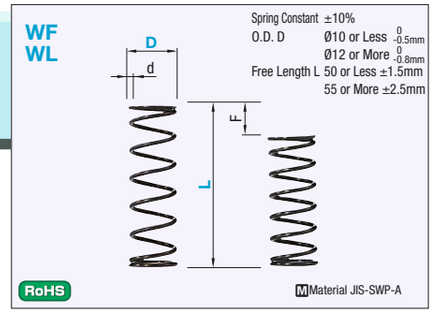
# Round Coil Springs

## WF, WL: O.D. Referenced

Ordering Example — Part Number: WF13-60




### Spring Constant

D12 and 14 for WY Type and D12,14 and 20 for WT Type are not available.

| D \ Type | WY | WR | WF | WL | WT | WM | WH | WB |
|---|---|---|---|---|---|---|---|---|
| 2 | | | | 0.5{0.05} | | | | |
| 3 | N/mm 0.1 {kgf/mm} {0.01} | N/mm 0.3 {kgf/mm} {0.03} | N/mm 0.5 {kgf/mm} {0.05} | N/mm 1.0 {kgf/mm} {0.1} | 1.5 {0.15} | 2.0 {0.2} | | 3.9{0.4} |
| 4 | | | | | | | 2.9{0.3} | 4.9{0.5} |
| 5 | | | | | N/mm 2.0 {kgf/mm} {0.2} | N/mm 2.9 {kgf/mm} {0.3} | N/mm 5.9 {kgf/mm} {0.6} | N/mm 9.8 {kgf/mm} {1.0} |
| 6 | | | | | | | | |
| 8 | | | | | | | | |
| 10 | N/mm 0.2 {kgf/mm} {0.02} | | | | | | N/mm 9.8 {kgf/mm} {1.0} | N/mm 19.6 {kgf/mm} {2.0} |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | 29.4{3.0} |
| 18 | | N/mm 0.5 {kgf/mm} {0.05} | N/mm 1.0 {kgf/mm} {0.1} | N/mm 2.9 {kgf/mm} {0.3} | N/mm 3.9 {kgf/mm} {0.4} | N/mm 4.9 {kgf/mm} {0.5} | N/mm 14.7 {kgf/mm} {1.5} | N/mm 29.4 {kgf/mm} {3.0} |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 27 | | | | | | | | |
| Fmax. | F=Lx75% | F=Lx60% | F=Lx45% | F=Lx40% | F=Lx40% | F=Lx35% | F=Lx30% | F=Lx25% |

