









Types and characteristics of springs (the following types are only those involved in this catalogue)



- ① Circular section compression spring: it is a spiral spring that bears axial pressure, and the material section used is circular. Generally, it is equal pitch. There is a certain gap between the rings of compression spring. When it is subjected to external load, the spring will shrink and deform. It has stable rigidity, simple structure, convenient manufacture and wide application
- ② Rectangular section compression spring: similar to circular section cylindrical spiral spring, the difference is that its material section is rectangular. Under the same space condition, the stiffness of the helical compression spring with rectangular section is larger and the energy absorbed is more
- ③ Tension spring: it is a spiral spring bearing axial tension, generally made of circular section material. When the load is not borne, the rings of the tension spring are generally tight with no gap.
- ④ Torsion spring: it is a coil spring that bears torsion deformation. Its working part is tightly wound into a spiral shape. The end structure of the torsion spring is processed into various shapes of torsion arms.
- ⑤ Disc spring: it is a special spring that is tapered axially and bears the load. After bearing the load deformation, it stores certain potential energy. When the bolt loosens, the disc spring releases part of potential energy to keep the pressure between the flange connections up to the sealing requirements. The stress distribution of disc spring decreases uniformly from inside to outside, which can achieve the effect of low stroke and high compensation force.



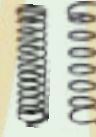

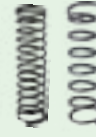
Classification and type selection table

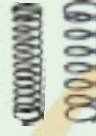
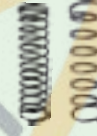

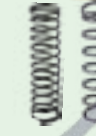

Name	Coil Springs					
Type	Extra-Light Load	Very Light Load	Light Load	Medium Load	Heavy Load	Extra Heavy Load
Legend						
Appearance color	Purple	Yellow	Blue	Red	Green	Brown
Maximum compression	L×60%	L×50%	L×40%	L×32%	L×24%	L×20%
Page	P911	P913	P915	P917	P919	P921

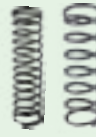
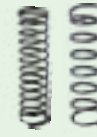

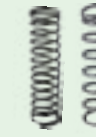
Name	Coil Spring For Ultra High Deflection - Fmax.			
Type	Medium Deflection	High Deflection	Ultra Deflection	Ultra High Deflection
Legend				
Appearance color	Orange	Ivory color	Light blue	Light green
Allowable Deflection	L×40%	L×50%	L×60%	L×65%
Page	P927	P925	P924	P923

Name	Tension Springs				
Type	Extra Light Load	Light Load	Medium-Light Load	Medium Load	Heavy Load
Legend					
Hook Opposing Angle	180°	180°	180°	180°	180°
Page	P929	P930	P932	P932	P932

Name	Round Wire Coil Springs	
Type	I.D. Referenced Stainless Steel	
Legend	YVUF YVUR 	YVUM YVUL 
	L×45%/L×60%	L×35%/L×40%
Page	P939	P940

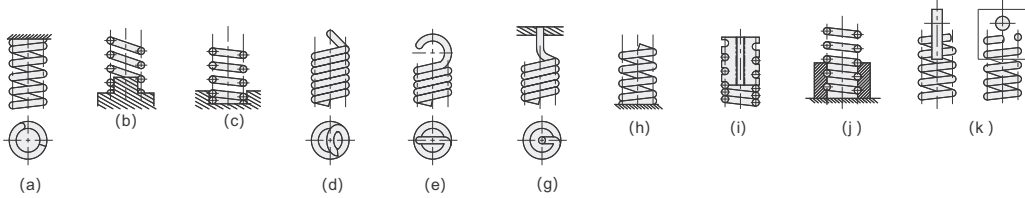
Name	Round Wire Coil Springs				
Type	O.D. Referenced				
Legend	YWY 	YWR 	YWF 	YWL 	YWT 
	L×75%	L×60%	L×45%	L×40%	L×(35~40)%
Page	P941	P942	P943	P944	P945

Name	Round Wire Coil Springs				
Type	O.D. Referenced Stainless Steel				
Legend	YUV 	YUY 	YUF 	YUR 	YUL 
	L×70%	L×(60~75)%	L×45%	L×(50~60)%	L×40%
Page	P949	P949	P950	P950	P952

Name	Round Wire Coil Springs			
Type	O.D. Referenced Stainless Steel			
Legend	YUM 	YUH 	YUTT 	YUBB 
	L×(28~35)%	L×(20~30)%	L×(27~40)%	L×(15~25)%
Page	P953	P953	P955	P956

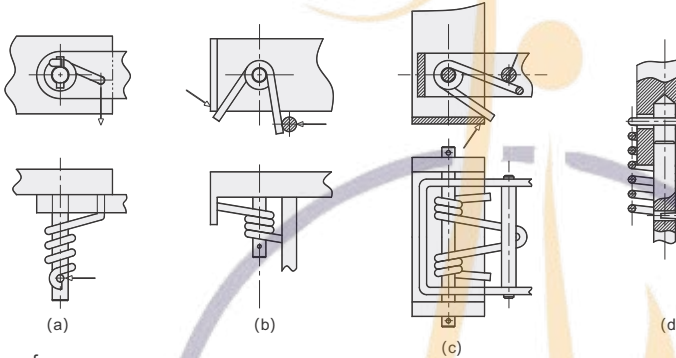
Fixing method of tension springs and compress coil springs

Compress springs is usually fixed by grinding the end ring flat or through the convex plate and groove. As shown in (a) (b) (c) of figure (A-3) on the right. The tension spring is usually fixed by a construction ring at both ends. As shown in (d) (E), etc. (as shown in the figure below)



Fixing method of torsion springs

Use the fixing method shown in the right figure (a-4 Figure) when the working torsion angle is small. The double strand torsion spring can be used when the working torsion angle is not large. It can also adopt the structure that the load acting on the shackle.



Precautions for use

- It can not be used without spring guidance: if the spring is used without guidance, it is easy to cause the distortion of the bottom and body of the spring, resulting in the deformation and fracture of the spring caused by the high pressure of the distortion part, please use the inner diameter guide pin or outer diameter guide and other devices in the use process.
- The maximum compression amount cannot be exceeded: it will make the fixed number of spring higher, resulting in the increase of load curve, and then the spring will break when high pressure is generated. Please do not exceed the maximum compression amount.
- Can not be used without preload: because there is a gap, the spring will vibrate up and down, causing the spring to twist. If there is preload, the spring is relatively stable.
- It can not be used in case of inclusion of foreign matters: the inclusion of foreign matters will cause no effect on the effective circle, only other parts are compressed, and the actual effective circle number will be reduced, resulting in high stress and fracture. Please remove the foreign matters during use.
- It can not be used when the assembly surface is not normal: the poor parallelism of the assembly surface will cause high stress fracture at the local spring torque.
- It is not allowed to use the spring in superposition: when the spring is used in superposition, it will cause the spring to bend and exceed the height of guide pin or countersunk head hole, resulting in fracture.
- Inner diameter of spring and clearance of guide pin: when the clearance between the inner diameter of spring and guide pin is too small, the spring will be worn and the spring will be broken. On the contrary, if the clearance is too large, the spring will be twisted and broken. The best clearance is about - 1.0mm spring inner diameter.
- Spring outer diameter and countersunk head hole: when the clearance between countersunk head hole and spring is too small, the force concentration fracture will be caused by the expansion of the outer side caused by spring compression and the friction between countersunk head hole and countersunk head hole. The best diameter of countersunk head hole is about spring outer diameter + 1.5mm.

Brief introduction of gas springs

Nitrogen spring is an elastic part. It seals the high-pressure nitrogen in a closed container, and the external force compresses the nitrogen through the plunger rod. When the external force is removed, the high-pressure nitrogen expands to obtain a certain elastic pressure. This component is called nitrogen cylinder or gas spring, or nitrogen spring for short.

Characteristic

Nitrogen spring has the characteristics of small volume, large elasticity, long life and constant elastic pressure. Small volume can save mold space, large elasticity can reduce the number of springs, long life can reduce mold maintenance times

purpose

A spring made of the compressibility of air in a closed container. The characteristic line of the relationship between deformation and load is a curve, which can be designed as required. The air spring can keep the natural frequency constant under any load, can bear the radial and axial load at the same time, and can also transfer certain torque. Different bearing capacity can be obtained by adjusting the internal pressure. There are many structural forms of air spring, such as bag type and membrane type, which are commonly used in vehicle suspension and anti vibration system of mechanical equipment,

Parameter calculation

Determination of the force value of nitrogen spring.

The required minimum extension force F1 can be determined by formula $F1 = (GL) / BN \times K$.

Where: F1: minimum extension force, unit: N ;

G: lifting force, unit: N

L: distance from gravity to turning center, unit: mm

b: when the air spring lever arm is extended, the effective force arm, unit: mm

n: number of air springs

K: safety factor, generally $k = 1.1$

Nitrogen spring installation and precautions

- The nitrogen spring is a high-pressure product. It is strictly prohibited to dismantle, bake or bump it at will to prevent accidents.
- The piston rod of nitrogen spring should be installed downward rather than upside down, so as to reduce friction and ensure the best damping quality and buffering performance.
- Nitrogen spring shall not be subject to tilt force or lateral force during operation, and shall not be used as handrail to prevent bending and deformation damage of products.
- In order to ensure the reliability of the seal, do not damage the surface of the piston rod. Do not apply paint and chemicals on the piston rod, otherwise it will affect its service life.
- General use environment temperature: $-30\text{ }^{\circ}\text{C} \sim +80\text{ }^{\circ}\text{C}$.
- The installation connection point shall rotate flexibly without jamming.
- The size shall be reasonable, the force shall be appropriate, and the stroke size of piston rod shall be reserved with certain margin.

Product introduction

Nitrogen spring refers to filling the sealed cylinder with high pressure nitrogen (nitrogen: non combustible), and using the reaction force of nitrogen as spring. The support force is constant throughout the working stroke, avoiding the object closing. The impact of timing, commonly used in lifting, support, gravity balance and other functions, has the characteristics of convenient installation, safe use and no maintenance. Now it is widely used in car washing engine cover, rear door opening, plotter and printing machinery, food processing, furniture industry, kitchen cabinet, mechanical equipment box cover, woodworking industry, office equipment, various boxes, medical equipment, fitness equipment, mold equipment and other industries.

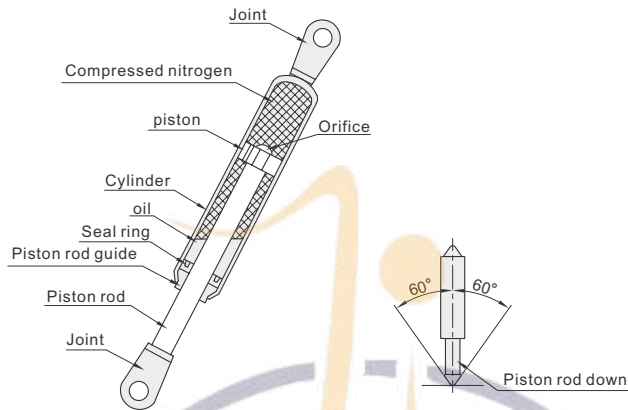


Figure 1

About type selection

1. As shown in (Figure 2), calculate the required reaction force (f) according to the following formula, and find the usable form range.

$$F = \frac{G \times A}{B}$$

- F: reaction force required (at maximum length)
- G: weight of door panel
- A: horizontal distance between fulcrum and center of gravity of door panel
- B: vertical distance between fulcrum and nitrogen spring axis

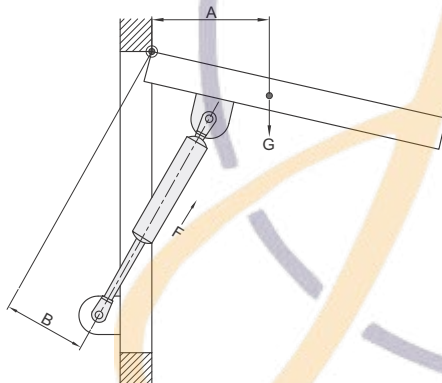


Figure 2

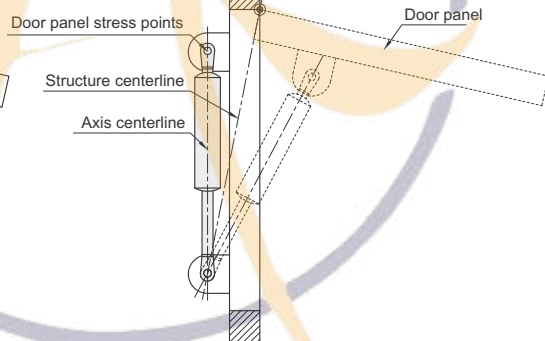


Figure 3

2. The gas spring piston rod must be installed downward (Fig. 1) and shall not be inverted, so as to ensure that the internal oil can always protect the rubber seal, reduce friction and ensure the best damping quality effect.
3. The installation position of the fulcrum is the guarantee of whether the nitrogen spring can work correctly. When it is closed, let the stress point of the door plate move over the structure center (Fig. 3), otherwise, the nitrogen spring will often push the door open automatically.
4. Maintain a margin of at least 10 mm even when the piston rod has a minimum stroke.
5. The connection point shall be installed with flexible rotation and free of stagnation.

Use and precautions:

- Please pay attention to the service temperature of gas spring. Do not store for a long time, otherwise the reaction force may be reduced due to the early aging of the sealing ring;
- This product is a pressure vessel, which can not be disassembled and analyzed. It is strictly prohibited to collide, hit or throw at random. It is also prohibited to apply lateral force and use it as handrail, not close to fire source;
- Do not rotate the piston rod of gas spring to the left. If you need to adjust the direction of the connector, only turn it to the right;
- Do not damage the cylinder and piston rod. If the piston rod is wound with plastic rope, it may be stuck internally due to adhesion of adhesive or fiber, resulting in leakage of nitrogen and oil. Before use, be sure to check whether the piston rod part is rusted, damaged, stained with adhesive or impurities.

Coil Springs ◀ Extra-Light Load Spring (Purple)

Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWC	Extra-Light Load	60Si2CrA	SWOSC-V	L×60%

☑ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.0%

① Load(±10%).

② Perpendicularity (2° or Less).

③ Load (N): Spring constant (N/mm) × Deflection(Fmm)

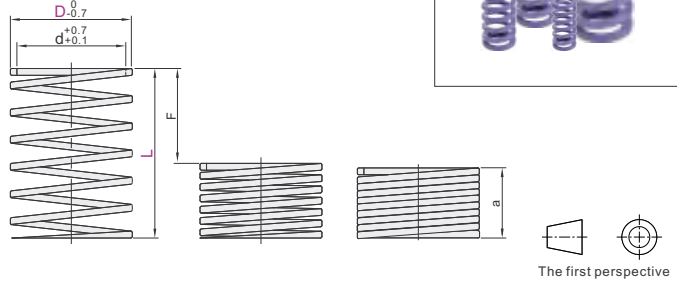
④ Heat resistant temperature is 150 °C.

⑤ 1kgf=9.81N.

⑥ The solid height values are for reference only. There may be some variation between lots.

⑦ The maximum deflection for springs shown as "Out of range" is 55%. Do not use such a spring at a deflection exceeding 55%.

⑧ The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



☑ Deflection:40%~50%

Part Number Code	D	L	Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method					
						1 million times F=L×40%		0.5 million times F=L×45%		0.3 million times F=L×50%	
						Fmm	Load N	Fmm	Load N	Fmm	Load N
20	18.52	8	8	9	10						
25	14.82	10	10	11.3	12.5						
30	12.35	12	12	13.5	15						
35	10.58	14	14	15.8	17.5						
40	9.26	16	16	18	20						
45	8.23	18	18	20.3	22.5						
50	7.41	20	20	22.5	25						
55	6.74	22	22	24.8	27.5	147.1	166.7	186.3			
60	6.17	24	24	27	30						
65	5.70	26	26	29.3	32.5						
70	5.29	28	28	31.5	35						
75	4.94	30	30	33.8	37.5						
80	4.63	32	32	36	40						
90	4.12	36	36	40.5	45						
100	3.70	40	40	45	50						
25	21.80	10	10	11.3	12.5						
30	18.16	12	12	13.5	15						
35	15.57	14	14	15.8	17.5						
40	13.62	16	16	18	20						
45	12.11	18	18	20.3	22.5						
50	10.90	20	20	22.5	25						
55	9.91	22	22	24.8	27.5	215.7	245.2	274.6			
60	9.08	24	24	27	30						
65	8.38	26	26	29.3	32.5						
70	7.78	28	28	31.5	35						
75	7.27	30	30	33.8	37.5						
80	6.81	32	32	36	40						
90	6.05	36	36	40.5	45						
100	5.45	40	40	45	50						
30	23.24	12	12	13.5	15						
35	19.92	14	14	15.8	17.5						
40	17.43	16	16	18	20						
45	15.50	18	18	20.3	22.5						
50	13.95	20	20	22.5	25						
55	12.68	22	22	24.8	27.5						
60	11.62	24	24	27	30	284.4	313.8	353.0			
65	10.73	26	26	29.3	32.5						
70	9.96	28	28	31.5	35						
75	9.30	30	30	33.8	37.5						
80	8.72	32	32	36	40						
90	7.75	36	36	40.5	45						
100	6.97	40	40	45	50						
30	34.87	12	12	13.5	15						
35	29.89	14	14	15.8	17.5						
40	26.15	16	16	18	20						
45	23.24	18	18	20.3	22.5						
50	20.92	20	20	22.5	25						
55	19.02	22	22	24.8	27.5						
60	17.43	24	24	27	30	411.9	470.7	519.8			
65	16.09	26	26	29.3	32.5						
70	14.94	28	28	31.5	35						
75	13.95	30	30	33.8	37.5						
80	13.08	32	32	36	40						
90	11.62	36	36	40.5	45						
100	10.46	40	40	45	50						
40	34.87	16	16	18	20						
45	30.99	18	18	20.3	22						
50	27.89	20	20	22.5	25						
60	23.24	24	24	27	30	559	627.6	696.3			
70	19.92	28	28	31.5	35						
80	17.43	32	32	36	40						
90	15.50	36	36	40.5	45						
100	13.95	40	40	45	50						

☑ Deflection:50%~60%

Part Number Code	D	L	Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method					
						1 million times F=L×50%		0.5 million times F=L×55%		0.3 million times F=L×60%	
						Fmm	Load N	Fmm	Load N	Fmm	Load N
15	3.9	5	7.5	8.3	9						
20	2.9	6	10	11	12						
25	2.3	8	12.5	13.8	15						
30	1.9	9.3	15	16.5	18						
35	1.6	10.5	17.5	19.3	21						
40	1.4	11.8	20	22	24						
45	1.3	13.1	22.5	24.8	27						
50	1.2	14.4	25	27.5	30	29	31	34			
55	1.0	15.7	27.5	30.3	33						
60	0.9	16.7	30	33	36						
65	0.8	18.3	32.5	35.8	39						
70	0.8	19.5	35	38.5	42						
75	0.7	21	37.5	41.3	45						
80	0.7	22.2	40	44	48						
15	6.1	6	7.5	8.3	9						
20	4.6	7.5	10	11	12						
25	3.7	9	12.5	13.8	15						
30	3.0	10.5	15	16.5	18						
35	2.6	12	17.5	19.3	21						
40	2.3	13.4	20	22	24						
45	2.0	14.8	22.5	24.8	27						
50	1.8	16.2	25	27.5	30	46	50	54			
55	1.7	17.7	27.5	30.3	33						
60	1.5	19.1	30	33	36						
65	1.4	20.6	32.5	35.8	39						
70	1.3	22	35	38.5	42						
75	1.2	23.4	37.5	41.3	45						
80	1.1	24.9	40	44	48						
90	1.0	27.8	45	49.5	54						
20	5.4	7	10	11	12						
25	4.3	8	12.5	13.8	15						
30	3.6	10	15	16.5	18						
35	3.1	12	17.5	19.3	21						
40	2.7	14	20	22	24						
45	2.4	15	22.5	24.8	27						
50	2.2	16	25	27.5	30						
55	2.0	17	27.5	30.3	33	54	59	64			
60	1.8	18	30	33	36						
65	1.7	20	32.5	35.8	39						
70	1.5	21	35	38.5	42						
75	1.4	22	37.5	41.3	45						
80	1.3	24	40	44	48						
90	1.2	27	45	49.5	54						
25	7.8	10.5	12.5	13.8	15						
30	6.5	11	15	16.5	18						
35	5.6	13	17.5	19.3	21						
40	4.9	15	20	22	24						
45	4.4	16.7	22.5	24.8	27						
50	3.9	18	25	27.5	30						
55	3.6	20	27.5	30.3	33						
60	3.3	21.5	30	33	36	103	113	122			
65	3.0	23	32.5	35.8	39						
70	2.8	24.6	35	38.5	42						
75	2.6	26.2	37.5	41.3	45						
80	2.4	28	40	44	48						
90	2.2	31	45.5	49.5	54						
100	2.2	34	50	55	60						

Extra-Light Load Spring (Purple) ▶ Coil Springs

Deflection: 50%~60%

Part Number			Inner Dia. d	Spring Constant N/mm	a	Usage Method					
Code	D	L				1 million times F=L×50%		0.5 million times F=L×55%		0.3 million times F=L×60%	
					Solid Height	Fmm	Load N	Fmm	Load N	Fmm	Load N
18	25		11	10.60	9	12.5		13.8		15	
	30			8.80	10.3	15		16.5		18	
	35			7.50	11.5	17.5		19.3		21	
	40			6.60	12.7	20		22		24	
	45			5.90	14	22.5		24.8		27	
	50			5.30	15.5	25		27.5		30	
	55			4.80	16.5	27.5	132	30.3	144	33	157
	60			4.40	18	30		33		36	
	65			4.10	19	32.5		35.8		39	
	70			3.80	20.5	35		38.5		42	
75			3.50	22	37.5		41.3		45		
80			3.30	23	40		44		48		
90			2.90	25.5	45		49.5		54		
100			2.60	29	50		55		60		
20	25		12.5	14.10	9	12.5		13.8		15	
	30			11.70	11	15		16.5		18	
	35			10.10	12.5	17.5		19.3		21	
	40			8.80	14	20		22		24	
	45			7.80	15	22.5		24.8		27	
	50			7.00	16.5	25		27.5		30	
	55			6.40	18	27.5	176	30.3	196	33	216
	60			5.90	19.2	30		33		36	
	65			5.40	20.5	32.5		35.8		39	
	70			4.70	21.7	35		38.5		42	
75			4.40	23	37.5		41.3		45		
80			3.90	24.2	40		44		48		
90			3.50	27	45.5		49.5		54		
100			5.00	30	50		55		60		
25	25		16	24.19	9	12.5		13.8		Out of range	
	30			20.16	10.5	15		16.5		18	
	35			17.28	12.7	17.5		19.3		21	
	40			15.12	14.6	20		22		24	
	45			13.44	16.6	22.5		24.8		27	
	50			12.09	18	25		27.5		30	
	55			11.00	20	27.5	302	30.3	333	33	363
	60			10.08	21.3	30		33		36	
	65			9.30	22.5	32.5		35.8		39	
	70			8.64	24	35		38.5		42	
75			8.06	25.3	37.5		41.3		45		
80			7.56	26.7	40		44		48		
90			6.72	29.5	45		49.5		54		
100			6.05	32.2	50		55		60		
30	25		20	31.38	9.5	12.5		13.8		Out of range	
	30			26.15	11	15		16.5		18	
	35			22.42	13	17.5		19.3		21	
	40			19.61	14.5	20		22		24	
	45			17.43	16.5	22.5		24.8		27	
	50			15.69	18	25		27.5		30	
	55			14.26	19.5	27.5	392	30.3	431	33	471
	60			13.08	20.8	30		33		36	
	65			12.07	22	32.5		35.8		39	
	70			11.21	23.3	35		38.5		42	
75			10.46	24.5	37.5		41.3		45		
80			9.81	25.8	40		44		48		
90			8.72	28.3	45		49.5		54		
100			7.85	30.8	50		55		60		



Part Number			d
Code	D	L	
YSWD	42	4D	21
		4S	

YSWC—D32—L40



Discount price

Per	1~19	20~
Price	100%	Additional quotation



Delivery

8

Springs Gas Springs C4

Coil Springs

◀ Very Light Load Spring (Yellow)



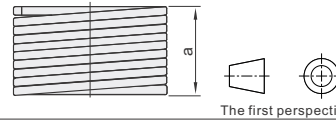
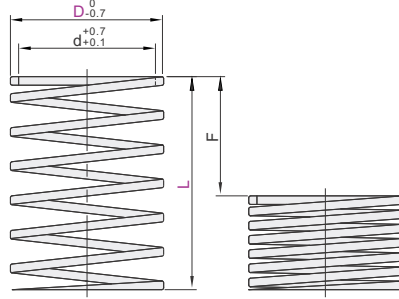
The first perspective

Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWF	Very Light Load	60Si2CrA	SWOSC-V	L×50%

□ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.0%

- Ⓣ** Load(±10%).
- Ⓣ** Perpendicularity (2° or Less).
- Ⓣ** Load (N): Spring constant (N/mm) × Deflection(Fmm)
- Ⓣ** Heat resistant temperature is 150 °C.
- Ⓣ** 1kgf=9.81N.
- Ⓣ** The solid height values are for reference only. There may be some variation between lots.
- Ⓣ** The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



