

Liftcrane Boom

Extended Upper Point Capacities


Boom No. B80:680-681-682

with Mast No. M10:684 or Mast No. M11:684 and
24.9 ft Extended Upper Boom Point

440,900 lb VPC (Variable Position Counterweight)

360 Degree Rating


MLC650 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 shown are for boom point or extended upper boom point and their respective operating radii. Capacities must be reduced by applicable deducts.


Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath 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.


OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Refer to Boom Rigging No. 81022864, Mast Rigging No. 81025005 or No. 84050187, Wire Rope Specification chart No. 9467-A, Counterweight Arrangement chart No. 9349-A, and Wind Conditions chart No. 9466-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.

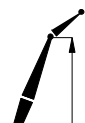
MACHINE TRAVEL: Machine to travel on a firm, level, and uniformly supporting surface. Boom must be within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart No. 9465-A.

 **EXTENDED UPPER BOOM POINT OPERATING RADIUS:** Extended upper boom point operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block.

 **BOOM POINT OPERATING RADIUS:** Boom point operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block on boom point.

 **BOOM ANGLE:** Boom angle in degrees ($^{\circ}$) 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.

 **EXTENDED UPPER BOOM POINT ELEVATION:** Extended upper boom point elevation is vertical distance from ground level to centerline of extended upper boom point shaft.

 **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, 36 ft 6 in. crawlers, 60 in. or 80 in. treads, 36 ft 1 in. live mast, 118.1 ft mast, 16 part boom hoist reeving, boom support straps, and 440,900 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length (ft)	Deduct (lb)
301.8	13,440
321.5	13,440
341.2	13,440
360.9	17,220
370.7	17,220
380.6	17,220

Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.

Upper Boom Point (upper sheave) Capacity for Liftcrane Service - Whip Line	
Drum 1 or 3	
1 Part	2 Parts
30,000 lb	60,000 lb

In all cases upper boom point (upper sheave) capacities cannot exceed those listed for extended upper boom point.

Boom Point Capacity for Liftcrane Service - Whip Line	
Drum 1	Drum 3
1 Part	
48,800 lb	30,000 lb
2 Parts	
97,600 lb	60,000 lb
3 Parts	
146,400 lb	90,000 lb
4 Parts	
195,200 lb	120,000 lb

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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 balls, slings, and hoist lines beneath sheaves. For block weights shown with #, load blocks, hooks, weight balls, 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 sheaves must not exceed block weight shown.

Table 1a: With Luffing Jib Backstays

Over End or Side of Crawlers		
Boom Length (ft)	38.7 ft Counterweight Position	60.0 ft Counterweight Position
	Block Weight (lb)	
301.8	9,400	21,500
321.5	#	21,500
341.2	#	21,500
360.9	Raising Not Permitted	#
370.7		#
380.6		#
390.4		
400.3		
410.1		

Table 1b: With Luffing Jib Backstays

Over End of Blocked Crawlers		
Boom Length (ft)	38.7 ft Counterweight Position	60.0 ft Counterweight Position
	Block Weight (lb)	
301.8	9,400	21,500
321.5	#	21,500
341.2	#	21,500
360.9	Raising Not Permitted	#
370.7		#
380.6		#
390.4		
400.3		
410.1		

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

Table 2a: Without Luffing Jib Backstays

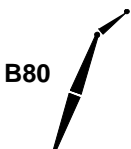




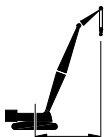
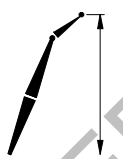

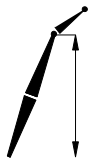



Over End or Side of Crawlers		
Boom Length (ft)	38.7 ft Counterweight Position	60.0 ft Counterweight Position
	Block Weight (lb)	
301.8	17,500	21,500
321.5	9,400	21,500
341.2	#	21,500
360.9	Raising Not Permitted	9,400
370.7		9,400
380.6		#
390.4		#
400.3		#
410.1		#

Table 2b: Without Luffing Jib Backstays

Over End of Blocked Crawlers		
Boom Length (ft)	38.7 ft Counterweight Position	60.0 ft Counterweight Position
	Block Weight (lb)	
301.8	17,500	21,500
321.5	9,400	21,500
341.2	#	21,500
360.9	Raising Not Permitted	9,400
370.7		9,400
380.6		#
390.4		#
400.3		#
410.1		#

