Liftcrane Boom Capacities

Boom No. B10:500
298,100 lb VPC (Variable Position Counterweight)
360 Degree Rating

MLC300 SERIES 1

LIFTING CAPACITIES: Lifting capacities for various boom lengths and operating radii are for freely suspended loads and may be based on percent of static tipping or strength of structural components. Capacities must be reduced by applicable deducts.

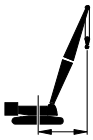
Upper boom point capacity for liftcrane service with single part whip line from Drum 6 is 30,000 lb or 60,000 lb with two part whip line. When Drum 2 or Drum 3 is used, capacity with single part whip line is 36,700 lb or 73,500 lb with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom and jib point sheaves is considered part of load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 5,000 lb minimum weight. ***Caution:*** **Do not operate in areas indicated by (b) without required minimum weight.** *Boom may not lower and boom hoist wire rope may go slack causing wire rope damage or failure.*

OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Refer to Boom Rigging **No. 81023380,** Wire Rope Specifications chart **No. 9341-A,** Counterweight Arrangements chart **No. 9345-A,** and Wind Conditions chart **No. 9344-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to the Operator Manual for operating guidelines.

MACHINE TRAVEL: Machine to travel on a firm, level, and uniformly supporting surface. Boom must be within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specifications chart **No. 9342-A**.



OPERATING RADIUS: Operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block.

BOOM ANGLE: Boom angle in degrees (°) is angle between horizontal and centerline of boom butt and inserts, and is an indication of operating radius. In all cases, operating radius shall govern capacity.

BOOM POINT ELEVATION: Boom point elevation is vertical distance from ground level to centerline of boom point shaft.

MACHINE EQUIPMENT: Machine equipped with 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 24 part boom hoist reeving, boom support straps, and 298,100 lb VPC.

Consult chart **No. 9454-A** when Jib No. 148 is attached.

Luffing Jib Backstay Deduct	
Boom Length (ft)	Deduct (lb)
98.4	2,900
118.1	3,500
137.8	4,100
157.5	4,600
177.2	5,200
196.9	5,800
216.5	6,400
236.2	6,900
255.9	7,500
275.6	8,100
Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.	

Deduct From Capacities When Jib No. 148 Is Attached	
Jib Length (ft)	Deduct (lb)
39.4	19,900
59.1	30,300
78.7	39,700
98.4	48,700
118.1	61,100
137.8	68,800
Weight of jib and 6,500 lb suspended beneath jib point have been included in determination of deduct.	

Refer to Table 1 (with luffing jib backstays stored) and Table 2 (without luffing jib backstays stored) for raising ability with the maximum weight of all load blocks, hooks, weight ball, slings, and hoist lines beneath boom point sheaves. For block weights shown with #, load blocks, hooks, weight ball, and slings must remain on ground until combined weights are within rated capacity of chart. Raising is not permitted in shaded areas of table.

Combined weight beneath boom point sheaves must not exceed block weight shown.

Table 1a: With Luffing Jib Backstays

Over End or Side of Crawlers	
Boom Length (ft)	Block Weight (lb)
98.4	22,900
118.1	22,900
137.8	22,900
157.5	22,900
177.2	22,900
196.9	15,800
216.5	8,300
236.2	#
255.9	#
275.6	**Raising Not Permitted**
295.3	

Table 1b: With Luffing Jib Backstays

Over End of Blocked Crawlers	
Boom Length (ft)	Block Weight (lb)
98.4	22,900
118.1	22,900
137.8	22,900
157.5	22,900
177.2	22,900
196.9	15,800
216.5	8,300
236.2	#
255.9	#
275.6	#
295.3	**Raising Not Permitted**
Warning: Crane must remain in-line with crawlers when raising over end of blocked crawlers until operating radius is within 360 degree chart. *Crane tipping or structural damage can occur.*	

Table 2a: Without Luffing Jib Backstays

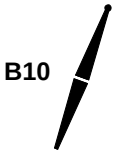
Over End or Side of Crawlers	
Boom Length (ft)	Block Weight (lb)
98.4	22,900
118.1	22,900
137.8	22,900
157.5	22,900
177.2	22,900
196.9	22,900
216.5	15,800
236.2	8,300
255.9	#
275.6	**Raising Not Permitted**
295.3	

