

Liftcrane Boom Capacities

Boom No. B65:505-500

with Mast No. M11:503

297,800 lb VPC (Variable Position Counterweight)

360 Degree Rating

MLC300 VPC-MAX 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 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 10,000 lb minimum weight suspended beneath boom point. **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. 84050216**, Mast Rigging **No. 84045340**, Wire Rope Specifications chart **No. 9653-A**, Counterweight Arrangements **No. 9345-A**, and Wind Conditions chart **No. 9652-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. 9651-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 VPC-MAX, 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 98.4 ft mast, 10 part boom hoist reeving, boom support straps, and 297,800 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length (ft)	Deduct (lb)
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.	

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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.

Select counterweight position from Tables 1 or 2 that will allow raising and lowering of boom length. Counterweight position selection may be changed with boom on ground or while boom is within operating range of capacity chart.

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

Table 1: With Luffing Jib Backstays

Over End or Side of Crawlers		
Boom Length (ft)	34.8 ft Counterweight Position	48.0 ft Counterweight Position
	Block Weight (lb)	
177.2 - 216.5	22,900	22,900
236.2	15,800	22,900
255.9	8,300	22,900
275.6	#	22,900
295.3 - 393.7	Raising Not Permitted	

Table 2a: Without Luffing Jib Backstays

Over End or Side of Crawlers		
Boom Length (ft)	34.8 ft Counterweight Position	48.0 ft Counterweight Position
	Block Weight (lb)	
177.2 - 236.2	22,900	22,900
255.9	15,800	22,900
275.6	8,300	22,900
295.3 - 334.6	#	#
354.3 - 374.0	Raising Not Permitted	
393.7		

Table 2b: Without Luffing Jib Backstays

Over End of Blocked Crawlers		
Boom Length (ft)	34.8 ft Counterweight Position	48.0 ft Counterweight Position
	Block Weight (lb)	
177.2 - 236.2	22,900	22,900
255.9	15,800	22,900
275.6	8,300	22,900
295.3 - 334.6	#	#
354.3 - 393.7	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.		

Explanation of Symbols



Boom No. B65:505-500



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)



Counterweight Position
from Axis of Rotation



Lifting Capacities
(see page 1)

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297,800 lb



360°

177.2 ft				
ft	°	ft	34.8 ft lb	48.0 ft lb
24	85.0	183.3	588,100 b	588,100b
26	84.3	183.1	588,100 b	588,100b
28	83.7	182.8	588,100 b	588,100b
30	83.0	182.6	588,100 b	588,100b
32	82.4	182.3	577,800	577,800
34	81.7	182.0	562,800	562,800
36	81.1	181.6	528,900	562,800
38	80.4	181.2	494,600	551,600
40	79.8	180.9	464,200	538,100
45	78.1	179.8	401,500	493,900
50	76.4	178.5	352,600	445,400
55	74.8	177.1	313,600	390,600
60	73.1	175.6	278,000	347,000
65	71.4	173.9	249,100	311,600
70	69.6	172.0	225,000	282,200
75	67.9	169.9	204,700	257,400
80	66.1	167.7	187,400	236,200
85	64.3	165.3	172,400	217,900
90	62.5	162.6	159,300	201,900
95	60.6	159.8	147,700	187,800
100	58.7	156.7	137,500	175,300
105	56.8	153.4	128,300	164,100
110	54.8	149.9	120,100	154,100
115	52.8	146.1	112,600	145,000
120	50.7	142.0	105,900	136,700
125	48.5	137.5	99,700	129,200
130	46.3	132.7	94,000	122,300
135	44.0	127.6	88,800	115,900
140	41.5	121.9	84,000	110,000
145	39.0	115.8	79,500	104,600
150	36.2	109.0	75,400	99,500
155	33.3	101.5	71,500	94,800
160	30.1	93.0	67,800	90,400
165	26.6	83.3	64,400	86,300
170	22.5	71.8	61,200	82,400
175	17.5	57.1	58,200	78,700

