	20	25	32	40	50		63
+ 3,000,000 cycles	-	-	-	220	410	485	745	1560	-	RSL
	70	130	185	315	560	830	1130	2320	3250	RLL
	110	190	330	525	845	1520	2030	3050	5310	RML
	125	200	380	935	1560	2530	3270	4860	8440	RHL
	145	230	455	1090	1760	2800	4770	6820	11890	REL
-	-	-	-	4090	6350	7700	12280	-	-	RUL

**EN** After selecting the proper force box (ex.: 380 N) look to the corresponding load range of springs (ex.: RHL - heavy load).

**ES** Una vez elegida la fuerza requerida (380 N) se identifica la correspondiente serie de muelles (R - carga fuerte).

RECTANGULAR WIRE SECTION

Estimated Life	Hole diameter (mm)								Series	
	10	12,5	16	20	25	32	40	50		63
+ 3,000,000 cycles	-	-	-	220	410	485	745	1560	-	RSL
	70	130	185	315	560	830	1130	2320	3250	RLL
	110	190	330	525	845	1520	2030	3050	5310	RML
	125	200	380	935	1560	2530	3270	4860	8440	RHL
	145	230	455	1090	1760	2800	4770	6820	11890	REL
-	-	-	-	4090	6350	7700	12280	-	-	RUL

**EN** Then go to the standard tabs on the column A corresponding to the expected lifetime of 3,000,000 cycles and select the required total spring deflection.

**ES** En las páginas de los muelles serie R, y en correspondencia de la columna A (3,000,000 ciclos), se identifica la deflexión requerida.

Code	D <sub>1</sub>	D <sub>2</sub>	L <sub>0</sub>	R	A	B	C	D	E				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm				
				Spring Constant	20% L <sub>0</sub>	25% L <sub>0</sub>	27.5% L <sub>0</sub>	30% L <sub>0</sub>	approx.				
				± 10%	+ 3,000,000	- 1,500,000	300 - 500,000	100 - 200,000	do not use				
RHL 62 - 100	25	25	5.0	379	6.3	477	6.9	520	7.5	568	8.4	636	
RHL 62 - 125	32	32	6.4	338	8.0	422	8.8	465	9.6	507	10.5	554	
RHL 62 - 150	38	38	7.6	309	9.5	461	10.5	507	11.4	553	13.6	660	
RHL 62 - 175	44	44	8.8	277	11.0	471	12.1	518	13.2	565	15.9	681	
RHL 62 - 200	51	51	10.2	278	12.8	475	14.0	520	15.3	568	18.9	701	
RHL 62 - 250	64	64	12.8	288	16.0	485	17.6	533	19.2	582	24.9	754	
RHL 62 - 300	76	76	15.2	291	19.0	488	20.9	537	22.8	586	29.2	750	
RHL 62 - 350	89	89	17.8	286	22.3	484	24.5	531	26.7	579	34.5	749	
RHL 62 - 400	102	102	20.4	294	25.5	492	28.1	541	30.6	591	39.1	755	
RHL 62 - 450	115	115	23.0	261	28.8	452	31.6	497	34.5	542	44.0	691	
RHL 62 - 1200	305	305	7.1	61.0	433	76.3	542	83.9	596	91.5	650	103.6	736

**EN** Once selected the total springs deflection (ex.: 5 mm) select the corresponding spring code (ex.: RHL 62-100). The bigger the pre-load the longer the lifetime of springs for the same total deflection (% of L<sub>0</sub>).

**ES** Una vez elegida la deflexión de proyecto (5 mm) se identifica el código del muelle correspondiente (R16 - 025). A paridad de deflexión total (% de L<sub>0</sub>), cuanto mayor sea la precarga, mayor será la duración de los muelles.

Code	D <sub>1</sub>	D <sub>2</sub>	L <sub>0</sub>	R	A	B	C	D	E				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm				
				Spring Constant	20% L <sub>0</sub>	25% L <sub>0</sub>	27.5% L <sub>0</sub>	30% L <sub>0</sub>	approx.				
				± 10%	+ 3,000,000	- 1,500,000	300 - 500,000	100 - 200,000	do not use				
RHL 62 - 100	25	25	5.0	379	6.3	477	6.9	520	7.5	568	8.4	636	
RHL 62 - 125	32	32	6.4	338	8.0	422	8.8	465	9.6	507	10.5	554	
RHL 62 - 150	38	38	7.6	309	9.5	461	10.5	507	11.4	553	13.6	660	
RHL 62 - 175	44	44	8.8	277	11.0	471	12.1	518	13.2	565	15.9	681	
RHL 62 - 200	51	51	10.2	278	12.8	475	14.0	520	15.3	568	18.9	701	
RHL 62 - 250	64	64	12.8	288	16.0	485	17.6	533	19.2	582	24.9	754	
RHL 62 - 300	76	76	15.2	291	19.0	488	20.9	537	22.8	586	29.2	750	
RHL 62 - 350	89	89	17.8	286	22.3	484	24.5	531	26.7	579	34.5	749	
RHL 62 - 400	102	102	20.4	294	25.5	492	28.1	541	30.6	591	39.1	755	
RHL 62 - 450	115	115	23.0	261	28.8	452	31.6	497	34.5	542	44.0	691	
RHL 62 - 1200	305	305	7.1	61.0	433	76.3	542	83.9	596	91.5	650	103.6	736

## RECTANGULAR WIRE SECTION

Estimated Life	Hole diameter (mm)									Series
	10	12.5	16	20	25	32	40	50	63	
+ 3,000,000 cycles	Load (N)									
	-	-	-	220	410	485	745	1560	-	RSL
	70	130	185	315	560	830	1130	2320	3250	RLL
	110	190	330	525	845	1520	2030	3050	5310	RML
	125	200	380	935	1560	2530	3270	4860	8440	RHL
	145	230	455	1090	1760	2800	4770	6820	11890	REL
	-	-	-	-	4090	6350	7700	12280	-	RUL
~ 1,500,000 cycles	Load (N)									
	-	-	-	290	540	650	1000	2120	-	RSL
	80	150	220	380	675	990	1360	2780	3900	RLL
	130	230	400	625	1010	1830	2430	3660	6370	RML
	155	250	480	1170	1950	3170	4090	6070	10560	RHL
	170	270	535	1280	2070	3290	5610	8030	13990	REL
	-	-	-	-	4910	7620	9240	14730	-	RUL
300 -500,000 cycles	Load (N)									
	-	-	-	330	610	730	1120	2380	-	RSL
	95	180	260	440	780	1160	1590	3240	4540	RLL
	150	255	450	705	1140	2060	2730	4120	7170	RML
	170	275	525	1290	2140	3480	4490	6670	11610	RHL
	195	305	605	1440	2320	3700	6300	9020	15740	REL
	-	-	-	-	5530	8570	10400	16580	-	RUL
100 -200,000 cycles	Load (N)									
	-	-	-	365	680	810	1250	2650	-	RSL
	110	200	300	500	890	1320	1810	3710	5190	RLL
	170	280	500	780	1260	2280	3040	4580	7960	RML
	185	300	570	1400	2340	3800	4900	7280	12660	RHL
	215	340	670	1605	2585	4120	7010	10040	17330	REL
	-	-	-	-	6140	9520	11550	18420	-	RUL



**EN** The stated service life values are obtained from in-house reliability tests but cannot be guaranteed due to the impossibility to consider all variables in the real working conditions of the springs. The selecting guideline is an approximate and preliminary method of spring selection, it is always recommended to refer to the standard tabs before using the spring.

**ES** Los valores de duración indicados en la tabla se obtienen por pruebas internas y no son garantizados debido al elevado número de variables en las reales condiciones de trabajo. El método indicado para la selección de los muelles es aproximativo, por eso aconsejamos hacer siempre referencia a las tablas para la selección.

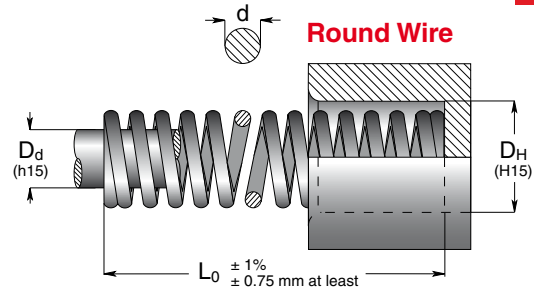
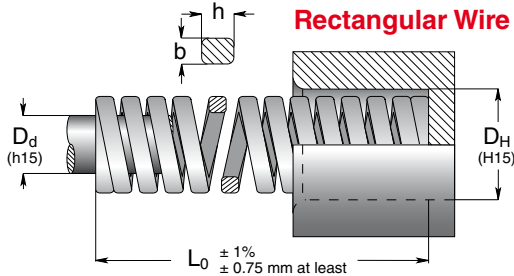
## ROUND WIRE SECTION

Estimated Life	Hole diameter (mm)									Series
	10	12.5	16	20	25	32	40	50	63	
+3,000,000 cycles	Load (N)									
	25	50	100	-	-	-	-	-	-	CG
	70	130	175	-	-	-	-	-	-	CB
~1,500,000 cycles	Load (N)									
	30	60	115	-	-	-	-	-	-	CG
	90	150	210	-	-	-	-	-	-	CB
300,000 500,000 cycles	Load (N)									
	120	220	450	-	-	-	-	-	-	CR
	35	70	135	-	-	-	-	-	-	CG
100,000 200,000 cycles	Load (N)									
	100	170	240	-	-	-	-	-	-	CB
	135	240	500	-	-	-	-	-	-	CR
100,000 200,000 cycles	Load (N)									
	40	80	150	-	-	-	-	-	-	CG
	110	190	290	-	-	-	-	-	-	CB
	150	260	545	-	-	-	-	-	-	CR

## OVAL WIRE SECTION

Estimated Life	Hole diameter (mm)									Series
	9.5	13	16	19.5	25.5	32	38.5	51	63	
Long	Load (N)									
	90	118	180	317	517	781	947	2457	3269	OLS
	93	143	252	433	644	1318	1631	2548	4160	OMS
	85	147	284	633	1132	1920	2197	3517	-	OHS
Medium	Load (N)									
	136	193	375	753	1524	2412	3944	6092	-	OES
	143	188	288	506	912	1249	1514	3929	5226	OLS
	116	180	316	543	806	1649	2040	3186	5204	OMS
Short	Load (N)									
	114	196	378	840	1507	2556	2925	4685	-	OHS
	181	256	500	1002	2028	3212	5251	8114	-	OES
	179	235	360	633	1140	1561	1892	4912	6533	OLS
	172	266	467	802	1192	2439	3018	4713	7696	OMS
	170	294	567	1260	2260	3835	4388	7028	-	OHS
	226	321	626	1253	2538	4018	6570	10149	-	OES

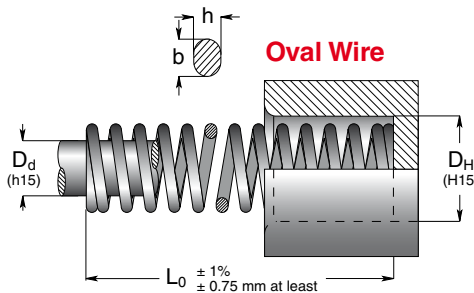




Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	D	E	
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	% L <sub>0</sub>	% L <sub>0</sub>	% L <sub>0</sub>	% L <sub>0</sub>	% L <sub>0</sub>	approx. do not use
	b x h, d			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000		
	mm	mm	mm	N/mm	mm	N	N	N	N	

- D<sub>H</sub>** hole diameter.  
diámetro del agujero de alojamiento.
- D<sub>d</sub>** rod diameter.  
diámetro de la clavija de guía.
- b x h** cross wire section.  
sección del perfil.
- d** sección del perfil.
- L<sub>0</sub>** spring free length.  
longitud libre del muelle.
- R** spring rate (load required for 1mm deflection).  
carga (N) necesaria para desviar el muelle de 1 milímetro.
- A** advised working deflection for + 3,000,000 cycles.  
desviación de trabajo aconsejada para + 3,000,000 ciclos.

- B** advised working deflection for ~ 1,500,000 cycles.  
desviación de trabajo aconsejada para ~ 1,500,000 ciclos.
- C** advised working deflection for 300.000 - 500,000 cycles.  
desviación de trabajo aconsejada para 300.000 - 500,000 ciclos.
- D** advised working deflection for 100.000 - 200,000 cycles.  
desviación de trabajo aconsejada para 100.000 - 200,000 ciclos.
- E** solid deflection (approximate value).  
deflexión por muelle a bloque (valor de aproximación).
- approx. quantity for standard packaging.  
número de piezas por confección.

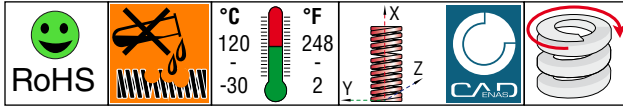
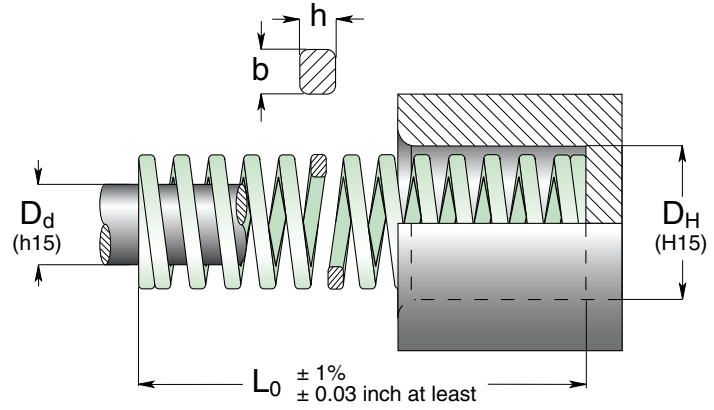


Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	% L <sub>0</sub>	% L <sub>0</sub>	% L <sub>0</sub>	approx. do not use
	b x h			± 10%	Long Life	Medium Life	Max Deflection	
	mm	mm	mm	N/mm	mm	N	N	mm

- D<sub>H</sub>** hole diameter.  
diámetro del agujero de alojamiento.
- D<sub>d</sub>** rod diameter.  
diámetro de la clavija de guía.
- b x h** cross wire section.  
sección del perfil.
- L<sub>0</sub>** spring free length.  
longitud libre del muelle.
- R** spring rate (load required for 1mm deflection).  
carga (N) necesaria para desviar el muelle de 1 milímetro.

- A** advised working deflection for long spring life.  
deflexión aconsejada para una larga duración del muelle.
- B** advised working deflection for medium spring life.  
deflexión aconsejada para una media duración del muelle.
- C** maximum operating deflection.  
deflexión máxima permitida.
- E** solid deflection (approximate value).  
deflexión por muelle a bloque (valor de aproximación).
- approx. quantity for standard packaging.  
número de piezas por confección.

- EN** Super-light load springs  
Light green color
- ES** Muelles carga super-ligera  
Color verde claro



Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E	
					30% L <sub>0</sub>	40% L <sub>0</sub>	45% L <sub>0</sub>	50% L <sub>0</sub>	approx. do not use					
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	inches	lbs	inches	lbs	inches	lbs	inches	lbs	inches	lbs
	b x h			± 10%	+ 3,000,000		~ 1,500,000		300 - 500,000		100 - 200,000			
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
RSL 37 - 100	3/8	3/16	1	4.9	0.30	14.7	0.39	19.1	0.44	21.6	0.49	24.0	0.56	27.4
RSL 37 - 125			1 1/4	3.7	0.38	14.1	0.50	18.5	0.57	21.1	0.63	23.3	0.73	27.0
RSL 37 - 150			1 1/2	3.1	0.45	14.0	0.60	18.6	0.67	20.8	0.75	23.3	0.89	27.6
RSL 37 - 175			1 3/4	2.7	0.52	14.0	0.69	18.6	0.78	21.1	0.87	23.5	0.91	24.6
RSL 37 - 200			2	2.4	0.60	14.4	0.80	19.2	0.90	21.6	1.00	24.0	1.08	25.9
RSL 37 - 250			2 1/2	1.9	0.76	14.4	1.01	19.2	1.13	21.5	1.26	23.9	1.34	25.5
RSL 37 - 300			3	1.5	0.90	13.5	1.20	18.0	1.35	20.3	1.50	22.5	1.59	23.9
RSL 37 - 1200	0.06 x 0.04	12	0.4	3.60	14.4	4.80	19.2	5.40	21.6	6.00	24.0	6.80	27.2	
RSL 50 - 100	1/2	9/32	1	9.1	0.30	27	0.39	35	0.44	40	0.49	45	0.54	49
RSL 50 - 125			1 1/4	7.0	0.38	27	0.50	35	0.57	40	0.63	44	0.70	49
RSL 50 - 150			1 1/2	5.9	0.45	27	0.60	35	0.67	40	0.75	44	0.86	51
RSL 50 - 175			1 3/4	5.0	0.52	26	0.69	35	0.78	39	0.87	44	1.04	52
RSL 50 - 200			2	4.3	0.60	26	0.80	34	0.90	39	1.00	43	1.17	50
RSL 50 - 250			2 1/2	3.3	0.76	25	1.01	33	1.13	37	1.26	42	1.46	48
RSL 50 - 300			3	2.7	0.90	24	1.20	32	1.35	36	1.50	41	1.77	48
RSL 50 - 350			3 1/2	2.3	1.05	24	1.40	32	1.58	36	1.75	40	2.09	48
RSL 50 - 400			4	2.1	1.20	25	1.61	34	1.81	38	2.01	42	2.34	49
RSL 50 - 1200	0.09 x 0.05	12	0.7	3.60	25	4.80	34	5.40	38	6.00	42	7.35	51	
RSL 62 - 100	5/8	11/32	1	11.5	0.30	35	0.39	45	0.44	51	0.49	56	0.55	63
RSL 62 - 125			1 1/4	9.1	0.38	35	0.50	46	0.57	52	0.63	57	0.74	67
RSL 62 - 150			1 1/2	7.0	0.45	32	0.60	42	0.67	47	0.75	53	0.87	61
RSL 62 - 175			1 3/4	6.1	0.52	32	0.69	42	0.78	48	0.87	53	1.03	63
RSL 62 - 200			2	5.1	0.60	31	0.80	41	0.90	46	1.00	51	1.20	61
RSL 62 - 250			2 1/2	4.0	0.76	30	1.01	40	1.13	45	1.26	50	1.53	61
RSL 62 - 300			3	3.3	0.90	30	1.20	40	1.35	45	1.50	50	1.83	60
RSL 62 - 350			3 1/2	2.7	1.05	28	1.40	38	1.58	43	1.75	47	2.13	58
RSL 62 - 400			4	2.3	1.20	28	1.61	37	1.81	42	2.01	46	2.46	57
RSL 62 - 450	4 1/2	2.2	1.36	30	1.81	40	2.04	45	2.26	50	2.78	61		
RSL 62 - 1200	0.12 x 0.06	12	0.9	3.60	32	4.80	43	5.40	49	6.00	54	7.49	67	
RSL 75 - 100	3/4	3/8	1	16.8	0.30	50	0.39	66	0.44	74	0.49	83	0.55	92
RSL 75 - 125			1 1/4	12.9	0.38	49	0.50	65	0.57	73	0.63	81	0.72	92
RSL 75 - 150			1 1/2	10.6	0.45	48	0.60	64	0.67	72	0.75	79	0.87	92
RSL 75 - 175			1 3/4	9.0	0.52	47	0.69	62	0.78	70	0.87	78	1.02	91
RSL 75 - 200			2	7.8	0.60	47	0.80	63	0.90	71	1.00	79	1.19	93
RSL 75 - 250			2 1/2	6.5	0.76	49	1.01	65	1.13	73	1.26	81	1.53	99
RSL 75 - 300			3	5.6	0.90	50	1.20	67	1.35	75	1.50	84	1.85	104
RSL 75 - 350			3 1/2	4.7	1.05	50	1.40	66	1.58	75	1.75	83	2.19	104
RSL 75 - 400			4	4.2	1.20	51	1.61	68	1.81	76	2.01	85	2.53	107
RSL 75 - 450			4 1/2	3.7	1.36	50	1.81	66	2.04	75	2.26	83	2.87	105
RSL 75 - 500			5	3.4	1.50	51	2.00	68	2.25	76	2.50	84	3.18	107
RSL 75 - 550	5 1/2	3.1	1.64	51	2.19	68	2.46	76	2.74	84	3.48	107		
RSL 75 - 600	6	2.8	1.80	50	2.39	67	2.69	75	2.99	84	3.81	107		
RSL 75 - 1200	0.16 x 0.06	12	1.4	3.60	52	4.80	69	5.40	77	6.00	86	7.73	110	



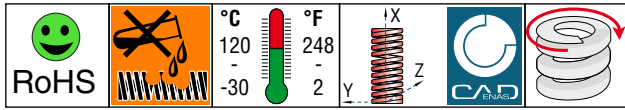
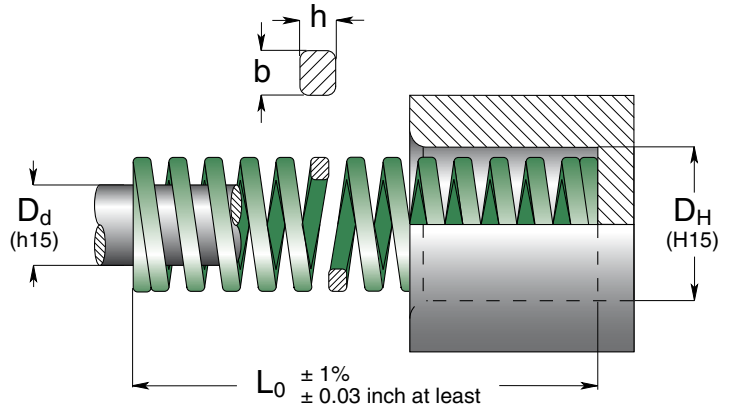
Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	D	E							
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	30% L <sub>0</sub>	40% L <sub>0</sub>	45% L <sub>0</sub>	50% L <sub>0</sub>	approx.							
	b x h			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000	do not use							
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs						
RSL 100 - 100	1	1/2	1	30.8	0.30	91	0.39	121	0.44	137	0.49	152	0.51	156		
RSL 100 - 125			1 1/4	24.1	0.38	91	0.50	122	0.57	137	0.63	152	0.68	163		
RSL 100 - 150			1 1/2	20.5	0.45	92	0.60	122	0.67	138	0.75	153	0.81	167		
RSL 100 - 175			1 3/4	17.9	0.52	93	0.69	124	0.78	140	0.87	155	0.96	172		
RSL 100 - 200			2	15.4	0.60	93	0.80	124	0.90	140	1.00	155	1.12	173		
RSL 100 - 250			2 1/2	12.3	0.76	93	1.01	124	1.13	140	1.26	155	1.44	177		
RSL 100 - 300			3	10.3	0.90	93	1.20	124	1.35	139	1.50	155	1.73	179		
RSL 100 - 350			3 1/2	8.7	1.05	91	1.40	122	1.58	137	1.75	152	2.02	176		
RSL 100 - 400			4	7.5	1.20	91	1.61	121	1.81	136	2.01	151	2.33	176		
RSL 100 - 450			4 1/2	6.7	1.36	92	1.81	122	2.04	137	2.26	153	2.65	178		
RSL 100 - 500			5	6.1	1.50	91	2.00	121	2.25	136	2.50	151	2.93	178		
RSL 100 - 550			5 1/2	5.5	1.64	90	2.19	120	2.46	135	2.74	150	3.21	176		
RSL 100 - 600			6	5.0	1.80	90	2.39	120	2.69	136	2.99	151	3.52	177		
RSL 100 - 700			7	4.3	2.10	91	2.80	122	3.15	137	3.50	152	4.15	180		
RSL 100 - 800	8	3.8	2.40	92	3.20	122	3.60	138	4.00	153	4.75	182				
RSL 100 - 1200	0.21 x 0.08	12	2.5	3.60	91	4.80	121	5.40	136	6.00	151	7.18	181			
RSL 125 - 150	1 1/4	5/8	1 1/2	24.6	0.45	110	0.60	147	0.67	166	0.75	184	0.78	193		
RSL 125 - 175			1 3/4	21.3	0.52	111	0.69	148	0.78	166	0.87	185	0.93	197		
RSL 125 - 200			2	18.5	0.60	112	0.80	149	0.90	167	1.00	186	1.09	201		
RSL 125 - 250			2 1/2	14.6	0.76	110	1.01	147	1.13	165	1.26	184	1.39	202		
RSL 125 - 300			3	12.3	0.90	111	1.20	148	1.35	166	1.50	185	1.67	206		
RSL 125 - 350			3 1/2	10.3	1.05	109	1.40	145	1.58	163	1.75	181	1.97	204		
RSL 125 - 400			4	9.0	1.20	108	1.61	144	1.81	162	2.01	180	2.27	203		
RSL 125 - 450			4 1/2	8.1	1.36	110	1.81	147	2.04	165	2.26	184	2.58	209		
RSL 125 - 500			5	7.3	1.50	109	2.00	145	2.25	163	2.50	181	2.85	207		
RSL 125 - 550			5 1/2	6.6	1.64	109	2.19	145	2.46	163	2.74	181	3.13	207		
RSL 125 - 600			6	6.1	1.80	109	2.39	145	2.69	163	2.99	181	3.44	208		
RSL 125 - 700			7	5.1	2.10	108	2.80	144	3.15	162	3.50	180	4.05	208		
RSL 125 - 800			8	4.5	2.40	107	3.20	142	3.60	160	4.00	178	4.63	207		
RSL 125 - 1000			10	3.7	3.00	110	4.00	146	4.50	165	5.00	183	5.83	213		
RSL 125 - 1200	0.25 x 0.10	12	3.0	3.60	109	4.80	146	5.40	164	6.00	182	7.02	213			
RSL 150 - 200	1 1/2	3/4	2	27.5	0.60	166	0.80	221	0.90	249	1.00	276	1.10	303		
RSL 150 - 250			2 1/2	22.4	0.76	169	1.01	226	1.13	254	1.26	282	1.43	319		
RSL 150 - 300			3	19.0	0.90	171	1.20	228	1.35	256	1.50	285	1.72	327		
RSL 150 - 350			3 1/2	16.2	1.05	171	1.40	227	1.58	256	1.75	284	2.04	330		
RSL 150 - 400			4	14.0	1.20	169	1.61	225	1.81	253	2.01	281	2.35	330		
RSL 150 - 450			4 1/2	12.6	1.36	171	1.81	229	2.04	258	2.26	286	2.67	338		
RSL 150 - 500			5	11.2	1.50	168	2.00	224	2.25	252	2.50	280	2.96	332		
RSL 150 - 550			5 1/2	10.1	1.64	166	2.19	221	2.46	249	2.74	277	3.24	328		
RSL 150 - 600			6	9.3	1.80	166	2.39	222	2.69	249	2.99	277	3.57	330		
RSL 150 - 700			7	7.8	2.10	165	2.80	219	3.15	247	3.50	274	4.19	328		
RSL 150 - 800			8	7.0	2.40	169	3.20	225	3.60	253	4.00	281	4.81	338		
RSL 150 - 1000			10	5.6	3.00	168	4.00	224	4.50	252	5.00	280	6.05	339		
RSL 150 - 1200			0.31 x 0.13	12	4.7	3.60	171	4.80	228	5.40	256	6.00	285	7.30	346	
RSL 200 - 250			2	1	2 1/2	49.3	0.76	373	1.01	497	1.13	560	1.26	621	1.38	682
RSL 200 - 300	3	40.3			0.90	362	1.20	483	1.35	544	1.50	604	1.66	670		
RSL 200 - 350	3 1/2	34.2			1.05	359	1.40	479	1.58	539	1.75	599	1.98	677		
RSL 200 - 400	4	29.7			1.20	358	1.61	477	1.81	537	2.01	597	2.30	683		
RSL 200 - 450	4 1/2	26.3			1.36	358	1.81	477	2.04	537	2.26	596	2.60	686		
RSL 200 - 500	5	24.1			1.50	362	2.00	482	2.25	543	2.50	603	2.91	701		
RSL 200 - 550	5 1/2	21.8			1.64	358	2.19	478	2.46	538	2.74	597	3.19	695		
RSL 200 - 600	6	19.6			1.80	352	2.39	469	2.69	528	2.99	587	3.50	687		
RSL 200 - 700	7	16.8			2.10	353	2.80	471	3.15	530	3.50	589	4.15	697		
RSL 200 - 800	8	14.6			2.40	349	3.20	466	3.60	524	4.00	582	4.75	692		
RSL 200 - 1000	10	11.8			3.00	353	4.00	471	4.50	530	5.00	589	5.99	705		
RSL 200 - 1200	0.41 x 0.16	12			9.8	3.60	354	4.80	472	5.40	532	6.00	590	7.23	711	
RSL 250 - 300	2 1/2	1 1/2			76	57.8	0.90	520	1.20	694	1.35	780	1.50	867	1.86	1075
RSL 250 - 350					89	51.4	1.05	540	1.40	720	1.58	812	1.75	900	2.16	1110
RSL 250 - 400			102	44.4	1.20	533	1.61	715	1.81	804	2.01	892	2.52	1119		
RSL 250 - 450			115	38	1.36	517	1.81	688	2.04	775	2.26	859	2.98	1132		
RSL 250 - 500			127	33.2	1.50	498	2.00	664	2.25	747	2.50	830	3.25	1079		
RSL 250 - 600			152	27.4	1.80	493	2.39	655	2.69	737	2.99	819	3.93	1077		
RSL 250 - 700			178	24	2.10	504	2.80	672	3.15	756	3.50	840	4.66	1118		
RSL 250 - 800			203	21	2.40	504	3.20	672	3.60	756	4.00	840	5.35	1124		
RSL 250 - 1000			254	16.4	3.00	492	4.00	656	4.50	738	5.00	820	6.80	1115		
RSL 250 - 1200			0.43 x 0.19	305	13.6	3.60	490	4.80	653	5.40	734	6.00	816	8.21	1117	