### WF: Fmax. (Allowable Deflection) =Lx45%

| d | Solid Length | F max. | Load N{kgf} max. | Part Number Type D-L | Unit Price 10 ~ 19 pcs. |
|---|---|---|---|---|---|
| 0.26 | 2 | 2.25 | 1.1{0.11} | WF3- 5* | |
| 0.32 | 5 | 4.5 | 2.2{0.22} | 10* | |
| 0.32 | 5 | 6.7 | 3.2{0.33} | 15* | |
| 0.35 | 7 | 9 | 4.4{0.45} | 20* | |
| 0.35 | 7 | 11.2 | 5.5{0.56} | 25* | |
| 0.4 | 13.2 | 13.5 | 6.6{0.67} | 30 | |
| 0.4 | 13.2 | 15.7 | 7.6{0.78} | 35 | |
| 0.4 | 13.2 | 18 | 8.8{0.9} | 40 | |
| 0.32 | 2.3 | 2.25 | 1.1{0.11} | WF4- 5* | |
| 0.35 | 3.1 | 4.5 | 2.2{0.22} | 10* | |
| 0.4 | 5.6 | 6.7 | 3.2{0.33} | 15* | |
| 0.4 | 5.6 | 9 | 4.4{0.45} | 20* | |
| 0.45 | 9.9 | 11.2 | 5.5{0.56} | 25* | |
| 0.45 | 9.9 | 13.5 | 6.6{0.67} | 30* | |
| 0.5 | 16.5 | 15.7 | 7.6{0.78} | 35 | |
| 0.5 | 16.5 | 18 | 8.8{0.9} | 40 | |
| 0.5 | 16.5 | 20 | 9.8{1.0} | 45 | |
| 0.5 | 16.5 | 22.5 | 10.8{1.1} | 50 | |
| 0.5 | 16.5 | 24.7 | 12.1{1.23} | 55 | |
| 0.5 | 16.5 | 27 | 12.7{1.3} | 60 | |
| 0.55 | 26.4 | 29.2 | 14.3{1.46} | 65* | |
| 0.55 | 26.4 | 31.5 | 15.4{1.58} | 70* | |
| 0.35 | 2 | 2.25 | 1.1{0.11} | WF5- 5* | |
| 0.38 | 2.8 | 4.5 | 2.2{0.22} | 10* | |
| 0.4 | 3.4 | 6.7 | 3.2{0.33} | 15* | |
| 0.45 | 5.4 | 9 | 4.4{0.45} | 20* | |
| 0.5 | 8.5 | 11.2 | 5.5{0.56} | 25* | |
| 0.55 | 13.2 | 13.5 | 6.6{0.67} | 30 | |
| 0.55 | 13.2 | 15.7 | 7.6{0.78} | 35 | |
| 0.55 | 20.4 | 18 | 8.8{0.9} | 40 | |
| 0.6 | 20.4 | 20 | 9.8{1.0} | 45 | |
| 0.6 | 20.4 | 22.5 | 10.8{1.1} | 50 | |
| 0.6 | 20.4 | 24.7 | 12.1{1.23} | 55 | |
| 0.6 | 20.4 | 27 | 12.7{1.3} | 60 | |
| 0.6 | 20.4 | 29.2 | 14.3{1.5} | 65 | |
| 0.6 | 20.4 | 31.5 | 15.4{1.6} | 70 | |
| 0.4 | 2.3 | 2.25 | 1.1{0.11} | WF6- 5* | |
| 0.5 | 5 | 4.5 | 2.2{0.22} | 10 | |
| 0.55 | 8 | 6.7 | 3.2{0.33} | 15 | |
| 0.55 | 8 | 9 | 4.4{0.45} | 20 | |
| 0.6 | 12 | 11.2 | 5.5{0.56} | 25 | |
| 0.65 | 16 | 13.5 | 6.6{0.67} | 30 | |
| 0.65 | 17 | 15.7 | 7.6{0.78} | 35 | |
| 0.65 | 17 | 18 | 8.8{0.9} | 40 | |
| 0.65 | 17 | 20 | 9.8{1.0} | 45 | |
| 0.7 | 25.2 | 22.5 | 10.8{1.1} | 50 | |
| 0.7 | 25.2 | 24.7 | 12.1{1.23} | 55 | |
| 0.7 | 25.2 | 27 | 12.7{1.3} | 60 | |
| 0.7 | 25.2 | 29.2 | 14.3{1.46} | 65 | |
| 0.7 | 25.2 | 31.5 | 14.7{1.5} | 70 | |
| 0.7 | 25.2 | 36 | 17.7{1.8} | 80 | |
| 0.6 | 5 | 4.5 | 2.2{0.22} | WF8- 10 | |
| 0.65 | 7.5 | 6.7 | 3.2{0.33} | 15 | |
| 0.7 | 10.8 | 9 | 4.4{0.45} | 20 | |
| 0.7 | 10.8 | 11.2 | 5.5{0.56} | 25 | |
| 0.75 | 14.5 | 13.5 | 6.6{0.67} | 30 | |
| 0.75 | 14.5 | 15.7 | 7.6{0.78} | 35 | |
| 0.8 | 20 | 18 | 8.8{0.9} | 40 | |
| 0.8 | 20 | 20 | 9.8{1.0} | 45 | |
| 0.8 | 20 | 22.5 | 10.8{1.1} | 50 | |
| 0.8 | 20 | 24.7 | 12.1{1.23} | 55 | |
| 0.85 | 27.6 | 27 | 12.7{1.3} | 60 | |
| 0.85 | 27.6 | 29.2 | 14.3{1.46} | 65 | |
| 0.85 | 27.6 | 31.5 | 14.7{1.5} | 70 | |
| 0.85 | 28.1 | 36 | 17.7{1.8} | 80 | |