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

Explanation of Symbols

	Boom No. B80:680-681-682
	VPC (Variable Position Counterweight)
	360 Degree Rating
	Boom Length
	Extended Upper Boom Point Offset Angle
	Extended Upper Boom Point Operating Radius (see page 1)
	Extended Upper Boom Point Elevation (see page 1)
	Boom Point Operating Radius (see page 1)
	Boom Point Elevation (see page 1)
	Boom Angle (see page 1)
	Counterweight Position from Axis of Rotation
	Lifting Capacities (see page 1)

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		301.8 ft		41°			
						38.7 ft	60.0 ft
						lb	lb
46							
47							
48							
49							
50	330.4	35.9	308.8	85.0	240,600	240,600	
51	330.2	36.8	308.7	84.8	240,600	240,600	
52	330.1	37.8	308.6	84.7	240,600	240,600	
53	329.9	38.7	308.5	84.5	240,600	240,600	
54	329.8	39.6	308.4	84.3	240,600	240,600	
55	329.6	40.6	308.2	84.1	240,600	240,600	
60	328.8	45.2	307.7	83.2	240,600	240,600	
65	327.9	49.9	307.0	82.3	240,600	240,600	
70	326.9	54.6	306.2	81.4	240,600	240,600	
75	325.8	59.3	305.4	80.5	240,600	240,600	
80	324.7	63.9	304.5	79.6	240,600	240,600	
85	323.4	68.6	303.5	78.7	240,600	240,600	
90	322.1	73.3	302.5	77.8	240,600	240,600	
95	320.7	78.0	301.3	76.8	240,600	240,600	
100	319.2	82.7	300.1	75.9	233,800	240,600	
105	317.6	87.4	298.8	75.0	217,100	240,600	
110	316.0	92.1	297.4	74.1	202,000	240,600	
115	314.2	96.8	296.0	73.1	188,300	240,600	
120	312.4	101.5	294.4	72.2	175,800	240,600	
125	310.4	106.2	292.8	71.2	164,300	240,600	
130	308.4	110.9	291.1	70.3	153,700	240,600	
135	306.2	115.6	289.2	69.3	143,900	238,000	
140	304.0	120.3	287.3	68.3	134,900	225,700	
145	301.6	125.1	285.3	67.3	126,500	214,400	
150	299.2	129.7	283.2	66.4	118,600	203,800	
155	296.6	134.5	281.0	65.4	111,300	194,000	
160	293.9	139.2	278.7	64.4	104,400	184,800	
165	291.1	144.0	276.2	63.3	98,000	176,300	
170	288.2	148.7	273.7	62.3	91,900	168,300	
175	285.2	153.4	271.1	61.3	86,200	160,700	
180	282.0	158.2	268.3	60.2	80,800	153,700	
185	278.8	162.9	265.4	59.2	75,700	147,000	
190	275.3	167.7	262.4	58.1	70,900	140,700	
195	271.8	172.4	259.3	57.0	66,300	134,700	
200	268.1	177.2	256.0	55.9	61,900	129,100	
205	264.2	182.0	252.6	54.8	57,800	123,700	
210	260.2	186.8	249.1	53.7	53,800	118,600	
215	256.0	191.5	245.4	52.5	50,100	113,800	
220	251.6	196.3	241.5	51.3	46,500	109,100	
225	247.1	201.1	237.4	50.1	43,000	104,700	
230	242.4	205.9	233.2	48.9	39,700	100,500	
235	237.4	210.7	228.7	47.7	36,500	96,500	
240	232.2	215.5	224.1	46.4	33,500	92,600	
245	226.8	220.4	219.3	45.1	30,500	88,900	
250	221.1	225.2	214.2	43.7	27,700	85,400	
255	215.2	230.0	208.8	42.4	25,000	81,900	
260	208.9	234.9	203.2	40.9	22,300	78,700	
265							
270							
280							
290							

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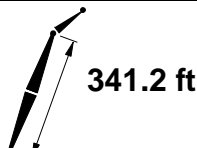
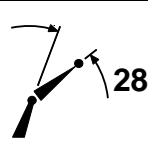


