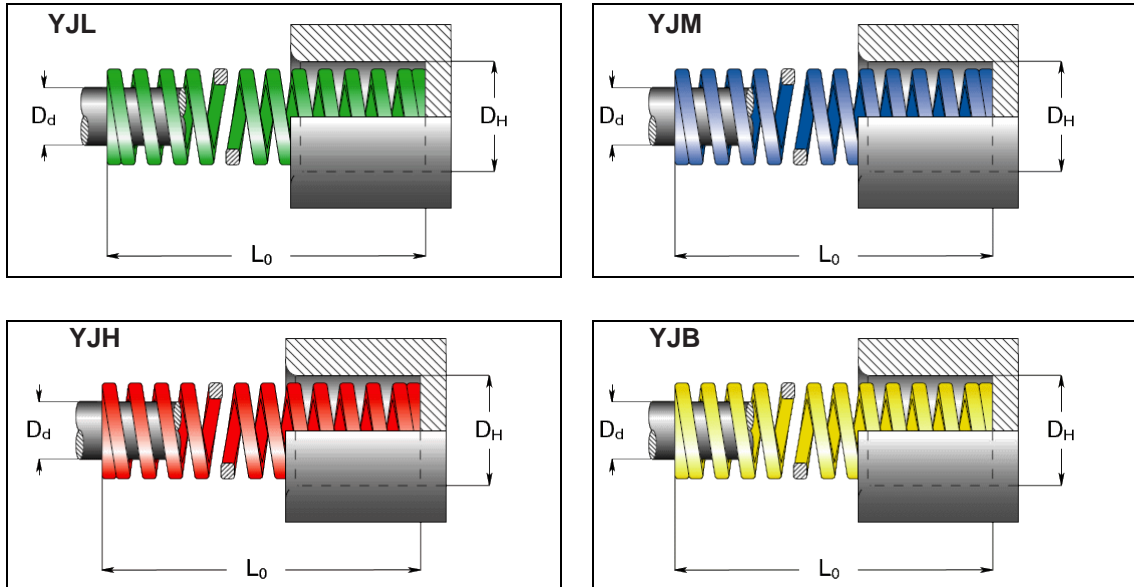


YU-DIING ISO 10243 standard Springs 宇頂ISO 10243標準彈簧

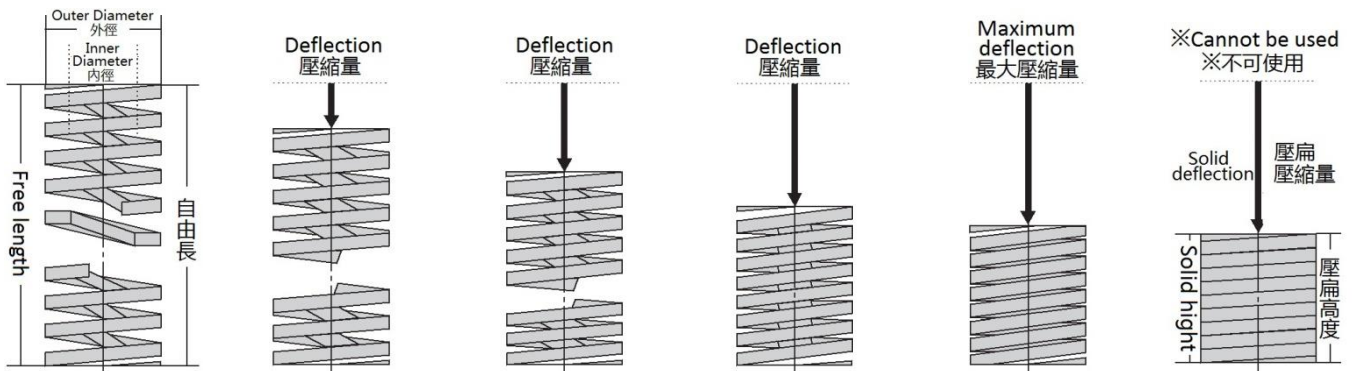
○ The appearance of the ISO springs ISO彈簧外觀