| d | Solid Length | F max. | Load N{kgf} max. | Part Number Type D-L | Unit Price 10 ~ 19 pcs. |
|---|---|---|---|---|---|
| 0.65 | 5 | 4.5 | 2.2{0.22} | WF10- 10 | |
| 0.65 | 5 | 6.7 | 3.2{0.33} | 15 | |
| 0.8 | 10.4 | 9 | 4.4{0.45} | 20 | |
| 0.8 | 10.4 | 11.2 | 5.5{0.56} | 25 | |
| 0.85 | 14 | 13.5 | 6.6{0.67} | 30 | |
| 0.85 | 14 | 15.7 | 7.6{0.78} | 35 | |
| 0.9 | 17.5 | 18 | 8.8{0.9} | 40 | |
| 0.9 | 17.5 | 20 | 9.8{1.0} | 45 | |
| 0.9 | 17.5 | 22.5 | 10.8{1.1} | 50 | |
| 0.9 | 17.5 | 24.7 | 12.1{1.23} | 55 | |
| 1.0 | 31 | 27 | 12.7{1.3} | 60 | |
| 1.0 | 31 | 29.2 | 14.3{1.46} | 65 | |
| 1.0 | 31 | 31.5 | 14.7{1.5} | 70 | |
| 1.0 | 31 | 36 | 17.7{1.8} | 80 | |
| 0.7 | 4.6 | 4.5 | 2.3{0.23} | WF12- 10 | |
| 0.7 | 4.6 | 6.7 | 3.2{0.33} | 15 | |
| 0.8 | 7.2 | 9 | 4.4{0.45} | 20 | |
| 0.8 | 7.2 | 11.2 | 5.5{0.56} | 25 | |
| 0.9 | 11.3 | 13.5 | 6.6{0.67} | 30 | |
| 0.9 | 11.3 | 15.7 | 7.6{0.78} | 35 | |
| 0.9 | 11.3 | 18 | 8.8{0.9} | 40 | |
| 0.9 | 11.3 | 20 | 9.8{1.0} | 45 | |
| 1.0 | 18 | 22.5 | 10.8{1.1} | 50 | |
| 1.0 | 18 | 24.7 | 12.1{1.23} | 55 | |
| 1.0 | 18 | 27 | 12.7{1.3} | 60 | |
| 1.0 | 18 | 29.2 | 14.3{1.46} | 65 | |
| 1.1 | 28.1 | 31.5 | 14.7{1.5} | 70 | |
| 1.1 | 27.5 | 36 | 17.7{1.8} | 80 | |
| 0.75 | 4.9 | 4.5 | 2.3{0.23} | WF13- 10 | |
| 0.8 | 6 | 6.7 | 3.2{0.33} | 15 | |
| 0.8 | 6 | 9 | 4.4{0.45} | 20 | |
| 0.85 | 7.2 | 11.2 | 5.5{0.56} | 25 | |
| 1.0 | 15 | 13.5 | 6.6{0.67} | 30 | |
| 1.0 | 15 | 15.7 | 7.6{0.78} | 35 | |
| 1.0 | 15 | 18 | 8.8{0.9} | 40 | |
| 1.0 | 15 | 20 | 9.8{1.0} | 45 | |
| 1.0 | 15 | 22.5 | 10.8{1.1} | 50 | |
| 1.1 | 22 | 24.7 | 12.1{1.23} | 55 | |
| 1.1 | 22 | 27 | 12.7{1.3} | 60 | |
| 1.1 | 22 | 29.2 | 14.3{1.46} | 65 | |
| 1.1 | 22 | 31.5 | 14.7{1.5} | 70 | |
| 1.1 | 22 | 36 | 17.7{1.8} | 80 | |
| 1.2 | 33.6 | 40.5 | 19.9{2.0} | 90 | |
| 0.8 | 5.2 | 6.7 | 3.2{0.33} | WF14- 15 | |
| 0.9 | 7.9 | 9 | 4.4{0.45} | 20 | |
| 0.9 | 7.9 | 11.2 | 5.5{0.56} | 25 | |
| 1.0 | 12 | 13.5 | 6.6{0.67} | 30 | |
| 1.0 | 12 | 15.7 | 7.6{0.78} | 35 | |
| 1.0 | 12 | 18 | 8.8{0.9} | 40 | |
| 1.0 | 12 | 20 | 9.8{1.0} | 45 | |
| 1.1 | 18.2 | 22.5 | 10.8{1.1} | 50 | |
| 1.1 | 18.2 | 24.7 | 12.1{1.23} | 55 | |
| 1.1 | 18.2 | 27 | 12.7{1.3} | 60 | |
| 1.2 | 27.6 | 29.2 | 14.3{1.46} | 65 | |
| 1.2 | 27.6 | 31.5 | 14.7{1.5} | 70 | |
| 1.2 | 27.6 | 36 | 17.7{1.8} | 80 | |
| 1.3 | 39.7 | 40.5 | 19.9{2.0} | 90 | |

