



Wire Die Springs

to ISO 10243

to JIS Standard B5012

公制 ISO 10243 标准模具弹簧

日本 JIS B5012 标准模具弹簧





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.

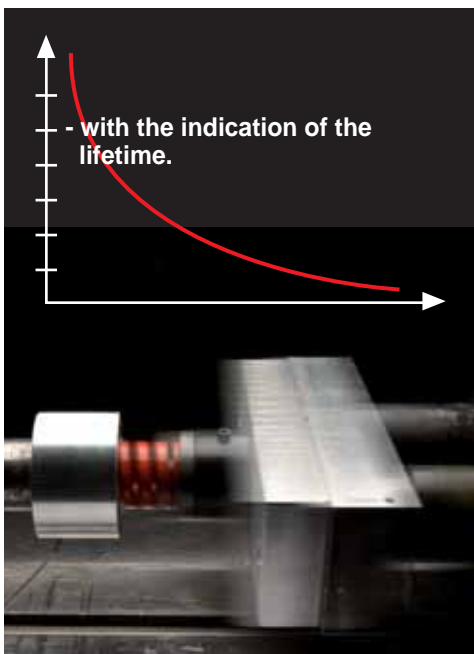
CN 持续的研究与开发，符合ISO 9001标准的严格的质量保证程序，确保高水平尺寸的准确性，耐久性和可靠性。

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

CN CAD SPRINGS 是首个创新的集成软件，用来计算、选择及产生适合的 SPECIAL SPRINGS 模具弹簧，计算机辅助设计图档也可在 CADenas Partserver 资料库获得。图档资料同样可在CADenas Partserver下载得到。



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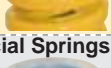

EN Ongoing in-house reliability tests allow Special Springs to provide a service life values of springs in compliance of working deflections and recommendations.






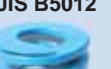

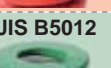
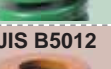
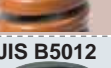

The stated service life values are not guaranteed due to the impossibility to consider all variables on the real working conditions of the springs.

CN 公司内部进行持续可靠性的产品测试，允许 SPECIAL SPRINGS 提供符合工作压缩量及使用建议的弹簧工作寿命数据。

指示的使用寿命数据是没办法保证的，因为在弹簧实际工作环境中，不可能考虑到所有不同的变数。

范围总结 range summary

Series 系列	Standard 标准	Color 颜色	Load 荷载	 + 3.000.000 cycles	 ~1.500.000 cycles	 300-500.000 cycles	 100-200.000 cycles
VL	Special Springs Std 	Light green 浅绿色 (RAL6019)	Extra-light 特轻型	30 % L ₀	40 % L ₀	45 % L ₀	50 % L ₀
V	ISO 10243 	Green 绿色 (RAL 6002)	Light 轻型	25 % L ₀	30 % L ₀	35 % L ₀	40 % L ₀
B	ISO 10243 	Blue 蓝色 (RAL 5003)	Medium 中型	25 % L ₀	30 % L ₀	33,75 % L ₀	37,75 % L ₀
R	ISO 10243 	Red 红色 (RAL 3000)	Heavy 重型	20 % L ₀	25 % L ₀	27,5 % L ₀	30 % L ₀
G	ISO 10243 	Yellow 黄色 (RAL 1004)	Extra-Heavy 特重型	17 % L ₀	20 % L ₀	22,5 % L ₀	25 % L ₀
A	Special Springs Std 	Silver 银色 (RAL 9006)	Ultra-Heavy 超重型	10 % L ₀	12 % L ₀	13,5 % L ₀	15 % L ₀
W	Special Springs Std 	White	Hyper strong 超强承载弹簧	5 % L ₀	6,5 % L ₀	7,5 % L ₀	8,4 - 14 % L ₀
TV	Special Springs Std 	Green 绿色 (RAL 6002)	Light 轻型	25 % L ₀	30 % L ₀	35 % L ₀	40 % L ₀
TB	Special Springs Std 	Blue 蓝色 (RAL 5003)	Medium 中型	25 % L ₀	30 % L ₀	33,75 % L ₀	37,5 % L ₀
TR	Special Springs Std 	Red 红色 (RAL 3000)	Heavy 重型	20 % L ₀	25 % L ₀	27,5 % L ₀	30 % L ₀

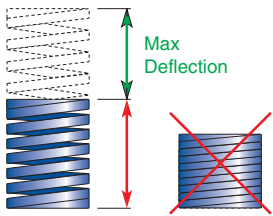
Series 系列	Standard 标准	Color 颜色	Load 荷载	 1.000.000 cycles	 500.000 cycles	 300.000 cycles	 Solid deflections Do not use!
SF	JIS B5012 	Yellow 黄色 (RAL 1004)	Extra-light 特轻型	40 % L ₀	45 % L ₀	50 % L ₀	58 % L ₀
SL	JIS B5012 	Blue 蓝色 (RAL 5012)	Light 轻型	32 % L ₀	36 % L ₀	40 % L ₀	48 % L ₀
SM	JIS B5012 	Red 红色 (RAL 3000)	Medium 中型	25,6 % L ₀	28,8 % L ₀	32 % L ₀	38 % L ₀
SH	JIS B5012 	Green 绿色 (RAL 6002)	Heavy 重型	19,2 % L ₀	21,6 % L ₀	24 % L ₀	28 % L ₀
SB	JIS B5012 	Brown 棕色 (RAL 8003)	Extra-Heavy 特重型	16 % L ₀	18 % L ₀	20 % L ₀	24 % L ₀
L	JIS B5012 	Not painted, oiled 没喷漆, 上油	-	-	-	-	-
SR	JIS B5012 	Ivory 象牙色 (RAL 1014)	-	-	50 % L ₀	-	60 % L ₀

L₀ = Free length 自由长度

use recommendations 使用建议

EN The correct use of Special Springs' die springs assure performance levels well above the lifetime values indicated. Before using the springs, carefully read all the recommendations. Incorrect use can significantly reduce the expected lifetime and may cause damages or injury.

CN 正确使用Special Springs模具弹簧可保证工作水平远高于所指示的工作寿命。在使用弹簧前，请详阅所有使用建议。不正确使用会明显减低预期寿命及引致损坏或伤害。

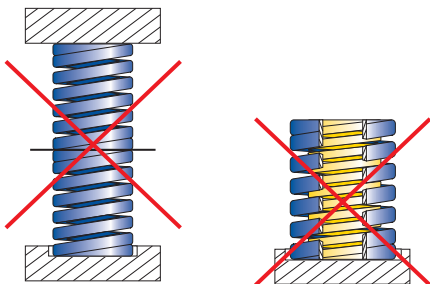
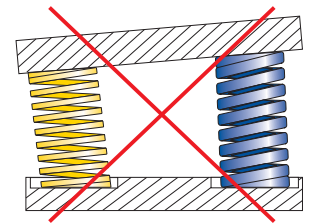
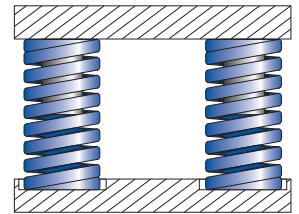


EN Do not exceed the maximum deflection as indicated in the tabs (column D) as it may cause sudden failure of the springs and damages on the tool. Do not store springs in compressed state for long time as it may cause abnormal fatigue to the springs.

CN 不要超过弹簧的最大压缩量如标签（D栏）所示，因为这样会造成弹簧突然衰竭导致模具损坏。不要长时间在压缩的状态下贮存弹簧，会导致弹簧异常疲劳。

EN When using different type of springs in parallel simultaneously ensure that overall deflection and force guarantee a balanced load. When setting the springs ensure the best perpendicularity to the working surface to avoid early failure of the springs.

CN 当使用不同类型的弹簧同时并列时，确保整体弹簧压缩和弹力均衡负荷下。当安装弹簧时，确保垂直于工作面以避免弹簧提早衰竭。

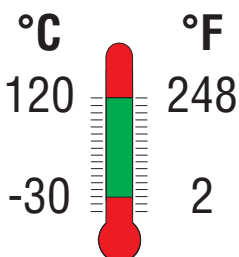
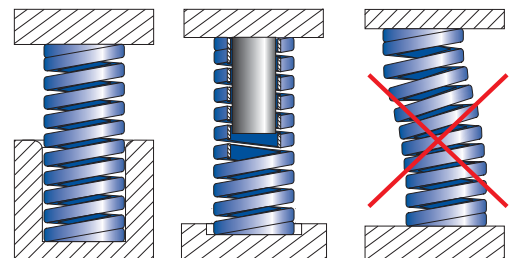


EN Avoid to using springs in vertical group not fully guided or using springs inserted in each other as it may cause serious damage or injury.

CN 避免在没有导向的情况下串联弹簧或弹簧互相插入使用，这会造成严重的损坏或伤害。

EN The bigger the guide the longer the lifetime. It is essential to guide all springs with a free length /diameter ratio exceeding 3.5.

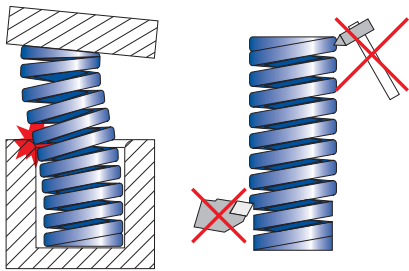
CN 良好的导向，更长寿命。所有弹簧是需要导向，长度不超于自由长度/直径比率3.5倍。



EN Best working temperature – 30°C + 120°C. Over 120°C and up to 250°C should be considered an average loss of 1% on springs rate for every 40°C.

CN 最佳工作温度为-30°C~120°C。在120°C~250°C温度下工作时应考虑每升40°C平均损耗减少1%弹力。

使用建议 use recommendations

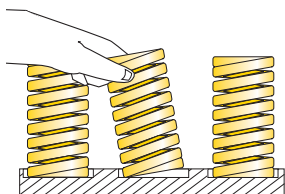
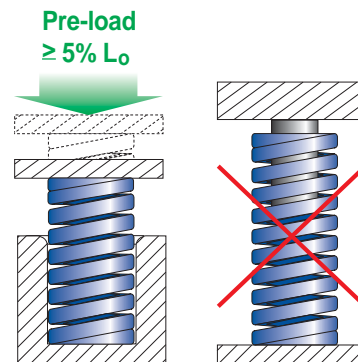


EN Any alteration on the surface of the springs (cutting, grinding, scratches, etc.) may significantly reduce the expected lifetime. Always replace the damaged springs with new ones.

CN 在弹簧表面有任何改变（切割、研磨、擦伤等）可能明显地减少预期寿命。要经常更换损坏弹簧。

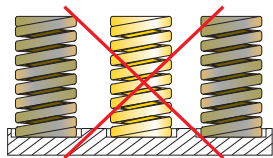
EN The bigger the pre-load the longer the lifetime of the springs for the same total deflection (% of L_0). Thus longer springs with bigger pre-load will assure longer lifetime. It is recommended to apply a minimum pre-load of 5% of the free length.

CN 在相同的总压缩量（%自由长度）情况下，弹簧的预载量越大，寿命会越长。因此，越长的弹簧，越多的预载量确保更长的寿命。建议最少应用5%自由长度的预载量。



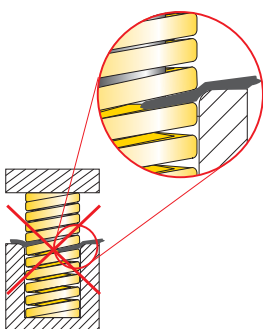
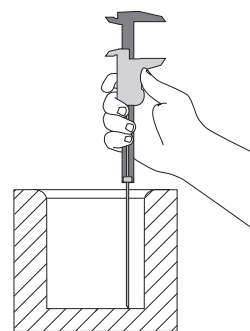
EN If one spring collapses, an imbalanced load will occur, possibly damaging the other springs. Replace all springs. An advance planned maintenance according to the indicated lifetime of the springs will benefit in avoiding damages and saving of money.

CN 如果一个弹簧报废，会使产品受力不平衡，可能会损害其他弹簧。在这种情况下需更换所有弹簧。根据标示的弹簧寿命可进行预先计划维护，将有利于避免损坏和节约开支。



EN Tool maintenance can vary the original working deflection of the springs. Please always check the real working stroke of the springs to avoid early failure of the springs or damages in the tool.

CN 在模具维护时可能会改变弹簧原来的工作压缩量。请经常测量弹簧实际工作行程，以防止弹簧提前衰竭或损坏模具。



EN The presence of scraps or any solid piece between coils causes a reduction of springs deflection with overloads and early failure of the springs with damage in the tool. Take care to avoid that.

CN 当有刮伤或硬物插在弹簧线圈间隙时会导致弹簧超载从而减低压缩量和弹簧提前衰竭造成模具损坏。

springs selection 弹簧的选择

EN The following selecting guide-line 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 spring force (ex.: 380 N) and total spring working deflection including pre-load (ex.: 5 mm).

CN 以下选择指南是提供如何方便快捷的选择弹簧，请选定以下工作参数：预期寿命（如：3.000.000回次），孔径（如：16mm），总弹力（如：380N）和弹簧总工作行程包括预载（如：5mm）。

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).

CN 通过在第7和8页的表格，利用要求的孔径尺寸（如：16mm）选出预期寿命部分（如：3.000.000回次）。

RECTANGULAR WIRE SECTION

Estimated Life	Hole diameter (mm)								Series	
	10	12,5	16	20	25	32	40	50		63
	Load (N)									
	-	-	-	220	410	485	745	1560	-	VL
	70	130	185	315	560	830	1130	2320	3250	V
	110	190	330	525	845	1520	2030	3050	5310	B
	125	200	380	935	1560	2530	3270	4860	8440	R
	145	230	455	1090	1760	2800	4770	6820	11890	G
	-	-	-	-	4090	6350	7700	12280	-	A

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

CN 预期寿命与孔径的交叉部分表示不同弹力。选一项最接近你的要求。

RECTANGULAR WIRE SECTION

Estimated Life	Hole diameter (mm)								Series	
	10	12,5	16	20	25	32	40	50		63
	Load (N)									
	-	-	-	220	410	485	745	1560	-	VL
	70	130	185	315	560	830	1130	2320	3250	V
	110	190	330	525	845	1520	2030	3050	5310	B
	125	200	380	935	1560	2530	3270	4860	8440	R
	145	230	455	1090	1760	2800	4770	6820	11890	G
	-	-	-	-	4090	6350	7700	12280	-	A

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

CN 选到适合的弹力格（如：380N）后，查出相对的荷载弹簧系列（如：R - 重荷载）。

RECTANGULAR WIRE SECTION

Estimated Life	Hole diameter (mm)								Series	
	10	12,5	16	20	25	32	40	50		63
	Load (N)									
	-	-	-	220	410	485	745	1560	-	VL
	70	130	185	315	560	830	1130	2320	3250	V
	110	190	330	525	845	1520	2030	3050	5310	B
	125	200	380	935	1560	2530	3270	4860	8440	R
	145	230	455	1090	1760	2800	4770	6820	11890	G
	-	-	-	-	4090	6350	7700	12280	-	A

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.

CN 跟着转到标准表格列表相对预期寿命3.000.000回次的专栏A上。选择需要的总弹簧压缩量。

Code	D ₁	D ₂	L ₀	R	A	B	C	D	E			
				20% L	25% L	27.5% L	30% L	do not use				
				3.000.000	1.500.000	300-500.000	100-200.000	do not use				
R 16 - 025	25	75.7	5.0	379	6.3	477	6.9	520	7.5	568	8.4	50
R 16 - 032	32	52.8	6.4	338	8.0	422	8.8	465	9.6	507	10.5	30
R 16 - 038	38	48.5	7.6	369	9.5	411	10.5	507	11.4	553	13.6	25
R 16 - 044	44	42.8	8.8	377	11.0	471	12.1	518	13.2	565	15.9	25
R 16 - 051	51	37.1	10.2	378	12.8	475	14.0	520	15.3	568	18.9	25
R 16 - 064	64	30.3	12.8	368	16.0	485	17.6	533	19.2	582	24.9	25
R 16 - 076	76	25.7	15.2	391	19.0	488	20.9	537	22.8	586	29.2	20
R 16 - 089	89	21.7	17.8	386	22.3	484	24.5	531	26.7	579	34.3	20
R 16 - 102	102	19.3	20.4	394	25.5	492	28.1	541	30.6	591	39.1	20
R 16 - 115	115	15.7	23.0	361	28.8	452	31.6	497	34.5	542	44.0	10
R 16 - 305	3.1 x 2.5	305	7.1	61.0	433	76.3	547	83.9	91.5	650	103.6	10
RHL 37 - 100	25	22.1	5.0	111	6.3	139	6.9	152	7.5	166	9.2	50

EN Once selected the total springs deflection (ex.: 5 mm) select the corresponding spring code (ex.: R 16 - 025). The bigger the pre-load the longer the lifetime of springs for the same total deflection (% of L₀).

CN 一旦选妥弹簧压缩量（如：5mm），再选其相对的弹簧编码（如：R 16 - 025）。在相同的总压缩量（%自由长度）情况下，弹簧的预载量越大，寿命会越长。

Code	D ₁	D ₂	L ₀	R	A	B	C	D	E			
				20% L	25% L	27.5% L	30% L	do not use				
				3.000.000	1.500.000	300-500.000	100-200.000	do not use				
R 16 - 025	25	75.7	5.0	379	6.3	477	6.9	520	7.5	568	8.4	50
R 16 - 032	32	52.8	6.4	338	8.0	422	8.8	465	9.6	507	10.5	30
R 16 - 038	38	48.5	7.6	369	9.5	411	10.5	507	11.4	553	13.6	25
R 16 - 044	44	42.8	8.8	377	11.0	471	12.1	518	13.2	565	15.9	25
R 16 - 051	51	37.1	10.2	378	12.8	475	14.0	520	15.3	568	18.9	25
R 16 - 064	64	30.3	12.8	368	16.0	485	17.6	533	19.2	582	24.9	25
R 16 - 076	76	25.7	15.2	391	19.0	488	20.9	537	22.8	586	29.2	20
R 16 - 089	89	21.7	17.8	386	22.3	484	24.5	531	26.7	579	34.3	20
R 16 - 102	102	19.3	20.4	394	25.5	492	28.1	541	30.6	591	39.1	20
R 16 - 115	115	15.7	23.0	361	28.8	452	31.6	497	34.5	542	44.0	10
R 16 - 305	3.1 x 2.5	305	7.1	61.0	433	76.3	547	83.9	91.5	650	103.6	10
RHL 37 - 100	25	22.1	5.0	111	6.3	139	6.9	152	7.5	166	9.2	50

弹簧的选择 springs selection

RECTANGULAR WIRE SECTION 矩形钢线横切面

Estimated Life 预期寿命	孔径 Hole diameter (mm)									Series 系列
	10	12.5	16	20	25	32	40	50	63	
+ 3.000.000 cycles 回次	荷载 Load (N)									
	-	-	-	220	410	485	745	1560	-	VL
	70	130	185	315	560	830	1130	2320	3250	V
	110	190	330	525	845	1520	2030	3050	5310	B
	125	200	380	935	1560	2530	3270	4860	8440	R
	145	230	455	1090	1760	2800	4770	6820	11890	G
-	-	-	-	4090	6350	7700	12280	-	A	
~ 1.500.000 cycles 回次	荷载 Load (N)									
	-	-	-	290	540	650	1000	2120	-	VL
	80	150	220	380	675	990	1360	2780	3900	V
	130	230	400	625	1010	1830	2430	3660	6370	B
	155	250	480	1170	1950	3170	4090	6070	10560	R
	170	270	535	1280	2070	3290	5610	8030	13990	G
-	-	-	-	4910	7620	9240	14730	-	A	
300 -500.000 cycles 回次	荷载 Load (N)									
	-	-	-	330	610	730	1120	2380	-	VL
	95	180	260	440	780	1160	1590	3240	4540	V
	150	255	450	705	1140	2060	2730	4120	7170	B
	170	275	525	1290	2140	3480	4490	6670	11610	R
	195	305	605	1440	2320	3700	6300	9020	15740	G
-	-	-	-	5530	8570	10400	16580	-	A	
100 -200.000 cycles 回次	荷载 Load (N)									
	-	-	-	365	680	810	1250	2650	-	VL
	110	200	300	500	890	1320	1810	3710	5190	V
	170	280	500	780	1260	2280	3040	4580	7960	B
	185	300	570	1400	2340	3800	4900	7280	12660	R
	215	340	670	1605	2585	4120	7010	10040	17330	G
-	-	-	-	6140	9520	11550	18420	-	A	



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

CN 指示的使用寿命数据是没办法保证的，因为在弹簧实际工作环境中，不可能考虑到所有不同的变数。
选择指南是一种近似的弹簧选择方法。

springs selection 弹簧的选择

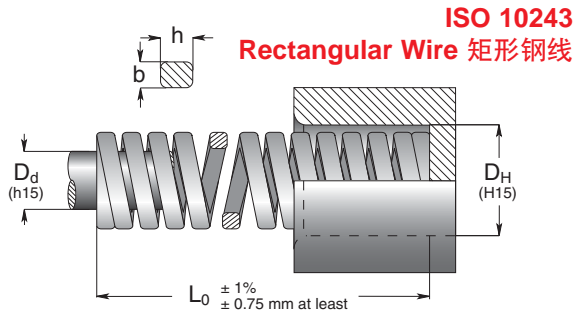
● ROUND WIRE SECTION

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

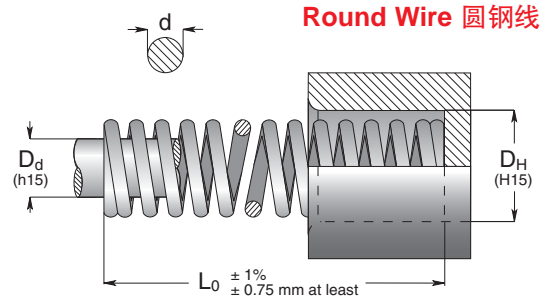
▨ JIS B5012 - RECTANGULAR WIRE SECTION

Estimated Life 预期寿命	孔径 Outside diameter (mm)													Series 系列	
	10	12	14	16	18	20	22	25	27	30	35	40	50		60
1,000,000 cycles 回次	荷载 Load (N)														
	78.5	107.9	142.2	166.7	206	255	314	392	471	569	768.3	1000	1569	2260	SF
	112.8	166.7	216	275	333	422	530	657	785	893	1295	1697	2650	3810	SL
	156.9	226	304	402	510	628	765	981	1147	1412	1912	2510	3920	5640	SM
	235	333	461	608	765	941	1138	1471	1716	2120	2870	3770	5880	8470	SH
500,000 cycles 回次	荷载 Load (N)														
	353	451	588	785	981	1255	1530	1922	2280	2820	3840	5020	7850	11300	SB
	88.3	122.6	156.9	186.3	225	284	353	441	530	637	864.4	1128	1765	2540	SF
	127.5	186.3	245	314	382	481	588	745	883	1005	1461	1903	2980	4290	SL
	176.5	255	343	451	569	706	853	1098	1285	1579	2160	2820	4410	6350	SM
300,000 cycles 回次	荷载 Load (N)														
	265	373	520	677	853	1059	1275	1657	1932	2380	3240	4240	6620	9540	SH
	402	510	667	883	883	1108	1412	1726	2170	2560	3180	4320	5650	8830	SB
	98.1	137.3	176.5	206	255	314	392	490	588	706	961	1255	1961	2820	SF
	142.2	206	275	343	422	530	657	824	981	1117	1618	2120	3310	4770	SL
300,000 cycles 回次	荷载 Load (N)														
	196.1	284	383	500	637	785	951	1226	1432	1785	2400	3140	4900	7060	SM
	294	422	579	755	951	1177	1422	1834	2150	2550	3600	4710	7360	10590	SH
300,000 cycles 回次	荷载 Load (N)														
	441	569	736	981	1226	1569	1912	2400	2840	3530	4810	6280	9810	14120	SB

怎么样阅读目录how to read



ISO 10243
Rectangular Wire 矩形钢线



Round Wire 圆钢线

Code 型号	D_H Hole Diameter 孔径	D_d Rod Diameter 棒径	L_0 Free Length 自由长度	R Spring Constant 弹簧定数	A % L_0	B % L_0	C % L_0	D % L_0	E approx. do not use	Pcs
	$b \times h, d$ mm	mm	mm	$\pm 10\%$ N/mm	+ 3.000.000 mm	~ 1.500.000 mm	300 - 500.000 mm	100 - 200.000 mm	do not use	

D_H hole diameter
孔径

D_d rod diameter
棒径

$b \times h$ cross wire section
 d 横切面

L_0 spring free length
弹簧自由长度

R spring rate (load required for 1mm deflection)
弹簧定数 (压缩1mm所需的力)

A advised working deflection for + 3.000.000 cycles
建议工作压缩量供3.000.000回次

B advised working deflection for ~ 1.500.000 cycles
建议工作压缩量供1.500.000回次

C advised working deflection for 300.000 - 500.000 cycles
建议工作压缩量供300.000-500.000回次

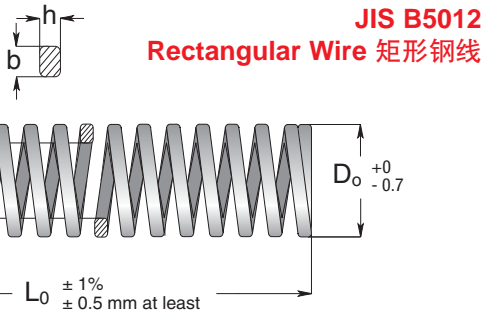
D advised working deflection for 100.000 - 200.000 cycles
建议工作压缩量供100.00-200.000回次

E solid deflection (approximate value)
最大压缩量 (近似值)

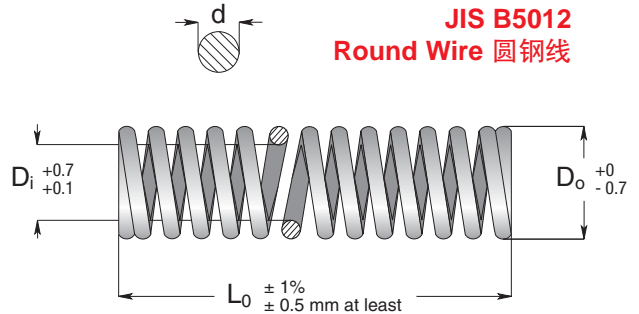


approx.