○ The relationship between the usage frequency and compression ratio of Yu-Diing ISO standard springs

宇頂ISO標準彈簧的使用壽命與壓縮比的關係

Type 種類	Usage frequency 使用次數	Free length X % 3,000,000cycles Deflection 自由長 X % 300萬次	Free length X % 1,500,000cycles Deflection 自由長 X % 150萬次	Free length X % 500,000cycles Deflection 自由長 X % 50萬次	Free length X % 200,000cycles Deflection 自由長 X % 20萬次	⚠ Solid deflection 壓扁壓縮量 (Free length X %) (自由長 X %)
YJL		25.0%	30.0%	35.0%	40.0%	(Reference value 參考值 42.0%)
YJM		25.0%	30.0%	33.75%	37.5%	(Reference value 參考值 39.5%)
YJH		20.0%	25.0%	27.5%	30.0%	(Reference value 參考值 32.0%)
YJB		17.0%	20.0%	22.5%	25.0%	(Reference value 參考值 27.0%)

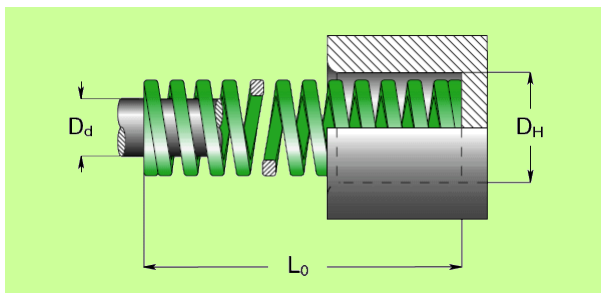


○ Yu-Diing has developed and added 76 unique sizes !

追加 76 種宇頂特有規格！

Caution! 注意!

It's necessary to note it 【JIS B 5012】 There is restriction on tolerance to the outside diameter and inside diameter, 【ISO 10243】 There is no restriction on tolerance to the outside diameter and inside diameter of springs. 【ISO 10243】 is the standard which restricted the hole diameter and the shaft diameter of a spring which enter. If you need to know the size of the outside diameter and the inside diameter before uses.
「JIS B 5012標準」對彈簧的外徑·內徑的容許公差進行規定，而「ISO 10243標準」則對彈簧的安裝孔徑和穿過彈簧的軸徑的容許公差進行規定，因此須對此特別注意。在使用之前，有必要確認彈簧的實際外徑和內徑時，請與本公司聯系。



DH : Housing Diameter
模孔徑

Dd : Spring-guide
Diameter
軸徑

Lo : Free Length
自由長

● Load Calculation Formula :
Load(N)=Spring Elasticity Constant × Deflection(mm)

● 荷重計算公式 :
荷重(N)=彈簧彈性係數×壓縮量(mm)

常規訂購方法 :
Order-Routine Specification
YJL 10 x 25 = 100
型號 外徑 自由長 數量
Model Outer Diameter Free Length Quantity

型號: YJL
Medel: YJL

顏色: 綠色
Color: Green

重荷重的最大壓縮量的計算公式
最大壓縮量 (mm) = 自由高度 x 40%

Calculation Formula of Maximum Deflection of Light Load
Maximum Deflection (mm) = Free Length x 40%

Allowable Tolerance 容許公差

Housing Diameter 模孔徑	Spring-guide Diameter 軸徑	Free Length 自由高度			Load 負荷	Windings 旋向
		25~64mm	76~115mm	127~305mm		
H15	h15	±3%	±2.5%	±2%	±10%	Right 右旋

Spring elasticity constant of YJL and the relationship between Working times and Load

