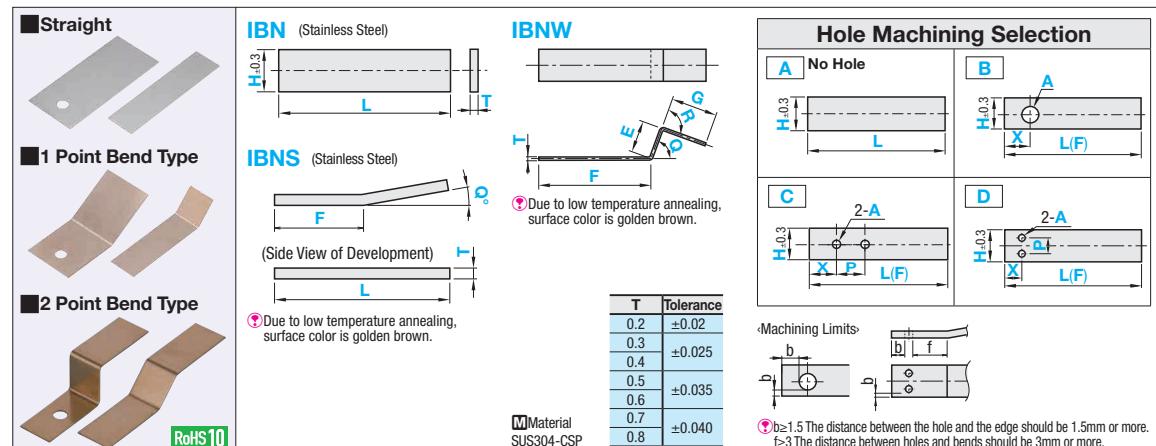


Flat Springs

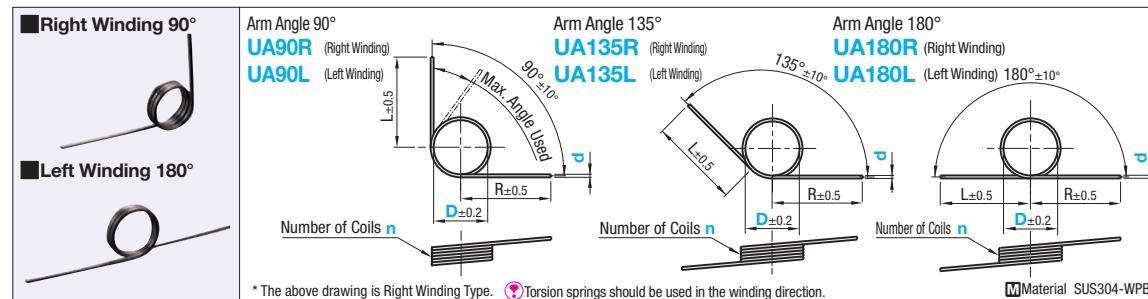
Straight / 1 Point Bend Type / 2 Point Bend Type



IBN Straight								
Part Number		T Selection		H	L 1mm Increment	A Selection	0.5mm Increment	
Type	Shape	0.2	0.3	0.4	0.5		X	P
IBN	A	0.2	0.3	0.4	0.5	6		
	B	0.2	0.3	0.4	0.5	8		
	C	0.3	0.4	0.5	0.6	10	2.0	
	D	0.3	0.4	0.5	0.6	12	2.5	
	A	0.4	0.5	0.6	0.7	15	3.0	
	B	0.4	0.5	0.6	0.7	18	3.5	
	C	0.5	0.6	0.7	0.8	21	4.5	
	D	0.5	0.6	0.7	0.8	25	5.5	
	A						6.5	
	B						9.0	
							$X \leq \frac{L}{2}$	A+1.5xP

	Ordering Example	Part Number	T	H	L	A	X	P	F	Q
		Type	IBNS	B	-T0.6 - H15 - L200 - A3.5 - X20			- F50 - Q30		
		Shape								