196.9 ft				
ft	°	ft	34.8 ft lb	48.0 ft lb
26	84.9	202.9	514,600 b	514,600b
28	84.3	202.7	514,600	514,600
30	83.7	202.4	514,600	514,600
32	83.2	202.2	514,600	514,600
34	82.6	201.9	514,600	514,600
36	82.0	201.6	514,600	514,600
38	81.4	201.2	493,200	514,600
40	80.8	200.9	462,700	513,200
45	79.3	199.9	399,900	484,700
50	77.8	198.8	351,000	444,900
55	76.3	197.6	311,800	390,000
60	74.8	196.2	277,400	346,400
65	73.3	194.7	248,300	310,900
70	71.8	193.0	224,200	281,400
75	70.2	191.2	203,900	256,600
80	68.6	189.2	186,500	235,400
85	67.1	187.0	171,500	217,000
90	65.5	184.7	158,400	201,000
95	63.8	182.3	146,800	186,900
100	62.2	179.6	136,500	174,400
105	60.5	176.7	127,400	163,200
110	58.8	173.7	119,100	153,100
115	57.1	170.4	111,700	144,000
120	55.3	167.0	104,900	135,800
125	53.5	163.2	98,700	128,200
130	51.6	159.3	93,000	121,300
135	49.7	155.0	87,800	114,900
140	47.7	150.5	83,000	109,000
145	45.7	145.6	78,500	103,600
150	43.6	140.3	74,300	98,500
155	41.4	134.7	70,500	93,800
160	39.1	128.5	66,900	89,400
165	36.7	121.9	63,500	85,300
170	34.1	114.6	60,300	81,400
175	31.3	106.5	57,300	77,800
180	28.3	97.4	54,500	74,300
185	24.9	86.9	51,800	71,100
190	21.0	74.5	49,200	68,000
195	16.2	58.7	46,400	65,000

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297,800 lb



360°

216.5 ft				
ft	°	ft	lb	lb
28	84.8	222.5	477,800	477,800
30	84.3	222.3	477,800	477,800
32	83.8	222.0	477,800	477,800
34	83.2	221.8	477,800	477,800
36	82.7	221.5	477,800	477,800
38	82.2	221.2	477,800	477,800
40	81.6	220.9	461,000	477,800
45	80.3	220.0	398,000	462,000
50	79.0	219.0	349,000	444,200
55	77.6	217.9	309,800	389,200
60	76.2	216.6	276,500	345,500
65	74.9	215.2	247,400	309,900
70	73.5	213.7	223,200	280,500
75	72.1	212.1	202,900	255,600
80	70.7	210.3	185,500	234,300
85	69.3	208.4	170,400	216,000
90	67.8	206.3	157,300	199,900
95	66.4	204.1	145,700	185,800
100	64.9	201.8	135,400	173,300
105	63.4	199.2	126,200	162,000
110	61.9	196.6	118,000	152,000
115	60.4	193.7	110,500	142,900
120	58.9	190.7	103,700	134,600
125	57.3	187.4	97,500	127,000
130	55.7	184.0	91,800	120,100
135	54.1	180.4	86,600	113,700
140	52.4	176.5	81,800	107,800
145	50.7	172.4	77,300	102,400
150	48.9	168.0	73,200	97,300
155	47.1	163.4	69,300	92,600
160	45.2	158.4	65,700	88,200
165	43.3	153.1	62,300	84,100
170	41.3	147.4	59,100	80,200
175	39.2	141.3	56,100	76,600
180	37.0	134.7	53,300	73,200
185	34.7	127.6	50,400	70,000
190	32.3	119.7	47,600	66,900
195	29.6	111.1	45,000	64,000
200	26.7	101.4	42,400	61,200
210	19.8	77.0	37,700	56,100

236.2 ft				
ft	°	ft	lb	lb
30	84.8	242.1	404,300	404,300
32	84.3	241.8	404,300	404,300
34	83.8	241.6	404,300	404,300
36	83.3	241.3	404,300	404,300
38	82.8	241.1	404,300	404,300
40	82.3	240.8	404,300	404,300
45	81.1	240.0	396,200	404,300
50	79.9	239.1	347,100	404,300
55	78.6	238.0	307,800	388,300
60	77.4	236.9	275,500	344,500
65	76.2	235.6	246,400	308,900
70	74.9	234.3	222,200	279,400
75	73.6	232.8	201,800	254,500
80	72.4	231.2	184,300	233,200
85	71.1	229.4	169,200	214,800
90	69.8	227.6	156,100	198,700
95	68.5	225.6	144,500	184,600
100	67.2	223.5	134,200	172,000
105	65.8	221.2	125,000	160,800
110	64.5	218.8	116,700	150,700
115	63.1	216.2	109,200	141,600
120	61.7	213.5	102,400	133,300
125	60.3	210.6	96,200	125,700
130	58.9	207.6	90,500	118,800
135	57.5	204.4	85,300	112,400
140	56.0	201.0	80,500	106,500
145	54.5	197.4	76,000	101,100
150	53.0	193.7	71,800	96,000
155	51.5	189.7	68,000	91,300
160	49.9	185.4	64,400	86,900
165	48.2	181.0	61,000	82,800
170	46.6	176.2	57,800	78,900
175	44.8	171.2	54,600	75,300
180	43.1	165.9	51,500	71,900
185	41.2	160.2	48,600	68,700
190	39.3	154.1	45,800	65,600
195	37.3	147.5	43,200	62,700
200	35.2	140.5	40,700	60,000
210	30.7	124.6	36,000	54,900
220	25.4	105.1	31,700	50,200
230	18.6	79.2	27,700	46,000