		321.5 ft		28°			
						38.7 ft	60.0 ft
ft	ft	ft	ft	°	lb	lb	lb
47	352.9	37.7	328.4	85.0	341,600	341,600	341,600
48	352.8	38.6	328.3	84.8	341,600	341,600	341,600
49	352.7	39.5	328.2	84.7	341,600	341,600	341,600
50	352.6	40.5	328.1	84.5	341,600	341,600	341,600
51	352.4	41.4	328.0	84.3	341,600	341,600	341,600
52	352.3	42.3	327.9	84.2	341,600	341,600	341,600
53	352.2	43.3	327.8	84.0	341,600	341,600	341,600
54	352.0	44.2	327.6	83.8	341,600	341,600	341,600
55	351.9	45.1	327.5	83.7	341,600	341,600	341,600
56	351.7	46.0	327.4	83.5	341,600	341,600	341,600
60	351.1	49.8	326.9	82.8	341,600	341,600	341,600
65	350.3	54.4	326.2	82.0	341,600	341,600	341,600
70	349.3	59.1	325.5	81.1	341,600	341,600	341,600
75	348.3	63.7	324.6	80.3	341,600	341,600	341,600
80	347.3	68.4	323.7	79.4	315,300	341,600	341,600
85	346.1	73.0	322.7	78.6	289,300	341,600	341,600
90	344.9	77.7	321.7	77.7	266,300	341,600	341,600
95	343.6	82.3	320.6	76.9	245,900	341,600	341,600
100	342.2	87.0	319.4	76.0	227,600	341,600	341,600
105	340.7	91.6	318.1	75.2	211,200	335,400	335,400
110	339.2	96.3	316.8	74.3	196,300	314,200	314,200
115	337.5	101.0	315.3	73.4	182,800	295,100	295,100
120	335.8	105.6	313.8	72.5	170,400	277,800	277,800
125	334.0	110.3	312.2	71.6	159,100	262,000	262,000
130	332.1	114.9	310.6	70.8	148,600	247,600	247,600
135	330.1	119.6	308.8	69.9	139,000	234,300	234,300
140	328.0	124.3	307.0	69.0	130,100	222,100	222,100
145	325.8	129.0	305.1	68.1	121,800	210,800	210,800
150	323.6	133.6	303.0	67.2	114,100	200,400	200,400
155	321.2	138.3	300.9	66.2	106,800	190,600	190,600
160	318.8	143.0	298.8	65.3	100,100	181,600	181,600
165	316.2	147.7	296.5	64.4	93,700	173,100	173,100
170	313.5	152.4	294.1	63.4	87,800	165,100	165,100
175	310.8	157.0	291.6	62.5	82,200	157,700	157,700
180	307.9	161.7	289.0	61.5	76,900	150,700	150,700
185	304.9	166.4	286.3	60.6	71,900	144,100	144,100
190	301.8	171.1	283.5	59.6	67,100	137,800	137,800
195	298.5	175.8	280.6	58.6	62,600	131,900	131,900
200	295.2	180.4	277.6	57.6	58,300	126,300	126,300
205	291.7	185.2	274.5	56.6	54,300	121,000	121,000
210	288.1	189.8	271.2	55.6	50,400	116,000	116,000
215	284.3	194.5	267.8	54.5	46,700	111,200	111,200
220	280.4	199.2	264.3	53.5	43,100	106,600	106,600
225	276.3	203.9	260.6	52.4	39,800	102,300	102,300
230	272.1	208.6	256.8	51.3	36,500	98,100	98,100
235	267.8	213.4	252.9	50.2	33,400	94,200	94,200
240	263.2	218.1	248.7	49.1	30,400	90,300	90,300
245	258.5	222.8	244.4	48.0	27,600	86,700	86,700
250	253.5	227.5	239.9	46.8	24,800	83,200	83,200
255	248.4	232.2	235.3	45.6	22,200	79,800	79,800
260	243.0	237.0	230.4	44.4	19,600	76,600	76,600
270	231.6	246.4	220.0	41.9	14,800	70,500	70,500
280	219.0	255.9	208.5	39.2		64,800	64,800
290	205.2	265.4	195.9	36.4		59,600	59,600
300	189.7	275.0	181.7	33.3		54,600	54,600

