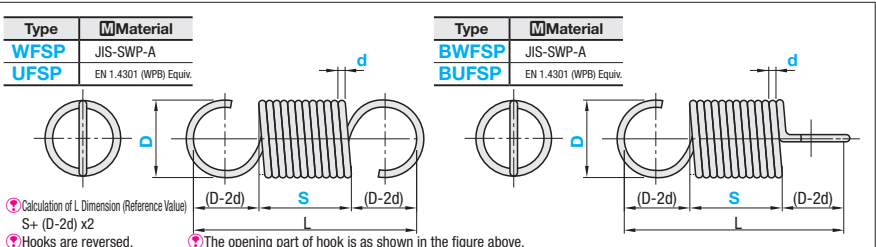




Tension Springs

Configurable



Part Number		Wire Dia. dmm	S 1mm Increment	Reference Max. Deflection mm		Standard Spring Constant N/mm		Initial Tension N	
Type	D			WFSP BWFSP	UFSP BUFSP	WFSP BWFSP	UFSP BUFSP	WFSP BWFSP	UFSP BUFSP
WFSP UFSP BWFSP BUFSP	3	0.3	10~300	88	87	0.025	0.021	0.18	0.21
		0.4		41	42	0.12	0.10	0.53	0.64
	4	0.4		86	87	0.04	0.04	0.31	0.38
		0.5		48	46	0.15	0.13	0.77	0.92
	5	0.5	10~500	84	82	0.07	0.06	0.49	0.59
		0.6		50	51	0.18	0.16	1.01	1.21
	6	0.6		79	82	0.10	0.09	0.71	0.85
		0.8		36	36	0.47	0.41	2.13	2.55
	7	0.7	10~550	70	66	0.13	0.12	0.96	1.15
		0.9		35	32	0.52	0.45	2.94	3.5
	8	0.8		74	76	0.18	0.16	1.26	1.51
		1.0		41	42	0.58	0.51	3.04	4.26
	9	1.0	10~550	56	57	0.39	0.34	2.45	3.43
		1.2		33	33	1.05	0.93	4.41	6.17
	10	1.0		74	70	0.27	0.24	1.96	2.74
		1.2		44	43	0.73	0.65	4.31	6.03
	11	1.2	10~550	29	28	1.70	1.50	7.64	10.7
		1.4		80	76	0.20	0.17	1.45	2.01
		1.0		46	45	0.53	0.47	3.24	4.51
		1.2		31	30	1.24	1.08	6.39	8.87
	12	1.0	10~550	116	113	0.15	0.13	1.18	1.65
		1.2		71	70	0.39	0.35	2.84	3.98
		1.4		46	46	0.91	0.80	5.39	7.55
		1.6		31	30	1.88	1.66	8.72	12.21
	13	1.0	10~550	120	117	0.11	0.10	0.93	1.29
		1.2		72	71	0.31	0.27	2.17	3.01
		1.4		47	47	0.70	0.61	3.95	5.49
		1.6		32	31	1.42	1.24	7.75	10.76
	14	1.2	10~550	104	96	0.24	0.21	2.06	2.88
		1.4		69	65	0.54	0.48	3.82	5.35
		1.6		47	45	1.11	0.98	6.66	9.32
		1.8		34	33	2.10	1.86	10.6	14.84
	15	1.2	10~550	106	98	0.19	0.17	1.50	2.09
		1.4		70	66	0.43	0.38	3.03	4.21
		1.6		48	46	0.88	0.76	4.74	6.59
		1.8		35	34	1.69	1.47	9.25	12.85
	16	1.4	10~550	96	91	0.35	0.31	3.04	4.26
		1.6		66	65	0.71	0.63	5.10	7.14
		1.8		48	47	1.33	1.18	8.33	11.66
		2.0		34	35	2.37	2.10	12.60	17.64
	17	1.4	10~550	97	92	0.29	0.25	2.21	3.08
		1.6		67	66	0.58	0.50	4.03	5.60
		1.8		49	48	1.11	0.97	6.74	9.37
		2.0		35	36	1.98	1.73	10.90	15.13
	18	1.6	10~550	88	87	0.48	0.42	4.02	5.63
		1.8		64	64	0.90	0.80	6.47	9.06
		2.0		47	48	1.59	1.40	10.00	14.00
		2.3		31	30	3.40	3.01	18.70	26.18
	20	1.8	10~550	84	78	0.63	0.56	5.10	7.14
		2.0		61	60	1.11	0.99	7.94	11.12
		2.3		41	40	2.37	2.10	15.20	21.28
		2.6		29	29	4.64	4.10	23.60	33.04
	22	2.0	10~550	75	74	0.81	0.72	7.35	10.30
		2.3		53	52	1.72	1.52	11.80	16.50
		2.6		37	37	3.35	2.96	19.60	27.40
		2.9		27	27	6.09	5.39	33.30	46.60
	25	2.3	10~550	72	72	1.12	0.99	9.80	13.70
		2.6		50	52	2.17	1.92	15.70	22.00
		2.9		38	36	3.93	3.48	22.50	31.50
		3.2		28	27	6.75	5.97	34.30	48.00
	28	2.6	10~550	69	64	1.49	1.32	12.70	17.80
		2.9		51	49	2.69	2.38	17.60	24.60
		3.2		39	37	4.58	4.05	27.40	38.40
		3.5		31	29	7.49	6.62	39.20	54.90



