

LKP

+85°C Screw Terminal Aluminum Electrolytic Capacitors



For filtering applications

FEATURES

- High ripple current
- High reliability
- Capacitance range: 270 μ F to 680,000 μ F
- Voltage range: 6.3 WVDC to 450 WVDC

SPECIFICATIONS

Capacitance Tolerance		$\pm 20\%$ at 120 Hz, 25°C															
Operating Temperature Range		-40°C to +85°C(6.3V to 100V), -25°C to +85°C(160V to 450V)															
Dissipation Factor 120Hz, 25°C	WVDC		6.5	10	16	25	35	50	63	80	100	160	200	250	350	400	450
	tan δ	D=35	.75	.75	.6	.4	.3	.25	.2	.2	.15	.15	.15	.2	.2	.2	.2
		D=51	1.0	1.0	.7	.5	.5	.3	.25	.2	.2	.15	.15	.15	.2	.2	.2
		D=64	1.3	1.3	.8	.7	.6	.5	.3	.25	.25	.2	.2	.2	.25	.25	.25
		D=77	1.5	1.5	1.0	.8	.7	.6	.4	.3	.25	.2	.2	.2	.25	.25	.25
D=90	1.5	1.5	1.0	.8	.7	.6	.4	.3	.25	.2	.2	.2	.25	.25	.25		
Leakage Current	WVDC	≤ 450 WVDC															
	Time	5 minutes															
		.02CV or 5,000 μ A whichever is less															
Impedance Ratio 120Hz	WVDC	6.3 to 100				160 to 450											
	25°C/ ± 25 °C	12				8											
	40°C/ ± 25 °C	12				—											
Load Life	2,000 hours at +85°C with rated WVDC Capacitors will meet the requirements listed below.																
		Capacitance change Dissipation factor Leakage current								$\leq 15\%$ of initial measured value $\leq 175\%$ of initial specified value $\leq 100\%$ of specified value							
Shelf life	1,000 hours at + 85°C with no voltage applied. Units will meet load life specifications																
Ripple Current Multipliers	WVDC	Frequency (Hz)					Temperature (°C)										
		60	120	1K	10k	100k	+65	+70	+85								
		6.3 to 35V	0.9	1.0	1.05	1.1	1.1	1.8	1.6	1.0							
		50 to 100V	0.9	1.0	1.1	1.15	1.15	1.8	1.6	1.0							
160 to 450V	0.8	1.0	1.2	1.4	1.4	1.8	1.6	1.0									

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+85°C Screw
Terminal Aluminum
Electrolytic Capacitors

PHYSICAL DIMENSIONS

WVDC (V) μF	6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)	63 (79)	80 (100)	100 (125)	160 (200)	200 (250)	250 (300)	350 (400)	400 (450)	450 (500)
270															35x50
330														35x80	35x80
390													35x50	35x80	35x80
470												35x50	35x80	35x80	35x80
560												35x50	35x80	35x80	35x100
680											35x50	35x50	35x80	35x100	35x100
820											35x50	35x60	35x100	35x100	51x70
1,000											35x60	35x80	35x100	51x70	51x70
1,200											35x50	35x60	35x80	51x70	51x90
1,500											35x60	35x80	35x100	51x70	51x115
1,800											35x70	35x80	35x100	51x90	51x130
2,200											35x50	35x80	35x100	51x70	51x90
2,700											35x50	35x100	35x121	51x70	51x130
3,300											35x50	35x121	51x70	51x90	51x130
3,900											35x60	51x70	51x70	51x115	64x115
4,700											35x50	35x80	51x70	51x90	64x96
5,600											35x50	35x60	35x80	51x90	51x115
6,800											35x50	35x50	35x80	35x100	51x90
8,200											35x50	35x60	35x80	35x121	51x80
10,000											35x50	35x60	35x80	35x100	51x80
12,000											35x60	35x80	35x100	51x80	51x121
15,000											35x60	35x80	35x100	51x80	51x121
18,000											35x50	35x60	35x80	35x121	51x80
22,000											35x50	35x60	35x80	35x121	51x80
27,000											35x80	35x80	35x121	51x80	51x100
33,000											35x50	35x60	35x80	35x121	51x80
39,000											35x50	35x80	35x80	35x121	51x80
47,000											35x50	35x60	35x80	35x121	51x80
56,000											35x60	35x80	35x100	35x121	51x80
68,000											35x60	35x80	35x121	51x100	51x100
82,000											35x80	35x80	35x121	51x100	51x100
100,000											35x80	35x121	51x80	51x121	64x100
120,000											35x121	51x80	51x90	51x121	64x121
150,000											51x80	51x80	51x121	64x100	64x144
180,000											51x80	51x90	51x121	64x100	64x144
220,000											51x100	51x121	64x100	64x144	77x144
270,000											64x100	51x121	64x115	77x115	
330,000											64x100	64x121	77x121	77x144	
390,000											64x121	64x121	77x121		
470,000											64x121	77x121			
560,000											77x121	77x121			
680,000											77x121				