| d | Solid Length | F max. | Load N{kgf} max. | Part Number Type D-L | Unit Price 10 ~ 19 pcs. |
|---|---|---|---|---|---|
| 0.9 | 6.3 | 6.7 | 3.2{0.33} | WF16- 15 | |
| 1.0 | 8.7 | 9 | 4.4{0.45} | 20 | |
| 1.0 | 8.7 | 11.2 | 5.5{0.56} | 25 | |
| 1.1 | 12.8 | 13.5 | 6.6{0.67} | 30 | |
| 1.1 | 12.8 | 15.7 | 7.6{0.78} | 35 | |
| 1.2 | 18.6 | 18 | 8.8{0.9} | 40 | |
| 1.2 | 18.6 | 20 | 9.8{1.0} | 45 | |
| 1.2 | 18.6 | 22.5 | 10.8{1.1} | 50 | |
| 1.2 | 18.6 | 24.7 | 12.1{1.23} | 55 | |
| 1.3 | 26.8 | 27 | 12.7{1.3} | 60 | |
| 1.3 | 26.8 | 29.2 | 14.3{1.46} | 65 | |
| 1.3 | 26.8 | 31.5 | 14.7{1.5} | 70 | |
| 1.4 | 36 | 36 | 17.7{1.8} | 80 | |
| 1.4 | 36.4 | 40.5 | 19.9{2.0} | 90 | |
| 1.2 | 9 | 9 | 8.8{0.9} | WF18- 20 | |
| 1.3 | 12.4 | 11.2 | 10.8{1.1} | 25 | |
| 1.3 | 12.4 | 13.5 | 12.7{1.3} | 30 | |
| 1.4 | 16.1 | 15.7 | 14.7{1.5} | 35 | |
| 1.5 | 21 | 18 | 17.7{1.8} | 40 | |
| 1.5 | 21 | 20 | 19.9{2.03} | 45 | |
| 1.5 | 21 | 22.5 | 22.1{2.25} | 50 | |
| 1.6 | 28.8 | 24.7 | 24.3{2.48} | 55 | |
| 1.6 | 28.8 | 27 | 26.5{2.7} | 60 | |
| 1.6 | 28.8 | 29.2 | 28.7{2.93} | 65 | |
| 1.7 | 37.4 | 31.5 | 30.9{3.15} | 70 | |
| 1.7 | 37.4 | 36 | 35.3{3.6} | 80 | |
| 1.2 | 7.2 | 9 | 8.8{0.9} | WF20- 20 | |
| 1.3 | 9.8 | 11.2 | 10.8{1.1} | 25 | |
| 1.4 | 12.6 | 13.5 | 12.7{1.3} | 30 | |
| 1.4 | 12.6 | 15.7 | 14.7{1.5} | 35 | |
| 1.5 | 16.5 | 18 | 17.7{1.8} | 40 | |
| 1.5 | 16.5 | 20 | 19.9{2.03} | 45 | |
| 1.6 | 21.6 | 22.5 | 22.1{2.25} | 50 | |
| 1.6 | 21.6 | 24.7 | 24.3{2.48} | 55 | |
| 1.6 | 21.6 | 27 | 26.5{2.7} | 60 | |
| 1.7 | 28.1 | 29.2 | 28.7{2.93} | 65 | |
| 1.7 | 28.1 | 31.5 | 30.9{3.15} | 70 | |
| 1.7 | 28.1 | 36 | 35.3{3.6} | 80 | |
| 1.3 | 7.8 | 9 | 8.8{0.9} | WF22- 20 | |
| 1.4 | 10.5 | 11.2 | 11.0{1.12} | 25 | |
| 1.4 | 10.5 | 13.5 | 13.2{1.35} | 30 | |
| 1.5 | 13.5 | 15.7 | 15.4{1.57} | 35 | |
| 1.5 | 13.5 | 18 | 17.7{1.8} | 40 | |
| 1.7 | 22.1 | 20.2 | 19.8{2.02} | 45 | |
| 1.7 | 22.1 | 22.5 | 22.1{2.25} | 50 | |
| 1.7 | 22.1 | 24.7 | 24.2{2.47} | 55 | |
| 1.8 | 28.8 | 27 | 26.5{2.7} | 60 | |
| 1.8 | 28.8 | 29.2 | 28.6{2.92} | 65 | |
| 1.8 | 28.8 | 31.5 | 30.9{3.15} | 70 | |
| 1.8 | 28.8 | 36 | 35.3{3.6} | 80 | |
| 1.7 | 14.1 | 13.5 | 13.2{1.35} | WF27- 30 | |
| 1.7 | 14.1 | 15.7 | 15.4{1.57} | 35 | |
| 1.7 | 14.1 | 18 | 17.7{1.8} | 40 | |
| 1.9 | 21.4 | 20.2 | 19.8{2.02} | 45 | |
| 1.9 | 21.4 | 22.5 | 22.1{2.25} | 50 | |
| 2.0 | 26 | 24.7 | 24.2{2.47} | 55 | |
| 2.0 | 26 | 27 | 26.5{2.7} | 60 | |
| 2.0 | 26 | 29.2 | 28.6{2.92} | 65 | |
| 2.0 | 26 | 31.5 | 30.9{3.15} | 70 | |
| 2.0 | 26 | 36 | 35.3{3.6} | 80 | |