**RSL**  
Inch.



**EN** Light load springs  
Green color

**ES** Muelles carga ligera  
Color verde



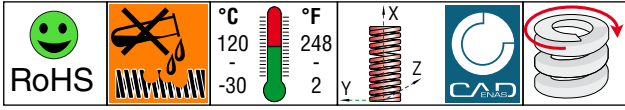
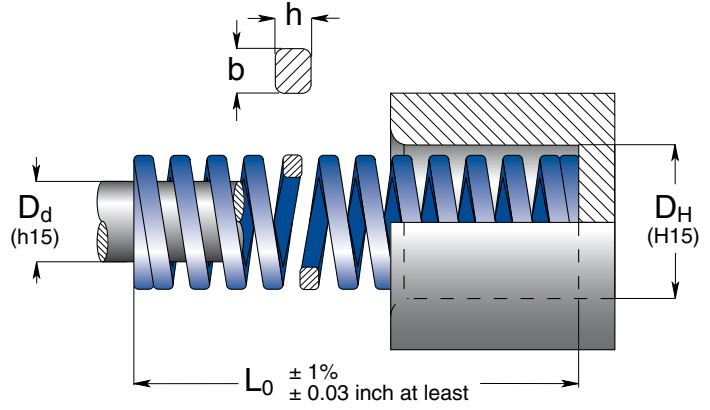
Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E	
					25% L <sub>0</sub>	30% L <sub>0</sub>	35% L <sub>0</sub>	40% L <sub>0</sub>	approx. do not use					
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	inches	lbs	inches	lbs	inches	lbs	inches	lbs	inches	lbs
	b x h			± 10%	+ 3,000,000		~ 1,500,000		300 - 500,000		100 - 200,000		do not use	
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
RLL 37 - 100	3/8	3/16	1	5.7	0.25	14	0.30	17	0.34	20	0.39	23	0.53	30
RLL 37 - 125			1 1/4	4.9	0.31	15	0.38	18	0.44	21	0.50	25	0.69	34
RLL 37 - 150			1 1/2	3.9	0.37	15	0.45	18	0.52	20	0.60	23	0.82	32
RLL 37 - 175			1 3/4	3.4	0.43	15	0.52	18	0.61	21	0.69	24	0.94	32
RLL 37 - 200			2	2.9	0.50	14	0.60	17	0.70	20	0.80	23	1.14	33
RLL 37 - 250			2 1/2	2.5	0.63	16	0.76	19	0.88	22	1.01	25	1.42	35
RLL 37 - 300			3	1.8	0.75	14	0.90	16	1.05	19	1.20	22	1.70	31
RLL 37 - 1200	0.06 x 0.04		12	0.6	3.00	19	3.60	23	4.20	26	4.80	30	7.04	44
RLL 50 - 100	1/2	9/32	1	10.2	0.25	25	0.30	30	0.34	35	0.39	40	0.52	53
RLL 50 - 125			1 1/4	9.4	0.31	29	0.38	35	0.44	41	0.50	47	0.71	66
RLL 50 - 150			1 1/2	7.8	0.37	29	0.45	35	0.52	41	0.60	47	0.83	64
RLL 50 - 175			1 3/4	6.9	0.43	30	0.52	36	0.61	42	0.69	48	0.94	65
RLL 50 - 200			2	6.5	0.50	33	0.60	39	0.70	46	0.80	52	1.13	74
RLL 50 - 250			2 1/2	5.3	0.63	34	0.76	40	0.88	47	1.01	54	1.41	75
RLL 50 - 300			3	4.1	0.75	30	0.90	36	1.05	43	1.20	49	1.68	68
RLL 50 - 350			3 1/2	3.1	0.88	27	1.05	32	1.23	38	1.40	43	1.98	61
RLL 50 - 400			4	2.3	1.00	24	1.20	28	1.41	33	1.61	38	2.30	54
RLL 50 - 1200	0.09 x 0.05		12	0.8	3.00	24	3.60	29	4.20	34	4.80	38	6.77	54
RLL 62 - 100	5/8	11/32	1	13.4	0.25	33	0.30	40	0.34	46	0.39	53	0.50	66
RLL 62 - 125			1 1/4	13.1	0.31	41	0.38	50	0.44	58	0.50	66	0.65	85
RLL 62 - 150			1 1/2	11.0	0.37	41	0.45	50	0.52	58	0.60	66	0.78	86
RLL 62 - 175			1 3/4	9.8	0.43	42	0.52	51	0.61	59	0.69	68	0.89	87
RLL 62 - 200			2	9.0	0.50	45	0.60	54	0.70	63	0.80	72	1.04	93
RLL 62 - 250			2 1/2	6.1	0.63	38	0.76	46	0.88	54	1.01	62	1.31	80
RLL 62 - 300			3	5.7	0.75	43	0.90	51	1.05	60	1.20	68	1.58	90
RLL 62 - 350			3 1/2	4.9	0.88	43	1.05	52	1.23	60	1.40	69	1.87	92
RLL 62 - 400			4	4.5	1.00	45	1.20	54	1.41	63	1.61	72	2.18	97
RLL 62 - 450	4 1/2	3.8	1.13	43	1.36	51	1.58	60	1.81	68	2.39	90		
RLL 62 - 1200	0.12 x 0.06		12	1.4	3.00	43	3.60	52	4.20	60	4.80	69	6.51	93
RLL 75 - 100	3/4	3/8	1	31.9	0.25	79	0.30	94	0.34	110	0.39	126	0.48	152
RLL 75 - 125			1 1/4	25.7	0.31	81	0.38	97	0.44	113	0.50	130	0.60	155
RLL 75 - 150			1 1/2	19.0	0.37	71	0.45	86	0.52	100	0.60	114	0.74	142
RLL 75 - 175			1 3/4	17.1	0.43	74	0.52	89	0.61	104	0.69	119	0.85	145
RLL 75 - 200			2	14.0	0.50	71	0.60	84	0.70	98	0.80	113	0.98	138
RLL 75 - 250			2 1/2	11.4	0.63	72	0.76	86	0.88	101	1.01	115	1.22	140
RLL 75 - 300			3	9.1	0.75	68	0.90	82	1.05	96	1.20	109	1.47	134
RLL 75 - 350			3 1/2	8.0	0.88	70	1.05	84	1.23	98	1.40	112	1.75	140
RLL 75 - 400			4	6.9	1.00	69	1.20	83	1.41	96	1.61	110	2.01	138
RLL 75 - 450			4 1/2	6.2	1.13	71	1.36	85	1.58	99	1.81	113	2.29	143
RLL 75 - 500			5	5.4	1.25	68	1.50	81	1.75	95	2.00	109	2.56	139
RLL 75 - 550			5 1/2	4.8	1.38	66	1.65	79	1.92	92	2.20	106	2.81	135
RLL 75 - 600	6	4.3	1.50	64	1.80	77	2.09	90	2.39	103	3.10	133		
RLL 75 - 700	7	4.14	1.75	72	2.10	87	2.45	101	2.80	116	3.67	152		
RLL 75 - 1200	0.16 x 0.08		12	2.3	3.00	69	3.60	82	4.20	96	4.80	110	6.20	142



Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	D	E					
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	25% L <sub>0</sub>	30% L <sub>0</sub>	35% L <sub>0</sub>	40% L <sub>0</sub>	approx.					
	b x h			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000	do not use					
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs				
RLL 100 - 100	1	1/2	1	57.2	0.25	142	0.30	169	0.34	197	0.39	225	0.47	268
RLL 100 - 125			1 1/4	45.9	0.31	144	0.38	173	0.44	202	0.50	231	0.63	289
RLL 100 - 150			1 1/2	35.4	0.37	133	0.45	159	0.52	186	0.60	212	0.72	255
RLL 100 - 175			1 3/4	30.2	0.43	131	0.52	157	0.61	183	0.69	209	0.84	255
RLL 100 - 200			2	25.1	0.50	127	0.60	151	0.70	177	0.80	202	0.98	247
RLL 100 - 250			2 1/2	20.1	0.63	127	0.76	152	0.88	178	1.01	203	1.24	249
RLL 100 - 300			3	16.0	0.75	120	0.90	144	1.05	168	1.20	191	1.48	236
RLL 100 - 350			3 1/2	13.7	0.88	120	1.05	144	1.23	168	1.40	192	1.71	235
RLL 100 - 400			4	12.1	1.00	121	1.20	145	1.41	170	1.61	194	2.01	243
RLL 100 - 450			4 1/2	10.7	1.13	121	1.36	145	1.58	169	1.81	194	2.29	244
RLL 100 - 500			5	9.5	1.25	119	1.50	143	1.75	167	2.00	191	2.52	241
RLL 100 - 550			5 1/2	8.7	1.38	121	1.65	145	1.92	168	2.20	193	2.77	242
RLL 100 - 600	6	8.0	1.50	120	1.80	144	2.09	168	2.39	191	3.04	243		
RLL 100 - 700	7	7.1	1.75	125	2.10	150	2.45	175	2.80	200	3.67	262		
RLL 100 - 800	8	5.9	2.00	119	2.40	142	2.80	166	3.20	190	4.04	240		
RLL 100 - 1200	0.21 x 0.11	12	4.0	3.00	120	3.60	144	4.20	168	4.80	192	6.14	245	
RLL 125 - 150	1 1/4	5/8	1 1/2	53.7	0.37	201	0.45	241	0.52	281	0.60	322	0.72	387
RLL 125 - 175			1 3/4	45.4	0.43	197	0.52	236	0.61	276	0.69	315	0.85	385
RLL 125 - 200			2	38.3	0.50	193	0.60	231	0.70	269	0.80	308	1.00	385
RLL 125 - 250			2 1/2	30.3	0.63	191	0.76	229	0.88	267	1.01	305	1.26	380
RLL 125 - 300			3	25.1	0.75	188	0.90	226	1.05	264	1.20	301	1.52	382
RLL 125 - 350			3 1/2	21.3	0.88	187	1.05	223	1.23	261	1.40	298	1.83	389
RLL 125 - 400			4	18.3	1.00	184	1.20	220	1.41	257	1.61	294	2.09	383
RLL 125 - 450			4 1/2	16.6	1.13	188	1.36	225	1.58	263	1.81	300	2.36	392
RLL 125 - 500			5	14.3	1.25	179	1.50	214	1.75	250	2.00	286	2.63	375
RLL 125 - 550			5 1/2	13.1	1.38	181	1.65	217	1.92	252	2.20	290	2.83	371
RLL 125 - 600			6	12.3	1.50	184	1.80	221	2.09	258	2.39	294	3.09	380
RLL 125 - 700			7	10.4	1.75	182	2.10	219	2.45	255	2.80	292	3.72	387
RLL 125 - 800	8	9.0	2.00	181	2.40	216	2.80	253	3.20	289	4.22	381		
RLL 125 - 1000	10	7.1	2.50	179	3.00	214	3.50	250	4.00	286	5.37	384		
RLL 125 - 1200	0.27 x 0.13	12	5.9	3.00	177	3.60	212	4.20	248	4.80	283	6.41	377	
RLL 150 - 200	1 1/2	3/4	2	52.6	0.50	265	0.60	317	0.70	370	0.80	422	1.00	528
RLL 150 - 250			2 1/2	41.7	0.63	263	0.76	315	0.88	368	1.01	421	1.24	516
RLL 150 - 300			3	36.0	0.75	269	0.90	323	1.05	377	1.20	431	1.49	536
RLL 150 - 350			3 1/2	29.1	0.88	256	1.05	306	1.23	358	1.40	409	1.74	508
RLL 150 - 400			4	24.6	1.00	247	1.20	296	1.41	346	1.61	395	2.00	491
RLL 150 - 450			4 1/2	22.6	1.13	257	1.36	307	1.58	359	1.81	410	2.29	518
RLL 150 - 500			5	21.1	1.25	265	1.50	317	1.75	370	2.00	423	2.54	538
RLL 150 - 550			5 1/2	18.3	1.38	252	1.65	302	1.92	351	2.20	403	2.76	505
RLL 150 - 600			6	16.0	1.50	239	1.80	287	2.09	335	2.39	383	3.02	483
RLL 150 - 700			7	14.4	1.75	252	2.10	303	2.45	353	2.80	404	3.56	513
RLL 150 - 800			8	13.0	2.00	259	2.40	311	2.80	363	3.20	415	4.03	523
RLL 150 - 1000			10	9.7	2.50	243	3.00	291	3.50	340	4.00	389	5.07	493
RLL 150 - 1200	0.32 x 0.16	12	8.5	3.00	254	3.60	305	4.20	356	4.80	406	6.15	520	
RLL 200 - 250	2	1	2 1/2	89.2	0.63	562	0.76	674	0.88	787	1.01	899	1.22	1088
RLL 200 - 300			3	71.4	0.75	534	0.90	641	1.05	749	1.20	855	1.46	1046
RLL 200 - 350			3 1/2	62.3	0.88	547	1.05	655	1.23	764	1.40	873	1.72	1069
RLL 200 - 400			4	53.7	1.00	539	1.20	647	1.41	756	1.61	863	1.98	1064
RLL 200 - 450			4 1/2	46.3	1.13	525	1.36	629	1.58	734	1.81	838	2.29	1059
RLL 200 - 500			5	40.6	1.25	508	1.50	609	1.75	711	2.00	812	2.51	1018
RLL 200 - 550			5 1/2	38.0	1.38	524	1.65	628	1.92	728	2.20	838	2.74	1040
RLL 200 - 600			6	34.3	1.50	513	1.80	616	2.09	719	2.39	821	3.01	1033
RLL 200 - 700			7	29.7	1.75	521	2.10	625	2.45	729	2.80	833	3.62	1075
RLL 200 - 800			8	25.1	2.00	503	2.40	603	2.80	704	3.20	804	4.12	1037
RLL 200 - 1000			10	20.0	2.50	500	3.00	600	3.50	701	4.00	800	5.14	1028
RLL 200 - 1200			0.43 x 0.21	12	16.3	3.00	489	3.60	587	4.20	685	4.80	782	6.10
RLL 250 - 300	2 1/2	1 1/2	3	108.0	0.75	808	0.90	970	1.05	1132	1.20	1293	1.44	1552
RLL 250 - 350			3 1/2	90.3	0.88	793	1.05	949	1.23	1108	1.40	1266	1.71	1543
RLL 250 - 400			4	74.9	1.00	752	1.20	902	1.41	1053	1.61	1203	1.96	1465
RLL 250 - 450			4 1/2	66.3	1.13	752	1.36	900	1.58	1051	1.81	1201	2.19	1451
RLL 250 - 500			5	58.9	1.25	737	1.50	883	1.75	1031	2.00	1177	2.47	1453
RLL 250 - 600			6	48.2	1.50	721	1.80	865	2.09	1010	2.39	1153	3.04	1463
RLL 250 - 700			7	40.9	1.75	716	2.10	859	2.45	1003	2.80	1145	3.63	1483
RLL 250 - 800			8	35.3	2.00	705	2.40	846	2.80	987	3.20	1127	4.07	1437
RLL 250 - 1000	10	26.9	2.50	672	3.00	806	3.50	941	4.00	1074	5.13	1379		
RLL 250 - 1200	0.43 x 0.31	12	21.8	3.00	656	3.60	786	4.20	918	4.80	1049	6.20	1353	

**RLL**  
Inch.

- EN** Medium load springs  
Blue color
- ES** Muelles carga mediana  
Color azul marino



Code	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A 25% L <sub>0</sub>		B 30% L <sub>0</sub>		C 33.75% L <sub>0</sub>		D 37.5% L <sub>0</sub>		E approx. do not use	
					± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000	inch	lbs			
b x h					inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
inch		inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
RML 37 - 100	3/8	3/16	1	9.1	0.25	23	0.30	27	0.33	31	0.37	34	0.40	37
RML 37 - 125			1 1/4	7.4	0.31	23	0.38	28	0.43	32	0.47	35	0.56	42
RML 37 - 150			1 1/2	6.8	0.37	25	0.45	31	0.51	35	0.56	38	0.66	45
RML 37 - 175			1 3/4	5.9	0.43	25	0.52	31	0.59	35	0.65	38	0.76	45
RML 37 - 200			2	5.1	0.50	26	0.60	31	0.68	35	0.75	38	0.92	47
RML 37 - 250			2 1/2	4.3	0.63	27	0.76	32	0.86	37	0.94	41	1.11	48
RML 37 - 250			3	3.0	0.75	23	0.90	27	1.02	31	1.12	34	1.35	41
RML 37 - 1200	0.07 x 0.05		12	0.9	3.00	27	3.60	33	4.08	37	4.50	41	5.27	48
RML 50 - 100	1/2	9/32	1	17.1	0.25	43	0.30	51	0.33	57	0.37	63	0.47	80
RML 50 - 125			1 1/4	14.2	0.31	45	0.38	54	0.43	61	0.47	67	0.64	90
RML 50 - 150			1 1/2	12.2	0.37	46	0.45	55	0.51	62	0.56	69	0.74	90
RML 50 - 175			1 3/4	10.6	0.43	46	0.52	55	0.59	62	0.65	69	0.84	89
RML 50 - 200			2	8.9	0.50	45	0.60	53	0.68	61	0.75	67	1.01	89
RML 50 - 250			2 1/2	6.9	0.63	44	0.76	52	0.86	59	0.94	65	1.28	88
RML 50 - 300			3	5.8	0.75	44	0.90	52	1.02	59	1.12	65	1.54	90
RML 50 - 350			3 1/2	4.8	0.88	42	1.05	50	1.19	57	1.31	63	1.81	87
RML 50 - 400			4	3.6	1.00	36	1.20	43	1.37	49	1.51	54	2.06	74
RML 50 - 1200			0.1 x 0.06		12	1.2	3.00	36	3.60	43	4.08	49	4.50	54
RML 62 - 100	5/8	11/32	1	28.2	0.25	70	0.30	83	0.33	95	0.37	104	0.41	117
RML 62 - 125			1 1/4	21.2	0.31	67	0.38	80	0.43	91	0.47	100	0.52	110
RML 62 - 150			1 1/2	19.4	0.37	72	0.45	87	0.51	99	0.56	109	0.68	131
RML 62 - 175			1 3/4	17.1	0.43	74	0.52	89	0.59	101	0.65	111	0.76	131
RML 62 - 200			2	15.1	0.50	76	0.60	91	0.68	103	0.75	113	0.95	144
RML 62 - 250			2 1/2	11.7	0.63	74	0.76	89	0.86	100	0.94	111	1.15	135
RML 62 - 300			3	10.2	0.75	76	0.90	91	1.02	104	1.12	114	1.43	145
RML 62 - 350			3 1/2	8.7	0.88	76	1.05	91	1.19	104	1.31	114	1.64	143
RML 62 - 400			4	7.7	1.00	77	1.20	93	1.37	105	1.51	116	1.93	149
RML 62 - 450			4 1/2	6.7	1.13	77	1.36	92	1.54	104	1.70	115	2.09	141
RML 62 - 1200	0.12 x 0.08		12	2.7	3.00	82	3.60	99	4.08	112	4.50	124	5.57	153
RML 75 - 100	3/4	3/8	1	56.0	0.25	139	0.30	165	0.33	188	0.37	207	0.41	232
RML 75 - 125			1 1/4	41.5	0.31	131	0.38	157	0.43	178	0.47	196	0.55	227
RML 75 - 150			1 1/2	32.0	0.37	120	0.45	144	0.51	163	0.56	180	0.65	209
RML 75 - 175			1 3/4	27.1	0.43	118	0.52	141	0.59	160	0.65	176	0.74	201
RML 75 - 200			2	23.8	0.50	120	0.60	144	0.68	163	0.75	179	0.91	217
RML 75 - 250			2 1/2	18.5	0.63	116	0.76	140	0.86	158	0.94	174	1.08	200
RML 75 - 300			3	14.3	0.75	107	0.90	129	1.02	146	1.12	161	1.33	191
RML 75 - 350			3 1/2	12.6	0.88	110	1.05	132	1.19	150	1.31	165	1.56	196
RML 75 - 400			4	11.3	1.00	114	1.20	136	1.37	155	1.51	171	1.86	211
RML 75 - 450			4 1/2	10.3	1.13	117	1.36	140	1.54	159	1.70	176	2.07	214
RML 75 - 500	5	9.5	1.25	119	1.50	142	1.70	161	1.87	178	2.24	213		
RML 75 - 550	5 1/2	8.6	1.38	119	1.65	143	1.86	161	2.07	178	2.44	211		
RML 75 - 600	6	7.5	1.50	113	1.80	135	2.03	154	2.24	169	2.66	200		
RML 75 - 1200	0.16 x 0.09		12	3.5	3.00	105	3.60	126	4.08	142	4.50	157	5.65	197