Part Number		Inner Dia.	Spring Constant	a	Usage Method						
					0.3 million times F=L×50%		0.5 million times F=L×45%		1 million times F=L×40%		
Code	D	L	d	Solid Height	Fmm	Load N	Fmm	Load N	Fmm	Load N	
6	15		7.80	7.1	7.5		6.8	6.0			
	20		5.90	9.5	10		9.0	8.0			
	25	3	4.70	11.9	12.5	59	11.3	10.0	53	10.0	47
	30		3.90	14.2	15		13.5	12.0			
	35		3.40	16.6	17.5		15.8	14.0			
	40		2.90	19.0	20		18.0	16.0			
	10		15.24	4.5	5.0		4.5	4			
	15		10.16	6.8	7.5		6.8	6			
	20		7.62	9.0	10.0		9.0	8			
	25		6.10	11.3	12.5		11.3	10			
	30		5.08	13.5	15.0		13.5	12			
	35		4.36	15.8	17.5		15.8	14			
	40		3.81	18.0	20.0		18.0	16			
	8	45	4	3.39	20.3	22.5	78.5	20.3	68.6	18	58.8
	50		3.05	22.5	25.0		22.5	20			
	55		2.77	24.8	27.5		24.8	22			
60		2.54	27.0	30.0		27.0	24				
65		2.35	30.8	32.5		29.3	26				
70		2.18	33.2	35.0		31.5	28				
75		2.10	35.6	37.5		33.8	30				
80		1.91	37.9	40.0		36.0	32				
10		19.50	4.5	5.0		4.5	4				
15		13.20	6.8	7.5		6.8	6				
20		9.81	9.0	10.0		9.0	8				
25		7.85	11.3	12.5		11.3	10				
30		6.54	13.5	15.0		13.5	12				
35		5.61	15.8	17.5		15.8	14				
40		4.91	18.0	20.0		18.0	16				
45		4.36	20.3	22.5		20.3	18				
10	50	5	3.92	22.5	25.0	98.1	22.5	88.3	20	78.5	
55		3.57	24.8	27.5		24.8	22				
60		3.27	27.0	30.0		27.0	24				
65		3.02	29.3	32.5		29.3	26				
70		2.80	31.5	35.0		31.5	28				
75		2.62	33.8	37.5		33.8	30				
80		2.45	36.0	40.0		36.0	32				
90		2.18	40.5	45.0		40.5	36				
100		1.96	48.4	50.0		45.0	40				
15		18.20	6.7	7.5		6.8	6				
20		13.62	9.0	10.0		9.0	8				
25		10.90	11.3	12.5		11.3	10				
30		9.08	13.5	15.0		13.5	12				
35		7.78	15.8	17.5		15.8	14				
40		6.81	18.0	20.0		18.0	16				
45		6.05	20.3	22.5		20.3	18				
50	55	6	5.45	22.5	25.0	137.3	22.5	122.6	20	107.9	
55		4.95	24.8	27.5		24.8	22				
60		4.54	27.0	30.0		27.0	24				
65		4.19	29.3	32.5		29.3	26				
70		3.89	31.5	35.0		31.5	28				
75		3.63	33.8	37.5		33.8	30				
80		3.41	36.0	40.0		36.0	32				
90		3.03	40.5	45.0		40.5	36				
100		2.74	48.2	50.0		45.0	40				
20		17.60	8.9	9.8		9.1	8.1				
25		13.95	11.3	12.5		11.3	10				
30		11.62	13.5	15.0		13.5	12				
35		9.96	15.8	17.5		15.8	14				
40	45	7	8.72	18.0	20.0	176.5	18.0	156.9	16	142.2	
45		7.75	20.3	22.5		20.3	18				
50		6.97	22.5	25.0		22.5	20				
55		6.34	24.8	27.5		24.8	22				

Part Number		Inner Dia.	Spring Constant	a	Usage Method						
					0.3 million times F=L×50%		0.5 million times F=L×45%		1 million times F=L×40%		
Code	D	L	d	Solid Height	Fmm	Load N	Fmm	Load N	Fmm	Load N	
14	60		5.81	27.0	30.0		27.0	24			
	65		5.36	29.3	32.5		29.3	26			
	70		4.98	31.5	35.0		31.5	28			
	75	7	4.65	33.8	37.5	176.5	33.8	156.9	30	142.2	
	80		4.36	36.0	40.0		36.0	32			
	90		3.87	40.5	45.0		40.5	36			
	100		3.49	45.0	50.0		45.0	40			
	20		20.50	9.1	10.1		9.1	8.2			
	25		16.56	11.3	12.5		11.3	10			
	30		13.80	13.5	15.0		13.5	12			
	35		11.83	15.8	17.5		15.8	14			
	40		10.35	18.0	20.0		18.0	16			
	45		9.20	20.3	22.5		20.3	18			
	50		8.28	22.5	25.0		22.5	20			
	55	8	6.90	27.0	30.0	206	24.8	185	22	165	
	60		6.90	27.0	30.0		27.0	24			
65		6.37	29.3	32.5		29.3	26				
70		5.91	31.5	35.0		31.5	28				
75		5.25	33.8	37.5		33.8	30				
80		5.18	36.0	40.0		36.0	32				
90		4.60	40.5	45.0		40.5	36				
100		4.14	45.0	50.0		45.0	40				
20		25.50	9.1	10.1		9.1	8.2				
25		20.09	11.3	12.5		11.3	10				
30		16.74	13.5	15.0		13.5	12				
35		14.35	15.8	17.5		15.8	14				
40		12.56	18.0	20.0		18.0	16				
45		11.16	20.3	22.5		20.3	18				
50		10.04	22.5	25.0		22.5	20				
18	55	9	9.13	24.8	27.5	255	24.8	226	22	206	
60		8.37	27.0	30.0		27.0	24				
65		7.73	29.3	32.5		29.3	26				
70		7.17	31.5	35.0		31.5	28				
75		6.70	33.8	37.5		33.8	30				
80		6.28	36.0	40.0		36.0	32				
90		5.58	40.5	45.0		40.5	36				
100		5.02	45.0	50.0		45.0	40				
20		31.30	9.1	10.1		9.1	8.2				
25		25.24	11.3	12.5		11.3	10				
30		21.04	13.5	15.0		13.5	12				
35		18.03	15.8	17.5		15.8	14				
40		15.78	18.0	20.0		18.0	16				
45		14.02	20.3	22.5		20.3	18				
50		12.62	22.5	25.0		22.5	20				
55	11	11.47	24.8	27.5	314	24.8	284	22	255		
60		10.52	27.0	30.0		27.0	24				
65		9.71	29.3	32.5		29.3	26				
70		9.02	31.5	35.0		31.5	28				
75		8.41	33.8	37.5		33.8	30				
80		7.89	36.0	40.0		36.0	32				
90		7.01	40.5	45.0		40.5	36				
100		6.31	45.0	50.0		45.0	40				

Part Number			Inner Dia. d	Spring Constant N/mm	a Solid Height Fmm	Usage Method					
Code	D	L				0.3 million times F=L×50%	0.5 million times F=L×45%	1 million times F=L×40%			
						Load N	Fmm	Load N	Fmm	Load N	
		20		49.00	9.45	10.0		9.0		8	
		25		39.20	11.3	12.5		11.3		10	
		30		32.67	13.5	15.0		13.5		12	
		35		28.00	15.8	17.5		15.8		14	
		40		24.50	18.0	20.0		18.0		16	
		45		21.78	20.3	22.5		20.3		18	
		50		19.60	22.5	25.0		22.5		20	
	25	55	13.5	17.82	24.8	27.5	490	24.8	441	22	392
		60		16.33	27.0	30.0		27.0		24	
		65		15.08	29.3	32.5		29.3		26	
		70		14.00	31.5	35.0		31.5		28	
		75		13.07	33.8	37.5		33.8		30	
		80		12.25	36.0	40.0		36.0		32	
		90		10.89	40.5	45.0		40.5		36	
		100		9.80	45.0	50.0		45.0		40	
		25		56.62	11.3	12.5		11.3		10	
		30		47.19	13.5	15.0		13.5		12	
		35		40.44	15.8	17.5		15.8		14	
		40		35.39	18.0	20.0		18.0		16	
		45		31.46	20.3	22.5		20.3		18	
		50		28.31	22.5	25.0		22.5		20	
	30	55	16	25.74	24.8	27.5	706	24.8	637	22	569
		60		23.59	27.0	30.0		27.0		24	
		65		21.78	29.3	32.5		29.3		26	
		70		20.22	31.5	35.0		31.5		28	
		75		18.87	33.8	37.5		33.8		30	
		80		17.69	36.0	40.0		36.0		32	
		90		15.73	40.5	45.0		40.5		36	
		100		14.16	45.0	50.0		45.0		40	
		40		47.94	18.0	20.0		18.0		16	
		45		42.62	20.3	22.5		20.3		18	
		50		38.36	22.5	25.0		22.5		20	
		55		34.87	24.8	27.5		24.8		22	
		60		31.96	27.0	30.0		27.0		24	
	35	65	19	29.50	29.3	32.5	961	29.3	863	26	765
		70		27.40	31.5	35.0		31.5		28	
		75		25.57	33.8	37.5		33.8		30	
		80		23.97	36.0	40.0		36.0		32	
		90		21.31	40.5	45.0		40.5		36	
		100		19.18	45.0	50.0		45.0		40	
		40		62.67	18.0	20.0		18.0		16	
		45		55.77	21.4	22.5		20.25		18	
		50		50.13	22.5	25.0		22.5		20	
		55		45.58	24.8	27.5		24.8		22	
		60		41.78	27.0	30.0		27.0		24	
	40	65	22	38.56	29.3	32.5	1255	29.3	1128	26	1000
		70		35.81	31.5	35.0		31.5		28	
		75		33.42	35.6	37.5		33.8		30	
		80		31.33	36.0	40.0		36.0		32	
		90		27.85	40.5	45.0		40.5		36	
		100		25.07	45.0	50.0		45.0		40	



Please order as shown

Part Number		
Code	D	L
YSWF	40	40
		45

YSWF - D40 - L40



Discount price	
Per	1~19
Price	100%
	20~
	Additional quotation



Delivery	
Per	1~19
Price	8
	20~
	Additional quotation

Part Number			Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method								
Code	D	L				0.3 million times F=L×40%	0.5 million times F=L×36%	1 million times F=L×32%	Load N	Fmm	Load N	Fmm	Load N	Fmm
YSWL	25	20	12.5	103.00	7.5	8.0			7.2		6.4			
		25		82.78	13.5	10.0			9.0		8.0			
		30		68.98	16.2	12.0			10.8		9.6			
		35		59.13	18.9	14.0			12.6		11.2			
		40		51.74	21.6	16.0			14.4		12.8			
		45		45.99	24.3	18.0			16.2		14.4			
		50		41.39	27.0	20.0			18.0		16.0			
		55		37.63	29.7	22.0	824	19.8	745	657	17.6	19.2		
		60		34.49	32.4	24.0		21.6			19.2			
		65		31.84	35.1	26.0		23.4			20.8			
	70	29.56	37.8	28.0		25.2			22.4					
	75	27.59	40.5	30.0		27.0			24.0					
	80	25.87	43.2	32.0		28.8			25.6					
	90	22.99	48.6	36.0		32.4			28.8					
	100	20.69	54.0	40.0		36.0			32.4					
	30	25	118.78	13.5	10.0			9.0		8.0				
		30	98.98	16.2	12.0			10.8		9.6				
		35	84.84	18.9	14.0			12.6		11.2				
		40	74.24	21.6	16.0			14.4		12.8				
		45	65.99	24.3	18.0			16.2		14.4				
		50	59.39	27.0	20.0			18.0		16.0				
		55	53.99	29.7	22.0	1187	19.8	1069	951	17.6	19.2			
		60	49.49	32.4	24.0		21.6			19.2				
		65	45.68	35.1	26.0		23.4			20.8				
		70	42.42	37.8	28.0		25.2			22.4				
	75	39.59	40.5	30.0		27.0			24.0					
	80	37.12	43.2	32.0		28.8			25.6					
	90	32.99	48.6	36.0		32.4			28.8					
	100	29.69	54.0	40.0		36.0			32.4					
	35	30	65.41	16.2	12.0			10.8		9.6				
		35	56.06	18.9	14.0			12.6		11.2				
		40	49.06	21.6	16.0			14.4		12.8				
		45	43.60	24.3	18.0			16.2		14.4				
		50	39.24	27.0	20.0			18.0		16.0				
		55	35.68	29.7	22.0			19.8		17.6				
		60	32.70	32.4	24.0	785	21.6	706	627	19.2	21.6			
		65	30.19	35.1	26.0		23.4			20.8				
		70	28.03	37.8	28.0		25.2			22.4				
		75	26.16	40.5	30.0		27.0			24.0				
	80	24.53	43.2	32.0		28.8			25.6					
	90	21.80	48.6	36.0		32.4			28.8					
	100	19.62	54.0	40.0		36.0			32.4					
	40	40	101.46	21.6	16.0			14.4		12.8				
		45	90.19	24.3	18.0			16.2		14.4				
		50	81.17	27.0	20.0			18.0		16.0				
		55	73.79	29.7	22.0			19.8		17.6				
		60	67.64	32.4	24.0			21.6		19.2				
		65	62.44	35.1	26.0	1627	23.4	1461	1295	20.8	23.4			
		70	57.98	37.8	28.0		25.2			22.4				
		75	54.11	40.5	30.0		27.0			24.0				
		80	50.73	43.2	32.0		28.8			25.6				
		90	45.09	48.6	36.0		32.4			28.8				
	100	40.58	54.0	40.0		36.0			32.4					
	45	40	52.95	21.6	16.0			14.4		12.8				
		45	47.07	24.3	18.0			16.2		14.4				
		50	42.63	27.0	20.0			18.0		16.0				
		55	38.51	29.7	22.0			19.8		17.6				
		60	35.30	32.4	24.0			21.6		19.2				
		65	32.58	35.1	26.0	847	23.4	762	677	20.8	23.4			
		70	30.26	37.8	28.0		25.2			22.4				
		75	28.24	40.5	30.0		27.0			24.0				
		80	26.48	43.2	32.0		28.8			25.6				
		90	23.53	48.6	36.0		32.4			28.8				
	100	21.18	54.0	40.0		36.0			32.4					

Part Number			Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method								
Code	D	L				0.3 million times F=L×40%	0.5 million times F=L×36%	1 million times F=L×32%	Load N	Fmm	Load N	Fmm	Load N	Fmm
YSWL	40	40	20	132.15	21.6	16.0			14.4		12.8			
		45		117.47	25.8	18.0			16.2		14.4			
		50		105.72	27.0	20.0			18.0		16.0			
		55		96.11	31.6	22.0			19.8		17.6			
		60		88.10	32.4	24.0			21.6		19.2			
		65		81.32	37.3	26.0	2120	23.4	1903	1697	20.8	23.4		
		70		75.52	37.8	28.0		25.2			22.4			
		75		70.48	43.1	30.0		27.0			24.0			
		80		66.08	45.9	32.0		28.8			25.6			
		90		58.73	48.6	36.0		32.4			28.8			
YSWL	40	100	26	52.86	54.0	40.0			36.0		32.4			
		50		84.85	27.0	20.0			18.0		16.0			
		60		70.71	32.4	28.0			25.2		22.4			
		70		60.61	37.8	30.0			27.0		24.0			
		80		53.03	43.2	32.0	1697	28.8	1527	1358	25.6	28.8		
		90		47.14	48.6	36.0		32.4			28.8			
		100		42.43	54.0	40.0		36.0			32.4			



Part Number				d
Code	D	L		
YSWL	35	100	20	

YSWL - D35 - L90 - d20



Discount price	
Per	1~19 20~
Price	100% Additional quotation



Delivery
8

Coil Springs Medium Load Spring (Red)

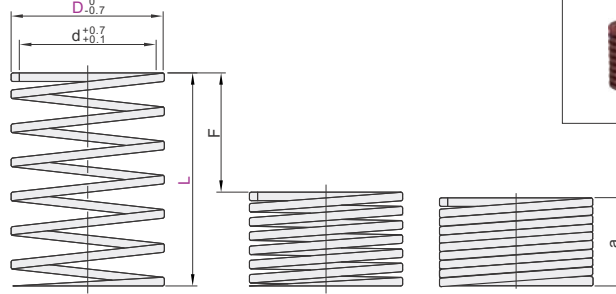
Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWM	Medium Load	60Si2CrA	SWOSC-V	L×32%



L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.0%

- (1)** Load(±10%).
- (2)** Perpendicularity (2° or Less).
- (3)** Load (N): Spring constant (N/mm) × Deflection(Fmm)
- (4)** Heat resistant temperature is 150 °C.
- (5)** 1kgf=9.81N.
- (6)** The solid height values are for reference only. There may be some variation between lots.
- (7)** The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



The first perspective

Part Number	Inner Dia.	Spring Constant	a	Usage Method								
				0.3 million times F=L×32%	0.5 million times F=L×28.8%	1 million times F=L×25.6%						
Code	D	L	d	Solid Height	Fmm	Load N	Fmm	Load N	Fmm	Load N		
6	3	15	20.3	9.9	4.7		4.2	3.7				
		20	15.4	13.2	6.5		5.7	5.0				
		25	12.2	16.5	8.0		7.1	6.3				
		30	10.1	19.5	9.5		8.5	7.8				
		35	8.9	22.8	11.3	99	10.2	89	9.1	80		
		40	7.6	26.1	12.8		11.6		10.3			
		45	6.7	29.5	14.5		13.0		11.6			
		50	6.2	32.6	16.0		14.5		12.9			
		55	5.7	36.1	17.5		15.8		14.1			
		60	5.2	39.2	19.3		17.4		15.5			
10		42.57	6.3	3.2		2.9	2.6					
15		28.38	9.4	4.8		4.3	3.8					
20		21.28	12.5	6.4		5.8	5.1					
25		17.03	15.7	8.0		7.2	6.4					
30		14.19	18.8	9.6		8.6	7.7					
35		12.16	21.9	11.2		10.1	9.0					
40		10.64	25.0	12.8		11.5	10.2					
8	4	45	9.46	28.2	14.4	137	13.0	123	11.5	108		
		50	8.51	31.3	16.0		14.4		12.8			
		55	7.74	34.4	17.6		15.8		14.1			
		60	7.09	37.6	19.2		17.3		15.4			
		65	6.55	42.5	20.8		18.7		16.6			
		70	6.08	45.8	22.4		20.2		17.9			
		75	5.68	49.1	24.0		21.6		19.2			
		80	5.5	52.2	25.7		23.1		20.4			
		10		61.20	6.5	3.2		2.9	2.6			
		15		40.80	9.8	4.7		4.3	3.7			
20		30.64	12.5	6.4		5.8	5.1					
25		24.51	15.7	8.0		7.2	6.4					
30		20.43	18.8	9.6		8.6	7.7					
35		17.51	21.9	11.2		10.1	9.0					
40		15.32	25.0	12.8		11.5	10.2					
45		13.62	28.2	14.4		13.0	11.5					
10	5	50	12.26	31.3	16.0	196	14.4	177	12.8	157		
		55	11.14	34.4	17.6		15.8		14.1			
		60	10.21	37.6	19.2		17.3		15.4			
		65	9.43	40.7	20.8		18.7		16.6			
		70	8.75	43.8	22.4		20.2		17.9			
		75	8.17	47.0	24.0		21.6		19.2			
		80	7.66	50.1	25.6		23.0		20.5			
		90	6.81	56.3	28.8		25.9		23.0			
		100	6.10	31.2	32.0		28.8		25.6			
		15		59.10	9.7	4.8		4.3	3.7			
20		44.27	12.5	6.4		5.8	5.1					
25		35.42	15.7	8.0		7.2	6.4					
30		29.51	18.8	9.6		8.6	7.7					
35		25.30	21.9	11.2		10.1	9.0					
40		22.14	25.0	12.8		11.5	10.2					
45		19.68	28.2	14.4		13.0	11.5					
12	6	50	17.71	31.3	16.0	284	14.4	255	12.8	226		
		55	16.10	34.4	17.6		15.8		14.1			
		60	14.76	37.6	19.2		17.3		15.4			
		65	13.62	40.7	20.8		18.7		16.6			
		70	13.65	43.8	22.4		20.2		17.9			
		75	11.81	47.0	24.0		21.6		19.2			
		80	11.07	50.1	25.6		23.0		20.5			
		90	9.94	56.3	28.8		25.9		23.0			
		100	8.90	31.5	32.0		28.8		25.6			
		20		59.70	13.2	6.3		5.8	5.1			
25		47.64	15.7	8.0		7.2	6.4					
14	7	30	39.70	18.8	9.6	383	8.6	345	7.7	306		
		35	34.03	21.9	11.2		10.1		9.0			
		40	29.77	25.0	12.8		11.5		10.2			

Part Number	Inner Dia.	Spring Constant	a	Usage Method									
				0.3 million times F=L×32%	0.5 million times F=L×28.8%	1 million times F=L×25.6%							
Code	D	L	d	Solid Height	Fmm	Load N	Fmm	Load N	Fmm	Load N			
14	7	45	26.47	28.2	14.4		13.0	11.5					
		50	23.82	31.3	16.0		14.4	12.8					
		55	21.65	34.4	17.6		15.8	14.1					
		60	19.85	37.6	19.2		17.3	15.4					
		65	18.32	40.7	20.8	383	18.7	345	16.6	306			
		70	17.01	43.8	22.4		20.2	17.9					
		75	15.88	47.0	24.0		21.6	19.2					
		80	14.89	50.1	25.6		23.0	20.5					
		90	13.23	56.3	28.8		25.9	23.0					
		100	11.91	62.6	32.0		28.8	25.6					
20		78.20	13.1	6.4		5.8	5.2						
25		62.64	15.7	8.0		7.2	6.4						
30		52.20	18.8	9.6		8.6	7.7						
35		44.74	21.9	11.2		10.1	9.0						
40		39.15	25.0	12.8		11.5	10.2						
45		34.80	28.2	14.4		13.0	11.5						
50		31.32	31.3	16.0		14.4	12.8						
16	8	55	28.47	34.4	17.6	500	15.8	451	14.1	402			
		60	26.10	37.6	19.2		17.3	15.4					
		65	24.09	40.7	20.8		18.7	16.6					
		70	22.37	43.8	22.4		20.2	17.9					
		75	20.88	47.0	24.0		21.6	19.2					
		80	19.57	50.1	25.6		23.0	20.5					
		90	17.40	56.3	28.8		25.9	23.0					
		100	15.66	62.6	32.0		28.8	25.6					
		20		99.50	13.2	6.4		5.8	5.1				
		25		79.03	15.7	8.0		7.2	6.4				
YSWM		30	65.86	18.8	9.6		8.6	7.7					
		35	56.45	21.9	11.2		10.1	9.0					
		40	49.39	25.0	12.8		11.5	10.2					
		45	43.90	28.2	14.4		13.0	11.5					
		50	39.51	31.3	16.0		14.4	12.8					
		18	9	55	35.92	34.4	17.6	637	15.8	569	14.1	510	
				60	32.93	37.6	19.2		17.3	15.4			
				65	30.40	40.7	20.8		18.7	16.6			
				70	28.22	43.8	22.4		20.2	17.9			
				75	26.34	47.0	24.0		21.6	19.2			
80	24.70			50.1	25.6		23.0	20.5					
90	21.95			56.3	28.8		25.9	23.0					
100	19.76			62.6	32.0		28.8	25.6					
20				123.00	13.2	6.4		5.7	5.2				
25				98.06	15.7	8.0		7.2	6.4				
20	10	30	81.71	18.8	9.6		8.6	7.7					
		35	70.04	21.9	11.2		10.1	9.0					
		40	61.28	25.0	12.8		11.5	10.2					
		45	54.48	28.2	14.4		13.0	11.5					
		50	49.03	31.3	16.0		14.4	12.8					
		55	44.57	34.4	17.6	785	15.8	706	14.1	628			
		60	40.86	37.6	19.2		17.3	15.4					
		65	37.71	40.7	20.8		18.7	16.6					
		70	35.02	43.8	22.4		20.2	17.9					
		75	32.6	47.0	24.0		21.5	19.2					
80	30.5	50.1	25.6		23.0	20.5							
90	27.2	56.3	28.8		25.9	23.0							
100	24.4	62.5	32.1		28.9	25.6							