- Load calculation method = Spring constant x Deflection
  (Int'l Unit) N=N/mmxFmm
  kgf=kgf/mmxFmm
  (kgf=Nx0.101972)

Both ends of * marked WF 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
Product Outline P.327
How to use coil springs, and precautions P.328

### WL: Fmax. (Allowable Deflection) =Lx40%

| d | Solid Length | F max. | Load N{kgf} max. | Part Number Type D-L | Unit Price 10 ~ 19 pcs. |
|---|---|---|---|---|---|
| 0.2 | 1.7 | 2 | 0.98{0.1} | WL2- 5* | |
| 0.26 | 5.2 | 4 | 2.0{0.2} | 10* | |
| 0.26 | 5.2 | 6 | 2.9{0.3} | 15* | |
| 0.29 | 9 | 8 | 3.9{0.4} | 20* | |
| 0.29 | 9 | 10 | 4.9{0.5} | 25* | |
| 0.3 | 10.8 | 12 | 5.9{0.6} | 30* | |
| 0.3 | 2.1 | 2 | 2.0{0.2} | WL3- 5* | |
| 0.35 | 3.9 | 4 | 3.9{0.4} | 10* | |
| 0.4 | 6.5 | 6 | 5.9{0.6} | 15* | |
| 0.4 | 6.5 | 8 | 7.8{0.8} | 20* | |
| 0.45 | 13 | 10 | 9.8{1.0} | 25* | |
| 0.45 | 13 | 12 | 11.8{1.2} | 30* | |
| 0.45 | 13 | 14 | 13.7{1.4} | 35* | |
| 0.5 | 21 | 16 | 15.7{1.6} | 40* | |
| 0.35 | 2.1 | 2 | 2.0{0.2} | WL4- 5* | |
| 0.45 | 5 | 4 | 3.9{0.4} | 10* | |
| 0.45 | 5 | 6 | 5.9{0.6} | 15* | |
| 0.5 | 9 | 8 | 7.8{0.8} | 20 | |
| 0.5 | 9 | 10 | 9.8{1.0} | 25 | |
| 0.55 | 13.9 | 12 | 11.8{1.2} | 30 | |
| 0.55 | 13.9 | 14 | 13.7{1.4} | 35 | |
| 0.6 | 21.6 | 16 | 15.7{1.6} | 40 | |
| 0.6 | 21.6 | 18 | 17.7{1.8} | 45 | |
| 0.6 | 21.6 | 20 | 19.6{2.0} | 50 | |
| 0.6 | 21.6 | 22 | 21.6{2.2} | 55 | |
| 0.65 | 33 | 24 | 23.5{2.4} | 60 | |
| 0.4 | 2.3 | 2 | 2.0{0.2} | WL5- 5* | |
| 0.45 | 3.4 | 4 | 3.9{0.4} | 10* | |
| 0.5 | 5 | 6 | 5.9{0.6} | 15* | |
| 0.55 | 7.7 | 8 | 7.8{0.8} | 20 | |
| 0.6 | 10.8 | 10 | 9.8{1.0} | 25 | |
| 0.6 | 10.8 | 12 | 11.8{1.2} | 30 | |
| 0.65 | 15.6 | 14 | 13.7{1.4} | 35 | |
| 0.65 | 15.6 | 16 | 15.7{1.6} | 40 | |
| 0.7 | 20 | 18 | 17.7{1.8} | 45 | |
| 0.7 | 20 | 20 | 19.6{2.0} | 50 | |
| 0.7 | 23.1 | 22 | 21.6{2.2} | 55 | |
| 0.75 | 33 | 24 | 23.5{2.4} | 60 | |
| 0.75 | 32.3 | 26 | 25.5{2.6} | 65 | |
| 0.75 | 32.3 | 28 | 27.5{2.8} | 70 | |
| 0.45 | 2.5 | 2 | 2.0{0.2} | WL6- 5* | |
| 0.55 | 4.7 | 4 | 3.9{0.4} | 10 | |
| 0.55 | 4.7 | 6 | 5.9{0.6} | 15 | |
| 0.65 | 9 | 8 | 7.8{0.8} | 20 | |
| 0.65 | 9 | 10 | 9.8{1.0} | 25 | |
| 0.7 | 13.7 | 12 | 11.8{1.2} | 30 | |
| 0.7 | 13.7 | 14 | 13.7{1.4} | 35 | |
| 0.7 | 13.7 | 16 | 15.7{1.6} | 40 | |
| 0.75 | 18.9 | 18 | 17.7{1.8} | 45 | |
| 0.75 | 18.9 | 20 | 19.6{2.0} | 50 | |
| 0.75 | 18.9 | 22 | 21.6{2.2} | 55 | |
| 0.8 | 26.4 | 24 | 23.5{2.4} | 60 | |
| 0.8 | 26.4 | 26 | 25.5{2.6} | 65 | |
| 0.85 | 30.6 | 28 | 27.5{2.8} | 70 | |
| 0.85 | 34.9 | 32 | 31.4{3.2} | 80 | |