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 341.2 ft		 28°				
ft	ft	ft	ft	ft	lb	lb
50	372.4	40.6	347.9	84.8	341,600	341,600
51	372.3	41.5	347.8	84.6	341,600	341,600
52	372.1	42.5	347.7	84.5	341,600	341,600
53	372.0	43.4	347.6	84.3	341,600	341,600
54	371.9	44.3	347.5	84.2	341,600	341,600
55	371.7	45.3	347.4	84.0	341,600	341,600
56	371.6	46.2	347.2	83.8	341,600	341,600
57	371.5	47.1	347.1	83.7	341,600	341,600
58	371.3	48.1	347.0	83.5	341,600	341,600
60	371.0	49.9	346.8	83.2	341,600	341,600
65	370.2	54.6	346.1	82.4	341,600	341,600
70	369.3	59.3	345.4	81.6	341,600	341,600
75	368.4	63.9	344.6	80.8	341,600	341,600
80	367.4	68.6	343.7	80.0	315,300	341,600
85	366.3	73.3	342.8	79.2	289,200	341,600
90	365.1	77.9	341.8	78.4	266,200	341,600
95	363.9	82.6	340.8	77.6	245,700	341,600
100	362.6	87.3	339.6	76.8	227,400	341,600
105	361.2	92.0	338.4	76.0	210,900	335,200
110	359.7	96.7	337.1	75.2	196,000	314,000
115	358.2	101.3	335.8	74.3	182,400	294,900
120	356.6	106.0	334.4	73.5	170,100	277,500
125	354.9	110.7	332.9	72.7	158,700	261,700
130	353.1	115.4	331.3	71.8	148,200	247,300
135	351.2	120.0	329.7	71.0	138,600	234,000
140	349.3	124.7	327.9	70.2	129,600	221,800
145	347.3	129.4	326.1	69.3	121,300	210,500
150	345.1	134.1	324.2	68.5	113,600	200,000
155	342.9	138.8	322.3	67.6	106,400	190,300
160	340.6	143.5	320.2	66.7	99,600	181,200
165	338.2	148.2	318.1	65.9	93,300	172,700
170	335.8	152.9	315.8	65.0	87,300	164,800
175	333.2	157.6	313.5	64.1	81,700	157,300
180	330.5	162.3	311.1	63.2	76,400	150,300
185	327.7	167.0	308.6	62.3	71,300	143,700
190	324.8	171.6	306.0	61.4	66,600	137,500
195	321.8	176.4	303.3	60.5	62,100	131,600
200	318.7	181.1	300.5	59.6	57,800	126,000
205	315.5	185.8	297.6	58.6	53,700	120,700
210	312.2	190.5	294.6	57.7	49,900	115,600
215	308.7	195.2	291.5	56.8	46,200	110,800
220	305.1	199.9	288.2	55.8	42,600	106,300
225	301.4	204.6	284.8	54.8	39,300	101,900
230	297.6	209.4	281.4	53.8	36,000	97,800
235	293.6	214.1	277.7	52.8	32,900	93,800
240	289.5	218.8	274.0	51.8	30,000	90,000
245	285.2	223.5	270.1	50.8	27,100	86,300
250	280.7	228.2	266.0	49.7	24,400	82,800
255	276.1	233.0	261.8	48.6	21,700	79,500
260	271.3	237.7	257.5	47.6	19,200	76,300
270	261.2	247.2	248.2	45.3	14,400	70,200
280	250.2	256.7	238.1	43.0		64,500
290	238.2	266.2	227.2	40.5		59,300
300	225.1	275.7	215.1	37.9		54,400
320	194.5	294.8	187.1	32.2		45,400