Torsion Springs



Part Number		Number of Winding n	Wire Dia. d	Arm Length L/R	Spring Constant (Torque) N · mm/deg			Max. Angle Used Deg (deg)			Unit Price
Type	I.D. D				Arm Angle 90°	Arm Angle 135°	Arm Angle 180°	Arm Angle 90°	Arm Angle 135°	Arm Angle 180°	
Arm Angle 90° UA90R (Right Winding) UA90L (Left Winding)	2	2	0.2	20	0.0115	0.0119	0.0124	41	40	36	
			0.3		0.0563	0.0586	0.0611	26	25	23	
		3	0.2		0.0088	0.0090	0.0093	59	58	56	
			0.3		0.0428	0.0441	0.0455	38	36	35	
		4	0.3		0.0345	0.0354	0.0363	52	50	47	
	3		0.4	30	0.1054	0.1080	0.1108	38	36	34	
		5	0.3		0.0289	0.0295	0.0302	61	60	58	
			0.4		0.0882	0.0900	0.0920	46	45	43	
		2	0.3		0.0387	0.0403	0.0420	40	38	36	
			0.4		0.1199	0.1248	0.1301	30	27	25	
Arm Angle 135° UA135R (Right Winding) UA135L (Left Winding)	4	3	0.3	40	0.0295	0.0304	0.0314	56	54	52	
			0.4		0.0912	0.0940	0.0970	42	40	39	
		4	0.4		0.0736	0.0755	0.0774	55	53	51	
			0.5		0.1756	0.1799	0.1845	44	42	41	
		5	0.4		0.0617	0.0630	0.0643	71	68	66	
	5		0.5		0.1471	0.1501	0.1533	54	53	51	
		2	0.4		0.0918	0.0955	0.0996	39	37	34	
			0.5		0.2206	0.2296	0.2394	29	28	27	
		3	0.4		0.0700	0.0722	0.0744	56	54	52	
			0.5		0.1680	0.1732	0.1787	42	41	40	
Arm Angle 180° UA180R (Right Winding) UA180L (Left Winding)	6	4	0.5	50	0.1357	0.1390	0.1425	57	54	52	
			0.6		0.2763	0.2831	0.2903	48	47	45	
		5	0.5		0.1138	0.1161	0.1185	69	67	65	
			0.6		0.2315	0.2363	0.2413	60	59	58	
		2	0.5		0.1793	0.1866	0.1944	39	36	34	
	7		0.6	60	0.3672	0.3821	0.3983	31	30	27	
		3	0.5		0.1368	0.1409	0.1454	55	52	51	
			0.6		0.2797	0.2883	0.2974	47	44	42	
		4	0.6		0.2259	0.2314	0.2373	60	58	56	
			0.8		0.6936	0.7108	0.7289	42	41	40	
	8	5	0.6		0.1894	0.1933	0.1974	75	73	71	
			0.8		0.5811	0.5931	0.6056	54	53	52	
		2	0.6		0.3099	0.3224	0.3360	37	36	34	
			0.8		0.9590	0.9981	1.0406	26	25	24	
		3	0.6		0.2363	0.2436	0.2512	56	52	50	
Spring constant is a reference value when arm length is cut to be L/2, R/2. 1N=0.101972kgf 1 deg =1°(Angle)	9		0.8	60	0.7299	0.7523	0.7762	38	36	35	
		4	0.8		0.5891	0.6037	0.6196	50	48	47	
			1.0		1.4045	1.4394	1.4760	42	40	39	
		5	0.8		0.4939	0.5041	0.5147	63	61	60	
			1.0		1.1765	1.2008	1.2262	51	50	49	

Part Number - **n** - **d**
UA90B4 - **3** - **0.5**

 Alterations  Part Number - **n** - **d** - (LC, RC, LBC, RBC)
UA90R4 - **3** - **0.5** - **LC12-RC15-LBC90-LZ5**

Alterations	Arm Cut		Bend Left Arm	Bend Right Arm
Code	LC	RC	LBC	RBC
Spec.		 		
		<p>Cuts arm down to the length of LC or RC. ② LC≥3, RC≥3 1mm Increment</p> <p>Ordering Code: LC12</p>	<ul style="list-style-type: none"> • LBC---Specifies the angle (see the diagram above) ③ Select from LBC0, LBC90, LBC180 and LBC270. • LZ---Specifies the position (1mm increment) ③ LZ≥3 L-LZ≥3 <p>Ordering Code: LBC90-LZ10</p>	<ul style="list-style-type: none"> • RBC---Specifies the angle (see the diagram above) ③ Select from RBC0, RBC90, RBC180 and RBC270. • RZ---Specifies the position (1mm increment) ③ RZ≥3 R-RZ≥3 <p>Ordering Code: RBC90-RZ10</p>