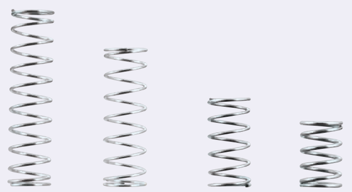
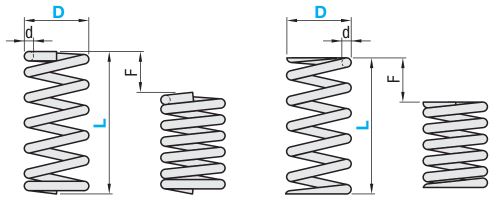
Round Coil Springs

O.D. Referenced Stainless Steel

UV
UY
UR
UF



RoHS10



Closed Ends (Both Ends Not Ground*)   Closed Ends (Both Ends Ground)

M Material EN 1.4301 (WPB) Equiv. Spring Constant±10%

O.D. D Ø10 or Less $^{0}_{-0.5mm}$ Ø12 or More $^{0}_{-0.8mm}$ Free Length L 50 or Less ±1.5mm 55 or More ±2.5mm

UV: Fmax. (Allowable Deflection) =LxFa%

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} max.	Fa%	Unit Price
UV3- 5	0.15	1.1	4	0.18{0.018}	70	
10	0.18	2.5	7	0.35{0.036}		
15	0.18	2.5	11	0.53{0.054}		
20	0.20	3.3	14	0.70{0.071}		
25	0.23	6.2	18	0.88{0.089}		
30	0.23	6.2	21	1.05{0.107}		
UV4- 5	0.18	1.2	4	0.18{0.018}		
10	0.20	1.7	7	0.35{0.036}		
15	0.23	3.0	11	0.53{0.054}		
20	0.23	3.0	14	0.70{0.071}		
25	0.26	4.9	18	0.88{0.089}		
30	0.26	4.9	21	1.05{0.107}		
UV5- 5	0.20	1.2	4	0.18{0.018}		
10	0.23	1.8	7	0.35{0.036}		
15	0.26	2.9	11	0.53{0.054}		
20	0.29	4.5	14	0.70{0.071}		
25	0.29	4.5	18	0.88{0.089}		
30	0.29	4.5	21	1.05{0.107}		
UV6- 10	0.26	2.0	7	0.35{0.036}		
15	0.30	3.3	11	0.53{0.054}		
20	0.30	3.3	14	0.70{0.071}		
25	0.35	6.5	18	0.88{0.089}		
30	0.35	6.5	21	1.05{0.107}		
35	0.35	6.5	25	1.23{0.125}		
40	0.35	6.5	28	1.40{0.143}		
UV8- 10	0.30	1.9	7	0.35{0.036}		
15	0.35	3.2	11	0.53{0.054}		
20	0.35	3.2	14	0.70{0.071}		
25	0.40	5.6	18	0.88{0.089}		
30	0.40	5.6	21	1.05{0.107}		
35	0.40	5.6	25	1.23{0.125}		
40	0.45	9.3	28	1.40{0.143}		
45	0.45	9.3	32	1.58{0.161}		
50	0.45	9.3	35	1.75{0.179}		