Code	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A 25% L <sub>0</sub>	B 30% L <sub>0</sub>	C 33.75% L <sub>0</sub>	D 37.5% L <sub>0</sub>	E approx. do not use						
	b x h			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000							
	inch	inch	inch	lbs/0.1 in	inch lbs	inch lbs	inch lbs	inch lbs	inch lbs						
RML 100 - 100	1	1/2	1	84.0	0.25	208	0.30	248	0.33	281	0.37	311	0.40	337	
RML 100 - 125			1 1/4	67.4	0.31	212	0.38	255	0.43	289	0.47	319	0.54	364	
RML 100 - 150			1 1/2	53.1	0.37	199	0.45	239	0.51	271	0.56	299	0.62	329	
RML 100 - 175			1 3/4	46.2	0.43	200	0.52	240	0.59	272	0.65	300	0.72	331	
RML 100 - 200			2	39.2	0.50	198	0.60	236	0.68	268	0.75	295	0.85	335	
RML 100 - 250			2 1/2	30.3	0.63	191	0.76	229	0.86	260	0.94	286	1.02	310	
RML 100 - 300			3	24.7	0.75	185	0.90	222	1.02	251	1.12	277	1.27	314	
RML 100 - 350			3 1/2	21.8	0.88	192	1.05	230	1.19	260	1.31	287	1.50	327	
RML 100 - 400			4	18.9	1.00	189	1.20	227	1.37	258	1.51	284	1.69	319	
RML 100 - 450			4 1/2	16.0	1.13	181	1.36	217	1.54	247	1.70	272	1.91	306	
RML 100 - 500			5	14.8	1.25	185	1.50	222	1.70	252	1.87	277	2.11	313	
RML 100 - 550			5 1/2	13.3	1.38	183	1.65	219	1.86	247	2.07	274	2.34	310	
RML 100 - 600	6	11.9	1.50	178	1.80	213	2.03	242	2.24	267	2.51	299			
RML 100 - 700	7	10.2	1.75	178	2.10	214	2.38	243	2.63	268	3.02	307			
RML 100 - 800	8	9.0	2.00	181	2.40	216	2.72	246	3.00	270	3.48	314			
RML 100 - 1200	0.21 x 0.13	12	5.8	3.00	175	3.60	210	4.08	238	4.50	263	5.32	310		
RML 125 - 150	1 1/4	5/8	1 1/2	105.7	0.37	396	0.45	475	0.51	538	0.56	595	0.64	679	
RML 125 - 175			1 3/4	90.3	0.43	391	0.52	469	0.59	532	0.65	587	0.74	672	
RML 125 - 200			2	76.6	0.50	386	0.60	461	0.68	523	0.75	576	0.91	696	
RML 125 - 250			2 1/2	56.6	0.63	356	0.76	428	0.86	485	0.94	535	1.12	635	
RML 125 - 300			3	46.0	0.75	344	0.90	413	1.02	468	1.12	516	1.35	619	
RML 125 - 350			3 1/2	39.5	0.88	347	1.05	415	1.19	471	1.31	519	1.59	628	
RML 125 - 400			4	33.6	1.00	337	1.20	405	1.37	459	1.51	507	1.89	635	
RML 125 - 450			4 1/2	29.4	1.13	334	1.36	400	1.54	453	1.70	500	2.14	629	
RML 125 - 500			5	25.6	1.25	321	1.50	384	1.70	436	1.87	480	2.33	597	
RML 125 - 550			5 1/2	24.2	1.38	333	1.65	400	1.86	450	2.07	500	2.57	621	
RML 125 - 600			6	21.6	1.50	323	1.80	388	2.03	440	2.24	485	2.87	621	
RML 125 - 700			7	18.6	1.75	325	2.10	391	2.38	443	2.63	488	3.33	618	
RML 125 - 800	8	16.5	2.00	330	2.40	396	2.72	449	3.00	495	3.81	630			
RML 125 - 1000	10	12.2	2.50	306	3.00	367	3.40	416	3.75	459	4.76	582			
RML 125 - 1200	0.27 x 0.16	12	10.5	3.00	314	3.60	377	4.08	427	4.50	471	5.78	605		
RML 150 - 200	1 1/2	3/4	2	103.8	0.50	523	0.60	625	0.68	707	0.75	781	0.84	874	
RML 150 - 250			2 1/2	80.0	0.63	504	0.76	605	0.86	686	0.94	756	1.06	844	
RML 150 - 300			3	61.7	0.75	462	0.90	554	1.02	628	1.12	693	1.29	795	
RML 150 - 350			3 1/2	51.8	0.88	455	1.05	545	1.19	618	1.31	682	1.54	796	
RML 150 - 400			4	46.3	1.00	465	1.20	558	1.37	632	1.51	698	1.74	804	
RML 150 - 450			4 1/2	41.0	1.13	465	1.36	557	1.54	632	1.70	696	1.99	817	
RML 150 - 500			5	35.8	1.25	449	1.50	538	1.70	610	1.87	672	2.20	789	
RML 150 - 550			5 1/2	32.9	1.38	453	1.65	543	1.86	612	2.07	679	2.43	800	
RML 150 - 600			6	29.5	1.50	441	1.80	529	2.03	600	2.24	662	2.66	784	
RML 150 - 700			7	25.2	1.75	441	2.10	530	2.38	601	2.63	663	3.04	766	
RML 150 - 800			8	21.0	2.00	419	2.40	503	2.72	570	3.00	628	3.61	758	
RML 150 - 1000			10	17.2	2.50	430	3.00	516	3.40	585	3.75	646	4.44	763	
RML 150 - 1200	0.32 x 0.18	12	14.1	3.00	422	3.60	506	4.08	574	4.50	633	5.44	764		
RML 200 - 250	2	1	2 1/2	119.4	0.63	752	0.76	903	0.86	1024	0.94	1129	1.11	1326	
RML 200 - 300			3	96.0	0.75	718	0.90	862	1.02	977	1.12	1077	1.37	1319	
RML 200 - 350			3 1/2	80.0	0.88	702	1.05	841	1.19	954	1.31	1052	1.54	1235	
RML 200 - 400			4	68.0	1.00	683	1.20	819	1.37	929	1.51	1026	1.86	1267	
RML 200 - 450			4 1/2	60.6	1.13	687	1.36	823	1.54	933	1.70	1028	2.07	1255	
RML 200 - 500			5	55.4	1.25	694	1.50	832	1.70	943	1.87	1039	2.35	1305	
RML 200 - 550			5 1/2	49.7	1.38	685	1.65	822	1.86	926	2.07	1028	2.56	1274	
RML 200 - 600			6	45.7	1.50	684	1.80	821	2.03	931	2.24	1026	2.79	1274	
RML 200 - 700			7	39.7	1.75	696	2.10	835	2.38	947	2.63	1045	3.31	1317	
RML 200 - 800			8	34.2	2.00	684	2.40	819	2.72	929	3.00	1024	3.80	1298	
RML 200 - 900			9	29.1	2.26	656	2.70	787	3.07	892	3.38	984	4.27	1243	
RML 200 - 1000			10	25.1	2.50	627	3.00	753	3.40	854	3.75	941	4.80	1203	
RML 200 - 1200	0.44 x 0.23	12	22.1	3.00	663	3.60	795	4.08	901	4.50	994	5.78	1275		
RML 250 - 300	2 1/2	1 1/2	3	178.3	0.75	1334	0.90	1601	1.02	1815	1.12	2001	1.21	2155	
RML 250 - 350			3 1/2	148.6	0.88	1305	1.05	1562	1.19	1771	1.31	1954	1.44	2135	
RML 250 - 400			4	126.3	1.00	1268	1.20	1522	1.37	1726	1.51	1904	1.72	2168	
RML 250 - 450			4 1/2	106.9	1.13	1212	1.36	1452	1.54	1646	1.70	1814	1.93	2057	
RML 250 - 500			5	96.0	1.25	1202	1.50	1440	1.70	1633	1.87	1799	2.13	2049	
RML 250 - 600			6	77.7	1.50	1163	1.80	1395	2.03	1583	2.24	1744	2.59	2010	
RML 250 - 700			7	65.2	1.75	1141	2.10	1370	2.38	1553	2.63	1713	3.01	1962	
RML 250 - 800			8	57.2	2.00	1143	2.40	1370	2.72	1554	3.00	1712	3.46	1980	
RML 250 - 900			9	51.0	2.26	1150	2.70	1379	3.07	1564	3.38	1724	4.09	2085	
RML 250 - 1000			10	44.8	2.50	1120	3.00	1344	3.40	1524	3.75	1681	4.43	1983	
RML 250 - 1200			0.45 x 0.36	12	37.0	3.00	1111	3.60	1332	4.08	1511	4.50	1665	5.27	1948

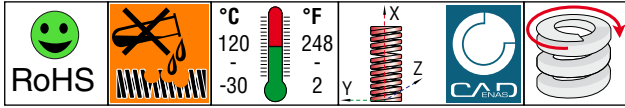
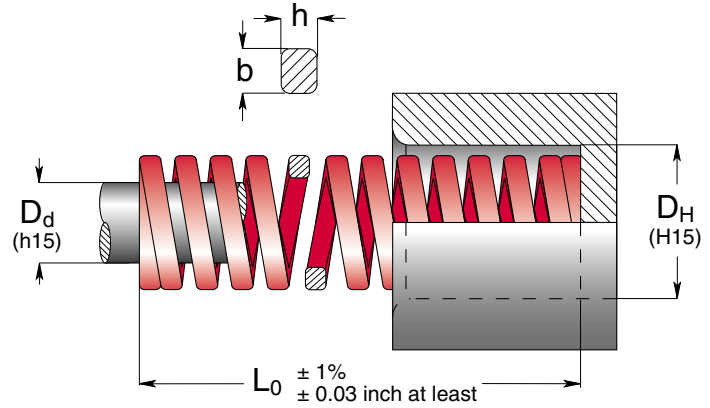
**RML**  
Inch.

**EN** Heavy load springs

Red color

**ES** Muelles carga fuerte

Color rojo



Code	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A		B		C		D		E	
					20% L <sub>0</sub>	25% L <sub>0</sub>	27.5% L <sub>0</sub>	30% L <sub>0</sub>	approx. do not use					
	b x h		± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000							
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
RHL 37 - 100	3/8	3/16	1	12.6	0.20	25	0.25	31	0.28	42	0.30	37	0.36	46
RHL 37 - 125			1 1/4	10.0	0.25	25	0.31	32	0.35	43	0.38	38	0.48	48
RHL 37 - 150			1 1/2	9.8	0.30	29	0.37	36	0.42	50	0.45	44	0.52	51
RHL 37 - 175			1 3/4	8.6	0.35	30	0.43	37	0.49	51	0.52	45	0.59	51
RHL 37 - 200			2	7.3	0.40	29	0.50	37	0.56	50	0.60	44	0.77	56
RHL 37 - 250			2 1/2	6.1	0.50	31	0.63	38	0.71	52	0.76	46	0.86	52
RHL 37 - 300			3	4.3	0.60	26	0.75	32	0.84	44	0.90	38	1.10	47
RHL 37 - 1200			0.07 x 0.06	12	1.2	2.40	29	3.00	36	3.36	49	3.60	43	5.01
RHL 50 - 100	1/2	9/32	1	24.1	0.20	47	0.25	60	0.28	81	0.30	71	0.39	93
RHL 50 - 125			1 1/4	19.0	0.25	48	0.31	60	0.35	81	0.38	72	0.54	102
RHL 50 - 150			1 1/2	16.7	0.30	50	0.37	63	0.42	85	0.45	75	0.57	96
RHL 50 - 175			1 3/4	14.1	0.35	49	0.43	61	0.49	83	0.52	73	0.71	100
RHL 50 - 200			2	11.2	0.40	45	0.50	56	0.56	77	0.60	68	0.88	98
RHL 50 - 250			2 1/2	8.6	0.50	43	0.63	54	0.71	73	0.76	65	1.07	92
RHL 50 - 300			3	7.5	0.60	45	0.75	56	0.84	77	0.90	68	1.30	98
RHL 50 - 350			3 1/2	6.5	0.70	46	0.88	57	0.98	78	1.05	68	1.53	100
RHL 50 - 400	4	4.8	0.80	38	1.00	48	1.12	66	1.20	58	1.72	83		
RHL 50 - 1200	0.09 x 0.07	12	1.6	2.40	38	3.00	48	3.36	65	3.60	58	5.50	88	
RHL 62 - 100	5/8	11/32	1	43.3	0.20	85	0.25	107	0.28	145	0.30	128	0.33	143
RHL 62 - 125			1 1/4	30.2	0.25	76	0.31	95	0.35	129	0.38	114	0.41	125
RHL 62 - 150			1 1/2	27.7	0.30	83	0.37	104	0.42	141	0.45	124	0.54	149
RHL 62 - 175			1 3/4	24.5	0.35	85	0.43	106	0.49	144	0.52	127	0.63	153
RHL 62 - 200			2	21.2	0.40	85	0.50	107	0.56	145	0.60	128	0.74	158
RHL 62 - 250			2 1/2	17.3	0.50	87	0.63	109	0.71	148	0.76	131	0.98	170
RHL 62 - 300			3	14.7	0.60	88	0.75	110	0.84	150	0.90	132	1.15	169
RHL 62 - 350			3 1/2	12.4	0.70	87	0.88	109	0.98	148	1.05	130	1.36	169
RHL 62 - 400	4	11.0	0.80	89	1.00	111	1.12	151	1.20	133	1.54	170		
RHL 62 - 450	4 1/2	9.0	0.91	81	1.13	102	1.27	138	1.36	122	1.73	155		
RHL 62 - 1200	0.12 x 0.1	12	4.1	2.40	97	3.00	122	3.36	166	3.60	146	4.08	166	
RHL 75 - 100	3/4	3/8	1	123.4	0.20	243	0.25	306	0.28	413	0.30	365	0.33	403
RHL 75 - 125			1 1/4	96.0	0.25	242	0.31	302	0.35	412	0.38	363	0.43	412
RHL 75 - 150			1 1/2	73.7	0.30	221	0.37	276	0.42	375	0.45	331	0.49	363
RHL 75 - 175			1 3/4	64.0	0.35	222	0.43	277	0.49	377	0.52	333	0.59	378
RHL 75 - 200			2	53.7	0.40	216	0.50	271	0.56	367	0.60	324	0.69	372
RHL 75 - 250			2 1/2	41.2	0.50	208	0.63	260	0.71	353	0.76	311	0.89	367
RHL 75 - 300			3	34.1	0.60	204	0.75	255	0.84	347	0.90	306	1.08	369
RHL 75 - 350			3 1/2	28.9	0.70	202	0.88	253	0.98	344	1.05	303	1.25	360
RHL 75 - 400	4	25.3	0.80	203	1.00	254	1.12	345	1.20	304	1.48	373		
RHL 75 - 450	4 1/2	21.9	0.91	199	1.13	249	1.27	338	1.36	298	1.68	368		
RHL 75 - 500	5	19.5	1.00	195	1.25	244	1.40	332	1.50	292	1.79	349		
RHL 75 - 550	5 1/2	17.7	1.10	195	1.38	244	1.53	330	1.65	293	1.97	349		
RHL 75 - 600	6	16.1	1.20	193	1.50	241	1.68	328	1.80	289	2.20	354		
RHL 75 - 1200	0.16 x 0.13	12	8.6	2.40	206	3.00	258	3.36	350	3.60	309	4.49	385	



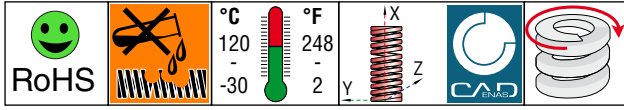
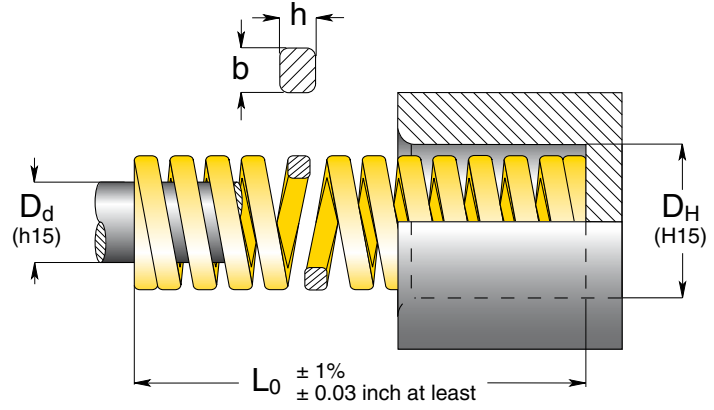
Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	D	E						
	Hole Diameter b x h	Rod Diameter	Free Length	Spring Constant ± 10%	20% L <sub>0</sub> + 3,000,000	25% L <sub>0</sub> ~ 1,500,000	27.5% L <sub>0</sub> 300 - 500,000	30% L <sub>0</sub> 100 - 200,000	approx. do not use						
	inch	inch	inch	lbs/0.1 in.	inch	inch	inch	inch	inch						
RHL 100 - 100	1	1/2	1	214.3	0.20	422	0.25	532	0.27	580	0.30	633	0.33	717	
RHL 100 - 125			1 1/4	169.7	0.25	428	0.31	535	0.35	588	0.38	641	0.43	735	
RHL 100 - 150			1 1/2	125.2	0.30	374	0.37	468	0.41	515	0.45	562	0.50	621	
RHL 100 - 175			1 3/4	106.9	0.35	370	0.43	463	0.48	509	0.52	555	0.58	623	
RHL 100 - 200			2	89.2	0.40	358	0.50	449	0.55	493	0.60	537	0.70	628	
RHL 100 - 250			2 1/2	70.3	0.50	354	0.63	443	0.69	487	0.76	531	0.91	639	
RHL 100 - 300			3	56.6	0.60	339	0.75	423	0.82	466	0.90	508	1.04	586	
RHL 100 - 350			3 1/2	48.0	0.70	336	0.88	421	0.96	463	1.05	505	1.20	576	
RHL 100 - 400			4	41.7	0.80	335	1.00	419	1.10	461	1.20	503	1.47	613	
RHL 100 - 450			4 1/2	37.1	0.91	336	1.13	421	1.25	463	1.36	505	1.65	613	
RHL 100 - 500			5	33.0	1.00	330	1.25	413	1.38	454	1.50	495	1.82	600	
RHL 100 - 550			5 1/2	30.1	1.10	332	1.38	415	1.50	454	1.65	498	1.94	585	
RHL 100 - 600			6	27.3	1.20	327	1.50	409	1.65	450	1.80	491	2.19	599	
RHL 100 - 700	7	23.4	1.40	329	1.75	411	1.93	452	2.10	493	2.56	601			
RHL 100 - 800	8	20.5	1.60	327	2.00	409	2.20	450	2.40	491	2.93	600			
RHL 100 - 1200	0.22 x 0.16	12	13.1	2.40	314	3.00	393	3.30	432	3.60	471	4.34	568		
RHL 125 - 150	1 1/4	5/8	1 1/2	221.7	0.30	664	0.37	829	0.41	913	0.45	995	0.49	1091	
RHL 125 - 175			1 3/4	185.2	0.35	641	0.43	802	0.48	883	0.52	962	0.59	1086	
RHL 125 - 200			2	155.4	0.40	624	0.50	783	0.55	859	0.60	936	0.70	1089	
RHL 125 - 250			2 1/2	121.2	0.50	611	0.63	763	0.69	840	0.76	916	0.88	1069	
RHL 125 - 300			3	98.3	0.60	588	0.75	735	0.82	809	0.90	882	1.03	1010	
RHL 125 - 350			3 1/2	80.6	0.70	565	0.88	707	0.96	777	1.05	847	1.21	977	
RHL 125 - 400			4	69.7	0.80	560	1.00	700	1.10	771	1.20	840	1.45	1010	
RHL 125 - 450			4 1/2	61.2	0.91	554	1.13	693	1.25	762	1.36	831	1.63	997	
RHL 125 - 500			5	53.1	1.00	531	1.25	665	1.38	731	1.50	797	1.75	929	
RHL 125 - 550			5 1/2	49.1	1.10	542	1.38	677	1.50	740	1.65	813	1.91	938	
RHL 125 - 600			6	44.6	1.20	533	1.50	667	1.65	734	1.80	800	2.16	962	
RHL 125 - 700			7	38.4	1.40	538	1.75	673	1.93	741	2.10	807	2.50	962	
RHL 125 - 800			8	33.8	1.60	540	2.00	675	2.20	743	2.40	810	2.85	964	
RHL 125 - 1000	10	26.5	2.00	530	2.50	663	2.75	730	3.00	796	3.65	969			
RHL 125 - 1200	0.28 x 0.21	12	21.7	2.40	522	3.00	652	3.30	718	3.60	782	4.40	956		
RHL 150 - 200	1 1/2	3/4	2	200.0	0.40	803	0.50	1008	0.55	1105	0.60	1205	0.67	1339	
RHL 150 - 250			2 1/2	153.7	0.50	775	0.63	968	0.69	1066	0.76	1162	0.86	1325	
RHL 150 - 300			3	125.2	0.60	749	0.75	936	0.82	1031	0.90	1123	1.05	1316	
RHL 150 - 350			3 1/2	108.6	0.70	761	0.88	953	0.96	1047	1.05	1141	1.23	1338	
RHL 150 - 400			4	93.2	0.80	748	1.00	935	1.10	1029	1.20	1122	1.46	1361	
RHL 150 - 450			4 1/2	81.2	0.91	735	1.13	920	1.25	1011	1.36	1102	1.61	1310	
RHL 150 - 500			5	73.2	1.00	731	1.25	916	1.38	1007	1.50	1097	1.83	1339	
RHL 150 - 550			5 1/2	65.7	1.10	725	1.38	906	1.50	990	1.65	1087	2.09	1374	
RHL 150 - 600			6	60.0	1.20	718	1.50	898	1.65	988	1.80	1077	2.21	1325	
RHL 150 - 700			7	50.9	1.40	713	1.75	891	1.93	981	2.10	1069	2.65	1350	
RHL 150 - 800			8	44.0	1.60	703	2.00	880	2.20	968	2.40	1055	3.00	1320	
RHL 150 - 1000			10	34.9	2.00	697	2.50	872	2.75	959	3.00	1046	3.79	1320	
RHL 150 - 1200			0.33 x 0.24	12	29.1	2.40	700	3.00	875	3.30	963	3.60	1050	4.52	1317
RHL 200 - 250	2	1	2 1/2	236.0	0.50	1189	0.63	1487	0.69	1637	0.76	1784	0.88	2081	
RHL 200 - 300			3	193.7	0.60	1159	0.75	1449	0.82	1595	0.90	1739	1.04	2021	
RHL 200 - 350			3 1/2	164.6	0.70	1153	0.88	1445	0.96	1587	1.05	1730	1.24	2041	
RHL 200 - 400			4	140.0	0.80	1125	1.00	1406	1.10	1547	1.20	1687	1.48	2073	
RHL 200 - 450			4 1/2	122.9	0.91	1113	1.13	1393	1.25	1531	1.36	1669	1.68	2066	
RHL 200 - 500			5	109.7	1.00	1097	1.25	1374	1.38	1510	1.50	1646	1.87	2052	
RHL 200 - 550			5 1/2	96.0	1.10	1058	1.38	1323	1.50	1446	1.65	1588	2.04	1958	
RHL 200 - 600			6	88.0	1.20	1053	1.50	1317	1.65	1449	1.80	1580	2.28	2003	
RHL 200 - 700			7	76.6	1.40	1073	1.75	1342	1.93	1477	2.10	1610	2.70	2065	
RHL 200 - 800			8	66.9	1.60	1069	2.00	1337	2.20	1471	2.40	1603	3.06	2043	
RHL 200 - 1000			10	50.9	2.00	1017	2.50	1272	2.75	1400	3.00	1526	3.85	1960	
RHL 200 - 1200			0.44 x 0.3	12	41.7	2.40	1002	3.00	1253	3.30	1379	3.60	1503	4.75	1982
RHL 250 - 300			2 1/2	1 1/2	3	353.2	0.60	2114	0.75	2642	0.82	2908	0.90	3170	0.97
RHL 250 - 350	3 1/2	294.3			0.70	2063	0.88	2584	0.96	2838	1.05	3094	1.18	3476	
RHL 250 - 400	4	250.3			0.80	2010	1.00	2513	1.10	2766	1.20	3016	1.38	3459	
RHL 250 - 450	4 1/2	211.5			0.91	1915	1.13	2398	1.25	2635	1.36	2872	1.48	3122	
RHL 250 - 500	5	190.3			1.00	1903	1.25	2383	1.38	2619	1.50	2855	1.81	3439	
RHL 250 - 600	6	153.7			1.20	1840	1.50	2300	1.65	2532	1.80	2760	2.22	3420	
RHL 250 - 700	7	129.2			1.40	1810	1.75	2263	1.93	2491	2.10	2715	2.63	3397	
RHL 250 - 800	8	113.2			1.60	1809	2.00	2263	2.20	2489	2.40	2713	3.10	3510	
RHL 250 - 1000	10	88.6			2.00	1772	2.50	2215	2.75	2438	3.00	2657	4.00	3547	
RHL 250 - 1200	0.46 x 0.48	12			73.2	2.40	1757	3.00	2197	3.30	2417	3.60	2635	4.82	3525

RHL  
Inch.