Convert to inches, divide by 25.4.

DxL(mm)



STANDARD PART LISTING

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions DxL (mm)
270	450	271LKP450M	1228.047	1.45	35x50
330	400	331LKP400M	1004.766	1.97	35x80
330	450	331LKP450M	1004.766	1.97	35x80
390	350	391LKP350M	850.187	1.74	35x50
390	400	391LKP400M	850.187	2.14	35x80
390	450	391LKP450M	850.187	2.14	35x80
470	250	471LKP250M	529.106	1.66	35x50
470	350	471LKP350M	705.474	2.35	35x80
470	400	471LKP400M	705.474	2.35	35x80
470	450	471LKP450M	705.474	2.35	35x80
560	250	561LKP250M	444.071	1.81	35x50
560	350	561LKP350M	592.094	2.57	35x80
560	400	561LKP400M	592.094	2.57	35x80
560	450	561LKP450M	592.094	2.63	35x100
680	200	681LKP200M	365.705	1.99	35x50
680	250	681LKP250M	365.705	1.99	35x50
680	350	681LKP350M	487.607	2.83	35x80
680	400	681LKP400M	487.607	2.9	35x100
680	450	681LKP450M	487.607	2.9	35x100
820	200	821LKP200M	303.268	2.19	35x50
820	250	821LKP250M	303.268	2.37	35x60
820	350	821LKP350M	404.357	3.18	35x100
820	400	821LKP400M	404.357	3.18	35x100
820	450	821LKP450M	404.357	3.26	51x70
1,000	200	102LKP200M	248.680	2.62	35x60
1,000	250	102LKP250M	248.680	2.87	35x80
1,000	350	102LKP350M	331.573	3.51	35x100
1,000	400	102LKP400M	331.573	3.6	51x70
1,000	450	102LKP450M	331.573	3.6	51x70
1,200	160	122LKP160M	207.233	2.64	35x50
1,200	200	122LKP200M	207.233	2.87	35x60
1,200	250	122LKP250M	207.233	3.15	35x80
1,200	350	122LKP350M	276.311	3.94	51x70
1,200	400	122LKP400M	276.311	3.94	51x70
1,200	450	122LKP450M	276.311	4.39	51x90
1,500	160	152LKP160M	165.786	3.2	35x60
1,500	200	152LKP200M	165.786	3.52	35x80
1,500	250	152LKP250M	165.786	3.49	35x100
1,500	350	152LKP350M	221.049	4.41	51x70