YJL 的彈性係數以及使用次數和荷重的關係

Free Length 自由長	Hole Diameter 模孔徑 (mm)								
	10	12.5	16	20	25	32	40	50	63
Hole Diameter Tolerance 模孔徑公差 H15	+0.58 -0	+0.70 -0	+0.70 -0	+0.84 -0	+0.84 -0	+1.00 -0	+1.00 -0	+1.00 -0	+1.20 -0
25	12.0	24.0	30.0	60.0	90.0				
32	9.4	18.8	23.4	46.9	70.3				
38	7.9	15.8	19.7	39.5	59.2	92.1			
44	6.8	13.6	17.0	34.1	51.1	79.5			
51	5.9	11.8	14.7	29.4	44.1	68.6	98.0		
64	4.7	9.4	11.7	23.4	35.2	54.7	78.1	156.3	
76	3.9	7.9	9.9	19.7	29.6	46.1	65.8	131.6	197.4
89	3.4	6.7	8.4	16.9	25.3	39.3	56.2	112.4	168.5
102	2.9	5.9	7.4	14.7	22.1	34.3	49.0	98.0	147.1
115		5.2	6.5	13.0	19.6	30.4	43.5	87.0	130.4
127			5.9	11.8	17.7	27.6	39.4	78.7	118.1
139				10.8	16.2	25.2	36.0	71.9	
152				9.9	14.8	23.0	32.9	65.8	98.7
178				8.4	12.6	19.7	28.1	56.2	84.3
203				7.4	11.1	17.2	24.6	49.3	73.9
229					9.8	15.3	21.8	43.7	65.5
254						13.8	19.7	39.4	59.1
305	1.0	2.0	2.5	4.9	7.4	11.5	16.4	32.8	49.2
Rod Diameter 軸徑	5	6.3	8	10	12.5	16	20	25	38
Rod Diameter Tolerance 軸徑公差 h15	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.7	+0 -0.7	+0 -0.84	+0 -0.84	+0 -0.1

Deflection 壓縮量 (mm)				
3.0 million 300 萬次	1.5 million 150 萬次	0.5 million 50 萬次	0.2 million 20 萬次	Warning Can't be used 不可使用
6.3	7.5	8.8	10.0	10.5
8.0	9.6	11.2	12.8	13.4
9.5	11.4	13.3	15.2	16.0
11.0	13.2	15.4	17.6	18.5
12.8	15.3	17.9	20.4	21.4
16.0	19.2	22.4	25.6	26.9
19.0	22.8	26.6	30.4	31.9
22.3	26.7	31.2	35.6	37.4
25.5	30.6	35.7	40.8	42.8
28.8	34.5	40.3	46.0	48.3
31.8	38.1	44.5	50.8	53.3
34.8	41.7	48.7	55.6	58.4
38.0	45.6	53.2	60.8	63.8
44.5	53.4	62.3	71.2	74.8
50.8	60.9	71.1	81.2	85.3
57.3	68.7	80.2	91.6	96.2
63.5	76.2	88.9	101.6	106.7
76.3	91.5	106.8	122.0	128.1

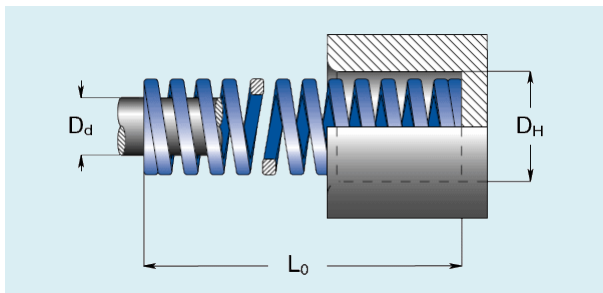
The value in the table is the Spring Elasticity Constant (N/mm)
表中數值為彈性係數 (N/mm)

Working Times 使用次數	Load 荷重 (N)								
	75	150	188	375	563	875	1250	2500	3750
3.0 million 300 萬次	75	150	188	375	563	875	1250	2500	3750
1.5 million 150 萬次	90	180	225	450	675	1050	1500	3000	4500
0.5 million 50 萬次	105	210	263	525	788	1225	1750	3500	5250
0.2 million 20 萬次	120	240	300	600	900	1400	2000	4000	6000

Deflection (% of Free Length) 壓縮量 (自由長%)	
Free Length x 25.0%	
Free Length x 30.0%	
Free Length x 35.0%	
Free Length x 40.0%	

1N = 0.1daN = 0.102kgf

1mm = 0.0394 in.