Part Number			Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method					
Code	D	L				Fmm	Load N	Fmm	Load N	Fmm	Load N
		20		197.80	5.8	6.4		5.76		5.12	
		25		152.50	15.7	8.0		7.2		6.4	
		30		127.08	18.8	9.6		8.6		7.7	
		35		108.93	21.9	11.2		10.1		9.0	
		40		95.31	25.0	12.8		11.5		10.2	
		45		84.72	28.2	14.4		13.0		11.5	
		50		76.25	31.3	16.0		14.4		12.8	
	25	55	12.5	69.32	34.4	17.6	1266	15.8	1098	14.1	981
		60		63.54	37.6	19.2		17.3		15.4	
		65		58.65	40.7	20.8		18.7		16.6	
		70		54.46	43.8	22.4		20.2		17.9	
		75		50.83	47.0	24.0		21.6		19.2	
		80		47.66	50.1	25.6		23.0		20.5	
		90		42.36	56.3	28.8		25.9		23.0	
		100		38.13	62.6	32.0		28.8		25.6	
		25		219.13	15.7	8.0		7.2		6.4	
		30		182.75	18.8	9.6		8.6		7.7	
		35		156.65	21.9	11.2		10.1		9.0	
		40		137.07	25.0	12.8		11.5		10.2	
		45		121.84	28.2	14.4		13.0		11.5	
		50		109.65	31.3	16.0		14.4		12.8	
	30	55	15	99.68	34.4	17.6	1765	15.8	1579	14.1	
		60		91.38	37.6	19.2		17.3		15.4	
		65		84.35	40.7	20.8		18.7		16.6	
		70		78.32	43.8	22.4		20.2		17.9	
		75		73.10	47.0	24.0		21.6		19.2	
		80		68.53	50.1	25.6		23.0		20.5	1412
		90		60.92	56.3	28.8		25.9		23.0	
		100		54.83	62.6	32.0		28.8		25.6	
		40		187.50	25.0	12.8		11.5		10.2	
		45		166.67	28.2	14.4		13.0		11.5	
		50		150.00	31.3	16.0		14.4		12.8	
		55		136.36	34.4	17.6		15.8		14.1	
		60		125.00	37.6	19.2		17.3		15.4	
	35	65	17.5	115.38	40.7	20.8	2400	18.7	2160	16.6	
		70		107.14	43.8	22.4		20.2		17.9	
		75		100.00	47.0	24.0		21.6		19.2	
		80		93.75	50.1	25.6		23.0		20.5	
		90		83.33	56.3	28.8		25.9		23.0	1912
		100		75.00	62.6	32.0		28.8		25.6	
		45		217.59	29.4	14.4		13.0		11.5	
		50		195.83	31.3	16.0		14.4		12.8	
		55		178.03	36	17.6		15.8		14.1	
		60		163.19	37.6	19.2		17.3		15.4	
	40	65	20	150.64	42.5	20.8	3140	18.7	2820	16.6	
		70		139.88	43.8	22.4		20.2		17.9	
		75		130.56	49.1	24.0		21.6		19.2	
		80		122.40	50.1	25.6		23.0		20.5	
		90		108.80	56.3	28.8		25.9		23.0	
		100		97.92	62.6	32.0		28.8		25.6	2510

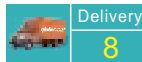


Part Number			d
Code	D	L	
YSWM	40	80	20
		90	

YSWM - D40 - L80



Discount price		
Per	1~19	20~
Price	100%	Additional quotation



Springs
Gas Springs
C4

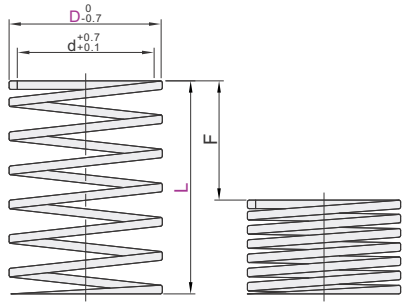
Coil Springs ◀ Heavy Load Spring (Green)

Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWH	Heavy Load	60Si2CrA	SWOSC-V	L×24%

□ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.0%

- (I)** Load (±10%).
- (I)** Perpendicularity (2° or Less).
- (I)** Load (N): Spring constant (N/mm) × Deflection (Fmm)
- (I)** Heat resistant temperature is 150 °C.
- (I)** 1kgf=9.81N.
- (I)** The solid height values are for reference only. There may be some variation between lots.
- (I)** The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



The first perspective

Part Number Code	D	L	Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method																										
						Fmm	Load N	Fmm	Load N	Fmm	Load N																					
6	15	3	38.10	11.0	3.6	3.2	2.9	4.3	3.8	5.4	4.8	6.5	5.8	7.6	6.7	8.6	7.7	9.7	8.6	10.8	9.6	11.9	10.6	13.0	11.5							
																										10	86.25	7.2	2.4	2.2	1.9	
																										15	57.50	10.8	3.6	3.2	2.9	
																										20	43.13	14.4	4.8	4.3	3.8	
																										25	34.50	18.0	6.0	5.4	4.8	
																										30	28.75	21.6	7.2	6.5	5.8	
																										35	24.64	25.2	8.4	7.6	6.7	
																										40	21.56	28.8	9.6	8.6	7.7	
																										45	19.17	32.4	10.8	9.7	8.6	
																										50	17.25	36.0	12.0	10.8	9.6	
8	15	4	19.17	32.4	10.8	206	9.7	186	8.6	167	10.8	9.6	11.9	10.6	13.0	11.5	14.0	12.5	15.1	13.4	16.2	14.4	17.3	15.4	18.7	16.8						
																											10	123.00	7.5	2.4	2.2	1.9
																											15	81.70	11.1	3.6	3.2	2.9
																											20	61.34	14.4	4.8	4.3	3.8
																											25	49.07	18.0	6.0	5.4	4.8
																											30	40.90	21.6	7.2	6.5	5.8
																											35	35.05	25.2	8.4	7.6	6.7
																											40	30.67	28.8	9.6	8.6	7.7
																											45	27.26	32.4	10.8	9.7	8.6
																											50	24.54	36.0	12.0	10.8	9.6
10	15	5	27.26	32.4	10.8	294	9.7	265	8.6	235	11.9	10.6	13.0	11.5	14.0	12.5	15.1	13.4	16.2	14.4	17.3	15.4	18.7	16.8	19.4	17.3						
																											10	123.00	7.5	2.4	2.2	1.9
																											15	81.70	11.1	3.6	3.2	2.9
																											20	61.34	14.4	4.8	4.3	3.8
																											25	49.07	18.0	6.0	5.4	4.8
																											30	40.90	21.6	7.2	6.5	5.8
																											35	35.05	25.2	8.4	7.6	6.7
																											40	30.67	28.8	9.6	8.6	7.7
																											45	27.26	32.4	10.8	9.7	8.6
																											50	24.54	36.0	12.0	10.8	9.6
12	15	6	34.54	36.0	12.0	422	10.8	373	9.6	333	11.9	10.6	13.0	11.5	14.0	12.5	15.1	13.4	16.2	14.4	17.3	15.4	18.7	16.8	19.4	17.3						
																											10	123.00	7.5	2.4	2.2	1.9
																											15	81.70	11.1	3.6	3.2	2.9
																											20	61.34	14.4	4.8	4.3	3.8
																											25	49.07	18.0	6.0	5.4	4.8
																											30	40.90	21.6	7.2	6.5	5.8
																											35	35.05	25.2	8.4	7.6	6.7
																											40	30.67	28.8	9.6	8.6	7.7
																											45	27.26	32.4	10.8	9.7	8.6
																											50	24.54	36.0	12.0	10.8	9.6
14	15	7	49.34	25.2	8.4	579	7.6	520	6.7	461	8.6	7.7	9.7	8.6	10.8	9.6	11.9	10.6	13.0	11.5	14.0	12.5	15.1	13.4	16.2	14.4						
																											10	120.00	14.6	4.8	4.3	3.8
																											15	96.30	18.0	6.0	5.4	4.8
																											20	80.25	21.6	7.2	6.5	5.8
																											25	68.78	25.2	8.4	7.6	6.7
																											30	60.19	28.8	9.6	8.6	7.7
																											35	53.50	32.4	10.8	9.7	8.6
																											40	48.15	36.0	12.0	10.8	9.6
																											45	43.77	39.6	13.2	11.9	10.6

Part Number Code	D	L	Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method																											
						Fmm	Load N	Fmm	Load N	Fmm	Load N																						
14	15	7	40.12	43.2	14.4	579	16.2	520	14.4	461	13.0	13.0	15.1	13.4	16.2	17.3	19.4	17.3	24.0	21.6	24.0	21.6	24.0	21.6	24.0	21.6							
																											20	157.00	14.8	4.8	4.3	3.8	
																											25	125.37	18.0	6.0	5.4	4.8	
																											30	104.48	21.6	7.2	6.5	5.8	
																											35	89.55	25.2	8.4	7.6	6.7	
																											40	78.36	28.8	9.6	8.6	7.7	
																											45	69.65	32.4	10.8	9.7	8.6	
																											50	62.69	36.0	12.0	10.8	9.6	
																											55	56.99	39.6	13.2	11.9	10.6	
																											60	52.24	43.2	14.4	13.0	11.5	
16	15	8	48.22	46.8	15.6	755	11.9	677	10.6	608	13.0	11.5	14.0	12.5	15.1	13.4	16.2	14.4	18.0	16.2	14.4	17.3	15.4	18.7	16.8	19.4	17.3						
																												10	198.00	14.6	4.8	4.3	3.8
																												15	157.96	18.0	6.0	5.4	4.8
																												20	131.64	21.6	7.2	6.5	5.8
																												25	112.83	25.2	8.4	7.6	6.7
																												30	98.73	28.8	9.6	8.6	7.7
																												35	87.76	32.4	10.8	9.7	8.6
																												40	78.98	36.0	12.0	10.8	9.6
																												45	71.80	39.6	13.2	11.9	10.6
																												50	65.82	43.2	14.4	13.0	11.5
18	15	9	60.75	46.8	15.6	951	14.0	12.5	15.4	765	16.2	14.4	17.3	15.4	18.7	16.8	19.4	17.3	24.0	21.6	24.0	21.6	24.0	21.6	24.0	21.6							
																											10	245.00	14.6	4.8	4.3	3.8	
																											15	196.11	18.0	6.0	5.4	4.8	
																											20	163.43	21.6	7.2	6.5	5.8	
																											25	140.08	25.2	8.4	7.6	6.7	
																											30	122.57	28.8	9.6	8.6	7.7	
																											35	108.95	32.4	10.8	9.7	8.6	
																											40	98.06	36.0	12.0	10.8	9.6	
																											45	89.14	39.6	13.2	11.9	10.6	
																											50	81.71	43.2	14.4	13.0	11.5	
20	15	10	75.43	46.8	15.6	1177	14.0	12.5	15.4	941	16.2	14.4	17.3	15.4	18.7	16.8	19.4	17.3	24.0	21.6	24.0	21.6	24.0	21.6	24.0	21.6							
																											10	245.00	14.6	4.8	4.3	3.8	
																											15	196.11	18.0	6.0	5.4	4.8	
																											20	163.43	21.6	7.2	6.5	5.8	
																											25	140.08	25.2	8.4	7.6	6.7	
																											30	122.57	28.8	9.6	8.6	7.7	
																											35	108.95	32.4	10.8	9.7	8.6	
																											40	98.06	36.0	12.0	10.8	9.6	
																											45	89.14	39.6	13.2	11.9	10.6	
																											50	81.71	43.2	14.4	13.0	11.5	

Part Number			Inner Dia. d	Spring Constant N/mm	a	Usage Method					
Code	D	L				Solid Height	Fmm	Load N	Fmm	Load N	Fmm
	20			382.10	4.5	4.8		4.32		3.84	
	25			306.85	18.0	6.0		5.4		4.8	
	30			255.71	21.6	7.2		6.5		5.8	
	35			219.18	25.2	8.4		7.6		6.7	
	40			191.78	28.8	9.6		8.6		7.7	
	45			170.47	32.4	10.8		9.7		8.6	
	50			153.43	36.0	12.0		10.8		9.6	
25	55	12.5		139.48	39.6	13.2	1834	11.9	1657	10.6	1471
	60			127.85	43.2	14.4		13.0		11.5	
	65			118.02	46.8	15.6		14.0		12.5	
	70			109.59	50.4	16.8		15.1		13.4	
	75			102.28	54.4	18.0		16.2		14.4	
	80			95.89	57.6	19.2		17.3		15.4	
	90			85.24	64.8	21.6		19.4		17.3	
	100			76.71	72.0	24.0		21.6		19.2	
	25			440.74	18.0	6.0		5.4		4.8	
	30			367.28	21.6	7.2		6.5		5.8	
	35			314.81	25.2	8.4		7.6		6.7	
	40			275.46	28.8	9.6		8.6		7.7	
	45			244.86	32.4	10.8		9.7		8.6	
	50			220.37	36.0	12.0		10.8		9.6	
30	55	15		200.34	39.6	13.2	2648	11.9	2380	10.6	2120
	60			183.64	43.2	14.4		13.0		11.5	
	65			169.52	46.8	15.6		14.0		12.5	
	70			157.41	50.4	16.8		15.1		13.4	
	75			146.91	54.0	18.0		16.2		14.4	
	80			137.73	57.6	19.2		17.3		15.4	
	90			122.43	64.8	21.6		19.4		17.3	
	100			110.19	72.0	24.0		21.6		19.2	
	40			375.00	28.8	9.6		8.6		7.7	
	45			333.33	32.4	10.8		9.7		8.6	
	50			300.00	36.0	12.0		10.8		9.6	
	55			272.73	39.6	13.2		11.9		10.6	
	60			250.00	43.2	14.4		13.0		11.5	
35	65	17.5		230.77	46.8	15.6	3600	14.0	3240	12.5	2870
	70			214.29	50.4	16.8		15.1		13.4	
	75			200.00	54.0	18.0		16.2		14.4	
	80			187.50	57.6	19.2		17.3		15.4	
	90			166.67	64.8	21.6		19.4		17.3	
	100			150.00	72.0	24.0		21.6		19.2	
	40			490.00	28.7	9.6		8.6		7.7	
	45			436.21	33.0	10.8		9.7		8.6	
	50			392.59	36.0	12.0		10.8		9.6	
	55			356.90	40.4	13.2		11.9		10.6	
	60			327.16	43.2	14.4		13.0		11.5	
40	65	20		301.99	47.7	15.6	4710	14.0	4240	12.5	3770
	70			280.42	50.4	16.8		15.1		13.4	
	75			261.73	55.1	18.0		16.2		14.4	
	80			245.37	57.6	19.2		17.3		15.4	
	90			218.11	64.8	21.6		19.4		17.3	
	100			196.30	72.0	24.0		21.6		19.2	



Part Number			d
Code	D	L	
YSWH	40	45	20

YSWH - D40 - L40



Discount price	
Per	1~19 20~
Price	100% Additional quotation



Delivery	
	8

Coil Springs

◀ Extra Heavy Load Spring (Brown)

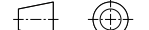
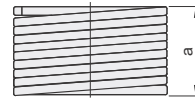
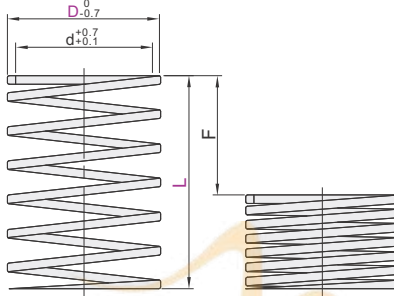


Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWB	Extra Heavy Load	60Si2CrA	SWOSC-V	L×20%

❑ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.0%

- ⓘ Load(±10%).
- ⓘ Perpendicularity (2° or Less).
- ⓘ Load (N): Spring Constant (N / mm) × Deflection(Fmm)
- ⓘ Heat resistant temperature is 150 °C.
- ⓘ 1kgf=9.81N.
- ⓘ The solid height values are for reference only. There may be some variation between lots.
- ⓘ The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



The first perspective

Part Number	Code	D	L	Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method							
							0.3 million times F=L×20%		0.5 million times F=L×18%		1 million times F=L×16%			
					Fmm	Load N	Fmm	Load N	Fmm	Load N	Fmm	Load N	Fmm	Load N
6	15	59.0	11.6	3.0	2.7	2.4	177	159	142					
	20	44.3	15.5	4.0	3.6	3.2								
	25	35.4	19.4	5.0	4.5	4.0								
	30	29.5	23.2	6.0	5.4	4.8								
	35	25.3	27.1	7.0	6.3	5.6								
	40	22.1	31.0	8.0	7.2	6.4								
	45	19.7	34.8	9.0	8.1	7.2								
	50	17.7	38.7	10.0	9.0	8.0								
	55	16.1	42.6	11.0	9.9	8.8								
	60	14.8	46.4	12.0	10.8	9.6								
	10	162	7.7	2.0	1.8	1.6								
	15	108	11.6	3.0	2.7	2.4								
	20	80.8	15.9	4.0	3.6	3.2								
	25	64.6	19.4	5.0	4.5	4.0								
	30	53.8	23.2	6.0	5.4	4.8								
	35	46.1	27.1	7.0	6.3	5.6								
	40	40.4	31.0	8.0	7.2	6.4								
8	45	35.9	34.8	9.0	9.1	7.2	323	291	258					
	50	32.3	38.7	10.0	8.0	8.0								
	55	29.4	42.6	11.0	9.9	8.8								
	60	26.9	46.4	12.0	10.8	9.6								
	65	24.7	50.2	13.0	11.7	10.4								
	70	23.2	54.1	14.0	12.6	11.2								
	75	21.6	58.1	15.0	13.5	12.0								
	80	20.1	61.9	16.0	14.4	12.7								
	10	221	7.6	2.0	1.8	1.6								
	15	147	11.5	3.0	2.7	2.4								
YSWB	20	110	15.5	4.0	3.6	3.2								
	25	88.2	19.4	5.0	4.5	4.0								
	30	73.5	23.2	6.0	5.4	4.8								
	35	63.0	27.1	7.0	6.3	5.6								
	40	55.1	31.0	8.0	7.2	6.4								
	45	49.0	34.8	9.0	8.1	7.2								
	50	44.1	38.7	10.0	9.0	8.0								
	55	40.1	42.6	11.0	9.9	8.8								
	60	36.8	46.4	12.0	10.8	9.6								
	65	33.9	50.3	13.0	11.7	10.4								
	70	31.5	54.2	14.0	12.6	11.2								
	75	29.4	58.1	15.0	13.5	12.0								
80	27.6	61.9	16.0	14.4	12.8									
	90	24.4	69.6	18.0	16.2	14.4								
	15	190	11.5	3.0	2.7	2.4								
	20	142	15.5	4.0	3.6	3.2								
	25	114	19.4	5.0	4.5	4.0								
	30	94.8	23.2	6.0	5.4	4.8								
	35	81.3	27.1	7.0	6.3	5.6								
	40	71.1	31.0	8.0	7.2	6.4								
	45	63.2	34.8	9.0	8.1	7.2								
	50	56.9	38.7	10.0	9.0	8.0								
	55	51.7	42.6	11.0	9.9	8.8								
12	60	47.4	46.4	12.0	10.8	9.6	569	512	455					
	65	43.8	50.3	13.0	11.7	10.4								
	70	40.6	54.2	14.0	12.6	11.2								
	75	37.9	58.1	15.0	13.5	12.0								
	80	35.6	61.9	16.0	14.4	12.8								
	20	184	15.5	4.0	3.6	3.2								
	25	147	19.4	5.0	4.5	4.0								
	30	123	23.2	6.0	5.4	4.8								
	35	105	27.1	7.0	6.3	5.6								
	40	92.0	31.0	8.0	7.2	6.4								
14	45	81.8	34.8	9.0	8.1	7.2	736	662	589					
	20	184	15.5	4.0	3.6	3.2								
	25	147	19.4	5.0	4.5	4.0								
	30	123	23.2	6.0	5.4	4.8								
	35	105	27.1	7.0	6.3	5.6								
	40	92.0	31.0	8.0	7.2	6.4								
	45	81.8	34.8	9.0	8.1	7.2								
	15	221	7.6	2.0	1.8	1.6								
	20	147	11.5	3.0	2.7	2.4								
	25	110	15.5	4.0	3.6	3.2								
	30	81.3	27.1	7.0	6.3	5.6								
	35	63.0	34.8	9.0	8.1	7.2								
	40	55.1	31.0	8.0	7.2	6.4								
	45	49.0	34.8	9.0	8.1	7.2								
18	50	49.0	34.8	9.0	8.1	7.2								
	55	44.1	38.7	10.0	9.0	8.0								
	60	40.1	42.6	11.0	9.9	8.8								
	65	36.8	46.4	12.0	10.8	9.6								
	70	33.9	50.3	13.0	11.7	10.4								
	75	31.5	54.2	14.0	12.6	11.2								
	80	29.4	58.1	15.0	13.5	12.0								
	85	27.6	61.9	16.0	14.4	12.8								
	90	24.4	69.6	18.0	16.2	14.4								
	100	61.3	77.4	20.0	18.0	16.0								
20	25	314	19.4	5.0	4.5	4.0								
	30	261	23.2	6.0	5.4	4.8								
	35	224	27.1	7.0	6.3	5.6								
	40	196	31.0	8.0	7.2	6.4								
	45	174	34.8	9.0	8.1	7.2								
	50	157	38.7	10.0	9.0	8.0								
	55	143	42.6	11.0	9.9	8.8								
	60	131	46.4	12.0	10.8	9.6								
	65	121	50.3	13.0	11.7	10.4								
	70	112	54.2	14.0	12.6	11.2								

Part Number			Inner Dia. d	Spring Constant N/mm	a	Usage Method				
Code	D	L				Solid Height Fmm	0.3 million times F=L*20% Load N	0.5 million times F=L*18% Fmm	Load N	1 million times F=L*16% Fmm
25	12.5	25	481	19.0	5.0	4.5	4.0			
		30	400	22.8	6.0	5.4	4.8			
		35	343	26.6	7.0	6.3	5.6			
		40	300	30.4	8.0	7.2	6.4			
		45	267	34.2	9.0	8.1	7.2			
		50	240	38.0	10.0	9.0	8.0			
		55	218	41.8	11.0	9.9	8.8			
		60	200	45.6	12.0	10.8	9.6			
		65	185	49.4	13.0	11.7	10.4			
		70	172	53.2	14.0	12.6	11.2			
		75	160	57.0	15.0	13.5	12.0			
		80	150	60.8	16.0	14.4	12.8			
		90	133	68.4	18.0	16.2	14.4			
100	120	76.0	20.0	18.0	16.0					
30	15	25	706	19.0	5.0	4.5	4.0			
		30	588	22.8	6.0	5.4	4.8			
		35	504	26.6	7.0	6.3	5.6			
		40	441	30.4	8.0	7.2	6.4			
		45	392	34.2	9.0	8.1	7.2			
		50	353	38.0	10.0	9.0	8.0			
		55	321	41.8	11.0	9.9	8.8			
		60	294	45.6	12.0	10.8	9.6			
		65	272	49.4	13.0	11.7	10.4			
		70	252	53.2	14.0	12.6	11.2			
		75	235	57.0	15.0	13.5	12.0			
		80	221	60.8	16.0	14.4	12.8			
		90	196	68.4	18.0	16.2	14.4			
100	177	76.0	20.0	18.0	16.0					
35	17.5	40	600	31.0	8.0	7.2	6.4			
		45	534	34.8	9.0	8.1	7.2			
		50	480	38.7	10.0	9.0	8.0			
		55	437	42.6	11.0	9.9	8.8			
		60	400	46.4	12.0	10.8	9.6			
		65	369	50.3	13.0	11.7	10.4			
		70	343	54.2	14.0	12.6	11.2			
		75	320	58.1	15.0	13.5	12.0			
		80	300	61.9	16.0	14.4	12.8			
		90	267	69.7	18.0	16.2	14.4			
		100	240	77.4	20.0	18.0	16.0			
		40	784	31.0	8.0	7.2	6.4			
		50	627	38.7	10.0	9.0	8.0			
60	523	46.4	12.0	10.8	9.6					
40	20	70	448	54.2	14.0	12.6	11.2	5018		
		80	392	61.9	16.0	14.4	12.8			
		90	348	69.7	18.0	16.2	14.4			
		100	314	77.4	20.0	18.0	16.0			



Part Number				d
Code	D	L		
YSWB	6	15	20	3

YSWB-D6-L15



Discount price	
Per	1~19 20~
Price	100% Additional quotation



Delivery	
	8

Ultra High Deflection Coil Spring

◀ Allowable Deflection=L×65%(Light Green)

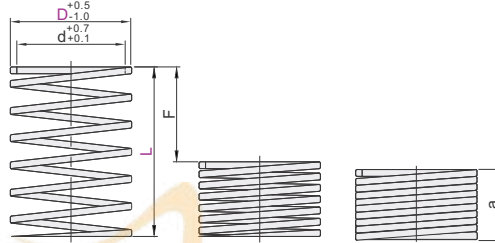


Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWY	Ultra High Deflection Coil Spring	60Si2CrA	SWOSC-V	L×65%

□ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.5%

- Ⓛ Load(±10%).
- Ⓛ Perpendicularity (3° or Less).
- Ⓛ Load (N): Spring Constant (N/mm) × Deflection(Fmm)
- Ⓛ Heat resistant temperature is 150 °C.
- Ⓛ 1kgf=9.81N.
- Ⓛ The compression length is the reference value, and there will be a little difference in the production.
- Ⓛ The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