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		341.2 ft		41°			
		ft		ft		lb	
ft	ft	ft	ft	ft	ft	lb	lb
50							
51							
52							
53							
54	369.5	39.9	348.0	84.9	244,000	244,000	
55	369.4	40.8	347.9	84.8	244,000	244,000	
56	369.2	41.8	347.8	84.6	244,000	244,000	
57	369.1	42.7	347.7	84.4	244,000	244,000	
58	368.9	43.7	347.5	84.3	244,000	244,000	
60	368.6	45.5	347.3	84.0	244,000	244,000	
65	367.8	50.2	346.7	83.2	244,000	244,000	
70	367.0	55.0	346.1	82.4	244,000	244,000	
75	366.0	59.6	345.3	81.6	244,000	244,000	
80	365.0	64.4	344.5	80.7	244,000	244,000	
85	363.9	69.1	343.7	79.9	244,000	244,000	
90	362.7	73.8	342.7	79.1	244,000	244,000	
95	361.5	78.5	341.7	78.3	244,000	244,000	
100	360.2	83.2	340.6	77.5	232,100	244,000	
105	358.8	88.0	339.5	76.7	215,300	244,000	
110	357.3	92.7	338.2	75.9	200,100	244,000	
115	355.7	97.4	336.9	75.0	186,300	244,000	
120	354.1	102.1	335.6	74.2	173,700	244,000	
125	352.4	106.9	334.1	73.4	162,200	244,000	
130	350.6	111.6	332.6	72.5	151,600	244,000	
135	348.7	116.3	331.0	71.7	141,700	236,500	
140	346.8	121.1	329.3	70.8	132,600	224,100	
145	344.7	125.8	327.5	70.0	124,200	212,700	
150	342.6	130.6	325.7	69.1	116,300	202,100	
155	340.3	135.3	323.7	68.2	108,900	192,300	
160	338.0	140.1	321.7	67.4	102,100	183,100	
165	335.6	144.8	319.6	66.5	95,600	174,500	
170	333.1	149.6	317.4	65.6	89,500	166,500	
175	330.5	154.3	315.1	64.7	83,800	159,000	
180	327.8	159.1	312.8	63.8	78,400	151,900	
185	325.0	163.8	310.3	62.9	73,300	145,200	
190	322.1	168.6	307.7	62.0	68,400	138,900	
195	319.1	173.4	305.0	61.1	63,800	132,900	
200	315.9	178.2	302.3	60.2	59,500	127,200	
205	312.7	182.9	299.4	59.2	55,300	121,900	
210	309.3	187.7	296.4	58.3	51,400	116,800	
215	305.8	192.5	293.3	57.3	47,600	111,900	
220	302.2	197.3	290.0	56.3	44,000	107,300	
225	298.5	202.1	286.7	55.3	40,600	102,900	
230	294.6	206.9	283.2	54.3	37,300	98,700	
235	290.5	211.7	279.6	53.3	34,100	94,700	
240	286.4	216.5	275.8	52.3	31,100	90,800	
245	282.0	221.3	271.9	51.2	28,200	87,100	
250	277.5	226.2	267.8	50.2	25,400	83,600	
255	272.9	231.0	263.6	49.1	22,700	80,200	
260	268.0	235.8	259.2	48.0	20,100	76,900	
270	257.7	245.5	249.9	45.7	15,100	70,800	
280	246.6	255.2	239.8	43.4		65,000	
290							
300							
320							