UY: Fmax. (Allowable Deflection) =LxFa%

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} max.	Fa%	Unit Price
UY2- 5	0.13	1.5	3	0.15{0.015}	60	
10	0.13	1.5	6	0.29{0.03}		
15	0.15	2.7	9	0.44{0.045}		
20	0.15	2.7	12	0.59{0.06}		
25	0.18	6.3	15	0.74{0.075}		
30	0.18	6.3	18	0.88{0.09}		
UY3- 5	0.16	0.92	3.75	0.37{0.0375}	75	
10	0.2	2	7.5	0.74{0.075}		
15	0.23	3.45	11.25	1.10{0.1125}		
20	0.23	3.45	15	1.47{0.15}		
25	0.26	6.24	15	1.47{0.15}	60	
30	0.26	6.24	18	1.77{0.18}		
UY4- 5	0.2	1.05	3.75	0.37{0.0375}	75	
10	0.23	1.84	7.5	0.74{0.075}		
15	0.26	2.86	11.25	1.10{0.1125}		
20	0.29	4.64	15	1.47{0.15}		
25	0.3	5.4	18.75	1.84{0.1875}		
30	0.3	5.4	22.5	2.26{0.23}		
UY5- 5	0.23	1.15	3.75	0.37{0.0375}	75	
10	0.26	1.82	7.5	0.74{0.075}		
15	0.3	3.15	11.25	1.10{0.1125}		
20	0.3	3.15	15	1.47{0.15}		
25	0.32	4.16	18.75	1.84{0.1875}		
30	0.32	4.16	22.5	2.26{0.23}		
35	0.35	6	26.25	2.55{0.26}		
40	0.35	6	30	2.94{0.3}		
UY6- 5	0.26	1.24	3.5	0.34{0.035}	70	
10	0.3	2.1	7.5	0.74{0.075}	75	
15	0.32	2.64	11.25	1.10{0.1125}		
20	0.35	3.85	15	1.47{0.15}		
25	0.38	5.32	18.75	1.84{0.1875}		
30	0.4	6.8	22.5	2.21{0.225}		
35	0.4	6.8	26.25	2.55{0.26}		
40	0.4	6.8	30	2.94{0.3}		
UY8- 10	0.35	2.19	7.5	0.74{0.075}	75	
15	0.4	3.4	11.25	1.10{0.1125}		
20	0.4	3.4	15	1.47{0.15}		
25	0.45	5.4	18.75	1.84{0.1875}		
30	0.45	5.4	22.5	2.21{0.225}		
35	0.5	8.3	26.25	2.55{0.26}		
40	0.5	8.3	30	2.94{0.3}		
45	0.5	8.3	33.75	3.33{0.34}		
50	0.55	12.7	35	3.43{0.35}	70	
UY10- 10	0.5	3.25	6	1.18{0.12}	60	
15	0.5	3.25	11.25	2.21{0.225}	75	
20	0.55	4.4	15	2.94{0.3}		
25	0.55	4.4	18.75	3.68{0.375}		
30	0.6	6.15	22.5	4.41{0.45}		
35	0.6	6.3	26.25	5.10{0.52}		
40	0.6	6.3	30	5.88{0.6}		
45	0.65	8.45	33.75	6.62{0.675}		
50	0.65	8.45	37.5	7.35{0.75}		
UY12- 15	0.55	3.3	11.25	2.206{0.225}	75	
20	0.55	3.3	15	2.942{0.3}		
25	0.6	4.2	18.75	3.68{0.375}		
30	0.65	5.53	22.5	4.41{0.45}		
35	0.65	5.53	26.25	5.15{0.525}		
40	0.7	7.35	30	5.88{0.6}		
45	0.7	7.35	33.75	6.62{0.675}		
50	0.7	7.35	37.5	7.35{0.75}		
60	0.8	13.6	45	8.83{0.9}		
70	0.8	13.6	52.5	10.30{1.05}		
80	0.8	13.6	60	11.77{1.2}		
UY13- 15	0.6	3.75	10.5	2.06{0.21}	70	
20	0.6	3.75	15	2.94{0.3}	75	
25	0.65	4.9	18.75	3.68{0.375}		
30	0.65	4.9	22.5	4.41{0.45}		
35	0.7	6.3	26.25	5.15{0.525}		
40	0.75	8.25	30	5.88{0.6}		
45	0.75	8.25	33.75	6.62{0.675}		
50	0.8	11.2	37.5	7.35{0.75}		
60	0.8	11.2	45	8.83{0.9}		
70	0.85	14.45	52.5	10.30{1.05}		
80	0.85	14.45	60	11.77{1.2}		
UY16- 15	0.7	4.2	9	1.77{0.18}	60	
20	0.7	4.2	15	2.94{0.3}	75	
25	0.7	4.2	18.75	3.68{0.375}		
30	0.75	5.44	22.5	4.41{0.45}		
35	0.8	6.8	26.25	5.15{0.525}		
40	0.8	6.8	30	5.88{0.6}		
45	0.85	8.5	33.75	6.62{0.675}		
50	0.9	10.8	37.5	7.35{0.75}		
60	0.9	10.8	45	8.83{0.9}		
70	1	17	52.5	10.30{1.05}		
80	1	17	60	11.77{1.2}		
UY20- 20	0.9	5.4	12	3.53{0.36}	60	
25	0.9	5.4	18.75	5.49{0.56}	75	
30	0.9	5.4	22.5	6.62{0.675}		
35	1	7.5	26.25	7.65{0.78}		
40	1	7.5	30	8.83{0.9}		
45	1	7.5	33.75	9.90{1.01}		
50	1.1	11	37.5	11.03{1.125}		
60	1.1	11	45	13.24{1.35}		
70	1.2	15.6	52.5	15.45{1.58}		
80	1.2	15.6	60	17.65{1.8}		