quantity for standard packaging
标准包装数量



JIS B5012
Rectangular Wire 矩形钢线



JIS B5012
Round Wire 圆钢线

Code 型号	D_o Outside Diameter 孔径	D_i Inside Diameter 棒径	L_0 Free Length 自由长度	R Spring Constant 弹簧定数	A % L_0	B % L_0	C % L_0	E approx. do not use	Pcs
	mm	mm	mm	$\pm 10\%$ N/mm	1.000.000 cycles mm	500.000 cycles mm	300.000 cycles mm	do not use	

D_o spring outside diameter
弹簧外径

D_i spring inside diameter
弹簧内径

L_0 spring free length
弹簧自由长度

R spring rate (load required for 1mm deflection)
弹簧定数 (压缩 1mm) 所需的力)

A advised working deflection for 1.000.000 cycles
建议工作压缩量供1.000.000回次

B advised working deflection for 500.000 cycles
建议工作压缩量供500.000回次

C advised working deflection for 300.000 cycles
建议工作压缩量供300.000回次

E solid deflection (approximate value)
最大压缩量 (近似值)

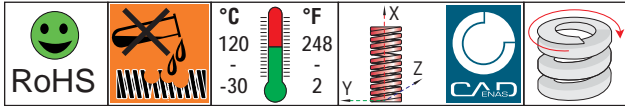
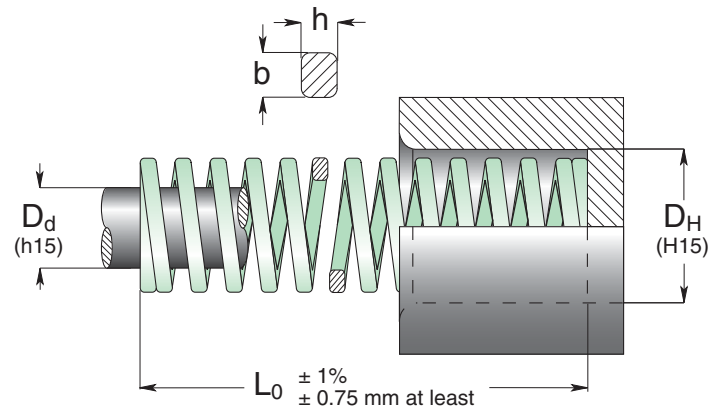


approx.

quantity for standard packaging
标准包装数量

VL SERIES 系列 Special Springs Standard 标准

EN Extra-light load springs
CN 特轻荷载弹簧



Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 30% L ₀	B 40% L ₀	C 45% L ₀	D 50% L ₀	E approx. do not use	Pcs				
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000						
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	
VL 20 - 025	20	10	25	29.4	7.5	221	10.0	294	11.3	331	12.5	368	13.9	50
VL 20 - 032			32	22.6	9.6	217	12.8	289	14.4	325	16.0	362	18.2	50
VL 20 - 038			38	18.6	11.4	212	15.2	283	17.1	318	19.0	353	22.0	25
VL 20 - 044			44	15.7	13.2	207	17.6	276	19.8	311	22.0	345	25.8	25
VL 20 - 051			51	13.7	15.3	210	20.4	279	23.0	314	25.5	349	30.3	25
VL 20 - 064			64	11.3	19.2	217	25.6	289	28.8	325	32.0	362	38.9	25
VL 20 - 076			76	9.8	22.8	223	30.4	298	34.2	335	38.0	372	47.0	25
VL 20 - 089			89	8.3	26.7	222	35.6	295	40.1	332	44.5	369	55.7	20
VL 20 - 102			102	7.4	30.6	226	40.8	302	45.9	340	51.0	377	64.2	20
VL 20 - 115			115	6.4	34.5	221	46.0	294	51.8	331	57.5	368	72.9	10
VL 20 - 127			127	5.9	38.1	225	50.8	300	57.2	337	63.5	375	80.7	10
VL 20 - 139			139	5.4	41.7	225	55.6	300	62.6	338	69.5	375	88.4	10
VL 20 - 152			152	4.9	45.6	223	60.8	298	68.4	335	76.0	372	96.7	10
VL 20 - 305			4.3 x 1.7		305	2.5	91.5	229	122	305	137	343	153	381
VL 25 - 025	25	12.5	25	53.9	7.5	404	10.0	539	11.3	606	12.5	674	12.9	50
VL 25 - 032			32	42.2	9.6	405	12.8	540	14.4	608	16.0	675	17.2	25
VL 25 - 038			38	35.8	11.4	408	15.2	544	17.1	612	19.0	680	20.7	25
VL 25 - 044			44	31.4	13.2	414	17.6	553	19.8	622	22.0	691	24.4	25
VL 25 - 051			51	27.0	15.3	413	20.4	551	23.0	620	25.5	689	28.5	25
VL 25 - 064			64	21.6	19.2	415	25.6	553	28.8	622	32.0	691	36.5	25
VL 25 - 076			76	18.1	22.8	413	30.4	550	34.2	619	38.0	688	43.9	20
VL 25 - 089			89	15.2	26.7	406	35.6	541	40.1	609	44.5	676	51.4	20
VL 25 - 102			102	13.2	30.6	404	40.8	539	45.9	606	51.0	673	59.3	20
VL 25 - 115			115	11.8	34.5	407	46.0	543	51.8	611	57.5	679	67.2	10
VL 25 - 127			127	10.6	38.1	404	50.8	538	57.2	606	63.5	673	74.4	10
VL 25 - 139			139	9.6	41.7	400	55.6	534	62.6	600	69.5	667	81.6	10
VL 25 - 152			152	8.8	45.6	401	60.8	535	68.4	602	76.0	669	89.5	10
VL 25 - 178			178	7.6	53.4	406	71.2	541	80.1	609	89.0	676	105	10
VL 25 - 203	203	6.7	60.9	408	81.2	544	91.4	612	102	680	121	10		
VL 25 - 305	5.4 x 2.2		305	4.4	91.5	403	122	537	137	604	153	671	182	5
VL 32 - 038	32	16	38	43.1	11.4	491	15.2	655	17.1	737	19.0	819	19.9	20
VL 32 - 044			44	37.3	13.2	492	17.6	656	19.8	739	22.0	821	23.5	20
VL 32 - 051			51	32.4	15.3	496	20.4	661	23.0	744	25.5	826	27.6	20
VL 32 - 064			64	25.5	19.2	490	25.6	653	28.8	734	32.0	816	35.2	20
VL 32 - 076			76	21.6	22.8	492	30.4	657	34.2	739	38.0	821	42.4	20
VL 32 - 089			89	18.1	26.7	483	35.6	644	40.1	725	44.5	805	50.0	10
VL 32 - 102			102	15.7	30.6	480	40.8	641	45.9	721	51.0	801	57.6	10
VL 32 - 115			115	14.2	34.5	490	46.0	653	51.8	735	57.5	817	65.5	10
VL 32 - 127			127	12.7	38.1	484	50.8	645	57.2	726	63.5	806	72.5	10
VL 32 - 139			139	11.6	41.7	484	55.6	645	62.6	726	69.5	806	79.4	10
VL 32 - 152			152	10.6	45.6	483	60.8	644	68.4	725	76.0	806	87.3	10
VL 32 - 178			178	9.0	53.4	481	71.2	641	80.1	721	89.0	801	103	5
VL 32 - 203			203	7.8	60.9	475	81.2	633	91.4	713	102	792	118	5
VL 32 - 254			254	6.4	76.2	488	102	650	114	732	127	813	148	5
VL 32 - 305	6.5 x 2.6		305	5.3	91.5	485	122	647	137	727	153	808	178	5



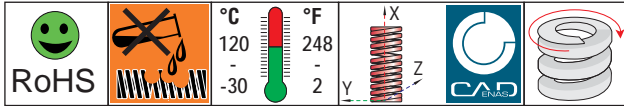
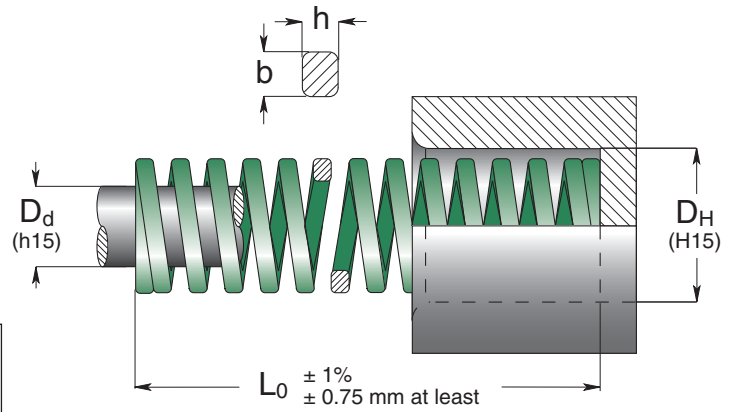
标准 Special Springs Standard 系列 SERIES VL

Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	30% L ₀		40% L ₀		45% L ₀		50% L ₀		E do not use approx.	Pcs
					mm	N	mm	N	mm	N	mm	N		
VL 40 - 051	40	20	51	48.1	15.3	736	20.4	981	23.0	1104	25.5	1227	28.0	20
VL 40 - 064			64	39.2	19.2	753	25.6	1004	28.8	1129	32.0	1254	36.2	10
VL 40 - 076			76	33.3	22.8	759	30.4	1012	34.2	1139	38.0	1265	43.7	10
VL 40 - 089			89	28.4	26.7	758	35.6	1011	40.1	1137	44.5	1264	51.7	10
VL 40 - 102			102	24.5	30.6	750	40.8	1000	45.9	1125	51.0	1250	59.8	10
VL 40 - 115			115	22.1	34.5	762	46.0	1017	51.8	1144	57.5	1271	67.9	10
VL 40 - 127			127	19.6	38.1	747	50.8	996	57.2	1120	63.5	1245	75.2	5
VL 40 - 139			139	17.7	41.7	738	55.6	984	62.6	1107	69.5	1230	82.4	5
VL 40 - 152			152	16.2	45.6	739	60.8	985	68.4	1108	76.0	1231	90.6	5
VL 40 - 178			178	13.7	53.4	732	71.2	975	80.1	1097	89.0	1219	106	5
VL 40 - 203	203	12.3	60.9	749	81.2	999	91.4	1124	101	1248	122	5		
VL 40 - 254	254	9.8	76.2	747	102	996	114	1120	127	1245	154	2		
VL 40 - 305	8.0 x 3.4	305	8.3	91.5	759	122	1013	137	1139	152	1266	185	2	
VL 50 - 064	50	25	64	86.3	19.2	1657	25.6	2209	28.8	2485	32.0	2762	35.1	5
VL 50 - 076			76	70.6	22.8	1610	30.4	2146	34.2	2415	38.0	2683	42.2	5
VL 50 - 089			89	59.8	26.7	1597	35.6	2129	40.1	2395	44.5	2661	50.3	5
VL 50 - 102			102	52.0	30.6	1591	40.8	2122	45.9	2387	51.0	2652	58.4	5
VL 50 - 115			115	46.1	34.5	1590	46.0	2121	51.8	2386	57.5	2651	66.1	5
VL 50 - 127			127	42.2	38.1	1608	50.8	2144	57.2	2412	63.5	2680	73.8	5
VL 50 - 139			139	38.2	41.7	1593	55.6	2124	62.6	2389	69.5	2655	80.9	5
VL 50 - 152			152	34.3	45.6	1564	60.8	2085	68.4	2346	76.0	2607	89.0	2
VL 50 - 178			178	29.4	53.4	1570	71.2	2093	80.1	2355	89.0	2617	105	2
VL 50 - 203			203	25.5	60.9	1553	81.2	2071	91.4	2329	101	2588	121	2
VL 50 - 254	254	20.6	76.2	1570	102	2093	114	2355	127	2616	152	2		
VL 50 - 305	10.5 x 4.1	305	17.2	91.5	1574	122	2098	137	2361	152	2623	184	2	

VL



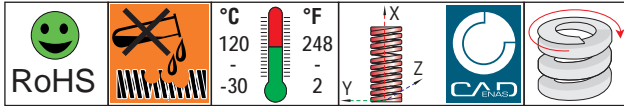
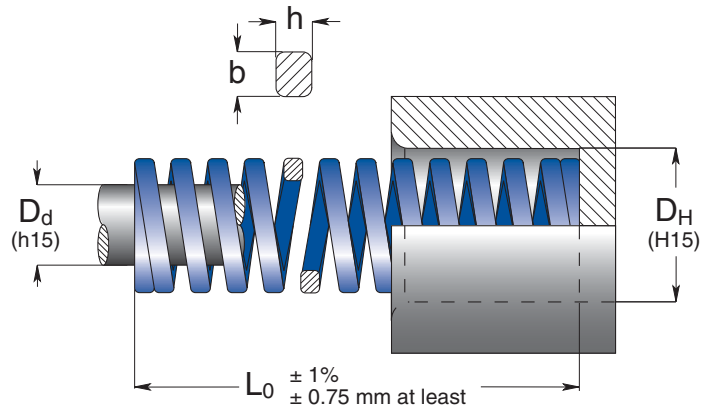
EN Light load springs
CN 轻型荷载弹簧



Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 25% L ₀	B 30% L ₀	C 35% L ₀	D 40% L ₀	E approx. do not use	Pcs				
	b x h		± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000							
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N				
V 10 - 025	10	5	25	10	6.3	63	7.5	75	8.8	88	10.0	100	13.5	50
V 10 - 032			32	8.5	8.0	68	9.6	82	11.2	95	12.8	109	17.5	50
V 10 - 038			38	6.8	9.5	65	11.4	78	13.3	90	15.2	103	20.8	50
V 10 - 044			44	6.0	11.0	66	13.2	79	15.4	92	17.6	106	23.9	50
V 10 - 051			51	5.0	12.8	64	15.3	77	17.9	89	20.4	102	28.9	25
V 10 - 064			64	4.3	16.0	69	19.2	83	22.4	96	25.6	110	36.1	25
V 10 - 076			76	3.2	19.0	61	22.8	73	26.6	85	30.4	97	43.2	25
V 10 - 305	1.7 x 1.1	305	1.1	76.3	84	91.5	101	107	117	122	134	178	10	
V 13 - 025	12.5	6.3	25	17.9	6.3	113	7.5	134	8.8	157	10.0	179	13.2	50
V 13 - 032			32	16.4	8.0	131	9.6	157	11.2	184	12.8	210	18.0	50
V 13 - 038			38	13.6	9.5	129	11.4	155	13.3	181	15.2	207	21.0	50
V 13 - 044			44	12.1	11.0	133	13.2	160	15.4	186	17.6	213	24.0	25
V 13 - 051			51	11.4	12.8	146	15.3	174	17.9	203	20.4	233	28.7	25
V 13 - 064			64	9.3	16.0	149	19.2	179	22.4	208	25.6	238	35.8	25
V 13 - 076			76	7.1	19.0	135	22.8	162	26.6	189	30.4	216	42.7	25
V 13 - 089	89	5.4	22.3	120	26.7	144	31.2	168	35.6	192	50.4	20		
V 13 - 102	102	4.1	25.5	105	30.6	125	35.7	146	40.8	167	58.4	10		
V 13 - 305	2.4 x 1.4	305	1.4	76.3	107	91.5	128	107	149	122	171	172	10	
V 16 - 025	16	8	25	23.4	6.3	147	7.5	176	8.8	205	10.0	234	12.6	50
V 16 - 032			32	22.9	8.0	183	9.6	220	11.2	256	12.8	293	16.4	50
V 16 - 038			38	19.3	9.5	183	11.4	220	13.3	257	15.2	293	19.7	25
V 16 - 044			44	17.1	11.0	188	13.2	226	15.4	263	17.6	301	22.5	25
V 16 - 051			51	15.7	12.8	201	15.3	240	17.9	280	20.4	320	26.3	25
V 16 - 064			64	10.7	16.0	171	19.2	205	22.4	240	25.6	274	33.3	25
V 16 - 076			76	10.0	19.0	190	22.8	228	26.6	266	30.4	304	40.2	20
V 16 - 089	89	8.6	22.3	192	26.7	230	31.2	268	35.6	306	47.6	20		
V 16 - 102	102	7.8	25.5	199	30.6	239	35.7	278	40.8	318	55.4	20		
V 16 - 115	115	6.6	28.8	190	34.5	228	40.3	266	46.0	304	60.8	10		
V 16 - 305	3.2 x 1.5	305	2.5	76.3	191	91.5	229	107	267	122	305	165	10	
V 20 - 025	20	10	25	55.8	6.3	352	7.5	419	8.8	488	10.0	558	12.1	50
V 20 - 032			32	45.0	8.0	360	9.6	432	11.2	504	12.8	576	15.3	50
V 20 - 038			38	33.3	9.5	316	11.4	380	13.3	443	15.2	506	18.9	25
V 20 - 044			44	30.0	11.0	330	13.2	396	15.4	462	17.6	528	21.5	25
V 20 - 051			51	24.5	12.8	314	15.3	375	17.9	437	20.4	500	25.0	25
V 20 - 064			64	20.0	16.0	320	19.2	384	22.4	448	25.6	512	31.1	25
V 20 - 076			76	16.0	19.0	304	22.8	365	26.6	426	30.4	486	37.3	25
V 20 - 089	89	14.0	22.3	312	26.7	374	31.2	436	35.6	498	44.5	20		
V 20 - 102	102	12.0	25.5	306	30.6	367	35.7	428	40.8	490	51.1	20		
V 20 - 115	115	10.9	28.8	314	34.5	376	40.3	439	46.0	501	58.2	10		
V 20 - 127	127	9.5	31.8	302	38.1	362	44.5	422	50.8	483	64.9	10		
V 20 - 139	139	8.4	35.0	294	42.0	353	48.7	409	56.0	470	71.5	10		
V 20 - 152	152	7.5	38.0	285	45.6	342	53.2	399	60.8	456	78.8	10		
V 20 - 305	4.0 x 2.1	305	4.0	76.3	305	91.5	366	107	427	122	488	157	10	

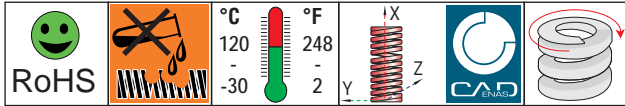
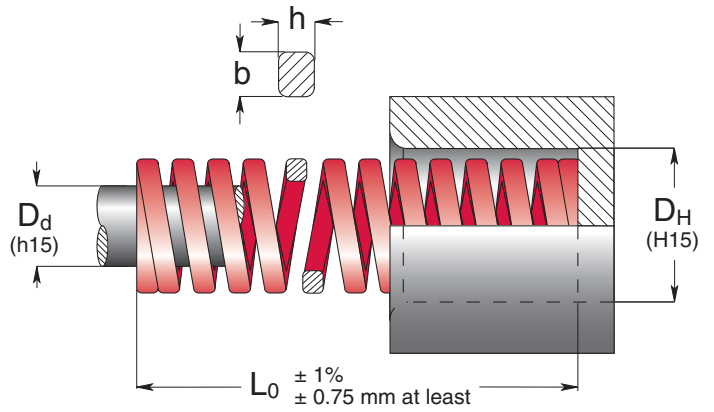
EN Medium load springs

CN 中型荷载弹簧



Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 25% L ₀	B 30% L ₀	C 33.75% L ₀	D 37.5% L ₀	E approx. do not use	Pcs				
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000						
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N				
B 10 - 025	10	5	25	16.0	6.3	101	7.5	120	8.4	135	9.4	150	10.2	50
B 10 - 032			32	13.0	8.0	104	9.6	125	10.8	140	12.0	156	14.2	50
B 10 - 038			38	11.9	9.5	113	11.4	136	12.8	153	14.3	170	16.8	50
B 10 - 044			44	10.3	11.0	113	13.2	136	14.9	153	16.5	170	19.4	50
B 10 - 051			51	8.9	12.8	114	15.3	136	17.2	153	19.1	170	23.4	25
B 10 - 064			64	7.5	16.0	120	19.2	144	21.6	162	24.0	180	28.2	25
B 10 - 076			76	5.3	19.0	101	22.8	121	25.7	136	28.5	151	34.2	25
B 10 - 305			1.9 x 1.3	305	1.6	76.3	122	91.5	146	103	165	114	183	134
B 13 - 025	12.5	6.3	25	30.0	6.3	189	7.5	225	8.4	253	9.4	282	11.9	50
B 13 - 032			32	24.8	8.0	198	9.6	238	10.8	268	12.0	298	16.2	50
B 13 - 038			38	21.4	9.5	203	11.4	244	12.8	274	14.3	306	18.7	50
B 13 - 044			44	18.5	11.0	204	13.2	244	14.9	275	16.5	305	21.3	25
B 13 - 051			51	15.5	12.8	198	15.3	237	17.2	267	19.1	296	25.6	25
B 13 - 064			64	12.1	16.0	194	19.2	232	21.6	261	24.0	290	32.4	25
B 13 - 076			76	10.2	19.0	194	22.8	233	25.7	262	28.5	291	39.0	25
B 13 - 089			89	8.4	22.3	187	26.7	224	30.0	252	33.4	281	45.9	20
B 13 - 102			102	6.3	25.5	161	30.6	193	34.4	217	38.3	241	52.3	10
B 13 - 305	2.5 x 1.5	305	2.1	76.3	160	91.5	192	103	216	114	240	153	10	
B 16 - 025	16	8	25	49.4	6.3	311	7.5	371	8.4	417	9.4	464	10.5	50
B 16 - 032			32	37.1	8.0	297	9.6	356	10.8	401	12.0	445	13.2	50
B 16 - 038			38	33.9	9.5	322	11.4	386	12.8	435	14.3	485	17.2	25
B 16 - 044			44	30.0	11.0	330	13.2	396	14.9	446	16.5	495	19.4	25
B 16 - 051			51	26.4	12.8	338	15.3	404	17.2	454	19.1	504	24.2	25
B 16 - 064			64	20.5	16.0	328	19.2	394	21.6	443	24.0	492	29.2	25
B 16 - 076			76	17.8	19.0	338	22.8	406	25.7	457	28.5	507	36.3	20
B 16 - 089			89	15.2	22.3	339	26.7	406	30.0	457	33.4	508	41.7	20
B 16 - 102			102	13.5	25.5	344	30.6	413	34.4	465	38.3	517	48.9	20
B 16 - 115			115	11.8	28.8	340	34.5	407	38.8	458	43.1	509	53.1	10
B 16 - 305	3.2 x 2.0	305	4.8	76.3	366	91.5	439	103	494	114	549	142	10	
B 20 - 025	20	10	25	98.0	6.3	617	7.5	735	8.4	827	9.4	921	10.5	50
B 20 - 032			32	72.6	8.0	581	9.6	697	10.8	784	12.0	871	13.9	50
B 20 - 038			38	56.0	9.5	532	11.4	638	12.8	718	14.3	801	16.6	25
B 20 - 044			44	47.5	11.0	523	13.2	627	14.9	705	16.5	784	18.8	25
B 20 - 051			51	41.7	12.8	534	15.3	638	17.2	718	19.1	796	23.1	25
B 20 - 064			64	32.3	16.0	517	19.2	620	21.6	698	24.0	775	27.5	25
B 20 - 076			76	25.1	19.0	477	22.8	572	25.7	644	28.5	715	33.8	25
B 20 - 089			89	22.0	22.3	491	26.7	587	30.0	661	33.4	735	39.7	20
B 20 - 102			102	19.8	25.5	505	30.6	606	34.4	682	38.3	758	47.3	20
B 20 - 115			115	18.1	28.8	521	34.5	624	38.8	703	43.1	780	52.5	10
B 20 - 127			127	16.6	31.8	528	38.1	632	42.9	712	47.6	790	56.9	10
B 20 - 139			139	15.1	35.0	529	42.0	634	46.9	708	52.5	793	62.1	10
B 20 - 152			152	13.2	38.0	500	45.6	600	51.3	677	57.0	750	67.6	10
B 20 - 305	4.1 x 2.4	305	6.1	76.3	465	91.5	558	103	628	114	698	143	10	

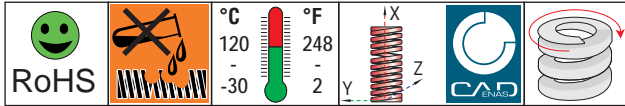
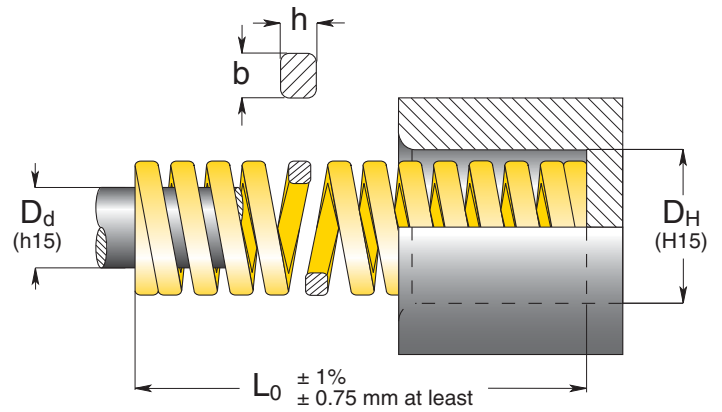
EN Heavy load springs
CN 重型荷载弹簧



Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 20% L ₀	B 25% L ₀	C 27.5% L ₀	D 30% L ₀	E approx. do not use	Pcs				
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000						
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	
R 10 - 025	10	5	25	22.1	5.0	111	6.3	139	6.9	152	7.5	166	9.2	50
R 10 - 032			32	17.5	6.4	112	8.0	140	8.8	154	9.6	168	12.1	50
R 10 - 038			38	17.1	7.6	130	9.5	162	10.5	179	11.4	195	13.2	50
R 10 - 044			44	15.0	8.8	132	11.0	165	12.1	182	13.2	198	15.1	50
R 10 - 051			51	12.8	10.2	131	12.8	164	14.0	180	15.3	196	19.5	25
R 10 - 064			64	10.7	12.8	137	16.0	171	17.6	188	19.2	205	21.8	25
R 10 - 076			76	7.5	15.2	114	19.0	143	20.9	157	22.8	171	27.9	25
R 10 - 305			1.9 x 1.5	305	2.1	61.0	128	76.3	160	83.9	176	91.5	192	127
R 13 - 025	12.5	6.3	25	42.1	5.0	211	6.3	265	6.9	289	7.5	316	9.8	50
R 13 - 032			32	33.2	6.4	212	8.0	266	8.8	292	9.6	319	13.6	50
R 13 - 038			38	29.3	7.6	223	9.5	278	10.5	306	11.4	334	14.6	50
R 13 - 044			44	24.6	8.8	216	11.0	271	12.1	298	13.2	325	18.1	25
R 13 - 051			51	19.6	10.2	200	12.8	251	14.0	275	15.3	300	22.3	25
R 13 - 064			64	15.0	12.8	192	16.0	240	17.6	264	19.2	288	27.3	25
R 13 - 076			76	13.2	15.2	201	19.0	251	20.9	276	22.8	301	33.1	25
R 13 - 089			89	11.4	17.8	203	22.3	254	24.5	279	26.7	304	38.9	20
R 13 - 102	102	8.4	20.4	171	25.5	214	28.1	236	30.6	257	43.8	10		
R 13 - 305	2.4 x 1.9	305	2.8	61.0	171	76.3	214	83.9	235	91.5	256	140	10	
R 16 - 025	16	8	25	75.7	5.0	379	6.3	477	6.9	520	7.5	568	8.4	50
R 16 - 032			32	52.8	6.4	338	8.0	422	8.8	465	9.6	507	10.5	50
R 16 - 038			38	48.5	7.6	369	9.5	461	10.5	507	11.4	553	13.6	25
R 16 - 044			44	42.8	8.8	377	11.0	471	12.1	518	13.2	565	15.9	25
R 16 - 051			51	37.1	10.2	378	12.8	475	14.0	520	15.3	568	18.9	25
R 16 - 064			64	30.3	12.8	388	16.0	485	17.6	533	19.2	582	24.9	25
R 16 - 076			76	25.7	15.2	391	19.0	488	20.9	537	22.8	586	29.2	20
R 16 - 089			89	21.7	17.8	386	22.3	484	24.5	531	26.7	579	34.5	20
R 16 - 102	102	19.3	20.4	394	25.5	492	28.1	541	30.6	591	39.1	20		
R 16 - 115	115	15.7	23.0	361	28.8	452	31.6	497	34.5	542	44.0	10		
R 16 - 305	3.1 x 2.5	305	7.1	61.0	433	76.3	542	83.9	596	91.5	650	104	10	
R 20 - 025	20	10	25	216	5.0	1080	6.3	1361	6.9	1485	7.5	1620	8.3	50
R 20 - 032			32	168	6.4	1075	8.0	1344	8.8	1478	9.6	1613	10.9	50
R 20 - 038			38	129	7.6	980	9.5	1226	10.5	1348	11.4	1471	12.5	25
R 20 - 044			44	112	8.8	986	11.0	1232	12.1	1355	13.2	1478	15.0	25
R 20 - 051			51	94.0	10.2	959	12.8	1203	14.0	1318	15.3	1438	17.6	25
R 20 - 064			64	72.1	12.8	923	16.0	1154	17.6	1269	19.2	1384	22.6	25
R 20 - 076			76	59.7	15.2	907	19.0	1134	20.9	1248	22.8	1361	27.5	25
R 20 - 089			89	50.5	17.8	899	22.3	1126	24.5	1236	26.7	1348	31.7	20
R 20 - 102	102	44.2	20.4	902	25.5	1127	28.1	1240	30.6	1353	37.5	20		
R 20 - 115	115	38.4	23.0	883	28.8	1106	31.6	1214	34.5	1325	42.6	10		
R 20 - 127	127	34.1	25.4	866	31.8	1084	34.9	1191	38.1	1299	45.5	10		
R 20 - 139	139	31.0	28.0	868	35.0	1085	38.2	1185	42.0	1302	50.1	10		
R 20 - 152	152	28.2	30.4	857	38.0	1072	41.8	1179	45.6	1286	55.8	10		
R 20 - 305	4.0 x 3.3	305	15.0	61.0	915	76.3	1145	83.9	1258	91.5	1373	114	10	

EN Extra-heavy load springs

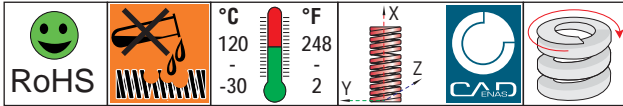
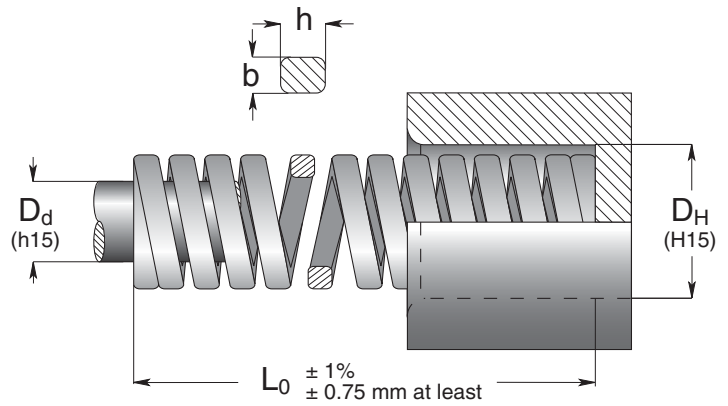
CN 特重荷载弹簧



Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 17% L ₀	B 20% L ₀	C 22.5% L ₀	D 25% L ₀	E do not use approx.	Pcs				
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000						
	mm	mm	mm	N/mm	mm	mm	mm	mm	mm					
G 10 - 025	10	5	25	36.8	4.3	158	5.0	184	5.6	207	6.3	232	7.7	50
G 10 - 032			32	27.9	5.4	151	6.4	179	7.2	201	8.0	223	10.6	50
G 10 - 038			38	23.7	6.5	154	7.6	180	8.6	203	9.5	225	12.6	50
G 10 - 044			44	19.2	7.5	144	8.8	169	9.9	190	11.0	211	13.8	50
G 10 - 051			51	16.5	8.7	144	10.2	168	11.5	189	12.8	211	16.2	25
G 10 - 064			64	13.2	10.9	144	12.8	169	14.4	190	16.0	211	20.4	25
G 10 - 076			76	10.9	12.9	141	15.2	166	17.1	186	19.0	207	25.2	25
G 10 - 305			1.9 x 1.6	305	2.6	51.9	135	61.0	159	68.6	178	76.3	198	111
G 13 - 025	12.5	6.3	25	58.5	4.3	252	5.0	293	5.6	329	6.3	369	8.1	50
G 13 - 032			32	43.9	5.4	237	6.4	281	7.2	316	8.0	351	9.9	50
G 13 - 038			38	36.0	6.5	234	7.6	274	8.6	308	9.5	342	12.9	50
G 13 - 044			44	30.3	7.5	227	8.8	267	9.9	300	11.0	333	14.1	25
G 13 - 051			51	26.2	8.7	228	10.2	267	11.5	301	12.8	335	17.4	25
G 13 - 064			64	21.2	10.9	231	12.8	271	14.4	305	16.0	339	21.0	25
G 13 - 076			76	17.1	12.9	221	15.2	260	17.1	292	19.0	325	26.4	25
G 13 - 089			89	14.5	15.1	219	17.8	258	20.0	290	22.3	323	31.5	20
G 13 - 102	102	12.7	17.3	220	20.4	259	23.0	291	25.5	324	36.0	10		
G 13 - 305	2.6 x 2.0	305	4.3	51.9	223	61.0	262	68.6	295	76.3	328	111	10	
G 16 - 025	16	8	25	118	4.3	507	5.0	590	5.6	664	6.3	743	8.5	50
G 16 - 032			32	89.0	5.4	481	6.4	570	7.2	641	8.0	712	11.0	50
G 16 - 038			38	72.1	6.5	469	7.6	548	8.6	616	9.5	685	13.2	25
G 16 - 044			44	60.9	7.5	457	8.8	536	9.9	603	11.0	670	14.7	25
G 16 - 051			51	52.3	8.7	455	10.2	533	11.5	600	12.8	669	17.7	25
G 16 - 064			64	41.2	10.9	449	12.8	527	14.4	593	16.0	659	21.9	25
G 16 - 076			76	34.1	12.9	440	15.2	518	17.1	583	19.0	648	27.8	20
G 16 - 089			89	29.5	15.1	445	17.8	525	20.0	591	22.3	658	31.2	20
G 16 - 102	102	25.6	17.3	443	20.4	522	23.0	588	25.5	653	37.9	20		
G 16 - 115	115	22.4	19.6	439	23.0	515	25.9	580	28.8	645	44.5	10		
G 16 - 305	3.2 x 2.9	305	8.4	51.9	436	61.0	512	68.6	576	76.3	641	113	10	
G 20 - 025	20	10	25	293	4.3	1260	5.0	1465	5.6	1648	6.3	1846	6.9	50
G 20 - 032			32	224	5.4	1210	6.4	1434	7.2	1613	8.0	1792	9.4	50
G 20 - 038			38	177	6.5	1151	7.6	1345	8.6	1513	9.5	1682	12.0	25
G 20 - 044			44	149	7.5	1118	8.8	1311	9.9	1475	11.0	1639	13.5	25
G 20 - 051			51	128	8.7	1114	10.2	1306	11.5	1469	12.8	1638	16.2	25
G 20 - 064			64	99.0	10.9	1079	12.8	1267	14.4	1426	16.0	1584	21.2	25
G 20 - 076			76	81.7	12.9	1054	15.2	1242	17.1	1397	19.0	1552	24.7	25
G 20 - 089			89	69.5	15.1	1049	17.8	1237	20.0	1392	22.3	1550	28.8	20
G 20 - 102	102	60.6	17.3	1048	20.4	1236	23.0	1391	25.5	1545	34.8	20		
G 20 - 115	115	53.0	19.6	1039	23.0	1219	25.9	1371	28.8	1526	39.0	10		
G 20 - 127	127	47.5	21.6	1026	25.4	1207	28.6	1357	31.8	1511	43.0	10		
G 20 - 139	139	43.0	23.8	1023	28.0	1204	31.3	1345	35.0	1505	45.3	10		
G 20 - 152	152	39.0	25.8	1006	30.4	1186	34.2	1334	38.0	1482	50.4	10		
G 20 - 305	4.1 x 3.8	305	21.2	51.9	1100	61.0	1293	68.6	1455	76.3	1618	103	10	

A SERIES 系列 Special Springs Standard 标准

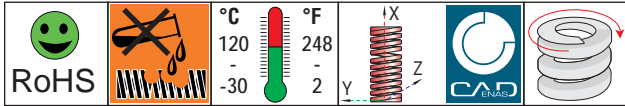
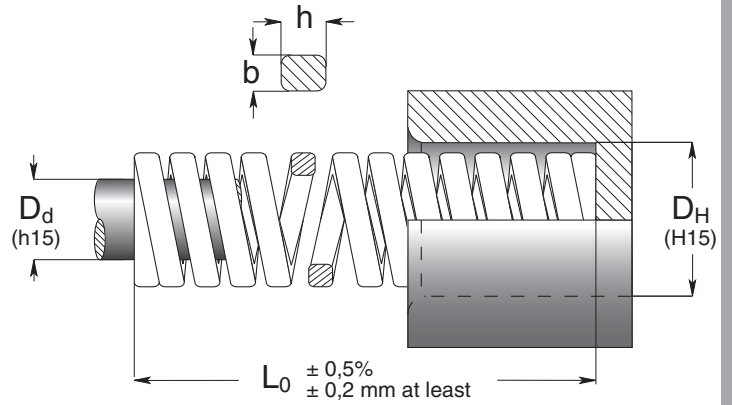
EN Ultra-heavy load springs
CN 超重型荷载弹簧



Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 10% L ₀	B 12% L ₀	C 13.5% L ₀	D 15% L ₀	E approx. do not use	Pcs					
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000							
	mm	mm	mm	N/mm	mm	mm	mm	mm	mm	mm					
A 25 - 064	25	12.5	64	644	6.4	4122	7.7	4959	8.6	5564	9.6	6182	13	25	
A 25 - 076			76	556	7.6	4226	9.1	5060	10.3	5705	11.4	6338	16	20	
A 25 - 089			89	462	8.9	4112	10.7	4943	12.0	5551	13.4	6168	20	20	
A 25 - 102			102	390	10.2	3978	12.2	4758	13.8	5370	15.3	5967	23	20	
A 25 - 115			115	360	11.5	4140	13.8	4968	15.5	5589	17.3	6210	26	10	
A 25 - 127			127	326	12.7	4140	15.2	4955	17.1	5589	19.1	6210	28	10	
A 25 - 152			152	255	15.2	3876	18.2	4641	20.5	5233	22.8	5814	34	10	
A 25 - 178			178	230	17.8	4094	21.4	4922	24.0	5527	26.7	6141	39	10	
A 25 - 203			203	202	20.3	4101	24.4	4929	27.4	5536	30.5	6151	45	10	
A 25 - 305			5.6 x 7.5	305	136	30.5	4148	36.6	4978	41.2	5600	45.8	6222	63	5
A 32 - 064	32	16	64	1077	6.4	6892	7.7	8270	8.6	9305	9.6	10337	13	20	
A 32 - 076			76	874	7.6	6642	9.1	7971	10.3	8967	11.4	9964	16	20	
A 32 - 089			89	721	8.9	6419	11	7702	12.0	8663	13.3	9628	20	10	
A 32 - 102			102	620	10	6324	12	7589	13.8	8537	15.3	9486	23	10	
A 32 - 115			115	560	12	6440	14	7728	15.5	8694	17.2	9660	26	10	
A 32 - 127			127	496	13	6299	15	7559	17.1	8504	19.05	9449	28	10	
A 32 - 152			152	408	15	6202	18	7442	20.5	8372	22.8	9302	34	10	
A 32 - 178			178	353	18	6280	21	7536	24.0	8483	26.7	9420	39	5	
A 32 - 203			203	304	20	6171	24	7405	27.4	8331	30.4	9257	45	5	
A 32 - 254			254	243	25	6177	30	7413	34.3	8332	38.1	9266	62	5	
A 32 - 305	7.5 x 9.2	305	196	31	5978	37	7174	41.2	8070	45.7	8967	75	5		
A 40 - 089	40	20	89	880	8.9	7832	10.7	9416	12.0	10573	13.4	11748	20	10	
A 40 - 102			102	762	10.2	7772	12.2	9296	13.8	10493	15.3	11659	23	10	
A 40 - 115			115	679	11.5	7809	13.8	9370	15.5	10541	17.3	11713	26	10	
A 40 - 127			127	622	12.7	7899	15.2	9454	17.1	10664	19.1	11849	28	5	
A 40 - 152			152	509	22.8	7737	18.2	9264	20.5	10445	22.8	11605	36	5	
A 40 - 178			178	429	17.8	7636	21.4	9181	24.0	10309	26.7	11454	43	5	
A 40 - 203			203	374	20.3	7592	24.4	9126	27.4	10249	30.5	11388	49	5	
A 40 - 254			254	296	25.4	7518	30.5	9028	34.3	10150	38.1	11278	62	2	
A 40 - 305			8.5 x 11.0	305	246	30.5	7530	36.6	9004	41.2	10129	45.8	11255	75	2
A 50 - 089			50	25	89	1410	8.9	12549	10.7	15087	12.0	16941	13.4	18824	19
A 50 - 102	102	1215			10.2	12393	12.2	14823	13.8	16731	15.3	18590	22	5	
A 50 - 115	115	1076			11.5	12374	13.8	14849	15.5	16705	17.3	18561	25	5	
A 50 - 127	127	968			12.7	12294	15.2	14714	17.1	16596	19.1	18440	28	5	
A 50 - 152	152	806			15.2	12251	18.2	14669	20.5	16539	22.8	18377	34	2	
A 50 - 178	178	698			17.8	12424	21.4	14937	24.0	16773	26.7	18637	40	2	
A 50 - 203	203	612			20.3	12424	24.4	14933	27.4	16772	30.5	18635	45	2	
A 50 - 254	254	472			25.4	11989	30.5	14396	34.3	16185	38.1	17983	58	2	
A 50 - 305	11.8 x 13.5	305			388	30.5	11834	36.6	14201	41.2	15976	45.8	17751	70	2

标准 Special Springs Standard 系列 SERIES W

EN Hyper-strong springs
CN 超强承载弹簧



Code	D_H D_d		L_0	R	F_{max}	Pcs
	Hole Diameter 孔径	Rod Diameter 棒径				
$b \times h$		Free Length 自由长度	Spring Constant 弹簧定数 $\pm 10\%$	mm	N	mm
W 16 - 020	16	6,3	20	1.818	4.000	3,0
W 16 - 035			35	1.000		5,5
W 16 - 050			50	615		8,0
W 16 - 075			75	400		12,5
W 16 - 100			100	286		16,3
4,6 x 5,0						8
W 19 - 025	19	8	25	2.400	6.000	3,4
W 19 - 040			40	1.333		5,9
W 19 - 050			50	1.000		7,8
W 19 - 075			75	600		12,4
W 19 - 100			100	429		16,5
5,1 x 6,5						8
W 25 - 030	25	10	30	4.800	12.000	3,0
W 25 - 050			50	2.400		5,9
W 25 - 075			75	1.500		9,5
W 25 - 100			100	1.000		14,7
W 25 - 125			125	857		16,9
6,9 x 9,1						4
W 32 - 035	32	12,5	35	6.667	20.000	3,7
W 32 - 050			50	3.636		6,3
W 32 - 075			75	2.222		11,3
W 32 - 100			100	1.538		14,9
W 32 - 125			125	1.250		18,3
W 32 - 150	150	1.053	19,0			
9,25 x 10,8						2
W 38 - 040	38	16	40	7.143	25.000	4,5
W 38 - 050			50	5.000		5,9
W 38 - 075			75	2.778		10,4
W 38 - 100			100	1.923		15,0
W 38 - 150			150	1.316		22,4
W 38 - 200	200	926	27,0			
10,5 x 12,6						2

EN Hyper-strong load springs
 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).

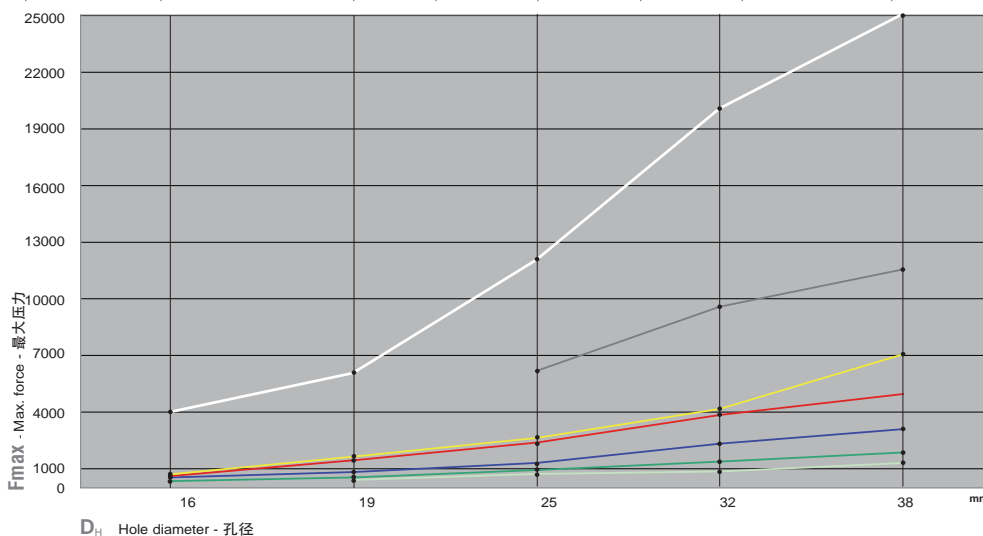
Ideal for applications that involve extremely large loads with short working strokes and that have to go for as long as possible without maintenance, in difficult environments with large amounts of contaminants and high temperatures.

CN 拥有先进的SPRICAL SPRINGS产品技术，其特性在市场上绝无仅有。

最大压力小于EXTRA STRONG SPRINGS的6倍 (ISO标准黄色)

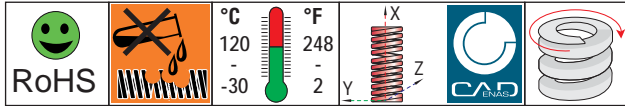
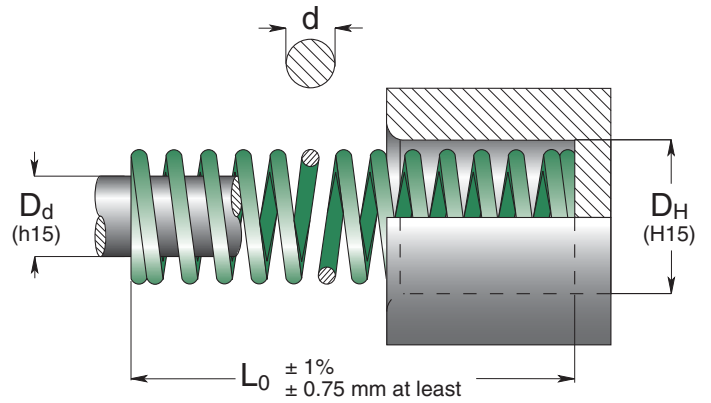
最大压力超过ULTRA STRONG SPRINGS的2倍 (Special Springs 标准银色)

可理想的应用于短冲程的巨大承载力，及长时间不维护、有大量污染物和高温的环境。



	SERIES	STANDARD	LOAD
●	VL	Special Springs	Extra-light 特轻型
●	V	ISO	Light 轻型
●	B	ISO	Medium 中型
●	R	ISO	Strong 重型
●	G	ISO	Extra-Strong 特重型
●	A	Special Springs	Ultra-Strong 超重型
●	W	Special Springs	Hyper-strong 超强弹簧

EN Light load springs
CN 轻型荷载弹簧



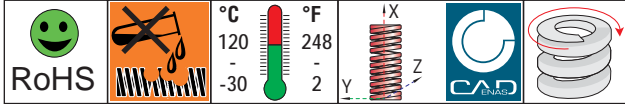
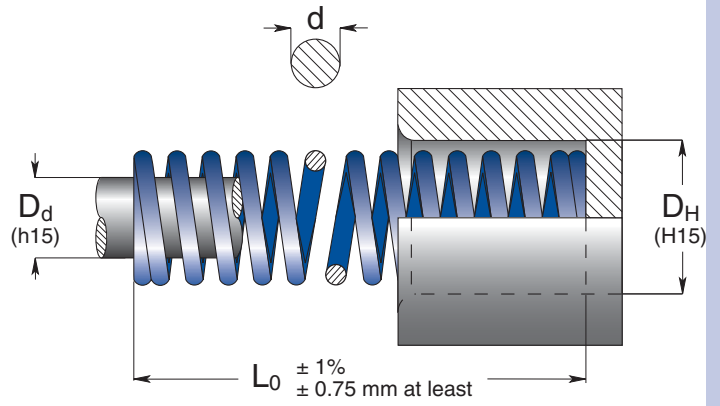
Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 25% L ₀ + 3.000.000	B 30% L ₀ ~ 1.500.000	C 35% L ₀ 300 - 500.000	D 40% L ₀ 100 - 200.000	E do not use approx.	Pcs				
	d			± 10%	mm	N	mm	N	mm	N	mm	N	mm	
TV 10 - 025	10	5	25	4.4	6.3	28	7.5	33	8.8	39	10.0	44	13.2	50
TV 10 - 032			32	3.4	8.0	27	9.6	33	11.2	38	12.8	44	16.5	50
TV 10 - 038			38	2.8	9.5	26	11.4	32	13.3	37	15.2	42	19.8	50
TV 10 - 044			44	2.4	11.0	26	13.2	31	15.4	37	17.6	42	23.1	50
TV 10 - 051			51	2.1	12.8	27	15.3	32	17.9	37	20.4	43	26.9	25
TV 10 - 064			64	1.6	16.0	26	19.2	31	22.4	36	25.6	42	33.3	25
TV 10 - 076			76	1.3	19.0	25	22.8	30	26.6	35	30.4	40	39.6	25
TV 10 - 305	1.1		305	0.3	76.3	24	91.5	29	107	32	122	38	157	10
TV 13 - 025	12.5	6.3	25	8.5	6.3	53	7.5	64	8.8	74	10.0	85	13.5	50
TV 13 - 032			32	6.5	8.0	52	9.6	62	11.2	73	12.8	83	16.8	50
TV 13 - 038			38	5.3	9.5	51	11.4	61	13.3	70	15.2	81	20.3	50
TV 13 - 044			44	4.4	11.0	49	13.2	59	15.4	68	17.6	78	23.9	25
TV 13 - 051			51	3.8	12.8	48	15.3	58	17.9	68	20.4	78	26.9	25
TV 13 - 064			64	2.9	16.0	47	19.2	56	22.4	65	25.6	75	33.3	25
TV 13 - 076			76	2.5	19.0	48	22.8	57	26.6	67	30.4	76	41.1	25
TV 13 - 089	89	2.1	22.3	48	26.7	57	31.2	65	35.6	76	48.3	20		
TV 13 - 305	1.5		305	0.6	76.3	45	91.5	54	107	64	122	73	163	10
TV 16 - 025	16	8	25	17.9	6.3	112	7.5	134	8.8	157	10.0	179	14.7	50
TV 16 - 032			32	13.5	8.0	108	9.6	129	11.2	151	12.8	173	18.5	50
TV 16 - 038			38	10.5	9.5	100	11.4	120	13.3	140	15.2	160	22.4	25
TV 16 - 044			44	8.8	11.0	96	13.2	116	15.4	136	17.6	154	25.9	25
TV 16 - 051			51	7.6	12.8	97	15.3	116	17.9	136	20.4	155	30.0	25
TV 16 - 064			64	5.9	16.0	95	19.2	114	22.4	132	25.6	152	37.8	25
TV 16 - 076			76	4.8	19.0	91	22.8	109	26.6	128	30.4	145	45.2	20
TV 16 - 089	89	4.0	22.3	90	26.7	108	31.2	125	35.6	144	52.8	20		
TV 16 - 102	102	3.5	25.5	90	30.6	108	35.7	125	40.8	144	60.7	20		
TV 16 - 305	2		305	1.1	76.3	85	91.5	103	107	117	122	137	184	10

圆钢线 Round Wire

系列 SERIES TB

EN Medium load springs

CN 中型荷载弹簧

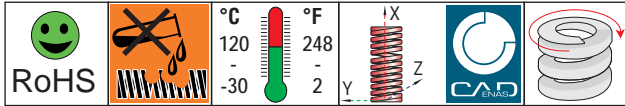
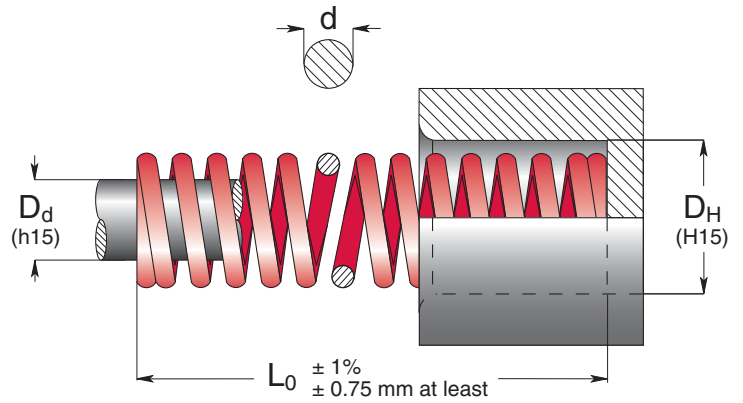