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions DxL (mm)
1,500	400	152LKP400M	221.049	4.91	51x90
1,500	450	152LKP450M	221.049	5.17	51x115
1,800	160	182LKP160M	138.155	3.63	35x70
1,800	200	182LKP200M	138.155	3.85	35x80
1,800	250	182LKP250M	138.155	3.83	35x100
1,800	350	182LKP350M	184.207	5.38	51x90
1,800	400	182LKP400M	184.207	5.38	51x90
1,800	450	182LKP450M	184.207	5.64	51x130
2,200	100	222LKP100M	113.036	2.15	35x50
2,200	160	222LKP160M	113.036	4.26	35x80
2,200	200	222LKP200M	113.036	4.23	35x100
2,200	250	222LKP250M	113.036	4.28	51x70
2,200	350	222LKP350M	150.715	5.95	51x90
2,200	400	222LKP400M	150.715	6.23	51x130
2,200	450	222LKP450M	188.394	6.4	64x96
2,700	100	272LKP100M	92.104	2.38	35x50
2,700	160	272LKP160M	92.104	4.68	35x100
2,700	200	272LKP200M	92.104	4.72	35x121
2,700	250	272LKP250M	92.104	4.74	51x70
2,700	350	272LKP350M	122.805	6.91	51x130
2,700	400	272LKP400M	153.506	7.09	64x96
2,700	450	272LKP450M	153.506	7.25	64x115
3,300	100	332LKP100M	75.357	2.64	35x50
3,300	160	332LKP160M	75.357	5.22	35x121
3,300	200	332LKP200M	75.357	5.24	51x70
3,300	250	332LKP250M	75.357	5.38	51x90
3,300	350	332LKP350M	100.477	7.63	51x130
3,300	400	332LKP400M	125.596	8.01	64x115
3,300	450	332LKP450M	125.596	8.22	64x130
3,900	100	392LKP100M	63.764	3.1	35x60
3,900	160	392LKP160M	63.764	5.7	51x70
3,900	200	392LKP200M	63.764	5.7	51x70
3,900	250	392LKP250M	63.764	6.23	51x115
3,900	350	392LKP350M	106.273	8.71	64x115
3,900	400	392LKP400M	106.273	8.94	64x130
3,900	450	392LKP450M	106.273	9.4	77x115
4,700	80	472LKP080M	70.547	2.72	35x50
4,700	100	472LKP100M	52.911	3.87	35x80
4,700	160	472LKP160M	52.911	6.26	51x70

STANDARD PART LISTING

Capacitance (µF)	WVDC	IC [®] PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions D x L (mm)
4,700	200	472LKP200M	52.911	6.42	51x90
4,700	250	472LKP250M	70.547	7.06	64x96
4,700	350	472LKP350M	88.184	9.81	64x130
4,700	400	472LKP400M	88.184	10.32	77x115
4,700	450	472LKP450M	88.184	10.88	77x130
5,600	63	562LKP063M	59.209	2.97	35x50
5,600	80	562LKP080M	59.209	3.22	35x60
5,600	100	562LKP100M	44.407	4.22	35x80
5,600	160	562LKP160M	44.407	7	51x90
5,600	200	562LKP200M	44.407	7.47	51x115
5,600	250	562LKP250M	59.209	7.71	64x96
5,600	350	562LKP350M	74.012	11.26	77x115
5,600	400	562LKP400M	74.012	11.87	77x130
5,600	450	562LKP450M	74.012	12.83	77x155
6,800	50	682LKP050M	60.951	3.26	35x50
6,800	63	682LKP063M	48.761	3.28	35x50
6,800	80	682LKP080M	48.761	4.03	35x80
6,800	100	682LKP100M	36.571	5.15	35x100
6,800	160	682LKP160M	36.571	7.72	51x90
6,800	200	682LKP200M	36.571	8.7	51x130
6,800	250	682LKP250M	48.761	9.19	64x115
6,800	350	682LKP350M	60.951	13.08	77x130
6,800	400	682LKP400M	60.951	14.14	77x155
6,800	450	682LKP450M	60.951	14.6	90x157
8,200	50	822LKP050M	50.545	3.58	35x50
8,200	63	822LKP063M	40.436	3.89	35x60
8,200	80	822LKP080M	40.436	4.42	35x80
8,200	100	822LKP100M	30.327	5.83	35x121
8,200	160	822LKP160M	30.327	9.04	51x115
8,200	200	822LKP200M	40.436	9.33	64x96
8,200	250	822LKP250M	40.436	10.09	64x115
8,200	350	822LKP350M	50.545	15.53	77x155
8,200	400	822LKP400M	50.545	16.03	90x157
8,200	450	822LKP450M	50.545	16.03	90x157
10,000	35	103LKP035M	49.736	3.53	35x50
10,000	50	103LKP050M	41.447	4.27	35x60
10,000	63	103LKP063M	33.157	4.77	35x80
10,000	80	103LKP080M	33.157	5.41	35x100
10,000	100	103LKP100M	33.157	6.03	51x80