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B65



297,800 lb



360°

255.9 ft				
ft	°	ft	34.8 ft lb	48.0 ft lb
32	84.7	261.6	377,900	377,900
34	84.3	261.4	377,900	377,900
36	83.8	261.2	377,900	377,900
38	83.4	260.9	377,900	377,900
40	82.9	260.7	377,900	377,900
45	81.8	259.9	377,900	377,900
50	80.7	259.1	345,400	377,900
55	79.5	258.1	306,100	375,900
60	78.4	257.1	273,900	343,700
65	77.2	255.9	245,500	308,000
70	76.1	254.7	221,300	278,500
75	74.9	253.3	200,800	253,500
80	73.8	251.8	183,300	232,200
85	72.6	250.3	168,200	213,800
90	71.4	248.5	155,000	197,700
95	70.2	246.7	143,400	183,500
100	69.0	244.8	133,100	171,000
105	67.8	242.7	123,900	159,700
110	66.6	240.5	115,600	149,600
115	65.3	238.2	108,100	140,500
120	64.1	235.8	101,300	132,200
125	62.8	233.2	95,100	124,600
130	61.6	230.5	89,400	117,700
135	60.3	227.6	84,200	111,300
140	59.0	224.6	79,300	105,400
145	57.6	221.4	74,900	100,000
150	56.3	218.0	70,700	94,900
155	54.9	214.5	66,800	90,200
160	53.5	210.8	63,200	85,800
165	52.1	206.9	59,700	81,700
170	50.7	202.8	56,300	77,800
175	49.2	198.5	53,000	74,200
180	47.7	193.9	49,900	70,800
185	46.1	189.1	47,000	67,500
190	44.5	184.0	44,200	64,500
195	42.9	178.6	41,600	61,600
200	41.2	172.9	39,100	58,900
210	37.6	160.4	34,400	53,800
220	33.7	146.0	30,200	49,200
230	29.3	129.1	26,300	45,000
240	24.1	108.5	22,700	41,100
250	17.6	81.1	19,300	37,500

275.6 ft				
ft	°	ft	34.8 ft lb	48.0 ft lb
34	84.7	281.2	336,700	336,700
36	84.3	281.0	336,700	336,700
38	83.9	280.8	336,700	336,700
40	83.4	280.5	336,700	336,700
45	82.4	279.8	336,700	336,700
50	81.3	279.1	336,700	336,700
55	80.3	278.2	304,000	336,700
60	79.2	277.2	271,700	336,100
65	78.2	276.1	244,300	306,800
70	77.1	275.0	220,000	277,200
75	76.0	273.7	199,500	252,200
80	75.0	272.4	182,000	230,900
85	73.9	270.9	166,900	212,400
90	72.8	269.3	153,700	196,300
95	71.7	267.7	142,000	182,100
100	70.6	265.9	131,700	169,500
105	69.5	264.0	122,500	158,300
110	68.3	262.0	114,200	148,200
115	67.2	259.9	106,700	139,000
120	66.1	257.6	99,900	130,700
125	64.9	255.3	93,600	123,200
130	63.8	252.8	87,900	116,200
135	62.6	250.2	82,700	109,800
140	61.4	247.4	77,900	103,900
145	60.2	244.6	73,400	98,500
150	59.0	241.5	69,200	93,400
155	57.8	238.4	65,200	88,700
160	56.5	235.0	61,300	84,300
165	55.3	231.6	57,600	80,200
170	54.0	227.9	54,100	76,300
175	52.7	224.1	50,900	72,700
180	51.3	220.1	47,800	69,300
185	50.0	215.9	44,900	66,000
190	48.6	211.4	42,100	63,000
195	47.2	206.8	39,500	60,100
200	45.7	201.9	37,000	57,400
210	42.7	191.4	32,400	52,300
220	39.5	179.6	28,100	47,700
230	36.0	166.3	24,300	43,500
240	32.2	151.2	20,700	39,600
250	28.0	133.4	17,400	36,100
260	23.0	111.7	14,300	32,800
270	16.7	82.9	11,400	29,700