Code 型号	D _H Hole Diameter 孔径	D _d Rod Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 25% L ₀		B 30% L ₀		C 33.75% L ₀		D 37.5% L ₀		E do not use approx.	Pcs
					mm	N	mm	N	mm	N	mm	N		
	d			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000						
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	
TB 10 - 025	10	5	25	12.3	6.3	77	7.5	92	8.4	104	9.4	115	10.4	50
TB 10 - 032			32	9.5	8.0	76	9.6	91	10.8	103	12.0	113	13.2	50
TB 10 - 038			38	7.8	9.5	74	11.4	88	12.8	100	14.3	111	16.0	50
TB 10 - 044			44	6.5	11.0	72	13.2	86	14.9	97	16.5	108	18.5	50
TB 10 - 051			51	5.6	12.8	72	15.3	86	17.2	96	19.1	108	21.1	25
TB 10 - 064			64	4.5	16.0	71	19.2	86	21.6	97	24.0	107	26.4	25
TB 10 - 076			76	3.7	19.0	70	22.8	84	25.7	95	28.5	105	31.8	25
TB 10 - 305	1.5	305	0.9	76.3	68	91.5	82	103	93	114	102	129	10	
TB 13 - 025	12.5	6.3	25	21.7	6.3	136	7.5	163	8.4	183	9.4	204	11.2	50
TB 13 - 032			32	16.8	8.0	134	9.6	161	10.8	181	12.0	202	14.0	50
TB 13 - 038			38	13.8	9.5	131	11.4	158	12.8	177	14.3	197	17.3	50
TB 13 - 044			44	11.6	11.0	127	13.2	153	14.9	172	16.5	191	19.8	25
TB 13 - 051			51	10.0	12.8	127	15.3	153	17.2	172	19.1	191	22.9	25
TB 13 - 064			64	7.8	16.0	125	19.2	150	21.6	168	24.0	187	28.4	25
TB 13 - 076			76	6.4	19.0	122	22.8	146	25.7	164	28.5	183	34.3	25
TB 13 - 089	89	5.6	22.3	125	26.7	150	30.0	168	33.4	188	41.4	20		
TB 13 - 305	1.8	305	1.5	76.3	118	91.5	141	103	154	114	176	139	10	
TB 16 - 025	16	8	25	31.9	6.3	199	7.5	239	8.4	269	9.4	299	10.9	50
TB 16 - 032			32	24.0	8.0	192	9.6	230	10.8	259	12.0	288	13.7	50
TB 16 - 038			38	19.4	9.5	185	11.4	222	12.8	249	14.3	277	16.5	25
TB 16 - 044			44	16.1	11.0	177	13.2	213	14.9	239	16.5	266	19.3	25
TB 16 - 051			51	13.8	12.8	176	15.3	212	17.2	238	19.1	265	22.1	25
TB 16 - 064			64	10.7	16.0	171	19.2	205	21.6	231	24.0	256	27.4	25
TB 16 - 076			76	8.8	19.0	166	22.8	200	25.7	226	28.5	250	33.0	20
TB 16 - 089	89	7.5	22.3	167	26.7	200	30.0	225	33.4	250	38.6	20		
TB 16 - 102	102	6.5	25.5	167	30.6	200	34.4	224	38.3	250	44.5	20		
TB 16 - 305	2.2	305	2.1	76.3	159	91.5	191	103	216	114	238	134	10	

TV
TB



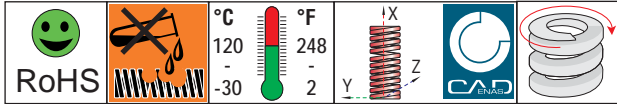
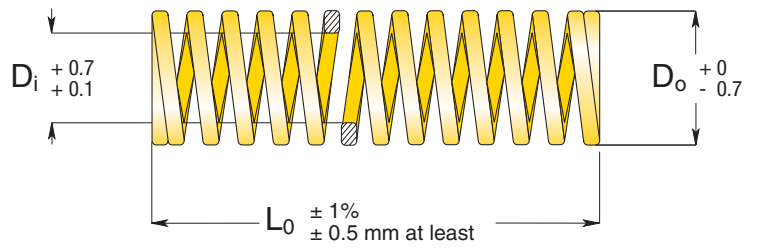
EN Heavy load springs
CN 重型荷载弹簧



Code 型号	D_H Hole Diameter 孔径	D_d Rod Diameter 棒径	L_0 Free Length 自由长度	R Spring Constant 弹簧定数	A 20% L_0		B 25% L_0		C 27.5% L_0		D 30% L_0		E approx. do not use	Pcs
					mm	N	mm	N	mm	N	mm	N		
	d			$\pm 10\%$	$+ 3.000.000$	$\sim 1.500.000$	$300 - 500.000$	$100 - 200.000$						
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	
TR 10 - 025	10	5	25	20.7	5.0	103	6.3	129	6.9	142	7.5	155	8.6	50
TR 10 - 032			32	16.1	6.4	103	8.0	129	8.8	142	9.6	155	10.9	50
TR 10 - 038			38	13.0	7.6	98	9.5	123	10.5	136	11.4	148	13.2	50
TR 10 - 044			44	10.9	8.8	96	11.0	119	12.1	132	13.2	143	14.7	50
TR 10 - 051			51	9.6	10.2	98	12.8	123	14.0	135	15.3	147	17.8	25
TR 10 - 064			64	7.7	12.8	98	16.0	123	17.6	136	19.2	147	22.9	25
TR 10 - 076			76	6.3	15.2	96	19.0	119	20.9	132	22.8	143	26.9	25
TR 10 - 305			305	1.6	61.0	93	76.3	116	83.9	126	91.5	139	110	10
TR 13 - 025	12.5	6.3	25	37.5	5.0	187	6.3	234	6.9	258	7.5	281	8.9	50
TR 13 - 032			32	28.9	6.4	185	8.0	231	8.8	254	9.6	277	11.2	50
TR 13 - 038			38	23.5	7.6	178	9.5	223	10.5	246	11.4	268	13.7	50
TR 13 - 044			44	19.6	8.8	173	11.0	216	12.1	237	13.2	259	15.7	25
TR 13 - 051			51	17.3	10.2	177	12.8	221	14.0	243	15.3	265	18.8	25
TR 13 - 064			64	13.5	12.8	173	16.0	216	17.6	238	19.2	259	23.6	25
TR 13 - 076			76	11.2	15.2	170	19.0	213	20.9	234	22.8	256	28.4	25
TR 13 - 089			89	9.5	17.8	168	22.3	210	24.5	233	26.7	252	33.0	20
TR 13 - 305	305	2.2	61.0	162	76.3	203	83.9	226	91.5	244	114	10		
TR 16 - 025	16	8	25	81.6	5.0	408	6.3	510	6.9	561	7.5	612	9.1	50
TR 16 - 032			32	61.3	6.4	392	8.0	490	8.8	539	9.6	588	11.4	50
TR 16 - 038			38	49.9	7.6	379	9.5	474	10.5	521	11.4	569	14.2	25
TR 16 - 044			44	40.8	8.8	359	11.0	449	12.1	494	13.2	539	16.3	25
TR 16 - 051			51	35.6	10.2	363	12.8	453	14.0	499	15.3	544	18.8	25
TR 16 - 064			64	27.8	12.8	356	16.0	446	17.6	489	19.2	535	23.9	25
TR 16 - 076			76	22.8	15.2	346	19.0	433	20.9	477	22.8	519	29.0	20
TR 16 - 089			89	19.6	17.8	349	22.3	436	24.5	480	26.7	524	34.3	20
TR 16 - 102	102	17.0	20.4	347	25.5	433	28.1	477	30.6	520	39.4	20		
TR 16 - 305	305	2.8	61.0	330	76.3	413	83.9	453	91.5	495	119	10		


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EN Lightest load springs
CN 最轻型荷载弹簧



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 40% L ₀ 1.000.000 cycles		B 45% L ₀ 500.000 cycles		C 50% L ₀ 300.000 cycles		E do not use approx.	Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm	
SF 10 - 020	10	5	20	1.00	8.0		9.0		10.0		11.6	50
SF 10 - 025			25	0.80	10.0		11.2		12.5		14.5	50
SF 10 - 030			30	0.67	12.0		13.5		15.0		17.4	50
SF 10 - 035			35	0.57	14.0		15.7		17.5		20.3	50
SF 10 - 040			40	0.50	16.0		18.0		20.0		23.2	50
SF 10 - 045			45	0.44	18.0	8 (78.5)	20.2	9 (88.3)	22.5	10 (98.1)	26.1	50
SF 10 - 050			50	0.40	20.0		22.5		25.0		29.0	25
SF 10 - 055			55	0.36	22.0	24.7	27.5	31.9	25			
SF 10 - 060			60	0.33	24.0	27.0	30.0	34.8	25			
SF 10 - 065			65	0.31	26.0	29.2	32.5	37.7	25			
SF 10 - 070	70	0.29	28.0	31.5	35.0	40.6	25					
SF 10 - 075	75	0.27	30.0	33.7	37.5	43.5	25					
SF 10 - 080	80	0.25	32.0	36.0	40.0	46.4	25					
SF 12 - 020	12	6	20	1.40	8.0		9.0		10.0		11.6	50
SF 12 - 025			25	1.12	10.0		11.2		12.5		14.5	50
SF 12 - 030			30	0.93	12.0		13.5		15.0		17.4	50
SF 12 - 035			35	0.80	14.0		15.7		17.5		20.3	50
SF 12 - 040			40	0.70	16.0		18.0		20.0		23.2	50
SF 12 - 045			45	0.62	18.0	11 (107.9)	20.2	12.5 (122.6)	22.5	14 (137.3)	26.1	50
SF 12 - 050			50	0.56	20.0		22.5		25.0		29.0	25
SF 12 - 055			55	0.51	22.0	24.7	27.5	31.9	25			
SF 12 - 060			60	0.47	24.0	27.0	30.0	34.8	25			
SF 12 - 065			65	0.43	26.0	29.2	32.5	37.7	25			
SF 12 - 070	70	0.40	28.0	31.5	35.0	40.6	25					
SF 12 - 075	75	0.37	30.0	33.7	37.5	43.5	25					
SF 12 - 080	80	0.35	32.0	36.0	40.0	46.4	25					
SF 14 - 025	14	7	25	1.44	10.0		11.2		12.5		14.5	50
SF 14 - 030			30	1.20	12.0		13.5		15.0		17.4	50
SF 14 - 035			35	1.03	14.0		15.7		17.5		20.3	50
SF 14 - 040			40	0.90	16.0		18.0		20.0		23.2	50
SF 14 - 045			45	0.80	18.0		20.2		22.5		26.1	25
SF 14 - 050			50	0.72	20.0	14.5 (142.2)	22.5	16 (156.9)	25.0	18 (176.5)	29.0	25
SF 14 - 055			55	0.65	22.0		24.7		27.5		31.9	25
SF 14 - 060			60	0.60	24.0	27.0	30.0	34.8	25			
SF 14 - 065			65	0.55	26.0	29.2	32.5	37.7	25			
SF 14 - 070			70	0.51	28.0	31.5	35.0	40.6	25			
SF 14 - 075	75	0.48	30.0	33.7	37.5	43.5	25					
SF 14 - 080	80	0.45	32.0	36.0	40.0	46.4	20					
SF 14 - 090	90	0.40	36.0	40.5	45.0	52.2	20					
SF 16 - 025	16	8	25	1.68	10.0		11.2		12.5		14.5	50
SF 16 - 030			30	1.40	12.0		13.5		15.0		17.4	50
SF 16 - 035			35	1.20	14.0		15.7		17.5		20.3	50
SF 16 - 040			40	1.05	16.0		18.0		20.0		23.2	25
SF 16 - 045			45	0.94	18.0		20.2		22.5		26.1	25
SF 16 - 050			50	0.84	20.0	17 (166.7)	22.5	19 (186.3)	25.0	21 (206)	29.0	25
SF 16 - 055			55	0.77	22.0		24.7		27.5		31.9	25
SF 16 - 060			60	0.70	24.0	27.0	30.0	34.8	25			
SF 16 - 065			65	0.65	26.0	29.2	32.5	37.7	25			
SF 16 - 070			70	0.60	28.0	31.5	35.0	40.6	20			
SF 16 - 075	75	0.56	30.0	33.7	37.5	43.5	20					
SF 16 - 080	80	0.53	32.0	36.0	40.0	46.4	20					
SF 16 - 090	90	0.47	36.0	40.5	45.0	52.2	20					
SF 16 - 100	100	0.42	40.0	45.0	50.0	58.0	20					



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 40% L ₀ 1.000.000 cycles	B 45% L ₀ 500.000 cycles	C 50% L ₀ 300.000 cycles	E do not use approx.	
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm	Pcs
SF 18 - 025	18	9	25	2.08	10.0	11.2	12.5	14.5	50
SF 18 - 030			30	1.74	12.0	13.5	15.0	17.4	50
SF 18 - 035			35	1.49	14.0	15.7	17.5	20.3	25
SF 18 - 040			40	1.30	16.0	18.0	20.0	23.2	25
SF 18 - 045			45	1.16	18.0	20.2	22.5	26.1	25
SF 18 - 050			50	1.04	20.0	22.5	25.0	29.0	25
SF 18 - 055			55	0.95	22.0	24.7	27.5	31.9	25
SF 18 - 060			60	0.87	24.0	27.0	30.0	34.8	25
SF 18 - 065			65	0.80	26.0	29.2	32.5	37.7	25
SF 18 - 070			70	0.74	28.0	31.5	35.0	40.6	25
SF 18 - 075			75	0.70	30.0	33.7	37.5	43.5	25
SF 18 - 080			80	0.65	32.0	36.0	40.0	46.4	20
SF 18 - 090			90	0.58	36.0	40.5	45.0	52.2	20
SF 18 - 100			100	0.52	40.0	45.0	50.0	58.0	20
SF 20 - 025	20	11	25	2.56	10.0	11.2	12.5	14.5	50
SF 20 - 030			30	2.13	12.0	13.5	15.0	17.4	50
SF 20 - 035			35	1.83	14.0	15.7	17.5	20.3	25
SF 20 - 040			40	1.60	16.0	18.0	20.0	23.2	25
SF 20 - 045			45	1.42	18.0	20.2	22.5	26.1	25
SF 20 - 050			50	1.28	20.0	22.5	25.0	29.0	25
SF 20 - 055			55	1.16	22.0	24.7	27.5	31.9	25
SF 20 - 060			60	1.07	24.0	27.0	30.0	34.8	25
SF 20 - 065			65	0.98	26.0	29.2	32.5	37.7	25
SF 20 - 070			70	0.91	28.0	31.5	35.0	40.6	25
SF 20 - 075			75	0.85	30.0	33.7	37.5	43.5	25
SF 20 - 080			80	0.80	32.0	36.0	40.0	46.4	20
SF 20 - 090			90	0.71	36.0	40.5	45.0	52.2	20
SF 20 - 100			100	0.64	40.0	45.0	50.0	58.0	20
SF 20 - 125	125	0.51	50.0	56.2	62.5	72.5	10		
SF 20 - 150	150	0.43	60.0	67.5	75.0	87.0	10		
SF 22 - 025	22	11	25	3.20	10.0	11.2	12.5	14.5	50
SF 22 - 030			30	2.67	12.0	13.5	15.0	17.4	25
SF 22 - 035			35	2.29	14.0	15.7	17.5	20.3	25
SF 22 - 040			40	2.00	16.0	18.0	20.0	23.2	25
SF 22 - 045			45	1.78	18.0	20.2	22.5	26.1	25
SF 22 - 050			50	1.60	20.0	22.5	25.0	29.0	25
SF 22 - 055			55	1.46	22.0	24.7	27.5	31.9	25
SF 22 - 060			60	1.33	24.0	27.0	30.0	34.8	25
SF 22 - 065			65	1.23	26.0	29.2	32.5	37.7	25
SF 22 - 070			70	1.14	28.0	31.5	35.0	40.6	20
SF 22 - 075			75	1.07	30.0	33.7	37.5	43.5	20
SF 22 - 080			80	1.00	32.0	36.0	40.0	46.4	20
SF 22 - 090			90	0.89	36.0	40.5	45.0	52.2	20
SF 22 - 100			100	0.80	40.0	45.0	50.0	58.0	20
SF 22 - 125	125	0.64	50.0	56.2	62.5	72.5	10		
SF 22 - 150	150	0.53	60.0	67.5	75.0	87.0	10		
SF 25 - 025	25	13.5	25	4.00	10.0	11.2	12.5	14.5	50
SF 25 - 030			30	3.33	12.0	13.5	15.0	17.4	25
SF 25 - 035			35	2.85	14.0	15.7	17.5	20.3	25
SF 25 - 040			40	2.50	16.0	18.0	20.0	23.2	25
SF 25 - 045			45	2.22	18.0	20.2	22.5	26.1	25
SF 25 - 050			50	2.00	20.0	22.5	25.0	29.0	25
SF 25 - 055			55	1.82	22.0	24.7	27.5	31.9	25
SF 25 - 060			60	1.67	24.0	27.0	30.0	34.8	25
SF 25 - 065			65	1.54	26.0	29.2	32.5	37.7	25
SF 25 - 070			70	1.43	28.0	31.5	35.0	40.6	20
SF 25 - 075			75	1.33	30.0	33.7	37.5	43.5	20
SF 25 - 080			80	1.25	32.0	36.0	40.0	46.4	20
SF 25 - 090			90	1.11	36.0	40.5	45.0	52.2	20
SF 25 - 100			100	1.00	40.0	45.0	50.0	58.0	20
SF 25 - 125	125	0.80	50.0	56.2	62.5	72.5	10		
SF 25 - 150	150	0.67	60.0	67.5	75.0	87.0	10		
SF 25 - 175	175	0.57	70.0	78.7	87.5	101.5	10		

SF
JIS



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 40% L ₀ 1.000.000 cycles		B 45% L ₀ 500.000 cycles		C 50% L ₀ 300.000 cycles		E approx. do not use	Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)		
SF 27 - 025	27	13.5	25	4.80	10.0		11.2		12.5		14.5	20
SF 27 - 030			30	4.00	12.0		13.5		15.0		17.4	20
SF 27 - 035			35	3.43	14.0		15.7		17.5		20.3	20
SF 27 - 040			40	3.00	16.0		18.0		20.0		23.2	20
SF 27 - 045			45	2.67	18.0		20.2		22.5		26.1	20
SF 27 - 050			50	2.40	20.0		22.5		25.0		29.0	20
SF 27 - 055			55	2.18	22.0		24.7		27.5		31.9	20
SF 27 - 060			60	2.00	24.0		27.0		30.0		34.8	20
SF 27 - 065			65	1.85	26.0	48	29.2	54	32.5	60	37.7	20
SF 27 - 070			70	1.71	28.0	(471)	31.5	(530)	35.0	(588)	40.6	20
SF 27 - 075			75	1.60	30.0		33.7		37.5		43.5	20
SF 27 - 080			80	1.50	32.0		36.0		40.0		46.4	10
SF 27 - 090			90	1.33	36.0		40.5		45.0		52.2	10
SF 27 - 100			100	1.20	40.0		45.0		50.0		58.0	10
SF 27 - 125			125	0.96	50.0		56.2		62.5		72.5	10
SF 27 - 150			150	0.80	60.0		67.5		75.0		87.0	10
SF 27 - 175	175	0.69	70.0		78.7		87.5		101.5	5		
SF 30 - 025	30	16	25	5.80	10.0		11.2		12.5		14.5	20
SF 30 - 030			30	4.80	12.0		13.5		15.0		17.4	20
SF 30 - 035			35	4.13	14.0		15.7		17.5		20.3	20
SF 30 - 040			40	3.60	16.0		18.0		20.0		23.2	20
SF 30 - 045			45	3.21	18.0		20.2		22.5		26.1	20
SF 30 - 050			50	2.88	20.0		22.5		25.0		29.0	20
SF 30 - 055			55	2.63	22.0		24.7		27.5		31.9	20
SF 30 - 060			60	2.40	24.0		27.0		30.0		34.8	20
SF 30 - 065			65	2.22	26.0	58	29.2	65	32.5	72	37.7	20
SF 30 - 070			70	2.05	28.0	(569)	31.5	(637)	35.0	(706)	40.6	20
SF 30 - 075			75	1.93	30.0		33.7		37.5		43.5	20
SF 30 - 080			80	1.80	32.0		36.0		40.0		46.4	10
SF 30 - 090			90	1.60	36.0		40.5		45.0		52.2	10
SF 30 - 100			100	1.44	40.0		45.0		50.0		58.0	10
SF 30 - 125			125	1.15	50.0		56.2		62.5		72.5	10
SF 30 - 150			150	0.96	60.0		67.5		75.0		87.0	10
SF 30 - 175	175	0.82	70.0		78.7		87.5		101.5	5		
SF 30 - 200	200	0.72	80.0		90.0		100.0		116.0	5		
SFR 35 - 040	35	21	40	4.90	16.0		18.0		20.0		23.2	20
SFR 35 - 045			45	4.36	18.0		20.25		22.5		26.1	20
SFR 35 - 050			50	3.92	20.0		22.5		25.0		29.0	20
SFR 35 - 055			55	3.56	22.0		24.75		27.5		31.9	10
SFR 35 - 060			60	3.26	24.0		27.0		30.0		34.8	10
SFR 35 - 065			65	3.02	26.0		29.25		32.5		37.7	10
SFR 35 - 070			70	2.80	28.0		31.5		35.0		40.6	10
SFR 35 - 075			75	2.61	30.0	78.4	33.75	88.2	37.5	98	43.5	10
SFR 35 - 080			80	2.45	32.0	(768.3)	36.0	(864.4)	40.0	(961)	46.4	10
SFR 35 - 090			90	2.17	36.0		40.5		45.0		52.2	10
SFR 35 - 100			100	1.96	40.0		45.0		50.0		58.0	10
SFR 35 - 125			125	1.57	50.0		56.25		62.5		72.5	5
SFR 35 - 150			150	1.30	60.0		67.5		75.0		87.0	5
SFR 35 - 175			175	1.12	70.0		78.75		87.5		101.5	5
SFR 35 - 200			200	0.98	80.0		90.0		100.0		116.0	5
SF 40 - 040			40	22	40	6.38	16.0		18.0		20.0	
SF 40 - 045	45	5.68			18.0		20.3		22.5		26.1	20
SF 40 - 050	50	5.12			20.0		22.5		25.0		29.0	20
SF 40 - 055	55	4.65			22.0		24.8		27.5		31.9	20
SF 40 - 060	60	4.26			24.0		27.0		30.0		34.8	10
SF 40 - 065	66	3.93			26.0		29.3		32.5		37.7	10
SF 40 - 070	70	3.65			28.0		31.5		35.0		40.6	10
SF 40 - 075	75	3.41			30.0	102	33.8	115	37.5	128	43.5	10
SF 40 - 080	80	3.20			32.0	(1,000)	36.0	(1,128)	40.0	(1,255)	46.4	10
SF 40 - 090	90	2.84			36.0		40.5		45.0		52.2	10
SF 40 - 100	100	2.56			40.0		45.0		50.0		58.0	10
SF 40 - 125	125	2.04			50.0		56.2		62.5		72.5	5
SF 40 - 150	150	1.70			60.0		67.5		75.0		87.0	5
SF 40 - 175	175	1.46			70.0		78.7		87.5		101.5	5
SF 40 - 200	200	1.28			80.0		90.0		100.0		116.0	5
SF 40 - 250	250	1.02			100.0		112.5		125.0		145.0	2

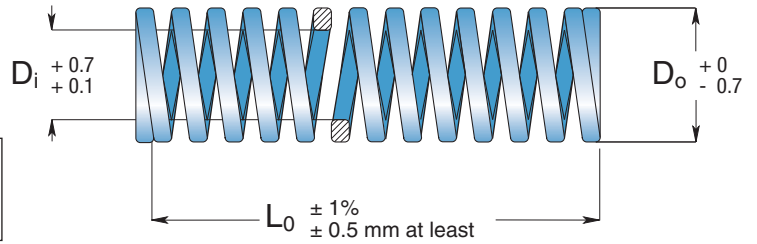
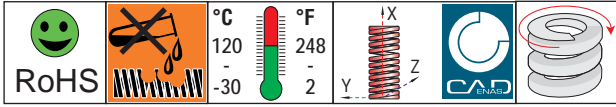


Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 40% L ₀ 1.000.000 cycles	B 45% L ₀ 500.000 cycles	C 50% L ₀ 300.000 cycles	E do not use approx.	Pcs		
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm			
SFR 40 - 040	40	26	40	4.00	16.0	18.0	20.0	23.2	20		
SFR 40 - 050			50	3.20	20.0	22.5	25.0	29.0	20		
SFR 40 - 060			60	2.60	24.0	27.0	30.0	34.8	10		
SFR 40 - 070			70	2.35	28.0	31.5	35.0	40.6	10		
SFR 40 - 080			80	2.05	32.0	36.0	40.0	46.4	10		
SFR 40 - 090			90	1.80	36.0	52 (509.6)	40.5	58.5 (573.3)	45.0	65 (637)	10
SFR 40 - 100			100	1.50	40.0	45.0	50.0	58.0	10		
SFR 40 - 125			125	1.15	50.0	56.25	62.5	72.5	5		
SFR 40 - 150			150	0.90	60.0	67.5	75.0	87.0	5		
SFR 40 - 175			175	0.75	70.0	78.75	87.5	101.5	5		
SFR 40 - 200			200	0.60	80.0	90.0	100.0	116.0	5		
SFR 40 - 250			250	0.40	100.0	112.5	125.0	145.0	2		
SF 50 - 050	50	27.5	50	8.00	20.0	22.5	25.0	29.0	5		
SF 50 - 055			55	7.27	22.0	24.8	27.5	31.9	5		
SF 50 - 060			60	6.66	24.0	27.0	30.0	34.8	5		
SF 50 - 065			65	6.15	26.0	29.3	32.5	37.7	5		
SF 50 - 070			70	5.71	28.0	31.5	35.0	40.6	5		
SF 50 - 075			75	5.33	30.0	33.8	37.5	43.5	5		
SF 50 - 080			80	5.00	32.0	36.0	40.0	46.4	5		
SF 50 - 090			90	4.44	36.0	160 (1,569)	40.5	180 (1,765)	45.0	200 (1,961)	5
SF 50 - 100			100	4.00	40.0	45.0	50.0	58.0	5		
SF 50 - 125			125	3.20	50.0	56.2	62.5	72.5	5		
SF 50 - 150			150	2.66	60.0	67.5	75.0	87.0	2		
SF 50 - 175			175	2.28	70.0	78.7	87.5	101.5	2		
SF 50 - 200			200	2.00	80.0	90.0	100.0	116.0	2		
SF 50 - 250			250	1.60	100.0	112.5	125.0	145.0	2		
SF 50 - 300	300	1.33	120.0	135.0	150.0	174.0	2				
SFR 50 - 050	50	31	50	5.40	20.0	22.5	25.0	29.0	5		
SFR 50 - 060			60	4.50	24.0	27.0	30.0	34.8	5		
SFR 50 - 070			70	3.60	28.0	31.5	35.0	40.6	5		
SFR 50 - 080			80	3.00	32.0	36.0	40.0	46.4	5		
SFR 50 - 090			90	2.65	36.0	40.5	45.0	52.2	5		
SFR 50 - 100			100	2.40	40.0	99 (970.2)	45.0	111.4 (1,091.4)	50.0	123.3 (1,212.3)	5
SFR 50 - 125			125	1.90	50.0	56.25	62.5	72.5	5		
SFR 50 - 150			150	1.55	60.0	67.5	75.0	87.0	2		
SFR 50 - 175			175	1.30	70.0	78.75	87.5	101.5	2		
SFR 50 - 200			200	1.10	80.0	90.0	100.0	116.0	2		
SFR 50 - 250			250	0.90	100.0	112.5	125.0	145.0	2		
SFR 50 - 300			300	0.75	120.0	135.0	150.0	174.0	2		
SF 60 - 060	60	33	60	9.59	24.0	27.0	30.0	34.8	5		
SF 60 - 070			70	8.22	28.0	31.5	35.0	40.6	5		
SF 60 - 080			80	7.19	32.0	36.0	40.0	46.4	5		
SF 60 - 090			90	6.40	36.0	40.5	45.0	52.2	5		
SF 60 - 100			100	5.76	40.0	45.0	50.0	58.0	5		
SF 60 - 125			125	4.60	50.0	56.2	62.5	72.5	2		
SF 60 - 150			150	3.84	60.0	67.5	75.0	87.0	2		
SF 60 - 175			175	3.29	70.0	78.7	87.5	101.5	2		
SF 60 - 200			200	2.88	80.0	90.0	100.0	116.0	2		
SF 60 - 250			250	2.30	100.0	112.5	125.0	145.0	2		
SF 60 - 300			300	1.92	120.0	135.0	150.0	174.0	2		
SFR 60 - 060	60	36	60	7.40	24.0	27.0	30.0	34.8	5		
SFR 60 - 070			70	6.30	28.0	31.5	35.0	40.6	5		
SFR 60 - 080			80	5.30	32.0	36.0	40.0	46.4	5		
SFR 60 - 090			90	4.20	36.0	40.5	45.0	52.2	5		
SFR 60 - 100			100	3.10	40.0	45.0	50.0	58.0	5		
SFR 60 - 125			125	2.35	50.0	56.25	62.5	72.5	2		
SFR 60 - 150			150	2.10	60.0	67.5	75.0	87.0	2		
SFR 60 - 175			175	1.90	70.0	78.75	87.5	101.5	2		
SFR 60 - 200			200	1.60	80.0	90.0	100.0	116.0	2		
SFR 60 - 250			250	1.30	100.0	112.5	125.0	145.0	2		
SFR 60 - 300			300	1.00	120.0	135.0	150.0	174.0	2		






SF
JIS



EN Light load springs
CN 轻型荷载弹簧



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 32% L ₀ 1.000.000 cycles		B 36% L ₀ 500.000 cycles		C 40% L ₀ 300.000 cycles		E do not use approx.	Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm	
SL 10 - 020	10	5	20	1.81	6.4		7.2		8.0		9.6	50
SL 10 - 025			25	1.45	8.0		9.0		10.0		12.0	50
SL 10 - 030			30	1.21	9.6		10.8		12.0		14.4	50
SL 10 - 035			35	1.03	11.2		12.6		14.0		16.8	50
SL 10 - 040			40	0.90	12.8		14.4		16.0		19.2	50
SL 10 - 045			45	0.80	14.4		16.2		18.0		21.6	50
SL 10 - 050			50	0.73	16.0	11.5 (112.8)	18.0	13 (127.5)	20.0	14.5 (142.2)	24.0	25
SL 10 - 055			55	0.66	17.6		19.8		22.0		26.4	25
SL 10 - 060			60	0.60	19.2		21.6		24.0		28.8	25
SL 10 - 065			65	0.55	20.8		23.4		26.0		31.2	25
SL 10 - 070	70	0.51	22.4		25.2		28.0		33.6	25		
SL 10 - 075	75	0.48	24.0		27.0		30.0		36.0	25		
SL 10 - 080	80	0.45	25.6		28.8		32.0		38.4	25		
SL 12 - 020	12	6	20	2.63	6.4		7.2		8.0		9.6	50
SL 12 - 025			25	2.10	8.0		9.0		10.0		12.0	50
SL 12 - 030			30	1.75	9.6		10.8		12.0		14.4	50
SL 12 - 035			35	1.50	11.2		12.6		14.0		16.8	50
SL 12 - 040			40	1.32	12.8		14.4		16.0		19.2	50
SL 12 - 045			45	1.17	14.4		16.2		18.0		21.6	50
SL 12 - 050			50	1.05	16.0	17 (166.7)	18.0	19 (186.3)	20.0	21 (206)	24.0	25
SL 12 - 055			55	0.96	17.6		19.8		22.0		26.4	25
SL 12 - 060			60	0.88	19.2		21.6		24.0		28.8	25
SL 12 - 065			65	0.81	20.8		23.4		26.0		31.2	25
SL 12 - 070	70	0.75	22.4		25.2		28.0		33.6	25		
SL 12 - 075	75	0.70	24.0		27.0		30.0		36.0	25		
SL 12 - 080	80	0.66	25.6		28.8		32.0		38.4	25		
SL 14 - 025	14	7	25	2.80	8.0		9.0		10.0		12.0	50
SL 14 - 030			30	2.34	9.6		10.8		12.0		14.4	50
SL 14 - 035			35	2.00	11.2		12.6		14.0		16.8	50
SL 14 - 040			40	1.75	12.8		14.4		16.0		19.2	50
SL 14 - 045			45	1.56	14.4		16.2		18.0		21.6	25
SL 14 - 050			50	1.40	16.0		18.0		20.0		24.0	25
SL 14 - 055			55	1.27	17.6	22 (216)	19.8	25 (245)	22.0	28 (275)	26.4	25
SL 14 - 060			60	1.17	19.2		21.6		24.0		28.8	25
SL 14 - 065			65	1.08	20.8		23.4		26.0		31.2	25
SL 14 - 070			70	1.00	22.4		25.2		28.0		33.6	25
SL 14 - 075	75	0.93	24.0		27.0		30.0		36.0	25		
SL 14 - 080	80	0.87	25.6		28.8		32.0		38.4	20		
SL 14 - 090	90	0.77	28.8		32.4		36.0		43.2	20		
SL 16 - 025	16	8	25	3.50	8.0		9.0		10.0		12.0	50
SL 16 - 030			30	2.92	9.6		10.8		12.0		14.4	50
SL 16 - 035			35	2.50	11.2		12.6		14.0		16.8	50
SL 16 - 040			40	2.19	12.8		14.4		16.0		19.2	25
SL 16 - 045			45	1.95	14.4		16.2		18.0		21.6	25
SL 16 - 050			50	1.75	16.0		18.0		20.0		24.0	25
SL 16 - 055			55	1.60	17.6	28 (275)	19.8	32 (314)	22.0	35 (343)	26.4	25
SL 16 - 060			60	1.46	19.2		21.6		24.0		28.8	25
SL 16 - 065			65	1.35	20.8		23.4		26.0		31.2	25
SL 16 - 070			70	1.25	22.4		25.2		28.0		33.6	20
SL 16 - 075	75	1.17	24.0		27.0		30.0		36.0	20		
SL 16 - 080	80	1.10	25.6		28.8		32.0		38.4	20		
SL 16 - 090	90	0.98	28.8		32.4		36.0		43.2	20		
SL 16 - 100	100	0.88	32.0		36.0		40.0		48.0	20		
SL 18 - 025	18	9	25	4.30	8.0		9.0		10.0		12.0	50
SL 18 - 030			30	3.58	9.6		10.8		12.0		14.4	50
SL 18 - 035			35	3.07	11.2		12.6		14.0		16.8	25
SL 18 - 040			40	2.69	12.8	34 (333)	14.4	39 (382)	16.0	43 (422)	19.2	25
SL 18 - 045			45	2.39	14.4		16.2		18.0		21.6	25
SL 18 - 050			50	2.15	16.0		18.0		20.0		24.0	25
SL 18 - 055	55	1.96	17.6		19.8		22.0		26.4	25		


Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 32% L ₀  1.000.000 cycles		B 36% L ₀  500.000 cycles		C 40% L ₀  300.000 cycles		E  do not use approx.	 Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)		
SL 18 - 060	18	9	60	1.79	19.2	34 (333)	21.6	39 (382)	24.0	43 (422)	28.8	25
SL 18 - 065			65	1.66	20.8		23.4		26.0		31.2	25
SL 18 - 070			70	1.54	22.4		25.2		28.0		33.6	25
SL 18 - 075			75	1.44	24.0		27.0		30.0		36.0	25
SL 18 - 080			80	1.35	25.6		28.8		32.0		38.4	20
SL 18 - 090			90	1.20	28.8		32.4		36.0		43.2	20
SL 18 - 100			100	1.07	32.0		36.0		40.0		48.0	20
SL 20 - 025	20	10	25	5.40	8.0	43 (422)	9.0	49 (481)	10.0	54 (530)	12.0	50
SL 20 - 030			30	4.50	9.6		10.8		12.0		14.4	50
SL 20 - 035			35	3.86	11.2		12.6		14.0		16.8	25
SL 20 - 040			40	3.38	12.8		14.4		16.0		19.2	25
SL 20 - 045			45	3.00	14.4		16.2		18.0		21.6	25
SL 20 - 050			50	2.70	16.0		18.0		20.0		24.0	25
SL 20 - 055			55	2.45	17.6		19.8		22.0		26.4	25
SL 20 - 060			60	2.25	19.2		21.6		24.0		28.8	25
SL 20 - 065			65	2.08	20.8		23.4		26.0		31.2	25
SL 20 - 070			70	1.93	22.4		25.2		28.0		33.6	25
SL 20 - 075			75	1.80	24.0		27.0		30.0		36.0	25
SL 20 - 080			80	1.69	25.6		28.8		32.0		38.4	20
SL 20 - 090			90	1.50	28.8		32.4		36.0		43.2	20
SL 20 - 100			100	1.35	32.0		36.0		40.0		48.0	20
SL 20 - 125	125	1.08	40.0	45.0	50.0	60.0	10					
SL 20 - 150	150	0.90	48.0	54.0	60.0	72.0	10					
SL 22 - 025	22	11	25	6.70	8.0	54 (530)	9.0	60 (588)	10.0	67 (657)	12.0	50
SL 22 - 030			30	5.60	9.6		10.8		12.0		14.4	25
SL 22 - 035			35	4.80	11.2		12.6		14.0		16.8	25
SL 22 - 040			40	4.20	12.8		14.4		16.0		19.2	25
SL 22 - 045			45	3.72	14.4		16.2		18.0		21.6	25
SL 22 - 050			50	3.35	16.0		18.0		20.0		24.0	25
SL 22 - 055			55	3.05	17.6		19.8		22.0		26.4	25
SL 22 - 060			60	2.80	19.2		21.6		24.0		28.8	25
SL 22 - 065			65	2.58	20.8		23.4		26.0		31.2	25
SL 22 - 070			70	2.40	22.4		25.2		28.0		33.6	20
SL 22 - 075			75	2.23	24.0		27.0		30.0		36.0	20
SL 22 - 080			80	2.10	25.6		28.8		32.0		38.4	20
SL 22 - 090			90	1.86	28.8		32.4		36.0		43.2	20
SL 22 - 100			100	1.68	32.0		36.0		40.0		48.0	20
SL 22 - 125	125	1.34	40.0	45.0	50.0	60.0	10					
SL 22 - 150	150	1.12	48.0	54.0	60.0	72.0	10					
SL 25 - 025	25	12.5	25	8.40	8.0	67 (657)	9.0	76 (745)	10.0	84 (824)	12.0	50
SL 25 - 030			30	7.00	9.6		10.8		12.0		14.4	25
SL 25 - 035			35	6.00	11.2		12.6		14.0		16.8	25
SL 25 - 040			40	5.25	12.8		14.4		16.0		19.2	25
SL 25 - 045			45	4.67	14.4		16.2		18.0		21.6	25
SL 25 - 050			50	4.20	16.0		18.0		20.0		24.0	25
SL 25 - 055			55	3.82	17.6		19.8		22.0		26.4	25
SL 25 - 060			60	3.50	19.2		21.6		24.0		28.8	25
SL 25 - 065			65	3.23	20.8		23.4		26.0		31.2	25
SL 25 - 070			70	3.00	22.4		25.2		28.0		33.6	20
SL 25 - 075			75	2.80	24.0		27.0		30.0		36.0	20
SL 25 - 080			80	2.63	25.6		28.8		32.0		38.4	20
SL 25 - 090			90	2.33	28.8		32.4		36.0		43.2	20
SL 25 - 100			100	2.10	32.0		36.0		40.0		48.0	20
SL 25 - 125	125	1.68	40.0	45.0	50.0	60.0	10					
SL 25 - 150	150	1.40	48.0	54.0	60.0	72.0	10					
SL 25 - 175	175	1.20	56.0	63.0	70.0	84.0	10					
SL 27 - 025	27	13.5	25	10.00	8.0	80 (785)	9.0	90 (883)	10.0	100 (981)	12.0	20
SL 27 - 030			30	8.33	9.6		10.8		12.0		14.4	20
SL 27 - 035			35	7.14	11.2		12.6		14.0		16.8	20
SL 27 - 040			40	6.25	12.8		14.4		16.0		19.2	20
SL 27 - 045			45	5.56	14.4		16.2		18.0		21.6	20
SL 27 - 050			50	5.00	16.0		18.0		20.0		24.0	20
SL 27 - 055			55	4.55	17.6		19.8		22.0		26.4	20
SL 27 - 060			60	4.17	19.2		21.6		24.0		28.8	20
SL 27 - 065			65	3.85	20.8		23.4		26.0		31.2	20
SL 27 - 070			70	3.57	22.4		25.2		28.0		33.6	20
SL 27 - 075			75	3.33	24.0		27.0		30.0		36.0	20
SL 27 - 080			80	3.13	25.6		28.8		32.0		38.4	10
SL 27 - 090			90	2.78	28.8		32.4		36.0		43.2	10
SL 27 - 100			100	2.50	32.0		36.0		40.0		48.0	10
SL 27 - 125	125	2.00	40.0	45.0	50.0	60.0	10					
SL 27 - 150	150	1.67	48.0	54.0	60.0	72.0	10					
SL 27 - 175	175	1.43	56.0	63.0	70.0	84.0	5					

SL
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Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 32% L ₀ 1.000.000 cycles		B 36% L ₀ 500.000 cycles		C 40% L ₀ 300.000 cycles		E do not use approx. Pcs			
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)		mm		
SLR 30 - 025	30	16	25	12.11	8.0	91.2 (893.8)	25.2 (1,005.5)	28.0 (1,117.2)	114	12.0	20			
SLR 30 - 030			30	10.08	9.6					9.0	10.8	12.0	14.4	20
SLR 30 - 035			35	8.65	11.2					12.6	14.0	16.8	20	
SLR 30 - 040			40	7.56	12.8					14.4	16.0	19.2	20	
SLR 30 - 045			45	6.73	14.4					16.2	18.0	21.6	20	
SLR 30 - 050			50	6.05	16.0					18.0	20.0	24.0	20	
SLR 30 - 055			55	5.50	17.6					19.8	22.0	26.4	20	
SLR 30 - 060			60	5.04	19.2					21.6	24.0	28.8	20	
SLR 30 - 065			65	4.65	20.8					23.4	26.0	31.2	20	
SLR 30 - 070			70	4.32	22.4					25.2	28.0	33.6	20	
SLR 30 - 075			75	4.03	24.0					27.0	30.0	36.0	20	
SLR 30 - 080			80	3.78	25.6					28.8	32.0	38.4	10	
SLR 30 - 090			90	3.36	28.8					32.4	36.0	43.2	10	
SLR 30 - 100			100	3.02	32.0					36.0	40.0	48.0	10	
SLR 30 - 125			125	2.42	40.0					45.0	50.0	60.0	10	
SLR 30 - 150			150	2.01	48.0					54.0	60.0	72.0	10	
SLR 30 - 175	175	1.72	56.0	63.0	70.0	84.0	5							
SLR 30 - 200	200	1.51	64.0	72.0	80.0	96.0	5							
SL 35 - 040	35	17.5	40	10.31	12.8	132 (1,295)	27.0 (1,461)	30.0 (1,618)	165	19.2	20			
SL 35 - 045			45	9.17	14.4					14.4	16.2	21.6	20	
SL 35 - 050			50	8.25	16.0					18.0	18.0	24.0	20	
SL 35 - 055			55	7.50	17.6					19.8	19.8	26.4	10	
SL 35 - 060			60	6.87	19.2					21.6	21.6	28.8	10	
SL 35 - 065			65	6.35	20.8					23.4	23.4	31.2	10	
SL 35 - 070			70	5.89	22.4					25.2	25.2	33.6	10	
SL 35 - 075			75	5.50	24.0					27.0	30.0	36.0	10	
SL 35 - 080			80	5.15	25.6					28.8	32.0	38.4	10	
SL 35 - 090			90	4.58	28.8					32.4	36.0	43.2	10	
SL 35 - 100			100	4.12	32.0					36.0	40.0	48.0	10	
SL 35 - 125			125	3.30	40.0					45.0	50.0	60.0	5	
SL 35 - 150			150	2.75	48.0					54.0	60.0	72.0	5	
SL 35 - 175			175	2.35	56.0					63.0	70.0	84.0	5	
SL 35 - 200	200	2.06	64.0	72.0	80.0	96.0	5							
SLR 35 - 040	35	20.5	40	9.15	12.8	114.6 (1,123.1)	27.0 (1,263.2)	30.0 (1,403.4)	143.2	19.2	20			
SLR 35 - 045			45	8.42	14.4					14.4	16.2	21.6	20	
SLR 35 - 050			50	7.85	16.0					18.0	18.0	24.0	20	
SLR 35 - 055			55	7.42	17.6					19.8	19.8	26.4	10	
SLR 35 - 060			60	6.70	19.2					21.6	21.6	28.8	10	
SLR 35 - 065			65	6.25	20.8					23.4	23.4	31.2	10	
SLR 35 - 070			70	5.45	22.4					25.2	25.2	33.6	10	
SLR 35 - 075			75	5.28	24.0					27.0	30.0	36.0	10	
SLR 35 - 080			80	4.90	25.6					28.8	32.0	38.4	10	
SLR 35 - 090			90	4.20	28.8					32.4	36.0	43.2	10	
SLR 35 - 100			100	3.75	32.0					36.0	40.0	48.0	10	
SLR 35 - 125			125	3.00	40.0					45.0	50.0	60.0	5	
SLR 35 - 150			150	2.40	48.0					54.0	60.0	72.0	5	
SLR 35 - 175			175	2.20	56.0					63.0	70.0	84.0	5	
SLR 35 - 200	200	1.80	64.0	72.0	80.0	96.0	5							
SL 40 - 040	40	20	40	13.50	12.8	173 (1,697)	27.0 (1,903)	30.0 (2,120)	216	19.2	20			
SL 40 - 045			45	12.00	14.4					14.4	16.2	21.6	20	
SL 40 - 050			50	10.80	16.0					18.0	18.0	24.0	20	
SL 40 - 055			55	9.80	17.6					19.8	19.8	26.4	20	
SL 40 - 060			60	9.00	19.2					21.6	21.6	28.8	10	
SL 40 - 065			65	8.29	20.8					23.4	23.4	31.2	10	
SL 40 - 070			70	7.71	22.4					25.2	25.2	33.6	10	
SL 40 - 075			75	7.19	24.0					27.0	30.0	36.0	10	
SL 40 - 080			80	6.75	25.6					28.8	32.0	38.4	10	
SL 40 - 090			90	6.00	28.8					32.4	36.0	43.2	10	
SL 40 - 100			100	5.40	32.0					36.0	40.0	48.0	10	
SL 40 - 125			125	4.32	40.0					45.0	50.0	60.0	5	
SL 40 - 150			150	3.60	48.0					54.0	60.0	72.0	5	
SL 40 - 175			175	3.08	56.0					63.0	70.0	84.0	5	
SL 40 - 200			200	2.70	64.0					72.0	80.0	96.0	5	
SL 40 - 250			250	2.16	80.0					90.0	100.0	120.0	2	

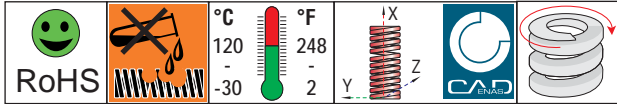
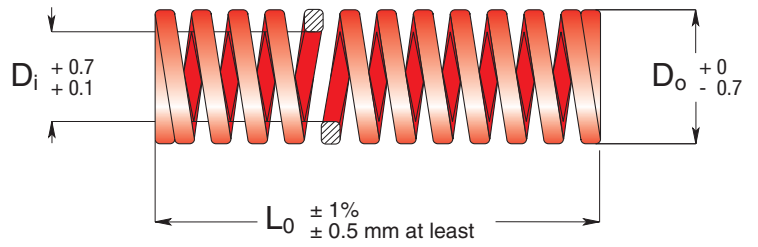


Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 32% L ₀ 1.000.000 cycles	B 36% L ₀ 500.000 cycles	C 40% L ₀ 300.000 cycles	E do not use approx.							
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm	Pcs						
SLR 40 - 040	40	25.5	40	9.30	12.8	111.5 (1,092.7)	125.5 (1,229.9)	139.4 (1,366.1)	19.2	20					
SLR 40 - 050			50	7.75	16.0						14.4	18.0	20.0	24.0	
SLR 40 - 060			60	6.20	19.2						16.0	18.0	20.0	24.0	28.8
SLR 40 - 070			70	5.00	22.4						16.0	18.0	20.0	24.0	33.6
SLR 40 - 080			80	4.35	25.6						16.0	18.0	20.0	24.0	38.4
SLR 40 - 090			90	3.85	28.8						16.0	18.0	20.0	24.0	43.2
SLR 40 - 100			100	3.50	32.0						16.0	18.0	20.0	24.0	48.0
SLR 40 - 125			125	2.80	40.0						16.0	18.0	20.0	24.0	60.0
SLR 40 - 150			150	2.25	48.0						16.0	18.0	20.0	24.0	72.0
SLR 40 - 175			175	1.95	56.0						16.0	18.0	20.0	24.0	84.0
SLR 40 - 200			200	1.65	64.0						16.0	18.0	20.0	24.0	96.0
SLR 40 - 250			250	1.50	80.0						16.0	18.0	20.0	24.0	120.0
SLR 40 - 250	250	1.50	80.0	16.0	18.0	20.0	24.0	120.0	2						
SL 50 - 050	50	25	50	16.89	16.0	270 (2,650)	304 (2,980)	338 (3,310)	24.0	5					
SL 50 - 055			55	15.35	17.6						18.0	19.8	22.0	26.4	
SL 50 - 060			60	14.08	19.2						18.0	19.8	22.0	26.4	28.8
SL 50 - 065			65	12.99	20.8						18.0	19.8	22.0	26.4	31.2
SL 50 - 070			70	12.07	22.4						18.0	19.8	22.0	26.4	33.6
SL 50 - 075			75	11.25	24.0						18.0	19.8	22.0	26.4	36.0
SL 50 - 080			80	10.56	25.6						18.0	19.8	22.0	26.4	38.4
SL 50 - 090			90	9.38	28.8						18.0	19.8	22.0	26.4	43.2
SL 50 - 100			100	8.45	32.0						18.0	19.8	22.0	26.4	48.0
SL 50 - 125			125	6.76	40.0						18.0	19.8	22.0	26.4	60.0
SL 50 - 150			150	5.63	48.0						18.0	19.8	22.0	26.4	72.0
SL 50 - 175			175	4.82	56.0						18.0	19.8	22.0	26.4	84.0
SL 50 - 200			200	4.22	64.0						18.0	19.8	22.0	26.4	96.0
SL 50 - 250			250	3.38	80.0						18.0	19.8	22.0	26.4	120.0
SL 50 - 300	300	2.81	96.0	18.0	19.8	22.0	26.4	144.0							
SLR 50 - 050	50	30.5	50	11.90	16.0	200.8 (1,967.8)	225.9 (2,213.8)	251 (2,459.8)	24.0	5					
SLR 50 - 060			60	10.60	19.2						18.0	21.6	24.0	28.8	
SLR 50 - 070			70	9.00	22.4						18.0	21.6	24.0	28.8	33.6
SLR 50 - 080			80	7.65	25.6						18.0	21.6	24.0	28.8	38.4
SLR 50 - 090			90	6.75	28.8						18.0	21.6	24.0	28.8	43.2
SLR 50 - 100			100	5.85	32.0						18.0	21.6	24.0	28.8	48.0
SLR 50 - 125			125	4.90	40.0						18.0	21.6	24.0	28.8	60.0
SLR 50 - 150			150	3.55	48.0						18.0	21.6	24.0	28.8	72.0
SLR 50 - 175			175	3.00	56.0						18.0	21.6	24.0	28.8	84.0
SLR 50 - 200			200	2.65	64.0						18.0	21.6	24.0	28.8	96.0
SLR 50 - 250			250	2.40	80.0						18.0	21.6	24.0	28.8	120.0
SLR 50 - 300			300	2.20	96.0						18.0	21.6	24.0	28.8	144.0
SL 60 - 060	60	30	60	20.25	19.2	389 (3,810)	437 (4,290)	486 (4,770)	28.8	5					
SL 60 - 070			70	17.35	22.4						21.6	25.2	28.0	33.6	
SL 60 - 080			80	15.18	25.6						21.6	25.2	28.0	33.6	38.4
SL 60 - 090			90	13.50	28.8						21.6	25.2	28.0	33.6	43.2
SL 60 - 100			100	12.15	32.0						21.6	25.2	28.0	33.6	48.0
SL 60 - 125			125	9.72	40.0						21.6	25.2	28.0	33.6	60.0
SL 60 - 150			150	8.10	48.0						21.6	25.2	28.0	33.6	72.0
SL 60 - 175			175	6.94	56.0						21.6	25.2	28.0	33.6	84.0
SL 60 - 200			200	6.07	64.0						21.6	25.2	28.0	33.6	96.0
SL 60 - 250			250	4.86	80.0						21.6	25.2	28.0	33.6	120.0
SL 60 - 300			300	4.05	96.0						21.6	25.2	28.0	33.6	144.0
SLR 60 - 060	60	35.5	60	16.80	19.2	310.1 (3,039)	384.8 (3,771)	387.6 (3,798.5)	28.8	5					
SLR 60 - 070			70	14.40	22.4						21.6	25.2	28.0	33.6	
SLR 60 - 080			80	12.10	25.6						21.6	25.2	28.0	33.6	38.4
SLR 60 - 090			90	10.65	28.8						21.6	25.2	28.0	33.6	43.2
SLR 60 - 100			100	9.80	32.0						21.6	25.2	28.0	33.6	48.0
SLR 60 - 125			125	8.50	40.0						21.6	25.2	28.0	33.6	60.0
SLR 60 - 150			150	6.80	48.0						21.6	25.2	28.0	33.6	72.0
SLR 60 - 175			175	6.00	56.0						21.6	25.2	28.0	33.6	84.0
SLR 60 - 200			200	5.20	64.0						21.6	25.2	28.0	33.6	96.0
SLR 60 - 250			250	3.90	80.0						21.6	25.2	28.0	33.6	120.0
SLR 60 - 300			300	3.10	96.0						21.6	25.2	28.0	33.6	144.0