Capacitance (µF)	WVDC	IC [®] PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions D x L (mm)
10,000	160	103LKP160M	24.868	10.3	64x96
10,000	200	103LKP200M	33.157	10.3	64x96
10,000	250	103LKP250M	33.157	11.76	64x130
10,000	350	103LKP350M	41.447	17.71	90x157
10,000	400	103LKP400M	41.447	17.71	90x157
10,000	450	103LKP450M	41.447	19.53	90x196
12,000	35	123LKP035M	41.447	3.87	35x50
12,000	50	123LKP050M	34.539	4.68	35x60
12,000	63	123LKP063M	27.631	5.23	35x80
12,000	80	123LKP080M	27.631	6.47	35x121
12,000	100	123LKP100M	27.631	6.6	51x80
12,000	160	123LKP160M	20.723	11.29	64x96
12,000	200	123LKP200M	27.631	12.56	77x96
12,000	250	123LKP250M	27.631	13.01	77x115
12,000	350	123LKP350M	34.539	19.4	90x157
12,000	400	123LKP400M	34.539	21.4	90x196
12,000	450	123LKP450M	34.539	23.28	90x236
15,000	35	153LKP035M	33.157	3.96	35x60
15,000	50	153LKP050M	27.631	5.94	35x80
15,000	63	153LKP063M	22.105	5.88	35x100
15,000	80	153LKP080M	22.105	7.63	51x80
15,000	100	153LKP100M	22.105	8.86	51x121
15,000	160	153LKP160M	16.579	13.83	64x130
15,000	200	153LKP200M	22.105	14.04	77x96
15,000	250	153LKP250M	22.105	14.7	77x130
15,000	350	153LKP350M	27.631	23.93	90x196
15,000	400	153LKP400M	27.631	26.02	90x236
18,000	25	183LKP025M	36.841	3.35	35x50
18,000	35	183LKP035M	27.631	4.34	35x60
18,000	50	183LKP050M	23.026	6.51	35x80
18,000	63	183LKP063M	18.421	6.16	35x121
18,000	80	183LKP080M	18.421	8.35	51x80
18,000	100	183LKP100M	18.421	9.71	51x121
18,000	160	183LKP160M	13.816	15.15	64x130
18,000	200	183LKP200M	18.421	16.8	77x130
18,000	250	183LKP250M	18.421	17.4	77x155
18,000	350	183LKP350M	23.026	28.51	90x236
22,000	16	223LKP016M	45.214	4.16	35x50
22,000	25	223LKP025M	30.143	4.01	35x60