| d | Solid Length | F max. | Load N{kgf} max. | Part Number Type D-L | Unit Price 10 ~ 19 pcs. |
|---|---|---|---|---|---|
| 0.65 | 4.7 | 4 | 3.9{0.4} | WL8- 10 | |
| 0.75 | 8.5 | 6 | 5.9{0.6} | 15 | |
| 0.75 | 8.5 | 8 | 7.8{0.8} | 20 | |
| 0.75 | 8.5 | 10 | 9.8{1.0} | 25 | |
| 0.8 | 11.2 | 12 | 11.8{1.2} | 30 | |
| 0.8 | 11.2 | 14 | 13.7{1.4} | 35 | |
| 0.8 | 11.2 | 16 | 15.7{1.6} | 40 | |
| 0.85 | 15.3 | 18 | 17.7{1.8} | 45 | |
| 0.85 | 15.3 | 20 | 19.6{2.0} | 50 | |
| 0.85 | 15.3 | 22 | 21.6{2.2} | 55 | |
| 0.9 | 19.4 | 24 | 23.5{2.4} | 60 | |
| 0.9 | 19.4 | 26 | 25.5{2.6} | 65 | |
| 1.0 | 31 | 28 | 27.5{2.8} | 70 | |
| 1.0 | 31 | 32 | 31.4{3.2} | 80 | |
| 0.75 | 5.3 | 4 | 3.9{0.4} | WL10- 10 | |
| 0.8 | 6.4 | 6 | 5.9{0.6} | 15 | |
| 0.8 | 6.4 | 8 | 7.8{0.8} | 20 | |
| 0.9 | 10.8 | 10 | 9.8{1.0} | 25 | |
| 0.9 | 10.8 | 12 | 11.8{1.2} | 30 | |
| 0.9 | 10.8 | 14 | 13.7{1.4} | 35 | |
| 0.9 | 10.8 | 16 | 15.7{1.6} | 40 | |
| 1.0 | 17 | 18 | 17.7{1.8} | 45 | |
| 1.0 | 17 | 20 | 19.6{2.0} | 50 | |
| 1.0 | 17 | 22 | 21.6{2.2} | 55 | |
| 1.0 | 17 | 24 | 23.5{2.4} | 60 | |
| 1.1 | 24 | 26 | 25.5{2.6} | 65 | |
| 1.1 | 24 | 28 | 27.5{2.8} | 70 | |
| 1.1 | 24.2 | 32 | 31.4{3.2} | 80 | |
| 0.8 | 4.8 | 4 | 4.0{0.4} | WL12- 10 | |
| 0.9 | 7.2 | 6 | 5.9{0.6} | 15 | |
| 0.9 | 7.2 | 8 | 7.8{0.8} | 20 | |
| 0.9 | 7.2 | 10 | 9.8{1.0} | 25 | |
| 1.0 | 10.5 | 12 | 11.8{1.2} | 30 | |
| 1.0 | 10.5 | 14 | 13.7{1.4} | 35 | |