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B65



297,800 lb



360°

295.3 ft				
ft	°	ft	lb	lb
36	84.7	300.8	301,400	301,400
38	84.3	300.6	301,400	301,400
40	83.9	300.4	301,400	301,400
45	82.9	299.7	301,400	301,400
50	81.9	299.0	301,400	301,400
55	80.9	298.2	301,400	301,400
60	80.0	297.3	271,100	301,400
65	79.0	296.3	244,200	301,400
70	78.0	295.2	219,800	277,000
75	77.0	294.0	199,300	252,000
80	76.0	292.8	181,800	230,700
85	75.0	291.4	166,600	212,200
90	74.0	289.9	153,400	196,100
95	72.9	288.4	141,800	181,900
100	71.9	286.7	131,400	169,300
105	70.9	285.0	122,200	158,000
110	69.9	283.1	113,900	147,900
115	68.8	281.2	106,400	138,700
120	67.8	279.1	99,500	130,400
125	66.7	277.0	93,300	122,800
130	65.7	274.7	87,600	115,900
135	64.6	272.3	82,400	109,500
140	63.5	269.8	77,500	103,600
145	62.4	267.1	73,000	98,100
150	61.3	264.4	68,800	93,100
155	60.2	261.5	64,600	88,400
160	59.0	258.5	60,700	84,000
165	57.9	255.3	57,000	79,800
170	56.7	252.0	53,600	76,000
175	55.5	248.6	50,300	72,300
180	54.4	245.0	47,200	68,900
185	53.1	241.2	44,300	65,700
190	51.9	237.3	41,600	62,600
195	50.6	233.2	39,000	59,800
200	49.4	228.9	36,500	57,000
210	46.7	219.7	31,900	52,000
220	44.0	209.6	27,700	47,400
230	41.1	198.4	23,800	43,200
240	38.0	186.0	20,300	39,400
250	34.6	172.0	17,000	35,800
260	31.0	156.1	14,000	32,600
270	26.9	137.4	11,100	29,500
280	22.1	114.7		26,700
290	15.9	84.4		24,000

315.0 ft				
ft	°	ft	lb	lb
36	85.0	320.6	260,900	260,900
38	84.6	320.4	260,900	260,900
40	84.3	320.2	260,900	260,900
45	83.4	319.6	260,900	260,900
50	82.4	318.9	260,900	260,900
55	81.5	318.1	260,900	260,900
60	80.6	317.3	260,900	260,900
65	79.7	316.4	241,200	260,900
70	78.7	315.3	217,900	260,900
75	77.8	314.2	197,400	250,100
80	76.9	313.1	179,800	228,700
85	75.9	311.8	164,600	210,100
90	75.0	310.4	151,300	194,000
95	74.0	309.0	139,600	179,800
100	73.1	307.5	129,300	167,100
105	72.1	305.8	120,000	155,800
110	71.2	304.1	111,700	145,700
115	70.2	302.3	104,200	136,500
120	69.2	300.4	97,300	128,200
125	68.3	298.4	91,100	120,600
130	67.3	296.3	85,400	113,600
135	66.3	294.0	80,100	107,200
140	65.3	291.7	74,900	101,300
145	64.3	289.3	70,100	95,900
150	63.2	286.8	65,600	90,800
155	62.2	284.1	61,500	86,100
160	61.2	281.3	57,500	81,700
165	60.1	278.5	53,900	77,500
170	59.1	275.5	50,400	73,700
175	58.0	272.3	47,100	70,000
180	56.9	269.0	44,100	66,600
185	55.8	265.6	41,100	63,400
190	54.7	262.1	38,400	60,300
195	53.6	258.4	35,800	57,500
200	52.4	254.5	33,300	54,700
210	50.0	246.3	28,700	49,700
220	47.6	237.3	24,500	45,100
230	45.1	227.6	20,700	40,900
240	42.4	216.9	17,100	37,100
250	39.6	205.1	13,900	33,600
260	36.6	192.0	10,900	30,300
270	33.4	177.4		27,300
280	29.8	160.7		24,500
290	25.9	141.3		21,900
300	21.2	117.5		19,400
310	15.1	85.8		17,100