SL
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EN Medium load springs
CN 中型荷载弹簧



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 25.6% L ₀ 1.000.000 cycles		B 28.8% L ₀ 500.000 cycles		C 32% L ₀ 300.000 cycles		E approx. do not use	Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm	
SM 10 - 020	10	5	20	3.13	5.1		5.8	6.4	7.6	50		
SM 10 - 025			25	2.50	6.4		7.2	8.0	9.5	50		
SM 10 - 030			30	2.08	7.7		8.6	9.6	11.4	50		
SM 10 - 035			35	1.78	9.0		10.1	11.2	13.3	50		
SM 10 - 040			40	1.56	10.2		11.5	12.8	15.2	50		
SM 10 - 045			45	1.38	11.5	16 (156.9)	13.0	14.4	17.1	50		
SM 10 - 050			50	1.25	12.8		14.4	16.0	19.0	25		
SM 10 - 055			55	1.13	14.1	15.8	17.6	20.9	25			
SM 10 - 060			60	1.04	15.4	17.3	19.2	22.8	25			
SM 10 - 065			65	0.96	16.6	18.7	20.8	24.7	25			
SM 10 - 070			70	0.89	17.9	20.2	22.4	26.6	25			
SM 10 - 075	75	0.83	19.2	21.6	24.0	28.5	25					
SM 10 - 080	80	0.78	20.5	23.0	25.6	30.4	25					
SM 12 - 020	12	6	20	4.53	5.1		5.8	6.4	7.6	50		
SM 12 - 025			25	3.62	6.4		7.2	8.0	9.5	50		
SM 12 - 030			30	3.02	7.7		8.6	9.6	11.4	50		
SM 12 - 035			35	2.58	9.0		10.1	11.2	13.3	50		
SM 12 - 040			40	2.27	10.2		11.5	12.8	15.2	50		
SM 12 - 045			45	2.01	11.5	23 (226)	13.0	14.4	17.1	50		
SM 12 - 050			50	1.81	12.8		14.4	16.0	19.0	25		
SM 12 - 055			55	1.64	14.1	15.8	17.6	20.9	25			
SM 12 - 060			60	1.51	15.4	17.3	19.2	22.8	25			
SM 12 - 065			65	1.39	16.6	18.7	20.8	24.7	25			
SM 12 - 070			70	1.29	17.9	20.2	22.4	26.6	25			
SM 12 - 075	75	1.20	19.2	21.6	24.0	28.5	25					
SM 12 - 080	80	1.13	20.5	23.0	25.6	30.4	25					
SM 14 - 025	14	7	25	4.87	6.4		7.2	8.0	9.5	50		
SM 14 - 030			30	4.06	7.7		8.6	9.6	11.4	50		
SM 14 - 035			35	3.48	9.0		10.1	11.2	13.3	50		
SM 14 - 040			40	3.04	10.2		11.5	12.8	15.2	50		
SM 14 - 045			45	2.70	11.5		13.0	14.4	17.1	25		
SM 14 - 050			50	2.43	12.8	31 (304)	14.4	16.0	19.0	25		
SM 14 - 055			55	2.21	14.1		15.8	17.6	20.9	25		
SM 14 - 060			60	2.03	15.4	17.3	19.2	22.8	25			
SM 14 - 065			65	1.87	16.6	18.7	20.8	24.7	25			
SM 14 - 070			70	1.74	17.9	20.2	22.4	26.6	25			
SM 14 - 075			75	1.62	19.2	21.6	24.0	28.5	25			
SM 14 - 080	80	1.52	20.5	23.0	25.6	30.4	20					
SM 14 - 090	90	1.35	23.0	25.9	28.8	34.2	20					

Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 25.6% L ₀ 1.000.000 cycles	B 28.8% L ₀ 500.000 cycles	C 32% L ₀ 300.000 cycles	E do not use approx.	
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm	Pcs
SM 16 - 025	16	8	25	6.39	6.4	7.2	8.0	9.5	50
SM 16 - 030			30	5.32	7.7	8.6	9.6	11.4	50
SM 16 - 035			35	4.55	9.0	10.1	11.2	13.3	50
SM 16 - 040			40	3.98	10.2	11.5	12.8	15.2	25
SM 16 - 045			45	3.54	11.5	13.0	14.4	17.1	25
SM 16 - 050			50	3.18	12.8	14.4	16.0	19.0	25
SM 16 - 055			55	2.89	14.1	15.8	17.6	20.9	25
SM 16 - 060			60	2.65	15.4	17.3	19.2	22.8	25
SM 16 - 065			65	2.45	16.6	18.7	20.8	24.7	25
SM 16 - 070			70	2.27	17.9	20.2	22.4	26.6	20
SM 16 - 075			75	2.11	19.2	21.6	24.0	28.5	20
SM 16 - 080			80	1.99	20.5	23.0	25.6	30.4	20
SM 16 - 090			90	1.77	23.0	25.9	28.8	34.2	20
SM 16 - 100			100	1.59	25.6	28.8	32.0	38.0	20
SM 18 - 025	18	9	25	8.12	6.4	7.2	8.0	9.5	50
SM 18 - 030			30	6.77	7.7	8.6	9.6	11.4	50
SM 18 - 035			35	5.80	9.0	10.1	11.2	13.3	25
SM 18 - 040			40	5.07	10.2	11.5	12.8	15.2	25
SM 18 - 045			45	4.51	11.5	13.0	14.4	17.1	25
SM 18 - 050			50	4.06	12.8	14.4	16.0	19.0	25
SM 18 - 055			55	3.69	14.1	15.8	17.6	20.9	25
SM 18 - 060			60	3.38	15.4	17.3	19.2	22.8	25
SM 18 - 065			65	3.12	16.6	18.7	20.8	24.7	25
SM 18 - 070			70	2.90	17.9	20.2	22.4	26.6	25
SM 18 - 075			75	2.70	19.2	21.6	24.0	28.5	25
SM 18 - 080			80	2.53	20.5	23.0	25.6	30.4	20
SM 18 - 090			90	2.25	23.0	25.9	28.8	34.2	20
SM 18 - 100			100	2.02	25.6	28.8	32.0	38.0	20
SM 20 - 025	20	10	25	10.00	6.4	7.2	8.0	9.5	50
SM 20 - 030			30	8.33	7.7	8.6	9.6	11.4	50
SM 20 - 035			35	7.14	9.0	10.1	11.2	13.3	25
SM 20 - 040			40	6.25	10.2	11.5	12.8	15.2	25
SM 20 - 045			45	5.55	11.5	13.0	14.4	17.1	25
SM 20 - 050			50	5.00	12.8	14.4	16.0	19.0	25
SM 20 - 055			55	4.54	14.1	15.8	17.6	20.9	25
SM 20 - 060			60	4.16	15.4	17.3	19.2	22.8	25
SM 20 - 065			65	3.84	16.6	18.7	20.8	24.7	25
SM 20 - 070			70	3.57	17.9	20.2	22.4	26.6	25
SM 20 - 075			75	3.33	19.2	21.6	24.0	28.5	25
SM 20 - 080			80	3.12	20.5	23.0	25.6	30.4	20
SM 20 - 090			90	2.77	23.0	25.9	28.8	34.2	20
SM 20 - 100			100	2.50	25.6	28.8	32.0	38.0	20
SM 20 - 125	125	2.00	32.0	36.0	40.0	47.5	10		
SM 20 - 150	150	1.67	38.4	43.2	48.0	57.0	10		
SM 22 - 025	22	11	25	12.13	6.4	7.2	8.0	9.5	50
SM 22 - 030			30	10.10	7.7	8.6	9.6	11.4	25
SM 22 - 035			35	8.65	9.0	10.1	11.2	13.3	25
SM 22 - 040			40	7.57	10.2	11.5	12.8	15.2	25
SM 22 - 045			45	6.74	11.5	13.0	14.4	17.1	25
SM 22 - 050			50	6.06	12.8	14.4	16.0	19.0	25
SM 22 - 055			55	5.50	14.1	15.8	17.6	20.9	25
SM 22 - 060			60	5.05	15.4	17.3	19.2	22.8	25
SM 22 - 065			65	4.66	16.6	18.7	20.8	24.7	25
SM 22 - 070			70	4.33	17.9	20.2	22.4	26.6	20
SM 22 - 075			75	4.04	19.2	21.6	24.0	28.5	20
SM 22 - 080			80	3.78	20.5	23.0	25.6	30.4	20
SM 22 - 090			90	3.36	23.0	25.9	28.8	34.2	20
SM 22 - 100			100	3.03	25.6	28.8	32.0	38.0	20
SM 22 - 125	125	2.42	32.0	36.0	40.0	47.5	10		
SM 22 - 150	150	2.01	38.4	43.2	48.0	57.0	10		

SM
JIS



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 25.6% L ₀ 1.000.000 cycles		B 28.8% L ₀ 500.000 cycles		C 32% L ₀ 300.000 cycles		E do not use approx.	Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm	
SM 25 - 025	25	12.5	25	15.63	6.4		7.2		8.0		9.5	50
SM 25 - 030			30	13.02	7.7		8.6		9.6		11.4	25
SM 25 - 035			35	11.20	9.0		10.0		11.2		13.3	25
SM 25 - 040			40	9.76	10.2		11.5		12.8		15.2	25
SM 25 - 045			45	8.68	11.5		13.0		14.4		17.1	25
SM 25 - 050			50	7.81	12.8		14.4		16.0		19.0	25
SM 25 - 055			55	7.10	14.1		15.8		17.6		20.9	25
SM 25 - 060			60	6.51	15.4		17.3		19.2		22.8	25
SM 25 - 065			65	6.00	16.6	100 (981)	18.7	112 (1,098)	20.8	125 (1,226)	24.7	25
SM 25 - 070			70	5.58	17.9		20.2		22.4		26.6	20
SM 25 - 075			75	5.21	19.2		21.6		24.0		28.5	20
SM 25 - 080			80	4.88	20.5		23.0		25.6		30.4	20
SM 25 - 090			90	4.34	23.0		25.9		28.8		34.2	20
SM 25 - 100			100	3.90	25.6		28.8		32.0		38.0	20
SM 25 - 125			125	3.12	32.0		36.0		40.0		47.5	10
SM 25 - 150	150	2.60	38.4		43.2		48.0		57.0	10		
SM 25 - 175	175	2.23	44.8		50.4		56.0		66.5	10		
SM 27 - 025	27	13.5	25	18.25	6.4		7.2		8.0		9.5	20
SM 27 - 030			30	15.20	7.7		8.6		9.6		11.4	20
SM 27 - 035			35	13.04	9.0		10.0		11.2		13.3	20
SM 27 - 040			40	11.40	10.2		11.5		12.8		15.2	20
SM 27 - 045			45	10.14	11.5		13.0		14.4		17.1	20
SM 27 - 050			50	9.12	12.8		14.4		16.0		19.0	20
SM 27 - 055			55	8.30	14.1		15.8		17.6		20.9	20
SM 27 - 060			60	7.60	15.4		17.3		19.2		22.8	20
SM 27 - 065			65	7.00	16.6	117 (1,147)	18.7	131 (1,285)	20.8	146 (1,432)	24.7	20
SM 27 - 070			70	6.51	17.9		20.2		22.4		26.6	20
SM 27 - 075			75	6.08	19.2		21.6		24.0		28.5	20
SM 27 - 080			80	5.70	20.5		23.0		25.6		30.4	10
SM 27 - 090			90	5.06	23.0		25.9		28.8		34.2	10
SM 27 - 100			100	4.56	25.6		28.8		32.0		38.0	10
SM 27 - 125			125	3.65	32.0		36.0		40.0		47.5	10
SM 27 - 150	150	3.04	38.4		43.2		48.0		57.0	10		
SM 27 - 175	175	2.61	44.8		50.4		56.0		66.5	5		
SM 30 - 025	30	15	25	22.50	6.4		7.2		8.0		9.5	20
SM 30 - 030			30	18.75	7.7		8.6		9.6		11.4	20
SM 30 - 035			35	16.10	9.0		10.0		11.2		13.3	20
SM 30 - 040			40	14.06	10.2		11.5		12.8		15.2	20
SM 30 - 045			45	12.50	11.5		13.0		14.4		17.1	20
SM 30 - 050			50	11.25	12.8		14.4		16.0		19.0	20
SM 30 - 055			55	10.23	14.1		15.8		17.6		20.9	20
SM 30 - 060			60	9.37	15.4		17.3		19.2		22.8	20
SM 30 - 065			65	8.65	16.6	144 (1,412)	18.7	161 (1,579)	20.8	180 (1,785)	24.7	20
SM 30 - 070			70	8.03	17.9		20.2		22.4		26.6	20
SM 30 - 075			75	7.50	19.2		21.6		24.0		28.5	20
SM 30 - 080			80	7.03	20.5		23.0		25.6		30.4	10
SM 30 - 090			90	6.25	23.0		25.9		28.8		34.2	10
SM 30 - 100			100	5.62	25.6		28.8		32.0		38.0	10
SM 30 - 125			125	4.50	32.0		36.0		40.0		47.5	10
SM 30 - 150	150	3.75	38.4		43.2		48.0		57.0	10		
SM 30 - 175	175	3.21	44.8		50.4		56.0		66.5	5		
SM 30 - 200	200	2.81	51.2		57.6		64.0		76.0	5		

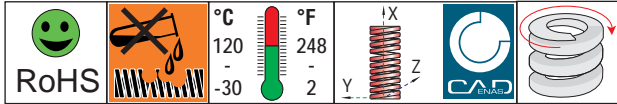
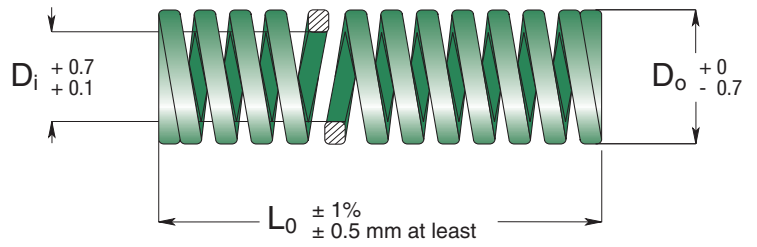


Code 型号	D _o Outside Diameter 孔径	D _i Inside Diameter 棒径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 25.6% L ₀ 1.000.000 cycles	B 28.8% L ₀ 500.000 cycles	C 32% L ₀ 300.000 cycles	E do not use approx.	Pcs		
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm			
SM 35 - 040	35	17.5	40	19.14	10.2	195 (1,912)	220 (2,160)	245 (2,400)	15.2	20	
SM 35 - 045			45	17.01	11.5				13.0	17.1	20
SM 35 - 050			50	15.31	12.8				14.4	19.0	20
SM 35 - 055			55	13.92	14.0				15.8	20.9	10
SM 35 - 060			60	12.76	15.4				17.3	22.8	10
SM 35 - 065			65	11.77	16.6				18.7	24.7	10
SM 35 - 070			70	10.93	17.9				20.2	26.6	10
SM 35 - 075			75	10.20	19.2				21.6	28.5	10
SM 35 - 080			80	9.57	20.5				23.0	30.4	10
SM 35 - 090			90	8.50	23.0				25.9	34.2	10
SM 35 - 100			100	7.65	25.6				28.8	38.0	10
SM 35 - 125			125	6.12	32.0				36.0	47.5	5
SM 35 - 150			150	5.10	38.4				43.2	57.0	5
SM 35 - 175			175	4.37	44.8				50.4	66.5	5
SM 35 - 200	200	3.82	51.2	57.6	76.0	5					
SM 40 - 040	40	20	40	25.02	10.2	256 (2,510)	288 (2,820)	320 (3,140)	15.2	20	
SM 40 - 045			45	22.19	11.5				13.0	17.1	20
SM 40 - 050			50	20.00	12.8				14.4	19.0	20
SM 40 - 055			55	18.15	14.1				15.8	20.9	20
SM 40 - 060			60	16.60	15.4				17.3	22.8	10
SM 40 - 065			65	15.36	16.6				18.7	24.7	10
SM 40 - 070			70	14.28	17.9				20.2	26.6	10
SM 40 - 075			75	13.31	19.2				21.6	28.5	10
SM 40 - 080			80	12.50	20.5				23.0	30.4	10
SM 40 - 090			90	11.11	23.0				25.9	34.2	10
SM 40 - 100			100	10.00	25.6				28.8	38.0	10
SM 40 - 125			125	8.00	32.0				36.0	47.5	5
SM 40 - 150			150	6.66	38.4				43.2	57.0	5
SM 40 - 175			175	5.71	44.8				50.4	66.5	5
SM 40 - 200	200	5.00	51.2	57.6	76.0	5					
SM 40 - 250	250	4.00	64.0	72.0	95.0	2					
SM 50 - 050	50	25	50	31.25	12.8	400 (3,920)	450 (4,410)	500 (4,900)	19.0	5	
SM 50 - 055			55	28.39	14.1				15.8	20.9	5
SM 50 - 060			60	26.04	15.4				17.3	22.8	5
SM 50 - 065			65	24.02	16.6				18.7	24.7	5
SM 50 - 070			70	22.32	17.9				20.2	26.6	5
SM 50 - 075			75	20.82	19.2				21.6	28.5	5
SM 50 - 080			80	19.53	20.5				23.0	30.4	5
SM 50 - 090			90	17.36	23.0				25.9	34.2	5
SM 50 - 100			100	15.62	25.6				28.8	38.0	5
SM 50 - 125			125	12.50	32.0				36.0	47.5	5
SM 50 - 150			150	10.41	38.4				43.2	57.0	2
SM 50 - 175			175	8.92	44.8				50.4	66.5	2
SM 50 - 200			200	7.81	51.2				57.6	76.0	2
SM 50 - 250			250	6.25	64.0				72.0	95.0	2
SM 50 - 300	300	5.20	76.8	86.4	114.0	2					
SM 60 - 060	60	30	60	37.40	15.4	575 (5,640)	648 (6,350)	720 (7,060)	22.8	5	
SM 60 - 070			70	32.10	17.9				20.2	26.6	5
SM 60 - 080			80	28.12	20.5				23.0	30.4	5
SM 60 - 090			90	25.00	23.0				25.9	34.2	5
SM 60 - 100			100	22.50	25.6				28.8	38.0	5
SM 60 - 125			125	18.00	32.0				36.0	47.5	2
SM 60 - 150			150	15.00	38.4				43.2	57.0	2
SM 60 - 175			175	12.85	44.8				50.4	66.5	2
SM 60 - 200			200	11.25	51.2				57.6	76.0	2
SM 60 - 250			250	9.00	64.0				72.0	95.0	2
SM 60 - 300			300	7.50	76.8				86.4	114.0	2

SM
JIS



EN Heavy load springs
CN 重型荷载弹簧



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 19.2% L ₀ 1.000.000 cycles		B 21.6% L ₀ 500.000 cycles		C 24% L ₀ 300.000 cycles		E do not use approx.	Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm	
SH 10 - 020	10	5	20	6.25	3.8	4.3	4.8	5.6	50			
SH 10 - 025			25	5.00	4.8	5.4	6.0	7.0	50			
SH 10 - 030			30	4.16	5.8	6.5	7.2	8.4	50			
SH 10 - 035			35	3.57	6.7	7.5	8.4	9.8	50			
SH 10 - 040			40	3.15	7.7	8.6	9.6	11.2	50			
SH 10 - 045			45	2.77	8.6	9.7	10.8	12.6	50			
SH 10 - 050			50	2.50	9.6	10.8	12.0	14.0	25			
SH 10 - 055			55	2.27	10.6	11.8	13.2	15.4	25			
SH 10 - 060			60	2.08	11.5	13.0	14.4	16.8	25			
SH 10 - 065			65	1.92	12.5	14.0	15.6	18.2	25			
SH 10 - 070			70	1.79	13.4	15.1	16.8	19.6	25			
SH 10 - 075	75	1.67	14.4	16.2	18.0	21.0	25					
SH 10 - 080	80	1.56	15.4	17.3	19.2	22.4	25					
SH 12 - 020	12	6	20	8.90	3.8	4.3	4.8	5.6	50			
SH 12 - 025			25	7.10	4.8	5.4	6.0	7.0	50			
SH 12 - 030			30	5.97	5.8	6.5	7.2	8.4	50			
SH 12 - 035			35	5.11	6.7	7.5	8.4	9.8	50			
SH 12 - 040			40	4.47	7.7	8.6	9.6	11.2	50			
SH 12 - 045			45	3.98	8.6	9.7	10.8	12.6	50			
SH 12 - 050			50	3.58	9.6	10.8	12.0	14.0	25			
SH 12 - 055			55	3.25	10.6	11.8	13.2	15.4	25			
SH 12 - 060			60	2.98	11.5	13.0	14.4	16.8	25			
SH 12 - 065			65	2.74	12.5	14.0	15.6	18.2	25			
SH 12 - 070			70	2.54	13.4	15.1	16.8	19.6	25			
SH 12 - 075	75	2.37	14.4	16.2	18.0	21.0	25					
SH 12 - 080	80	2.21	15.4	17.3	19.2	22.4	25					
SH 14 - 025	14	7	25	9.83	4.8	5.4	6.0	7.0	50			
SH 14 - 030			30	8.19	5.8	6.5	7.2	8.4	50			
SH 14 - 035			35	7.02	6.7	7.5	8.4	9.8	50			
SH 14 - 040			40	6.14	7.7	8.6	9.6	11.2	50			
SH 14 - 045			45	5.46	8.6	9.7	10.8	12.6	25			
SH 14 - 050			50	4.91	9.6	10.8	12.0	14.0	25			
SH 14 - 055			55	4.46	10.6	11.8	13.2	15.4	25			
SH 14 - 060			60	4.09	11.5	13.0	14.4	16.8	25			
SH 14 - 065			65	3.78	12.5	14.0	15.6	18.2	25			
SH 14 - 070			70	3.51	13.4	15.1	16.8	19.6	25			
SH 14 - 075			75	3.27	14.4	16.2	18.0	21.0	25			
SH 14 - 080	80	3.07	15.4	17.3	19.2	22.4	20					
SH 14 - 090	90	2.72	16.4	19.4	21.6	25.2	20					
SH 16 - 025	16	8	25	12.83	6.7	5.4	6.0	7.0	50			
SH 16 - 030			30	10.69	7.7	6.5	7.2	8.4	50			
SH 16 - 035			35	9.16	8.6	7.5	8.4	9.8	50			
SH 16 - 040			40	8.02	9.6	8.6	9.6	11.2	25			
SH 16 - 045			45	7.12	10.6	9.7	10.8	12.6	25			
SH 16 - 050			50	6.41	11.5	10.8	12.0	14.0	25			
SH 16 - 055	55	5.83	12.5	11.8	13.2	15.4	25					