Estimated life 100,000 cycles

**EN** Extra-heavy load springs  
Yellow color

**ES** Muelles carga extra-fuerte  
Color amarillo



Code	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A		B		C		D		E	
					17% L <sub>0</sub>	20% L <sub>0</sub>	22.5% L <sub>0</sub>	25% L <sub>0</sub>	do not use	approx.				
	b x h		± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000							
	lbs	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
REL 37 - 100	3/8	3/16	1	21.0	0.17	36	0.20	41	0.22	47	0.25	52	0.30	64
REL 37 - 125			1 1/4	15.9	0.21	34	0.25	40	0.28	45	0.31	50	0.42	67
REL 37 - 150			1 1/2	13.5	0.26	35	0.30	41	0.34	46	0.37	51	0.50	67
REL 37 - 175			1 3/4	11.0	0.30	32	0.35	38	0.39	43	0.43	47	0.54	60
REL 37 - 200			2	9.4	0.34	32	0.40	38	0.45	43	0.50	47	0.64	60
REL 37 - 250			2 1/2	7.5	0.43	32	0.50	38	0.57	43	0.63	47	0.80	61
REL 37 - 300			3	6.2	0.51	32	0.60	37	0.67	42	0.75	47	0.99	62
REL 37 - 1200			0.07 x 0.06	12	1.5	2.04	30	2.40	36	2.70	40	3.00	45	4.36
REL 50 - 100	1/2	9/32	1	33.4	0.17	57	0.20	66	0.22	74	0.25	83	0.32	107
REL 50 - 125			1 1/4	25.1	0.21	53	0.25	63	0.28	71	0.31	79	0.39	98
REL 50 - 150			1 1/2	20.6	0.26	53	0.30	62	0.34	69	0.37	77	0.51	104
REL 50 - 175			1 3/4	17.3	0.30	51	0.35	60	0.39	68	0.43	75	0.56	96
REL 50 - 200			2	15.0	0.34	51	0.40	60	0.45	68	0.50	75	0.69	103
REL 50 - 250			2 1/2	12.1	0.43	52	0.50	61	0.57	69	0.63	76	0.83	100
REL 50 - 300			3	9.8	0.51	50	0.60	59	0.67	66	0.75	73	1.04	101
REL 50 - 350			3 1/2	8.3	0.59	49	0.70	58	0.79	65	0.88	73	1.24	103
REL 50 - 400	4	7.3	0.68	50	0.80	58	0.90	66	1.00	73	1.42	103		
REL 50 - 1200	0.10 x 0.08	12	2.5	2.04	50	2.40	59	2.70	66	3.00	74	4.38	108	
REL 62 - 100	5/8	11/32	1	67.4	0.17	114	0.20	133	0.22	149	0.25	167	0.33	226
REL 62 - 125			1 1/4	50.9	0.21	108	0.25	128	0.28	144	0.31	160	0.43	220
REL 62 - 150			1 1/2	41.2	0.26	106	0.30	123	0.34	139	0.37	154	0.52	214
REL 62 - 175			1 3/4	34.8	0.30	103	0.35	121	0.39	136	0.43	151	0.58	201
REL 62 - 200			2	29.9	0.34	102	0.40	120	0.45	135	0.50	151	0.70	208
REL 62 - 250			2 1/2	23.5	0.43	101	0.50	119	0.57	134	0.63	148	0.86	203
REL 62 - 300			3	19.5	0.51	99	0.60	117	0.67	131	0.75	146	1.09	213
REL 62 - 350			3 1/2	16.9	0.59	100	0.70	118	0.79	133	0.88	148	1.23	207
REL 62 - 400	4	14.6	0.68	100	0.80	117	0.90	132	1.00	147	1.49	218		
REL 62 - 450	4 1/2	12.8	0.77	99	0.91	116	1.02	131	1.13	145	1.75	224		
REL 62 - 1200	0.12 x 0.11	12	4.8	2.04	98	2.40	115	2.70	130	3.00	144	4.47	214	
REL 75 - 100	3/4	3/8	1	167.4	0.17	284	0.20	330	0.22	371	0.25	415	0.27	455
REL 75 - 125			1 1/4	128.0	0.21	272	0.25	323	0.28	363	0.31	403	0.37	474
REL 75 - 150			1 1/2	101.2	0.26	259	0.30	303	0.34	341	0.37	378	0.47	478
REL 75 - 175			1 3/4	85.2	0.30	252	0.35	295	0.39	332	0.43	369	0.53	453
REL 75 - 200			2	73.2	0.34	251	0.40	294	0.45	331	0.50	369	0.64	467
REL 75 - 250			2 1/2	56.6	0.43	243	0.50	285	0.57	321	0.63	356	0.83	472
REL 75 - 300			3	46.7	0.51	237	0.60	279	0.67	315	0.75	349	0.97	454
REL 75 - 350			3 1/2	39.7	0.59	236	0.70	278	0.79	313	0.88	349	1.13	450
REL 75 - 400	4	34.6	0.68	236	0.80	278	0.90	313	1.00	348	1.37	475		
REL 75 - 450	4 1/2	30.3	0.77	234	0.91	274	1.02	309	1.13	343	1.54	465		
REL 75 - 500	5	27.1	0.85	231	1.00	272	1.13	306	1.25	340	1.69	460		
REL 75 - 550	5 1/2	24.6	0.94	230	1.10	271	1.23	303	1.38	339	1.78	438		
REL 75 - 600	6	22.3	1.02	226	1.20	267	1.35	300	1.50	333	1.98	442		
REL 75 - 1200	0.16 x 0.15	12	12.1	2.04	248	2.40	291	2.70	328	3.00	364	4.07	494	



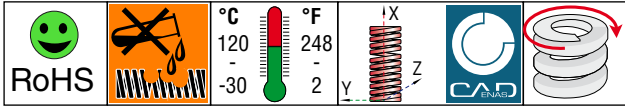
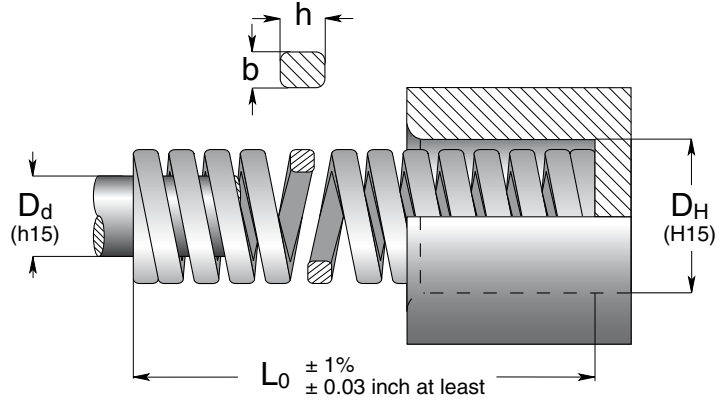


Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	D	E						
	Hole Diameter b x h	Rod Diameter	Free Length	Spring Constant ± 10%	17% L <sub>0</sub> + 3,000,000	20% L <sub>0</sub> ~ 1,500,000	22.5% L <sub>0</sub> 300 - 500,000	25% L <sub>0</sub> 100 - 200,000	! approx. do not use						
	lbs	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs					
REL 100 - 100	1	1/2	1	262.3	0.17	444	0.20	516	0.22	581	0.25	651	0.29	754	
REL 100 - 125			1 1/4	214.0	0.21	455	0.25	539	0.28	607	0.31	674	0.42	901	
REL 100 - 150			1 1/2	197.7	0.26	506	0.30	592	0.34	666	0.37	740	0.47	934	
REL 100 - 175			1 3/4	139.4	0.30	412	0.35	483	0.39	544	0.43	604	0.57	791	
REL 100 - 200			2	118.6	0.34	406	0.40	476	0.45	536	0.50	598	0.69	812	
REL 100 - 250			2 1/2	92.0	0.43	395	0.50	464	0.57	522	0.63	580	0.84	775	
REL 100 - 300			3	74.8	0.51	380	0.60	447	0.67	504	0.75	559	1.06	792	
REL 100 - 350			3 1/2	63.2	0.59	376	0.70	443	0.79	498	0.88	554	1.22	768	
REL 100 - 400			4	55.0	0.68	375	0.80	442	0.90	498	1.00	553	1.44	795	
REL 100 - 450			4 1/2	49.0	0.77	378	0.91	443	1.02	499	1.13	555	1.59	777	
REL 100 - 500			5	43.6	0.85	371	1.00	436	1.13	491	1.25	546	1.78	774	
REL 100 - 550			5 1/2	39.4	0.94	369	1.10	434	1.23	485	1.38	543	1.87	738	
REL 100 - 600	6	36.3	1.02	369	1.20	434	1.35	489	1.50	543	2.11	764			
REL 100 - 700	7	30.8	1.19	367	1.40	432	1.58	486	1.75	540	2.52	775			
REL 100 - 800	8	26.9	1.36	365	1.60	429	1.80	483	2.00	537	2.76	742			
REL 100 - 1200	0.21 x 0.18	12	17.7	2.04	361	2.40	424	2.70	477	3.00	531	4.33	765		
REL 125 - 150	1 1/4	5/8	1 1/2	301.9	0.26	772	0.30	903	0.34	1017	0.37	1129	0.45	1355	
REL 125 - 175			1 3/4	242.5	0.30	716	0.35	840	0.39	946	0.43	1050	0.54	1308	
REL 125 - 200			2	201.7	0.34	691	0.40	810	0.45	912	0.50	1017	0.61	1239	
REL 125 - 250			2 1/2	153.8	0.43	660	0.50	775	0.57	873	0.63	969	0.79	1211	
REL 125 - 300			3	124.9	0.51	634	0.60	747	0.67	841	0.75	934	0.96	1199	
REL 125 - 350			3 1/2	103.0	0.59	613	0.70	722	0.79	813	0.88	905	1.17	1205	
REL 125 - 400			4	88.6	0.68	603	0.80	711	0.90	801	1.00	889	1.38	1224	
REL 125 - 450			4 1/2	80.0	0.77	617	0.91	725	1.02	816	1.13	907	1.54	1229	
REL 125 - 500			5	70.9	0.85	603	1.00	709	1.13	798	1.25	887	1.69	1194	
REL 125 - 550			5 1/2	64.2	0.94	601	1.10	707	1.23	791	1.38	884	1.91	1228	
REL 125 - 600			6	58.3	1.02	592	1.20	698	1.35	785	1.50	872	2.06	1203	
REL 125 - 700			7	50.4	1.19	601	1.40	707	1.58	795	1.75	883	2.40	1208	
REL 125 - 800	8	43.4	1.36	590	1.60	694	1.80	782	2.00	869	2.72	1183			
REL 125 - 1000	10	34.7	1.70	591	2.00	695	2.25	782	2.50	869	3.47	1205			
REL 125 - 1200	0.29 x 0.23	12	28.0	2.04	572	2.40	673	2.70	757	3.00	841	4.10	1149		
REL 150 - 200	1 1/2	3/4	2	358.9	0.34	1229	0.40	1441	0.45	1623	0.50	1809	0.59	2120	
REL 150 - 250			2 1/2	278.3	0.43	1194	0.50	1403	0.57	1579	0.63	1753	0.77	2137	
REL 150 - 300			3	216.6	0.51	1100	0.60	1296	0.67	1459	0.75	1620	0.92	1987	
REL 150 - 350			3 1/2	183.5	0.59	1091	0.70	1286	0.79	1447	0.88	1611	1.05	1928	
REL 150 - 400			4	160.6	0.68	1094	0.80	1290	0.90	1452	1.00	1612	1.33	2137	
REL 150 - 450			4 1/2	140.0	0.77	1080	0.91	1268	1.02	1427	1.13	1588	1.43	1996	
REL 150 - 500			5	126.3	0.85	1074	1.00	1263	1.13	1422	1.25	1581	1.60	2024	
REL 150 - 550			5 1/2	108.6	0.94	1017	1.10	1197	1.23	1338	1.38	1496	1.75	1902	
REL 150 - 600			6	96.0	1.02	975	1.20	1149	1.35	1294	1.50	1436	1.95	1875	
REL 150 - 700			7	83.4	1.19	995	1.40	1170	1.58	1317	1.75	1462	2.36	1968	
REL 150 - 800			8	75.4	1.36	1025	1.60	1206	1.80	1357	2.00	1509	2.64	1993	
REL 150 - 1000			10	61.2	1.70	1040	2.00	1223	2.25	1377	2.50	1529	3.40	2078	
REL 150 - 1200	0.33 x 0.29	12	50.2	2.04	1025	2.40	1205	2.70	1357	3.00	1507	4.08	2047		
REL 200 - 250	2	1	2 1/2	405.2	0.43	1739	0.50	2042	0.57	2299	0.63	2552	0.76	3079	
REL 200 - 300			3	326.9	0.51	1660	0.60	1956	0.67	2202	0.75	2445	0.95	3114	
REL 200 - 350			3 1/2	271.5	0.59	1614	0.70	1902	0.79	2142	0.88	2383	1.10	2993	
REL 200 - 400			4	231.5	0.68	1577	0.80	1859	0.90	2093	1.00	2324	1.32	3053	
REL 200 - 450			4 1/2	201.2	0.77	1552	0.91	1822	1.02	2051	1.13	2281	1.52	3057	
REL 200 - 500			5	180.6	0.85	1536	1.00	1806	1.13	2033	1.25	2261	1.63	2943	
REL 200 - 550			5 1/2	156.6	0.94	1467	1.10	1726	1.23	1929	1.38	2158	1.86	2916	
REL 200 - 600			6	136.6	1.02	1387	1.20	1635	1.35	1840	1.50	2043	1.98	2700	
REL 200 - 700			7	122.9	1.19	1466	1.40	1722	1.58	1939	1.75	2153	2.41	2956	
REL 200 - 800			8	106.9	1.36	1452	1.60	1708	1.80	1923	2.00	2138	2.67	2849	
REL 200 - 1000			10	87.4	1.70	1487	2.00	1749	2.25	1969	2.50	2186	3.43	2995	
REL 200 - 1200			0.45 x 0.35	12	72.6	2.04	1483	2.40	1743	2.70	1962	3.00	2180	4.07	2955
REL 250 - 300	2 1/2	1 1/2	3	544.1	0.51	3048	0.60	3591	0.67	3665	0.75	4489	0.83	4961	
REL 250 - 350			3 1/2	468.1	0.59	2973	0.70	3504	0.79	3693	0.88	4390	1.01	5040	
REL 250 - 400			4	400.1	0.68	2896	0.80	3415	0.90	3617	1.00	4269	1.21	5139	
REL 250 - 450			4 1/2	354.3	0.77	2778	0.91	3260	1.02	3612	1.13	4082	1.37	4947	
REL 250 - 500			5	322.9	0.85	2746	1.00	3229	1.13	3635	1.25	4043	1.50	4831	
REL 250 - 600			6	261.7	1.02	2659	1.20	3133	1.35	3527	1.50	3916	1.86	4864	
REL 250 - 700			7	219.5	1.19	2618	1.40	3076	1.58	3463	1.75	3845	2.20	4821	
REL 250 - 800			8	192.6	1.36	2616	1.60	3078	1.80	3466	2.00	3852	2.55	4914	
REL 250 - 1000			10	150.3	1.70	2556	2.00	3006	2.25	3384	2.50	3758	3.41	5130	
REL 250 - 1200			0.46 x 0.59	12	124.6	2.04	2546	2.40	2992	2.70	3368	3.00	3742	4.16	5185

REL  
Inch.

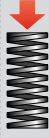




Estimated life 100,000 cycles

- EN** Ultra-heavy load springs  
Silver color
- ES** Muelles carga ultra-fuerte  
Color plateado



Code	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A		B		C		D		E	
					10% L <sub>0</sub>	12% L <sub>0</sub>	13.5% L <sub>0</sub>	15% L <sub>0</sub>	approx. do not use					
	b x h			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000						
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
RUL 37 - 100	3/8	3/16	1	95.4	0.10	94	0.12	113	0.13	128	0.15	143	0.23	222
RUL 37 - 125			1 1/4	74.2	0.13	94	0.15	111	0.17	126	0.19	140	0.30	219
RUL 37 - 150			1 1/2	60.0	0.15	90	0.18	109	0.20	120	0.22	135	0.32	194
RUL 37 - 175			1 3/4	49.1	0.17	85	0.21	102	0.23	114	0.26	128	0.43	213
RUL 37 - 200			2	45.1	0.20	91	0.24	108	0.27	123	0.30	137	0.49	222
RUL 37 - 250			2 1/2	35.4	0.25	89	0.30	107	0.34	120	0.38	134	0.62	220
RUL 37 - 300			3	29.1	0.30	87	0.36	104	0.41	118	0.45	131	0.75	218
RUL 37 - 1200	0.08 x 0.11		12	6.6	1.20	79	1.44	95	1.62	107	1.80	118	3.50	230
RUL 50 - 100	1/2	9/32	1	164.5	0.10	162	0.12	194	0.13	220	0.15	246	0.22	363
RUL 50 - 125			1 1/4	123.3	0.13	155	0.15	185	0.17	209	0.19	233	0.29	354
RUL 50 - 150			1 1/2	100.5	0.15	150	0.18	182	0.20	202	0.22	226	0.36	364
RUL 50 - 175			1 3/4	85.1	0.17	147	0.21	178	0.23	198	0.26	221	0.44	372
RUL 50 - 200			2	73.1	0.20	147	0.24	176	0.27	199	0.30	222	0.50	363
RUL 50 - 250			2 1/2	57.1	0.25	144	0.30	173	0.34	193	0.38	216	0.63	362
RUL 50 - 300			3	48.0	0.30	144	0.36	172	0.41	195	0.45	215	0.76	364
RUL 50 - 350			3 1/2	40.5	0.35	142	0.42	171	0.47	192	0.53	214	0.92	372
RUL 50 - 400			4	34.8	0.40	140	0.48	167	0.54	189	0.60	210	1.06	369
RUL 50 - 1200			0.11 x 0.13		12	12.6	1.20	151	1.44	181	1.62	204	1.80	227
RUL 62 - 125	5/8	11/32	1 1/4	256.4	0.13	323	0.15	384	0.17	434	0.19	485	0.26	666
RUL 62 - 150			1 1/2	207.3	0.15	310	0.18	375	0.20	416	0.22	465	0.32	661
RUL 62 - 175			1 3/4	176.4	0.17	306	0.21	368	0.23	410	0.26	458	0.40	702
RUL 62 - 200			2	146.2	0.20	294	0.24	351	0.27	397	0.30	443	0.44	650
RUL 62 - 250			2 1/2	115.9	0.25	292	0.30	351	0.34	392	0.38	438	0.56	653
RUL 62 - 300			3	94.8	0.30	284	0.36	340	0.41	384	0.45	425	0.71	672
RUL 62 - 350			3 1/2	79.4	0.35	278	0.42	334	0.47	375	0.53	419	0.81	641
RUL 62 - 400			4	65.1	0.40	261	0.48	313	0.54	354	0.60	392	0.96	623
RUL 62 - 450			4 1/2	60.0	0.45	271	0.54	326	0.61	366	0.68	408	1.06	637
RUL 62 - 500			5	53.7	0.50	268	0.60	321	0.67	361	0.75	404	1.24	666
RUL 62 - 600	6	44.5	0.60	267	0.72	319	0.81	359	0.90	400	1.50	666		
RUL 62 - 1200	0.14 x 0.19		12	22.2	1.20	266	1.44	319	1.62	359	1.80	399	3.04	673
RUL 75 - 175	3/4	3/8	1 3/4	258.1	0.17	447	0.21	539	0.23	600	0.26	671	0.35	904
RUL 75 - 200			2	215.8	0.20	433	0.24	518	0.27	586	0.30	654	0.42	901
RUL 75 - 250			2 1/2	171.9	0.25	433	0.30	521	0.34	582	0.38	650	0.54	934
RUL 75 - 300			3	141.0	0.30	422	0.36	505	0.41	572	0.45	633	0.64	900
RUL 75 - 350			3 1/2	118.8	0.35	416	0.42	500	0.47	561	0.53	627	0.79	940
RUL 75 - 400			4	107.4	0.40	431	0.48	516	0.54	583	0.60	647	0.88	942
RUL 75 - 450			4 1/2	90.8	0.45	411	0.54	493	0.61	554	0.68	618	1.00	911
RUL 75 - 500			5	83.4	0.50	417	0.60	499	0.67	561	0.75	627	1.10	916
RUL 75 - 600			6	68.5	0.60	410	0.72	491	0.81	553	0.90	615	1.34	920
RUL 75 - 1200			0.16 x 0.24		12	34.3	1.20	411	1.44	494	1.62	556	1.80	618

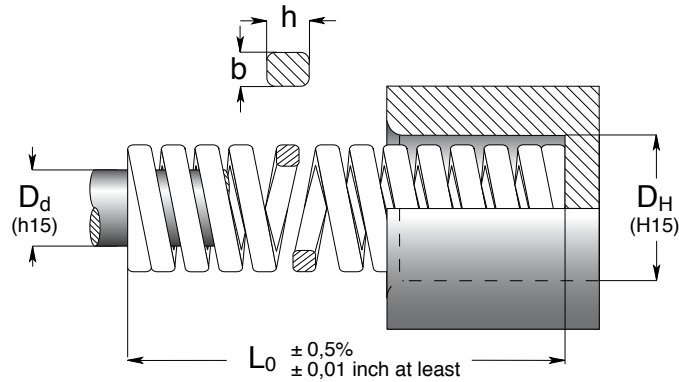
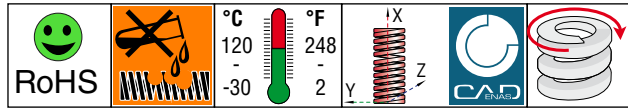


Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	 A 10% L <sub>0</sub>	 B 12% L <sub>0</sub>	 C 13.5% L <sub>0</sub>	 D 15% L <sub>0</sub>	 E approx. do not use					
	Hole Diameter	Rod Diameter	Free Length	Spring Constant										
	b x h inch	inch	inch	± 10% lbs/0.1 in.						+ 3,000,000 inch	~ 1,500,000 lbs	300 - 500,000 inch	100 - 200,000 lbs	inch
RUL 100 - 175	1	1/2	1 3/4	661.2	0.17	1124	0.21	1388	0.23	1520	0.26	1719	0.39	2578
RUL 100 - 200			2	532.8	0.20	1065	0.24	1278	0.27	1438	0.30	1598	0.43	2291
RUL 100 - 250			2 1/2	368.0	0.25	927	0.30	1116	0.34	1253	0.38	1391	0.51	1884
RUL 100 - 300			3	317.8	0.30	951	0.36	1139	0.40	1284	0.45	1426	0.63	2002
RUL 100 - 350			3 1/2	264.0	0.35	925	0.42	1112	0.47	1250	0.53	1388	0.79	2079
RUL 100 - 400			4	222.9	0.40	895	0.48	1071	0.54	1209	0.60	1343	0.91	2018
RUL 100 - 450			4 1/2	205.7	0.45	932	0.54	1118	0.61	1258	0.68	1397	1.02	2106
RUL 100 - 500			5	186.3	0.50	932	0.60	1115	0.68	1258	0.75	1397	1.10	2054
RUL 100 - 600			6	145.7	0.60	872	0.72	1044	0.81	1178	0.90	1308	1.34	1951
RUL 100 - 700			7	131.4	0.70	921	0.84	1107	0.95	1244	1.05	1382	1.54	2018
RUL 100 - 800			8	115.4	0.80	923	0.96	1109	1.08	1246	1.20	1384	1.77	2045
RUL 100 - 1200			12	77.7	1.20	933	1.44	1120	1.62	1261	1.80	1400	2.48	1928
RUL 125 - 175	1 1/4	5/8	1 3/4	742.3	0.17	1261	0.21	1558	0.23	1707	0.26	1929	0.37	2746
RUL 125 - 200			2	656.7	0.20	1313	0.24	1576	0.27	1773	0.30	1970	0.41	2692
RUL 125 - 250			2 1/2	615.5	0.25	1551	0.30	1861	0.34	2095	0.38	2326	0.51	3150
RUL 125 - 300			3	499.5	0.30	1494	0.36	1793	0.40	2019	0.45	2242	0.63	3146
RUL 125 - 350			3 1/2	412.1	0.35	1444	0.43	1733	0.47	1950	0.53	2166	0.79	3245
RUL 125 - 400			4	354.3	0.39	1423	0.47	1708	0.54	1922	0.60	2134	0.91	3209
RUL 125 - 450			4 1/2	320.0	0.47	1449	0.55	1739	0.61	1958	0.68	2174	1.02	3276
RUL 125 - 500			5	283.5	0.51	1417	0.59	1701	0.68	1915	0.75	2126	1.10	3125
RUL 125 - 600			6	233.2	0.59	1395	0.71	1674	0.81	1885	0.90	2093	1.34	3121
RUL 125 - 700			7	201.7	0.71	1413	0.83	1696	0.95	1910	1.05	2120	1.54	3096
RUL 125 - 800			8	173.7	0.79	1388	0.94	1666	1.08	1876	1.20	2083	1.77	3078
RUL 125 - 1000			10	138.9	0.98	1390	1.18	1668	1.35	1876	1.50	2085	2.44	3393
RUL 125 - 1200	12	112.0	1.22	1345	1.46	1614	1.62	1817	1.80	2018	2.95	3308		
RUL 150 - 250	1 1/2	3/4	2 1/2	644.1	0.25	1610	0.30	1932	0.34	2189	0.38	2447	0.47	3027
RUL 150 - 300			3	580.7	0.30	1742	0.36	2090	0.40	2322	0.45	2613	0.57	3309
RUL 150 - 350			3 1/2	502.9	0.35	1762	0.42	2119	0.47	2381	0.53	2643	0.79	3960
RUL 150 - 400			4	435.5	0.40	1749	0.48	2092	0.54	2363	0.60	2623	0.91	3943
RUL 150 - 450			4 1/2	388.0	0.45	1757	0.54	2108	0.61	2373	0.68	2635	1.02	3972
RUL 150 - 500			5	355.5	0.50	1777	0.60	2127	0.68	2401	0.75	2666	1.10	3919
RUL 150 - 600			6	290.9	0.90	1741	0.72	2084	0.81	2352	0.90	2611	1.42	4123
RUL 150 - 700			7	245.2	0.70	1718	0.84	2066	0.95	2321	1.05	2577	1.69	4151
RUL 150 - 800			8	213.7	0.80	1708	0.96	2053	1.08	2308	1.20	2562	1.93	4123
RUL 150 - 1000			10	169.2	1.00	1692	1.20	2031	1.35	2285	1.50	2538	2.44	4129
RUL 150 - 1200			12	140.6	1.20	1694	1.44	2026	1.62	2281	1.80	2532	2.95	4151
RUL 200 - 250	2	1	2 1/2	1130.6	0.25	2825	0.30	3390	0.34	3842	0.38	4294	0.53	5989
RUL 200 - 300			3	1034.1	0.30	3102	0.36	3722	0.40	4136	0.45	4653	0.64	6617
RUL 200 - 350			3 1/2	805.8	0.35	2824	0.42	3395	0.47	3814	0.53	4235	0.75	6028
RUL 200 - 400			4	694.4	0.40	2788	0.48	3335	0.54	3767	0.60	4183	0.87	6014
RUL 200 - 450			4 1/2	614.9	0.45	2784	0.54	3341	0.61	3761	0.68	4176	0.98	6053
RUL 200 - 500			5	553.2	0.50	2766	0.60	3311	0.68	3737	0.75	4149	1.10	6098
RUL 200 - 600			6	460.6	0.60	2756	0.72	3301	0.81	3724	0.90	4135	1.34	6166
RUL 200 - 700			7	398.9	0.70	2795	0.84	3361	0.95	3777	1.05	4193	1.57	6282
RUL 200 - 800			8	349.8	0.80	2795	0.96	3360	1.08	3776	1.20	4193	1.77	6197
RUL 200 - 1000			10	269.7	1.00	2698	1.20	3239	1.35	3644	1.50	4046	2.28	6160
RUL 200 - 1200			12	221.7	1.20	2663	1.44	3195	1.62	3597	1.80	3994	2.76	6111
RUL 250 - 300	2 1/2	1 1/2	3	1084.9	0.30	3255	0.36	3906	0.41	4448	0.45	4882	13	5553
RUL 250 - 350			3 1/2	866.2	0.35	3032	0.42	3638	0.47	4071	0.53	4591	20	6821
RUL 250 - 400			4	739.5	0.40	2958	0.48	3549	0.54	3993	0.60	4437	23	6696
RUL 250 - 450			4 1/2	611.0	0.45	2749	0.54	3299	0.61	3727	0.68	4155	27	6495
RUL 250 - 500			5	559.0	0.50	2795	0.60	3354	0.68	3801	0.75	4193	30	6603
RUL 250 - 600			6	442.5	0.60	2655	0.72	3186	0.81	3585	0.90	3983	35	6098
RUL 250 - 700			7	359.7	0.70	2518	0.84	3022	0.94	3382	1.05	3777	44	6232
RUL 250 - 800			8	311.8	0.80	2494	0.96	2993	1.08	3367	1.20	3741	48	5892
RUL 250 - 1000			10	241.5	1.00	2415	1.20	2898	1.35	3261	1.50	3623	62	5896
RUL 250 - 1200			12	199.3	1.20	2391	1.44	2870	1.62	3228	1.80	3587	77	6041