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B65



297,800 lb



360°

334.6 ft				
ft	°	ft	34.8 ft lb	48.0 ft lb
38	85.0	340.2	225,400	225,400
40	84.6	340.0	225,400	225,400
45	83.7	339.4	225,400	225,400
50	82.9	338.8	225,400	225,400
55	82.0	338.1	225,400	225,400
60	81.2	337.3	225,400	225,400
65	80.3	336.4	225,400	225,400
70	79.4	335.4	217,500	225,400
75	78.5	334.4	197,000	225,400
80	77.7	333.3	179,400	225,400
85	76.8	332.1	164,200	209,800
90	75.9	330.8	150,900	193,600
95	75.0	329.5	139,200	179,300
100	74.1	328.0	128,800	166,700
105	73.2	326.5	119,600	155,400
110	72.3	324.9	111,200	145,200
115	71.4	323.2	103,700	136,100
120	70.5	321.4	96,900	127,700
125	69.6	319.6	90,600	120,100
130	68.7	317.6	84,900	113,200
135	67.8	315.5	79,400	106,800
140	66.8	313.4	74,200	100,900
145	65.9	311.1	69,400	95,400
150	64.9	308.8	64,900	90,300
155	64.0	306.3	60,700	85,600
160	63.0	303.8	56,800	81,200
165	62.1	301.1	53,100	77,000
170	61.1	298.3	49,600	73,200
175	60.1	295.4	46,400	69,500
180	59.1	292.4	43,300	66,100
185	58.1	289.3	40,400	62,900
190	57.1	286.0	37,700	59,900
195	56.0	282.6	35,000	57,000
200	55.0	279.1	32,600	54,200
210	52.8	271.7	28,000	49,200
220	50.6	263.6	23,800	44,600
230	48.4	254.9	20,000	40,400
240	46.0	245.4	16,500	36,600
250	43.6	235.1	13,200	33,100
260	41.0	223.9	10,200	29,900
270	38.3	211.5		26,900
280	35.4	197.9		24,100
290	32.2	182.6		21,500
300	28.8	165.2		19,100
310	24.9	144.9		16,800
320	20.4	120.2		14,600

354.3 ft				
ft	°	ft	34.8 ft lb	48.0 ft lb
40	84.9	359.8	196,600	196,600
45	84.1	359.2	196,600	196,600
50	83.3	358.6	196,600	196,600
55	82.5	357.9	196,600	196,600
60	81.7	357.2	196,600	196,600
65	80.8	356.4	196,600	196,600
70	80.0	355.5	196,600	196,600
75	79.2	354.5	194,400	196,600
80	78.4	353.5	177,100	196,600
85	77.5	352.3	161,900	196,600
90	76.7	351.1	148,600	191,200
95	75.9	349.9	136,900	177,000
100	75.0	348.5	126,500	164,300
105	74.2	347.1	117,200	153,000
110	73.3	345.6	108,800	142,800
115	72.5	344.0	101,300	133,700
120	71.6	342.3	94,200	125,300
125	70.8	340.6	87,600	117,700
130	69.9	338.7	81,500	110,700
135	69.1	336.8	76,000	104,300
140	68.2	334.8	70,800	98,400
145	67.3	332.7	66,000	92,900
150	66.4	330.5	61,500	87,800
155	65.5	328.2	57,300	83,100
160	64.6	325.8	53,400	78,700
165	63.7	323.3	49,700	74,600
170	62.8	320.7	46,200	70,700
175	61.9	318.1	43,000	67,100
180	61.0	315.3	39,900	63,700
185	60.1	312.4	37,000	60,400
190	59.1	309.4	34,300	57,400
195	58.2	306.2	31,600	54,500
200	57.2	303.0	29,200	51,800
210	55.2	296.2	24,600	46,700
220	53.2	288.8	20,400	42,100
230	51.2	280.9	16,600	38,000
240	49.0	272.4	13,100	34,100
250	46.8	263.1		30,700
260	44.6	253.2		27,400
270	42.2	242.4		24,400
280	39.7	230.6		21,700
290	37.0	217.7		19,100
300	34.2	203.5		16,700
310	31.2	187.5		14,400
320	27.8	169.4		12,300
330	24.1	148.3		10,300