Part Number				Spring constant N/mm	a	Usage Method F=L×65%			Part Number				Spring constant N/mm	a	Usage Method F=L×65%		
Code	D	L	Inner Dia. d			Solid Height	Fmm	Load N	Code	D	L	Inner Dia. d			Solid Height	Fmm	Load N
YSWY	11	20	7	2.26	5	13.0	29.4	20.5	13.5	60	2.84	15	39.0	109.3			
		25	1.81	6.3	16.3	65				2.55	16.25	42.3					
		30	1.51	7.5	19.5	70				2.35	17.5	45.5					
		35	1.29	8.8	22.8	75				2.26	18.75	48.8					
		40	1.13	10	26.0	80				2.06	20	52.0					
		45	1.01	11.3	29.3	90				1.86	22.5	58.5					
		50	0.91	12.5	32.5	100				1.67	25	65.0					
		55	0.82	13.8	35.8	110				1.57	27.5	71.5					
		60	0.75	15	39.0	120				1.37	30	78.0					
		65	0.70	16.3	42.3	125				1.34	31.25	81.3					
	12.5	8.5	20	8.5	2.46	6.25	16.3	40.2	24.5	16.5	30	5.98	8.75	22.8	136.6		
			25	2.06	7.5	19.5	35				5.29	10	26.0				
			30	1.76	8.75	22.8	40				4.70	11.25	29.3				
			35	1.54	10	26.0	45				4.21	12.5	32.5				
			40	1.37	11.25	29.3	50				3.82	13.75	35.8				
			45	1.23	12.5	32.5	55				3.53	15	39.0				
			50	1.12	13.75	35.8	60				3.23	16.25	42.3				
			55	1.03	15	39.0	65				3.04	17.5	45.5				
			60	0.95	16.25	42.3	70				2.84	18.75	48.8				
			65	0.88	17.5	45.5	75				2.55	20	52.0				
16.5	10.5	20	10.5	2.77	20	52.0	91.1	30	21	35	8.79	8.8	22.8	200.3			
		25	2.06	7.5	19.5	40				7.74	10	26.0					
		30	1.76	8.75	22.8	45				6.86	11.25	29.3					
		35	1.54	10	26.0	50				6.17	12.5	32.5					
		40	1.37	11.25	29.3	55				5.59	13.75	35.8					
		45	1.23	12.5	32.5	60				5.10	15	39.0					
		50	1.12	13.75	35.8	65				4.70	16.25	42.3					
		55	1.03	15	39.0	70				4.41	17.5	45.5					
		60	0.95	16.25	42.3	75				4.12	18.75	48.8					
		65	0.88	17.5	45.5	80				3.82	20	52.0					
20.5	13.5	20	13.5	3.14	11.25	29.3	109.3	37	26	80	3.43	22.5	58.5	294.2			
		25	2.84	12.5	32.5	90				2.84	25	65.0					
		30	2.55	13.75	35.8	100				2.49	27.5	71.5					
		35	2.35	15	39.0	110				2.06	25	65.0					
		40	2.16	16.25	42.3	120				1.86	27.5	71.5					
		45	1.96	17.5	45.5	125				1.76	30	78.0					
		50	1.86	18.75	48.8	130				1.67	32.5	84.5					
		55	1.76	20	52.0	135				1.57	35	91.0					
		60	1.57	22.5	58.5	140				1.48	37.5	97.5					
		65	1.37	25	65.0	145				1.39	40	104.0					
24.5	16.5	20	16.5	3.53	13.75	35.8	136.6	42	31	80	3.23	16.25	42.3	392.3			
		25	3.04	15	39.0	90				2.84	17.5	45.5					
		30	2.77	16.25	42.3	100				2.49	18.75	48.8					
		35	2.55	17.5	45.5	110				2.16	20	52.0					
		40	2.35	18.75	48.8	120				1.86	22.5	58.5					
		45	2.16	20	52.0	130				1.67	25	65.0					
		50	1.96	22.5	58.5	140				1.57	27.5	71.5					
		55	1.76	25	65.0	150				1.48	30	78.0					
		60	1.57	27.5	71.5	160				1.39	32.5	84.5					
		65	1.37	30	78.0	170				1.30	35	91.0					

Springs Gas Springs C4



Part Number			
Code	D	L	d
YSWY	11	20	7
		25	
		30	

YSWY—D11—L20



Discount price			
Per	1~19	20~	Additional quotation
Price	100%		



Delivery	
8	

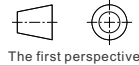
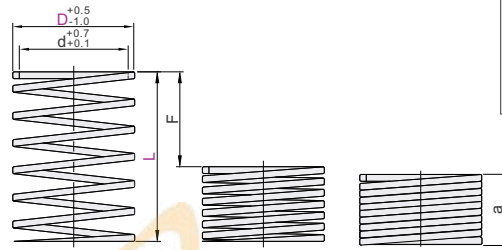


Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWU	Super High Deflection Coil Spring	60Si2CrA	SWOSC-V	L×60%

□ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.5%

- Ⓛ Load(±10%).
- Ⓛ Perpendicularity (3° or Less).
- Ⓛ Load (N): Spring Constant (N / mm) × Deflection(Fmm)
- Ⓛ Heat resistant temperature is 150 °C.
- Ⓛ 1kgf=9.81N.
- Ⓛ The compression length is the reference value, and there will be a little difference in the production.
- Ⓛ The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



Part Number	Inner Dia. d	Spring Constant N/mm	a	Usage Method	
				F=L×60%	Load N
15	6.0	7.63	4.5	9	68.6
20		5.68	6	12	
25		4.61	7.5	15	
30		3.82	9	18	
35		3.23	10.5	21	
40		2.84	12	24	
45		2.55	13.5	27	
50		2.25	15	30	
55		2.06	16.5	33	
60		1.86	18	36	
65	1.76	19.5	39		
70	1.67	21	42		
75	1.57	22.5	45		
80	1.47	24	48		
15	7.0	8.72	4.5	9	78.4
20		6.54	6	12	
25		5.22	7.5	15	
30		4.35	9	18	
35		3.73	10.5	21	
40		3.26	12	24	
45		2.90	13.5	27	
50		2.62	15	30	
55		2.37	16.5	33	
60		2.18	18	36	
65	2.01	19.5	39		
70	1.86	21	42		
75	1.74	22.5	45		
80	1.64	24	48		
90	1.45	27	54		
100	1.31	30	60		
15	8.5	10.90	4.5	9	98.1
20		8.13	6	12	
25		6.57	7.5	15	
30		5.49	9	18	
35		4.70	10.5	21	
40		4.12	12	24	
45		3.62	13.5	27	
50		3.23	15	30	
55		2.94	16.5	33	
60		2.74	18	36	
65	2.55	19.5	39		
70	2.35	21	42		
75	2.15	22.5	45		
80	2.05	24	48		
90	1.86	27	54		
100	1.66	30	60		
110	1.49	33	66		
120	1.36	36	72		
125	1.27	37.5	75		
150	1.09	45	90		
17	10.5	12.26	6	12	147.0
20		9.80	7.5	15	
25		7.5	9	18	
30	10.5	8.13	9	18	147.0
35		6.96	10.5	21	
40		6.17	12	24	
45		5.49	13.5	27	
50		4.90	15	30	
55		4.41	16.5	33	
60		4.11	18	36	
65		3.72	19.5	39	
70		3.53	21	42	
75		3.23	22.5	45	
80	3.04	24	48		
90	2.74	27	54		
100	2.45	30	60		
25	13.5	15.04	7.5	15	225.6
30		12.55	9	18	
35		10.78	10.5	21	
40		9.41	12	24	
45		8.33	13.5	27	
50		7.64	15	30	
55		6.86	16.5	33	
60		6.27	18	36	
65		5.78	19.5	39	
70		5.39	21	42	
75	5.00	22.5	45		
80	4.70	24	48		
90	4.21	27	54		
100	3.72	30	60		
30	16.5	16.37	9	18	294.2
35		14.02	10.5	21	
40		12.25	12	24	
45		10.88	13.5	27	
50		9.80	15	30	
55		8.92	16.5	33	
60		8.13	18	36	
65		7.55	19.5	39	
70		6.96	21	42	
75		6.57	22.5	45	
80	6.17	24	48		
90	5.49	27	54		
100	4.90	30	60		
35	21	17.75	10.5	21	372.7
40		15.49	12	24	
45		13.82	13.5	27	
50		12.45	15	30	
55		11.29	16.5	33	
60		10.39	18	36	
65		9.56	19.5	39	
70		8.82	21	42	
75		8.28	22.5	45	
80		7.74	24	48	
90	6.86	27	54		
100	6.17	30	60		



Part Number				d
Code	D	L		
YSWU	10.5	15		6
		20		
		25		

YSWU — D10.5 — L15



Discount price	
Per	1~19 20~
Price	100% Additional quotation



Delivery	
	8

High Deflection Coil Spring

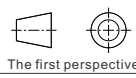
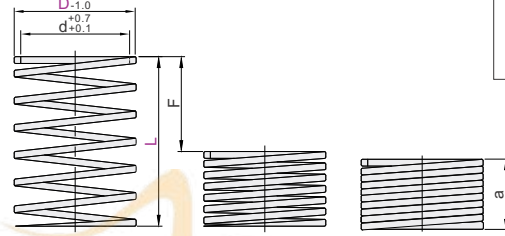
◀ Allowable Deflection = L×50%(Ivory)

Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWR	High Deflection Coil Spring	60Si2CrA	SWOSC-V	L×50%

□ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.5%

- ① Load(±10%).
- ① Perpendicularity (3° or Less).
- ① Load (N): Spring Constant (N / mm) × Deflection(Fmm)
- ① Heat resistant temperature is 150 °C.
- ① 1kgf=9.81N.
- ① The compression length is the reference value, and there will be a little difference in the production.
- ① The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



Part Number				Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method F=L×50%		Part Number				Inner Dia. d	Spring Constant N/mm	a Solid Height	Usage Method F=L×50%	
Code	D	L	Fmm				Load N	Code	D	L	Fmm	Load N				Code	D
YSWR	10.5	6.0	15	10.46	6	7.5	78.5	17	10.5	45	8.72	18	22.5	196.1			
			20	7.84	8	10.0				50	7.84	20	25.0				
			25	6.27	10	12.5				55	7.15	22	27.5				
			30	5.19	12	15.0				60	6.57	24	30.0				
			35	4.50	14	17.5				65	6.08	26	32.5				
			40	3.92	16	20.0				70	5.58	28	35.0				
			45	3.53	18	22.5				75	5.19	30	37.5				
			50	3.14	20	25.0				80	4.90	32	40.0				
			55	2.84	22	27.5				90	4.31	36	45.0				
			60	2.65	24	30.0				100	3.92	40	50.0				
	12.5	7.0	15	11.77	6	7.5	88.2	21	13.5	25	23.54	10	12.5	294.1			
			20	8.82	8	10.0				30	19.61	12	15.0				
			25	7.06	10	12.5				35	16.76	14	17.5				
			30	5.88	12	15.0				40	14.70	16	20.0				
			35	5.04	14	17.5				45	13.04	18	22.5				
			40	4.41	16	20.0				50	11.76	20	25.0				
			45	3.92	18	22.5				55	10.68	22	27.5				
			50	3.53	20	25.0				60	9.80	24	30.0				
			55	3.20	22	27.5				65	9.02	26	32.5				
			60	2.94	24	30.0				70	8.43	28	35.0				
14.5	8.5	15	17.00	6	7.5	127.5	26	16.5	75	7.84	30	37.5	392.3				
		20	12.70	8	10.0				80	7.35	32	40.0					
		25	10.19	10	12.5				90	6.57	36	45.0					
		30	8.53	12	15.0				100	5.88	40	50.0					
		35	7.25	14	17.5				25	31.38	10	12.5					
		40	6.37	16	20.0				30	26.18	12	15.0					
		45	5.68	18	22.5				35	22.45	14	17.5					
		50	5.09	20	25.0				40	19.61	16	20.0					
		55	4.60	22	27.5				45	17.45	18	22.5					
		60	4.21	24	30.0				50	15.69	20	25.0					
17	10.5	15	19.61	8	10.0	196.1	31	21	55	14.21	22	27.5	490.3				
		20	15.69	10	12.5				60	13.04	24	30.0					
		25	13.04	12	15.0				65	12.06	26	32.5					
		30	11.17	14	17.5				70	11.17	28	35.0					
		35	11.17	14	17.5				75	10.49	30	37.5					
		40	9.80	16	20.0				80	9.80	32	40.0					
									90	8.72	36	45.0					
									100	7.84	40	50.0					
									35	28.02	14	17.5					
									40	24.51	16	20.0					

Spring Gas Springs C4

Part Number

Code	D	L	d
YSWR	10.5	15	6.0
		20	
		25	

YSWR—D10.5—L15

Discount price

Per	1~19	20~
Price	100%	Additional quotation

Delivery

8

Medium Deflection Coil Spring

◀ Allowable Deflection = L×40%(Orange)

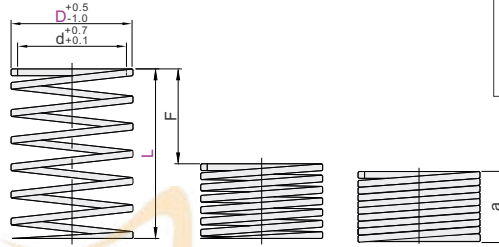


Code	Type	Material		Maximum Allowable Deflection
		GB	Equiv.	
YSWS	Medium Deflection Coil Spring	60Si2CrA	SWOSC-V	L×40%

□ L Dimensional Tolerance

L	Tol.
50 or Less	±0.5
50 or More	±1.5%

- ① Load(±10%).
- ① Perpendicularity (3° or Less).
- ① Load (N): Spring Constant (N / mm) × Deflection(Fmm)
- ① Heat resistant temperature is 150 °C.
- ① 1kgf=9.81N.
- ① The compression length is the reference value, and there will be a little difference in the production.
- ① The spring color and number of turns may vary depending on the production batch. But the performance of the product meets the standard and does not affect the use.



Part Number			Inner Dia. d	Spring Constant N/mm	a		Usage Method F=L×40%	Part Number			Inner Dia. d	Spring Constant N/mm (kgf/mm)	a		Usage Method F=L×40%
Code	D	L			Solid Height	Fmm		Load N	Code	D			L	Solid Height	
YSWS	10.5	20	5.5	10.90	10	8	87.2	17	10.5	25	29.41	12.5	10	294.2	
		25		8.72	12.5	10				30	24.51	15	12		
		30		7.26	15	12				35	20.98	17.5	14		
		35		6.23	17.5	14				40	18.43	20	16		
		40		5.45	20	16				45	16.37	22.5	18		
		45		4.84	22.5	18				50	14.70	25	20		
		50		4.36	25	20				55	13.33	27.5	22		
		55		3.96	27.5	22				60	12.25	30	24		
		60		3.63	30	24				65	11.27	32.5	26		
		65		3.35	32.5	26				70	10.49	35	28		
		70		3.11	35	28				75	9.80	37.5	30		
		75		2.91	37.5	30				80	9.21	40	32		
		80		2.72	40	32				90	8.13	45	36		
		20		15.25	10	8				100	7.35	50	40		
		25		12.20	12.5	10				30	35.10	15	12		
		30		10.17	15	12				35	30.10	17.5	14		
35	8.72	17.5	14	40	26.37	20	16								
40	7.63	20	16	45	23.43	22.5	18								
45	6.78	22.5	18	50	21.08	25	20								
50	6.10	25	20	55	19.12	27.5	22								
55	5.55	27.5	22	60	17.55	30	24								
60	5.08	30	24	65	16.18	32.5	26								
65	4.69	32.5	26	70	15.10	35	28								
70	4.36	35	28	75	14.02	37.5	30								
75	4.07	37.5	30	80	13.14	40	32								
80	3.81	40	32	90	11.66	45	36								
20	24.51	10	8	100	10.59	50	40								
25	19.61	12.5	10	30	47.36	15	12								
30	16.37	15	12	35	40.59	17.5	14								
35	14.02	17.5	14	40	35.59	20	16								
40	12.25	20	16	45	31.57	22.5	18								
45	10.88	22.5	18	50	28.43	25	20								
50	9.80	25	20	55	25.88	27.5	22								
55	8.92	27.5	22	60	23.63	30	24								
60	8.13	30	24	65	21.86	32.5	26								
65	7.55	32.5	26	70	20.29	35	28								
70	6.96	35	28	75	18.92	37.5	30								
75	6.57	37.5	30	80	17.75	40	32								
80	6.17	40	32	90	15.78	45	36								
90	5.49	45	36	100	14.21	50	40								

Springs Gas Springs C4



Part Number			
Code	D	L	d
YSWS	10.5	20	5.5
		25	
		30	

YSWS—D10.5—L20

Discount price

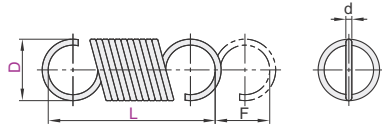
Per	1~9	10~
Price	100%	Additional quotation

Delivery

8

Tension Springs ◀ Extra Light Load

Code	Type	Material		Surface Treatment	Hook Opposing Angle
		GB	Equiv.		
YAUA	Extra Light Load	0Cr18Ni9	SUS304-WPB	—	180°



Code	Part Number		Wire Dia. d	Dynamic Load		Initial Tension (N)	Springs Constant N/mm
	D	L		Max. Deflection Fmax.	Max. Load N		
YAUA	2	10	0.2	6.7	0.69	0.13	0.083
		15		11.8			0.047
		20		17.2			0.032
		25		22.8			0.025
		30		28.5			0.02
		40		34.2			0.015
	4	15	0.35	14.6	2.26	0.25	0.14
		20		24.1			0.083
		25		32.5			0.062
		30		42.7			0.047
		35		51.2			0.039
		40		60.3			0.033
6	20	0.55	16.2	6.08	0.64	0.34	
	25		25.2			0.22	
	30		34.7			0.16	
	35		42.7			0.13	
	40		50.4			0.11	
	45		61.6			0.088	
8	50	0.7	69.3	8.53	1.08	0.079	
	55		79.3			0.069	
	60		85.3			0.064	
	25		18.1			0.41	
	30		27.1			0.28	
	35		36.2			0.21	
10	40	0.9	44.7	10.8	2.06	0.17	
	45		54.2			0.14	
	50		63.3			0.12	
	55		69			0.11	
	60		80			0.093	
	65		89.4			0.083	
12	70	1.1	95	19.6	2.94	0.078	
	30		13.4			0.65	
	35		18.5			0.47	
	40		24			0.36	
	45		29.6			0.29	
	50		35.6			0.25	
100	55	1.1	42.3	10.8	2.06	0.21	
	60		46.8			0.19	
	70		59.3			0.15	
	80		68.4			0.13	
	90		80.9			0.11	
	100		93.6			0.093	
12	35	1.1	17.8	19.6	2.94	0.94	
	40		25			0.67	
	45		31			0.54	
	50		37.7			0.44	
	55		44.7			0.37	
	60		51.5			0.32	
12	70	1.1	65.3	19.6	2.94	0.26	
	80		77.2			0.22	
	90		94.4			0.18	
	100		106.2			0.16	

□ Initial tension and spring constant are for reference only.
 Load {kgf} = Load Nx0.101972.



Part Number				d
Code	D	L		
YAUA	2	10		0.2
		15		

YAUA - D2 - L10

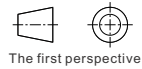
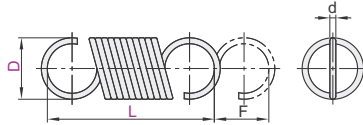


Per Price	Discount price	
	1~19	20~
100%	Additional quotation	



Light Load ▶ Tension Springs

Code	Type	Material		Surface Treatment	Hook Opposing Angle
		GB	Equiv.		
YAUY	Light Load	0Cr18Ni9	SUS304-WPB	—	180°



The first perspective

Part Number							Part Number										
Code	D	L	Wire Dia. d	Dynamic Load Max. Deflection Fmax.	Max. Load N	Initial Tension (N)	Springs Constant N/mm	Code	D	L	Wire Dia. d	Dynamic Load Max. Deflection Fmax.	Max. Load N	Initial Tension (N)	Springs Constant N/mm		
YAUY	2	10	0.25	5.7	1.86	0.34	0.27	12	1.2	35	1.2	22	31.37	5.39	1.18		
		15		10.3			0.15					40			27.8	0.93	
		20		14			0.11					45			35.3	0.74	
		25		18.2			0.08					50			42	0.62	
		30		22.1			0.07					55			50	0.52	
	4	15	0.4	10	3.24	0.59	0.26	14	1.5	60	1.5	1.5	55.2	38.24	8.43	0.47	
		20		16.8			0.16						65			63	0.41
		25		22.5			0.12						70			69.7	0.37
		30		28.4			0.09						75			77.9	0.33
		35		33.7			0.08						80			82.8	0.31
	6	40	0.6	38.5	8.14	1.27	0.07	16	1.7	70	1.7	1.7	91.3	43.15	9.12	0.29	
		20		14			0.49						75			106	0.25
		25		21.2			0.32						80			15.4	1.94
		30		28			0.25						85			21	1.42
		35		35			0.2						90			25.4	1.17
	8	40	0.8	41.1	12.75	2.35	0.17	18	1.9	80	1.9	1.9	30.8	49.6	0.69	0.97	
		45		50			0.14						85			37	0.8
		50		53.8			0.13						90			43.2	0.69
		55		63.6			0.11						95			46.2	0.64
		60		70			0.1						100			52.8	0.56
	10	25	1	15.1	15	3.73	0.69	20	2.0	90	2.0	2.0	68.1	60.9	0.56	0.43	
		30		21.2			0.49						95			76.4	0.39
		35		26.5			0.39						100			76.4	0.39
		40		33.1			0.31						45			15.8	2.16
		45		39.2			0.26						50			21	1.62
	12	50	1.2	46	15	3.73	0.23	22	2.2	100	2.2	2.2	25.7	69.4	0.49	1.32	
		55		48.1			0.22						55			25.7	1.08
		60		53			0.2						60			31.5	0.95
		65		58.8			0.18						65			35.8	0.83
		70		66.2			0.16						70			40.8	0.74
	14	30	1.4	11.5	15	3.73	0.98	24	2.4	100	2.4	2.4	46.3	69.4	0.49	0.69	
		35		15.3			0.74						80			49.6	0.69
		40		19.8			0.57						85			60.9	0.56
		45		23.9			0.47						90			60.9	0.56
		50		28.7			0.39						95			69.4	0.49

Initial tension and spring constant are for reference only.
Load (kgf) = Load N x 0.101972.



Please order as shown

Part Number		
Code	D	L
YAUY	2	10
	2	15

YAUY - D2 - L10



Discount price	
Per	1~19 20~
Price	100% Additional quotation

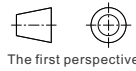
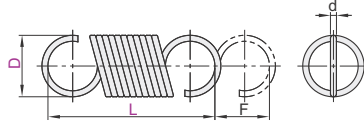


Delivery
6

Springs Gas Springs C4

Medium Light Load ▶ Tension Springs

Code	Type	Material		Surface Treatment	Hook Opposing Angle
		GB	Equiv.		
YAUU	Medium Light Load	0Cr18Ni9	SUS304-WPB	—	180°



Part Number			Wire Dia. d	Dynamic Load		Initial Tension (N)	Springs Constant N/mm	Part Number			Wire Dia. d	Dynamic Load		Initial Tension (N)	Springs Constant N/mm			
Code	D	L		Max. Deflection Fmax.	Max. Load N			Code	D	L		Max. Deflection Fmax.	Max. Load N					
YAUU	2	10	0.28	4	2.45	0.49	0.49	12	1.4	47.7	10.49	35	11.7		3.14			
		15		6.7								40	15.5		2.35			
		20		10								45	19.6		1.86			
	4	25	0.45	13.3	4.81	0.98	0.15	0.15	14	1.6	58.84	13.73	50	23.3		1.57		
		15		7.5									55	28.7		1.27		
		20		12.2									60	32.4		1.13		
		25		16.9									65	37.3		0.98		
		30		21.7									70	41.4		0.88		
		35		26									75	44.9		0.81		
		40		30									80	49.7		0.74		
	6	20	0.7	9.6	12.94	1.67	1.18	1.18	16	1.9	70.61	16.67	90	57.4		0.64		
		25		14.4									100	65.4		0.56		
		30		20.2									40	12.8		3.53		
		35		28.8									45	16.7		2.7		
		40		30.3									50	21		2.16		
		45		34.8									55	25.5		1.77		
		50		41.1									60	28.7		1.57		
	8	55	0.9	44.2	18.63	3.92	0.25	0.25	18	2.1	23.24	4.71	65	32.8		1.37		
		60		50									0.23	0.23	70	38.3		1.18
		65		50									0.23	0.23	75	41.8		1.08
		70		10									1.47	1.47	80	46		0.98
		75		14.3									1.03	1.03	90	54.1		0.83
		80		18.8									0.78	0.78	100	61.3		0.74
		85		23.8									0.62	0.62	45	13.7		3.92
	10	90	1.1	28.3	18.63	3.92	0.52	0.52	20	2.45	23.24	4.71	50	17.7		3.04		
		95		32.6									0.45	0.45	55	22		2.45
		100		37.5									0.39	0.39	60	26		2.06
		105		41.7									0.35	0.35	65	30.5		1.77
110		46.9		0.31									0.31	70	34.3		1.57	
115		50		0.29									0.29	75	39.2		1.37	
120		50		0.29									0.29	80	42.3		1.27	
12	125	1.1	9.9	23.24	4.71	1.87	1.87	22	2.45	23.24	4.71	90	50		1.08			
	130		14									1.32	1.32	100	57.8		0.93	
	135		18									1.03	1.03					
	140		22.2									0.83	0.83					
	145		26.3									0.71	0.71					
	150		31.5									0.59	0.59					
	155		35.7									0.48	0.48					

Initial tension and spring constant are for reference only.
Load {kgf} = Load Nx0.101972.