**RUL**  
Inch.

**EN** Hyper-strong  
White color

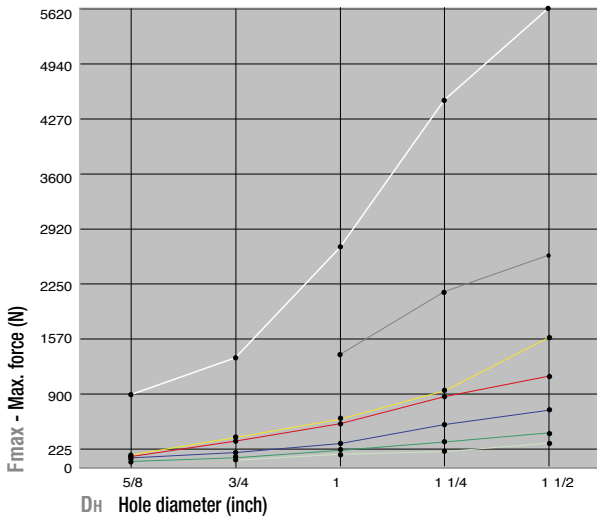
**ES** Hyper-fuerte  
color blanco



Code	D <sub>H</sub> D <sub>d</sub>		L <sub>0</sub>	R	F <sub>max</sub>	F <sub>max</sub>	EN	
	Hole Diameter	Rod Diameter					inch	lbs
	b x h			± 10%			do not use	
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs
RWL 62 - 079	5/8	9/32	0.79	1035	0.09	900	0.12	1242
RWL 62 - 138			1.38	569	0.16		0.22	1252
RWL 62 - 197			1.97	350	0.26		0.31	1085
RWL 62 - 295			2.95	228	0.39		0.49	1117
RWL 62 - 394			3.94	163	0.55		0.64	1043
	0.18 x 0.20							
RWL 75 - 098	3/4	11/32	0.98	1367	0.10	1350	0.13	1777
RWL 75 - 157			1.57	759	0.18		0.23	1746
RWL 75 - 197			1.97	569	0.24		0.31	1764
RWL 75 - 295			2.95	342	0.39		0.49	1676
RWL 75 - 394			3.94	244	0.55		0.65	1586
	0.20 x 0.26							
RWL 100 - 118	1	3/8	1.18	2733	0.10	2700	0.12	3280
RWL 100 - 197			1.97	1367	0.20		0.23	3144
RWL 100 - 295			2.95	854	0.31		0.37	3160
RWL 100 - 394			3.94	569	0.47		0.58	3300
RWL 100 - 492			4.92	488	0.55		0.67	3270
	0.27 x 0.36							
RWL 125 - 138	1 1/4	1/2	1.38	3797	0.12	4500	0.15	5696
RWL 125 - 197			1.97	2071	0.22		0.25	5178
RWL 125 - 295			2.95	1265	0.35		0.44	5566
RWL 125 - 394			3.94	876	0.51		0.59	5168
RWL 125 - 492			4.92	712	0.63		0.72	5126
RWL 125 - 591	5.91	600	0.75	0.85	5100			
	0.36 x 0.42							
RWL 150 - 157	1 1/2	5/8	1.57	4068	0.14	5620	0.18	7322
RWL 150 - 197			1.97	2847	0.20		0.23	6548
RWL 150 - 295			2.95	1582	0.35		0.41	6486
RWL 150 - 394			3.94	1095	0.51		0.59	6461
RWL 150 - 591			5.91	749	0.75		0.88	6591
RWL 150 - 787	7.87	527	1.06	1.18	6219			
	0.41 x 0.50							

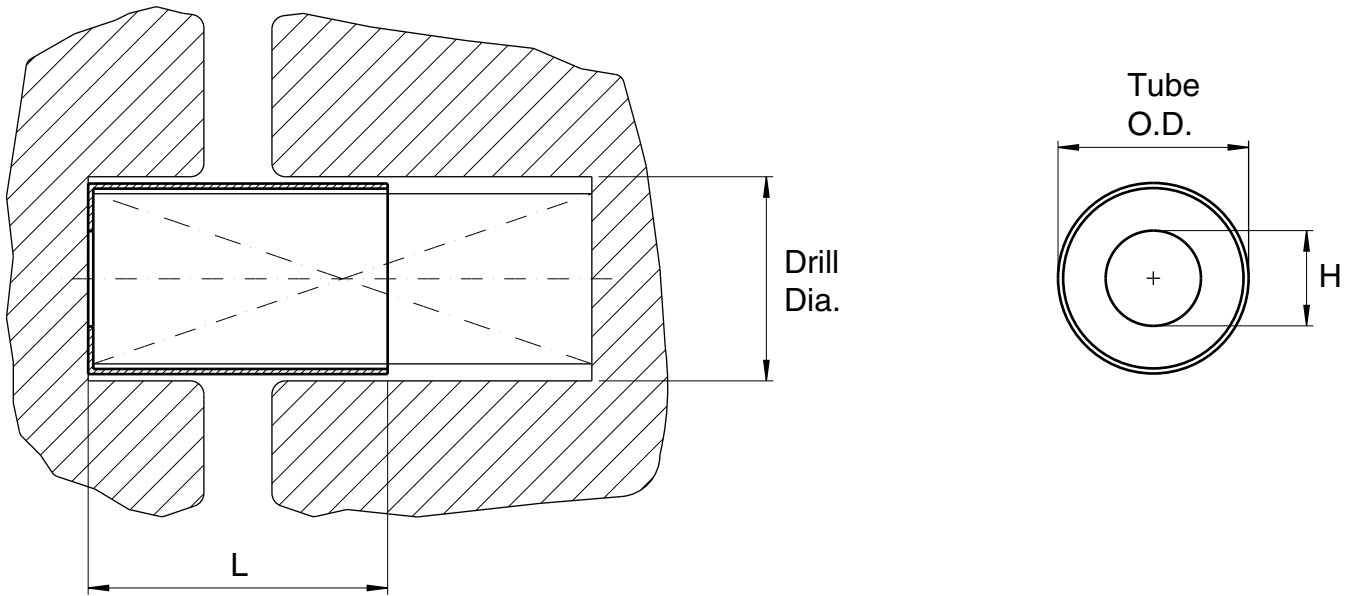
**EN** Features that are unparalleled on the market thanks to the superior Special Springs production technology. **MAXIMUM FORCE UP TO 6 TIMES THE EXTRA STRONG SPRINGS** (ISO standard yellow color). **MAXIMUM FORCE OVER 2 TIMES THE ULTRA STRONG SPRINGS** (Special Springs standard silver color). Ideal for applications that involve extremely large loads with short working strokes and that have to go for as long as possible without maintenance, in difficult environments with large amounts of contaminants and high temperatures.

**ES** Características únicas en el mercado, gracias a la superior tecnología de producción de Special Springs: **MÁXIMA CARGA HASTA 6 VECES LA SERIE EXTRA-FUERTE** (ISO standard color amarillo) **MÁXIMA CARGA MÁS DE 2 VECES LA SERIE ULTRA-FUERTE** (Special Springs standard color plata) Ideales para aplicaciones que requieren cargas muy altas con recorridos de trabajo cortos, allí donde se necesite la máxima duración sin mantenimiento, en ambientes difíciles con intensa presencia de contaminantes y altas temperaturas.



	SERIES	STANDARD	LOAD
●	RSL	Special Springs	Extra-light
●	RLL	ISO 10243	Light
●	RML	ISO 10243	Medium
●	RHL	ISO 10243	Strong
●	REL	ISO 10243	Extra-Strong
●	RUL	Special Springs	Ultra-Strong
●	W	Special Springs	Hyper-strong





Springs O.D.	Drill Dia.	Tube O.D	H
inch	inch	inch	inch
3/4	29/32	0.855	7/16
1	1 5/32	1.105	9/16
1 1/4	1 13/32	1.355	3/4
1 1/2	1 21/32	1.605	31/32
2	2 5/32	2.105	1 3/8

**Material: cold rolled steel**

**How to order:**

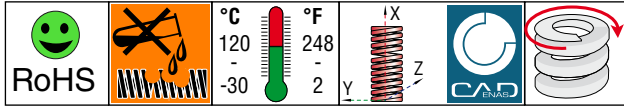
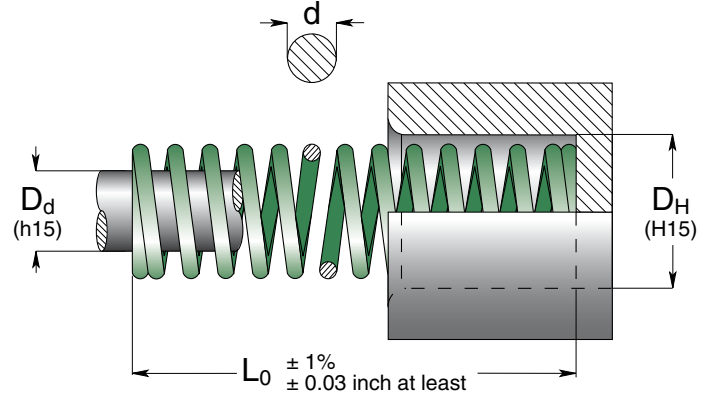
**example: SSC100-75 (O.A.L. - O.D.)**

### CATALOG NUMBERS

O. A. L. L	O.D 0.75	O.D 1.00	O.D 1.25	O.D 1.50	O.D 2.00
	inch	inch	inch	inch	inch
SSC100	75	100	125	150	200
SSC125	75	100	125	150	200
SSC150	75	100	125	150	200
SSC175	75	100	125	150	200
SSC200	75	100	125	150	200
SSC225	75	100	125	150	200
SSC250	75	100	125	150	200
SSC275	75	100	125	150	200
SSC300	75	100	125	150	200
SSC325	75	100	125	150	200
SSC350	75	100	125	150	200
SSC375	75	100	125	150	200
SSC400	75	100	125	150	200
SSC425	75	100	125	150	200
SSC450	75	100	125	150	200
SSC475	75	100	125	150	200
SSC500	75	100	125	150	200
SSC550	75	100	125	150	200
SSC600	75	100	125	150	200
SSC650	75	100	125	150	200
SSC700	75	100	125	150	200
SSC800	75	100	125	150	200
SSC900	75	100	125	150	200
SSC1000	75	100	125	150	200
SSC1100	75	100	125	150	200
SSC1200	75	100	125	150	200

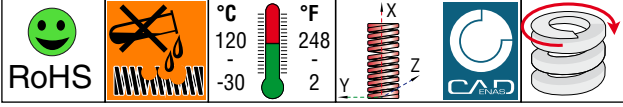
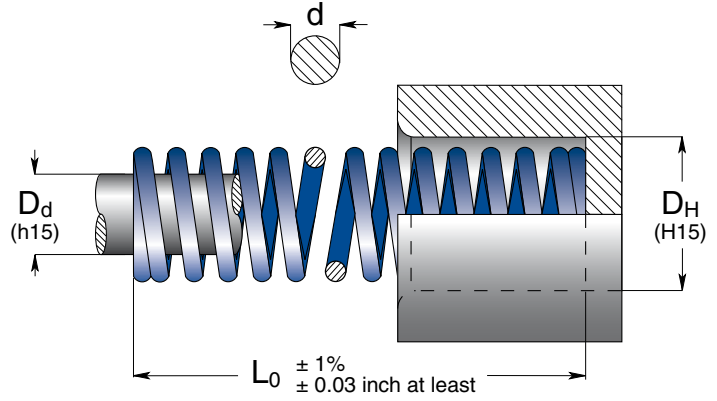
**EN** Light load springs  
Green color

**ES** Muelles carga ligera  
Color verde



Code	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A		B		C		D		E	
					25% L <sub>0</sub>	30% L <sub>0</sub>	35% L <sub>0</sub>	40% L <sub>0</sub>	approx.	do not use				
	inch	inch	inch	± 10% lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
CG 37 - 100	3/8	3/16	1	2.5	0.25	6	0.30	7	0.34	9	0.39	10	0.52	13
CG 37 - 125			1 1/4	1.9	0.31	6	0.38	7	0.44	9	0.50	10	0.65	13
CG 37 - 150			1 1/2	1.6	0.37	6	0.45	7	0.52	8	0.60	9	0.78	12
CG 37 - 175			1 3/4	1.4	0.43	6	0.52	7	0.61	8	0.69	9	0.91	12
CG 37 - 200			2	1.2	0.50	6	0.60	7	0.70	8	0.80	10	1.06	13
CG 37 - 250			2 1/2	0.9	0.63	6	0.76	7	0.88	8	1.01	9	1.31	12
CG 37 - 300			3	0.7	0.75	6	0.90	7	1.05	8	1.20	9	1.56	12
CG 37 - 1200	0.04	12	0.2	3.00	5	3.60	7	4.20	7	4.80	9	6.19	11	
CG 50 - 100	1/2	9/32	1	4.9	0.25	12	0.30	14	0.34	17	0.39	19	0.53	26
CG 50 - 125			1 1/4	3.7	0.31	12	0.38	14	0.44	16	0.50	19	0.66	25
CG 50 - 150			1 1/2	3.0	0.37	11	0.45	14	0.52	16	0.60	18	0.80	24
CG 50 - 175			1 3/4	2.5	0.43	11	0.52	13	0.61	15	0.69	18	0.94	24
CG 50 - 200			2	2.2	0.50	11	0.60	13	0.70	15	0.80	18	1.06	23
CG 50 - 250			2 1/2	1.7	0.63	11	0.76	13	0.88	15	1.01	17	1.31	22
CG 50 - 300			3	1.4	0.75	11	0.90	13	1.05	15	1.20	17	1.62	23
CG 50 - 350	3 1/2	1.2	0.88	11	1.05	13	1.23	15	1.40	17	1.90	23		
CG 50 - 1200	0.06	12	0.3	3.00	10	3.60	12	4.20	14	4.80	16	6.41	21	
CG 62 - 100	5/8	11/32	1	10.2	0.25	25	0.30	30	0.34	35	0.39	40	0.58	59
CG 62 - 125			1 1/4	7.7	0.31	24	0.38	29	0.44	34	0.50	39	0.73	56
CG 62 - 150			1 1/2	6.0	0.37	23	0.45	27	0.52	31	0.60	36	0.88	53
CG 62 - 175			1 3/4	5.0	0.43	22	0.52	26	0.61	31	0.69	35	1.02	51
CG 62 - 200			2	4.3	0.50	22	0.60	26	0.70	31	0.80	35	1.18	51
CG 62 - 250			2 1/2	3.4	0.63	21	0.76	26	0.88	30	1.01	34	1.49	50
CG 62 - 300			3	2.7	0.75	20	0.90	25	1.05	29	1.20	33	1.78	49
CG 62 - 350	3 1/2	2.3	0.88	20	1.05	24	1.23	28	1.40	32	2.08	48		
CG 62 - 400	4	2.0	1.00	20	1.20	24	1.41	28	1.61	32	2.39	48		
CG 62 - 1200	0.08	12	0.6	3.00	19	3.60	23	4.20	26	4.80	31	7.24	46	

- EN** Medium load springs  
Blue color
- ES** Muelles carga mediana  
Color azul marino

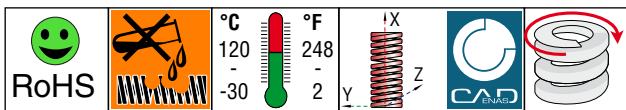
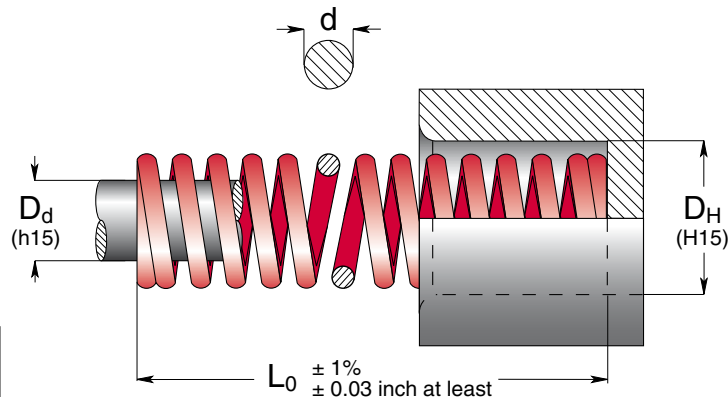


Code	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A		B		C		D		E	
					25% L <sub>0</sub>	30% L <sub>0</sub>	33.75% L <sub>0</sub>	37.5% L <sub>0</sub>	approx. do not use					
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
CB 37 - 100	3/8	3/16	1	7.0	0.25	17	0.30	21	0.33	23	0.37	26	0.41	29
CB 37 - 125			1 1/4	5.4	0.31	17	0.38	20	0.43	23	0.47	25	0.52	29
CB 37 - 150			1 1/2	4.5	0.37	17	0.45	20	0.50	23	0.56	25	0.63	28
CB 37 - 175			1 3/4	3.7	0.43	16	0.52	19	0.58	22	0.65	24	0.73	27
CB 37 - 200			2	3.2	0.50	16	0.60	19	0.68	22	0.75	24	0.83	27
CB 37 - 250			2 1/2	2.6	0.63	16	0.76	19	0.85	22	0.94	24	1.04	27
CB 37 - 300			3	2.1	0.75	16	0.90	19	1.01	21	1.12	24	1.25	26
CB 37 - 1200	0.06	12	0.5	3.00	15	3.60	18	4.05	21	4.50	23	5.06	26	
CB 50 - 100	1/2	9/32	1	12.4	0.25	31	0.30	37	0.33	41	0.37	46	0.44	54
CB 50 - 125			1 1/4	9.6	0.31	30	0.38	36	0.43	41	0.47	45	0.55	53
CB 50 - 150			1 1/2	7.9	0.37	29	0.45	36	0.50	40	0.56	44	0.68	54
CB 50 - 175			1 3/4	6.6	0.43	29	0.52	34	0.58	39	0.65	43	0.78	51
CB 50 - 200			2	5.7	0.50	29	0.60	34	0.68	39	0.75	43	0.90	52
CB 50 - 250			2 1/2	4.5	0.63	28	0.76	34	0.85	38	0.94	42	1.12	50
CB 50 - 300			3	3.7	0.75	27	0.90	33	1.01	37	1.12	41	1.35	49
CB 50 - 350	3 1/2	3.2	0.88	28	1.05	34	1.18	38	1.31	42	1.63	52		
CB 50 - 1200	0.07	12	0.9	3.00	27	3.60	32	4.05	35	4.50	40	5.49	48	
CB 62 - 100	5/8	11/32	1	18.2	0.25	45	0.30	54	0.33	61	0.37	67	0.43	78
CB 62 - 125			1 1/4	13.7	0.31	43	0.38	52	0.43	58	0.47	65	0.54	74
CB 62 - 150			1 1/2	11.1	0.37	42	0.45	50	0.50	56	0.56	62	0.65	72
CB 62 - 175			1 3/4	9.2	0.43	40	0.52	48	0.58	54	0.65	60	0.76	70
CB 62 - 200			2	7.9	0.50	40	0.60	48	0.68	53	0.75	60	0.87	69
CB 62 - 250			2 1/2	6.1	0.63	38	0.76	46	0.85	52	0.94	58	1.08	66
CB 62 - 300			3	5.0	0.75	37	0.90	45	1.01	51	1.12	56	1.30	65
CB 62 - 350	3 1/2	4.3	0.88	38	1.05	45	1.18	51	1.31	56	1.52	65		
CB 62 - 400	4	3.7	1.00	38	1.20	45	1.36	50	1.51	56	1.75	65		
CB 62 - 1200	0.09	12	1.2	3.00	36	3.60	43	4.05	49	4.50	54	5.26	63	

Round wire Inch.