UR: Fmax. (Allowable Deflection) =LxFa%

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} max.	Fa%	Unit Price
UR2- 5	0.18	2.0	2.5	0.49{0.05}	50	
10	0.18	2.0	5	0.98{0.1}		
15	0.23	6.0	7.5	1.5{0.15}		
20	0.23	6.0	10	2.0{0.2}		
25	0.26	11.2	12.5	2.5{0.25}		
30	0.26	11.2	15	2.9{0.3}		
UR3- 5	0.23	1.6	3	0.9{0.09}	60	
10	0.25	2.1	6	1.8{0.18}		
15	0.3	4.5	9	2.6{0.27}		
20	0.3	4.5	12	3.5{0.36}		
25	0.32	6.4	15	4.4{0.45}		
30	0.32	6.4	18	5.3{0.54}		
35	0.35	9.8	21	6.2{0.63}		
40	0.35	9.8	24	7.1{0.72}		
UR4- 5	0.26	1.4	3	0.9{0.09}	60	
10	0.29	2	6	1.8{0.18}		
15	0.32	3	9	2.6{0.27}		
20	0.38	6.1	12	3.5{0.36}		
25	0.38	6.1	15	4.4{0.45}		
30	0.40	8	18	5.3{0.54}		
35	0.40	8	21	6.2{0.63}		
40	0.45	14.4	24	7.1{0.72}		
45	0.45	14.4	27	7.9{0.81}		
50	0.45	14.4	30	8.8{0.9}		
60	0.5	23	36	10.6{1.08}		
UR5- 5	0.3	1.65	3	0.9{0.09}	60	
10	0.35	2.71	6	1.8{0.18}		
15	0.38	3.61	9	2.6{0.27}		
20	0.38	3.61	12	3.5{0.36}		
25	0.45	7.43	15	4.4{0.45}		
30	0.45	7.43	18	5.3{0.54}		
35	0.5	12.25	21	6.2{0.63}		
40	0.5	12.25	24	7.1{0.72}		
45	0.5	12.25	27	7.9{0.81}		
50	0.55	19.53	30	8.8{0.9}		
60	0.55	19.53	36	10.6{1.08}		
UR6- 5	0.32	1.5	3	0.9{0.09}	60	
10	0.4	3	6	1.8{0.18}		
15	0.4	3	9	2.6{0.27}		
20	0.5	7	12	3.5{0.36}		
25	0.5	7	15	4.4{0.45}		
30	0.5	7	18	5.3{0.54}		
35	0.55	11	21	6.2{0.63}		
40	0.55	11	24	7.1{0.72}		
45	0.6	17.4	27	7.9{0.81}		
50	0.6	17.4	30	8.8{0.9}		
60	0.65	23.4	36	10.6{1.08}		
70	0.65	23.4	42	12.4{1.26}		
UR8- 10	0.45	2.6	6	1.8{0.18}	60	
15	0.5	3.6	9	2.6{0.27}		
20	0.5	3.6	12	3.5{0.36}		
25	0.55	5.9	15	4.4{0.45}		
30	0.65	10.4	18	5.3{0.54}		
35	0.65	10.4	21	6.2{0.63}		
40	0.7	15.4	24	7.1{0.72}		
45	0.75	21	22	6.3{0.66}	50	
50	0.75	21	27	7.8{0.81}	55	
60	0.8	27.6	31	8.9{0.93}	52	
70	0.8	27.6	40	11.6{1.20}	57	
80	0.8	27.6	48	14.1{1.44}	60	