Ordering Example

Part Number - d - S
WFSP3 - 0.3 - 10
UFSP20 - 2.6 - 498

D	d	Unit Price						Unit Price					
		WFSP			BWFSP			UFSP			BUFSP		
		S10~20	S21~50	S51~100	S101~200	S201~300	S301~450	S451~550	S10~20	S21~50	S51~100	S101~200	S201~300
3	0.3						-	-					-
	0.4						-	-					-
4	0.4						-	-					-
	0.5						-	-					-
5	0.5												
	0.6												
6	0.6												
	0.8												
7	0.7												
	0.9												
8	0.8												
	1.0												
9	1.0												
	1.2												
10	1.0												
	1.2												
	1.4												
	1.0												
11	1.2												
	1.4												
	1.0												
12	1.2												
	1.4												
	1.6												
	1.0												
13	1.2												
	1.4												
	1.6												
	1.2												
14	1.4												
	1.6												
	1.8												
15	1.2												
	1.4												
	1.6												
	1.8												
16	1.4												
	1.6												
	1.8												
	2.0												
17	1.4												
	1.6												
	1.8												
18	1.6												
	1.8												
	2.0												
20	1.8												
	2.0												
	2.3												
22	2.0												
	2.3												
	2.6												
25	2.3												
	2.6												
	2.9												
28	2.6												
	2.9												
	3.2												
	3.5												

Reference Max. Deflection and standard spring constant are the values when S Dimension is 50. For other dimensions, use the formula below for calculation.

Max. Deflection (mm) = $\frac{\text{Configurable S Dimension}}{50 (\text{Reference S Dimension})} \times \text{Reference Max. Deflection}$
Spring Constant (N/mm) = $\frac{50 (\text{Reference S Dimension})}{\text{Configurable S Dimension}} \times \text{Standard Spring Constant}$

Example) Calculation of maximum deflection and spring constant of UFSP20-2.6-498

Max. Deflection (mm) = $\frac{498}{50} \times 29 = 288.84$
Spring Constant (N/mm) = $\frac{50}{498} \times 4.10 = 0.41$

Accuracy Standards

D/d ¹	Tolerance
8 or Less	±1.5% of D dimension (Min. ±0.2mm)
8~20	±2% of D dimension (Min. ±0.3mm)

*1 D/d = Spring Index

S Dimension Tolerance

When d≤0.5, ±2x Wire Dia.
(Ex: When d=0.3, ±0.6)
When d≥0.6, ±Wire Dia.
(Ex: When d=1.0, ±1.0)