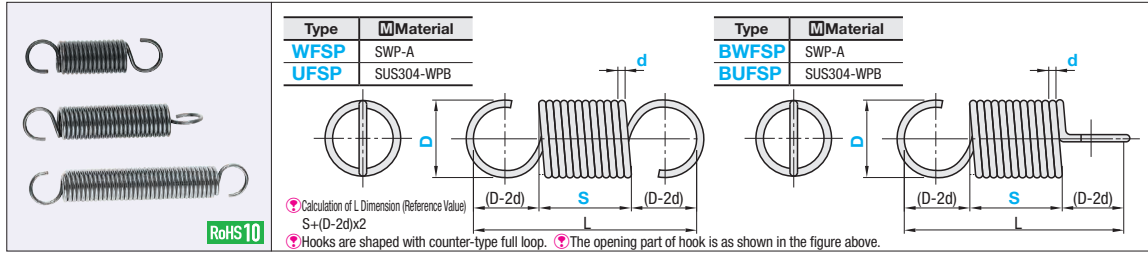




Tension Springs

Configurable



Part Number	Wire Dia. d mm	S 1mm Increment	Reference Max. Deflection mm		Standard Spring Constant N/mm		Initial Tension N	
			WFSP BWFSP	UFSP BUFSP	WFSP BWFSP	UFSP BUFSP	WFSP BWFSP	UFSP BUFSP
WFSP UFSP BWFSP BUFSP	3	0.3	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	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	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	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	1.4	29	28	1.70	1.50	7.64	10.7
		1.0	80	76	0.20	0.17	1.45	2.01
	12	1.2	46	45	0.53	0.47	3.24	4.51
		1.4	31	30	1.24	1.08	6.39	8.87
	13	1.0	116	113	0.15	0.13	1.18	1.65
		1.2	71	70	0.39	0.35	2.84	3.98
	14	1.4	46	46	0.91	0.80	5.39	7.55
		1.6	31	30	1.88	1.66	8.72	12.21
	15	1.0	120	117	0.11	0.10	0.93	1.29
		1.2	72	71	0.31	0.27	2.17	3.01
	16	1.4	47	47	0.70	0.61	3.95	5.49
		1.6	32	31	1.42	1.24	7.75	10.76
17	1.2	104	96	0.24	0.21	2.06	2.88	
	1.4	69	65	0.54	0.48	3.82	5.35	
18	1.6	47	45	1.11	0.98	6.66	9.32	
	1.8	34	33	2.10	1.86	10.6	14.84	
19	1.2	106	98	0.19	0.17	1.50	2.09	
	1.4	70	66	0.43	0.38	3.03	4.21	
20	1.6	48	46	0.88	0.76	4.74	6.59	
	1.8	35	34	1.69	1.47	9.25	12.85	
21	1.4	96	91	0.35	0.31	3.04	4.26	
	1.6	66	65	0.71	0.63	5.10	7.14	
22	1.8	48	47	1.33	1.18	8.33	11.66	
	2.0	34	35	2.37	2.10	12.60	17.64	
23	1.4	97	92	0.29	0.25	2.21	3.08	
	1.6	67	66	0.58	0.50	4.03	5.60	
24	1.8	49	48	1.11	0.97	6.74	9.37	
	2.0	35	36	1.98	1.73	10.90	15.13	
25	1.6	88	87	0.48	0.42	4.02	5.63	
	1.8	64	64	0.90	0.80	6.47	9.06	
26	2.0	47	48	1.59	1.40	10.00	14.00	
	2.3	31	30	3.40	3.01	18.70	26.18	
27	1.8	84	78	0.63	0.56	5.10	7.14	
	2.0	61	60	1.11	0.99	7.94	11.12	
28	2.3	41	40	2.37	2.10	15.20	21.28	
	2.6	29	29	4.64	4.10	23.60	33.04	
29	2.0	75	74	0.81	0.72	7.35	10.30	
	2.3	53	52	1.72	1.52	11.80	16.50	
30	2.6	37	37	3.35	2.96	19.60	27.40	
	2.9	27	27	6.09	5.39	33.30	46.60	
31	2.3	72	72	1.12	0.99	9.80	13.70	
	2.6	50	52	2.17	1.92	15.70	22.00	
32	2.9	38	36	3.93	3.48	22.50	31.50	
	3.2	28	27	6.75	5.97	34.30	48.00	
33	2.6	69	64	1.49	1.32	12.70	17.80	
	2.9	51	49	2.69	2.38	17.60	24.60	
34	3.2	39	37	4.58	4.05	27.40	38.40	
	3.5	31	29	7.49	6.62	39.20	54.90	

D	d	Unit Price						Unit Price							
		WFSP		BWFSP		UFSP		WFSP		BUFSP		UFSP			
		S10 ~20	S21 ~50	S51 ~100	S101 ~200	S201 ~300	S301 ~450	S451 ~550	S10 ~20	S21 ~50	S51 ~100	S101 ~200	S201 ~300	S301 ~450	S451 ~550
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														
11	1.0														
	1.2														
	1.4														
	1.0														
12	1.2														
	1.4														
	1.0														
13	1.2														
	1.4														
	1.6														
	1.0														
14	1.2														
	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														
	2.0														
18	1.6														
	1.8														
	2.0														
	2.3														
20	1.8														
	2.0														
	2.3														
	2.6														
	2.9														
22	2.3														
	2.6														
	2.9														
	3.2														
25	2.6														
	2.9														
	3.2														
28	2.9														
	3.2														
	3.5														

*The above Reference Max. Deflection and standard spring constant are the values measured when S Dimension is 50. For other dimensions, calculate the applicable values by using the following formula.

• Max. Deflection

$$\text{Max. Deflection (mm)} = \frac{\text{Configurable S Dimension}}{50} \times \text{Reference Max. Deflection}$$

• Spring Constant

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

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
Less than 8	±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 $d \leq 0.5$, $\pm 2 \times$ Wire Dia.
 (Ex: When $d=0.3$, ± 0.6)
 When $d \geq 0.6$, \pm Wire Dia.
 (Ex: When $d=1.0$, ± 1.0)

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