| 1.0 | 10.5 | 16 | 15.7{1.6} | 40 | |
| 1.1 | 15.4 | 18 | 17.7{1.8} | 45 | |
| 1.1 | 15.4 | 20 | 19.6{2.0} | 50 | |
| 1.1 | 15.4 | 22 | 21.6{2.2} | 55 | |
| 1.2 | 22.8 | 24 | 23.5{2.4} | 60 | |
| 1.2 | 22.8 | 26 | 25.5{2.6} | 65 | |
| 1.2 | 22.8 | 28 | 27.5{2.8} | 70 | |
| 1.3 | 34.5 | 32 | 31.4{3.2} | 80 | |
| 0.85 | 5.1 | 4 | 4.0{0.4} | WL13- 10 | |
| 0.9 | 6.3 | 6 | 5.9{0.6} | 15 | |
| 1.0 | 8.7 | 8 | 7.8{0.8} | 20 | |
| 1.0 | 8.7 | 10 | 9.8{1.0} | 25 | |
| 1.1 | 13.2 | 12 | 11.8{1.2} | 30 | |
| 1.1 | 13.2 | 14 | 13.7{1.4} | 35 | |
| 1.1 | 13.2 | 16 | 15.7{1.6} | 40 | |
| 1.1 | 13.2 | 18 | 17.7{1.8} | 45 | |
| 1.1 | 13.2 | 20 | 19.6{2.0} | 50 | |
| 1.1 | 13.2 | 22 | 21.6{2.2} | 55 | |
| 1.1 | 13.2 | 24 | 23.5{2.4} | 60 | |
| 1.2 | 18.6 | 26 | 25.5{2.6} | 65 | |
| 1.2 | 18.6 | 28 | 27.5{2.8} | 70 | |
| 1.4 | 37.8 | 32 | 31.4{3.2} | 80 | |
| 1.4 | 37.8 | 36 | 35.3{3.6} | 90 | |
| 1.0 | 7.5 | 6 | 5.9{0.6} | WL14- 15 | |
| 1.0 | 7.5 | 8 | 7.8{0.8} | 20 | |
| 1.0 | 7.5 | 10 | 9.8{1.0} | 25 | |
| 1.1 | 11 | 12 | 11.8{1.2} | 30 | |
| 1.1 | 11 | 14 | 13.7{1.4} | 35 | |
| 1.1 | 11 | 16 | 15.7{1.6} | 40 | |
| 1.2 | 15.6 | 18 | 17.7{1.8} | 45 | |
| 1.2 | 15.6 | 20 | 19.6{2.0} | 50 | |
| 1.2 | 15.6 | 22 | 21.6{2.2} | 55 | |
| 1.2 | 15.6 | 24 | 23.5{2.4} | 60 | |
| 1.3 | 22.1 | 26 | 25.5{2.6} | 65 | |
| 1.3 | 22.1 | 28 | 27.5{2.8} | 70 | |
| 1.3 | 22.1 | 32 | 31.4{3.2} | 80 | |
| 1.5 | 43.5 | 36 | 35.3{3.6} | 90 | |