Table 2b: Without Luffing Jib Backstays

Over End of Blocked Crawlers	
Boom Length (ft)	Block Weight (lb)
98.4	22,900
118.1	22,900
137.8	22,900
157.5	22,900
177.2	22,900
196.9	22,900
216.5	15,800
236.2	8,300
255.9	#
275.6	#
295.3	#

Warning: Crane must remain in-line with crawlers when raising over end of blocked crawlers until operating radius is within 360 degree chart. *Crane tipping or structural damage can occur.*

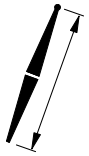
Explanation of Symbols



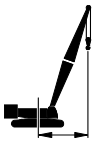
Boom No. B10:500

VPC (Variable Position Counterweight)

360 Degree Rating



Boom Length



Operating Radius
(see page 1)

Boom Angle
(see page 1)

Boom Point Elevation
(see page 1)

Lifting Capacities
(see page 1)

MLC300 S-1

ASME B30.5

98.4 ft

ft	°	ft	lb
18	84.5	104.8	661,400 **b**
19	83.9	104.6	661,400 **b**
20	83.3	104.5	661,400 **b**
21	82.7	104.3	648,700 **b**
22	82.1	104.2	626,300 **b**
24	80.9	103.8	585,600
26	79.8	103.4	540,600
28	78.6	102.9	474,200
30	77.4	102.4	422,100
32	76.2	101.9	380,100
34	74.9	101.3	345,600
36	73.7	100.6	316,700
38	72.5	99.9	292,200
40	71.3	99.2	271,100
45	68.1	97.1	229,400
50	64.9	94.8	198,500
55	61.6	92.0	174,800
60	58.1	88.8	155,900
65	54.5	85.2	140,500
70	50.8	81.1	127,800
75	46.8	76.4	117,000
80	42.5	71.0	107,900
85	37.7	64.6	99,900
90	32.4	56.9	93,000
95	26.0	47.1	86,900
100	17.4	33.1	81,500

118.1 ft

ft	°	ft	lb
19	84.9	124.5	649,700 **b**
20	84.4	124.4	646,400 **b**
21	83.9	124.2	631,200
22	83.5	124.1	610,200
24	82.5	123.8	571,900
26	81.5	123.4	538,000
28	80.5	123.0	479,700
30	79.5	122.6	427,100
32	78.5	122.2	384,700
34	77.5	121.7	349,900
36	76.5	121.2	320,700
38	75.5	120.6	296,000
40	74.5	120.0	274,700
45	71.9	118.3	232,600
50	69.3	116.4	201,400
55	66.7	114.2	177,300
60	64.0	111.7	158,300
65	61.2	108.9	142,800
70	58.3	105.8	129,900
75	55.4	102.3	119,100
80	52.3	98.5	109,800
85	49.1	94.1	101,800
90	45.7	89.2	94,800
95	42.1	83.7	88,700
100	38.2	77.4	83,200
105	33.9	70.1	78,300
110	29.0	61.3	73,000
115	23.1	50.3	67,800

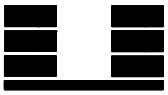
137.8 ft

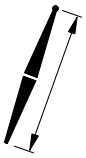
ft	°	ft	lb
21	84.8	144.1	590,500
22	84.4	143.9	587,600
24	83.6	143.7	555,000
26	82.7	143.4	523,300
28	81.9	143.1	482,900
30	81.0	142.7	429,900
32	80.2	142.3	387,200
34	79.3	141.9	352,200
36	78.5	141.5	322,800
38	77.6	141.0	297,800
40	76.8	140.5	276,400
45	74.6	139.1	234,000
50	72.4	137.4	202,600
55	70.2	135.6	178,400
60	68.0	133.5	159,200
65	65.7	131.2	143,600
70	63.3	128.7	130,600
75	61.0	125.9	119,700
80	58.5	122.8	110,400
85	56.0	119.4	102,300
90	53.4	115.7	95,300
95	50.7	111.5	89,100
100	47.9	107.0	83,600
105	45.0	102.0	78,300
110	41.9	96.4	72,800
115	38.5	90.2	67,700
120	34.9	83.1	63,200
125	31.0	75.0	59,000
130	26.4	65.2	55,100
135	20.9	53.0	51,500

Manitowoc Cranes
Manitowoc, Wisconsin 54220 U.S.A.