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 19.2% L ₀ 1.000.000 cycles		B 21.6% L ₀ 500.000 cycles		C 24% L ₀ 300.000 cycles		E do not use approx. Pcs	
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)		mm
SH 16 - 060	16	8	60	5.34	10.6	62 (608)	13.0	69 (677)	14.4	77 (755)	16.8	25
SH 16 - 065			65	4.93	11.5		14.0		15.6		18.2	25
SH 16 - 070			70	4.58	12.5		15.1		16.8		19.6	20
SH 16 - 075			75	4.28	13.4		16.2		18.0		21.0	20
SH 16 - 080			80	4.01	14.4		17.3		19.2		22.4	20
SH 16 - 090			90	3.57	15.4		19.4		21.6		25.2	20
SH 16 - 100			100	3.21	17.3		21.6		24.0		28.0	20
SH 18 - 025	18	9	25	16.16	4.8	78 (765)	5.4	87 (853)	6.0	97 (951)	7.0	50
SH 18 - 030			30	13.47	5.8		6.5		7.2		8.4	50
SH 18 - 035			35	11.54	6.7		7.5		8.4		9.8	25
SH 18 - 040			40	10.10	7.7		8.6		9.6		11.2	25
SH 18 - 045			45	8.98	8.6		9.7		10.8		12.6	25
SH 18 - 050			50	8.08	9.6		10.8		12.0		14.0	25
SH 18 - 055			55	7.34	10.6		11.8		13.2		15.4	25
SH 18 - 060			60	6.73	11.5		13.0		14.4		16.8	25
SH 18 - 065			65	6.21	12.5		14.0		15.6		18.2	25
SH 18 - 070			70	5.77	13.4		15.1		16.8		19.6	25
SH 18 - 075			75	5.39	14.4		16.2		18.0		21.0	25
SH 18 - 080			80	5.05	15.4		17.3		19.2		22.4	20
SH 18 - 090			90	4.50	17.3		19.4		21.6		25.2	20
SH 18 - 100	100	4.04	19.2	21.6	24.0	28.0	20					
SH 20 - 025	20	10	25	20.00	4.8	96 (941)	5.4	108 (1.059)	6.0	120 (1.177)	7.0	50
SH 20 - 030			30	16.66	5.8		6.5		7.2		8.4	50
SH 20 - 035			35	14.28	6.7		7.5		8.4		9.8	25
SH 20 - 040			40	12.50	7.7		8.6		9.6		11.2	25
SH 20 - 045			45	11.11	8.6		9.7		10.8		12.6	25
SH 20 - 050			50	10.00	9.6		10.8		12.0		14.0	25
SH 20 - 055			55	9.09	10.6		11.8		13.2		15.4	25
SH 20 - 060			60	8.33	11.5		13.0		14.4		16.8	25
SH 20 - 065			65	7.69	12.5		14.0		15.6		18.2	25
SH 20 - 070			70	7.14	13.4		15.1		16.8		19.6	25
SH 20 - 075			75	6.67	14.4		16.2		18.0		21.0	25
SH 20 - 080			80	6.25	15.4		17.3		19.2		22.4	20
SH 20 - 090			90	5.55	17.3		19.4		21.6		25.2	20
SH 20 - 100			100	5.00	19.2		21.6		24.0		28.0	20
SH 20 - 125			125	4.00	24.0		27.0		30.0		35.0	10
SH 20 - 150	150	3.33	28.8	32.4	36.0	42.0	10					
SH 22 - 025	22	11	25	24.16	4.8	116 (1.138)	5.4	130 (1.275)	6.0	145 (1.422)	7.0	50
SH 22 - 030			30	20.13	5.8		6.5		7.2		8.4	25
SH 22 - 035			35	17.30	6.7		7.5		8.4		9.8	25
SH 22 - 040			40	15.10	7.7		8.6		9.6		11.2	25
SH 22 - 045			45	13.40	8.6		9.7		10.8		12.6	25
SH 22 - 050			50	12.08	9.6		10.8		12.0		14.0	25
SH 22 - 055			55	10.94	10.6		11.8		13.2		15.4	25
SH 22 - 060			60	10.06	11.5		13.0		14.4		16.8	25
SH 22 - 065			65	9.28	12.5		14.0		15.6		18.2	25
SH 22 - 070			70	8.63	13.4		15.1		16.8		19.6	20
SH 22 - 075			75	8.04	14.4		16.2		18.0		21.0	20
SH 22 - 080			80	7.55	15.4		17.3		19.2		22.4	20
SH 22 - 090			90	6.71	17.3		19.4		21.6		25.2	20
SH 22 - 100			100	6.04	19.2		21.6		24.0		28.0	20
SH 22 - 125			125	4.83	24.0		27.0		30.0		35.0	10
SH 22 - 150	150	4.02	28.8	32.4	36.0	42.0	10					



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 19.2% L ₀ 1.000.000 cycles		B 21.6% L ₀ 500.000 cycles		C 24% L ₀ 300.000 cycles		E do not use approx. Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	
SH 25 - 025	25	12.5	25	31.20	4.8	150 (1,471)	169 (1,657)	187 (1,834)	7.0	50	
SH 25 - 030			30	25.97	5.8					25	
SH 25 - 035			35	22.38	6.7					25	
SH 25 - 040			40	19.47	7.7					25	
SH 25 - 045			45	17.40	8.6					25	
SH 25 - 050			50	15.58	9.6					25	
SH 25 - 055			55	14.20	10.6					25	
SH 25 - 060			60	12.98	11.5					25	
SH 25 - 065			65	12.00	12.5					25	
SH 25 - 070			70	11.13	13.4					20	
SH 25 - 075			75	10.40	14.4					20	
SH 25 - 080			80	9.73	15.4					20	
SH 25 - 090			90	8.65	17.3					20	
SH 25 - 100			100	7.79	19.2					20	
SH 25 - 125			125	6.23	24.0					10	
SH 25 - 150			150	5.20	28.8					10	
SH 25 - 175	175	4.46	33.6	10							
SH 27 - 025	27	13.5	25	36.40	4.8	175 (1,716)	197 (1,932)	219 (2,150)	7.0	20	
SH 27 - 030			30	30.41	5.8					20	
SH 27 - 035			35	26.20	6.7					20	
SH 27 - 040			40	22.81	7.7					20	
SH 27 - 045			45	20.30	8.6					20	
SH 27 - 050			50	18.25	9.6					20	
SH 27 - 055			55	16.50	10.6					20	
SH 27 - 060			60	15.20	11.5					20	
SH 27 - 065			65	14.00	12.5					20	
SH 27 - 070			70	13.03	13.4					20	
SH 27 - 075			75	12.10	14.4					20	
SH 27 - 080			80	11.40	15.4					10	
SH 27 - 090			90	10.13	17.3					10	
SH 27 - 100			100	9.12	19.2					10	
SH 27 - 125			125	7.30	24.0					10	
SH 27 - 150			150	6.08	28.8					10	
SH 27 - 175	175	5.21	33.6	5							
SH 30 - 025	30	15	25	45.00	4.8	216 (2,120)	243 (2,380)	270 (2,550)	7.0	20	
SH 30 - 030			30	37.50	5.8					20	
SH 30 - 035			35	32.26	6.7					20	
SH 30 - 040			40	28.12	7.7					20	
SH 30 - 045			45	25.00	8.6					20	
SH 30 - 050			50	22.50	9.6					20	
SH 30 - 055			55	20.40	10.6					20	
SH 30 - 060			60	18.75	11.5					20	
SH 30 - 065			65	17.30	12.5					20	
SH 30 - 070			70	16.07	13.4					20	
SH 30 - 075			75	15.00	14.4					20	
SH 30 - 080			80	14.06	15.4					10	
SH 30 - 090			90	12.50	17.3					10	
SH 30 - 100			100	11.25	19.2					10	
SH 30 - 125			125	9.00	24.0					10	
SH 30 - 150			150	7.50	28.8					10	
SH 30 - 175	175	6.42	33.6	5							
SH 30 - 200	200	5.62	38.4	5							

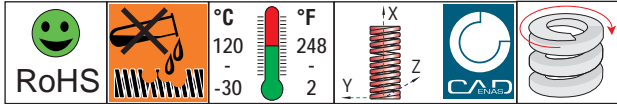
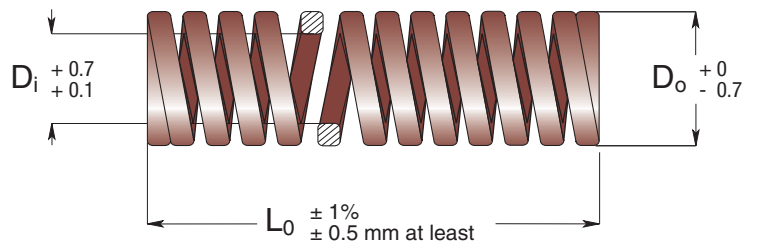
Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 19.2% L ₀ 1.000.000 cycles	B 21.6% L ₀ 500.000 cycles	C 24% L ₀ 300.000 cycles	E do not use approx.	Pcs	
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm		
SH 35 - 040	35	17.5	40	38.22	7.7	293 (2,870)	330 (3,240)	367 (3,600)	11.2	20
SH 35 - 045			45	33.98	8.6				12.6	20
SH 35 - 050			50	30.58	9.6				14.0	20
SH 35 - 055			55	27.80	10.5				15.4	10
SH 35 - 060			60	25.48	11.5				16.8	10
SH 35 - 065			65	23.53	12.5				18.2	10
SH 35 - 070			70	21.84	13.4				19.6	10
SH 35 - 075			75	20.39	14.4				21.0	10
SH 35 - 080			80	19.11	15.4				22.4	10
SH 35 - 090			90	16.99	17.3				25.2	10
SH 35 - 100			100	15.29	19.2				28.0	10
SH 35 - 125			125	12.23	24.0				35.0	5
SH 35 - 150			150	10.19	28.8				42.0	5
SH 35 - 175			175	8.73	33.6				49.0	5
SH 35 - 200			200	7.64	38.4				56.0	5
SH 40 - 040			40	20	40				50.00	7.7
SH 40 - 045	45	44.48			8.6	12.6	20			
SH 40 - 050	50	40.00			9.6	14.0	20			
SH 40 - 055	55	36.39			10.6	15.4	20			
SH 40 - 060	60	33.33			11.5	16.8	10			
SH 40 - 065	65	30.39			12.5	18.2	10			
SH 40 - 070	70	28.57			13.4	19.6	10			
SH 40 - 075	75	26.69			14.4	21.0	10			
SH 40 - 080	80	25.00			15.4	22.4	10			
SH 40 - 090	90	22.22			17.3	25.2	10			
SH 40 - 100	100	20.00			19.2	28.0	10			
SH 40 - 125	125	16.00			24.0	35.0	5			
SH 40 - 150	150	13.33			28.8	42.0	5			
SH 40 - 175	175	11.42			33.6	49.0	5			
SH 40 - 200	200	10.00			38.4	56.0	5			
SH 40 - 250	250	8.00			48.0	70.0	2			
SH 50 - 050	50	25	50	62.50	9.6	600 (5,880)	675 (6,620)	750 (7,360)	14.0	5
SH 50 - 055			55		10.6				13.2	
SH 50 - 060			60	52.08	11.5				14.4	5
SH 50 - 065			65		12.5				15.6	
SH 50 - 070			70	44.64	13.4				16.8	5
SH 50 - 075			75		14.4				18.0	
SH 50 - 080			80	39.06	15.4				19.2	5
SH 50 - 090			90	34.72	17.3				21.6	5
SH 50 - 100			100	31.25	19.2				24.0	5
SH 50 - 125			125	25.00	24.0				30.0	5
SH 50 - 150			150	20.83	28.8				35.0	5
SH 50 - 175			175	17.85	33.6				42.0	2
SH 50 - 200			200	15.62	38.4				49.0	2
SH 50 - 250			250	12.50	48.0				56.0	2
SH 50 - 300			300	10.41	57.6				70.0	2
SH 60 - 060			60	30	60				75.00	11.5
SH 60 - 070	70	64.28			13.4	19.6	5			
SH 60 - 080	80	56.25			15.4	22.4	5			
SH 60 - 090	90	50.00			17.3	25.2	5			
SH 60 - 100	100	45.00			19.2	28.0	5			
SH 60 - 125	125	36.00			24.0	35.0	2			
SH 60 - 150	150	30.00			28.8	42.0	2			
SH 60 - 175	175	25.71			33.6	49.0	2			
SH 60 - 200	200	22.50			38.4	56.0	2			
SH 60 - 250	250	18.00			48.0	70.0	2			
SH 60 - 300	300	15.00	57.6	84.0	2					

SH
JIS



EN Super load springs





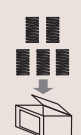
CN



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 16% L ₀ 1.000.000 cycles		B 18% L ₀ 500.000 cycles		C 24% L ₀ 300.000 cycles		E do not use approx.	Pcs
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)	mm	
SB 10 - 020	10	5	20	11.25	3.2	3.6	4.0	4.8	50			
SB 10 - 025			25	9.00	4.0	4.5	5.0	6.0	50			
SB 10 - 030			30	7.50	4.8	5.4	6.0	7.2	50			
SB 10 - 035			35	6.43	5.6	6.3	7.0	8.4	50			
SB 10 - 040			40	5.63	6.4	7.2	8.0	9.6	50			
SB 10 - 045			45	5.00	7.2	8.1	9.0	10.8	50			
SB 10 - 050			50	4.50	8.0	9.0	10.0	12.0	25			
SB 10 - 055			55	4.09	8.8	9.9	11.0	13.2	25			
SB 10 - 060			60	3.75	9.6	10.8	12.0	14.4	25			
SB 10 - 065			65	3.47	10.4	11.7	13.0	15.6	25			
SB 10 - 070			70	3.21	11.2	12.6	14.0	16.8	25			
SB 10 - 075	75	3.00	12.0	13.5	15.0	18.0	25					
SB 10 - 080	80	2.82	12.8	14.4	16.0	19.2	25					
SB 12 - 020	12	6	20	14.50	3.2	3.6	4.0	4.8	50			
SB 12 - 025			25	11.60	4.0	4.5	5.0	6.0	50			
SB 12 - 030			30	9.67	4.8	5.4	6.0	7.2	50			
SB 12 - 035			35	8.29	5.6	6.3	7.0	8.4	50			
SB 12 - 040			40	7.25	6.4	7.2	8.0	9.6	50			
SB 12 - 045			45	6.44	7.2	8.1	9.0	10.8	50			
SB 12 - 050			50	5.80	8.0	9.0	10.0	12.0	25			
SB 12 - 055			55	5.27	8.8	9.9	11.0	13.2	25			
SB 12 - 060			60	4.83	9.6	10.8	12.0	14.4	25			
SB 12 - 065			65	4.44	10.4	11.7	13.0	15.6	25			
SB 12 - 070			70	4.13	11.2	12.6	14.0	16.8	25			
SB 12 - 075	75	3.85	12.0	13.5	15.0	18.0	25					
SB 12 - 080	80	3.61	12.8	14.4	16.0	19.2	25					
SB 14 - 025	14	7	25	15.00	4.0	4.5	5.0	6.0	50			
SB 14 - 030			30	12.50	4.8	5.4	6.0	7.2	50			
SB 14 - 035			35	10.72	5.6	6.3	7.0	8.4	50			
SB 14 - 040			40	9.38	6.4	7.2	8.0	9.6	50			
SB 14 - 045			45	8.34	7.2	8.1	9.0	10.8	25			
SB 14 - 050			50	7.50	8.0	9.0	10.0	12.0	25			
SB 14 - 055			55	6.82	8.8	9.9	11.0	13.2	25			
SB 14 - 060			60	6.25	9.6	10.8	12.0	14.4	25			
SB 14 - 065			65	5.77	10.4	11.7	13.0	15.6	25			
SB 14 - 070			70	5.36	11.2	12.6	14.0	16.8	25			
SB 14 - 075			75	5.00	12.0	13.5	15.0	18.0	25			
SB 14 - 080	80	4.69	12.8	14.4	16.0	19.2	20					
SB 14 - 090	90	4.17	14.4	16.2	18.0	21.6	20					
SB 16 - 025	16	8	25	20.00	4.0	4.5	5.0	6.0	50			
SB 16 - 030			30	16.67	4.8	5.4	6.0	7.2	50			
SB 16 - 035			35	14.29	5.6	6.3	7.0	8.4	50			
SB 16 - 040			40	12.50	6.4	7.2	8.0	9.6	25			
SB 16 - 045			45	11.11	7.2	8.1	9.0	10.8	25			
SB 16 - 050			50	10.00	8.0	9.0	10.0	12.0	25			
SB 16 - 055	55	9.09	8.8	9.9	11.0	13.2	25					

Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 16% L ₀ 1.000.000 cycles	B 18% L ₀ 500.000 cycles	C 24% L ₀ 300.000 cycles	E do not use approx.						
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm	Pcs					
SB 16 - 060	16	8	60	8.34	9.6	80 (785)	10.8	12.0	14.4	25				
SB 16 - 065			65	7.69	10.4						11.7	13.0	15.6	25
SB 16 - 070			70	7.14	11.2						12.6	14.0	16.8	20
SB 16 - 075			75	6.67	12.0						13.5	15.0	18.0	20
SB 16 - 080			80	6.25	12.8						14.4	16.0	19.2	20
SB 16 - 090			90	5.56	14.4						16.2	18.0	21.6	20
SB 16 - 100			100	5.00	16.0						18.0	20.0	24.0	20
SB 18 - 025	18	9	25	25.00	4.0	100 (981)	4.5	5.0	6.0	50				
SB 18 - 030			30	20.84	4.8						5.4	6.0	7.2	50
SB 18 - 035			35	17.86	5.6						6.3	7.0	8.4	25
SB 18 - 040			40	15.63	6.4						7.2	8.0	9.6	25
SB 18 - 045			45	13.89	7.2						8.1	9.0	10.8	25
SB 18 - 050			50	12.50	8.0						9.0	10.0	12.0	25
SB 18 - 055			55	11.37	8.8						9.9	11.0	13.2	25
SB 18 - 060			60	10.42	9.6						10.8	12.0	14.4	25
SB 18 - 065			65	9.62	10.4						11.7	13.0	15.6	25
SB 18 - 070			70	8.93	11.2						12.6	14.0	16.8	25
SB 18 - 075			75	8.34	12.0						13.5	15.0	18.0	25
SB 18 - 080			80	7.82	12.8						14.4	16.0	19.2	20
SB 18 - 090			90	6.95	14.4						16.2	18.0	21.6	20
SB 18 - 100	100	6.26	16.0	18.0	20.0	24.0	20							
SB 20 - 025	20	10	25	32.00	4.0	128 (1,255)	4.5	5.0	6.0	50				
SB 20 - 030			30	26.67	4.8						5.4	6.0	7.2	50
SB 20 - 035			35	22.86	5.6						6.3	7.0	8.4	25
SB 20 - 040			40	20.00	6.4						7.2	8.0	9.6	25
SB 20 - 045			45	17.78	7.2						8.1	9.0	10.8	25
SB 20 - 050			50	16.00	8.0						9.0	10.0	12.0	25
SB 20 - 055			55	14.55	8.8						9.9	11.0	13.2	25
SB 20 - 060			60	13.33	9.6						10.8	12.0	14.4	25
SB 20 - 065			65	12.31	10.4						11.7	13.0	15.6	25
SB 20 - 070			70	11.43	11.2						12.6	14.0	16.8	25
SB 20 - 075			75	10.67	12.0						13.5	15.0	18.0	25
SB 20 - 080			80	10.00	12.8						14.4	16.0	19.2	20
SB 20 - 090			90	8.89	14.4						16.2	18.0	21.6	20
SB 20 - 100			100	8.00	16.0						18.0	20.0	24.0	20
SB 20 - 125			125	6.40	20.0						22.5	25.0	30.0	10
SB 20 - 150	150	5.33	24.0	27.0	30.0	36.0	10							
SB 22 - 025	22	11	25	39.00	4.0	156 (1,530)	4.5	5.0	6.0	50				
SB 22 - 030			30	32.50	4.8						5.4	6.0	7.2	25
SB 22 - 035			35	27.86	5.6						6.3	7.0	8.4	25
SB 22 - 040			40	24.38	6.4						7.2	8.0	9.6	25
SB 22 - 045			45	21.67	7.2						8.1	9.0	10.8	25
SB 22 - 050			50	19.50	8.0						9.0	10.0	12.0	25
SB 22 - 055			55	17.73	8.8						9.9	11.0	13.2	25
SB 22 - 060			60	16.25	9.6						10.8	12.0	14.4	25
SB 22 - 065			65	15.00	10.4						11.7	13.0	15.6	25
SB 22 - 070			70	13.93	11.2						12.6	14.0	16.8	20
SB 22 - 075			75	13.00	12.0						13.5	15.0	18.0	20
SB 22 - 080			80	12.19	12.8						14.4	16.0	19.2	20
SB 22 - 090			90	10.83	14.4						16.2	18.0	21.6	20
SB 22 - 100			100	9.75	16.0						18.0	20.0	24.0	20
SB 22 - 125			125	7.80	20.0						22.5	25.0	30.0	10
SB 22 - 150			150	6.50	24.0						27.0	30.0	36.0	10



Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 16% L ₀  1.000.000 cycles		B 18% L ₀  500.000 cycles		C 24% L ₀  300.000 cycles		E  approx. do not use	
					mm	Kgf (N)	mm	Kgf (N)	mm	Kgf (N)		
SB 25 - 025	25	12.5	25	49.00	4.0	4.5	5.0	6.0	50			
SB 25 - 030			30	40.80	4.8	5.4	6.0	7.2	25			
SB 25 - 035			35	35.00	5.6	6.3	7.0	8.4	25			
SB 25 - 040			40	30.60	6.4	7.2	8.0	9.6	25			
SB 25 - 045			45	27.20	7.2	8.1	9.0	10.8	25			
SB 25 - 050			50	24.50	8.0	9.0	10.0	12.0	25			
SB 25 - 055			55	22.30	8.8	9.9	11.0	13.2	25			
SB 25 - 060			60	20.40	9.6	10.8	12.0	14.4	25			
SB 25 - 065			65	18.80	10.4	11.7	13.0	15.6	25			
SB 25 - 070			70	17.50	11.2	12.6	14.0	16.8	20			
SB 25 - 075			75	16.30	12.0	13.5	15.0	18.0	20			
SB 25 - 080			80	15.30	12.8	14.4	16.0	19.2	20			
SB 25 - 090			90	13.60	14.4	16.2	18.0	21.6	20			
SB 25 - 100			100	12.30	16.0	18.0	20.0	24.0	20			
SB 25 - 125			125	9.80	20.0	22.5	25.0	30.0	10			
SB 25 - 150	150	8.17	24.0	27.0	30.0	36.0	10					
SB 25 - 175	175	7.00	28.0	31.5	35.0	42.0	10					
SB 27 - 025	27	13.5	25	58.00	4.0	4.5	5.0	6.0	20			
SB 27 - 030			30	48.33	4.8	5.4	6.0	7.2	20			
SB 27 - 035			35	41.43	5.6	6.3	7.0	8.4	20			
SB 27 - 040			40	36.25	6.4	7.2	8.0	9.6	20			
SB 27 - 045			45	32.22	7.2	8.1	9.0	10.8	20			
SB 27 - 050			50	29.00	8.0	9.0	10.0	12.0	20			
SB 27 - 055			55	26.36	8.8	9.9	11.0	13.2	20			
SB 27 - 060			60	24.17	9.6	10.8	12.0	14.4	20			
SB 27 - 065			65	22.31	10.4	11.7	13.0	15.6	20			
SB 27 - 070			70	20.71	11.2	12.6	14.0	16.8	20			
SB 27 - 075			75	19.33	12.0	13.5	15.0	18.0	20			
SB 27 - 080			80	18.13	12.8	14.4	16.0	19.2	10			
SB 27 - 090			90	16.11	14.4	16.2	18.0	21.6	10			
SB 27 - 100			100	14.50	16.0	18.0	20.0	24.0	10			
SB 27 - 125			125	11.60	20.0	22.5	25.0	30.0	10			
SB 27 - 150	150	9.67	24.0	27.0	30.0	36.0	10					
SB 27 - 175	175	8.28	28.0	31.5	35.0	42.0	5					
SB 30 - 025	30	15	25	72.00	4.0	4.5	5.0	6.0	20			
SB 30 - 030			30	60.00	4.8	5.4	6.0	7.2	20			
SB 30 - 035			35	51.43	5.6	6.3	7.0	8.4	20			
SB 30 - 040			40	45.00	6.4	7.2	8.0	9.6	20			
SB 30 - 045			45	40.00	7.2	8.1	9.0	10.8	20			
SB 30 - 050			50	36.00	8.0	9.0	10.0	12.0	20			
SB 30 - 055			55	32.72	8.8	9.9	11.0	13.2	20			
SB 30 - 060			60	30.00	9.6	10.8	12.0	14.4	20			
SB 30 - 065			65	27.69	10.4	11.7	13.0	15.6	20			
SB 30 - 070			70	25.71	11.2	12.6	14.0	16.8	20			
SB 30 - 075			75	24.00	12.0	13.5	15.0	18.0	20			
SB 30 - 080			80	22.50	12.8	14.4	16.0	19.2	10			
SB 30 - 090			90	20.00	14.4	16.2	18.0	21.6	10			
SB 30 - 100			100	18.00	16.0	18.0	20.0	24.0	10			
SB 30 - 125			125	14.40	20.0	22.5	25.0	30.0	10			
SB 30 - 150	150	12.00	24.0	27.0	30.0	36.0	10					
SB 30 - 175	175	10.28	28.0	31.5	35.0	42.0	5					
SB 30 - 200	200	9.00	32.0	36.0	40.0	48.0	5					
SB 35 - 040	35	17.5	40	61.25	6.4	7.2	8.0	9.6	20			
SB 35 - 045			45	54.44	7.2	8.1	9.0	10.8	20			
SB 35 - 050			50	49.00	8.0	9.0	10.0	12.0	20			
SB 35 - 055			55	44.54	8.8	9.9	11.0	13.2	10			
SB 35 - 060			60	40.83	9.6	10.8	12.0	14.4	10			
SB 35 - 065			65	37.69	10.4	11.7	13.0	15.6	10			
SB 35 - 070			70	35.00	11.2	12.6	14.0	16.8	10			
SB 35 - 075			75	32.67	12.0	13.5	15.0	18.0	10			
SB 35 - 080			80	30.62	12.8	14.4	16.0	19.2	10			
SB 35 - 090			90	27.22	14.4	16.2	18.0	21.6	10			
SB 35 - 100			100	24.50	16.0	18.0	20.0	24.0	10			
SB 35 - 125			125	19.60	20.0	22.5	25.0	30.0	5			
SB 35 - 150			150	16.33	24.0	27.0	30.0	36.0	5			
SB 35 - 175			175	14.00	28.0	31.5	35.0	42.0	5			
SB 35 - 200			200	12.25	32.0	36.0	40.0	48.0	5			