| d | Solid Length | F max. | Load N{kgf} max. | Part Number Type D-L | Unit Price 10 ~ 19 pcs. |
|---|---|---|---|---|---|
| 1.1 | 8.2 | 6 | 5.9{0.6} | WL16- 15 | |
| 1.1 | 8.2 | 8 | 7.8{0.8} | 20 | |
| 1.2 | 10 | 10 | 9.8{1.0} | 25 | |
| 1.2 | 10 | 12 | 11.8{1.2} | 30 | |
| 1.2 | 10 | 14 | 13.7{1.4} | 35 | |
| 1.2 | 10 | 16 | 15.7{1.6} | 40 | |
| 1.4 | 21 | 18 | 17.7{1.8} | 45 | |
| 1.4 | 21 | 20 | 19.6{2.0} | 50 | |
| 1.4 | 21 | 22 | 21.6{2.2} | 55 | |
| 1.4 | 21 | 24 | 23.5{2.4} | 60 | |
| 1.5 | 29.7 | 26 | 25.5{2.6} | 65 | |
| 1.5 | 29.7 | 28 | 27.5{2.8} | 70 | |
| 1.5 | 29.7 | 32 | 31.4{3.2} | 80 | |
| 1.6 | 40 | 36 | 35.3{3.6} | 90 | |
| 1.5 | 10 | 8 | 23.5{2.4} | WL18- 20 | |
| 1.6 | 12 | 10 | 29.4{3.0} | 25 | |
| 1.6 | 12 | 12 | 35.3{3.6} | 30 | |
| 1.7 | 16.2 | 14 | 41.2{4.2} | 35 | |
| 1.7 | 16.2 | 16 | 47.1{4.8} | 40 | |
| 1.8 | 19.8 | 18 | 53.0{5.4} | 45 | |
| 1.8 | 19.8 | 20 | 58.8{6.0} | 50 | |
| 1.8 | 19.8 | 22 | 64.7{6.6} | 55 | |
| 1.8 | 19.8 | 24 | 70.6{7.2} | 60 | |
| 2.0 | 32 | 26 | 76.5{7.8} | 65 | |
| 2.0 | 32 | 28 | 82.4{8.4} | 70 | |
| 2.0 | 32 | 32 | 94.1{9.6} | 80 | |
| 2.2 | 43 | 36 | 105.9{10.8} | 90 | |
| 2.2 | 43 | 40 | 117.7{12.0} | 100 | |
| 1.6 | 10.4 | 8 | 23.5{2.4} | WL20- 20 | |
| 1.6 | 10.4 | 10 | 29.4{3.0} | 25 | |
| 1.7 | 12.8 | 12 | 35.3{3.6} | 30 | |
| 1.7 | 12.8 | 14 | 41.2{4.2} | 35 | |
| 1.8 | 15.8 | 16 | 47.1{4.8} | 40 | |
| 1.8 | 15.8 | 18 | 53.0{5.4} | 45 | |
| 1.8 | 15.8 | 20 | 58.8{6.0} | 50 | |
| 1.8 | 15.8 | 22 | 64.7{6.6} | 55 | |
| 2.0 | 24 | 24 | 70.6{7.2} | 60 | |
| 2.0 | 24 | 26 | 76.5{7.8} | 65 | |
| 2.0 | 24 | 28 | 82.4{8.4} | 70 | |
| 2.2 | 37.4 | 32 | 94.1{9.6} | 80 | |
| 2.2 | 37.4 | 36 | 105.9{10.8} | 90 | |
| 2.2 | 37.4 | 40 | 117.7{12.0} | 100 | |
| 1.7 | 10.8 | 8 | 23.5{2.4} | WL22- 20 | |
| 1.8 | 13.3 | 10 | 29.4{3.0} | 25 | |
| 1.8 | 13.3 | 12 | 35.3{3.6} | 30 | |
| 1.8 | 13.3 | 14 | 41.2{4.2} | 35 | |
| 2.0 | 20 | 16 | 47.1{4.8} | 40 | |
| 2.0 | 20 | 18 | 53.0{5.4} | 45 | |
| 2.0 | 20 | 20 | 58.8{6.0} | 50 | |
| 2.0 | 20 | 22 | 64.7{6.6} | 55 | |
| 2.2 | 28.6 | 24 | 70.6{7.2} | 60 | |
| 2.2 | 28.6 | 26 | 76.5{7.8} | 65 | |
| 2.2 | 28.6 | 28 | 82.4{8.4} | 70 | |
| 2.2 | 28.6 | 32 | 94.1{9.6} | 80 | |
| 2.3 | 34.5 | 36 | 105.9{10.8} | 90 | |
| 2.3 | 34.5 | 40 | 117.7{12.0} | 100 | |
| 2.1 | 14 | 12 | 35.3{3.6} | WL27- 30 | |
| 2.1 | 14 | 14 | 41.2{4.2} | 35 | |
| 2.3 | 19 | 16 | 47.1{4.8} | 40 | |
| 2.3 | 19 | 18 | 53.0{5.4} | 45 | |
| 2.3 | 19 | 20 | 58.8{6.0} | 50 | |
| 2.3 | 19 | 22 | 64.7{6.6} | 55 | |
| 2.5 | 28 | 24 | 70.6{7.2} | 60 | |
| 2.5 | 28 | 26 | 76.5{7.8} | 65 | |
| 2.6 | 34.5 | 28 | 82.4{8.4} | 70 | |
| 2.6 | 34.5 | 32 | 94.1{9.6} | 80 | |
| 2.8 | 46.7 | 36 | 105.9{10.8} | 90 | |
| 2.8 | 46.7 | 40 | 117.7{12.0} | 100 | |

- Load calculation method = Spring constant x Deflection
  (Int'l Unit) N=N/mmxFmm
  kgf=kgf/mmxFmm
  (kgf=Nx0.101972)

Both ends of * marked WL 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
Product Outline P.327
How to use coil springs, and precautions P.328