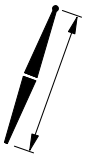
MLC300 S-1

ASME B30.5

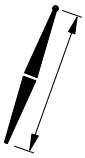




ft	°	ft	lb
24	84.4	163.5	536,900
26	83.6	163.3	507,900
28	82.9	163.0	481,400
30	82.2	162.7	433,800
32	81.4	162.3	390,700
34	80.7	162.0	355,300
36	79.9	161.6	325,600
38	79.2	161.2	300,400
40	78.5	160.7	278,800
45	76.6	159.5	236,000
50	74.7	158.1	204,300
55	72.8	156.5	179,800
60	70.9	154.8	160,500
65	68.9	152.8	144,700
70	66.9	150.6	131,600
75	64.9	148.3	120,600
80	62.9	145.7	111,200
85	60.8	142.8	103,100
90	58.6	139.8	96,000
95	56.4	136.4	89,700
100	54.2	132.8	83,500
105	51.9	128.9	77,400
110	49.5	124.6	71,900
115	47.0	119.9	66,900
120	44.4	114.8	62,300
125	41.7	109.2	58,100
130	38.8	103.0	54,300
135	35.7	96.1	50,800
140	32.3	88.3	47,500
145	28.6	79.3	44,500
150	24.3	68.7	41,600
155	19.1	55.2	38,900



ft	°	ft	lb
24	85.0	183.3	491,000
26	84.3	183.1	486,800
28	83.7	182.8	467,000
30	83.0	182.6	437,600
32	82.4	182.3	394,300
34	81.7	182.0	358,700
36	81.1	181.6	328,800
38	80.4	181.2	303,500
40	79.8	180.9	281,700
45	78.1	179.8	238,600
50	76.4	178.5	206,700
55	74.8	177.1	182,100
60	73.1	175.6	162,600
65	71.4	173.9	146,700
70	69.6	172.0	133,600
75	67.9	169.9	122,500
80	66.1	167.7	113,000
85	64.3	165.3	104,900
90	62.5	162.6	97,700
95	60.6	159.8	90,200
100	58.7	156.7	83,400
105	56.8	153.4	77,200
110	54.8	149.9	71,700
115	52.8	146.1	66,700
120	50.7	142.0	62,200
125	48.5	137.5	58,000
130	46.3	132.7	54,200
135	44.0	127.6	50,700
140	41.5	121.9	47,500
145	39.0	115.8	44,500
150	36.2	109.0	41,700
155	33.3	101.5	39,100
160	30.1	93.0	36,600
165	26.6	83.3	34,300
170	22.5	71.8	32,100
175	17.5	57.1	30,000



ft	°	ft	lb
26	84.9	202.9	424,000
28	84.3	202.7	420,800
30	83.7	202.4	410,900
32	83.2	202.2	398,300
34	82.6	201.9	362,400
36	82.0	201.6	332,200
38	81.4	201.2	306,700
40	80.8	200.9	284,700
45	79.3	199.9	241,200
50	77.8	198.8	208,900
55	76.3	197.6	184,100
60	74.8	196.2	164,400
65	73.3	194.7	148,400
70	71.8	193.0	135,100
75	70.2	191.2	124,000
80	68.6	189.2	114,400
85	67.1	187.0	105,400
90	65.5	184.7	96,600
95	63.8	182.3	88,800
100	62.2	179.6	82,000
105	60.5	176.7	75,800
110	58.8	173.7	70,300
115	57.1	170.4	65,300
120	55.3	167.0	60,700
125	53.5	163.2	56,600
130	51.6	159.3	52,800
135	49.7	155.0	49,300
140	47.7	150.5	46,100
145	45.7	145.6	43,100
150	43.6	140.3	40,300
155	41.4	134.7	37,700
160	39.1	128.5	35,300
165	36.7	121.9	33,000
170	34.1	114.6	30,800
175	31.3	106.5	28,800
180	28.3	97.4	26,900
185	24.9	86.9	25,100
190	21.0	74.5	23,400
195	16.2	58.7	21,700