MLC650 VPC-MAX S-1

ASME B30.5



		360.9 ft		28°			
						38.7 ft	60.0 ft
ft	ft	ft	ft	°	lb	lb	
51	392.1	41.6	367.6	84.9	341,600	341,600	
52	392.0	42.6	367.5	84.8	341,600	341,600	
53	391.8	43.5	367.4	84.6	341,600	341,600	
54	391.7	44.5	367.3	84.5	341,600	341,600	
55	391.6	45.4	367.2	84.3	341,600	341,600	
56	391.5	46.3	367.1	84.2	341,600	341,600	
57	391.3	47.3	367.0	84.0	341,600	341,600	
58	391.2	48.2	366.8	83.9	341,600	341,600	
59	391.0	49.1	366.7	83.7	341,600	341,600	
60	390.9	50.1	366.6	83.6	341,600	341,600	
65	390.1	54.8	366.0	82.8	341,600	341,600	
70	389.3	59.4	365.3	82.1	341,600	341,600	
75	388.4	64.1	364.6	81.3	336,900	341,600	
80	387.5	68.8	363.7	80.5	306,900	341,600	
85	386.4	73.5	362.9	79.8	280,700	341,600	
90	385.3	78.2	361.9	79.0	257,500	341,600	
95	384.2	82.9	360.9	78.3	236,900	341,600	
100	382.9	87.6	359.8	77.5	218,400	341,600	
105	381.6	92.2	358.7	76.7	201,800	328,900	
110	380.2	96.9	357.5	75.9	186,800	307,500	
115	378.8	101.6	356.2	75.2	173,100	288,300	
120	377.3	106.3	354.9	74.4	160,600	270,800	
125	375.7	111.0	353.4	73.6	149,100	254,900	
130	374.0	115.8	351.9	72.8	138,600	240,400	
135	372.2	120.5	350.4	72.0	128,800	227,000	
140	370.4	125.1	348.8	71.2	119,800	214,800	
145	368.5	129.8	347.1	70.4	111,400	203,400	
150	366.5	134.5	345.3	69.6	103,600	192,900	
155	364.4	139.3	343.4	68.8	96,300	183,100	
160	362.2	144.0	341.5	68.0	89,500	173,900	
165	360.0	148.6	339.5	67.2	83,100	165,400	
170	357.7	153.4	337.4	66.4	77,100	157,400	
175	355.2	158.1	335.2	65.6	71,400	149,900	
180	352.7	162.8	332.9	64.7	66,000	142,900	
185	350.1	167.5	330.6	63.9	61,000	136,200	
190	347.4	172.2	328.2	63.0	56,200	129,900	
195	344.7	176.9	325.6	62.2	51,700	124,000	
200	341.8	181.6	323.0	61.3	47,400	118,400	
205	338.8	186.3	320.3	60.5	43,300	113,100	
210	335.7	191.1	317.5	59.6	39,400	108,000	
215	332.5	195.8	314.6	58.7	35,700	103,200	
220	329.2	200.5	311.6	57.8	32,100	98,600	
225	325.7	205.3	308.4	56.9	28,700	94,200	
230	322.2	210.0	305.2	56.0	25,500	90,100	
235	318.5	214.7	301.9	55.1	22,400	86,100	
240	314.7	219.4	298.4	54.1	19,400	82,300	
245	310.8	224.2	294.8	53.2	16,500	78,600	
250	306.7	228.9	291.1	52.2	13,800	75,100	
260	298.2	238.4	283.3	50.3		68,500	
270	289.0	247.9	274.9	48.2		62,400	
280	279.1	257.4	265.9	46.1		56,800	
290	268.5	266.9	256.1	44.0		51,500	
300	257.0	276.4	245.5	41.7		46,600	
320	230.9	295.5	221.5	36.8		37,700	
340	199.2	314.7	192.2	31.2		29,800	

