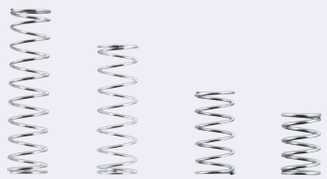
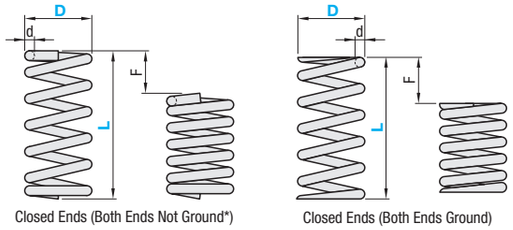
Round Coil Springs

O.D. Referenced Stainless Steel

UL
UTT





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

RoHS10

Material SUS304-WPB Spring Constant±10%

O.D. D Ø10 or Less $^{0}_{-0.5mm}$
Ø12 or More $^{0}_{-0.8mm}$

UL: Fmax. (Allowable Deflection) =Lx40%

Part Number Type D-L	d	Solid Length	F max.	N{kgf} max.	Unit Price
UL 2- 5*	0.2	1.65	2	0.98 {0.1}	
10*	0.26	5.07	4	1.96 {0.2}	
15*	0.26	5.07	6	2.94 {0.3}	
20*	0.3	9.9	8	3.92 {0.4}	
25*	0.32	14.1	10	4.90 {0.5}	
30*	0.32	14.1	12	5.88 {0.6}	
UL 3- 5*	0.30	2	2	2.0 {0.2}	
10*	0.35	3.7	4	3.9 {0.4}	
15*	0.4	6.6	6	5.9 {0.6}	
20*	0.4	6.6	8	7.8 {0.8}	
25*	0.45	11.7	10	9.8 {1 }	
30*	0.45	11.7	12	11.8 {1.2}	
35*	0.45	11.7	14	13.7 {1.4}	
40*	0.5	20	16	15.7 {1.6}	
UL 4- 5*	0.35	2.1	2	2.0 {0.2}	
10*	0.45	5.3	4	3.9 {0.4}	
15*	0.45	5.3	6	5.9 {0.6}	
20*	0.5	8	8	7.8 {0.8}	
25*	0.5	8	10	9.8 {1 }	
30*	0.55	12.7	12	11.8 {1.2}	
35*	0.55	12.7	14	13.7 {1.4}	
40	0.6	19.8	16	15.7 {1.6}	
45	0.6	19.8	18	17.7 {1.8}	
50	0.6	19.8	20	19.6 {2 }	
60	0.65	29.9	24	23.5 {2.4}	
UL 5- 5*	0.4	2.2	2	2.0 {0.2}	
10*	0.5	4.75	4	3.9 {0.4}	
15*	0.5	4.75	6	5.9 {0.6}	
20*	0.55	6.88	8	7.8 {0.8}	
25*	0.55	6.88	10	9.8 {1 }	
30	0.65	14.95	12	11.8 {1.2}	
35	0.65	14.95	14	13.7 {1.4}	
40	0.65	14.95	16	15.7 {1.6}	
45	0.7	21.7	18	17.7 {1.8}	
50	0.7	21.7	20	19.6 {2 }	
60	0.75	30.75	24	23.5 {2.4}	
UL 6- 5*	0.45	2.3	2	2.0 {0.2}	
10*	0.55	4.4	4	3.9 {0.4}	
15*	0.55	4.4	6	5.9 {0.6}	
20	0.65	8.5	8	7.8 {0.8}	
25	0.65	8.5	10	9.8 {1 }	
30	0.7	12.6	12	11.8 {1.2}	
35	0.7	12.6	14	13.7 {1.4}	
40	0.7	12.6	16	15.7 {1.6}	
45	0.75	17.3	18	17.7 {1.8}	
50	0.75	17.3	20	19.6 {2 }	
60	0.8	24.8	24	23.5 {2.4}	
70	0.8	24.8	28	27.5 {2.8}	