MLC300 S-1

ASME B30.5

216.5 ft

ft	°	ft	lb
28	84.8	222.5	373,400
30	84.3	222.3	366,500
32	83.8	222.0	357,400
34	83.2	221.8	348,600
36	82.7	221.5	334,400
38	82.2	221.2	308,700
40	81.6	220.9	286,600
45	80.3	220.0	242,800
50	78.9	219.0	210,400
55	77.6	217.9	185,500
60	76.2	216.6	165,700
65	74.9	215.2	149,500
70	73.5	213.7	136,200
75	72.1	212.1	124,900
80	70.7	210.3	115,100
85	69.3	208.4	105,000
90	67.8	206.3	96,200
95	66.4	204.1	88,400
100	64.9	201.8	81,500
105	63.4	199.2	75,400
110	61.9	196.6	69,900
115	60.4	193.7	64,900
120	58.9	190.7	60,300
125	57.3	187.4	56,200
130	55.7	184.0	52,400
135	54.0	180.4	48,900
140	52.4	176.5	45,600
145	50.7	172.4	42,700
150	48.9	168.0	39,900
155	47.1	163.4	37,300
160	45.2	158.4	34,900
165	43.3	153.1	32,600
170	41.3	147.4	30,500
175	39.2	141.3	28,500
180	37.0	134.7	26,600
185	34.7	127.6	24,800
190	32.3	119.7	23,100
195	29.6	111.1	21,500
200	26.7	101.4	20,000
205	23.5	90.2	18,500
210	19.7	77.0	17,100
215	15.1	60.1	15,700

236.2 ft

ft	°	ft	lb
30	84.8	242.1	308,900
32	84.3	241.8	307,700
34	83.8	241.6	306,500
36	83.3	241.3	302,800
38	82.8	241.1	295,800
40	82.3	240.8	289,000
45	81.1	240.0	245,300
50	79.9	239.1	212,500
55	78.6	238.0	187,400
60	77.4	236.9	167,400
65	76.1	235.6	151,100
70	74.9	234.3	137,600
75	73.6	232.8	125,200
80	72.4	231.2	113,500
85	71.1	229.4	103,400
90	69.8	227.6	94,600
95	68.5	225.6	86,800
100	67.2	223.5	79,900
105	65.8	221.2	73,700
110	64.5	218.8	68,200
115	63.1	216.2	63,200
120	61.7	213.5	58,600
125	60.3	210.6	54,500
130	58.9	207.6	50,700
135	57.5	204.4	47,200
140	56.0	201.0	43,900
145	54.5	197.4	40,900
150	53.0	193.7	38,100
155	51.4	189.7	35,600
160	49.9	185.4	33,100
165	48.2	181.0	30,900
170	46.6	176.2	28,800
175	44.8	171.2	26,800
180	43.1	165.9	24,900
185	41.2	160.2	23,100
190	39.3	154.1	21,400
195	37.3	147.5	19,800
200	35.2	140.5	18,300
205	33.0	132.9	16,900
210	30.7	124.6	15,500
215	28.1	115.4	14,200
220	25.3	105.1	12,900
225	22.2	93.2	11,700
230	18.6	79.2	10,500