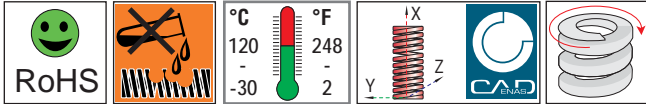
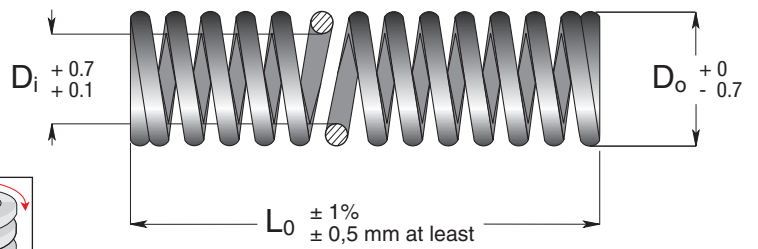
Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数 ± 10%	A 16% L ₀ 1.000.000 cycles	B 18% L ₀ 500.000 cycles	C 24% L ₀ 300.000 cycles	E do not use approx.	Pcs		
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm			
SB 40 - 040	40	20	40	80.00	6.4		7.2	8.0	9.6	20	
SB 40 - 045					45	71.13	7.2	8.1	9.0	10.8	20
SB 40 - 050					50	64.00	8.0	9.0	10.0	12.0	20
SB 40 - 055					55	58.20	8.8	9.9	11.0	13.2	20
SB 40 - 060					60	53.33	9.6	10.8	12.0	14.4	10
SB 40 - 065					65	49.24	10.4	11.7	13.0	15.6	10
SB 40 - 070					70	45.71	11.2	12.6	14.0	16.8	10
SB 40 - 075					75	42.68	12.0	13.5	15.0	18.0	10
SB 40 - 080					80	40.00	12.8	14.4	16.0	19.2	10
SB 40 - 090					90	35.55	14.4	16.2	18.0	21.6	10
SB 40 - 100					100	32.00	16.0	18.0	20.0	24.0	10
SB 40 - 125					125	25.60	20.0	22.5	25.0	30.0	5
SB 40 - 150					150	21.33	24.0	27.0	30.0	36.0	5
SB 40 - 175					175	18.28	28.0	31.5	35.0	42.0	5
SB 40 - 200					200	16.00	32.0	36.0	40.0	48.0	5
SB 40 - 250					250	12.80	40.0	45.0	50.0	60.0	2
SB 50 - 050	50	25	50	100.00	8.0		9.0	10.0	12.0	5	
SB 50 - 055					55	90.95	8.8	9.9	11.0	13.2	5
SB 50 - 060					60	83.33	9.6	10.8	12.0	14.4	5
SB 50 - 065					65	76.96	10.4	11.7	13.0	15.6	5
SB 50 - 070					70	71.42	11.2	12.6	14.0	16.8	5
SB 50 - 075					75	66.70	12.0	13.5	15.0	18.0	5
SB 50 - 080					80	62.50	12.8	14.4	16.0	19.2	5
SB 50 - 090					90	55.55	14.4	16.2	18.0	21.6	5
SB 50 - 100					100	50.00	16.0	18.0	20.0	24.0	5
SB 50 - 125					125	40.00	20.0	22.5	25.0	30.0	5
SB 50 - 150					150	33.33	24.0	27.0	30.0	36.0	2
SB 50 - 175					175	28.57	28.0	31.5	35.0	42.0	2
SB 50 - 200					200	25.00	32.0	36.0	40.0	48.0	2
SB 50 - 250			250	20.00	40.0	45.0	50.0	60.0	2		
SB 50 - 300			300	16.66	48.0	54.0	60.0	72.0	2		
SB 60 - 060	60	30	60	120.00	9.6		10.8	12.0	14.4	5	
SB 60 - 070					70	102.86	11.2	12.6	14.0	16.8	5
SB 60 - 080					80	90.00	12.8	14.4	16.0	19.2	5
SB 60 - 090					90	80.00	14.4	16.2	18.0	21.6	5
SB 60 - 100					100	72.00	16.0	18.0	20.0	24.0	5
SB 60 - 125					125	57.60	20.0	22.5	25.0	30.0	2
SB 60 - 150					150	48.00	24.0	27.0	30.0	36.0	2
SB 60 - 175					175	41.14	28.0	31.5	35.0	42.0	2
SB 60 - 200					200	36.00	32.0	36.0	40.0	48.0	2
SB 60 - 250					250	28.80	40.0	45.0	50.0	60.0	2
SB 60 - 300					300	24.00	48.0	54.0	60.0	72.0	2



L SERIES 系列 Round wire coil springs 圆钢线弹簧

EN Not painted with added rust preventative coating

CN 没喷漆带防锈涂层



Code 型号	D_o Outside Diameter 外径	D_i Inside Diameter 内径	L_0 Free Length 自由长度	R Spring Constant 弹簧定数 $\pm 10\%$	A 16% L_0 长寿命 Long Life		B 24% L_0 中寿命 Medium Life		C 32% L_0 最大压缩量 Max Deflection		
					mm	N	mm	N	mm	N	
L 3 - 010	3	2	10	2.94	1.6	4.4	2.4	6.62	3.2	8.8	
L 3 - 015			15	1.96	2.4	4.4	3.6	6.62	4.8	8.8	
L 3 - 020			20	0.98	3.2	4.4	4.8	6.62	6.4	8.8	
L 3 - 025	0.4		25	0.98	4.0	4.4	6.0	6.62	8.0	8.8	
L 4 - 010	4	2.6	10	4.9	1.6	7.8	2.4	11.6	3.2	15.7	
L 4 - 015			15	2.94	2.4	7.8	3.6	11.6	4.8	15.7	
L 4 - 020			20	2.94	3.2	7.8	4.8	11.6	6.4	15.7	
L 4 - 025			25	1.96	4.0	7.8	6.0	11.6	8.0	15.7	
L 4 - 030	0.6		30	1.96	4.8	7.8	7.2	11.6	9.6	15.7	
L 6 - 015	6	4	15	7.85	2.4	17.7	3.6	26.5	4.8	35.5	
L 6 - 020			20	5.88	3.2	17.7	4.8	26.5	6.4	35.5	
L 6 - 025			25	4.90	4.0	17.7	6.0	26.5	8.0	35.5	
L 6 - 030			30	3.92	4.8	17.7	7.2	26.5	9.6	35.5	
L 6 - 035	0.9		35	2.94	5.6	17.7	8.4	26.5	11.2	35.5	
L 8 - 015	8	5.4	15	12.75	2.4	31.4	3.6	47.1	4.8	62.8	
L 8 - 020			20	9.81	3.2	31.4	4.8	47.1	6.4	62.8	
L 8 - 025			25	7.85	4.0	31.4	6.0	47.1	8.0	62.8	
L 8 - 030			30	6.86	4.8	31.4	7.2	47.1	9.6	62.8	
L 8 - 035			35	5.88	5.6	31.4	8.4	47.1	11.2	62.8	
L 8 - 040	1.2		40	4.90	6.4	31.4	9.6	47.1	12.8	62.8	
L 10 - 025	10	6.5	25	12.75	4.0	49.0	6.0	73.6	8.0	98	
L 10 - 030			30	9.81	4.8	49.0	7.2	73.6	9.6	98	
L 10 - 035			35	8.83	5.6	49.0	8.4	73.6	11.2	98	
L 10 - 040			40	7.85	6.4	49.0	9.6	73.6	12.8	98	
L 10 - 045			45	6.86	7.2	49.0	10.8	73.6	14.4	98	
L 10 - 050	1.5		50	5.88	8.0	49.0	12.0	73.6	16.0	98	
L 12 - 025	12	8	25	17.65	4.0	70.6	6.0	106.9	8.0	141.2	
L 12 - 030			30	14.71	4.8	70.6	7.2	106.9	9.6	141.2	
L 12 - 035			35	12.75	5.6	70.6	8.4	106.9	11.2	141.2	
L 12 - 040			40	10.79	6.4	70.6	9.6	106.9	12.8	141.2	
L 12 - 045			45	9.81	7.2	70.6	10.8	106.9	14.4	141.2	
L 12 - 050			50	8.83	8.0	70.6	12.0	106.9	16.0	141.2	
L 12 - 055	1.8	55	7.85	8.8	70.6	13.2	106.9	17.6	141.2		
L 12 - 060		60	7.85	9.6	70.6	14.4	106.9	19.2	141.2		
L 14 - 025		14	9.3	25	24.52	4.0	96.1	6.0	144.2	8.0	192.2
L 14 - 030				30	19.61	4.8	96.1	7.2	144.2	9.4	192.2
L 14 - 035	35			17.65	5.6	96.1	8.4	144.2	11.2	192.2	
L 14 - 040	40			14.71	6.4	96.1	9.6	144.2	12.8	192.2	
L 14 - 045	45			13.73	7.2	96.1	10.8	144.2	14.4	192.2	
L 14 - 050	50			11.77	8.0	96.1	12.0	144.2	16.0	192.2	
L 14 - 055	55			10.79	8.8	96.1	13.2	144.2	17.6	192.2	
L 14 - 060	2.2	60	9.81	9.6	96.1	14.4	144.2	19.2	192.2		
L 14 - 065		65	8.83	10.4	96.1	15.6	144.2	20.8	192.2		
L 14 - 070		70	8.83	11.2	96.1	16.8	144.2	22.4	192.2		
L 16 - 025	16	10.7	25	31.38	4.0	125.5	6.0	188.3	8.0	251.1	
L 16 - 030			30	26.48	4.8	125.5	7.2	188.3	9.4	251.1	
L 16 - 035			35	22.56	5.6	125.5	8.4	188.3	11.2	251.1	
L 16 - 040			40	19.61	6.4	125.5	9.6	188.3	12.8	251.1	
L 16 - 045			45	17.65	7.2	125.5	10.8	188.3	14.4	251.1	
L 16 - 050			50	15.69	8.0	125.5	12.0	188.3	16.0	251.1	

长型开端 Long size open ends

系列 SERIES L

Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 16% L ₀ 长寿命 Long Life		B 24% L ₀ 中寿命 Medium Life		C 32% L ₀ 最大压缩量 Max Deflection		
					mm	N	mm	N	mm	N	
L 16 - 055	16	10.7	55	14.71	8.8	125.5	13.2	188.3	17.6	251.1	
L 16 - 060			60	12.75	9.6	125.5	14.4	188.3	19.2	251.1	
L 16 - 065			65	11.77	10.4	125.5	15.6	188.3	20.8	251.1	
L 16 - 070			70	10.79	11.2	125.5	16.8	188.3	22.4	251.1	
L 16 - 075			75	10.79	12.0	125.5	18.0	188.3	24.0	251.1	
L 16 - 080			2.4	80	9.81	12.8	125.5	19.2	188.3	25.6	251.1
L 18 - 025	18	12	25	40.21	4.0	158.9	6.0	238.3	8.0	317.7	
L 18 - 030			30	33.34	4.8	158.9	7.2	238.3	9.4	317.7	
L 18 - 035			35	28.44	5.6	158.9	8.4	238.3	11.2	317.7	
L 18 - 040			40	24.52	6.4	158.9	9.6	238.3	12.8	317.7	
L 18 - 045			45	22.56	7.2	158.9	10.8	238.3	14.4	317.7	
L 18 - 050			50	19.61	8.0	158.9	12.0	238.3	16.0	317.7	
L 18 - 055			55	17.65	8.8	158.9	13.2	238.3	17.6	317.7	
L 18 - 060			60	16.67	9.6	158.9	14.4	238.3	19.2	317.7	
L 18 - 065			65	15.69	10.4	158.9	15.6	238.3	20.8	317.7	
L 18 - 070			70	14.71	11.2	158.9	16.8	238.3	22.4	317.7	
L 18 - 075			75	13.73	12.0	158.9	18.0	238.3	24.0	317.7	
L 18 - 080			80	12.75	12.8	158.9	19.2	238.3	25.6	317.7	
L 18 - 090			2.8	90	10.79	14.4	158.9	21.6	238.3	28.8	317.7
L 20 - 025			20	13.5	25	49.03	4.0	196.1	6.0	294.2	8.0
L 20 - 030	30	41.19			4.8	196.1	7.2	294.2	9.4	392.3	
L 20 - 035	35	35.30			5.6	196.1	8.4	294.2	11.2	392.3	
L 20 - 040	40	30.40			6.4	196.1	9.6	294.2	12.8	392.3	
L 20 - 045	45	27.46			7.2	196.1	10.8	294.2	14.4	392.3	
L 20 - 050	50	24.52			8.0	196.1	12.0	294.2	16.0	392.3	
L 20 - 055	55	22.56			8.8	196.1	13.2	294.2	17.6	392.3	
L 20 - 060	60	20.59			9.6	196.1	14.4	294.2	19.2	392.3	
L 20 - 065	65	18.63			10.4	196.1	15.6	294.2	20.8	392.3	
L 20 - 070	70	17.65			11.2	196.1	16.8	294.2	22.4	392.3	
L 20 - 075	75	16.67			12.0	196.1	18.0	294.2	24.0	392.3	
L 20 - 080	80	15.69			12.8	196.1	19.2	294.2	25.6	392.3	
L 20 - 090	90	13.73			14.4	196.1	21.6	294.2	28.8	392.3	
L 20 - 100	3	100			12.75	16.0	196.1	24.0	294.2	32.0	392.3
L 22 - 025	22	14.7	25	59.82	4.0	237.3	6.0	356	8.0	474.6	
L 22 - 030			30	49.03	4.8	237.3	7.2	356	9.4	474.6	
L 22 - 035			35	42.17	5.6	237.3	8.4	356	11.2	474.6	
L 22 - 040			40	37.27	6.4	237.3	9.6	356	12.8	474.6	
L 22 - 045			45	33.34	7.2	237.3	10.8	356	14.4	474.6	
L 22 - 050			50	29.42	8.0	237.3	12.0	356	16.0	474.6	
L 22 - 055			55	27.46	8.8	237.3	13.2	356	17.6	474.6	
L 22 - 060			60	24.52	9.6	237.3	14.4	356	19.2	474.6	
L 22 - 065			65	22.56	10.4	237.3	15.6	356	20.8	474.6	
L 22 - 070			70	21.57	11.2	237.3	16.8	356	22.4	474.6	
L 22 - 075			75	19.61	12.0	237.3	18.0	356	24.0	474.6	
L 22 - 080			80	18.63	12.8	237.3	19.2	356	25.6	474.6	
L 22 - 090			90	16.67	14.4	237.3	21.6	356	28.8	474.6	
L 22 - 100			3.4	100	14.71	16.0	237.3	24.0	356	32.0	474.6
L 25 - 025	25	17	25	76.49	4.0	307	6.0	459.9	8.0	613.9	
L 25 - 030			30	63.74	4.8	307	7.2	459.9	9.6	613.9	
L 25 - 035			35	54.92	5.6	307	8.4	459.9	11.2	613.9	
L 25 - 040			40	48.05	6.4	307	9.6	459.9	12.8	613.9	
L 25 - 045			45	42.17	7.2	307	10.8	459.9	14.4	613.9	
L 25 - 050			50	38.25	8.0	307	12.0	459.9	16.0	613.9	
L 25 - 055			55	35.30	8.8	307	13.2	459.9	17.6	613.9	
L 25 - 060			60	32.36	9.6	307	14.4	459.9	19.2	613.9	
L 25 - 065			65	29.42	10.4	307	15.6	459.9	20.8	613.9	
L 25 - 070			70	27.46	11.2	307	16.8	459.9	22.4	613.9	
L 25 - 075			75	25.50	12.0	307	18.0	459.9	24.0	613.9	
L 25 - 080			80	23.54	12.8	307	19.2	459.9	25.6	613.9	
L 25 - 090			90	21.57	14.4	307	21.6	459.9	28.8	613.9	
L 25 - 100			3.8	100	19.61	16.0	307	24.0	459.9	32.0	613.9
L 30 - 050	30	20	50	51.94	8.0	414	12.0	621	16.0	828	
L 30 - 060			60	44.10	9.6	414	14.4	621	19.2	828	
L 30 - 070			70	37.24	11.2	414	16.8	621	22.4	828	
L 30 - 080			80	32.34	12.8	414	19.2	621	25.6	828	
L 30 - 090			90	28.42	14.4	414	21.6	621	28.8	828	
L 30 - 100			100	25.48	16.0	414	24.0	621	32.0	828	
L 30 - 125	4.5	125	20.58	20.0	414	30.0	621	40.0	828		

1 N = 0.1 daN = 0.102 kgf

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



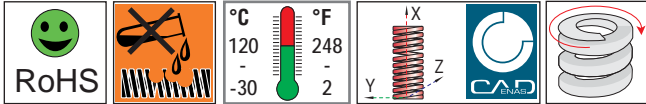
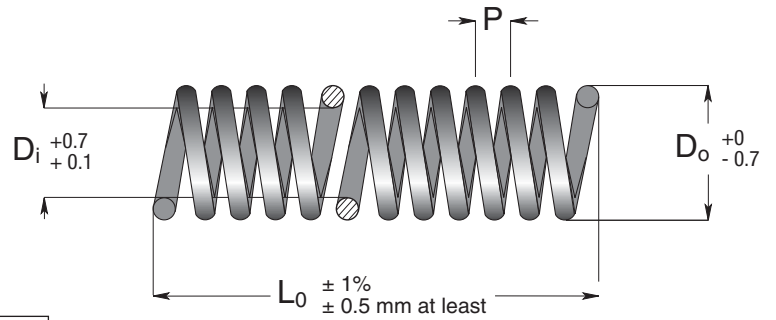
L 12 - 300 (Series D₀ - L₀)

Special Springs 4 7

L
JIS

L SERIES 系列 Round wire coil springs 圆钢线弹簧

EN Long size open ends
CN 长型开端

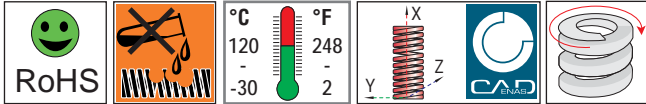
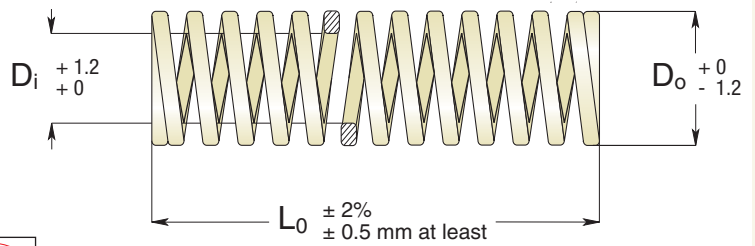


Code	D_o Outside Diameter 外径	D_i Inside Diameter 内径	d Wire Diameter 线径	L_0 Free Length 自由长度	P Pitch 间距
	mm	mm	mm	mm	mm
L 03 - 300	3	2.0	0.4	300	1.04
L 04 - 300	4	2.6	0.6	300	1.50
L 06 - 300	6	4.0	0.9	300	2.00
L 08 - 300	8	5.4	1.2	300	2.80
L 10 - 300	10	6.5	1.5	300	3.50
L 12 - 300	12	8.0	1.8	300	4.30
L 14 - 300	14	9.3	2.2	300	4.80
L 16 - 300	16	10.7	2.4	300	5.50
L 18 - 300	18	12.0	2.8	300	5.30
L 20 - 300	20	13.5	3.0	300	6.80
L 22 - 300	22	14.7	3.4	300	6.70
L 25 - 300	25	17.0	3.8	300	8.20

塑胶模具弹簧 Plastic mould coil springs

SERIES 系列 SR

EN High deflection springs for mould return pin
CN 大压缩量塑胶模具回针弹簧



Code 型号	D_o Outside Diameter 外径 mm	D_i Inside Diameter 内径 mm	L_0 Free Length 自由长度 mm	R Spring Constant 弹簧定数 mm	A 50% L_0 1.000.000 cycles mm	Solid Length 结实长度 mm
SR 14 - 020	14.5	8.5	20	1.30	10.0	8
SR 14 - 025			25	1.04	12.5	10
SR 14 - 030			30	0.87	15.0	12
SR 14 - 035			35	0.74	17.5	14
SR 14 - 040			40	0.65	20.0	16
SR 14 - 045			45	0.58	22.5	18
SR 14 - 050			50	0.52	25.0	20
SR 14 - 055			55	0.47	27.5	22
SR 14 - 060			60	0.43	30.0	24
SR 14 - 065			65	0.40	32.5	26
SR 14 - 070			70	0.37	35.0	28
SR 14 - 075			75	0.35	37.5	30
SR 14 - 080			80	0.33	40.0	32
SR 14 - 090			90	0.29	45.0	36
SR 14 - 100	100	0.26	50.0	40		
SR 14 - 125	125	0.21	62.5	50		
SR 17 - 025	17	10.5	25	1.60	12.5	10
SR 17 - 030			30	1.33	15.0	12
SR 17 - 035			35	1.14	17.5	14
SR 17 - 040			40	1.00	20.0	16
SR 17 - 045			45	0.89	22.5	18
SR 17 - 050			50	0.80	25.0	20
SR 17 - 055			55	0.73	27.5	22
SR 17 - 060			60	0.67	30.0	24
SR 17 - 065			65	0.62	32.5	26
SR 17 - 070			70	0.57	35.0	28
SR 17 - 075			75	0.53	37.5	30
SR 17 - 080			80	0.50	40.0	32
SR 17 - 090			90	0.44	45.0	36
SR 17 - 100			100	0.40	50.0	40
SR 17 - 125	125	0.32	62.5	50		
SR 17 - 150	150	0.27	75.0	60		
SR 21 - 030	21	13.5	30	2.00	15.0	12
SR 21 - 035			35	1.71	17.5	14
SR 21 - 040			40	1.50	20.0	16
SR 21 - 045			45	1.33	22.5	18
SR 21 - 050			50	1.20	25.0	20
SR 21 - 055			55	1.09	27.5	22
SR 21 - 060			60	1.00	30.0	24
SR 21 - 065			65	0.92	32.5	26
SR 21 - 070			70	0.86	35.0	28
SR 21 - 075			75	0.80	37.5	30
SR 21 - 080			80	0.75	40.0	32
SR 21 - 090			90	0.67	45.0	36
SR 21 - 100			100	0.60	50.0	40
SR 21 - 110			110	0.55	55.0	44
SR 21 - 120			120	0.50	60.0	48
SR 21 - 125			125	0.48	62.5	50
SR 21 - 130	130	0.46	65.0	52		
SR 21 - 140	140	0.43	70.0	56		
SR 21 - 150	150	0.40	75.0	60		

Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 50% L ₀ 1.000.000 cycles	Solid Length 结实长度
	mm	mm	mm	mm	mm	mm
SR 26 - 030	26	16.5	30	2.67	15.0	12
SR 26 - 035			35	2.29	17.5	14
SR 26 - 040			40	2.00	20.0	16
SR 26 - 045			45	1.78	22.5	18
SR 26 - 050			50	1.60	25.0	20
SR 26 - 055			55	1.45	27.5	22
SR 26 - 060			60	1.33	30.0	24
SR 26 - 065			65	1.23	32.5	26
SR 26 - 070			70	1.14	35.0	28
SR 26 - 075			75	1.07	37.5	30
SR 26 - 080			80	1.00	40.0	32
SR 26 - 090			90	0.89	45.0	36
SR 26 - 100			100	0.80	50.0	40
SR 26 - 110			110	0.73	55.0	44
SR 26 - 120			120	0.67	60.0	48
SR 26 - 125			125	0.64	62.5	50
SR 26 - 130			130	0.62	65.0	52
SR 26 - 140			140	0.57	70.0	56
SR 26 - 150			150	0.53	75.0	60
SR 26 - 175			175	0.46	87.5	70
SR 26 - 200	200	0.40	100.0	80		
SR 31 - 040	31	21	40	2.50	2.50	16
SR 31 - 045			45	2.22	2.22	18
SR 31 - 050			50	2.00	2.00	20
SR 31 - 060			60	1.67	1.67	24
SR 31 - 070			70	1.43	1.43	28
SR 31 - 080			80	1.25	1.25	32
SR 31 - 090			90	1.11	1.11	36
SR 31 - 100			100	1.00	1.00	40
SR 31 - 110			110	0.91	0.91	44
SR 31 - 120			120	0.83	0.83	48
SR 31 - 125			125	0.80	0.80	50
SR 31 - 130			130	0.77	0.77	52
SR 31 - 140			140	0.71	0.71	56
SR 31 - 150			150	0.67	0.67	60
SR 31 - 160			160	0.63	0.63	64
SR 31 - 170			170	0.59	0.59	68
SR 31 - 175			175	0.57	0.57	70
SR 31 - 180			180	0.56	0.56	72
SR 31 - 190			190	0.53	0.53	76
SR 31 - 200			200	0.50	0.50	80
SR 31 - 250	250	0.40	0.40	100		
SR 31 - 300	300	0.33	0.33	120		

塑胶模具弹簧 Plastic mould coil springs

SERIES 系列 SR

Code 型号	D _o Outside Diameter 外径	D _i Inside Diameter 内径	L ₀ Free Length 自由长度	R Spring Constant 弹簧定数	A 50% L ₀ 1.000.000 cycles	Solid Length 结实长度
	mm	mm	mm	mm	mm	mm
SR 46 - 050	46	33	50	4.40	25.0	20
SR 46 - 060			60	3.67	30.0	24
SR 46 - 070			70	3.14	35.0	28
SR 46 - 080			80	2.75	40.0	32
SR 46 - 090			90	2.44	45.0	36
SR 46 - 100			100	2.20	50.0	40
SR 46 - 110			110	2.00	55.0	44
SR 46 - 120			120	1.83	60.0	48
SR 46 - 125			125	1.76	62.5	50
SR 46 - 130			130	1.69	65.0	52
SR 46 - 140			140	1.57	70.0	56
SR 46 - 150			150	1.47	75.0	60
SR 46 - 175			175	1.26	87.5	70
SR 46 - 200			200	1.10	100.0	80
SR 46 - 225			225	0.98	112.5	90
SR 46 - 250			250	0.88	125.0	100
SR 46 - 275			275	0.80	137.5	110
SR 46 - 300			300	0.73	150.0	120
SR 37 - 040	37	26	40	3.00	3.00	16
SR 37 - 045			45	2.67	2.67	18
SR 37 - 050			50	2.40	2.40	20
SR 37 - 060			60	2.00	2.00	24
SR 37 - 070			70	1.71	1.71	28
SR 37 - 080			80	1.50	1.50	32
SR 37 - 090			90	1.33	1.33	36
SR 37 - 100			100	1.20	1.20	40
SR 37 - 110			110	1.09	1.09	44
SR 37 - 120			120	1.00	1.00	48
SR 37 - 125			125	0.96	0.96	50
SR 37 - 130			130	0.92	0.92	52
SR 37 - 140			140	0.86	0.86	56
SR 37 - 150			150	0.80	0.80	60
SR 37 - 160			160	0.75	0.75	64
SR 37 - 170			170	0.71	0.71	68
SR 37 - 175			175	0.69	0.69	70
SR 37 - 180			180	0.67	0.67	72
SR 37 - 190			190	0.63	0.63	76
SR 37 - 200			200	0.60	0.60	80
SR 37 - 250	250	0.48	0.48	100		
SR 37 - 300	300	0.40	0.40	120		

Headquarter

Special Springs S.r.l.

Via Nardi 124/A

36060 Romano d'Ezzelino (VI) ITALY

tel. +39 0424 539181 fax +39 0424 898230

info@specialsprings.com - www.specialsprings.com



Global Special Springs Pvt Ltd

Special Springs indian subsidiary company

Ahmedabad, Gujarat 382705, INDIA

Phone: +91 276 4273065

info@globalspecialsprings.com

www.globalspecialsprings.com

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