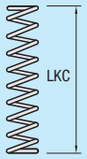
Part Number Type D-L	d	Solid Length	F max.	N{kgf} max.	Unit Price
UL 8- 10	0.65	4.6	4	3.9 {0.4}	
15	0.75	8.3	6	5.9 {0.6}	
20	0.75	8.3	8	7.8 {0.8}	
25	0.75	8.3	10	9.8 {1 }	
30	0.8	10.4	12	11.8 {1.2}	
35	0.8	10.4	14	13.7 {1.4}	
40	0.8	10.4	16	15.7 {1.6}	
45	0.85	14.5	18	17.7 {1.8}	
50	0.85	14.5	20	19.6 {2 }	
60	0.9	18	24	23.5 {2.4}	
70	1.0	30	28	27.5 {2.8}	
80	1.0	30	32	31.4 {3.2}	
UL 10- 10	0.75	4.7	4	3.9 {0.4}	
15	0.8	6.2	6	5.9 {0.6}	
20	0.8	6.2	8	7.8 {0.8}	
25	0.9	9.5	10	9.8 {1 }	
30	0.9	9.5	12	11.8 {1.2}	
35	0.9	9.5	14	13.7 {1.4}	
40	1.0	15.5	16	15.7 {1.6}	
45	1.0	15.5	18	17.7 {1.8}	
50	1.0	15.5	20	19.6 {2 }	
60	1.1	23.7	24	23.5 {2.4}	
70	1.1	23.7	28	27.5 {2.8}	
80	1.1	23.7	32	31.4 {3.2}	
UL 12- 15	0.9	6.75	6	5.9 {0.6}	
20	1	10	8	7.8 {0.8}	
25	1	10	10	9.8 {1.0}	
30	1.1	14.85	12	11.8 {1.2}	
35	1.1	14.85	14	13.7 {1.4}	
40	1.2	21.6	16	15.7 {1.6}	
45	1.2	21.6	18	17.7 {1.8}	
50	1.2	21.6	20	19.6 {2.0}	
60	1.3	32.5	24	23.5 {2.4}	
70	1.3	32.5	28	27.5 {2.8}	
80	1.4	46.2	32	31.4 {3.2}	

Part Number Type D-L	d	Solid Length	F max.	N{kgf} max.	Unit Price
UL 13- 15	0.9	5.4	6	5.9 {0.6}	
20	1.0	8.25	8	7.8 {0.8}	
25	1.0	8.25	10	9.8 {1 }	
30	1.1	12.1	12	11.8 {1.2}	
35	1.1	12.1	14	13.7 {1.4}	
40	1.1	12.1	16	15.7 {1.6}	
45	1.2	16.8	18	17.7 {1.8}	
50	1.2	16.8	20	19.6 {2 }	
60	1.2	16.8	24	23.5 {2.4}	
70	1.4	35	28	27.5 {2.8}	
80	1.4	35	32	31.4 {3.2}	
UL 16- 15	1.1	7.7	6	5.9 {0.6}	
20	1.1	7.7	8	7.8 {0.8}	
25	1.2	10.8	10	9.8 {1 }	
30	1.2	10.8	12	11.8 {1.2}	
35	1.3	14.3	14	13.7 {1.4}	
40	1.3	14.3	16	15.7 {1.6}	
45	1.4	19.6	18	17.7 {1.8}	
50	1.4	19.6	20	19.6 {2 }	
60	1.4	19.6	24	23.5 {2.4}	
70	1.5	27	28	27.5 {2.8}	
80	1.5	27	32	31.4 {3.2}	
UL 20- 20	1.6	10.4	8	23.5 {2.4}	
25	1.6	10.4	10	29.4 {3 }	
30	1.7	12.8	12	35.3 {3.6}	
35	1.7	12.8	14	41.2 {4.2}	
40	1.8	15.3	16	47.1 {4.8}	
45	1.8	15.3	18	53.0 {5.4}	
50	2	23	20	58.8 {6 }	
60	2	23	24	70.6 {7.2}	
70	2.2	35.2	28	82.4 {8.4}	
80	2.2	35.2	32	94.1 {9.6}	

kgf (Load)=N/mm (Spring Constant) x0.101972xF (Deflection)
{kgf}=Nx0.101972

For Types marked with *, both ends 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