MLC300 VPC-MAX S-1

ASME B30.5



B65



297,800 lb



360°

374.0 ft				
ft	°	ft	lb	lb
45	84.4	379.0	170,900	170,900
50	83.6	378.5	170,900	170,900
55	82.9	377.8	170,900	170,900
60	82.1	377.1	170,900	170,900
65	81.3	376.3	170,900	170,900
70	80.5	375.5	170,900	170,900
75	79.8	374.6	170,900	170,900
80	79.0	373.6	170,900	170,900
85	78.2	372.5	161,100	170,900
90	77.4	371.4	147,800	170,700
95	76.6	370.2	136,100	170,600
100	75.8	368.9	125,700	163,500
105	75.0	367.6	116,400	152,200
110	74.2	366.1	108,000	142,000
115	73.4	364.6	100,100	132,800
120	72.6	363.1	92,900	124,500
125	71.8	361.4	86,400	116,900
130	71.0	359.7	80,300	109,900
135	70.2	357.9	74,700	103,500
140	69.4	356.0	69,500	97,600
145	68.6	354.0	64,700	92,100
150	67.7	351.9	60,200	87,000
155	66.9	349.8	56,000	82,300
160	66.1	347.6	52,100	77,800
165	65.2	345.2	48,400	73,700
170	64.4	342.8	45,000	69,800
175	63.5	340.3	41,700	66,200
180	62.7	337.7	38,700	62,800
185	61.8	335.0	35,800	59,600
190	60.9	332.2	33,000	56,500
195	60.0	329.3	30,400	53,600
200	59.1	326.3	27,900	50,900
210	57.3	320.0	23,300	45,800
220	55.5	313.2	19,200	41,300
230	53.6	305.9	15,400	37,100
240	51.6	298.1	11,900	33,300
250	49.6	289.8		29,800
260	47.6	280.8		26,600
270	45.4	271.1		23,600
280	43.2	260.7		20,900
290	40.9	249.4		18,300
300	38.5	237.1		15,900
310	35.9	223.7		13,600
320	33.2	208.8		11,500

393.7 ft				
ft	°	ft	lb	lb
45	84.7	398.8	149,300	149,300
50	84.0	398.3	149,300	149,300
55	83.2	397.7	149,300	149,300
60	82.5	397.0	149,300	149,300
65	81.8	396.3	149,300	149,300
70	81.0	395.5	149,300	149,300
75	80.3	394.6	149,200	149,200
80	79.5	393.7	149,100	149,100
85	78.8	392.6	149,000	149,000
90	78.1	391.6	145,400	148,900
95	77.3	390.4	133,700	148,800
100	76.6	389.2	123,200	144,500
105	75.8	388.0	113,800	140,000
110	75.1	386.6	105,300	135,700
115	74.3	385.2	97,500	131,000
120	73.5	383.7	90,300	122,600
125	72.8	382.1	83,700	115,000
130	72.0	380.5	77,700	108,000
135	71.2	378.8	72,100	101,600
140	70.5	377.0	66,900	95,700
145	69.7	375.1	62,100	90,200
150	68.9	373.2	57,600	85,100
155	68.1	371.2	53,400	80,400
160	67.3	369.1	49,500	76,000
165	66.5	366.9	45,800	71,800
170	65.7	364.6	42,400	68,000
175	64.9	362.3	39,100	64,300
180	64.1	359.8	36,000	60,900
185	63.3	357.3	33,100	57,700
190	62.5	354.7	30,400	54,600
195	61.7	352.0	27,800	51,700
200	60.8	349.2	25,300	49,000
210	59.1	343.3	20,700	43,900
220	57.4	337.0	16,600	39,400
230	55.7	330.2	12,800	35,200
240	53.9	323.0		31,400
250	52.0	315.3		27,900
260	50.2	307.1		24,700
270	48.2	298.3		21,700
280	46.2	288.9		19,000
290	44.1	278.8		16,400
300	42.0	267.9		14,000
310	39.7	256.1		11,700