型號: YJM
Model: YJM

顏色: 藍色
Color: Blue

重荷重的最大壓縮量的計算公式
最大壓縮量 (mm) = 自由高度 x 37.5%

DH : Housing Diameter 模孔徑
Dd : Spring-guide Diameter 軸徑
L₀ : Free Length 自由長

● Load Calculation Formula :
Load(N)=Spring Elasticity Constant × Deflection(mm)
● 荷重計算公式 :
荷重(N)=彈簧彈性係數×壓縮量(mm)

常規訂購方法:
Order-Routine Specification
YJL 10 x 25 = 100 數量
型號 Model 外徑 Outer Diameter 自由長 Free Length

Calculation Formula of Maximum Deflection of Medium Load
Maximum Deflection (mm) = Free Length x 37.5%

Allowable Tolerance 容許公差

Housing Diameter 模孔徑	Spring-guide Diameter 軸徑	Free Length 自由高度			Load 負荷	Windings 旋向
		25~64mm	76~115mm	127~305mm		
H15	h15	±3%	±2.5%	±2%	±10%	Right 右旋

Spring elasticity constant of YJM and the relationship between Working times and Load YJM 的彈性係數以及使用次數和荷重的關係

Free Length 自由長	Hole Diameter 模孔徑 (mm)								
	10	12.5	16	20	25	32	40	50	63
Hole Diameter Tolerance 模孔徑公差 H15	+0.58 -0	+0.70 -0	+0.70 -0	+0.84 -0	+0.84 -0	+1.00 -0	+1.00 -0	+1.00 -0	+1.20 -0
25	18.1	32.0	53.3	85.3	128.0				
32	14.2	25.0	41.7	66.7	100.0				
38	11.9	21.1	35.1	56.1	84.2	154.4			
44	10.3	18.2	30.3	48.5	72.7	133.3			
51	8.9	15.7	26.1	41.8	62.7	115.0	156.9		
64	7.1	12.5	20.8	33.3	50.0	91.7	125.0	208.3	
76	6.0	10.5	17.5	28.1	42.1	77.2	105.3	175.4	280.7
89	5.1	9.0	15.0	24.0	36.0	65.9	89.9	149.8	239.7
102	4.4	7.8	13.1	20.9	25.5	57.5	78.4	130.7	209.2
115		7.0	11.6	18.6	27.8	51.0	69.6	115.9	185.5
127			10.5	16.8	25.2	46.2	63.0	105.0	168.0
139				15.3	23.0	42.2	57.6	95.9	
152				14.0	21.1	38.6	52.6	87.7	140.4
178				12.0	18.0	33.0	44.9	74.9	119.9
203				10.5	15.8	28.9	39.4	65.7	105.1
229					14.0	25.6	34.9	58.2	93.2
254						23.1	31.5	52.5	84.0
305	1.5	2.6	4.4	7.0	10.5	19.2	26.2	43.7	69.9
Rod Diameter 軸徑	5	6.3	8	10	12.5	16	20	25	38
Rod Diameter Tolerance 軸徑公差 h15	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.7	+0 -0.7	+0 -0.84	+0 -0.84	+0 -0.1

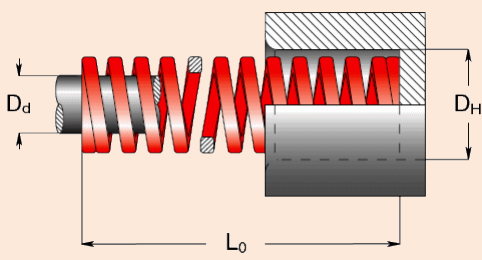
Deflection 壓縮量 (mm)				
3.0 million 300 萬次	1.5 million 150 萬次	0.5 million 50 萬次	0.2 million 20 萬次	 Warning Can't be used 不可使用
6.3	7.5	8.4	9.4	9.9
8.0	9.6	10.8	12.0	12.6
9.5	11.4	12.8	14.3	15.0
11.0	13.2	14.9	16.5	17.4
12.8	15.3	17.2	19.1	20.1
16.0	19.2	21.6	24.0	25.3
19.0	22.8	25.7	28.5	30.0
22.3	26.7	30.0	33.4	35.2
25.5	30.6	34.4	38.3	40.3
28.8	34.5	38.8	43.1	45.4
31.8	38.1	42.9	47.6	50.2
34.8	41.7	46.9	52.1	54.9
38.0	45.6	51.3	57.0	60.0
44.5	53.4	60.1	66.8	70.3
50.8	60.9	68.5	76.1	80.2
57.3	68.7	77.3	85.9	90.5
63.5	76.2	85.7	95.3	100.3
76.3	91.5	102.9	114.4	120.5