Part Number		
Code	D	L
YAUU	2	10
YAUU - D2 - L10		



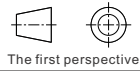
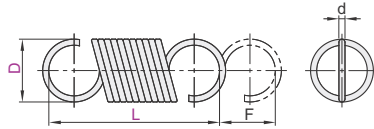
Discount price	
Per	Additional quotation
1~19	20~
Price 100%	

Delivery	
6	

Springs
Gas Springs
C4

Tension Springs ← Medium Load

Code	Type	Material		Surface Treatment	Hook Opposing Angle
		GB	Equiv.		
YAUS	Medium Load	0Cr18Ni9	SUS304	—	180°



Part Number			Wire Dia. d	Dynamic Load		Initial Tension (N)	Springs Constant N/mm	Part Number			Wire Dia. d	Dynamic Load		Initial Tension (N)	Springs Constant N/mm				
Code	D	L		Max. Deflection Fmax.	Max. Load N			Code	D	L		Max. Deflection Fmax.	Max. Load N						
YAUS	2	10	3.8	3.53	0.69	0.75	12	35	8.5	62.76	1.6	62.76	14.71	5.69					
		15	6.7			40		11.8	4.12										
		20	9.6			45		14.3	3.33										
		25	12.6			50		16.8	2.84										
		15	6.5			55		19.3	2.45										
	4	20	10.2	0.49	6.37	1.18		60	22.3			14		40	10.2	1.8	74.53	16.67	2.16
		25	13.9	0.39				65	24.5					65	24.5		1.96		
		30	17.5	0.29				70	27.2					70	27.2		1.77		
		35	20.3	0.26				75	28.8					75	28.8		1.67		
		40	24.0	0.22				80	32.7					80	32.7		1.47		
	6	20	6.7	2.06	17.26	3.53		90	36.3			16		40	10.2	2.0	86.3	19.61	5.69
		25	9.3	1.47				45	13.1					45	13.1		4.41		
		30	12.7	1.08				50	16.4					50	16.4		3.53		
		35	15.6	0.88				55	19.7					55	19.7		2.94		
		40	18.7	0.69				60	21.1					60	21.1		2.75		
	8	45	20.6	0.68	24.52	4.9		65	24.6			16		65	24.6	2.0	86.3	19.61	2.35
		50	24.5	0.57				70	27.6					70	27.6		2.06		
		55	25.0	0.50				75	31.1					75	31.1		1.86		
		60	29.7	0.47				80	32.8					80	32.8		1.77		
		25	9.1	2.16				85	37.5					85	37.5		1.60		
10	30	12.5	1.57	30.99	5.49	90	42.8	16	90	42.8	2.0	86.3	19.61	1.40					
	35	15.4	1.27			45	11.7		45	11.7		5.69							
	40	19.2	0.98			50	15.1		50	15.1		4.41							
	45	22.2	0.88			55	17.4		55	17.4		3.82							
	50	25.0	0.78			60	21.3		60	21.3		3.14							
12	55	28.6	0.55	24.52	4.9	65	23.4	16	65	23.4	2.0	86.3	19.61	2.84					
	60	33.3	0.60			70	26.8		70	26.8		2.45							
	65	36.3	0.55			75	29.6		75	29.6		2.26							
	70	40.0	0.50			80	32.7		80	32.7		2.10							
	75	43.3	0.60			85	37.8		85	37.8		1.77							
14	80	47.2	0.55	30.99	5.49	90	45.3	16	90	45.3	2.0	86.3	19.61	1.47					
	85	43.3	0.60			100	45.3		100	45.3		1.47							

Initial tension and spring constant are for reference only.
Load (kgf) = Load (N) x 0.101972.

Gas Springs
C4



Part Number				d
Code	D	L		
YAUS	8	30		1.0

YAUS-D8-L25



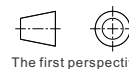
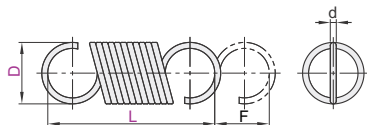
Discount price	
Per	1~19 20~
Price	100% Additional quotation



Delivery	
	6

Heavy Load ▶ Tension Springs

Code	Type	Material		Surface Treatment	Hook Opposing Angle
		GB	Equiv.		
YAUT	Heavy Load	0Cr18Ni9	SUS304-WPB	—	180°



Code	Part Number		Wire Dia. d	Dynamic Load		Initial Tension (N)	Springs Constant N/mm
	D	L		Max. Deflection Fmax.	Max. Load N		
YAUT	4	15	0.6	4.0	11.1	2.55	2.16
		20		6.4			1.37
		25		8.4			0.98
		30		10.9			0.78
		35		12.4			0.69
	40	15.0	0.57				
	6	20	1.0	3.7	33.15	8.6	6.57
		25		5.3			4.61
		30		6.9			3.53
		35		8.3			2.94
		40		10.0			2.45
		45		10.8			2.27
		50		12.5			1.96
		55		14.3			1.71
	8	60	1.2	15.6	41.19	9.81	1.57
		25		5.3			5.88
		30		7.3			4.31
		35		9.1			3.43
		40		11.9			2.65
		45		13.6			2.35
		50		15.5			2.06
		55		16.8			1.87
		60		18.8			1.67
		65		20.6			1.52
	10	70	1.6	22.8	77.47	20.59	1.38
		30		5.2			10.89
		35		6.8			8.34
		40		8.4			6.77
		45		10.0			5.69
		50		11.6			4.90
		55		13.2			4.31
		60		15.2			3.73
		65		17.0			3.35
		70		19.3			2.95
		75		20.7			2.75
		80		24.1			2.36
	90	26.3	2.16				
	100	29.0	1.96				
	12	40	2.0	6.6	120.62	34.3	13.04
		45		7.7			11.18
50		9.4		9.22			
55		10.5		8.24			
60		12.1		7.16			
65		13.1		6.57			
70		14.9		5.79			
75		16.0		5.39			
80	17.6	4.90					
90	19.1	4.52					
100	22.0	3.92					

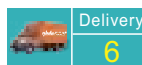


Part Number				d
Code	D	L		
YAUT	12	90	100	2.0

YAUT — D12 — L90



Discount price	
Per	1~19 20~
Price	100% Additional quotation



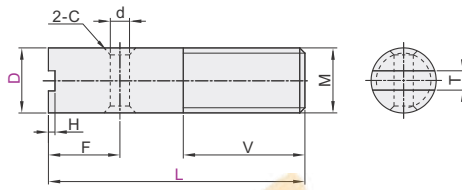
Posts for Tension Springs ◀ Hole

□ Straight

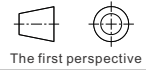
Code	Type	Material		Surface Treatment	Accessories (Material)
		GB	Equiv.		
FFC11	Straight	0Cr18Ni9	SUS304	—	Nut 1 pc. (SUS304)

□ With () L size table (V Value)

Code	D-L	V
FFC11	3-10	5
	5-15	8
	6-20	12
	8-20	11
	8-25	16
	10-30	17



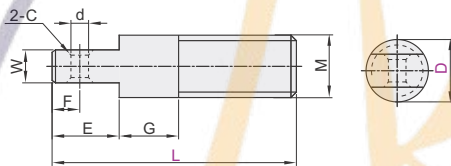
12.5°



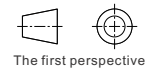
Part Number	D	L						M	V	F	H	T	d	C
FFC11	3	(10)	15	20	25	30	40	M3	10	3	1.0	1.2	1.5	0.2
	4	15	20	25	30	40	M4	0.3						
	5	(15)	20	25	30	40	M5	5	2.0	2.0	0.4			
	6	(20)	25	30	40	45	M6	16	6	3.0	1.0			
	8	(20)	(25)	30	40	45	M8	20	7	4.0	1.2			
	10	(30)	40	45	M10	25	9	2.5	4.0	1.2				
	12	40	M12	20	1.8	6.0	1.4							

□ Wrench Flats

Code	Type	Material		Surface Treatment	Accessories (Material)
		GB	Equiv.		
FFD11	Wrench Flats	0Cr18Ni9	SUS304	—	Nut 1 pc. (SUS304)



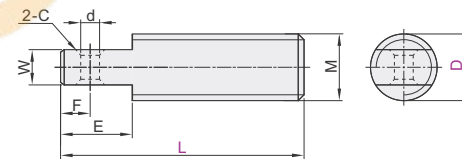
12.5°



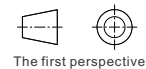
Part Number	D	L						M	d	W	G	E	F	C	
FFD11	3	15	20	25	30		M3	1.5	1.5	3	3.0	1.5	0.2		
	4	15	20	25	30	35	M4		2.5	3.5	1.75	0.3			
	5	15	20	25	30	35	40	M5	3.0	4.0	2.0	0.4			
	6	20	25	30	35	40	50	M6	3.5	5.0	2.5	0.5			
	8	20	25	30	35	40	50	60	70	M8	3.0	5.0	7.0	3.5	1.0
	10	30	35	40	50	60	70	M10	4.0	6.0	10.0	4.0	1.2		
	12	35	40	50	60	70	M12	5.0	7.0	12.0	5.0	1.4			

□ Wrench Flats, Full Thread Under Head

Code	Type	Material		Surface Treatment	Accessories (Material)
		GB	Equiv.		
FFE11	Wrench Flats, Full Thread Under Head	0Cr18Ni9	SUS304	—	Nut 1 pc. (SUS304)



12.5°



Part Number	D	L						M	d	W	E	F	C
FFE11	3	10	15	20	25		M3	1.5	1.5	3.0	1.5	0.2	
	4	10	15	20	25	30	M4		2.5	3.5	1.75	0.3	
	5	10	15	20	25	30	35	M5	3.0	4.0	2.0	0.4	
	6	15	20	25	30	35	45	M6	3.5	5.0	2.5	0.5	
	8	15	20	25	30	35	45	M8	3.0	5.0	7.0	3.5	1.0
	10	25	30	35	45	M10	4.0	6.0	10.0	4.0	1.2		
	12	30	35	45	M12	5.0	7.0	12.0	5.0	1.4			



Please order as shown

Part Number	D	L						M
FFD11	4	15	20	25	30		M3	
FFD11	4	15	20	25	30	35	M4	

FFD11 - D3 - L25



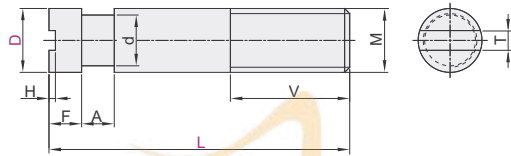
Discount price
Per 1~19 20~
Price 100% Additional quotation



Delivery
6

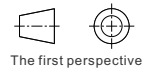
☑ Groove Type

Code	Type	Material		Surface Treatment	Accessories (Material)
		GB	Equiv.		
FFG11	Groove Type	0Cr18Ni9	SUS304	—	Nut 1 pc. (SUS304)



☑ With () L size table (V Value)

Code	D-L	V
FFG11	5-15	8
	6-15	7
	6-20	12
	8-20	11
	8-25	16
	10-30	17



Part Number		L						M	V	A	F	H	T	d
Code	D	15	20	25	30	40								
FFG11	3	15	20	25	30	40	M3		1.0					1.8
	4	15	20	25	30	40	M4	10	1.2	3	1.0		2.0	
	5	(15)	20	25	30	40	M5		2.0				3.0	
	6	(15)	(20)	25	30	40	45	M6	16			2.0	1.2	3.6
	8		(20)	(25)	30	40	45	M8	20	3.0	4			5.0
	10				(30)	40	45	M10	25			2.5		6.0
	12					40		M12	20	4.0			1.8	6.5



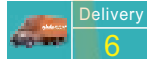
Part Number	Code	D	L					
FFG11	3	15	20	25	30	40		
	4	15	20	25	30	40		

FFG11 - D3 - L25



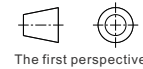
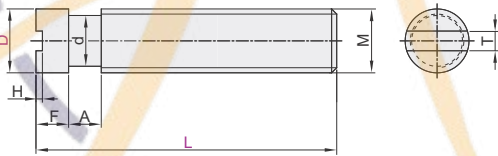
Discount price

Per	1~19	20~
Price	100%	Additional quotation



☑ Groove Type • Full Thread Under Head

Code	Type	Material		Surface Treatment	Accessories (Material)
		GB	Equiv.		
FFH11	Full Thread Under Head	0Cr18Ni9	SUS304	—	Nut 1 pc. (SUS304)



Part Number		L						M	A	F	H	T	d
Code	D	10	15	20	25	30							
FFH11	3	10	15	20	25		M3	1.0	3	1.0			1.8
	4	10	15	20	25	30	M4	1.2					2.0
	5		15	20	25	30	35	M5	2.0				3.0
	6		20	25	30	35	45	M6			2.0	1.2	3.6
	8		20	25	30	35	45	M8	3.0	4			5.0
	10				30	35	45	M10			1.8		6.0
	12					35	45	M12	4.0			1.8	6.5



Part Number	Code	D	L					
FFH11	3	10	15	20	25			
	4	10	15	20	25			

FFH11 - D3 - L20



Discount price

Per	1~19	20~
Price	100%	Additional quotation

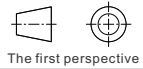
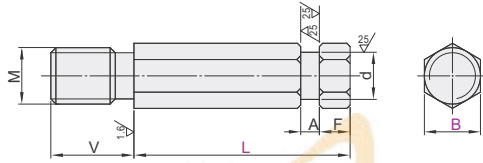


Posts for Tension Springs

- ◀ Hex Type
- ◀ Notched Hole

Hex Type

Code	Type	Material		Surface Treatment
		GB	Equiv.	
FFK11	Hex Type	Y15	SUM22	Electroless Nickel Plating



The first perspective

Part Number		L					M	V	A	F	d
Code	B										
FFK11	3	10	15	20	25	M3	8	1.0	3	1.8	
	4	10	15	20	25	M4	10	1.2		2.0	
	5	10	15	20	25	30	M5	12	2.0	3.0	
	6	10	15	20	25	30	M6	16		3.6	
	8	10	15	20	25	30	35	M8	18	4	5.0
	10	15	20	25	30	35	M10	22		6.0	
	12	20	25	30	35	M12	25	4.0		6.5	



Please order as shown

Part Number	L	M
Code B		
FFK11	10-20	M3
	4	M4

FFK11 - B3 - L15



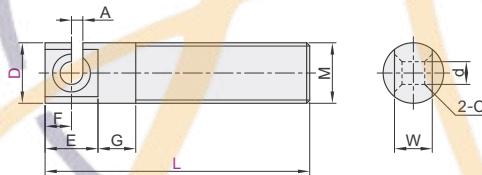
Discount price
Per 1~19 20~
Price 100% Additional quotation



Delivery
6

Notched Hole

Code	Type	Material		Surface Treatment	Accessories (Material)
		GB	Equiv.		
FFL11	Notched Hole	0Cr18Ni9	SUS304	—	Nut 1 pc.(SUS304)



The first perspective

Part Number		L					M	d	A	W	G	E	F	C	Working Max. Load N
Code	D														
FFL11	4	15	20	25	30	M4	1.5		2.5		3.5	1.75	0.3	50	
	5	15	20	25	30	40	M5	1	3		4	2	0.4	72	
	6	20	25	30	40	M6	2		3.5	5	5	2.5	0.5	113	
	8	25	30	40	M8	3	1.5	5		7	3.5	1	189		



Please order as shown

Part Number	L	M
Code D		
FFL11	15-20	M4
	5	M5

FFL11 - D4 - L20



Discount price
Per 1~19 20~
Price 100% Additional quotation



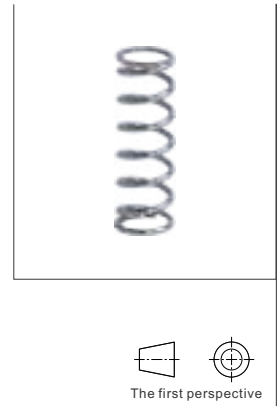
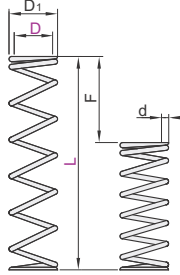
Delivery
6

Round Wire Springs

Inner Diameter Selectable, Stainless Steel

Code	Type	Material		Maximum Allowable Deflection	Spring Constant Tolerance
		GB	Equiv.		
YVUF	Inner Diameter Selectable	0Cr18Ni9	SUS304-WPB	L×45%	±10%
YVUR				L×60%	

- Features: These products are round wire coil springs that are based on the inner diameter value as reference and have a fixed Load capacity for each inner diameter.
- The solid height values are for reference only. There may be some variation between lots.
- Usage Count: 1 Million Times.
- YVUF () Both ends of the size are not grounded.
- YVUR Both ends are not grounded.



D TOL.		L TOL.	
D		L	
8 or Less	+0.6 +0.1	50 or Less	±1
10 or More	+0.8 +0.1	60 or More	±2

YVUF Fmax.(Maximum Allowable Deflection)= L×45%

Part Number		D1	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm		
Code	D								
5	15	6.0	0.50	4.3	6.8	3.33	0.49		
	20				9.0	4.41			
	25				11.3	5.49			
	30	6.2	0.60	8.4	13.5	6.57		0.48	
					35	15.8			7.64
					40	18.0			8.82
	45	6.4	0.70	16.1	20.3	9.90			
					50	22.5			10.98
					55	24.8			12.05
	6	15	7.2	0.60	6.0	6.8		3.33	0.49
		20				9.0		4.41	
		25				11.3		5.49	
30		7.4	0.70	10.5	13.5	6.57	0.48		
					35	15.8		7.64	
					40	18.0		8.82	
45		7.6	0.80	18.4	20.3	9.90	0.49		
					50	22.5		10.98	
					55	24.8		12.05	
8		20	9.4	0.70	6.0	9.0	4.41	0.49	
		25				11.3	5.49		
		30				13.5	6.57		
	35	9.6	0.80	10.0	15.8	7.64	0.48		
					40	18.0			8.82
					45	20.3			9.90
	50	10.0	1.00	24.0	22.5	10.98	0.49		
					55	24.8			12.05
					60	27.0			13.23
	10	20	11.6	0.80	6.4	29.3	14.31		0.49
		25				31.5	15.39		
		30				36.0	17.64		
35		11.8	0.90	9.9	9.0	4.41	0.48		
					40	11.3		5.49	
					45	13.5		6.57	
50		12.2	1.10	21.5	15.8	7.64	0.48		
					55	18.0		8.82	
					60	20.3		9.90	
12		20	14.0	1.00	10.0	22.5	10.98	0.49	
		25				24.8	12.05		
		30				27.0	13.23		
	35	14.2	1.10	14.9	29.3	14.31	0.49		
					40	31.5			15.39
					45	36.0			17.64
	50	14.4	1.20	21.6	11.3	5.49	0.48		
					55	13.5			6.57
					60	15.8			7.64
	16	20	18.4	1.20	11.4	18.0	8.82		0.49
		25				20.3	9.90		
		30				22.5	10.98		
35		18.6	1.30	16.3	24.8	12.05	0.49		
					40	27.0		13.23	
					45	29.3		14.31	
50		18.8	1.40	21.0	31.5	15.39	0.49		
					55	36.0		17.64	
					60	40.5		19.80	
100					45.0	22.05			

YVUR Fmax.(Maximum Allowable Deflection)= L×60%

Part Number		D1	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm		
Code	D								
5	15	5.9	0.45	5.0	9	2.65	0.29		
	20				12	3.53			
	25				15	4.41			
	30	6.0	0.50	7.5	18	5.29		0.29	
					35	21			6.17
					40	24			7.06
	45	6.1	0.55	9.6	27	7.94		0.29	
					50	30			8.82
					55	33			9.70
	6	20	7.0	0.50	5.0	9		2.65	0.29
		25				12		3.53	
		30				15		4.41	
35		7.1	0.55	6.6	18	5.29	0.29		
					40	21		6.17	
					45	24		7.06	
50		7.2	0.60	9.0	27	7.94	0.29		
					55	30		8.82	
					60	33		9.70	
8		20	9.3	0.65	6.8	12	3.53	0.29	
		25				15	4.41		
		30				18	5.29		
	35	9.4	0.70	9.1	21	6.17	0.29		
					40	24			7.06
					45	27			7.94
	50	9.6	0.80	16.8	30	8.82	0.29		
					55	33			9.70
					60	36			10.58
	10	20	11.4	0.70	5.6	12	3.53		0.30
		25				15	4.41		
		30				18	5.29		
35		11.6	0.80	10.4	21	6.17	0.30		
					40	24		7.06	
					45	27		7.94	
50		11.8	0.90	16.2	30	8.82	0.30		
					55	33		9.70	
					60	36		10.58	
12		20	13.6	0.80	7.2	15	4.41	0.29	
		25				18	5.29		
		30				21	6.17		
	35	13.8	0.90	11.3	24	7.06	0.29		
					40	27			7.94
					45	30			8.82
	50	14.0	1.00	17.0	33	9.70	0.29		
					55	36			10.58
					60	39			11.47
	16	20	14.2	1.10	25.3	42	12.35		0.29
		25				48	14.11		
		30				54	15.88		
35		18.0	1.00	9.5	21	6.17	0.29		
					40	24		7.06	
					45	27		7.94	
50		18.2	1.10	13.2	30	8.82	0.29		
					55	33		9.70	
					60	36		10.58	
100		20	18.4	1.20	18.0	39	11.47	0.29	
		25				42	12.35		
		30				48	14.11		
	35	18.4	1.20	18.0	54	15.88	0.29		
					60	60			17.64

Gas Springs C4

Part Number: YVUF-D5-L30

Code: D L

YVUF 30

Discount price

Per 1~3 4~

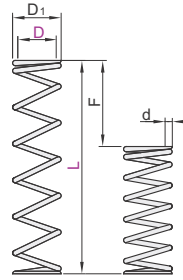
Price 100% Additional quotation

Delivery 6

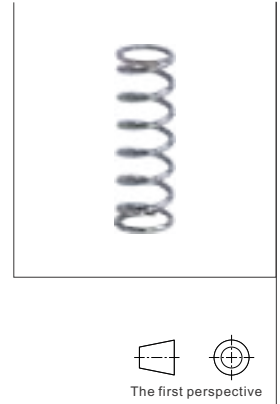
- Allowable deflection Fmax: It indicates the maximum length of the Allowable Deflection of the spring. If the Allowable Deflection is exceeded, the spring will shorten.
- Max. Load (Nmax): allowable Load of deflection Fmax, unit : N.
- Spring Constant N/mm=(Nmax)/(Fmax).

Code	Type	Material		Maximum Allowable Deflection	Spring Constant Tolerance
		GB	Equiv.		
YVUM	Inner Diameter Selectable	0Cr18Ni9	SUS304-WPB	L×35%	±10%
YVUL				L×40%	

- 📌 Features: These products are round wire coil springs that are based on the inner diameter value as reference and have a fixed Load capacity for each inner diameter.
- 📌 The solid height values are for reference only. There may be some variation between lots.
- 📌 Usage Count: 1 Million Times.
- 📌 Both ends are ground.



D TOL.		L TOL.	
D		L	
8 or Less	+0.6 +0.1	50 or Less	±1
10 or More	+0.8 +0.1	60 or More	±2



YVUM Fmax.(Maximum Allowable Deflection)=L×35%

Part Number Code	D	L	D1	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
5	15	6.6	0.80	6.8	5.3	15.39	2.90	
	20	6.8	0.90	11.7	7.0	20.58	2.94	
	25				8.8	25.68	2.92	
	30				10.5	30.87	2.94	
	35	7.0	1.00	14.5	12.3	35.97	2.92	
	40				14.0	41.16	2.94	
	45				15.8	46.26	2.93	
	50	7.2	1.10	22.0	17.5	51.45	2.94	
	15				5.3	15.39	2.90	
	20	7.8	0.90	7.7	7.0	20.58	2.94	
	25				8.8	25.68	2.92	
	30	8.0	1.00	11.0	10.5	30.87	2.94	
6	35			12.3	35.97	2.92		
	40			14.0	41.16	2.94		
	45	8.4	1.20	21.0	15.8	46.26	2.93	
	50				17.5	51.45	2.94	
	55				19.3	56.55	2.93	
	60	8.6	1.30	29.9	21.0	61.74	2.94	
8	20				7.0	20.58	2.94	
	25	10.2	1.10	8.8	8.8	25.68	2.92	
	30				10.5	30.87	2.94	
	35				12.3	35.97	2.92	
	40				14.0	41.16	2.94	
	45	10.6	1.30	15.6	15.8	46.26	2.93	
	50				17.5	51.45	2.94	
	55				19.3	56.55	2.93	
10	60				21.0	61.74	2.94	
	65				22.8	66.84	2.93	
	70	11.0	1.50	27.8	24.5	72.03	2.94	
	80				28.0	82.32	2.94	
	20	12.4	1.20	8.4	7.0	20.58	2.94	
	25				8.8	25.68	2.92	
	30	12.6	1.30	10.4	10.5	30.87	2.94	
	35				12.3	35.97	2.92	
12	40				14.0	41.16	2.94	
	45				15.8	46.26	2.93	
	50	13.0	1.50	18.8	17.5	51.45	2.94	
	55				19.3	56.55	2.93	
	60				21.0	61.74	2.94	
	65				22.8	66.84	2.93	
	70	13.4	1.70	28.9	24.5	72.03	2.94	
	80				28.0	82.32	2.94	
16	25				8.8	25.68	2.92	
	30	14.8	1.40	9.8	10.5	30.87	2.94	
	35				12.3	35.97	2.92	
	40				14.0	41.16	2.94	
	45				15.8	46.26	2.93	
	50	15.2	1.60	16.0	17.5	51.45	2.94	
	55				19.3	56.55	2.93	
	60				21.0	61.74	2.94	
20	65				22.8	66.84	2.93	
	70				24.5	72.03	2.94	
	80				28.0	82.32	2.94	
	90				31.5	92.61	2.94	
	35				12.3	35.97	2.92	
	40				14.0	41.16	2.94	
	45	19.6	1.80	14.4	15.8	46.26	2.93	
	50				17.5	51.45	2.94	
28	55				19.3	56.55	2.93	
	60				21.0	61.74	2.94	
	65				22.8	66.84	2.93	
	70				24.5	72.03	2.94	
	80	20.4	2.20	28.6	28.0	82.32	2.94	
	90				31.5	92.61	2.94	
	100				35.0	102.90	2.94	

YVUL Fmax.(Maximum Allowable Deflection)=L×40%

Part Number Code	D	L	D1	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
5	15	6.2	0.60	4.8	6	5.88		
	20				8	7.84		
	25				10	9.80		
	30	6.4	0.70	9.1	12	11.76		
	35				14	13.72		
	40				16	15.68		
6	45	6.6	0.80	16.0	18	17.64		
	50				20	19.60		
	15				6	5.88		
	20	7.4	0.70	6.3	8	7.84		
	25				10	9.80		
	30	7.6	0.80	10.4	12	11.76		
8	35				14	13.72		
	40				16	15.68		
	45				18	17.64		
	50	7.8	0.90	16.2	20	19.60		
	55				22	21.56		
	60				24	23.52		
10	65				26	25.48		
	70	10.4	1.20	28.8	28	27.44		
	80				32	31.36		
	20				8	7.84		
	25	9.8	0.90	9.5	10	9.80		
	30				12	11.76		
	35				14	13.72		
	40				16	15.68		
12	45				18	17.64		
	50				20	19.60		
	55				22	21.56		
	60				24	23.52		
	65				26	25.48		
	70	12.0	1.00	8.5	28	27.44		
	80				32	31.36		
	25				10	9.80		
16	30				12	11.76		
	35				14	13.72		
	40				16	15.68		
	45	12.2	1.10	12.7	18	17.64		
	50				20	19.60		
	55				22	21.56		
	60				24	23.52		
	65				26	25.48		
20	70				28	27.44		
	80				32	31.36		
	25				10	9.80		
	30				12	11.76		
	35				14	13.72		
	40	14.4	1.20	12.6	16	15.68		
	45				18	17.64		
	50				20	19.60		
28	55				22	21.56		
	60				24	23.52		
	65	14.8	1.40	21.7	26	25.48		
	70				28	27.44		
	80				32	31.36		
	90				36	35.28		
	35				14	13.72		
	40				16	15.68		
36	45	19.0	1.50	15.8	18	17.64		
	50				20	19.60		
	55				22	21.56		
	60				24	23.52		
	65				26	25.48		
	70	19.4	1.70	24.7	28	27.44		
	80				32	31.36		
	90				36	35.28		
100				40	39.20			



Part Number			
Code	D	L	Additional
YVUM	5	35	
YVUM-D5-L30			



Discount price	
Per	Price
1~3	100%
4~	Additional



Delivery	
6	

- 📌 Allowable deflection Fmax: It indicates the maximum length of the Allowable Deflection of the spring. If the Allowable Deflection is exceeded, the spring will shorten.
- 📌 Max. Load (Nmax) : allowable Load of deflection Fmax, unit : N.
- 📌 Spring Constant N/mm=(Nmax)/(Fmax).