- Both ends of UV, UY Type springs are not ground.
- The values of solid length are for reference only. There may be some variations depending on the lot.
- Usage Count: 1 Million Times

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} max.	Fa%	Unit Price
UR10- 10	0.55	3.3	6	1.8{0.18}	60	
15	0.6	4.2	9	2.6{0.27}		
20	0.65	6.2	12	3.5{0.36}		
25	0.65	6.2	15	4.4{0.45}		
30	0.7	8.4	18	5.3{0.54}		
35	0.7	8.4	21	6.2{0.63}		
40	0.7	8.4	24	7.1{0.72}		
45	0.8	15.2	27	7.9{0.81}		
50	0.8	15.2	30	8.8{0.9}		
60	0.85	20.4	36	10.6{1.08}		
70	0.85	20.4	42	12.4{1.26}		
80	0.85	20.4	48	14.1{1.44}		
UR12- 15	0.6	3.5	9	2.6{0.27}	60	
20	0.7	5.6	12	3.5{0.36}		
25	0.7	5.6	15	4.4{0.45}		
30	0.8	9.6	18	5.3{0.54}		
35	0.8	9.6	21	6.2{0.63}		
40	0.8	9.6	24	7.1{0.72}		
45	0.9	16.2	27	7.9{0.81}		
50	0.9	16.2	30	8.8{0.9}		
60	0.9	16.2	36	10.6{1.08}		
70	1	26	42	12.4{1.26}		
80	1	26	48	14.1{1.44}		
UR13- 15	0.7	4.7	9	2.6{0.27}	60	
20	0.7	4.7	12	3.5{0.36}		
25	0.8	8	15	4.4{0.45}		
30	0.8	8	18	5.3{0.54}		
35	0.8	8	21	6.2{0.63}		
40	0.9	12.8	24	7.1{0.72}		
45	0.9	12.8	27	7.9{0.81}		
50	0.9	12.8	30	8.8{0.9}		
60	1.0	21	36	10.6{1.08}		
70	1.0	21	42	12.4{1.26}		
80	1.0	21	48	14.1{1.44}		
UR16- 15	0.75	4.3	9	2.6{0.27}	60	
20	0.8	5.4	12	3.5{0.36}		
25	0.9	7.7	15	4.4{0.45}		
30	0.9	7.7	18	5.3{0.54}		
35	1.0	12	21	6.2{0.63}		
40	1.0	12	24	7.1{0.72}		
45	1.0	12	27	7.9{0.81}		
50	1.1	19	30	8.8{0.9}		
60	1.1	19	36	10.6{1.08}		
70	1.2	26.4	42	12.4{1.26}		
80	1.2	26.4	48	14.1{1.44}		
UR20- 20	1.0	6	12	5.9{0.6}	60	
25	1.1	7.7	15	7.4{0.75}		
30	1.1	7.7	18	8.8{0.9}		
35	1.2	10.8	21	10.3{1.05}		
40	1.2	10.8	24	11.8{1.2}		
45	1.3	14.3	27	13.2{1.35}		
50	1.3	14.3	30	14.7{1.5}		
60	1.4	19.6	36	17.7{1.8}		
70	1.4	19.6	42	20.6{2.1}		
80	1.5	27	48	23.5{2.4}		

- Both ends of UR Type springs are not ground.
- The values of solid length are for reference only. There may be some variations depending on the lot.
- Usage Count: 1 Million Times