The value in the table is the Spring Elasticity Constant (N/mm)
表中數值為彈性係數 (N/mm)

Working Times 使用次數	Load 荷重 (N)								
	3.0 million 300 萬次	113	200	333	533	800	1467	2000	3333
1.5 million 150 萬次	136	240	400	640	960	1760	2400	4000	6400
0.5 million 50 萬次	153	270	450	720	1080	1980	2700	4500	7200
0.2 million 20 萬次	170	300	500	800	1200	2200	3000	5000	8000

Deflection (% of Free Length) 壓縮量 (自由長%)	
Free Length x 25.0%	
Free Length x 30.0%	
Free Length x 33.75%	
Free Length x 37.5%	

1N = 0.1daN = 0.102kgf 1mm = 0.0394 in.



DH : Housing Diameter
模孔徑

Dd : Spring-guide
Diameter
軸徑

L₀ : Free Length
自由長

● Load Calculation Formula :
Load(N)=Spring Elasticity Constant × Deflection(mm)

● 荷重計算公式：
荷重(N)=彈簧彈性係數×壓縮量(mm)

常規訂購方法：
Order-Routine Specification
YJL 10 x 25 = 100 數量
型號 Model 外徑 Outer Diameter 自由長 Free Length Quantity

型號: YJH
Medel: YJH

顏色: 紅色
Color: Red

重荷重的最大壓縮量的計算公式
最大壓縮量 (mm) = 自由高度 x 30%

Calculation Formula of Maximum Deflection of Heavy Load
Maximum Deflection (mm) = Free Length x 30%

Allowable Tolerance 容許公差

Housing Diameter 模孔徑	Spring-guide Diameter 軸徑	Free Length 自由高度			Load 負荷	Windings 旋向
		25~64mm	76~115mm	127~305mm		
H15	h15	±3%	±2.5%	±2%	±10%	Right 右旋

Spring elasticity constant of YJH and the relationship between Working times and Load

YJH 的彈性係數以及使用次數和荷重的關係

Free Length 自由長	Hole Diameter 模孔徑 (mm)								
	10	12.5	16	20	25	32	40	50	63
Hole Diameter Tolerance 模孔徑公差 H15	+0.58 -0	+0.70 -0	+0.70 -0	+0.84 -0	+0.84 -0	+1.00 -0	+1.00 -0	+1.00 -0	+1.20 -0
25	26.7	44.0	80.0	160.0	266.7				
32	20.8	34.4	62.5	125.0	208.3				
38	17.5	28.9	52.6	105.3	175.4	298.2			
44	15.2	25.0	45.5	90.9	151.5	257.6			
51	13.1	21.6	39.2	78.4	130.7	222.2	326.8		
64	10.4	17.2	31.3	62.5	104.2	177.1	260.4	390.6	
76	8.8	14.5	26.3	52.6	87.7	149.1	219.3	328.9	526.3
89	7.5	12.4	22.5	44.9	74.9	127.3	187.3	280.9	449.4
102	6.5	10.8	19.6	39.2	65.4	111.1	163.4	245.1	392.2
115		9.6	17.4	34.8	58.0	98.6	144.9	217.4	347.8
127			15.7	31.5	52.5	89.2	131.2	196.9	315.0
139				28.8	48.0	81.5	119.9	179.9	
152				26.3	43.9	74.6	109.6	164.5	263.2
178				22.5	37.5	63.7	93.6	140.4	224.7
203				19.7	32.8	55.8	82.1	123.2	197.0
229					29.1	49.5	72.8	109.2	174.7
254						44.6	65.6	98.4	157.5
305	2.2	3.6	6.6	13.1	21.9	37.2	54.6	82.0	131.1
Rod Diameter 軸徑	5	6.3	8	10	12.5	16	20	25	38
Rod Diameter Tolerance 軸徑公差 h15	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.7	+0 -0.7	+0 -0.84	+0 -0.84	+0 -0.1