MLC650 VPC-MAX S-1

ASME B30.5



	370.7 ft		28°		38.7 ft	60.0 ft
	ft	ft	ft	ft	lb	lb
52	401.9	42.6	377.3	84.9	323,900	323,900
53	401.8	43.6	377.2	84.7	323,900	323,900
54	401.6	44.5	377.1	84.6	323,900	323,900
55	401.5	45.5	377.0	84.5	323,900	323,900
56	401.4	46.4	376.9	84.3	323,900	323,900
57	401.2	47.3	376.8	84.2	323,900	323,900
58	401.1	48.3	376.7	84.0	323,900	323,900
59	401.0	49.2	376.6	83.9	323,900	323,900
60	400.8	50.1	376.5	83.7	323,900	323,900
65	400.1	54.9	375.9	83.0	323,900	323,900
70	399.3	59.5	375.2	82.3	323,900	323,900
75	398.4	64.2	374.5	81.5	323,900	323,900
80	397.5	68.9	373.7	80.8	306,800	323,900
85	396.5	73.6	372.8	80.0	280,500	323,900
90	395.4	78.3	371.9	79.3	257,300	323,900
95	394.3	83.0	370.9	78.5	236,700	323,900
100	393.1	87.7	369.9	77.8	218,100	323,900
105	391.8	92.4	368.8	77.1	201,400	323,900
110	390.5	97.1	367.6	76.3	186,400	307,300
115	389.0	101.8	366.3	75.5	172,600	288,000
120	387.6	106.5	365.0	74.8	160,100	270,600
125	386.0	111.2	363.6	74.0	148,600	254,700
130	384.4	115.9	362.2	73.3	138,100	240,100
135	382.7	120.6	360.7	72.5	128,300	226,800
140	380.9	125.3	359.1	71.7	119,300	214,500
145	379.0	130.0	357.4	71.0	110,900	203,100
150	377.1	134.7	355.7	70.2	103,100	192,600
155	375.1	139.5	353.9	69.4	95,800	182,800
160	373.0	144.1	352.0	68.6	89,000	173,600
165	370.8	148.9	350.0	67.8	82,600	165,100
170	368.5	153.6	348.0	67.0	76,600	157,100
175	366.2	158.3	345.9	66.2	70,900	149,600
180	363.7	163.0	343.7	65.4	65,500	142,500
185	361.2	167.7	341.4	64.6	60,500	135,900
190	358.6	172.4	339.1	63.8	55,700	129,600
195	355.9	177.2	336.6	62.9	51,200	123,700
200	353.1	181.9	334.1	62.1	46,900	118,100
205	350.2	186.6	331.5	61.3	42,800	112,700
210	347.2	191.3	328.7	60.4	38,900	107,700
215	344.1	196.0	325.9	59.6	35,200	102,900
220	341.0	200.8	323.0	58.7	31,600	98,300
225	337.6	205.5	320.0	57.8	28,200	93,900
230	334.2	210.2	316.9	57.0	25,000	89,700
235	330.7	215.0	313.7	56.1	21,900	85,800
240	327.1	219.7	310.3	55.2	18,900	81,900
245	323.3	224.5	306.9	54.3	16,100	78,300
250	319.4	229.2	303.3	53.3	13,300	74,800
255	315.4	233.9	299.7	52.4		71,400
260	311.2	238.7	295.8	51.5		68,200
270	302.4	248.2	287.8	49.5		62,100
280	293.0	257.7	279.2	47.5		56,500
290	283.0	267.2	269.9	45.5		51,200
300	272.1	276.7	259.9	43.3		46,300
320	247.7	295.8	237.3	38.7		37,400
340	218.5	315.0	210.4	33.6		29,500

MLC650 VPC-MAX S-1

ASME B30.5



380.6 ft		28°				
ft	ft	ft	ft	°	38.7 ft lb	60.0 ft lb
52	411.8	42.7	387.3	85.0	303,400	303,400
53	411.7	43.7	387.2	84.9	303,400	303,400
54	411.5	44.6	387.1	84.7	303,400	303,400
55	411.4	45.5	387.0	84.6	303,400	303,400
56	411.3	46.5	386.9	84.4	303,400	303,400
57	411.2	47.4	386.8	84.3	303,400	303,400
58	411.0	48.3	386.7	84.2	303,400	303,400
59	410.9	49.2	386.6	84.0	303,400	303,400
60	410.8	50.2	386.4	83.9	303,400	303,400
61	410.6	51.2	386.3	83.7	303,400	303,400
65	410.1	54.9	385.9	83.2	303,400	303,400
70	409.3	59.6	385.2	82.4	303,400	303,400
75	408.4	64.3	384.5	81.7	303,400	303,400
80	407.5	69.0	383.7	81.0	303,400	303,400
85	406.5	73.7	382.9	80.3	278,900	303,400
90	405.5	78.4	382.0	79.6	255,600	303,400
95	404.4	83.1	381.0	78.8	234,800	303,400
100	403.2	87.8	380.0	78.1	216,300	303,400
105	402.0	92.5	378.9	77.4	199,600	303,400
110	400.7	97.2	377.8	76.6	184,500	303,400
115	399.3	102.0	376.5	75.9	170,700	286,700
120	397.8	106.6	375.3	75.2	158,200	269,200
125	396.3	111.3	373.9	74.4	146,700	253,300
130	394.7	116.1	372.5	73.7	136,100	238,700
135	393.1	120.8	371.0	72.9	126,400	225,400
140	391.3	125.5	369.5	72.2	117,300	213,100
145	389.5	130.2	367.9	71.4	108,900	201,700
150	387.6	135.0	366.2	70.7	101,100	191,100
155	385.7	139.7	364.4	69.9	93,800	181,300
160	383.6	144.4	362.6	69.2	87,000	172,200
165	381.5	149.1	360.7	68.4	80,600	163,700
170	379.3	153.8	358.7	67.6	74,500	155,700
175	377.1	158.5	356.7	66.8	68,900	148,100
180	374.7	163.3	354.5	66.0	63,500	141,100
185	372.3	168.0	352.3	65.3	58,500	134,400
190	369.7	172.7	350.0	64.5	53,700	128,200
195	367.1	177.4	347.6	63.7	49,100	122,200
200	364.4	182.1	345.2	62.9	44,800	116,600
205	361.6	186.9	342.6	62.0	40,700	111,300
210	358.7	191.6	340.0	61.2	36,800	106,200
215	355.7	196.3	337.3	60.4	33,100	101,400
220	352.6	201.1	334.5	59.6	29,600	96,800
225	349.4	205.8	331.6	58.7	26,200	92,400
230	346.1	210.5	328.6	57.9	23,000	88,300
235	342.7	215.3	325.4	57.0	19,800	84,300
240	339.2	220.1	322.2	56.2	16,900	80,500
250	331.8	229.5	315.4	54.4		73,300
260	324.0	239.0	308.2	52.6		66,700
270	315.6	248.5	300.5	50.7		60,600
280	306.6	258.1	292.2	48.8		55,000
290	297.0	267.6	283.4	46.9		49,700
300	286.7	277.1	274.0	44.8		44,800
320	263.7	296.2	252.7	40.5		35,900
340	236.6	315.4	227.6	35.7		28,100
360	203.7	334.7	197.1	30.3		21,000