Ordering Example

Part Number
UY4-25
UR13-60
UF8-70

UF: Fmax. (Allowable Deflection) =Lx45%

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} max.	Unit Price
UF 2- 5*	0.2	2.35	2.25	0.66 {0.068}	
10*	0.2	2.35	4.5	1.3 {0.14}	
15*	0.26	7.8	6.7	2.0 {0.20}	
20*	0.26	7.8	9	2.7 {0.27}	
25*	0.29	13.6	11.2	3.3 {0.34}	
30*	0.29	13.6	13.5	4.0 {0.41}	
UF 3- 5*	0.26	1.8	2.25	1.1{0.11}	
10*	0.32	4.5	4.5	2.2{0.22}	
15*	0.32	4.5	6.7	3.2{0.33}	
20*	0.35	6.3	9	4.4{0.45}	
25*	0.35	6.3	11.2	5.5{0.56}	
30*	0.4	12.4	13.5	6.6{0.67}	
35*	0.4	12.4	15.7	7.6{0.78}	
40*	0.4	12.4	18	8.8{0.9}	
UF 4- 5*	0.32	2	2.25	1.1{0.11}	
10*	0.35	3	4.5	2.2{0.22}	
15*	0.4	5.2	6.7	3.2{0.33}	
20*	0.4	5.2	9	4.4{0.45}	
25*	0.45	9.5	11.2	5.5{0.56}	
30*	0.45	9.5	13.5	6.6{0.67}	
35*	0.5	15.5	15.7	7.6{0.78}	
40*	0.5	15.5	18	8.8{0.9}	
45*	0.5	15.5	20	9.8{1}	
50*	0.5	15.5	22.5	10.8{1.1}	
60*	0.55	22.6	27	12.7{1.3}	
UF 5- 5*	0.35	2.01	2.25	1.1{0.11}	
10*	0.4	3.2	4.5	2.2{0.23}	
15*	0.4	3.2	6.75	3.3{0.34}	
20*	0.45	4.95	9	4.4{0.45}	
25*	0.45	4.95	11.25	5.5{0.56}	
30*	0.5	7.75	13.5	6.7{0.68}	
35*	0.5	7.75	15.75	7.7{0.79}	
40	0.6	19.5	18	8.8{0.9}	
45	0.6	19.5	20.25	10{1.01}	
50	0.6	19.5	22.5	11.2{1.13}	
60	0.65	27.95	27	13.4{1.35}	
UF 6- 5*	0.4	2.2	2.25	1.1{0.11}	
10*	0.5	5	4.5	2.2{0.22}	
15*	0.55	7.7	6.7	3.2{0.33}	
20*	0.55	7.7	9	4.4{0.45}	
25	0.6	10.8	11.2	5.5{0.56}	
30	0.65	15.6	13.5	6.6{0.67}	
35	0.65	15.6	15.7	7.6{0.78}	
40	0.65	15.6	18	8.8{0.9}	
45	0.65	15.6	20	9.8{1}	
50	0.7	23.1	22.5	10.8{1.1}	
60	0.7	23.1	27	12.7{1.3}	
70	0.75	30.8	31.5	14.7{1.5}	
UF 8-10	0.6	5.4	4.5	2.2{0.22}	
15	0.65	7.2	6.7	3.2{0.33}	
20	0.7	10.5	9	4.4{0.45}	
25	0.7	10.5	11.2	5.5{0.56}	
30	0.75	13.5	13.5	6.6{0.67}	
35	0.75	13.5	15.7	7.6{0.78}	
40	0.8	18.4	18	8.8{0.9}	
45	0.8	18.4	20	9.8{1}	
50	0.8	18.4	22.5	10.8{1.1}	
60	0.85	26.4	27	12.7{1.3}	
70	0.85	26.4	31.5	14.7{1.5}	
80	0.85	26.4	36	17.7{1.8}	