Deflection 壓縮量 (mm)				
3.0 million 300 萬次	1.5 million 150 萬次	0.5 million 50 萬次	0.2 million 20 萬次	Warning Can't be used 不可使用
5.0	6.3	6.9	7.5	8.0
6.4	8.0	8.8	9.6	10.2
7.6	9.5	10.5	11.4	12.2
8.8	11.0	12.1	13.2	14.1
10.2	12.8	14.0	15.3	16.3
12.8	16.0	17.6	19.2	20.5
15.2	19.0	20.9	22.8	24.3
17.8	22.3	24.5	26.7	28.5
20.4	25.5	28.1	30.6	32.6
23.0	28.8	31.6	34.5	36.8
25.4	31.8	34.9	38.1	40.6
27.8	34.8	38.2	41.7	44.5
30.4	38.0	41.8	45.6	48.6
35.6	44.5	49.0	53.4	57.0
40.6	50.8	55.8	60.9	65.0
45.8	57.3	63.0	68.7	73.3
50.8	63.5	69.9	76.2	81.3
61.0	76.3	83.9	91.5	97.6

The value in the table is the Spring Elasticity Constant (N/mm)
表中數值為彈性係數 (N/mm)

Working Times 使用次數	Load 荷重 (N)								
	3.0 million 300 萬次	133	220	400	800	1333	2267	3333	5000
1.5 million 150 萬次	167	275	500	1000	1667	2833	4167	6250	10000
0.5 million 50 萬次	183	303	550	1100	1833	3117	4583	6875	11000
0.2 million 20 萬次	200	330	600	1200	2000	3400	5000	7500	12000

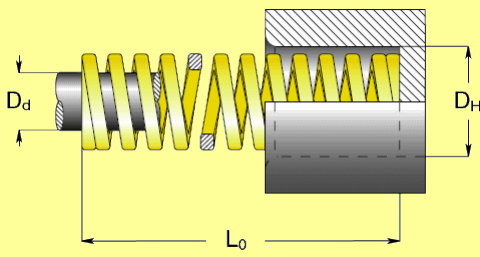
Deflection (% of Free Length) 壓縮量 (自由長%)	
Free Length x 20.0%	
Free Length x 25.0%	
Free Length x 27.5%	
Free Length x 30.0%	

1N = 0.1daN = 0.102kgf

1mm = 0.0394 in.

YJB Extra Heavy Load Springs 超荷重彈簧

ISO 10243



DH : Housing Diameter
模孔徑
Dd : Spring-guide
Diameter
軸徑
L0 : Free Length
自由長

● Load Calculation Formula :
Load(N)=Spring Elasticity Constant × Deflection(mm)
● 荷重計算公式 :
荷重(N)=彈簧彈性係數×壓縮量(mm)
常規訂購方法 :
Order-Routine Specification
YJL 10 x 25 = 100 數量
YJL 型號 Model 10 外徑 Outer Diameter 25 自由長 Free Length

型號: YJB
Medel: YJB

顏色: 黃色
Color: Yellow

重荷重的最大壓縮量的計算公式
最大壓縮量 (mm) = 自由高度 x 25%

Calculation Formula of Maximum Deflection of Extra Heavy Load
Maximum Deflection (mm) = Free Length x 25%

Allowable Tolerance 容許公差

Housing Diameter 模孔徑	Spring-guide Diameter 軸徑	Free Length 自由高度			Load 負荷	Windings 旋向
		25~64mm	76~115mm	127~305mm		
H15	h15	±3%	±2.5%	±2%	±10%	Right 右旋