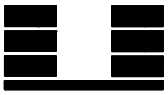
255.9 ft

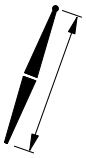
ft	°	ft	lb
32	84.7	261.6	256,400
34	84.3	261.4	255,300
36	83.8	261.2	254,300
38	83.4	260.9	253,300
40	82.9	260.7	252,300
45	81.8	259.9	247,100
50	80.7	259.1	214,200
55	79.5	258.1	188,800
60	78.4	257.1	168,700
65	77.2	255.9	152,300
70	76.1	254.7	138,400
75	74.9	253.3	124,700
80	73.8	251.8	112,900
85	72.6	250.3	102,800
90	71.4	248.5	93,900
95	70.2	246.7	86,100
100	69.0	244.8	79,200
105	67.8	242.7	73,000
110	66.6	240.5	67,500
115	65.3	238.2	62,500
120	64.1	235.8	57,900
125	62.8	233.2	53,700
130	61.6	230.5	49,900
135	60.3	227.6	46,400
140	59.0	224.6	43,200
145	57.6	221.4	40,200
150	56.3	218.0	37,400
155	54.9	214.5	34,800
160	53.5	210.8	32,400
165	52.1	206.9	30,100
170	50.7	202.8	28,000
175	49.2	198.5	26,000
180	47.7	193.9	24,100
185	46.1	189.1	22,400
190	44.5	184.0	20,700
195	42.9	178.6	19,100
200	41.2	172.9	17,600
205	39.4	166.8	16,200
210	37.6	160.4	14,800
215	35.7	153.4	13,500
220	33.6	146.0	12,300
225	31.5	137.9	11,100

Manitowoc Cranes
Manitowoc, Wisconsin 54220 U.S.A.

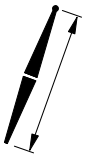
MLC300 S-1

ASME B30.5





ft	°	ft	lb
34	84.7	281.2	216,000
36	84.3	281.0	215,100
38	83.9	280.8	214,200
40	83.4	280.5	213,300
45	82.4	279.8	211,000
50	81.3	279.1	208,800
55	80.3	278.2	190,600
60	79.2	277.2	170,300
65	78.2	276.1	153,300
70	77.1	275.0	136,900
75	76.0	273.7	123,100
80	74.9	272.4	111,400
85	73.9	270.9	101,200
90	72.8	269.3	92,300
95	71.7	267.7	84,500
100	70.6	265.9	77,600
105	69.5	264.0	71,400
110	68.3	262.0	65,800
115	67.2	259.9	60,800
120	66.1	257.6	56,200
125	64.9	255.3	52,000
130	63.8	252.8	48,200
135	62.6	250.2	44,700
140	61.4	247.4	41,400
145	60.2	244.6	38,400
150	59.0	241.5	35,700
155	57.8	238.4	33,100
160	56.5	235.0	30,600
165	55.3	231.6	28,400
170	54.0	227.9	26,200
175	52.7	224.1	24,300
180	51.3	220.1	22,400
185	50.0	215.9	20,600
190	48.6	211.4	18,900
195	47.2	206.8	17,300
200	45.7	201.9	15,800
205	44.2	196.8	14,400
210	42.7	191.4	13,000
215	41.1	185.6	11,700
220	39.5	179.6	10,500



ft	°	ft	lb
36	84.7	300.8	181,900
38	84.3	300.6	181,100
40	83.9	300.4	180,300
45	82.9	299.7	178,500
50	81.9	299.0	172,400
55	80.9	298.2	165,100
60	80.0	297.3	158,300
65	79.0	296.3	152,100
70	78.0	295.2	136,600
75	77.0	294.0	122,800
80	76.0	292.8	111,000
85	75.0	291.4	100,900
90	74.0	289.9	92,000
95	72.9	288.4	84,200
100	71.9	286.7	77,200
105	70.9	285.0	71,000
110	69.9	283.1	65,500
115	68.8	281.2	60,400
120	67.8	279.1	55,900
125	66.7	277.0	51,700
130	65.6	274.7	47,900
135	64.6	272.3	44,400
140	63.5	269.8	41,100
145	62.4	267.1	38,100
150	61.3	264.4	35,300
155	60.2	261.5	32,700
160	59.0	258.5	30,300
165	57.9	255.3	28,100
170	56.7	252.0	25,900
175	55.5	248.6	23,900
180	54.3	245.0	22,100
185	53.1	241.2	20,300
190	51.9	237.3	18,600
195	50.6	233.2	17,000
200	49.4	228.9	15,500
205	48.1	224.4	14,100
210	46.7	219.7	12,800
215	45.4	214.8	11,500
220	44.0	209.6	10,200