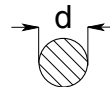
**EN** Heavy load springs  
Red color

**ES** Muelles carga fuerte  
Color rojo

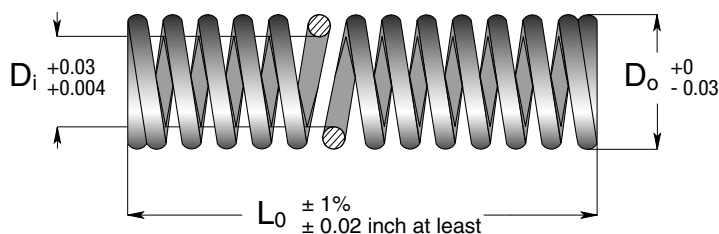
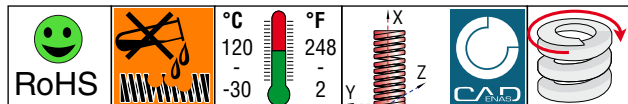


Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E	
					20% L <sub>0</sub>	lbs	25% L <sub>0</sub>	lbs	27.5% L <sub>0</sub>	lbs	30% L <sub>0</sub>	lbs	approx.	do not use
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs
	d	d		± 10%	+ 3,000,000		~ 1,500,000		300 - 500,000		100 - 200,000			
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
CR 37 - 100			1	11.8	0.20	23	0.25	29	0.27	32	0.30	35	0.34	40
CR 37 - 125			1 1/4	9.2	0.25	23	0.31	29	0.35	32	0.38	35	0.43	40
CR 37 - 150			1 1/2	7.4	0.30	22	0.37	28	0.41	31	0.45	33	0.52	38
CR 37 - 175	3/8	3/16	1 3/4	6.2	0.35	22	0.43	27	0.48	30	0.52	32	0.58	36
CR 37 - 200			2	5.5	0.40	22	0.50	28	0.55	30	0.60	33	0.70	38
CR 37 - 250			2 1/2	4.4	0.50	22	0.63	28	0.69	31	0.76	33	0.90	39
CR 37 - 300			3	3.6	0.60	22	0.75	27	0.82	30	0.90	32	1.06	38
CR 37 - 1200		0.06	12	0.9	2.40	21	3.00	26	3.30	28	3.60	31	4.32	38
CR 50 - 100			1	21.4	0.20	42	0.25	53	0.27	58	0.30	63	0.35	75
CR 50 - 125			1 1/4	16.5	0.25	42	0.31	52	0.35	57	0.38	62	0.44	73
CR 50 - 150			1 1/2	13.4	0.30	40	0.37	50	0.41	55	0.45	60	0.54	72
CR 50 - 175	1/2	9/32	1 3/4	11.2	0.35	39	0.43	49	0.48	53	0.52	58	0.62	70
CR 50 - 200			2	9.9	0.40	40	0.50	50	0.55	55	0.60	60	0.74	73
CR 50 - 250			2 1/2	7.7	0.50	39	0.63	49	0.69	53	0.76	58	0.93	72
CR 50 - 300			3	6.4	0.60	38	0.75	48	0.82	53	0.90	58	1.12	71
CR 50 - 350			3 1/2	5.4	0.70	38	0.88	47	0.96	52	1.05	57	1.30	71
CR 50 - 1200		0.09	12	1.5	2.40	36	3.00	46	3.30	51	3.60	55	4.49	68
CR 62 - 100			1	46.6	0.20	92	0.25	115	0.27	126	0.30	138	0.36	168
CR 62 - 125			1 1/4	35.0	0.25	88	0.31	110	0.35	121	0.38	132	0.45	159
CR 62 - 150			1 1/2	28.5	0.30	85	0.37	107	0.41	117	0.45	128	0.56	160
CR 62 - 175			1 3/4	23.3	0.35	81	0.43	101	0.48	111	0.52	121	0.64	149
CR 62 - 200	5/8	11/32	2	20.3	0.40	82	0.50	102	0.55	112	0.60	122	0.74	151
CR 62 - 250			2 1/2	15.9	0.50	80	0.63	100	0.69	110	0.76	120	0.94	149
CR 62 - 300			3	13.0	0.60	78	0.75	97	0.82	107	0.90	117	1.14	149
CR 62 - 350			3 1/2	11.2	0.70	79	0.88	98	0.96	108	1.05	118	1.35	151
CR 62 - 400			4	9.7	0.80	78	1.00	97	1.10	107	1.20	117	1.55	150
CR 62 - 1200		0.11	12	3.1	2.40	74	3.00	93	3.30	102	3.60	111	4.68	145





- EN** Unpainted with added rust preventative coating
- ES** Muelles no pintados con lubricación antióxido



**D<sub>o</sub>** spring outside diameter.  
diámetro externo del muelle.

**D<sub>i</sub>** spring inside diameter.  
diámetro interior del muelle.

**d** wire diameter.  
diámetro del hilo.

**L<sub>0</sub>** spring free length.  
longitud libre del muelle.

**R** spring rate (load required for 1mm deflection).  
carga (N) necesaria para desviar el muelle de 1 milímetro.

**A** advised working deflection for long spring life.  
deflexión aconsejada para una larga duración del muelle.

**B** advised working deflection for medium spring life.  
deflexión aconsejada para una media duración del muelle.

**C** maximum operating deflection.  
deflexión máxima permitida.

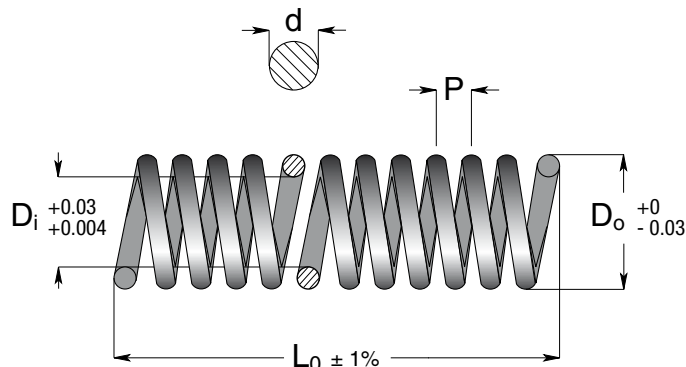
Code	D <sub>o</sub> D <sub>i</sub>		L <sub>0</sub>	R	A		B		C		D	
	Hole Diameter	Rod Diameter			Free Length	Spring Constant	16% L <sub>0</sub>	24% L <sub>0</sub>	28% L <sub>0</sub>	32% L <sub>0</sub>		
	d			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000				
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs
L 125 - 37			3/8	1.68	0.06		0.09		0.11		0.13	
L 125 - 56	1/8	5/64	9/16	1.12	0.09		0.14		0.17		0.19	
L 125 - 75			3/4	0.56	0.13	1	0.19	1.5	0.22	1.7	0.25	2
L 125 - 100		0.01	1	0.56	0.16		0.24		0.28		0.31	
L 156 - 37			3/8	2.80	0.06		0.09		0.11		0.13	
L 156 - 56			9/16	1.68	0.09		0.14		0.17		0.19	
L 156 - 75	5/32	7/64	3/4	1.68	0.13	2	0.19	2.6	0.22	3.1	0.25	3.5
L 156 - 100			1	1.12	0.16		0.24		0.28		0.31	
L 156 - 118		0.02	1 3/16	1.12	0.19		0.28		0.33		0.38	
L 234 - 56			9/16	4.48	0.09		0.14		0.17		0.19	
L 234 - 75			3/4	3.36	0.13		0.19		0.22		0.25	
L 234 - 100	15/64	5/32	1	2.80	0.16	4	0.24	6	0.28	7	0.31	8
L 234 - 118			1 3/16	2.24	0.19		0.28		0.33		0.38	
L 234 - 137		0.03	1 3/8	1.68	0.22		0.33		0.39		0.44	
L 343 - 56			9/16	7.29	0.09		0.14		0.17		0.19	
L 343 - 75			3/4	5.61	0.13		0.19		0.22		0.25	
L 343 - 100	11/32	7/32	1	4.48	0.16	7	0.24	11	0.28	13	0.31	14
L 343 - 118			1 3/16	3.92	0.19		0.28		0.33		0.38	
L 343 - 137			1 3/8	3.36	0.22		0.33		0.39		0.44	
L 343 - 162		0.05	1 5/8	2.80	0.25		0.38		0.44		0.50	
L 375 - 100			1	7.29	0.16		0.24		0.28		0.31	
L 375 - 118			1 3/16	5.61	0.19		0.28		0.33		0.38	
L 375 - 137	3/8	1/4	1 3/8	5.05	0.22	11	0.33	17	0.39	20	0.44	22
L 375 - 162			1 5/8	4.48	0.25		0.38		0.44		0.50	
L 375 - 175			1 3/4	3.92	0.28		0.43		0.50		0.57	
L 375 - 200		0.06	2	3.36	0.31		0.47		0.55		0.63	
L 468 - 100			1	10.09	0.16		0.24		0.28		0.31	
L 468 - 118			1 3/16	8.41	0.19		0.28		0.33		0.38	
L 468 - 137			1 3/8	7.29	0.22		0.33		0.39		0.44	
L 468 - 162	15/32	11/32	1 5/8	6.17	0.25	16	0.38	24	0.44	28	0.50	32
L 468 - 175			1 3/4	5.61	0.28		0.43		0.50		0.57	
L 468 - 200			2	5.05	0.31		0.47		0.55		0.63	
L 468 - 212			2 1/8	4.48	0.35		0.52		0.61		0.69	
L 468 - 237		0.07	2 3/8	4.48	0.38		0.57		0.67		0.76	

 Round wire  
 Inch.

Code	D <sub>o</sub>	D <sub>i</sub>	L <sub>0</sub>	R	A		B		C		D	
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	16% L <sub>0</sub>		24% L <sub>0</sub>		28% L <sub>0</sub>		32% L <sub>0</sub>	
	d			± 10%	+ 3,000,000		~ 1,500,000		300 - 500,000		100 - 200,000	
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs
L 562 - 100			1	14.02	0.16		0.24		0.28		0.31	
L 562 - 118			1 3/16	11.21	0.19		0.28		0.33		0.38	
L 562 - 137			1 3/8	10.09	0.22		0.33		0.39		0.44	
L 562 - 157			1 5/8	8.41	0.25		0.38		0.44		0.50	
L 562 - 175	9/16	3/8	1 3/4	7.85	0.28	22	0.43	32	0.50	38	0.57	43
L 562 - 200			2	6.73	0.31		0.47		0.55		0.63	
L 562 - 212			2 1/8	6.17	0.35		0.52		0.61		0.69	
L 562 - 237			2 3/8	5.61	0.38		0.57		0.67		0.76	
L 562 - 256			2 9/16	5.05	0.41		0.61		0.72		0.82	
L 562 - 275	0.08		2 3/4	5.05	0.44		0.66		0.77		0.88	
L 625 - 100			1	17.94	0.16		0.24		0.28		0.31	
L 625 - 118			1 3/16	15.14	0.19		0.28		0.33		0.38	
L 625 - 137			1 3/8	12.90	0.22		0.33		0.39		0.44	
L 625 - 157			1 5/8	11.21	0.25		0.38		0.44		0.50	
L 625 - 175			1 3/4	10.09	0.28		0.43		0.50		0.57	
L 625 - 200	5/8	13/32	2	8.97	0.31	28	0.47	42	0.55	49	0.63	56
L 625 - 216			2 1/8	8.41	0.35		0.52		0.61		0.69	
L 625 - 237			2 3/8	7.29	0.38		0.57		0.67		0.76	
L 625 - 256			2 9/16	6.73	0.41		0.61		0.72		0.82	
L 625 - 275			2 3/4	6.17	0.44		0.66		0.77		0.88	
L 625 - 293			2 15/16	6.17	0.47		0.71		0.83		0.94	
L 625 - 316	0.09		3 5/32	5.61	0.50		0.76		0.89		1.01	
L 687 - 100			1	22.99	0.16		0.24		0.28		0.31	
L 687 - 118			1 3/16	19.06	0.19		0.28		0.33		0.38	
L 687 - 137			1 3/8	16.26	0.22		0.33		0.39		0.44	
L 687 - 157			1 5/8	14.02	0.25		0.38		0.44		0.50	
L 687 - 175			1 3/4	12.90	0.28		0.43		0.50		0.57	
L 687 - 200	11/16	15/32	2	11.21	0.31	36	0.47	54	0.55	63	0.63	71
L 687 - 216			2 1/8	10.09	0.35		0.52		0.61		0.69	
L 687 - 237			2 3/8	9.53	0.38		0.57		0.67		0.76	
L 687 - 256			2 9/16	8.97	0.41		0.61		0.72		0.82	
L 687 - 275			2 3/4	8.41	0.44		0.66		0.77		0.88	
L 687 - 293			2 15/16	7.85	0.47		0.71		0.83		0.94	
L 687 - 316			3 5/32	7.29	0.50		0.76		0.89		1.01	
L 687 - 350	0.11		3 1/2	6.17	0.57		0.85		0.99		1.13	
L 750 - 100			1	28.04	0.16		0.24		0.28		0.31	
L 750 - 118			1 3/16	23.55	0.19		0.28		0.33		0.38	
L 750 - 137			1 3/8	20.18	0.22		0.33		0.39		0.44	
L 750 - 157			1 5/8	17.38	0.25		0.38		0.44		0.50	
L 750 - 175			1 3/4	15.70	0.28		0.43		0.50		0.57	
L 750 - 200			2	14.02	0.31		0.47		0.55		0.63	
L 750 - 216	3/4	9/17	2 1/8	12.90	0.35	44	0.52	66	0.61	77	0.69	88
L 750 - 237			2 3/8	11.77	0.38		0.57		0.67		0.76	
L 750 - 256			2 9/16	10.65	0.41		0.61		0.72		0.82	
L 750 - 275			2 3/4	10.09	0.44		0.66		0.77		0.88	
L 750 - 293			2 15/16	9.53	0.47		0.71		0.83		0.94	
L 750 - 316			3 5/32	8.97	0.50		0.76		0.89		1.01	
L 750 - 350			3 1/2	7.85	0.57		0.85		0.99		1.13	
L 750 - 400	0.12		4	7.29	0.63		0.94		1.10		1.26	
L 875 - 100			1	34.21	0.16		0.24		0.28		0.31	
L 875 - 118			1 3/16	28.04	0.19		0.28		0.33		0.38	
L 875 - 137			1 3/8	24.11	0.22		0.33		0.39		0.44	
L 875 - 157			1 5/8	21.31	0.25		0.38		0.44		0.50	
L 875 - 175			1 3/4	12.06	0.28		0.43		0.50		0.57	
L 875 - 200			2	16.82	0.31		0.47		0.55		0.63	
L 875 - 216	7/8	9/16	2 1/8	15.70	0.35	53	0.52	80	0.61	94	0.69	107
L 875 - 237			2 3/8	14.02	0.38		0.57		0.67		0.76	
L 875 - 256			2 9/16	12.90	0.41		0.61		0.72		0.82	
L 875 - 275			2 3/4	12.33	0.44		0.66		0.77		0.88	
L 875 - 293			2 15/16	11.21	0.47		0.71		0.83		0.94	
L 875 - 316			3 5/32	10.65	0.50		0.76		0.89		1.01	
L 875 - 350			3 1/2	9.53	0.57		0.85		0.99		1.13	
L 875 - 400	0.13		4	8.41	0.63		0.94		1.10		1.26	

Code	D <sub>o</sub>	D <sub>i</sub>	L <sub>0</sub>	R	A	B	C	D
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	16% L <sub>0</sub>	24% L <sub>0</sub>	28% L <sub>0</sub>	32% L <sub>0</sub>
	d			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000
	inch	inch	inch	lbs/0.1 in.	inch	inch	inch	inch
L 1000 - 100			1	43.74	0.16	0.24	0.28	0.31
L 1000 - 118			1 3/16	36.45	0.19	0.28	0.33	0.38
L 1000 - 137			1 3/8	31.40	0.22	0.33	0.39	0.44
L 1000 - 157			1 5/8	27.48	0.25	0.38	0.44	0.50
L 1000 - 175			1 3/4	24.11	0.28	0.43	0.50	0.57
L 1000 - 200			2	21.87	0.31	0.47	0.55	0.63
L 1000 - 216	1	11/16	2 1/8	20.18	0.35	0.52	0.61	0.69
L 1000 - 237			2 3/8	18.50	0.38	0.57	0.67	0.76
L 1000 - 256			2 9/8	16.82	0.41	0.61	0.72	0.82
L 1000 - 275			2 3/4	15.70	0.44	0.66	0.77	0.88
L 1000 - 293			2 15/16	14.58	0.47	0.71	0.83	0.94
L 1000 - 316			3 5/32	13.46	0.50	0.76	0.89	1.01
L 1000 - 350			3 1/2	12.33	0.57	0.85	0.99	1.13
L 1000 - 400	0.15		4	11.21	0.63	0.94	1.10	1.26
L 1187 - 200			2	29.70	0.31	0.47	0.55	0.63
L 1187 - 237			2 3/8	25.22	0.38	0.57	0.67	0.76
L 1187 - 275			2 3/4	21.29	0.44	0.66	0.77	0.88
L 1187 - 316	1 3/16	3/4	3 5/32	18.49	0.50	0.76	0.89	1.01
L 1187 - 350			3 1/2	16.25	0.57	0.85	0.99	1.13
L 1187 - 400			4	14.57	0.63	0.94	1.10	1.26
L 1187 - 489	0.18		4 8/9	11.77	0.79	1.18	1.38	1.57

**EN** Long size open ends  
**ES** Piezas desmochadas con terminales abiertos



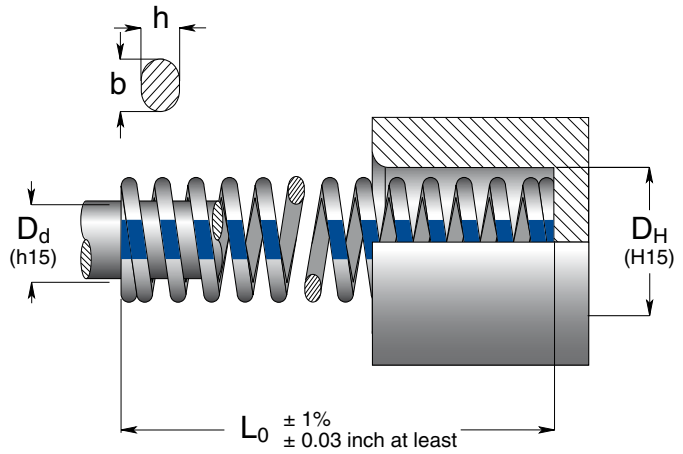
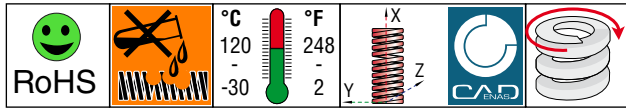
RoHS

°C: 120 - -30  
°F: 248 - 2

Code	D <sub>o</sub>	D <sub>i</sub>	d	L <sub>0</sub>	P
	inch	inch	inch	inch	inch
L 125 - 1200	0.12	0.08	0.01	11.8	0.04
L 156 - 1200	0.16	0.10	0.02	11.8	0.06
L 234 - 1200	0.24	0.16	0.03	11.8	0.08
L 343 - 1200	0.31	0.21	0.05	11.8	0.11
L 375 - 1200	0.39	0.25	0.06	11.8	0.14
L 468 - 1200	0.47	0.31	0.07	11.8	0.17
L 562 - 1200	0.55	0.37	0.08	11.8	0.18
L 625 - 1200	0.63	0.42	0.09	11.8	0.22
L 687 - 1200	0.71	0.47	0.11	11.8	0.21
L 750 - 1200	0.79	0.53	0.12	11.8	0.27
L 875 - 1200	0.87	0.58	0.13	11.8	0.26
L 1000 - 1200	1.00	0.67	0.15	11.8	0.32

 Round wire  
 Inch.

- EN** Light load springs  
Silver-blue color
- ES** Muelles carga ligera  
Color plateado-azul



Code	$D_H$ Hole Diameter	$D_d$ Rod Diameter	$L_0$ Free Length	R Spring Constant	A 25% $L_0$		B 40% $L_0$		C 45% $L_0$		D 50% $L_0$		E approx. do not use			
					inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs		
	$b \times h$			$\pm 10\%$	+ 3,000,000		~ 1,500,000		300 - 500,000		100 - 200,000		do not use			
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs		
OLS 37 - 100	3/8	3/16	1	8.2	0.25	21	0.40	33	0.44	36	0.50	41	0.53	43		
OLS 37 - 125			1 1/4	7.0	0.31	22	0.50	35	0.57	40	0.63	44	0.69	48		
OLS 37 - 150			1 1/2	5.6	0.38	21	0.60	34	0.67	38	0.75	42	0.82	46		
OLS 37 - 175			1 3/4	5.0	0.44	22	0.70	35	0.78	39	0.88	44	0.94	47		
OLS 37 - 200			2	4.3	0.50	22	0.80	34	0.91	39	1.00	43	1.14	49		
OLS 37 - 250			2 1/2	2.8	0.63	18	1.00	28	1.13	32	1.25	35	1.42	40		
OLS 37 - 300			3	2.2	0.75	17	1.20	26	1.35	29	1.50	33	1.70	37		
OLS 37 - 1200			0.07 x 0.04	12	0.7	3.00	21	4.80	34	5.41	37	6.00	42	7.04	49	
OLS 50 - 100			1/2	9/32	1	10.	0.25	27	0.40	43	0.44	48	0.50	54	0.52	56
OLS 50 - 125					1 1/4	8.8	0.31	27	0.50	44	0.57	50	0.63	55	0.71	62
OLS 50 - 150	1 1/2	7.7			0.38	29	0.60	46	0.67	52	0.75	58	0.83	64		
OLS 50 - 175	1 3/4	6.7			0.44	29	0.70	47	0.78	53	0.88	59	0.94	63		
OLS 50 - 200	2	5.7			0.50	29	0.80	46	0.91	52	1.00	57	1.13	64		
OLS 50 - 250	2 1/2	4.3			0.63	27	1.00	43	1.13	49	1.25	54	1.41	61		
OLS 50 - 300	3	3.4			0.75	26	1.20	41	1.35	45	1.50	51	1.68	57		
OLS 50 - 350	3 1/2	2.7			0.88	24	1.40	38	1.58	43	1.75	47	1.98	53		
OLS 50 - 400	4	1.9			1.00	19	1.60	30	1.81	35	2.00	38	2.30	44		
OLS 50 - 1200	0.10 x 0.06	12			0.9	3.00	27	4.80	43	5.41	49	6.00	54	6.77	61	
OLS 62 - 100	5/8	11/32	1	13.1	0.25	33	0.40	52	0.44	58	0.50	66	0.50	66		
OLS 62 - 125			1 1/4	12.	0.31	40	0.50	64	0.57	73	0.63	81	0.65	83		
OLS 62 - 150			1 1/2	10.	0.38	41	0.60	65	0.67	73	0.75	81	0.79	85		
OLS 62 - 175			1 3/4	9.6	0.44	42	0.70	67	0.78	75	0.88	84	0.92	88		
OLS 62 - 200			2	8.8	0.50	44	0.80	70	0.91	79	1.00	88	1.06	93		
OLS 62 - 250			2 1/2	6.0	0.63	38	1.00	60	1.13	68	1.25	75	1.31	79		
OLS 62 - 300			3	5.6	0.75	42	1.20	67	1.35	75	1.50	84	1.65	92		
OLS 62 - 350			3 1/2	4.8	0.88	42	1.40	67	1.58	76	1.75	84	1.91	92		
OLS 62 - 400			4	4.4	1.00	44	1.60	70	1.81	79	2.00	88	2.19	96		
OLS 62 - 450			4 1/2	3.4	1.13	38	1.80	61	2.04	69	2.25	77	2.45	83		
OLS 62 - 1200	0.11 x 0.07	12	1.4	3.00	42	4.80	67	5.41	77	6.00	84	6.73	94			
OLS 75 - 100	3/4	3/8	1	30.	0.25	76	0.40	121	0.44	134	0.50	152	0.50	152		
OLS 75 - 125			1 1/4	24.	0.31	76	0.50	123	0.57	140	0.63	155	0.67	165		
OLS 75 - 150			1 1/2	19.	0.38	74	0.60	118	0.67	132	0.75	147	0.80	157		
OLS 75 - 175			1 3/4	17.	0.44	77	0.70	122	0.78	135	0.88	153	0.93	162		
OLS 75 - 200			2	14.	0.50	73	0.80	117	0.91	132	1.00	146	1.08	158		
OLS 75 - 250			2 1/2	11.8	0.63	74	1.00	118	1.13	133	1.25	148	1.37	162		
OLS 75 - 300			3	9.3	0.75	70	1.20	112	1.35	125	1.50	140	1.67	155		
OLS 75 - 350			3 1/2	8.1	0.88	71	1.40	113	1.58	128	1.75	142	1.93	156		
OLS 75 - 400			4	7.0	1.00	70	1.60	112	1.81	126	2.00	140	2.23	156		
OLS 75 - 450			4 1/2	6.3	1.13	71	1.80	113	2.04	128	2.25	142	2.52	159		
OLS 75 - 500	5	5.6	1.25	70	2.00	112	2.25	126	2.50	140	2.82	158				
OLS 75 - 550	5 1/2	4.7	1.38	65	2.20	103	2.48	118	2.75	129	3.14	148				
OLS 75 - 600	6	4.1	1.50	62	2.40	98	2.69	111	3.00	123	3.38	139				
OLS 75 - 1200	0.16 x 0.08	12	2.3	3.00	69	4.80	110	5.41	127	6.00	138	6.61	152			

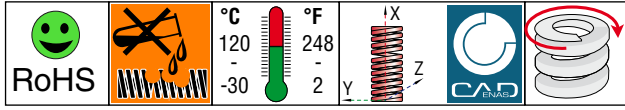
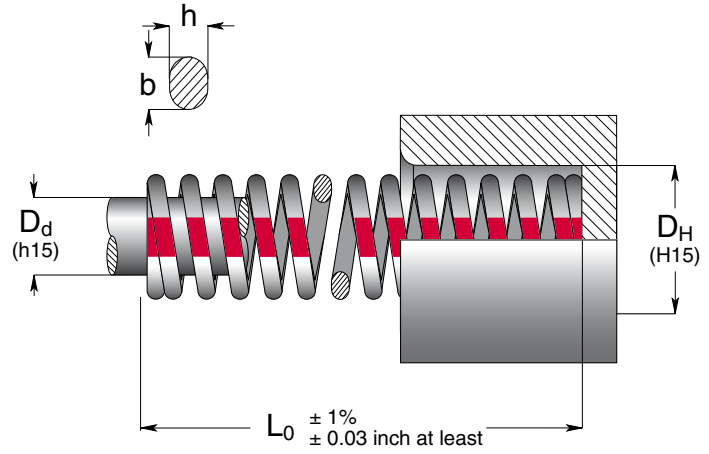




Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E		
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	25% L <sub>0</sub>		40% L <sub>0</sub>		45% L <sub>0</sub>		50% L <sub>0</sub>		approx. do not use		
	b x h			± 10%	+ 3,000,000	~ 1,500,000		300 - 500,000		100 - 200,000					
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs	
OLS 100 - 100	1	1/2	1	61.6	0.25	154	0.40	246	0.45	277	0.50	308	0.50	308	
OLS 100 - 125			1 1/4	45.9	0.31	142	0.50	230	0.56	258	0.63	289	0.63	289	
OLS 100 - 150			1 1/2	35.9	0.38	136	0.60	215	0.68	242	0.75	269	0.75	269	
OLS 100 - 175			1 3/4	29.7	0.44	131	0.70	208	0.79	234	0.88	261	0.90	267	
OLS 100 - 200			2	24.6	0.50	123	0.80	197	0.90	221	1.00	246	1.07	263	
OLS 100 - 250			2 1/2	20.2	0.63	127	1.00	202	1.13	227	1.25	253	1.31	265	
OLS 100 - 300			3	16.8	0.75	126	1.20	202	1.35	227	1.50	252	1.56	262	
OLS 100 - 350			3 1/2	14.0	0.88	123	1.40	196	1.58	221	1.75	245	1.88	263	
OLS 100 - 400			4	12.3	1.00	123	1.60	197	1.8	221	2.00	246	2.22	273	
OLS 100 - 450			4 1/2	10.6	1.13	120	1.80	191	2.03	215	2.25	239	2.45	260	
OLS 100 - 500			5	9.8	1.25	123	2.00	196	2.25	221	2.50	245	2.73	268	
OLS 100 - 550			5 1/2	9.0	1.38	124	2.20	198	2.48	223	2.75	248	3.03	273	
OLS 100 - 600			6	8.4	1.50	126	2.40	202	2.7	227	3.00	252	3.27	275	
OLS 100 - 700	7	7.3	1.75	128	2.80	204	3.15	230	3.50	256	3.88	283			
OLS 100 - 800	8	6.2	2.00	124	3.20	198	3.6	223	4.00	248	4.41	273			
OLS 100 - 1200	0.22 x 0.10	12	4.2	3.00	126	4.80	202	5.4	227	6.00	252	6.51	273		
OLS 125 - 150	1 1/4	5/8	1 1/2	50.4	0.38	192	0.60	302	0.68	340	0.75	378	0.76	383	
OLS 125 - 175			1 3/4	43.7	0.44	192	0.70	306	0.79	344	0.88	385	0.88	385	
OLS 125 - 200			2	34.7	0.50	174	0.80	278	0.90	312	1.00	347	1.02	354	
OLS 125 - 250			2 1/2	28.0	0.63	176	1.00	280	1.13	315	1.25	350	1.30	364	
OLS 125 - 300			3	23.5	0.75	176	1.20	282	1.35	317	1.50	353	1.57	369	
OLS 125 - 350			3 1/2	20.2	0.88	178	1.40	283	1.58	318	1.75	354	1.85	374	
OLS 125 - 400			4	17.4	1.00	174	1.60	278	1.8	313	2.00	348	2.14	372	
OLS 125 - 450			4 1/2	15.7	1.13	177	1.80	283	2.03	318	2.25	353	2.41	378	
OLS 125 - 500			5	13.4	1.25	168	2.00	268	2.25	302	2.50	335	2.69	360	
OLS 125 - 550			5 1/2	12.3	1.38	170	2.20	271	2.48	304	2.75	338	2.98	367	
OLS 125 - 600			6	11.2	1.50	168	2.40	269	2.7	302	3.00	336	3.24	363	
OLS 125 - 700			7	10.1	1.75	177	2.80	283	3.15	318	3.50	354	3.83	387	
OLS 125 - 800			8	8.4	2.00	168	3.20	269	3.6	302	4.00	336	4.34	365	
OLS 125 - 1000	10	7.3	2.50	183	4.00	292	4.5	329	5.00	365	5.43	396			
OLS 125 - 1200	0.27 x 0.12	12	5.6	3.00	168	4.80	269	5.4	302	6.00	336	6.45	361		
OLS 150 - 200	1 1/2	3/4	2	46.5	0.50	233	0.80	372	0.90	419	1.00	465	1.04	484	
OLS 150 - 250			2 1/2	35.9	0.63	226	1.00	359	1.13	404	1.25	449	1.30	467	
OLS 150 - 300			3	29.1	0.75	218	1.20	349	1.35	393	1.50	437	1.57	457	
OLS 150 - 350			3 1/2	24.6	0.88	216	1.40	344	1.58	387	1.75	431	1.87	460	
OLS 150 - 400			4	20.7	1.00	207	1.60	331	1.8	373	2.00	414	2.15	445	
OLS 150 - 450			4 1/2	18.5	1.13	209	1.80	333	2.03	375	2.25	416	2.42	448	
OLS 150 - 500			5	16.8	1.25	210	2.00	336	2.25	378	2.50	420	2.68	450	
OLS 150 - 550			5 1/2	15.4	1.38	213	2.20	339	2.48	381	2.75	424	3.02	465	
OLS 150 - 600			6	14.0	1.50	210	2.40	336	2.7	378	3.00	420	3.25	455	
OLS 150 - 700			7	12.3	1.75	215	2.80	344	3.15	387	3.50	431	3.85	474	
OLS 150 - 800			8	10.6	2.00	212	3.20	339	3.6	382	4.00	424	4.34	460	
OLS 150 - 1000			10	8.4	2.50	210	4.00	336	4.5	378	5.00	420	5.51	463	
OLS 150 - 1200			0.31 x 0.14	12	6.2	3.00	186	4.80	298	5.4	335	6.00	372	6.46	401
OLS 200 - 250	2	1	2 1/2	89.6	0.63	564	1.00	896	1.13	1008	1.25	1120	1.26	1129	
OLS 200 - 300			3	75.6	0.75	567	1.20	907	1.35	1021	1.50	1134	1.62	1225	
OLS 200 - 350			3 1/2	65.5	0.88	576	1.40	917	1.58	1032	1.75	1146	1.89	1238	
OLS 200 - 400			4	56.0	1.00	560	1.60	896	1.8	1008	2.00	1120	2.15	1204	
OLS 200 - 450			4 1/2	49.8	1.13	563	1.80	896	2.03	1008	2.25	1121	2.45	1220	
OLS 200 - 500			5	44.3	1.25	554	2.00	886	2.25	997	2.50	1108	2.73	1209	
OLS 200 - 550			5 1/2	39.7	1.38	548	2.20	873	2.48	983	2.75	1092	3.02	1199	
OLS 200 - 600			6	36.9	1.50	554	2.40	886	2.7	996	3.00	1107	3.22	1188	
OLS 200 - 700			7	30.3	1.75	530	2.80	848	3.15	954	3.50	1061	3.86	1170	
OLS 200 - 800			8	26.9	2.00	538	3.20	861	3.6	968	4.00	1076	4.43	1192	
OLS 200 - 1000			10	21.4	2.50	535	4.00	856	4.5	963	5.00	1070	5.56	1190	
OLS 200 - 1200			0.45 x 0.20	12	17.9	3.00	537	4.80	859	5.4	967	6.00	1074	6.69	1198
OLS 250 - 300			2 1/2	1 1/2	3	108.1	0.75	811	1.20	1297	1.35	1459	1.50	1622	1.51
OLS 250 - 350	3 1/2	89.6			0.88	788	1.40	1254	1.58	1411	1.75	1568	1.81	1622	
OLS 250 - 400	4	76.2			1.00	762	1.60	1219	1.8	1372	2.00	1524	2.08	1585	
OLS 250 - 450	4 1/2	66.6			1.13	753	1.80	1199	2.03	1349	2.25	1499	2.35	1565	
OLS 250 - 500	5	59.4			1.25	743	2.00	1188	2.25	1337	2.50	1485	2.65	1574	
OLS 250 - 550	5 1/2	53.2			1.37	729	2.20	1170	2.48	1317	2.75	1463	2.97	1580	
OLS 250 - 600	6	48.1			1.50	722	2.40	1154	2.7	1299	3.00	1443	3.22	1549	
OLS 250 - 700	7	41.5			1.75	726	2.80	1162	3.15	1307	3.50	1453	3.88	1610	
OLS 250 - 800	8	35.9			2.00	718	3.20	1149	3.6	1292	4.00	1436	4.30	1544	
OLS 250 - 1000	10	26.9			2.50	673	4.00	1076	4.5	1211	5.00	1345	5.52	1485	
OLS 250 - 1200	0.46 x 0.28	12			21.8	3.00	654	4.80	1046	5.4	1177	6.00	1308	6.41	1397

OLS  
Inch.

- EN** Medium load springs  
Silver-red color
- ES** Muelles carga mediana  
Color plateado-rojo



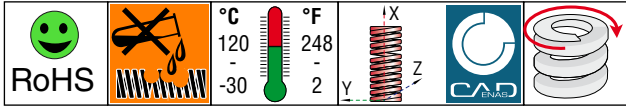
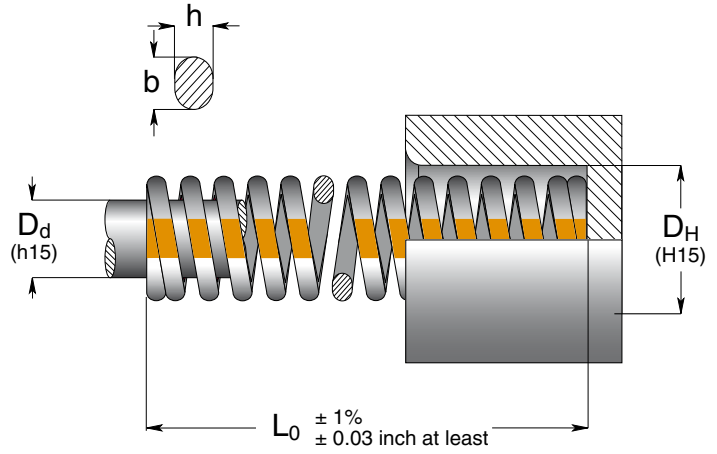
Code	$D_H$ / $D_d$		$L_0$	R	A		B		C		D		E	
	Hole Diameter	Rod Diameter			Free Length	Spring Constant	20% $L_0$	25% $L_0$	31% $L_0$	37% $L_0$	do not use	approx.		
	$b \times h$		$\pm 10\%$	$\pm 10\%$	$+ 3,000,000$	$\sim 1,500,000$	$300 - 500,000$	$100 - 200,000$						
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
OMS 37 - 100	3/8	3/16	1	10.1	0.20	20	0.25	25	0.31	31	0.37	37	0.40	40
OMS 37 - 125			1 1/4	8.7	0.25	22	0.31	27	0.38	33	0.46	40	0.56	49
OMS 37 - 150			1 1/2	7.5	0.30	23	0.38	29	0.47	35	0.56	42	0.66	50
OMS 37 - 175			1 3/4	6.5	0.35	23	0.44	29	0.55	35	0.65	42	0.76	49
OMS 37 - 200			2	4.8	0.40	19	0.50	24	0.62	30	0.74	36	0.92	44
OMS 37 - 250			2 1/2	4.1	0.50	21	0.63	26	0.78	32	0.93	38	1.11	46
OMS 37 - 300			3	3.3	0.60	20	0.75	25	0.93	31	1.11	37	1.35	45
OMS 37 - 1200	0.07 x 0.05		12	0.8	2.40	19	3.00	24	3.72	30	4.44	36	5.27	42
OMS 50 - 100	1/2	9/32	1	17.4	0.20	35	0.25	44	0.31	54	0.37	64	0.47	82
OMS 50 - 125			1 1/4	12.6	0.25	32	0.31	39	0.38	48	0.46	58	0.64	81
OMS 50 - 150			1 1/2	10.9	0.30	33	0.38	41	0.47	51	0.56	61	0.74	81
OMS 50 - 175			1 3/4	9.2	0.35	32	0.44	40	0.55	50	0.65	60	0.84	77
OMS 50 - 200			2	8.6	0.40	34	0.50	43	0.62	53	0.74	64	1.01	87
OMS 50 - 250			2 1/2	6.7	0.50	34	0.63	42	0.78	52	0.93	62	1.28	86
OMS 50 - 300			3	5.6	0.60	34	0.75	42	0.93	52	1.11	62	1.54	86
OMS 50 - 350			3 1/2	4.6	0.70	32	0.88	40	1.09	50	1.30	60	1.81	83
OMS 50 - 400			4	3.6	0.80	29	1.00	36	1.24	45	1.48	53	2.06	74
OMS 50 - 1200			0.10 x 0.06		12	1.2	2.40	29	3.00	36	3.72	45	4.44	53
OMS 62 - 100	5/8	11/32	1	32.4	0.20	65	0.25	81	0.31	100	0.37	120	0.41	133
OMS 62 - 125			1 1/4	21.8	0.25	55	0.31	68	0.38	84	0.46	100	0.52	113
OMS 62 - 150			1 1/2	19.0	0.30	57	0.38	72	0.47	90	0.56	106	0.68	129
OMS 62 - 175			1 3/4	16.7	0.35	58	0.44	73	0.55	91	0.65	109	0.76	127
OMS 62 - 200			2	14.6	0.40	58	0.50	73	0.62	91	0.74	108	0.95	139
OMS 62 - 250			2 1/2	11.2	0.50	56	0.63	71	0.78	87	0.93	104	1.15	129
OMS 62 - 300			3	9.3	0.60	56	0.75	70	0.93	86	1.11	103	1.43	133
OMS 62 - 350			3 1/2	7.8	0.70	55	0.88	69	1.09	85	1.30	101	1.64	128
OMS 62 - 400			4	7.3	0.80	58	1.00	73	1.24	91	1.48	108	1.93	141
OMS 62 - 450			4 1/2	5.9	0.90	53	1.13	67	1.4	83	1.67	99	2.09	123
OMS 62 - 1200	0.13 x 0.08		12	2.2	2.40	53	3.00	66	3.72	82	4.44	98	5.57	123
OMS 75 - 100	3/4	3/8	1	56.5	0.20	113	0.25	141	0.31	175	0.37	209	0.43	243
OMS 75 - 125			1 1/4	44.3	0.25	111	0.31	137	0.38	170	0.46	204	0.55	244
OMS 75 - 150			1 1/2	31.9	0.30	96	0.38	121	0.47	150	0.56	179	0.67	214
OMS 75 - 175			1 3/4	28.6	0.35	100	0.44	126	0.55	156	0.65	186	0.77	220
OMS 75 - 200			2	24.1	0.40	96	0.50	121	0.62	149	0.74	178	0.88	212
OMS 75 - 250			2 1/2	19.0	0.50	95	0.63	120	0.78	148	0.93	177	1.12	213
OMS 75 - 300			3	14.3	0.60	86	0.75	107	0.93	133	1.11	159	1.32	189
OMS 75 - 350			3 1/2	13.2	0.70	92	0.88	116	1.09	144	1.30	172	1.58	209
OMS 75 - 400			4	11.8	0.80	94	1.00	118	1.24	146	1.48	175	1.79	211
OMS 75 - 450			4 1/2	10.6	0.90	95	1.13	120	1.4	149	1.67	177	1.98	210
OMS 75 - 500			5	10.1	1.00	101	1.25	126	1.55	157	1.85	187	2.23	225
OMS 75 - 550			5 1/2	9.3	1.10	102	1.38	128	1.71	159	2.04	190	2.44	227
OMS 75 - 600			6	7.9	1.20	95	1.50	119	1.86	147	2.22	175	2.66	210
OMS 75 - 1200	0.16 x 0.09		12	3.7	2.40	89	3.00	111	3.72	138	4.44	164	5.37	199



Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E	
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	20% L <sub>0</sub>		25% L <sub>0</sub>		31% L <sub>0</sub>		37% L <sub>0</sub>		approx. do not use	
	b x h			± 10%	+ 3,000,000		~ 1,500,000		300 - 500,000		100 - 200,000			
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
OMS 100 - 100			1	78.4	0.20	157	0.25	196	0.31	243	0.37	290	0.39	306
OMS 100 - 125			1 1/4	60.5	0.25	151	0.31	188	0.38	233	0.46	278	0.52	315
OMS 100 - 150			1 1/2	50.4	0.30	151	0.38	192	0.47	237	0.56	282	0.65	328
OMS 100 - 175			1 3/4	43.7	0.35	153	0.44	192	0.55	238	0.65	284	0.76	332
OMS 100 - 200			2	36.4	0.40	146	0.50	182	0.62	226	0.74	269	0.87	317
OMS 100 - 250			2 1/2	28.0	0.50	140	0.63	176	0.78	219	0.93	260	1.08	302
OMS 100 - 300			3	23.8	0.60	143	0.75	179	0.93	221	1.11	264	1.29	307
OMS 100 - 350	1	1/2	3 1/2	20.4	0.70	143	0.88	180	1.09	223	1.30	265	1.54	314
OMS 100 - 400			4	18.2	0.80	146	1.00	182	1.24	226	1.48	269	1.76	320
OMS 100 - 450			4 1/2	15.4	0.90	139	1.13	174	1.4	216	1.67	257	1.96	302
OMS 100 - 500			5	14.0	1.00	140	1.25	175	1.55	217	1.85	259	2.22	311
OMS 100 - 550			5 1/2	12.9	1.10	142	1.38	178	1.71	221	2.04	263	2.48	320
OMS 100 - 600			6	11.2	1.20	134	1.50	168	1.86	208	2.22	249	2.61	292
OMS 100 - 700			7	10.1	1.40	141	1.75	177	2.17	219	2.59	262	3.07	310
OMS 100 - 800			8	9.0	1.60	144	2.00	180	2.48	223	2.96	266	3.48	313
OMS 100 - 1200	0.22 x 0.12		12	6.2	2.40	149	3.00	186	3.72	231	4.44	275	5.38	334
OMS 125 - 150			1 1/2	112.0	0.30	336	0.38	426	0.47	528	0.56	627	0.63	706
OMS 125 - 175			1 3/4	100.8	0.35	353	0.44	444	0.55	550	0.65	655	0.73	736
OMS 125 - 200			2	84.0	0.40	336	0.50	420	0.62	521	0.74	622	0.84	706
OMS 125 - 250			2 1/2	61.6	0.50	308	0.63	388	0.78	481	0.93	573	1.08	665
OMS 125 - 300			3	51.5	0.60	309	0.75	386	0.93	479	1.11	572	1.29	664
OMS 125 - 350			3 1/2	42.5	0.70	298	0.88	374	1.09	464	1.30	553	1.54	655
OMS 125 - 400	1 1/4	5/8	4	36.9	0.80	295	1.00	369	1.24	458	1.48	546	1.71	631
OMS 125 - 450			4 1/2	31.9	0.90	287	1.13	360	1.4	447	1.67	533	1.96	625
OMS 125 - 500			5	26.9	1.00	269	1.25	336	1.55	417	1.85	498	2.13	573
OMS 125 - 550			5 1/2	25.2	1.10	277	1.38	348	1.71	431	2.04	514	2.36	595
OMS 125 - 600			6	23.2	1.20	278	1.50	348	1.86	432	2.22	515	2.63	610
OMS 125 - 700			7	19.6	1.40	274	1.75	343	2.17	425	2.59	508	3.08	604
OMS 125 - 800			8	17.9	1.60	286	2.00	358	2.48	444	2.96	530	3.43	614
OMS 125 - 1000			10	12.6	2.00	252	2.50	315	3.1	391	3.70	466	4.34	547
OMS 125 - 1200	0.28 x 0.16		12	11.8	2.40	283	3.00	354	3.72	439	4.44	524	5.25	620
OMS 150 - 200			2	101.9	0.40	408	0.50	510	0.62	632	0.74	754	0.85	866
OMS 150 - 250			2 1/2	75.6	0.50	378	0.63	476	0.78	591	0.93	703	1.04	786
OMS 150 - 300			3	61.6	0.60	370	0.75	462	0.93	573	1.11	684	1.31	807
OMS 150 - 350			3 1/2	53.7	0.70	376	0.88	473	1.09	586	1.30	698	1.57	843
OMS 150 - 400			4	47.1	0.80	377	1.00	471	1.24	584	1.48	697	1.76	829
OMS 150 - 450	1 1/2	3/4	4 1/2	42.1	0.90	379	1.13	476	1.4	590	1.67	703	1.97	829
OMS 150 - 500			5	35.9	1.00	359	1.25	449	1.55	556	1.85	664	2.17	779
OMS 150 - 550			5 1/2	33.6	1.10	370	1.38	464	1.71	575	2.04	685	2.41	810
OMS 150 - 600			6	29.7	1.20	356	1.50	446	1.86	552	2.22	659	2.66	790
OMS 150 - 700			7	25.2	1.40	353	1.75	441	2.17	547	2.59	653	3.12	786
OMS 150 - 800			8	21.3	1.60	341	2.00	426	2.48	528	2.96	630	3.53	752
OMS 150 - 1000			10	17.9	2.00	358	2.50	448	3.1	555	3.70	662	4.45	797
OMS 150 - 1200	0.31 x 0.20		12	14.0	2.40	336	3.00	420	3.72	521	4.44	622	5.46	764
OMS 200 - 250			2 1/2	120.4	0.50	602	0.63	759	0.78	941	0.93	1120	1.07	1288
OMS 200 - 300			3	98.0	0.60	588	0.75	735	0.93	911	1.11	1088	1.22	1196
OMS 200 - 350			3 1/2	81.2	0.70	568	0.88	715	1.09	886	1.30	1056	1.50	1218
OMS 200 - 400			4	68.3	0.80	546	1.00	683	1.24	847	1.48	1011	1.71	1168
OMS 200 - 450			4 1/2	61.6	0.90	554	1.13	696	1.4	863	1.67	1029	1.90	1170
OMS 200 - 500	2	1	5	57.1	1.00	571	1.25	714	1.55	885	1.85	1056	2.17	1239
OMS 200 - 550			5 1/2	51.5	1.10	567	1.38	711	1.71	881	2.04	1051	2.42	1246
OMS 200 - 600			6	48.1	1.20	577	1.50	722	1.86	895	2.22	1068	2.66	1279
OMS 200 - 700			7	40.6	1.40	568	1.75	711	2.17	881	2.59	1052	3.11	1263
OMS 200 - 800			8	35.3	1.60	565	2.00	706	2.48	875	2.96	1045	3.51	1239
OMS 200 - 1000			10	28.3	2.00	566	2.50	708	3.1	877	3.70	1047	4.46	1262
OMS 200 - 1200	0.44 x 0.28		12	24.6	2.40	590	3.00	738	3.72	915	4.44	1092	5.65	1390
OMS 250 - 300			3	171.4	0.60	1028	0.75	1286	0.93	1594	1.11	1903	1.15	1971
OMS 250 - 350			3 1/2	137.2	0.70	960	0.88	1207	1.09	1497	1.30	1784	1.42	1948
OMS 250 - 400			4	120.9	0.80	967	1.00	1209	1.24	1499	1.48	1789	1.73	2092
OMS 250 - 450			4 1/2	107.5	0.90	968	1.13	1215	1.4	1506	1.67	1795	1.91	2053
OMS 250 - 500	2 1/2	1 1/2	5	93.0	1.00	930	1.25	1163	1.55	1442	1.85	1721	2.17	2018
OMS 250 - 550			5 1/2	89.6	1.10	985	1.38	1232	1.71	1533	2.03	1819	2.39	2141
OMS 250 - 600			6	84.0	1.20	1008	1.50	1260	1.86	1562	2.22	1865	2.60	2184
OMS 250 - 700			7	62.2	1.40	871	1.75	1089	2.17	1350	2.59	1611	3.03	1885
OMS 250 - 800			8	53.7	1.60	859	2.00	1074	2.48	1332	2.96	1590	3.41	1831
OMS 250 - 900			9	49.3	1.80	887	2.25	1109	2.79	1375	3.33	1642	3.90	1923
OMS 250 - 1000			10	43.1	2.00	862	2.50	1078	3.1	1336	3.70	1595	4.42	1905
OMS 250 - 1200	0.45 x 0.38		12	36.9	2.40	886	3.00	1107	3.72	1373	4.44	1638	5.23	1930

**OMS**  
Inch.

- EN** Heavy load springs  
Silver-gold color
- ES** Muelles carga fuerte  
Color plateado-oro



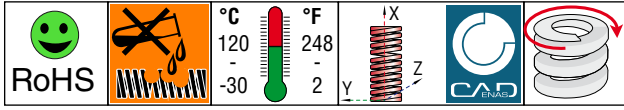
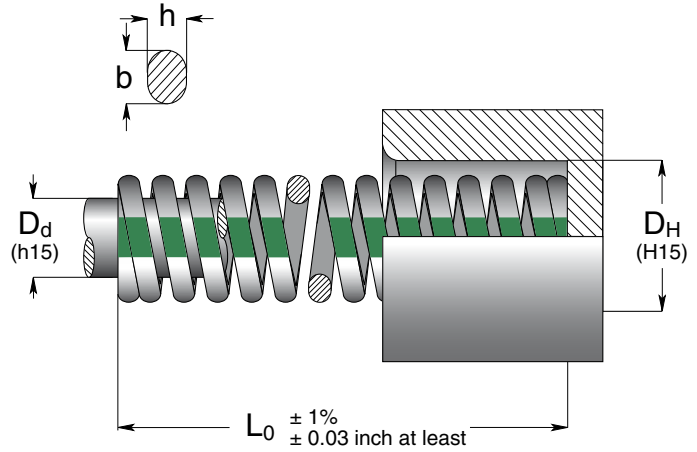
Code	D <sub>H</sub> D <sub>d</sub>		L <sub>0</sub>	R	A		B		C		D		E	
	Hole Diameter	Rod Diameter			Free Length	Spring Constant	15% L <sub>0</sub>	20% L <sub>0</sub>	25% L <sub>0</sub>	30% L <sub>0</sub>	do not use approx.			
	b x h		± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000							
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
OHS 37 - 100	3/8	3/16	1	12.8	0.15	19	0.20	26	0.25	32	0.30	38	0.36	46
OHS 37 - 125			1 1/4	10.6	0.19	20	0.25	27	0.31	33	0.38	40	0.48	51
OHS 37 - 150			1 1/2	9.0	0.23	21	0.30	27	0.38	34	0.45	41	0.52	47
OHS 37 - 175			1 3/4	7.8	0.26	20	0.35	27	0.44	34	0.53	41	0.59	46
OHS 37 - 200			2	6.7	0.30	20	0.40	27	0.50	34	0.60	40	0.77	52
OHS 37 - 250			2 1/2	5.0	0.38	19	0.50	25	0.63	31	0.75	37	0.86	43
OHS 37 - 300			3	3.7	0.45	17	0.60	22	0.75	28	0.90	33	1.10	41
OHS 37 - 1200	0.07 x 0.06	12	1.0	1.80	18	2.40	24	3.00	30	3.60	36	5.01	50	
OHS 50 - 100	1/2	9/32	1	21.6	0.15	32	0.20	43	0.25	54	0.30	65	0.39	84
OHS 50 - 125			1 1/4	18.6	0.19	35	0.25	46	0.31	58	0.38	71	0.54	100
OHS 50 - 150			1 1/2	16.2	0.23	37	0.30	49	0.38	61	0.45	73	0.57	92
OHS 50 - 175			1 3/4	14.0	0.26	36	0.35	49	0.44	61	0.53	74	0.71	99
OHS 50 - 200			2	10.6	0.30	32	0.40	42	0.50	53	0.60	64	0.88	93
OHS 50 - 250			2 1/2	9.0	0.38	34	0.50	45	0.63	56	0.75	68	1.07	96
OHS 50 - 300			3	7.8	0.45	35	0.60	47	0.75	59	0.90	70	1.30	101
OHS 50 - 350			3 1/2	6.2	0.53	33	0.70	43	0.88	54	1.05	65	1.53	95
OHS 50 - 400			4	4.2	0.60	25	0.80	34	1.00	42	1.20	50	1.72	72
OHS 50 - 1200			0.09 x 0.07	12	1.8	1.80	32	2.40	43	3.00	54	3.60	65	5.50
OHS 62 - 100	5/8	11/32	1	44.6	0.15	67	0.20	89	0.25	112	0.30	134	0.33	147
OHS 62 - 125			1 1/4	34.1	0.19	65	0.25	85	0.31	107	0.38	130	0.41	140
OHS 62 - 150			1 1/2	29.1	0.23	67	0.30	87	0.38	109	0.45	131	0.54	157
OHS 62 - 175			1 3/4	24.6	0.26	64	0.35	86	0.44	108	0.53	130	0.63	155
OHS 62 - 200			2	21.8	0.30	65	0.40	87	0.50	109	0.60	131	0.74	161
OHS 62 - 250			2 1/2	17.9	0.38	68	0.50	90	0.63	112	0.75	134	0.98	175
OHS 62 - 300			3	14.0	0.45	63	0.60	84	0.75	105	0.90	126	1.15	161
OHS 62 - 350			3 1/2	11.8	0.53	63	0.70	83	0.88	103	1.05	124	1.36	160
OHS 62 - 400			4	10.6	0.60	64	0.80	85	1.00	106	1.20	127	1.54	163
OHS 62 - 450			4 1/2	9.0	0.68	61	0.90	81	1.13	101	1.35	122	1.73	156
OHS 62 - 1200	0.12 x 0.10	12	3.2	1.80	58	2.40	77	3.0	96	3.60	115	4.08	131	
OHS 75 - 100	3/4	3/8	1	103.6	0.15	155	0.20	207	0.25	259	0.30	311	0.33	342
OHS 75 - 125			1 1/4	78.4	0.19	149	0.25	196	0.31	245	0.38	298	0.43	337
OHS 75 - 150			1 1/2	61.6	0.23	142	0.30	185	0.38	231	0.45	277	0.50	308
OHS 75 - 175			1 3/4	53.7	0.26	140	0.35	188	0.44	235	0.53	285	0.60	322
OHS 75 - 200			2	44.8	0.30	134	0.40	179	0.50	224	0.60	269	0.70	314
OHS 75 - 250			2 1/2	37.1	0.38	141	0.50	186	0.63	232	0.75	278	0.90	334
OHS 75 - 300			3	32.5	0.45	146	0.60	195	0.75	244	0.90	293	1.09	354
OHS 75 - 350			3 1/2	26.9	0.53	143	0.70	188	0.88	235	1.05	282	1.26	339
OHS 75 - 400			4	23.5	0.60	141	0.80	188	1.0	235	1.20	282	1.46	343
OHS 75 - 450			4 1/2	20.7	0.68	141	0.90	186	1.13	233	1.35	279	1.69	350
OHS 75 - 500			5	18.5	0.75	139	1.00	185	1.25	231	1.50	278	1.84	340
OHS 75 - 550			5 1/2	16.8	0.83	139	1.10	185	1.38	231	1.65	277	2.09	351
OHS 75 - 600			6	14.6	0.90	131	1.20	175	1.5	219	1.80	263	2.22	324
OHS 75 - 1200	0.16 x 0.13	12	8.4	1.80	151	2.40	202	3.0	252	3.60	302	4.54	381	





Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	D	E						
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	15% L <sub>0</sub>	20% L <sub>0</sub>	25% L <sub>0</sub>	30% L <sub>0</sub>	approx. do not use						
	b x h inch	inch	inch	± 10% lbs/0.1 in.	+ 3,000,000 inch lbs	~ 1,500,000 inch lbs	300 - 500,000 inch lbs	100 - 200,000 inch lbs	inch lbs						
OHS 100 - 100	1	1/2	1	190.4	0.15	286	0.20	381	0.25	476	0.30	571	0.30	571	
OHS 100 - 125			1 1/4	147.0	0.19	279	0.25	368	0.31	459	0.38	559	0.42	617	
OHS 100 - 150			1 1/2	120.4	0.23	277	0.30	361	0.38	452	0.45	542	0.50	602	
OHS 100 - 175			1 3/4	100.8	0.26	262	0.35	353	0.44	441	0.53	534	0.60	605	
OHS 100 - 200			2	84.6	0.30	254	0.40	338	0.50	423	0.60	508	0.70	592	
OHS 100 - 250			2 1/2	68.3	0.38	260	0.50	342	0.63	427	0.75	512	0.90	615	
OHS 100 - 300			3	57.1	0.45	257	0.60	343	0.75	428	0.90	514	1.08	617	
OHS 100 - 350			3 1/2	47.6	0.53	252	0.70	333	0.88	417	1.05	500	1.28	609	
OHS 100 - 400			4	42.0	0.60	252	0.80	336	1.0	420	1.20	504	1.56	655	
OHS 100 - 450			4 1/2	36.4	0.68	248	0.90	328	1.13	410	1.35	491	1.68	612	
OHS 100 - 500			5	32.5	0.75	244	1.00	325	1.25	406	1.50	488	1.89	614	
OHS 100 - 550			5 1/2	29.1	0.83	242	1.10	320	1.38	400	1.65	480	2.08	605	
OHS 100 - 600			6	26.9	0.90	242	1.20	323	1.5	404	1.80	484	2.24	603	
OHS 100 - 700			7	23.5	1.05	247	1.40	329	1.75	411	2.10	494	2.69	632	
OHS 100 - 800	8	20.7	1.20	248	1.60	331	2.0	414	2.40	497	3.05	631			
OHS 100 - 1200	0.22 x 0.16	12	12.9	1.80	232	2.40	310	3.0	387	3.60	464	4.45	574		
OHS 125 - 150	1 1/4	5/8	1 1/2	207.2	0.23	477	0.30	622	0.38	777	0.45	932	0.50	1036	
OHS 125 - 175			1 3/4	175.8	0.26	457	0.35	615	0.44	769	0.53	932	0.54	949	
OHS 125 - 200			2	150.1	0.30	450	0.40	600	0.50	751	0.60	901	0.63	946	
OHS 125 - 250			2 1/2	117.6	0.38	447	0.50	588	0.63	735	0.75	882	0.86	1011	
OHS 125 - 300			3	98.0	0.45	441	0.60	588	0.75	735	0.90	882	1.05	1029	
OHS 125 - 350			3 1/2	84.0	0.53	445	0.70	588	0.88	735	1.05	882	1.18	991	
OHS 125 - 400			4	72.8	0.60	437	0.80	582	1.0	728	1.20	874	1.46	1063	
OHS 125 - 450			4 1/2	64.4	0.68	438	0.90	580	1.13	725	1.35	869	1.64	1056	
OHS 125 - 500			5	57.7	0.75	433	1.00	577	1.25	721	1.50	866	1.78	1027	
OHS 125 - 550			5 1/2	50.4	0.83	418	1.10	554	1.38	693	1.65	832	2.01	1013	
OHS 125 - 600			6	46.2	0.90	416	1.20	554	1.5	693	1.80	832	2.15	993	
OHS 125 - 700			7	39.2	1.05	412	1.40	549	1.75	686	2.10	823	2.56	1004	
OHS 125 - 800			8	34.1	1.20	409	1.60	546	2.0	682	2.40	818	2.98	1016	
OHS 125 - 1000			10	26.8	1.50	402	2.00	536	2.5	670	3.00	804	3.76	1008	
OHS 125 - 1200	0.29 x 0.20	12	22.4	1.80	403	2.40	538	3.0	672	3.60	806	4.65	1042		
OHS 150 - 200	1 1/2	3/4	2	179.2	0.30	538	0.40	717	0.50	896	0.60	1075	0.84	1505	
OHS 150 - 250			2 1/2	131.6	0.38	500	0.50	658	0.63	823	0.75	987	1.13	1487	
OHS 150 - 300			3	112.0	0.45	504	0.60	672	0.75	840	0.90	1008	1.32	1478	
OHS 150 - 350			3 1/2	98.0	0.53	519	0.70	686	0.88	858	1.05	1029	1.59	1558	
OHS 150 - 400			4	81.2	0.60	487	0.80	650	1.0	812	1.20	974	1.81	1470	
OHS 150 - 450			4 1/2	71.1	0.68	483	0.90	640	1.13	800	1.35	960	2.06	1465	
OHS 150 - 500			5	64.4	0.75	483	1.00	644	1.25	805	1.50	966	2.30	1481	
OHS 150 - 550			5 1/2	58.8	0.83	488	1.10	647	1.38	809	1.65	970	2.54	1494	
OHS 150 - 600			6	53.2	0.90	479	1.20	638	1.5	798	1.80	958	2.79	1484	
OHS 150 - 700			7	45.9	1.05	482	1.40	643	1.75	803	2.10	964	3.23	1483	
OHS 150 - 800			8	40.3	1.20	484	1.60	645	2.0	806	2.40	967	3.77	1519	
OHS 150 - 1000			10	32.5	1.50	488	2.00	650	2.5	813	3.00	975	4.67	1518	
OHS 150 - 1200			0.34 x 0.22	12	26.9	1.80	484	2.40	646	3.0	807	3.60	968	5.73	1541
OHS 200 - 250			2	1	2 1/2	224.0	0.38	851	0.50	1120	0.63	1400	0.75	1680	0.89
OHS 200 - 300	3	187.6			0.45	844	0.60	1126	0.75	1407	0.90	1688	1.07	2007	
OHS 200 - 350	3 1/2	156.8			0.53	831	0.70	1098	0.88	1372	1.05	1646	1.26	1976	
OHS 200 - 400	4	134.4			0.60	806	0.80	1075	1.0	1344	1.20	1613	1.45	1949	
OHS 200 - 450	4 1/2	117.6			0.68	800	0.90	1058	1.13	1323	1.35	1588	1.69	1987	
OHS 200 - 500	5	106.4			0.75	798	1.00	1064	1.25	1330	1.50	1596	1.87	1990	
OHS 200 - 550	5 1/2	95.2			0.83	790	1.10	1047	1.38	1309	1.65	1571	2.13	2028	
OHS 200 - 600	6	84.0			0.90	756	1.20	1008	1.5	1260	1.80	1512	2.29	1924	
OHS 200 - 700	7	72.8			1.05	764	1.40	1019	1.75	1274	2.10	1529	2.74	1995	
OHS 200 - 800	8	64.4			1.20	773	1.60	1030	2.0	1288	2.40	1546	3.16	2035	
OHS 200 - 1000	10	50.4			1.50	756	2.00	1008	2.5	1260	3.00	1512	4.00	2016	
OHS 200 - 1200	0.46 x 0.28	12			40.3	1.80	725	2.40	967	3.0	1209	3.60	1451	4.88	1967

- EN** Extra-heavy load springs  
Silver-green color
- ES** Muelles carga extra-fuerte  
Color plateado-verde



Code	D <sub>H</sub> D <sub>d</sub>		L <sub>0</sub>	R	A		B		C		D		E	
	Hole Diameter	Rod Diameter			Free Length	Spring Constant	15% L <sub>0</sub>	20% L <sub>0</sub>	225% L <sub>0</sub>	25% L <sub>0</sub>	do not use	approx.		
	b x h		± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000	do not use						
	inch	inch	inch	lbs/0.1 in.	inch	lbs	inch	lbs	inch	lbs	inch	lbs	inch	lbs
OES 37 - 100	3/8	3/16	1	22.0	0.15	33	0.20	44	0.23	50	0.25	55	0.31	68
OES 37 - 125			1 1/4	17.0	0.19	32	0.25	43	0.28	48	0.31	53	0.43	73
OES 37 - 150			1 1/2	14.5	0.23	33	0.30	44	0.34	49	0.38	55	0.53	77
OES 37 - 175			1 3/4	11.5	0.26	30	0.35	40	0.39	45	0.44	51	0.54	62
OES 37 - 200			2	10.0	0.30	30	0.40	40	0.45	45	0.50	50	0.66	66
OES 37 - 250			2 1/2	8.0	0.38	30	0.50	40	0.56	45	0.63	50	0.80	64
OES 37 - 300			3	6.5	0.45	29	0.60	39	0.68	44	0.75	49	1.02	66
OES 37 - 1200	0.08 x 0.06	12	1.5	1.80	27	2.40	36	2.70	41	3.00	45	4.47	67	
OES 50 - 100	1/2	9/32	1	32.0	0.15	48	0.20	64	0.23	72	0.25	80	0.33	106
OES 50 - 125			1 1/4	24.0	0.19	46	0.25	60	0.28	68	0.31	74	0.41	98
OES 50 - 150			1 1/2	20.0	0.23	46	0.30	60	0.34	68	0.38	76	0.50	100
OES 50 - 175			1 3/4	17.0	0.26	44	0.35	60	0.39	67	0.44	75	0.55	94
OES 50 - 200			2	14.0	0.30	42	0.40	56	0.45	63	0.50	70	0.63	88
OES 50 - 250			2 1/2	11.5	0.38	44	0.50	58	0.56	65	0.63	72	0.83	95
OES 50 - 300			3	9.0	0.45	41	0.60	54	0.68	61	0.75	68	0.96	86
OES 50 - 350			3 1/2	8.0	0.53	42	0.70	56	0.79	63	0.88	70	1.18	94
OES 50 - 400			4	6.2	0.60	37	0.80	50	0.90	56	1.00	62	1.40	87
OES 50 - 1200			0.10 x 0.08	12	2.5	1.80	45	2.40	60	2.70	68	3.00	75	4.12
OES 62 - 100	5/8	11/32	1	63.0	0.15	95	0.20	126	0.23	142	0.25	158	0.31	195
OES 62 - 125			1 1/4	47.0	0.19	89	0.25	118	0.28	132	0.31	146	0.40	188
OES 62 - 150			1 1/2	38.1	0.23	88	0.30	114	0.34	129	0.38	145	0.48	183
OES 62 - 175			1 3/4	32.0	0.26	83	0.35	112	0.39	126	0.44	141	0.55	176
OES 62 - 200			2	29.0	0.30	87	0.40	116	0.45	131	0.50	145	0.65	189
OES 62 - 250			2 1/2	22.0	0.38	84	0.50	110	0.56	124	0.63	139	0.77	169
OES 62 - 300			3	18.0	0.45	81	0.60	108	0.68	122	0.75	135	1.02	184
OES 62 - 350			3 1/2	16.0	0.53	85	0.70	112	0.79	126	0.88	141	1.16	186
OES 62 - 400			4	13.5	0.60	81	0.80	108	0.90	122	1.00	135	1.33	180
OES 62 - 450			4 1/2	11.8	0.68	80	0.90	106	1.01	119	1.13	133	1.51	178
OES 62 - 1200	0.12 x 0.11	12	4.5	1.80	81	2.40	108	2.70	122	3.00	135	3.54	159	
OES 75 - 100	3/4	3/8	1	117.	0.15	176	0.20	235	0.23	263	0.25	294	0.28	329
OES 75 - 125			1 1/4	95.2	0.19	181	0.25	238	0.28	268	0.31	295	0.37	352
OES 75 - 150			1 1/2	75.6	0.23	174	0.30	227	0.34	255	0.38	287	0.46	348
OES 75 - 175			1 3/4	67.2	0.26	175	0.35	235	0.39	265	0.44	296	0.55	370
OES 75 - 200			2	56.0	0.30	168	0.40	224	0.45	252	0.50	280	0.64	358
OES 75 - 250			2 1/2	47.6	0.38	181	0.50	238	0.56	268	0.63	300	0.85	405
OES 75 - 300			3	39.2	0.45	176	0.60	235	0.68	265	0.75	294	0.98	384
OES 75 - 350			3 1/2	31.3	0.53	166	0.70	219	0.79	246	0.88	275	1.20	376
OES 75 - 400			4	27.5	0.60	165	0.80	220	0.90	248	1.00	275	1.37	377
OES 75 - 450			4 1/2	23.5	0.68	160	0.90	212	1.01	238	1.13	266	1.65	388
OES 75 - 500			5	21.8	0.75	164	1.00	218	1.13	245	1.25	273	1.83	399
OES 75 - 550			5 1/2	19.0	0.83	158	1.10	209	1.24	235	1.38	262	1.93	367
OES 75 - 600	6	17.9	0.90	161	1.20	215	1.35	242	1.50	269	2.11	378		
OES 75 - 1200	0.16 x 0.14	12	9.4	1.80	169	2.40	226	2.70	254	3.00	282	4.53	426	



Code	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A	B	C	D	E					
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	15% L <sub>0</sub>	20% L <sub>0</sub>	22.5% L <sub>0</sub>	25% L <sub>0</sub>	approx. do not use					
	b x h			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000						
	inch	inch	inch	lbs/0.1 in.	inch	inch	inch	inch	inch					
					lbs	lbs	lbs	lbs	lbs					
OES 100 - 100	1	1/2	1	252.0	0.15	378	0.20	504	0.23	567	0.25	630	0.26	655
OES 100 - 125			1 1/4	196.0	0.19	372	0.25	490	0.28	551	0.31	608	0.37	725
OES 100 - 150			1 1/2	184.8	0.23	425	0.30	554	0.34	624	0.38	702	0.46	850
OES 100 - 175			1 3/4	151.2	0.26	393	0.35	529	0.39	595	0.44	665	0.56	847
OES 100 - 200			2	114.8	0.30	344	0.40	459	0.45	517	0.50	574	0.67	769
OES 100 - 250			2 1/2	89.6	0.38	340	0.50	448	0.56	504	0.63	564	0.83	744
OES 100 - 300			3	72.8	0.45	328	0.60	437	0.68	491	0.75	546	0.98	713
OES 100 - 350			3 1/2	61.6	0.53	326	0.70	431	0.79	485	0.88	542	1.18	727
OES 100 - 400			4	54.9	0.60	329	0.80	439	0.90	494	1.00	549	1.33	730
OES 100 - 450			4 1/2	48.1	0.68	327	0.90	433	1.01	487	1.13	544	1.54	741
OES 100 - 500			5	43.1	0.75	323	1.00	431	1.13	485	1.25	539	1.66	715
OES 100 - 550			5 1/2	36.4	0.83	302	1.10	400	1.24	450	1.38	502	1.88	684
OES 100 - 600	6	35.9	0.90	323	1.20	431	1.35	485	1.50	539	2.01	722		
OES 100 - 700	7	30.8	1.05	323	1.40	431	1.58	485	1.75	539	2.44	752		
OES 100 - 800	8	26.3	1.20	316	1.60	421	1.8	473	2.00	526	2.76	726		
OES 100 - 1200	0.22 x 0.18	12	19.0	1.80	342	2.40	456	2.7	513	3.00	570	4.15	789	
OES 125 - 150	1 1/4	5/8	1 1/2	268.8	0.23	618	0.30	806	0.34	907	0.38	1021	0.40	1075
OES 125 - 175			1 3/4	220.4	0.26	582	0.35	784	0.39	868	0.44	986	0.51	1142
OES 125 - 200			2	190.4	0.30	571	0.40	762	0.45	857	0.50	952	0.60	1142
OES 125 - 250			2 1/2	151.2	0.38	575	0.50	756	0.56	851	0.63	953	0.80	1210
OES 125 - 300			3	123.2	0.45	554	0.60	739	0.68	832	0.75	924	0.91	1121
OES 125 - 350			3 1/2	95.2	0.53	505	0.70	666	0.79	750	0.88	838	1.11	1057
OES 125 - 400			4	84.0	0.60	504	0.80	672	0.90	756	1.00	840	1.31	1100
OES 125 - 450			4 1/2	78.4	0.68	533	0.90	706	1.01	794	1.13	886	1.52	1192
OES 125 - 500			5	72.8	0.75	546	1.00	728	1.13	819	1.25	910	1.63	1187
OES 125 - 550			5 1/2	64.4	0.83	535	1.10	708	1.24	797	1.38	889	1.77	1140
OES 125 - 600			6	58.8	0.90	529	1.20	706	1.35	794	1.50	882	1.96	1152
OES 125 - 700			7	52.6	1.05	552	1.40	736	1.58	828	1.75	921	2.29	1205
OES 125 - 800	8	43.1	1.20	517	1.60	690	1.8	776	2.00	862	2.60	1121		
OES 125 - 1000	10	34.7	1.50	521	2.00	694	2.25	781	2.50	868	3.26	1131		
OES 125 - 1200	0.29 x 0.24	12	28.0	1.80	504	2.40	672	2.7	756	3.00	840	3.92	1098	
OES 150 - 200	1 1/2	3/4	2	308.0	0.30	924	0.40	1232	0.45	1386	0.50	1540	0.54	1663
OES 150 - 250			2 1/2	263.2	0.38	1000	0.50	1316	0.56	1481	0.63	1658	0.78	2053
OES 150 - 300			3	201.6	0.45	907	0.60	1210	0.68	1361	0.75	1512	0.90	1814
OES 150 - 350			3 1/2	168.0	0.53	890	0.70	1176	0.79	1323	0.88	1478	1.10	1848
OES 150 - 400			4	145.6	0.60	874	0.80	1165	0.90	1310	1.00	1456	1.26	1835
OES 150 - 450			4 1/2	128.8	0.68	876	0.90	1159	1.01	1304	1.13	1455	1.43	1842
OES 150 - 500			5	114.8	0.75	861	1.00	1148	1.13	1292	1.25	1435	1.61	1848
OES 150 - 550			5 1/2	106.4	0.83	883	1.10	1170	1.24	1317	1.38	1468	1.78	1894
OES 150 - 600			6	95.2	0.90	857	1.20	1142	1.35	1285	1.50	1428	1.98	1885
OES 150 - 700			7	84.0	1.05	882	1.40	1176	1.58	1323	1.75	1470	2.27	1907
OES 150 - 800			8	72.8	1.20	874	1.60	1165	1.8	1310	2.00	1456	2.70	1966
OES 150 - 1000			10	56.0	1.50	840	2.00	1120	2.25	1260	2.50	1400	3.32	1859
OES 150 - 1200	0.33 x 0.29	12	47.6	1.80	857	2.40	1142	2.7	1285	3.00	1428	4.15	1975	
OES 200 - 250	2	1	2 1/2	368.5	0.38	1400	0.50	1843	0.56	2073	0.63	2322	0.65	2395
OES 200 - 300			3	316.4	0.45	1424	0.60	1898	0.68	2136	0.75	2373	0.82	2594
OES 200 - 350			3 1/2	257.6	0.53	1365	0.70	1803	0.79	2029	0.88	2267	0.94	2421
OES 200 - 400			4	229.6	0.60	1378	0.80	1837	0.90	2066	1.00	2296	1.15	2640
OES 200 - 450			4 1/2	196.0	0.68	1333	0.90	1764	1.01	1985	1.13	2215	1.27	2489
OES 200 - 500			5	179.2	0.75	1344	1.00	1792	1.13	2016	1.25	2240	1.44	2580
OES 200 - 550			5 1/2	162.4	0.83	1348	1.10	1786	1.24	2010	1.38	2241	1.60	2598
OES 200 - 600			6	151.2	0.90	1361	1.20	1814	1.35	2041	1.50	2268	1.74	2631
OES 200 - 700			7	128.8	1.05	1352	1.40	1803	1.58	2029	1.75	2254	2.03	2615
OES 200 - 800			8	110.6	1.20	1327	1.60	1770	1.8	1991	2.00	2212	2.27	2511
OES 200 - 1000			10	87.4	1.50	1311	2.00	1748	2.25	1967	2.50	2185	2.89	2526
OES 200 - 1200			0.45 x 0.37	12	83.4	1.80	1501	2.40	2002	2.7	2252	3.00	2502	3.51

**EN** Besides the production of standard springs, Special Springs is able to design and produce springs NON-STANDARD and customized springs per customer design, both with round and shaped wires.

**ES** Además de la producción de muelles estándar, Special Springs puede fabricar muelles NO ESTANDAR y ESPECIALES según plano del cliente, sea con hilo redondo o de forma



**EN** Large compression springs, compression springs with stems terminals, spiral springs for conveyors, and any other type of special "spring" makes Special Springs the "Special" partner for your special needs.

**ES** Muelles de compresión de grandes dimensiones, muelles de torsión, muelles abiertos para transportadores y cualquier otro tipo de muelle "especial" hacen de Special Springs el socio "Especial" para exigencias especiales.

**EN** 40 years of expertise and know-how with cold wire profiling along with the in-house heat treatment, allow Special Springs to manufacture springs with special dimensions and wire profiles, also with minimum quantity, and always assuring short delivery and very competitive prices.

**ES** 40 años de experiencia y know-how en el perfilado en frío de hilos con sección no redonda con tratamiento térmico interno, permiten a Special Springs producir muelles con dimensiones y secciones de hilo especiales, incluso para cantidades pequeñas, con plazo y precio muy competitivos.





**EN** All Special Springs' products in this catalog can be provided UNPAINTED for meeting special needs and applications. The technical data of the UNPAINTED springs are the same as the standard springs including the standard quantity per pack. The UNPAINTED springs are always supplied with rust preventive oil.

**ES** Todos los muelles incluidos en el presente catálogo de Special Springs pueden ser suministrados también SIN PINTAR para satisfacer exigencias y aplicaciones especiales. Los datos técnicos de los muelles SIN PINTAR son los mismos que los estándar, incluidas las cantidades por bolsa. Los muelles SIN PINTAR se suministran siempre con aceite protector antioxidación.



**EN** The delivery time for UNPAINTED springs may differ from that of standard springs. Always contact your Special Springs customer service for detailed information. For UNPAINTED springs orders, please clearly specify on the order the note "UNPAINTED". Please remember that UNPAINTED springs can rust more easily and this can be a reason for possible early failure. Therefore, it is recommended to check the conditions of the springs periodically.

**ES** Los plazos de los muelles SIN PINTAR pueden diferir de aquellos de los muelles estándar. Contactar siempre con el servicio de atención al cliente de Special Springs para información más precisa. En pedidos de muelles SIN PINTAR es necesario remarcar en el pedido, de modo claro, "SIN PINTAR". Se recuerda que los muelles SIN PINTAR son más propensos a oxidarse, siendo la oxidación causa de roturas prematuras. Se recomienda verificar periódicamente el estado de los muelles.





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