Round Wire Springs

◀ Outer Diameter Selectable, Stainless Steel

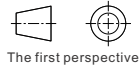
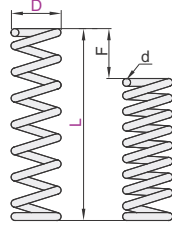
Code	Type	Material		Maximum Allowable Deflection	Spring Constant Tolerance
		GB	Equiv.		
YUW	Outer Diameter Selectable	0Cr18Ni9	SUS304	L×70%	±10%
YUY				L×(60~75)%	

□ D Tol.

D	Tol.
10 or Less	$0_{-0.5}$
12 or More	$0_{-0.8}$

□ L Tol.

L	Tol.
50 or Less	±1.5
55 or More	±2.5



The first perspective

ⓘ The solid height values are for reference only.

There may be some variation between lots.

ⓘ Usage Count: 1 Million Times.

ⓘ Both ends are not grounded.

□ YUW Fmax.(Maximum Allowable Deflection)=L×70%

Part Number	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
3	5	0.15	1.1	4	0.18		
	10	0.18	2.5	7	0.35		
	15	0.18	2.5	11	0.53		
	20	0.2	3.3	14	0.7		
	25	0.23	6.2	18	0.88		
4	30	0.23	6.2	21	1.05		
	5	0.18	1.2	4	0.18		
	10	0.2	1.7	7	0.35		
	15	0.23	3	11	0.53		
	20	0.23	3	14	0.7		
5	25	0.26	4.9	18	0.88		
	30	0.26	4.9	21	1.05		
	5	0.2	1.2	4	0.18		
	10	0.23	1.8	7	0.35		
	15	0.26	2.9	11	0.53		
6	20	0.29	4.5	14	0.7		
	25	0.29	4.5	18	0.88		
	30	0.29	4.5	21	1.05		
	10	0.26	2	7	0.35		
	15	0.3	3.3	11	0.53		
8	20	0.3	3.3	14	0.7		
	25	0.35	6.5	18	0.88		
	30	0.35	6.5	21	1.05		
	35	0.35	6.5	25	1.23		
	40	0.35	6.5	28	1.4		
10	10	0.3	1.9	7	0.35		
	15	0.35	3.2	11	0.53		
	20	0.35	3.2	14	0.7		
	25	0.4	5.6	18	0.88		
	30	0.4	5.6	21	1.05		
12	35	0.4	5.6	25	1.23		
	40	0.45	9.3	28	1.4		
	45	0.45	9.3	32	1.58		
	50	0.45	9.3	35	1.75		

□ YUY Fmax.(Maximum Allowable Deflection)=L×(60~75)%

Part Number	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
6	5	0.26	1.24	3.5	0.34		
	10	0.3	2.1	7.5	0.74		
	15	0.32	2.64	11.25	1.1		
	20	0.35	3.85	15	1.47		
	25	0.38	5.32	18.75	1.84		
8	30	0.4	6.8	22.5	2.21		
	35	0.4	6.8	26.25	2.55		
	40	0.4	6.8	30	2.94		
	10	0.35	2.19	7.5	0.74		0.10
	15	0.4	3.4	11.25	1.1		
10	20	0.4	3.4	15	1.47		
	25	0.45	5.4	18.75	1.84		
	30	0.45	5.4	22.5	2.21		
	35	0.5	8.3	26.25	2.55		
	40	0.5	8.3	30	2.94		
12	45	0.5	8.3	33.75	3.33		
	50	0.55	12.7	35	3.43		
	10	0.5	3.25	6	1.18		
	15	0.5	3.25	11.25	2.21		
	20	0.55	4.4	15	2.94		
14	25	0.55	4.4	18.75	3.68		
	30	0.6	6.15	22.5	4.41		
	35	0.6	6.3	26.25	5.1		
	40	0.6	6.3	30	5.88		
	45	0.65	8.45	33.75	6.62		
16	50	0.65	8.45	37.5	7.35		
	15	0.55	3.3	11.25	2.206		
	20	0.55	3.3	15	2.942		
	25	0.6	4.2	18.75	3.68		
	30	0.65	5.53	22.5	4.41		
18	35	0.65	5.53	26.25	5.15		
	40	0.7	7.35	30	5.88		
	45	0.7	7.35	33.75	6.62		
	50	0.7	7.35	37.5	7.35		
	60	0.8	13.6	45	8.83		
20	70	0.8	13.6	52.5	10.3		
	80	0.8	13.6	60	11.77		
	15	0.6	3.75	10.5	2.06		
	20	0.6	3.75	15	2.94		
	25	0.65	4.9	18.75	3.68		
22	30	0.65	4.9	22.5	4.41		
	35	0.7	6.3	26.25	5.15		
	40	0.75	8.25	30	5.88		
	45	0.75	8.25	33.75	6.62		
	50	0.8	11.2	37.5	7.35		
24	60	0.8	11.2	45	8.83		
	70	0.85	14.45	52.5	10.3		
	80	0.85	14.45	60	11.77		
	15	0.7	4.2	9	1.77		
	20	0.7	4.2	15	2.94		
26	25	0.7	4.2	18.75	3.68		
	30	0.75	5.44	22.5	4.41		
	35	0.8	6.8	26.25	5.15		
	40	0.8	6.8	30	5.88		
	45	0.85	8.5	33.75	6.62		
28	50	0.9	10.8	37.5	7.35		
	60	0.9	10.8	45	8.83		
	70	1	17	52.5	10.3		
	80	1	17	60	11.77		
	20	0.9	5.4	12	3.53		
30	25	0.9	5.4	18.75	5.49		
	30	0.9	5.4	22.5	6.62		
	35	1	7.5	26.25	7.65		
	40	1	7.5	30	8.83		
	45	1	7.5	33.75	9.9		
32	50	1.1	11	37.5	11.03		
	60	1.1	11	45	13.24		
	70	1.2	15.6	52.5	15.45		
	80	1.2	15.6	60	17.65		

□ YUY Fmax.(Maximum Allowable Deflection)=L×(60~75)%

Part Number	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
2	5	0.13	1.5	3	0.15		
	10	0.13	1.5	6	0.29		
	15	0.15	2.7	9	0.44		
	20	0.15	2.7	12	0.59		
	25	0.18	6.3	15	0.74		
3	30	0.18	6.3	18	0.88		
	5	0.16	0.92	3.75	0.37		
	10	0.2	2	7.5	0.74		
	15	0.23	3.45	11.25	1.1		
	20	0.23	3.45	15	1.47		
4	25	0.26	6.24	15	1.47		
	30	0.26	6.24	18	1.77		
	5	0.2	1.05	3.75	0.37		
	10	0.23	1.84	7.5	0.74		
	15	0.26	2.86	11.25	1.1		
5	20	0.29	4.64	15	1.47		
	25	0.3	5.4	18.75	1.84		
	30	0.3	5.4	22.5	2.26		
	5	0.23	1.15	3.75	0.37		
	10	0.26	1.82	7.5	0.74		
6	15	0.3	3.15	11.25	1.1		
	20	0.3	3.15	15	1.47		
	25	0.32	4.16	18.75	1.84		
	30	0.32	4.16	22.5	2.26		
	35	0.35	6	26.25	2.55		
40	0.35	6	30	2.94			

ⓘ Allowable deflection Fmax: It indicates the maximum length of the Allowable Deflection of the spring.

If the Allowable Deflection is exceeded, the spring will shorten.

ⓘ Max. load (Nmax): allowable load of deflection Fmax, unit: N.

ⓘ Spring Constant N/mm=(Nmax)/(Fmax).



Please order as shown

Part Number		
Code	D	L
YUY	5	35
YUY-D5-L30		



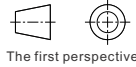
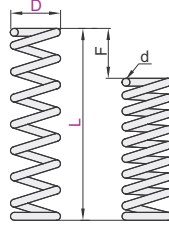
Discount price	
Per	Price
1~3	100%
4~	Additional quotation



Delivery	
Per	Price
1~3	6
4~	Additional quotation

Code	Type	Material		Maximum Allowable Deflection	Spring Constant Tolerance
		GB	Equiv.		
YUF	Outer Diameter Selectable	0Cr18Ni9	SUS304-WPB	L×45%	±10%
YUR				L×(50-60)%	

D Tol.		L Tol.	
D	Tol.	L	Tol.
10 or Less	0 -0.5	50 or Less	±1.5
12 or More	0 -0.8	55 or More	±2.5



The first perspective

- ⓘ The solid height values are for reference only. There may be some variation between lots.
- ⓘ Please use it within the Allowable Deflection range.
- ⓘ Usage Count: 1 Million Times.
- ⓘ YUF () Both ends of the size are not grounded.
- ⓘ YUR Both ends are not grounded.

YUF Fmax.(Maximum Allowable Deflection)= L×45%

Part Number Code	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
2		(5)	0.2	2.35	2.25	0.66	0.29
		(10)			4.5	1.3	
		(15)	0.26	7.8	6.7	2.0	0.30
		(20)			9.0	2.7	
		(25)	0.29	13.6	11.2	3.3	0.29
		(30)			13.5	4.0	
	3	(5)	0.26	1.8	2.25	1.1	0.49
		(10)			3.5	4.5	
		(15)	0.32	3.5	6.7	3.2	0.48
		(20)			9	4.4	
		(25)	0.35	6.3	11.2	5.5	0.49
		(30)			13.5	6.6	
4	(35)	0.4	12.4	15.7	7.6	0.48	
	(40)			18	8.8		
	(5)	0.32	2	2.25	1.1	0.49	
	(10)			0.35	3		4.5
	(15)	0.4	5.2	6.7	3.2	0.48	
	(20)			9	4.4		
5	(25)	0.45	9.5	11.2	5.5	0.49	
	(30)			13.5	6.6		
	(35)	0.5	15.5	15.7	7.6	0.48	
	(40)			18	8.8		
	(45)	0.55	22.6	20	9.8	0.49	
	(50)			22.5	10.8		0.48
6	(60)	0.55	22.6	27	12.7	0.47	
	(5)			0.35	2.01		2.25
	(10)	0.4	3.2	4.5	2.2	0.49	
	(15)			6.75	3.3		
	(20)	0.45	4.95	9	4.4	0.49	
	(25)			11.25	5.5		
7	(30)	0.5	7.75	13.5	6.7	0.50	
	(35)			15.75	7.7		
	(40)	0.6	19.5	18	8.8	0.49	
	(45)			20.25	10		
	(50)	0.65	27.95	22.5	11.2	0.50	
	(60)			27	13.4		
8	(5)	0.4	2.2	2.25	1.1	0.49	
	(10)			0.5	5		4.5
	(15)	0.55	7.7	6.7	3.2	0.48	
	(20)			9	4.4		
	(25)	0.6	10.8	11.2	5.5	0.49	
	(30)			13.5	6.6		
9	(35)	0.65	15.6	15.7	7.6	0.48	
	(40)			18	8.8		
	(45)	0.7	23.1	20	9.8	0.49	
	(50)			22.5	10.8		0.48
	(60)	0.75	30.8	27	12.7	0.47	
	(70)			31.5	14.7		
10	(10)	0.6	5.4	4.5	2.2	0.49	
	(15)			0.65	7.2		6.7
	(20)	0.7	10.5	9	4.4	0.49	
	(25)			11.2	5.5		0.49
	(30)	0.75	13.5	13.5	6.6	0.48	
	(35)			15.7	7.6		
11	(40)	0.8	18.4	18	8.8	0.49	
	(45)			20	9.8		
	(50)	0.85	26.4	22.5	10.8	0.48	
	(60)			27	12.7		
	(70)	0.9	36	31.5	14.7	0.47	
	(80)			36	17.7		0.49

YUF Fmax.(Maximum Allowable Deflection)= L×45%

Part Number Code	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
12		10	0.65	4.6	4.5	2.2	0.49
		15			6.7	3.2	
		(20)	0.8	9.6	9	4.4	0.49
		(25)			11.2	5.5	
		(30)	0.85	12.8	13.5	6.6	0.48
		(35)			15.7	7.6	
	13	(40)	0.9	17	18	8.8	0.49
		(45)			20	9.8	
		(50)	1.0	28	22.5	10.8	0.48
		(60)			27	12.7	
		(70)	1.0	28	31.5	14.7	0.47
		(80)			36	17.7	
14	(15)	0.8	6.8	6.7	3.2	0.48	
	(20)			9.0	4.4		
	(25)	0.9	10.8	11.2	5.5	0.49	
	(30)			13.5	6.6		
	(35)	1.0	17	15.7	7.6	0.48	
	(40)			18	8.8		
15	(45)	1.0	17	20	9.8	0.49	
	(50)			22.5	10.8		0.48
	(60)	1.1	26.4	27	12.7	0.47	
	(70)			31.5	14.7		
	(80)	1.2	39.6	36	17.7	0.49	
	(90)			36	17.7		0.49
16	(15)	0.8	5.6	6.7	3.2	0.48	
	(20)			9	4.4		
	(25)	0.85	7.2	11.2	5.5	0.49	
	(30)			13.5	6.6		
	(35)	1.0	14	15.7	7.6	0.48	
	(40)			18	8.8		
17	(45)	1.1	21.5	20	9.8	0.49	
	(50)			22.5	10.8		0.48
	(60)	1.2	30	27	12.7	0.47	
	(70)			31.5	14.7		
	(80)	1.2	30	36	17.7	0.49	
	(90)			36	17.7		0.49
18	(15)	0.9	5.6	6.7	3.2	0.48	
	(20)			9	4.4		
	(25)	1.0	7.7	11.2	5.5	0.49	
	(30)			13.5	6.6		
	(35)	1.1	12.1	15.7	7.6	0.48	
	(40)			18	8.8		
19	(45)	1.2	18	20	9.8	0.49	
	(50)			22.5	10.8		0.48
	(60)	1.3	26	27	12.7	0.47	
	(70)			31.5	14.7		
	(80)	1.4	35	36	17.7	0.49	
	(90)			36	17.7		0.49
20	(20)	1.2	7.2	9	4.4	0.49	
	(25)			11.3	11.3		11.1
	(30)	1.4	11.9	13.5	13.2	0.98	
	(35)			15.8	15.5		
	(40)	1.5	15.8	18	17.7	0.98	
	(45)			20.3	19.9		
21	(50)	1.6	20.8	22.5	22.1	0.98	
	(60)			27	26.5		
	(70)	1.7	26.4	31.5	30.9	0.98	
	(80)			36	35.3		

Round Wire Springs

◀ Outer Diameter Selectable, Stainless Steel

☑ YUR Fmax.(Maximum Allowable Deflection)=L×(50~60)%

Part Number			d	Solid Height	Fmax	Load N max.	Spring Constant N/mm	
Code	D	L						
2	5	0.18	2.0	2.5	0.49	0.20		
	10			5.0	0.98			
	15	0.23	6.0	7.5	1.5			
	20			10	2.0			
	25			12.5	2.5			
3	30	0.26	11.2	15	2.9	0.19		
	5	0.23	1.6	3	0.9		0.30	
	10	0.25	2.1	6	1.8			
	15	0.3	4.5	9	2.6			
	20			12	3.5			
4	25	0.32	6.4	15	4.4	0.29		
	30	0.32	6.4	18	5.3			
	35			21	6.2			
	40	0.35	9.8	24	7.1		0.30	
	5	0.26	1.4	3	0.9			
10	0.29	2	6	1.8				
15	0.32	3	9	2.6				
20			12	3.5				
5	25	0.38	6.1	15	4.4	0.29		
	30			18	5.3			
	35	0.40	8	21	6.2			
	40			24	7.1		0.30	
	45	0.45	14.4	27	7.9			
50			30	8.8	0.29			
60	0.5	23	36	10.6				
5	0.3	1.65	3	0.9		0.30		
10	0.35	2.71	6	1.8				
15			9	2.6				
20	0.38	3.61	12	3.5				
25			15	4.4				
6	30	0.45	7.43	18	5.3	0.29		
	35			21	6.2			
	40	0.5	12.25	24	7.1		0.30	
	45			27	7.9			
	50	0.55	19.53	30	8.8			0.29
60			36	10.6				
5	0.32	1.5	3	0.9	0.30			
10	0.4	3	6	1.8				
15			9	2.6				
20			12	3.5				
25	0.5	7	15	4.4		0.29		
30			18	5.3				
35	0.55	11	21	6.2	0.30			
40			24	7.1				
45	0.6	17.4	27	7.9				
50			30	8.8		0.29		
60	0.65	23.4	36	10.6				
70			42	12.4	0.30			
80	0.75	21	48	14.1				
10	0.55	3.3	6	1.8			0.30	
15	0.6	4.2	9	2.6				
20			12	3.5				
25	0.65	6.2	15	4.4	0.29			
30			18	5.3				
35	0.7	8.4	21	6.2		0.30		
40			24	7.1				
45	0.75	21	27	7.9			0.33	
50			30	8.8				
60			36	10.6	0.34			
70	0.8	27.6	42	12.4		0.31		
80			48	14.1				0.29
10	0.55	3.3	6	1.8			0.30	
15	0.6	4.2	9	2.6				
20			12	3.5				
25	0.65	6.2	15	4.4	0.29			
30			18	5.3				
35	0.7	8.4	21	6.2		0.30		
40			24	7.1				
45	0.75	21	27	7.9			0.29	
50	0.8	15.2	30	8.8				
60			36	10.6	0.30			
70	0.85	20.4	42	12.4				
80			48	14.1				

☑ YUR Fmax.(Maximum Allowable Deflection)=L×(50~60)%

Part Number			d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
Code	D	L					
12	15	0.6	3.5	9	2.6	0.29	
	20			12	3.5		
	25	0.7	5.6	15	4.4		
	30			18	5.3		
	35	0.8	9.6	21	6.2		
13	40			24	7.1	0.30	
	45			27	7.9		
	50	0.9	16.2	30	8.8		0.29
	60			36	10.6		
	70	1.0	26	42	12.4		
80			48	14.1	0.29		
15	0.7	4.7	9	2.6		0.29	
20			12	3.5			
25			15	4.4			
30	0.8	8	18	5.3			0.30
35			21	6.2			
40	0.9	12.8	24	7.1	0.29		
45			27	7.9			
50	0.9	12.8	30	8.8		0.30	
60			36	10.6			
70	1.0	21	42	12.4			0.29
80			48	14.1	0.30		
15	0.75	4.3	9	2.6			
20	0.8	5.4	12	3.5			
25			15	4.4			
30	0.9	7.7	18	5.3		0.30	
35			21	6.2			
40	1.0	12	24	7.1	0.29		
45			27	7.9			
50	1.1	19	30	8.8			0.30
60			36	10.6			
70	1.2	26.4	42	12.4		0.29	
80			48	14.1	0.30		
20	1.0	6	12	5.9			
25			15	7.4			
30	1.1	7.7	18	8.8			0.49
35			21	10.3			
40	1.2	10.8	24	11.8			
45	1.3	14.3	27	13.2			
50			30	14.7			
60	1.4	19.6	36	17.7			
70			42	20.6			
80	1.5	27	48	23.5			

① Allowable deflection Fmax: It indicates the maximum length of the allowable deflection of the spring. If the Allowable Deflection is exceeded, the spring will shorten.

② Max. load (Nmax) : allowable load of deflection Fmax, unit : N.

③ Spring Constant N/mm=(Nmax)/(Fmax).



Please order as shown

Part Number			d
Code	D	L	
YUF	3	5	0.26
	10		0.32
	15		

YUF-D3-L5



Discount price
Per 1~3 4~
Price 100% Additional quotation



Delivery
6

Code	Type	Material		Maximum Deflection	Spring Constant Tolerance
		GB	Equiv.		
YUL	Outer Diameter Selectable	0Cr18Ni9	SUS304-WPB	L×40%	±10%

□ D Tol.

□ L Tol.

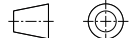
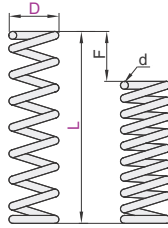
D	Tol.	L	Tol.
10 or Less	0 -0.5	50 or Less	±1.5
12 or More	0 -0.8	55 or More	±2.5

ⓘ The solid height values are for reference only.

There may be some variation between lots.

ⓘ Usage Count: 1 Million Times.

ⓘ () Both ends of the size are not grounded.



The first perspective

Part Number								Part Number							
Code	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm	Code	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
YUL	2	(5)	0.2	1.65	2	0.98	0.49	YUL	10	10	0.75	4.7	4	3.9	0.98
		(10)	4	1.96	6	5.9									
		(15)	0.26	5.07	8	2.94				8	7.8				
		(20)	0.3	9.9	8	3.92				10	9.8				
		(25)	0.32	14.1	10	4.9				12	11.8				
		(30)	4	5.88	14	13.7				16	15.7				
		(5)	0.3	2	2	2				20	19.6				
		(10)	0.35	3.7	4	3.9				24	23.5				
		(15)	6	5.9	28	27.5				32	31.4				
		(20)	0.4	6.6	8	7.8				36	35.3				
	3	(25)	0.45	11.7	10	9.8	40	39.2							
		(30)	0.45	11.7	12	11.8	45	44.1							
		(35)	14	13.7	50	49	50	53.9							
		(40)	0.5	20	16	15.7	55	58.8							
		(5)	0.35	2.1	2	2	60	63.7							
		(10)	0.45	5.3	4	3.9	65	68.6							
		(15)	6	5.9	70	73.5	75	78.4							
		(20)	0.5	8	8	7.8	80	83.3							
		(25)	0.5	8	10	9.8	85	88.2							
		(30)	0.55	12.7	12	11.8	90	93.1							
	4	(35)	0.55	12.7	14	13.7	95	98							
		(40)	16	15.7	100	103	105	108							
		(45)	0.6	19.8	18	17.7	110	114							
		(50)	20	19.6	120	118	125	129							
		(60)	0.65	29.9	24	23.5	130	135							
		(5)	0.4	2.2	2	2	140	145							
		(10)	0.5	4.75	4	3.9	150	155							
		(15)	6	5.9	160	165	170	175							
		(20)	0.55	6.88	8	7.8	180	185							
		(25)	10	9.8	190	195	200	205							
	5	(30)	12	11.8	200	205	210	215							
		(35)	0.65	14.95	14	13.7	220	225							
		(40)	16	15.7	230	235	240	245							
		(45)	0.7	21.7	18	17.7	250	255							
		(50)	20	19.6	260	265	270	275							
		(60)	0.75	30.75	24	23.5	280	285							
		(5)	0.45	2.3	2	2	290	295							
		(10)	4	3.9	300	305	310	315							
		(15)	0.55	4.4	6	5.9	320	325							
		(20)	8	7.8	330	335	340	345							
6	(25)	0.65	8.5	10	9.8	350	355								
	(30)	12	11.8	12	11.8	360	365								
	(35)	0.7	12.6	14	13.7	370	375								
	(40)	16	15.7	16	15.7	380	385								
	(45)	18	17.7	18	17.7	390	395								
	(50)	0.75	17.3	20	19.6	400	405								
	(60)	0.8	24.8	24	23.5	410	415								
	(70)	28	27.5	420	425	430	435								
	(10)	0.65	4.6	4	3.9	440	445								
	(15)	6	5.9	450	455	460	465								
8	(20)	0.75	8.3	8	7.8	470	475								
	(25)	10	9.8	10	9.8	480	485								
	(30)	12	11.8	12	11.8	490	495								
	(35)	0.8	10.4	14	13.7	500	505								
	(40)	16	15.7	16	15.7	510	515								
	(45)	0.85	14.5	18	17.7	520	525								
	(50)	20	19.6	20	19.6	530	535								
	(60)	0.9	18	24	23.5	540	545								
	(70)	28	27.5	26	25.5	550	555								
	(80)	1.0	30	32	31.4	560	565								

ⓘ Allowable deflection Fmax: It indicates the maximum length of the Allowable Deflection of the spring. If the Allowable Deflection is exceeded, the spring will shorten.