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} max.	Unit Price
UF10-10	0.65	4.6	4.5	2.2{0.22}	
15	0.65	4.6	6.7	3.2{0.33}	
20	0.8	9.6	9	4.4{0.45}	
25	0.8	9.6	11.2	5.5{0.56}	
30	0.85	12.8	13.5	6.6{0.67}	
35	0.85	12.8	15.7	7.6{0.78}	
40	0.9	17	18	8.8{0.9}	
45	0.9	17	20	9.8{1}	
50	0.9	17	22.5	10.8{1.1}	
60	1.0	28	27	12.7{1.3}	
70	1.0	28	31.5	14.7{1.5}	
80	1.0	28	36	17.7{1.8}	
UF12-15	0.8	6.8	6.7	3.2{0.33}	
20	0.8	6.8	9	4.4{0.45}	
25	0.8	6.8	11.2	5.5{0.56}	
30	0.9	10.8	13.5	6.6{0.67}	
35	1.0	17	15.7	7.6{0.78}	
40	1.0	17	18	8.8{0.9}	
45	1.0	17	20	9.8{1}	
50	1.1	26.4	22.5	10.8{1.1}	
60	1.1	26.4	27	12.7{1.3}	
70	1.1	26.4	31.5	14.7{1.5}	
80	1.2	39.6	36	17.7{1.8}	
UF13-15	0.8	5.6	6.7	3.2{0.33}	
20	0.8	5.6	9	4.4{0.45}	
25	0.85	7.2	11.2	5.5{0.56}	
30	1.0	14	13.5	6.6{0.67}	
35	1.0	14	15.7	7.6{0.78}	
40	1.0	14	18	8.8{0.9}	
45	1.1	21.5	20	9.8{1}	
50	1.1	21.5	22.5	10.8{1.1}	
60	1.1	21.5	27	12.7{1.3}	
70	1.2	30	31.5	14.7{1.5}	
80	1.2	30	36	17.7{1.8}	
UF16-15	0.9	5.6	6.7	3.2{0.33}	
20	1.0	7.7	9	4.4{0.45}	
25	1.0	7.7	11.2	5.5{0.56}	
30	1.1	12.1	13.5	6.6{0.67}	
35	1.1	12.1	15.7	7.6{0.78}	
40	1.2	18	18	8.8{0.9}	
45	1.2	18	20	9.8{1}	
50	1.2	18	22.5	10.8{1.1}	
60	1.3	26	27	12.7{1.3}	
70	1.3	26	31.5	14.7{1.5}	
80	1.4	35	36	17.7{1.8}	
UF20-20	1.2	7.2	9	8.8{0.9}	
25	1.3	9.1	11.3	11.1{1.13}	
30	1.4	11.9	13.5	13.2{1.35}	
35	1.4	11.9	15.8	15.5{1.58}	
40	1.5	15.8	18	17.7{1.8}	
45	1.5	15.8	20.3	19.9{2.03}	
50	1.6	20.8	22.5	22.1{2.25}	
60	1.6	20.8	27	26.5{2.7}	
70	1.7	26.4	31.5	30.9{3.15}	
80	1.7	26.4	36	35.3{3.6}	

kgf (Load)=N/mm (Spring Constant) x0.101972xF (Deflection)

{kgf}=Nx0.101972

- Both ends of * marked UF Type springs are not ground.
- The values of solid length are for reference only. There may be some variations depending on the lot.
- Usage Count: 1 Million Times

Spring Constant

D12 is applicable to UY, UR, UF, UL and UBB Types only. D14 is applicable to UBB Type only.

D \ Type	UV	UY	UR	UF	UL	UTT	UM	UH	UBB
2		0.05{0.005}	0.2{0.02}	0.3{0.03}	0.5{0.05}				
3	N/mm 0.05 {kgf/mm} {0.005}	N/mm 0.098 {kgf/mm} {0.01}	N/mm 0.29 {kgf/mm} {0.03}	N/mm 0.49 {kgf/mm} {0.05}	N/mm 0.98 {kgf/mm} {0.1}	1.5{0.15}			
4							2.0 {0.2}	2.9{0.3}	4.9{0.5}
5						N/mm 2.0 {kgf/mm} {0.2}			
6							N/mm 2.9 {kgf/mm} {0.3}	N/mm 5.9 {kgf/mm} {0.6}	N/mm 9.8 {kgf/mm} {1.0}
8									
10		N/mm 0.2 {kgf/mm} {0.02}							
12									
13								N/mm 9.8 {kgf/mm} {1.0}	N/mm 19.6 {kgf/mm} {2.0}
14									
16									
20		0.3{0.03}	0.5{0.05}	0.98{0.1}	2.9{0.3}	3.9{0.4}	4.9{0.5}	14.7{1.5}	29.4{3.0}
Fmax.	F=Lx70%	F=Lx75%	F=Lx60%	F=Lx45%	F=Lx40%	F=Lx40%	F=Lx35%	F=Lx30%	F=Lx25%