

Tension Springs / Hooks

Long, Medium Load

Tension Springs
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RoHS10

Type	Material
LWS	SWP-A
LUS	SUS304-WPB

Part Number		Spring Constant N/mm	Wire Dia. dmm	Initial Tension N	Max. Deflection %	Applicable Hook	Unit Price	
Type	D-L						LWS	LUS
LWS LUS	5-500	0.020	0.6	1.57	50	HBFK□5		
	6-500	0.050	0.8	3.53		HBFK□6		
	8-500	0.060	1.0	4.9		HBFK□8		
	10-500	0.075	1.2	5.49		HBFK□10		
LWS	12-500	0.190	1.6	14.71	HBFK□12			
	14-500	0.210	1.8	16.67	HBFK□14			
	16-500	0.230	2.0	19.61	HBFK□16			
	18-500	0.340	2.3	27.46	HBFK□18			

Load {kgf} = Load N x0.101972

Hooks

RoHS10

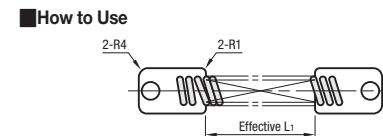
Type	Material	Surface Treatment
HBFKN	SPCC	Black Oxide
HBFKS	SUS304	-

Part Number		W	A	B	P	L1	L2	H	T	l1	l2	Unit Price	
Type	No.											HBFKN	HBFKS
HBFKN HBFKS	5	4.1	5	1.0	2.0	24	6	10	1.0	1.0	2.0		
	6	4.9											
	8	6.6	6	1.5	2.6	26	7	15		1.5	2.8		
	10	8.4											
	12	9.9	7	2.2	3.2	30	7.5	18	2.0	3.6			
	14	12.2											
	16	14.0	9	2.5	4.0	34	8.5	20	2.3	4.1			
	18	15.7											

Please choose the same number as D Dimension of LWS or LUS.

Ordering Example

Part Number: LWS10-500 HBFKN10



Springs can be cut to desired lengths.
Use the hook HBFKN by inserting the springs in its five holes.
Do not exceed 50% of the max. deflection for full length L1 when cutting.
Spring Constant should be $\frac{L}{L_1}$ times.

Tension Springs

Inserted Hooks

Tension Springs
Inserted Hooks

Type	Material	Surface Treatment
LWSH	SWP-A	SPCC
LUSH	SUS304-WPB	SUS304

- SWP-A comes with SPCC hook, and SUS304-WPB comes with the SUS304 hook.
- Load Formula
Load = Spring Constant x Deflection mm + Initial Tension
- The springs for LWSH and LUSH are different from that for LWS and LUS.

Shape A (One End Inserted)

Shape B (Both Ends Inserted)

Part Number		D	L 10mm Increment	Wire Dia. dmm	A	H	Max. Deflection %	L1	Initial Tension (N)				Standard Spring Constant (N/mm)	
Type	Shape								LWSH	LUSH	LWSH	LUSH	LWSH	LUSH
LWSH LUSH	A	5	200 500	0.6	5	10	70	L+36	1.01	1.32	0.045	0.040		
		6		0.8					2.28	2.96	0.114	0.101		
	8	1.0		6	15	L+38		3.04	4.26	0.145	0.128			
	10	1.2						4.31	6.03	0.183	0.163			
	B	12		1.6	7	18	60	L+45	8.72	12.21	0.470	0.415		
		14		1.8					10.6	14.84	0.525	0.465		
		16		2.0	9	22	L+51	12.6	17.64	0.593	0.525			
		18		2.3				18.7	26.18	0.850	0.753			

Shape A

D	Unit Price											
	L200~250		L260~300		L310~350		L360~400		L410~450		L460~500	
	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH
5												
6												
8												
10												
12												
14												
16												
18												

Shape B

D	Unit Price											
	L200~250		L260~300		L310~350		L360~400		L410~450		L460~500	
	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH	LWSH	LUSH
5												
6												
8												
10												
12												
14												
16												
18												

Ordering Example

Part Number: LWSHA - D - L
LWSHA - 5 - 500

Standard Spring Constant
Standard spring constant is the value when the L Dimension is 200 on shape B.
For other dimensions, use the formula below for calculation.

Spring Constant (N/mm) = $\frac{200 \text{ Reference L Dimension}}{\text{Configurable L Dimension}} \times \text{Standard Spring Constant}$

Ex.) LWSHB-8-400
0.0725(N/mm) = $\frac{200}{400} \times 0.145$
kgf=Nx0.101972