ⓘ Max. load (Nmax) : allowable load of deflection Fmax, unit : N.

ⓘ Spring Constant N/mm=(Nmax)/(Fmax).

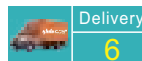


Part Number			
Code	D	L	d
YUL	3	5	0.3
		10	0.35
		15	0.4

YUL-D3-L5



Discount price			
Per	1~3	4~	Additional quotation
Price	100%		



Round Wire Springs ◀ Outer Diameter Selectable, Stainless Steel

Code	Type	Material		Maximum Allowable Deflection	Spring Constant Tolerance
		GB	Equiv.		
YUM	Outer Diameter Selectable	0Cr18Ni9	SUS304-WPB	L×(28~35)%	±10%
YUH				L×(20~30)%	

□ D Tol.

D	Tol.
10 or Less	0 -0.5
12 or More	0 -0.8

□ L Tol.

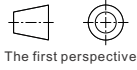
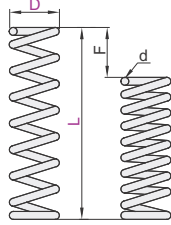
L	Tol.
50 or Less	±1.5
55 or More	±2.5

ⓘ The solid height values are for reference only.

There may be some variation between lots.

ⓘ Usage Count: 1 Million Times.

ⓘ () Both ends of the size are not grounded.



□ YUM Fmax. (Maximum Allowable Deflection) = L × (28~35)%

Part Number Code	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
4	(5)	0.4	2.2	1.75	3.4	1.94	
	(10)	0.5	4.9	3.5	6.8		
	15	0.55	7.5	5.25	10.3	1.96	
	20	0.6	11.1	7	13.7		
	25	0.65	16.3	10.5	20.6	1.96	
	30	0.65	16.3	10.5	20.6	1.96	
	(5)	0.45	2.25	1.75	3.4	1.94	
	(10)	0.5	3.13	3.5	6.8		
	15	0.65	8.45	7	13.7	1.96	
	20	0.65	8.45	7	13.7	1.96	
	25	0.7	11.9	8.75	17.2	1.97	
	30	0.75	16.5	12.25	24		
5	40	0.8	23.2	14	27.5	1.96	
	45	0.85	31.45	17.5	34.3		
	50	0.85	31.45	17.5	34.3		
	(5)	0.55	2.7	1.7	4.9	2.88	
	10	0.7	5.6	3.5	10.8	3.09	
	15	0.75	7.4	5.2	15.7	3.02	
6	20	0.75	7.4	7	20.6	2.94	
	25	0.85	12.8	8.7	25.5	2.93	
	30	0.85	12.8	10.5	31.4	2.99	
	35	0.9	16.7	12.2	36.3	2.98	
	40	0.9	16.8	14	41.2	2.94	
	45	0.9	27.8	15.8	46.1	2.92	
	50	1.0	28.0	17.5	52	2.97	
	60	1.0	28.0	18	53		
	70	1.1	46.2	20	58.8	2.94	
	10	0.85	6.4	3.5	10.8	3.09	
	15	0.9	7.9	5.2	15.7	3.02	
	20	0.9	7.9	7	20.6	2.94	
8	25	1.0	12.0	8.7	25.5	2.93	
	30	1.0	12.0	10.5	31.4	2.99	
	35	1.0	12.0	12.2	36.3	2.98	
	40	1.1	18.7	14	41.2	2.94	
	45	1.1	18.7	15.8	46.7	2.96	
	50	1.1	18.7	17.5	52	2.97	
	60	1.2	28.2	21	61.8	2.94	
	70	1.3	42.0	24.5	72.6	2.96	
	10	0.85	6.4	3.5	10.8	3.09	
	15	0.9	7.9	5.2	15.7	3.02	
	20	0.9	7.9	7	20.6	2.94	

□ YUM Fmax. (Maximum Allowable Deflection) = L × (28~35)%

Part Number Code	D	L	d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
10	10	0.9	5.2	3.5	10.8	3.09	
	15	1.0	7.3	5.2	15.7	3.02	
	20	1.0	7.3	7	20.6	2.94	
	25	1.1	10.5	8.7	25.5	2.93	
	30	1.1	10.5	10.5	31.4	2.99	
	35	1.2	15	12.2	36.3	2.98	
	40	1.2	15	14	41.2	2.94	
	45	1.3	21.8	15.8	46.1	2.92	
	50	1.3	21.8	17.5	52	2.97	
	60	1.4	30.8	21	61.8	2.94	
	70	1.4	30.8	24.5	72.6	2.96	
	13	15	1.2	8.4	5.2	15.7	3.02
20		1.3	11.1	7	20.6	2.94	
25		1.3	11.1	8.7	25.5	2.93	
30		1.4	15.1	10.5	31.4	2.99	
35		1.4	15.1	12.2	36.3	2.98	
40		1.4	15.1	14	41.2	2.94	
45		1.4	15.1	15.8	46.1	2.92	
50		1.6	27.2	17.5	52	2.97	
60		1.6	27.2	21	61.8	2.94	
70		1.6	27.2	24.5	72.6	2.96	
80		1.7	36.2	28	82.4	2.94	
15		1.4	9.6	5.2	15.7	3.02	
16	20	1.5	12.4	7	20.6	2.94	
	25	1.5	12.4	8.7	25.5	2.93	
	30	1.5	12.4	10.5	31.4	2.99	
	35	1.6	15.6	12.2	36.3	2.98	
	40	1.6	15.6	14	41.2	2.94	
	45	1.7	20.4	15.8	46.1	2.92	
	50	1.7	20.4	17.5	52	2.97	
	60	1.8	26.1	21	61.8	2.94	
	70	1.8	26.1	24.5	72.6	2.96	
	80	1.8	26.1	28	82.4	2.94	
	20	1.8	11.3	7	34.3	4.90	
	25	1.9	13.3	8.8	43.1	4.95	
20	30	1.9	13.3	10.5	52	4.95	
	35	2	16	12.3	59.8	4.86	
	40	2	16	14	68.6	4.90	
	45	2.2	23.7	15.8	77.5	4.91	
	50	2.2	23.7	17.5	86.3	4.93	
	60	2.1	34.8	21	103	4.90	
	70	2.1	34.8	24.5	120.6	4.92	
	80	2.4	34.8	28	137.3	4.90	

YUH Fmax.(Maximum Allowable Deflection)= L×(20~30)%

Part Number			d	Solid Height	Fmax	Load N max.	Spring Constant N/mm			
Code	D	L								
4	(5)	0.45	2.7	1.5	4.4	2.93				
	(10)	0.5	3.8	3	8.8					
	15	0.6	8.1	4.5	13.2					
	20	0.65	11.7	6	17.6					
	25	0.7	16.8	7.5	22.1			2.95		
	30			9	26.5			2.94		
	(5)	0.55	3.3	1.5	4.4			2.93		
	10	0.6	4.65	3	8.8					
	15	0.75	11.81	4.5	13.2					2.95
	20			6	17.6					2.94
	25	0.85	21.68	7.5	22.1					2.95
	30			9	26.5					2.94
35	0.9	28.8	10.5	30.9	2.94					
40			12	35.3	2.94					
45	0.9	28.8	13.5	39.7	2.94					
50			15	44.1	2.94					
(5)	0.65	3.2	1.5	8.8	5.87	5.88				
10	0.7	3.9	3	17.7	5.90					
15	0.85	7.7	4.5	26.5	5.89					
20	0.9	9.7	6	35.3	5.88					
25	1.0	15.5	7.5	44.1	5.88					
30			9	53	5.89					
35	1.1	24.8	9.8	57.9	5.91					
40			10	58.8	5.88					
45	1.1	24.8	11.3	66.7	5.90					
50			10	58.8	5.88					
60	1.2	39.0	14	82.4	5.89					
70			15	88.3	5.89					
10	0.9	5.3	3	17.7	5.90					
15			4.5	26.5	5.89					
20	1.1	11	6	35.3	5.88					
25			7.5	44.1	5.88					
30	1.2	15.9	9	53	5.89					
35			10.5	61.8	5.89					
40	1.3	23.1	12	70.6	5.88					
45			13.5	79.4	5.89					
50	1.4	33.3	15	88.3	5.89					
60			18	105.9	5.88					
70	1.5	48.0	19	111.8	5.88					
80			21	123.6	5.89					
10	1.1	6.9	3	17.7	5.90					
15			4.5	26.5	5.89					
20	1.2	9.3	6	35.3	5.88					
25			7.5	44.1	5.88					
30	1.3	12.7	9	53	5.89					
35			10.5	61.8	5.89					
40	1.4	17.5	12	70.6	5.88					
45			13.5	79.4	5.88					
50	1.5	23.8	15	88.3	5.89					
60			18	105.9	5.88					
70	1.6	32.4	21	123.6	5.89					
80			24	141.4	5.89					
13	1.5	9.2	4.5	44.1	9.80					
20			6	58.8	9.80					
25	1.5	9.2	7.5	73.5	9.80					
30			9	88.3	9.80					
35	1.8	18	10.5	103	9.81					
40			12	117.7	9.81					
45	1.8	18	13.5	132.4	9.81					
50			15	147.1	9.81					
60	2.0	28.5	18	176.5	9.80					
70	2.1	36	21	205.9	9.80					
80	2.2	45.1	20	196.1	9.81					

YUH

YUH Fmax.(Maximum Allowable Deflection)= L×(20~30)%

Part Number			d	Solid Height	Fmax	Load N max.	Spring Constant N/mm
Code	D	L					
15	15	1.7	9.6	4.6	44.1	9.59	
	20	1.9	14	6	58.8	9.80	
	25			7.5	73.5	9.80	
	30	2.2	25.1	9	88.3	9.81	
	35			10.5	103	9.81	
	40	2.3	30.5	12	117.7	9.81	
	45			13.5	132.4	9.81	
	50	2.5	44.7	15	147.1	9.80	
	60			18	176.5	9.80	
	70	2.5	44.7	21	205.9	9.80	
	80			24	235.4	9.81	
	20	2.3	13.8	7.5	110.8	14.77	
30	9			132.4	14.71		
35	2.5	18.8	10.5	154.9	14.75		
40			12	176.5	14.71		
45	2.8	29.4	13.5	199.1	14.75		
50			15	220.6	14.71		
60	3	40.5	18	264.8	14.71		
70			21	308.9	14.71		
80	3.2	54.4	24	353	14.71		

YUH

① Allowable deflection Fmax: It indicates the maximum length of the Allowable Deflection of the spring. If the Allowable Deflection is exceeded, the spring will shorten.

② Max. load (Nmax) : allowable load of deflection Fmax, unit : N.

③ Spring Constant N/mm=(Nmax)/(Fmax).



Please order as shown

Part Number			
Code	D	L	d
YUH	4	5	0.45
YUH	4	10	0.5
YUH	4	15	0.6

YUH-D4-L5



Discount price			
Per	1~3	4~	Additional quotation
Price	100%		

Delivery	
Per	6
Price	

① () Both ends of the size are not grounded.

Round Wire Springs

Outer Diameter Selectable, Stainless Steel

Code	Type	Material		Maximum Allowable Deflection	Spring Constant Tolerance
		GB	Equiv.		
YUTT	Outer Diameter Selectable	0Cr18Ni9	SUS304	L×(27~40)%	±10%

□ D Tol.

□ L Tol.

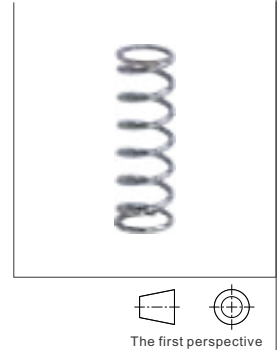
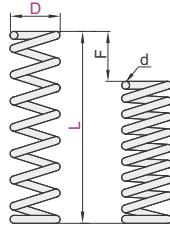
D	Tol.	L	Tol.
10 or Less	0 -0.5	50 or Less	±1.5
12 or More	0 -0.8	55 or More	±2.5

ⓘ The solid height values are for reference only.

There may be some variation between lots.

ⓘ Usage Count: 1 Million Times.

ⓘ () Both ends of the size are not grounded.



The first perspective

Part Number		d	Solid Height	Fmax	Load N max.	Spring Constant N/mm	
Code	D L						
3	(5)	0.35	2.8	2	2.9	1.45	
	(10)	0.4	4.8	4	5.9	1.48	
	(15)	0.45	8.3	6	8.8	1.47	
	(20)				8.8		
	(25)	0.5	14	8	11.8	1.48	
	(30)				11.8		
	4	(5)	0.4	2.6	2	2.9	1.45
		(10)	0.45	3.9	4	5.9	1.48
		(15)	0.5	6	6	8.8	1.47
		(20)	0.55	9.4	8	11.8	1.48
25		0.6	14.4	10	14.7	1.47	
30					14.7		
5	(5)	0.45	2.6	2	2.9	1.45	
	(10)	0.5	3.6	4	5.9	1.48	
	15	0.6	7.5	6	8.8	1.47	
	20				8.8		
	25	0.65	10.7	10	14.7	1.47	
	30				14.7		
6	(5)	0.5	2.4	2	3.9	1.95	
	10	0.6	4.2	4	7.8	1.95	
	15	0.7	7.4	6	11.8	1.97	
	20				11.8		
	25	0.8	13.6	10	19.6	1.96	
	30				19.6		
7	35	0.85	17.5	14	27.5	1.96	
	40				27.5		
	45	0.9	23.4	16	31.4	1.96	
	50				31.4		
	60	1	41	18	35.3	1.96	
	70				35.3		
8	10	1	41	24	47.1	1.96	
	15				47.1		
	20	0.75	5.3	4	7.8	1.95	
	25				7.8		
	30	0.9	10.4	6	11.8	1.97	
	35				11.8		
9	40	0.9	10.4	8	15.7	1.96	
	45				15.7		
	50	1.1	25.3	10	19.6	1.96	
	60				19.6		
	70	1.2	39.6	12	23.5	1.96	
	80				23.5		
10	10	1.2	39.6	24	47.1	1.96	
	15				47.1		
	20	0.85	5.1	4	7.8	1.95	
	25				7.8		
	30	1	9.5	6	11.8	1.97	
	35				11.8		
11	40	1	9.5	8	15.7	1.96	
	45				15.7		
	50	1.1	25.3	10	19.6	1.96	
	60				19.6		
	70	1.2	39.6	12	23.5	1.96	
	80				23.5		
12	10	1.1	14.3	12	23.5	1.96	
	15				23.5		
	20	1.1	14.3	14	27.5	1.96	
	25				27.5		
	30	1.2	20.4	16	31.4	1.96	
	35				31.4		
13	40	1.2	20.4	18	35.3	1.96	
	45				35.3		
	50	1.3	29.9	20	39.2	1.96	
	60				39.2		
	70	1.3	29.9	24	47.1	1.96	
	80				47.1		
14	10	1.4	43.4	24	47.1	1.96	
	15				47.1		
	20	1	5.75	6	11.8	1.97	
	25				11.8		
	30	1.2	10.5	8	15.7	1.96	
	35				15.7		
15	40	1.2	10.5	10	19.6	1.96	
	45				19.6		
	50	1.3	15	12	23.5	1.96	
	60				23.5		
	70	1.3	15	14	27.5	1.96	
	80				27.5		
16	10	1.3	15	16	31.4	1.96	
	15				31.4		
	20	1.4	20.3	18	35.3	1.96	
	25				35.3		
	30	1.5	27.8	20	39.2	1.96	
	35				39.2		
17	40	1.5	27.8	24	47.1	1.96	
	45				47.1		
	50	1.6	38.4	28	54.9	1.96	
	60				54.9		
	70	1.6	38.4	32	62.8	1.96	
	80				62.8		

Part Number		d	Solid Height	Fmax	Load N max.	Spring Constant N/mm	
Code	D L						
3	15	1.2	7.2	6	11.8	1.97	
	20	1.3	9.1	8	15.7	1.96	
	25				15.7		
	30	1.4	12.3	10	19.6	1.96	
	35				19.6		
	16	40	1.5	16.5	12	23.5	1.96
		45				23.5	
		50	1.6	21.6	14	27.5	1.96
		60				27.5	
		70	1.7	28	16	31.4	1.96
80		31.4					
20	20	1.7	10.6	18	35.3	1.96	
	25				35.3		
	30	1.8	12.6	20	39.2	1.96	
	35				39.2		
	40	1.8	36	24	47.1	1.96	
	45				47.1		
25	50	1.8	36	28	54.9	1.96	
	60				54.9		
	70	1.7	10.6	32	62.8	1.96	
	80				62.8		
	30	20	1.7	10.6	8	31.4	3.93
		25				31.4	
30		1.8	12.6	10	39.2	3.92	
35					39.2		
40		1.8	12.6	12	47.1	3.93	
45					47.1		
40	35	1.8	12.6	14	54.9	3.92	
	40				54.9		
	45	2	19	16	62.8	3.93	
	50				62.8		
	60	2	19	18	70.6	3.93	
	70				70.6		
50	50	2.2	27.5	20	78.5	3.93	
	60				78.5		
	70	2.3	34.5	24	94.1	3.92	
	80				94.1		
	60	70	2.3	34.5	28	109.8	3.92
		80				109.8	
80		80	2.4	40.8	32	125.5	3.92
		90				125.5	

ⓘ Allowable deflection Fmax: It indicates the maximum length of the Allowable Deflection of the spring. If the Allowable Deflection is exceeded, the spring will shorten.

ⓘ Max. load (Nmax) : allowable load of deflection Fmax, unit : N.

ⓘ Spring Constant N/mm=(Nmax)/(Fmax).

☎ Please order as shown

Part Number				d
Code	D	L		
YUTT	3	5		0.35
		10		0.4

YUTT - D3 - L5

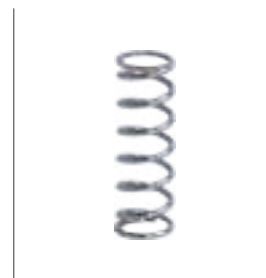
💰 Discount price

Per	1~3	4~
Price	100%	Additional quotation

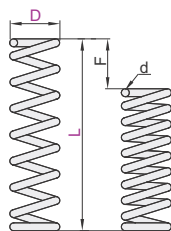
🚚 Delivery

6

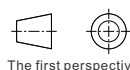
Code	Type	Material		Maximum Allowable Deflection	Spring Constant Tolerance
		GB	Equiv.		
YUBB	Outer Diameter Selectable	0Cr18Ni9	SUS304	L×(15~25)%	±10%



D Tol.		L Tol.	
D	Tol.	L	Tol.
10 or Less	0 -0.5	50 or Less	±1.5
12 or More	0 -0.8	55 or More	±2.5



- ⓘ The solid height values are for reference only. There may be some variation between lots.
- ⓘ Usage Count: 1 Million Times.
- ⓘ () Both ends of the size are not grounded.



The first perspective

Part Number		d	Solid Height	Fmax	Load N max.	Spring Constant N/mm	
Code	D L						
YUBB	4	(5)	0.55	3.3	1.25	6.1	4.88
		10	0.65	7	2.5	12.3	4.92
		15	0.7	10.3	3.75	18.4	4.91
		20	0.75	14.4	5	24.5	4.90
		25	0.8	19.4	5	24.5	4.90
	5	5	0.6	2.9	1.25	6.1	4.88
		10	0.75	6.9	2.5	12.3	4.92
		15	0.8	9.8	3.75	18.4	4.91
		20	0.85	13.4	5	24.5	4.90
		25	0.9	17.8	6.25	30.6	4.90
	6	30	0.9	21.8	7.5	36.8	4.91
		5	0.8	3.6	1.25	12.3	9.84
		10	0.9	6.8	2.5	24.5	9.80
		15	1	10.5	3.75	36.8	9.81
		20	1.1	14.6	5	49	9.80
	8	25	1.1	17.9	6.25	61.3	9.81
		30	1.2	23.1	6	58.8	9.80
		35	1.2	27.3	7	68.6	9.80
		40	1.2	31.2	8	78.5	9.80
		45	1.3	34.8	9	88.3	9.81
10	50	1.3	38.4	10	98.1	9.81	
	60	1.4	44.2	9	88.3	9.80	
	70	1.4	58.5	10.5	103	9.80	
	10	1.1	6.9	2.5	24.5	9.80	
	15	1.2	9.9	3.75	36.8	9.81	
12	20	1.3	14	5	49	9.80	
	25	1.3	14.5	6.25	61.3	9.81	
	30	1.4	21.4	7.5	73.5	9.80	
	35	1.4	22	8.75	85.8	9.81	
	40	1.5	28.9	10	98.1	9.81	
15	45	1.5	32.6	11.25	110	9.78	
	10	1.3	7.2	2.5	24.5	9.80	
	15	1.4	10.2	3.75	36.8	9.81	
	20	1.5	13.9	5	49	9.80	
	25	1.5	16.1	6.25	61.3	9.81	
20	30	1.6	20.4	7.5	73.5	9.80	
	35	1.6	22.8	8.75	85.8	9.81	
	40	1.7	27.2	10	98.1	9.81	
	45	1.7	30.6	11.25	110	9.78	
	50	1.8	36.5	12.5	123	9.84	
25	60	1.8	41.4	15	147	9.80	
	70	1.9	50.8	17.5	172	9.83	
	15	1.5	9.4	3.75	36.8	9.81	
	20	1.6	12.4	5	49	9.80	
	25	1.7	16.2	6.25	61.3	9.81	
30	30	1.8	20.3	7.5	73.5	9.80	
	40	1.9	28	10	98.1	9.81	
	50	2	35.5	12.5	123	9.84	
	60	2	43.6	15	147	9.80	
	70	2.1	48.8	17.5	172	9.83	
80	2.2	58.5	20	196	9.80		

Part Number		d	Solid Height	Fmax	Load N max.	Spring Constant N/mm	
Code	D L						
YUBB	16	15	2	10	3.75	73.5	19.60
		20	2.1	12.1	5	98.1	19.62
		25	2.3	17.3	6.25	123	19.68
		30	2.4	21	7.5	147	19.60
		35	2.5	24.4	8.75	172	19.66
	20	40	2.6	28	10	196	19.60
		45	2.7	31.7	11.25	221	19.64
		50	2.7	35.8	12.5	245	19.60
		60	2.9	43.5	15	294	19.60
		70	2.9	49.4	17.5	343	19.60
	25	80	3	59.3	16	314	19.63
		25	2.9	16.7	6.25	184	29.44
		30	3	20.3	7.5	221	29.47
		35	3	22.7	8.75	257	29.37
		40	3.2	27.2	10	294	29.40
	30	45	3.2	29.6	9	265	29.44
		50	3.4	38.3	10	294	29.40
		60	3.5	44.6	12	353	29.42

- ⓘ Allowable deflection Fmax: It indicates the maximum length of the Allowable Deflection of the spring. If the Allowable Deflection is exceeded, the spring will shorten.
- ⓘ Max. load (Nmax) : allowable load of deflection Fmax, unit : N.
- ⓘ Spring Constant N/mm=(Nmax)/(Fmax).