Alterations Part Number - (LKC)
UL6-20 - LKC

Alterations	Code	Spec.
	LKC	Changes length and spring constant tolerance. (Refer to the table below)

Part Number Type	D	L Specify in 5mm Increment	Alterations	Tolerance	Spring Constant Tolerance
UL	5	30~50	LKC	±0.5	±5%
		60		±0.8	
	6	20		±0.4	
		25~50		±0.5	
		60, 70		±0.8	
	8 10	10~20		±0.4	
		25~50		±0.5	
		60, 70		±0.8	
	12 13 16	15~30		±0.5	
		35~50		±0.5	
		60, 70, 80		±0.8	
	20	20~30		±0.5	
		35~50		±0.5	
		60, 70, 80		±0.8	

Both ends are ground. For orders larger than indicated quantity, please check with WOS.
Applicable to D5 or more.

UTT: Fmax. (Allowable Deflection) =LxFa%

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} Max.	Fa%	Unit Price
UTT 3- 5*	0.35	2.8	2	2.9 {0.3}	40	
10*	0.4	4.8	4	5.9 {0.6}		
15*	0.45	8.3	6	8.8 {0.9}		
20*	0.45	8.3	6	8.8 {0.9}	30	
25*	0.5	14	8	11.8 {1.2}	32	
30*	0.5	14	8	11.8 {1.2}	27	
UTT 4- 5*	0.4	2.6	2	2.9 {0.3}	40	
10*	0.45	3.9	4	5.9 {0.6}		
15*	0.5	6	6	8.8 {0.9}		
20*	0.55	9.4	8	11.8 {1.2}		
25	0.6	14.4	10	14.7 {1.5}		
30	0.6	14.4	10	14.7 {1.5}	33	
UTT 5- 5*	0.45	2.6	2	2.9 {0.3}	40	
10*	0.5	3.6	4	5.9 {0.6}		
15	0.6	7.5	6	8.8 {0.9}		
20	0.6	7.5	8	11.8 {1.2}		
25	0.65	10.7	10	14.7 {1.5}		
30	0.7	15.4	12	17.7 {1.8}		
35	0.7	15.4	14	20.6 {2.1}		
UTT 6- 5*	0.5	2.4	2	3.9 {0.4}	40	
10	0.6	4.2	4	7.8 {0.8}		
15	0.7	7.4	6	11.8 {1.2}		
20	0.7	7.4	8	15.7 {1.6}		
25	0.8	13.6	10	19.6 {2.0}		
30	0.8	13.6	12	23.5 {2.4}		
35	0.85	17.5	14	27.5 {2.8}		
40	0.9	23.4	16	31.4 {3.2}		
45	0.9	23.4	18	35.3 {3.6}		
50	0.9	23.4	18	35.3 {3.6}	36	
60	1.0	41	18	35.3 {3.6}	30	
70	1.0	41	24	47.1 {4.8}	34	

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} Max.	Fa%	Unit Price
UTT 8- 10	0.75	5.3	4	7.8 {0.8}	40	
15	0.75	5.3	6	11.8 {1.2}		
20	0.9	10.4	8	15.7 {1.6}		
25	0.9	10.4	10	19.6 {2.0}		
30	1.0	17	12	23.5 {2.4}		
35	1.0	17	14	27.5 {2.8}		
40	1.0	17	16	31.4 {3.2}		
45	1.1	25.3	18	35.3 {3.6}		
50	1.1	25.3	20	39.2 {4.0}		
60	1.1	25.3	24	47.1 {4.8}		
70	1.2	39.6	28	54.9 {5.6}		
UTT 10- 10	0.85	5.1	4	7.8 {0.8}	40	
15	0.85	5.1	6	11.8 {1.2}		
20	1.0	9.5	8	15.7 {1.6}		
25	1.0	9.5	10	19.6 {2.0}		
30	1.1	14.3	12	23.5 {2.4}		
35	1.1	14.3	14	27.5 {2.8}		
40	1.2	20.4	16	31.4 {3.2}		
45	1.2	20.4	18	35.3 {3.6}		
50	1.2	20.4	20	39.2 {4.0}		
60	1.3	29.9	24	47.1 {4.8}		
70	1.4	43.4	24	47.1 {4.8}	34	
UTT 13- 15	1.0	5.75	6	11.8 {1.2}	40	
20	1.2	10.5	8	15.7 {1.6}		
25	1.2	10.5	10	19.6 {2.0}		
30	1.3	15	12	23.5 {2.4}		
35	1.3	15	14	27.5 {2.8}		
40	1.4	20.3	16	31.4 {3.2}		
45	1.4	20.3	18	35.3 {3.6}		
50	1.5	27.8	20	39.2 {4.0}		
60	1.5	27.8	24	47.1 {4.8}		
70	1.6	38.4	28	54.9 {5.6}		
80	1.6	38.4	32	62.8 {6.4}		