STANDARD PART LISTING

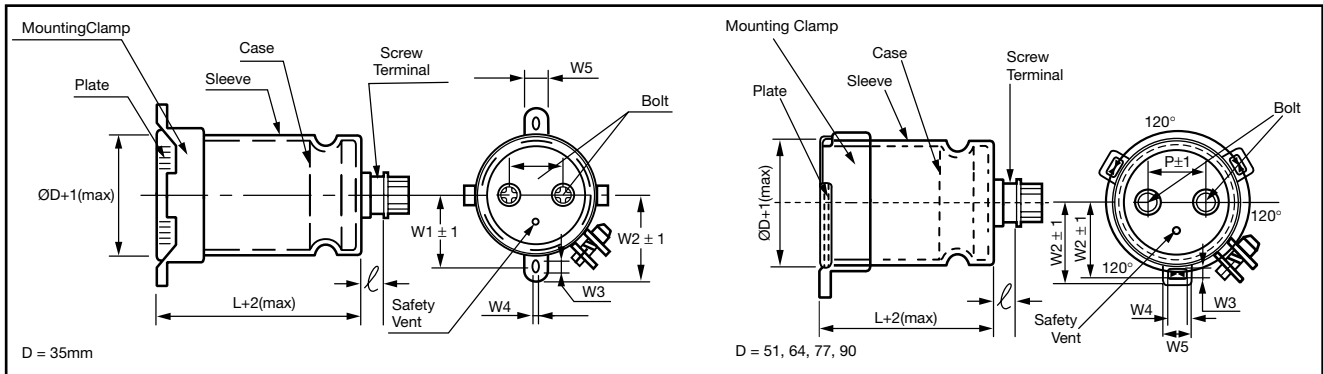
Capacitance (µF)	WVDC	IC [®] PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions DxL (mm)
22,000	35	223LKP035M	22.607	4.93	35x80
22,000	50	223LKP050M	18.839	6.7	35x121
22,000	63	223LKP063M	18.839	7.73	51x80
22,000	80	223LKP080M	15.071	8.76	51x100
22,000	100	223LKP100M	18.839	9.79	64x100
22,000	160	223LKP160M	15.071	18.57	77x130
22,000	200	223LKP200M	15.071	20.07	77x155
22,000	250	223LKP250M	15.071	20.19	90x157
27,000	25	273LKP025M	24.561	5.04	35x80
27,000	35	273LKP035M	18.421	5.46	35x80
27,000	50	273LKP050M	15.351	7.42	35x121
27,000	63	273LKP063M	15.351	8.56	51x80
27,000	80	273LKP080M	12.280	9.7	51x100
27,000	100	273LKP100M	15.351	10.85	64x100
27,000	160	273LKP160M	12.280	20.58	77x130
27,000	200	273LKP200M	12.280	21.62	90x131
33,000	10	333LKP010M	37.679	4.14	35x50
33,000	16	333LKP016M	30.143	5.51	35x60
33,000	25	333LKP025M	20.095	5.58	35x80
33,000	35	333LKP035M	15.071	7.2	35x121
33,000	50	333LKP050M	15.071	7.55	51x80
33,000	63	333LKP063M	12.560	8.76	51x100
33,000	80	333LKP080M	12.560	10.22	64x100
33,000	100	333LKP100M	12.560	12.8	64x144
33,000	160	333LKP160M	10.048	23.9	90x131
33,000	200	333LKP200M	10.048	25.85	90x157
39,000	10	393LKP010M	31.882	4.5	35x50
39,000	16	393LKP016M	25.506	6.8	35x80
39,000	25	393LKP025M	17.004	6.06	35x80
39,000	35	393LKP035M	12.753	7.83	35x121
39,000	50	393LKP050M	12.753	8.2	51x80
39,000	63	393LKP063M	10.627	10.22	51x121
39,000	80	393LKP080M	10.627	11.11	64x100
39,000	100	393LKP100M	10.627	13.11	77x115
39,000	160	393LKP160M	8.502	25.85	90x157
47,000	6.3	473LKP6R3M	26.455	4.94	35x50
47,000	10	473LKP010M	26.455	5.35	35x60
47,000	16	473LKP016M	21.164	7.47	35x80
47,000	25	473LKP025M	14.109	7.54	35x121

Capacitance (µF)	WVDC	IC [®] PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions DxL (mm)
47,000	35	473LKP035M	17.637	8.26	51x80
47,000	50	473LKP050M	10.582	9.8	51x100
47,000	63	473LKP063M	10.582	11.88	64x100
47,000	80	473LKP080M	8.818	14.33	64x144
47,000	100	473LKP100M	8.818	14.81	77x144
56,000	6.3	563LKP6R3M	22.204	4.96	35x60
56,000	10	563LKP010M	22.204	6.63	35x80
56,000	16	563LKP016M	17.763	9.03	35x100
56,000	25	563LKP025M	11.842	8.23	35x121
56,000	35	563LKP035M	14.802	9.02	51x80
56,000	50	563LKP050M	8.881	10.7	51x100
56,000	63	563LKP063M	8.881	12.96	64x100
56,000	80	563LKP080M	7.401	15.64	64x144
68,000	6.3	683LKP6R3M	18.285	5.47	35x60
68,000	10	683LKP010M	18.285	7.31	35x80
68,000	16	683LKP016M	14.628	9.88	35x121
68,000	25	683LKP025M	12.190	9.13	51x100
68,000	35	683LKP035M	12.190	10.35	51x100
68,000	50	683LKP050M	14.628	11.34	64x100
68,000	63	683LKP063M	7.314	13.63	64x144
68,000	80	683LKP080M	7.314	16.27	77x144
82,000	6.3	823LKP6R3M	15.163	6.82	35x80
82,000	10	823LKP010M	15.163	8.02	35x80
82,000	16	823LKP016M	12.131	10.85	35x121
82,000	25	823LKP025M	10.109	10.03	51x100
82,000	35	823LKP035M	10.109	11.36	51x100
82,000	50	823LKP050M	12.131	12.46	64x100
100,000	6.3	104LKP6R3M	12.434	7.53	35x80
100,000	10	104LKP010M	12.434	9.21	35x121
100,000	16	104LKP016M	11.605	10.86	51x80
100,000	25	104LKP025M	8.289	11.26	51x121
100,000	35	104LKP035M	9.947	11.48	64x100
100,000	50	104LKP050M	9.947	12.81	64x144
100,000	63	104LKP063M	6.631	15.86	77x144
120,000	6.3	124LKP6R3M	10.362	9.15	35x121
120,000	10	124LKP010M	13.816	9.23	51x80
120,000	16	124LKP016M	9.671	11.74	51x90
120,000	25	124LKP025M	6.908	12.33	51x121
120,000	35	124LKP035M	8.289	13.13	64x121