Please order as shown

Part Number			
Code	D	L	d
YUBB	4	5	0.55
	10	10	0.65

YUBB - D4 - L5

Discount price

Per	1~3	4~
Price	100%	Additional fluctuation

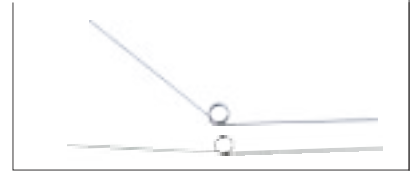
Delivery

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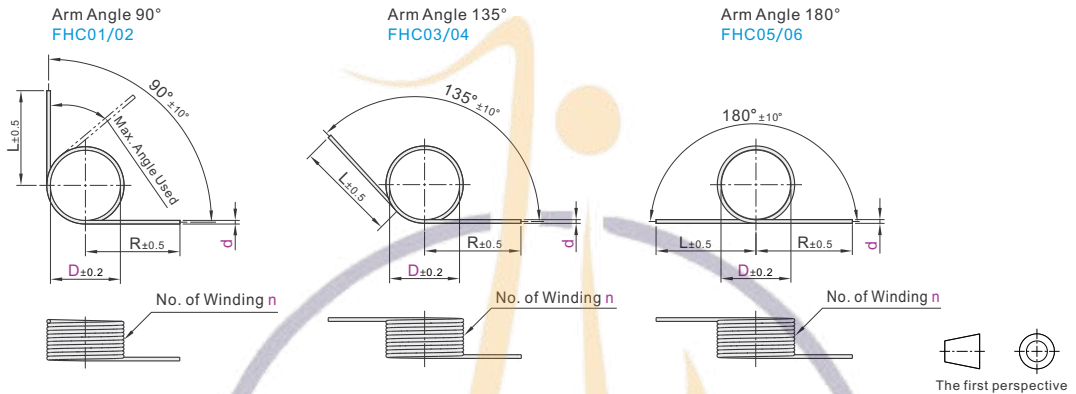
Springs Gas Springs C4

Torsion Springs

Code	Type	Material		Winding Direction	Arm Angle
		GB	Equiv.		
FHC01	Torsion Springs	0Cr18Ni9	SUS304-WPB	Left Winding	90°
FHC02				Right Winding	
FHC03				Left Winding	135°
FHC04				Right Winding	
FHC05				Left Winding	180°
FHC06				Right Winding	



- Spring Constant: It is a reference value when arm length is cut to be L/2, R/2.
- Matters Needing Attention:
 - Torsion springs should be compressed in the "closing" direction.
 - The above drawing is right winding type.



Part Number Code	No. of Winding n	Wire Dia. d	Arm Length L/R	Spring Constant (Torque) N · mm / deg			Max. Angle Used Deg (deg)				
				Arm Angle 90°	Arm Angle 135°	Arm angle 180°	Arm Angle 90°	Arm Angle 135°	Arm Angle 180°		
Arm Angle 90° FHC01(Left Winding) FHC02(Right Winding)	2	0.2	20	0.0113	0.0115	0.0120	40	39	35		
		0.3		0.0561	0.0585	0.0610	25	24	21		
		0.2		0.0085	0.0085	0.0090	58	57	53		
		0.3		0.0425	0.0440	0.0450	36	34	33		
		0.4		0.0342	0.0350	0.0360	50	48	45		
		0.3		0.1053	0.1075	0.1105	36	33	32		
	3	3	0.4	30	0.0287	0.0290	0.0300	60	58	56	
			0.4		0.0880	0.0895	0.0915	45	43	41	
			0.3		0.0385	0.0400	0.0415	38	36	33	
			0.4		0.1197	0.1245	0.1300	28	25	22	
			0.3		0.0293	0.0300	0.0310	54	52	50	
			0.4		0.0910	0.0935	0.0965	41	39	38	
Arm Angle 135° FHC03(Left Winding) FHC04(Right Winding)	4	0.4	40	0.0734	0.0750	0.0770	54	52	50		
				0.5	0.1754	0.1795	0.1840	43	41	40	
				0.4	0.0615	0.0625	0.0640	70	66	64	
				0.5	0.1470	0.1500	0.1530	52	51	50	
				0.4	0.0916	0.0950	0.0995	37	34	33	
				0.5	0.2204	0.2295	0.2390	28	26	25	
	5	5	0.5	50	0.0650	0.0720	0.0740	55	52	51	
					0.6	0.1675	0.1730	0.1785	40	40	37
					0.5	0.1355	0.1385	0.1420	55	52	49
					0.6	0.2760	0.2830	0.2900	46	46	43
					0.5	0.1136	0.1160	0.1180	66	66	63
					0.6	0.2311	0.2360	0.2410	58	57	55
Arm Angle 180° FHC05(Left Winding) FHC06(Right Winding)	6	0.6	60	0.1791	0.1865	0.1940	37	34	32		
				0.8	0.3670	0.3820	0.3980	30	28	25	
				0.5	0.1365	0.1405	0.1450	53	50	50	
				0.6	0.2795	0.2880	0.2970	44	42	40	
				0.8	0.2255	0.2310	0.2370	58	56	54	
				1.0	0.6935	0.7105	0.7285	41	40	38	
	2	2	0.8	60	0.1890	0.1930	0.1970	73	71	70	
					1.0	0.5810	0.5930	0.6055	52	51	50
					0.6	0.3095	0.3220	0.3355	35	34	32
					0.8	0.9585	0.9980	1.0405	24	23	22
					0.6	0.2360	0.2435	0.2510	54	50	48
					0.8	0.7295	0.7520	0.7760	36	34	33
3	3	1.0	60	0.5890	0.6035	0.6185	48	46	46		
				1.4040	1.4390	1.4755	40	37	37		
				0.8	0.4935	0.5040	0.5145	61	60	58	
				1.0	1.1760	1.2005	1.2260	50	48	47	

1 (kgf=9.8)N 1deg=1°(Angle)



Part Number	n	d
FHC01	2	0.2
FHC02	2	0.3

FHC02 - D2 - n2 - d0.3



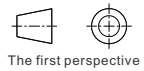
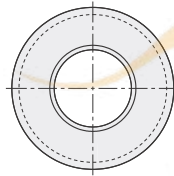
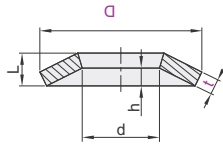
Discount price	Per	1~19	20~
Price	100%	Additional quotation	



Delivery
6

Disk Springs

Code	Type	Material		Surface Treatment	Maximum Allowable Deflection
		GB	Equiv.		
FEN02	Disk Springs	0Cr18Ni9	SUS304	—	h×75%



Applicable standards of this product: DIN 2093.

The first perspective

Part Number Code	D	Thickness (t)	d	at 75% deflection (h)	Total Height		Load (75% Deflection) N	
					L	L		
FEN02	8	0.3	4.2	0.25	0.55	±0.10	104	
		0.4		0.2	0.6		184	
	10	0.4	5.2	0.3	0.7		184	
		0.5		0.25	0.75		290	
	12.5	0.5	6.2	0.35	0.85		263	
		0.7		0.3	1		592	
	14	0.5	7.2	0.4	0.9		246	
		0.8		0.3	1.1		713	
	16	0.6	8.2	0.45	1.05		369	
		0.9		0.35	1.25		925	
	18	0.7	9.2	0.5	1.2		510	
		1		0.4	1.4		±0.15	1146
	20	0.8	10.2	0.55	1.35		±0.10	669
		1.1		0.45	1.55		±0.15	1367
	22.5	0.8	11.2	0.65	1.45		±0.10	634
		1.25		0.5	1.75		±0.15	1543
	25	0.9	12.2	0.7	1.6		±0.10	775
		1.5		0.55	2.05		±0.15	3176
	28	1	14.2	0.8	1.8		±0.10	1014
		1.5		0.65	2.15		±0.15	3088
31.5	1.25	16.3	0.9	2.15	±0.15	1543		
	1.75		0.7	2.45		3794		
35.5	1.25	18.3	1	2.25	±0.15	1367		
	2		0.8	2.8		4676		
40	1.5	20.4	1.15	2.65	±0.15	2823		
	2.25		0.9	3.15		5471		
45	1.75	22.4	1.3	3.05	±0.15	3529		
	2.5		1	3.5	±0.20	6927		
50	2	25.4	1.4	3.4	±0.15	4279		
	3		1.1	4.1	±0.20	10766		

Load is reference value.



Part Number	D	(t)	d
FEN02	8	0.3	4.2
	10	0.5	5.2

FEN02-D8-t0.4



Discount price	Per	1~49	50~
Price	100%	Additional quotation	

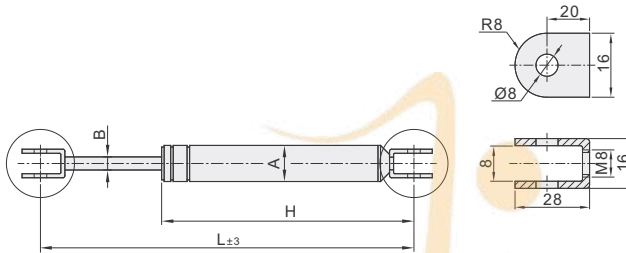


Delivery
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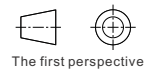
Head Mounted U-Type ▶ Gas Springs



Code	Type	Material			Surface Treatment			Gas	Operating Temperature
		Cylinder	Rod	Tip	Cylinder	Rod	Tip		
FHJ02	Head Mounted U-Type	STKM11A	S20C	Q235	Baked-On (Black Matt)	Hard Chrome Plating	Color zinc plating	Nitrogen Gas N ₂	-20°C~60°C



Gas Springs Tolerance Standard	
Force (N)	Tolerance Range
≤100	-5/+15
101~200	-10/+20
201~400	-15/+30
401~600	-20/+40
601~800	-25/+50
801~1000	-30/+60
1001~1200	-35/+70
> 1200	-40/+80



Part Number		Cylinder Diameter	Stroke	Gas Reaction Force(20°C)		L max	L min	A	B	H	Weight(g) (Reference)		
Code	No.			Max.Length-10mm (kgf)									
FHJ02	22050	22	50	27	230	180	22	10		161	215		
	22080		80	28	314	234						215	270
	22090		90	27	344	254						234	280
	22100		100	28	370	270						250	305
	22120		120	28	424	304						284	320
	22130		130	28	454	324						304	330
	22150		150	28	510	360						340	400
	22180		180	28	594	414						393	420
	22200		200	27	650	450						432	480
	22250		250	31	734	484						465	540
22300	300	33	834	534	514	600							



Part Number		Cylinder Diameter	Stroke
Code	No.		
FHJ02	22050	22	50
	22080		80

FHJ02 — 22050



Discount price		
Per	1~9	10~
Price	100%	Additional quotation



Springs Gas Springs C4

Reaction Force Selection Type ▶ Mounting Orientation Limited Type

Gas Springs



Code	Type	Material				Surface Treatment			Gas	Operating Temperature
		Cylinder	Rod	Bushing	Tip	Cylinder	Rod	Tip		
FHJ41	Mounting Orientation Limited Type	STKM11A	S20C	Polyacetal (White)	Q235	Baked-On (Black Matt)	Hard Chrome Plating	Baked-On (Black Matt)	Nitrogen Gas N ₂	-20°C~60°C

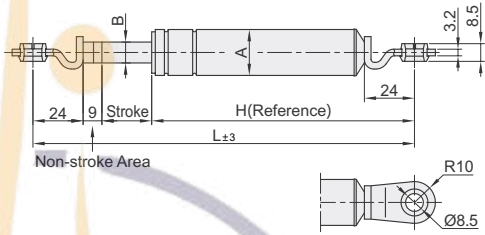
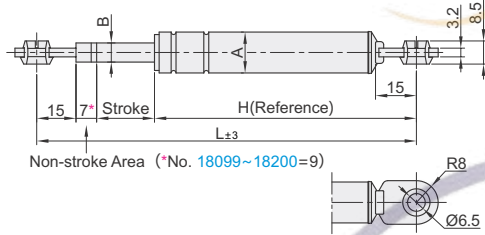
① For No. 15049, operating temperature should be 0~60°C.

Force (N)	Tolerance Range
≤100	-5/+15
101~200	-10/+20
201~400	-15/+30
401~600	-20/+40

Force (N)	Tolerance Range
601~800	-25/+50
801~1000	-30/+60
1001~1200	-35/+70
>1200	-40/+80

No. 15049~18200

No. 22250~22360



① See P964 for applicable gas spring mounting bracket.

Part Number Code	Reaction Force Fa	Lmax	Lmin	Stroke max	Gas Reaction Force(20°C)				A	B	H	Applicable Mounting Bracket	Weight (g)	
					Max.Length-10mm Stroke		Max.Length-(s)mm Stroke							(S)
					N	kgf	N	kgf						
FHJ41	030	181	132	49	30	3	40	4.1	39	110	110		81	
	055				55	6	71	7.2						
	070				70	7.1	89	9						
	085	15069	221	152	69	85	9	109	11.1	59	15	6	130	94
	150					150	15	191	19.5					
	050					50	5	67	6.8					
	080	15089	261	172	89	80	8	107	10.9	79	150	150		107
	100					100	10.2	132	13.4					
	120					120	12	158	16.1					
	070	15099	281	182	99	70	7	94	9.6	89	160	160		114
	085					85	8.7	115	11.7					
	100					100	10	135	13.8					
	150	18099	281	184	97	150	15	202	20.6	110	180	180		120
	200					200	20	268	27.3					
	075					75	8	101	10.3					
	120	18120	365	245	120	120	12	162	16.5	140	180	180		140
	200					200	20	270	27.6					
	300					300	30.5	392	39.9					
	400	18150	420	270	150	400	40.7	522	53.2	140	18	8	246	203
	100					100	10	123	13					
	150					150	15	188	19.2					
	200	18200	525	325	200	200	20	251	25.6	190	301	301		246
	250					250	26	313	31.9					
	100					100	10	127	13					
	150	22250	635	385	250	150	15	190	19.4	240	10	352		407
	200					200	20	257	26.2					
	300					300	31	384	39.2					
	400	22270	670	400	270	400	41	511	52.1	260	22	12.5	367	529
345	345					35	528	53.9						
500	500					51	763	77.9						
700	22290	700	410	290	700	71	1065	108.7	280	377	377		554	
745					745	76	1160	118.4						
845					845	86	1314	134.1						
200	22300	740	440	300	200	20	257	26.2	290	10	407		467	
250					250	26	321	32.8						
300					300	31	385	39.3						
215	22360	833	473	360	215	22	284	29	350	440	440		521	
345					345	35	456	46.5						



Part Number	Reaction Force
Code	No.
(FHJ41)	(15049)
	055



Discount price
Per 1~9 10~
Price 100% Additional quotation



Delivery
10

FHJ41—15049—030

C4 Springs Gas Springs

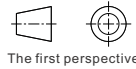
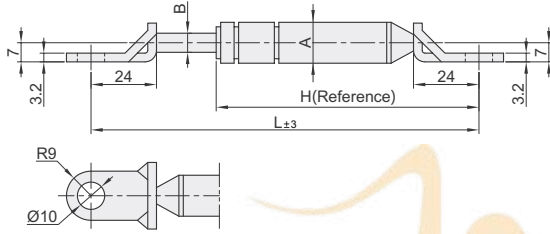
Gas Springs

Mounting Direction Free Type



Force (N)	Tolerance Range
≤100	-5/+15
101~200	-10/+20
201~400	-15/+30
401~600	-20/+40
601~800	-25/+50
801~1000	-30/+60
1001~1200	-35/+70
>1200	-40/+80

Code	Type	Material			Surface Treatment			Gas	Operating Temperature
		Cylinder	Rod	Tip	Cylinder	Rod	Tip		
FHJ46	Mounting Direction Free Type	STKM11A	S20C	Q235	Baked-On (Black Matt)	Hard Chrome Plating	Baked-On (Black Matt)	Nitrogen Gas N ₂	-20°C~60°C



Applicable gas spring mounting bracket see next page.

Part Number	Code	No.	Lmax	Lmin	Stroke	Gas Reaction Force(20°C)				Stroke (S)	A	B	H	Applicable Mounting Bracket	Weight (g)				
						Max.Length-10mm Stroke		Max.Length-(s)mm Stroke											
						N	Fa	N	Fb										
FHJ46	15050A	246	196	50	49	5	69	7	40	15	6	164		123					
	15050K				70	7.1	90	9.1											
	15050B				98	10	127	13											
	15080A	330	250	80	49	5	69	7	70										
	15080B				98	10	127	13											
	15090A	360	270	90	49	5	69	7	80										
	15090B				98	10	127	13											
	15100A	386	286	100	49	5	69	7	90										
	15100B				98	10	127	13											
	18100A	386	286	100	196	20	255	26	90						18	8	253	FHJ52-8A FHJ52-8B FHJ52-8C FHJ52-8D	208
	18100B				294	30	382	39											
	18150A	526	376	150	196	20	265	27	140										
	18150B				294	30	392	40											
	22050A	246	196	50	196	20	265	27	40						22	10	307		213
	22050B				294	30	402	41	40										
	22080A	330	250	80	196	20	274	28	70										
	22080B				294	30	412	42	70										
	22090A	360	270	90	196	20	265	27	80										
	22090B				294	30	402	41	80										
	22100A	386	286	100	196	20	274	28	90										
	22100B				294	30	412	42	90										
	22120A	440	320	120	196	20	274	28	110										
	22120B				294	30	402	41	110										
	22130A	470	340	130	196	20	274	28	120										
	22130B				294	30	402	41	120										
	22150A	526	376	150	196	20	274	28	140										
	22150B				294	30	402	41	140										
	22180A	610	430	180	196	20	274	28	170										
	22180B				294	30	402	41	170										
	22200A	666	466	200	196	20	265	27	190										
22200B				294	30	402	41	190											
22250A	750	500	250	196	20	304	31	240											
22250B				294	30	451	46	240											
22250C				392	40	598	61	240											
22300A	850	550	300	196	20	323	33	290											
22300B				294	30	490	50	290											

Gas Springs C4



Part Number		Lmax
Code	No.	
FHJ46	15050A 15050K	246

FHJ46 — 15050A



Discount price	
Per	1~9 10~
Price	100% Additional quotation

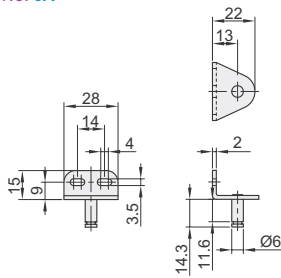


Delivery
10



Code	Material	Surface Treatment	Accessories
FHJ51	SS400	Black Oxide	①E Type Retaining Ring 1pc. ②Washer 1 pc.
FHJ52			①E Type Retaining Ring 1pc. ③POA Bushings each 1pc.

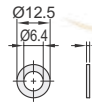
FHJ51
No. 6A



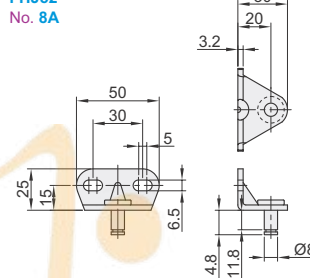
Accessories
①E Type Retaining Ring



②Washer



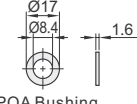
FHJ51
FHJ52
No. 8A



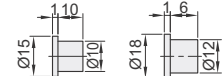
Accessories
①E Type Retaining Ring



②Washer

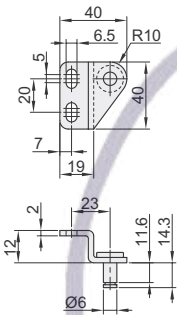
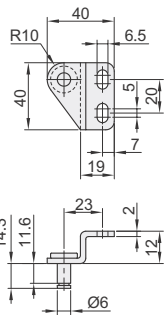


③POA Bushing



FHJ51
No. 6B

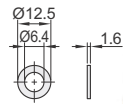
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Accessories
①E Type Retaining Ring

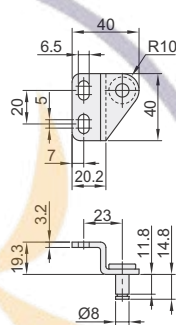
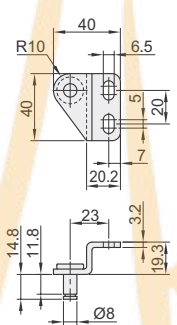


②Washer



FHJ51
FHJ52
No. 8B

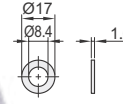
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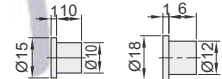
Accessories
①E Type Retaining Ring



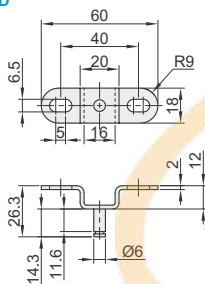
②Washer



③POA Bushing



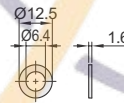
FHJ51
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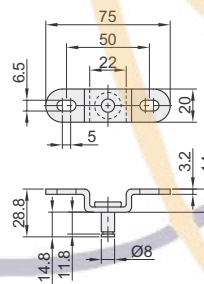
Accessories
①E Type Retaining Ring



②Washer



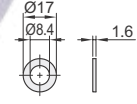
FHJ51
FHJ52
No. 8D



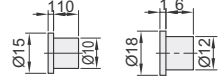
Accessories
①E Type Retaining Ring



②Washer



③POA Bushing



Part Number		Applicable Gas Springs	Weight (g)
Code	No.		
FHJ51	6A		15
	6B	FHJ41-15049/15069/15089/15099	
	6C	FHJ41-18099/18120/18150/18200	49
	6D		
	8A		61
	8B	FHJ41-22250/22270/22290	
	8C	FHJ41-22300/22360	53
	8D		
FHJ52	8A	FHJ46-15050/15080/15090/15100 FHJ46-18100/18150	62
	8B	FHJ46-22050/22080/22090	
	8C	FHJ46-22100/22120/22130/22150	54
	8D	FHJ46-22180/22200/22250/22300	



Please order as shown

Part Number		Applicable Gas Spring
Code	No.	
FHJ51	6B	FHJ41-15049/15069/15089
FHJ51	6A	FHJ41-18099/18120/18150



Discount price
Per 1~9 10~
Price 100% Additional quotation



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❗ See page P962 / P963 for applicable gas springs.

Gas Springs

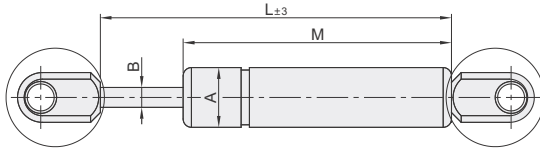
Reaction Force Selection

Mounting Head Selection Type

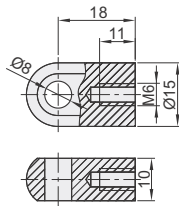
Code	Type	Material			Surface Treatment				Gas	Operating Temperature
		Cylinder	Rod	Tip	Cylinder	Rod	Tip Shape A	Tip Shape B		
FHL62	Reaction Force Selection	STKM11A	S20	Q235	Baked-On (Black Matt)	Hard Chrome Plating	Color zinc plating	Chrome plated	Nitrogen Gas N ₂	-20°C~60°C



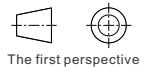
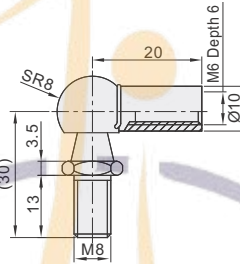
Nitrogen Spring Tolerance Standard	
Force (N)	Tolerance Range
≤100	-5/+15
101~200	-10/+20
201~400	-15/+30
401~600	-20/+40
601~800	-25/+50
801~1000	-30/+60
1001~1200	-35/+70
>1200	-40/+80



Tip Shape A



Tip Shape B



Code	Part Number		Gas Reaction Force(20°C)		L max	M	A	B	Weight(g) (Reference)
	Tip Shape	Stroke	Max.Length-5mm	Max.Length-5mm					
FHL62	A	60	100	171	105	18	8	140	
			125						
			150						
			200						
	B	80	100	211	127	18	8	190	
			150						
			200						
			300						
		100	100	251	146			200	
			200						



Please order as shown

Part Number		Gas Reaction Force(20°C)	
Code	Tip Shape	Stroke	Max.Length-5mm
FHL62	A	60	100
	B	80	125

FHL62 - B - 60 - 125



Discount price		
Per	1~9	10~
Price	100%	Additional quotation



Delivery	
10	

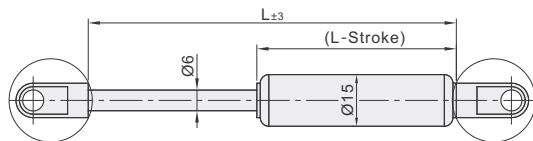
Reaction Force Fixed ▶ Mounting Head Selection Type

Gas Springs

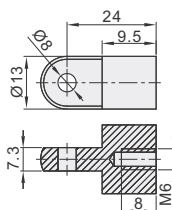


Nitrogen Spring Tolerance Standard	
Force (N)	Tolerance Range
≤100	-5/+15
101~200	-10/+20
201~400	-15/+30
401~600	-20/+40
601~800	-25/+50
801~1000	-30/+60
1001~1200	-35/+70
>1200	-40/+80

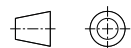
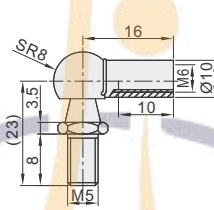
Code	Type	Material			Surface Treatment				Working Gas	Operating Temperature
		Cylinder	Rod	Tip	Cylinder	Rod	Clevis	Tip		
FHL52	Reaction Force Fixed	STKM11A	S20C	Q235	Baked-On (Black Matt)	Hard Chrome Plating	Zinc Galvanizing	Chrome plated	Nitrogen Gas N ₂	-20°C~80°C



Tip Shape A



Tip Shape B



The first perspective

Part Number			Gas Reaction Force(20°C)		L max	Weight(g) (Reference)
Code	Tip Shape	Stroke	Max.Length-5mm (N)	Min.Length+5mm Gas Reaction Force Change Rate		
FHL52	A B	40	50	126%	115	49
		50	50		135	55
		60	80		155	61
		80	100		195	73
		100	120		235	84
		120	150		275	96
		150	200		335	113



Please order as shown

Part Number		Gas Reaction Force(20°C)	
Code	Tip Shape	Stroke	Max.Length-5mm
FHL52	A	40	50
	B	50	

FHL52 — A — 40



Discount price

Per	1~9	10~
Price	100%	Additional quotation



Delivery

10