Part Number TypeD-L	d	Solid Length	F max.	N{kgf} Max.	Fa%	Unit Price
UTT 16- 15	1.2	7.2	6	11.8 {1.2}	40	
20	1.3	9.1	8	15.7 {1.6}		
25	1.3	9.1	10	19.6 {2.0}		
30	1.4	12.3	12	23.5 {2.4}		
35	1.5	16.5	14	27.5 {2.8}		
40	1.6	21.6	16	31.4 {3.2}		
45	1.6	21.6	18	35.3 {3.6}		
50	1.7	28	20	39.2 {4.0}		
60	1.7	28	24	47.1 {4.8}		
70	1.8	36	28	54.9 {5.6}		
80	1.8	36	32	62.8 {6.4}		
UTT 20- 20	1.7	10.6	8	31.4 {3.2}	40	
25	1.8	12.6	10	39.2 {4.0}		
30	1.8	12.6	12	47.1 {4.8}		
35	2.0	19	14	54.9 {5.6}		
40	2.0	19	16	62.8 {6.4}		
45	2.0	19	18	70.6 {7.2}		
50	2.2	27.5	20	78.5 {8.0}		
60	2.2	27.5	24	94.1 {9.6}		
70	2.3	34.5	28	109.8 {11.2}		
80	2.4	40.8	32	125.5 {12.8}		

kgf (Load)=N/mm (Spring Constant) x0.101972xF (Deflection)
{kgf}=Nx0.101972

For Types marked with *, both ends 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

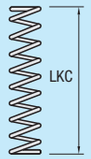
Ordering Example Part Number
UL16-80
UTT16-80

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	N/mm 0.05 {kgf/mm} {0.005}	0.05{0.005}	N/mm 0.29 {kgf/mm} {0.03}	N/mm 0.49 {kgf/mm} {0.05}	N/mm 0.98 {kgf/mm} {0.1}	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}
3		N/mm 0.098 {kgf/mm} {0.01}				N/mm 1.5 {kgf/mm} {0.15}			
4							2.0{0.2}	2.9{0.3}	4.9{0.5}
5									
6								N/mm 9.8 {kgf/mm} {1.0}	N/mm 19.6 {kgf/mm} {2.0}
8									
10									
12		N/mm 0.2 {kgf/mm} {0.02}							
13									
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=LxFa%	F=LxFa%	F=Lx45%	F=Lx40%	F=LxFa%	F=LxFa%	F=LxFa%	F=LxFa%

Alterations Part Number - (LKC)
UTT6-35 - LKC

Alterations	Code	Spec.
	LKC	Changes length and spring constant tolerance. (Refer to the table below)

Part Number Type	D	L Specify in 5mm Increment	Alterations	Tolerance	Spring Constant Tolerance
UTT	5	15, 20	LKC	±0.4	±5%
		25, 30		±0.5	
	6 8 10	10~20		±0.4	
		25~50		±0.5	
		60, 70		±0.8	
	13 16	15~30		±0.5	
		35~50		±0.5	
		60, 70, 80		±0.8	
	20	20~30		±0.5	
		35~50		±0.5	
		60, 70, 80		±0.8	

Both ends are ground.
For orders larger than indicated quantity, please check with WOS.
Applicable to D5 or more.