STANDARD PART LISTING

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions DxL (mm)
120,000	50	124LKP050M	8.289	14.03	64x144
150,000	6.3	154LKP6R3M	11.052	9.51	51x80
150,000	10	154LKP010M	11.052	10.32	51x80
150,000	16	154LKP016M	7.737	12.48	51x121
150,000	25	154LKP025M	7.737	12.68	64x100
150,000	35	154LKP035M	6.631	15.42	64x144
150,000	50	154LKP050M	6.631	15.86	77x144
180,000	6.3	184LKP6R3M	9.210	10.42	51x80
180,000	10	184LKP010M	9.210	11.5	51x90
180,000	16	184LKP016M	6.447	13.67	51x121
180,000	25	184LKP025M	6.447	13.89	64x100
180,000	35	184LKP035M	5.526	16.89	64x144
220,000	6.3	224LKP6R3M	7.536	12.39	51x100
220,000	10	224LKP010M	7.536	13.66	51x121
220,000	16	224LKP016M	6.029	14.75	64x100
220,000	25	224LKP025M	5.275	16.05	64x144
220,000	35	224LKP035M	5.275	17.79	77x144

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR mΩ 120Hz, +20°C	Maximum RMS Ripple Current (A) 120Hz, +85°C	Dimensions DxL (mm)
270,000	6.3	274LKP6R3M	7.982	13.68	64x100
270,000	10	274LKP010M	6.140	15.13	51x121
270,000	16	274LKP016M	4.912	17.37	64x115
270,000	25	274LKP025M	4.912	17.8	77x115
330,000	6.3	334LKP6R3M	6.531	15.12	64x100
330,000	10	334LKP010M	6.531	17.25	64x121
330,000	16	334LKP016M	5.024	18.19	77x121
330,000	25	334LKP025M	4.019	20.38	77x144
390,000	6.3	394LKP6R3M	5.526	16.97	64x121
390,000	10	394LKP010M	5.526	18.75	64x121
390,000	16	394LKP016M	4.251	19.78	77x121
470,000	6.3	474LKP6R3M	4.586	18.63	64x121
470,000	10	474LKP010M	5.291	19.25	77x121
560,000	6.3	564LKP6R3M	4.441	18.8	77x121
560,000	10	564LKP010M	4.441	21.01	77x121
680,000	6.3	684LKP6R3M	3.657	20.71	77x121



ØD	W1	W2	W3	W4	W5	P	ℓ	Bolt
35	24.0	30.0	7.0	3.5	10.0	12.7	6.5	M5
51	32.5	37.5	4.5	7.0	13.0	21.8	6.5	M5
64	38.5	42.8	4.5	7.0	13.0	28.2	6.5	M5
77	44.8	49.0	4.5	7.0	13.0	31.4	6.0	M5
90	50.8	56.0	4.5	8.0	16.0	31.4	6.0	M5