Spring elasticity constant of YJB and the relationship between Working times and Load

YJB 的彈性係數以及使用次數和荷重的關係

Free Length 自由長	Hole Diameter 模孔徑 (mm)								
	10	12.5	16	20	25	32	40	50	63
Hole Diameter Tolerance 模孔徑公差 H15	+0.58 -0	+0.70 -0	+0.70 -0	+0.84 -0	+0.84 -0	+1.00 -0	+1.00 -0	+1.00 -0	+1.20 -0
25	36.8	57.6	112.0	240.0					
32	28.8	45.0	87.5	187.5	312.5				
38	24.2	37.9	73.7	157.9	263.2	421.1			
44	20.9	32.7	63.6	136.4	227.3	363.6			
51	18.0	28.2	54.9	117.6	196.1	313.7	509.8		
64	14.4	22.5	43.8	93.8	156.3	250.0	406.3	625.0	
76	12.1	18.9	36.8	78.9	131.6	210.5	342.1	526.3	842.1
89	10.3	16.2	31.5	67.4	112.4	179.8	292.1	449.4	719.1
102	9.0	14.1	27.5	58.8	98.0	156.9	254.9	392.2	627.5
115		12.5	24.3	52.2	87.0	139.1	226.1	347.8	556.5
127			22.0	47.2	78.7	126.0	204.7	315.0	503.9
139				43.2	71.9	115.1	187.1	287.8	
152				39.5	65.8	105.3	171.1	263.2	421.1
178				33.7	56.2	89.9	146.1	224.7	359.6
203				29.6	49.3	78.8	128.1	197.0	315.3
229					43.7	69.9	113.5	174.7	279.5
254						63.0	102.4	157.5	252.0
305	3.0	4.7	9.2	19.7	32.8	52.5	85.2	131.1	209.8
Rod Diameter 軸徑	5	6.3	8	10	12.5	16	20	25	38
Rod Diameter Tolerance 軸徑公差 h15	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.58	+0 -0.7	+0 -0.7	+0 -0.84	+0 -0.84	+0 -0.1

Deflection 壓縮量 (mm)				
3.0 million 300 萬次	1.5 million 150 萬次	0.5 million 50 萬次	0.2 million 20 萬次	 Warning Can't be used 不可使用
4.3	5.0	5.6	6.3	6.8
5.4	6.4	7.2	8.0	8.6
6.5	7.6	8.6	9.5	10.3
7.5	8.8	9.9	11.0	11.9
8.7	10.2	11.5	12.8	13.8
10.9	12.8	14.4	16.0	17.3
12.9	15.2	17.1	19.0	20.5
15.1	17.8	20.0	22.3	24.0
17.3	20.4	23.0	25.5	27.5
19.6	23.0	25.9	28.8	31.1
21.6	25.4	28.6	31.8	34.3
23.6	27.8	31.3	34.8	37.5
25.8	30.4	34.2	38.0	41.0
30.3	35.6	40.1	44.5	48.1
34.5	40.6	45.7	50.8	54.8
38.9	45.8	51.5	57.3	61.8
43.2	50.8	57.2	63.5	68.6
51.9	61.0	68.6	76.3	82.4

The value in the table is the Spring Elasticity Constant (N/mm)
表中數值為彈性係數 (N/mm)

Working Times 使用次數	Load 荷重 (N)								
	3.0 million 300 萬次	156	245	476	1020	1700	2720	4420	6800
1.5 million 150 萬次	184	288	560	1200	2000	3200	5200	8000	12800
0.5 million 50 萬次	207	324	630	1350	2250	3600	5850	9000	14400
0.2 million 20 萬次	230	360	700	1500	2500	4000	6500	10000	16000

Deflection (% of Free Length) 壓縮量 (自由長%)	
Free Length x 17.0%	
Free Length x 20.0%	
Free Length x 22.5%	
Free Length x 25.0%	

1N = 0.1daN = 0.102kgf

1mm = 0.0394 in.