MLC650 VPC-MAX S-1

ASME B30.5



380.6 ft		35°				
ft	ft	ft	ft	°	lb	lb
52						
53						
54						
55	410.4	43.3	387.2	84.9	292,800	292,800
56	410.3	44.2	387.1	84.8	292,800	292,800
57	410.1	45.2	387.0	84.6	292,800	292,800
58	410.0	46.1	386.9	84.5	292,800	292,800
59	409.9	47.0	386.8	84.4	292,800	292,800
60	409.7	48.0	386.7	84.2	292,800	292,800
61	409.6	48.9	386.6	84.1	292,800	292,800
65	409.0	52.7	386.1	83.5	292,800	292,800
70	408.2	57.4	385.5	82.8	292,800	292,800
75	407.4	62.1	384.8	82.1	292,800	292,800
80	406.5	66.8	384.1	81.3	292,800	292,800
85	405.5	71.6	383.3	80.6	282,300	292,800
90	404.5	76.2	382.4	79.9	258,700	292,800
95	403.3	81.0	381.5	79.2	237,800	292,800
100	402.2	85.7	380.5	78.4	219,100	292,800
105	400.9	90.4	379.4	77.7	202,200	292,800
110	399.6	95.2	378.3	77.0	186,900	292,800
115	398.2	99.9	377.1	76.2	173,100	288,500
120	396.8	104.6	375.8	75.5	160,400	271,000
125	395.2	109.4	374.5	74.7	148,800	255,000
130	393.7	114.1	373.1	74.0	138,100	240,300
135	392.0	118.8	371.7	73.3	128,300	226,900
140	390.2	123.5	370.1	72.5	119,100	214,500
145	388.4	128.3	368.5	71.7	110,600	203,000
150	386.5	133.0	366.9	71.0	102,700	192,400
155	384.6	137.8	365.1	70.2	95,400	182,600
160	382.5	142.5	363.3	69.5	88,500	173,400
165	380.4	147.2	361.4	68.7	82,000	164,800
170	378.2	152.0	359.5	67.9	75,900	156,700
175	375.9	156.8	357.4	67.1	70,200	149,200
180	373.6	161.5	355.3	66.3	64,800	142,100
185	371.1	166.3	353.1	65.5	59,700	135,400
190	368.6	171.0	350.9	64.8	54,800	129,000
195	366.0	175.7	348.5	64.0	50,300	123,100
200	363.2	180.5	346.1	63.1	45,900	117,400
205	360.4	185.3	343.5	62.3	41,800	112,100
210	357.5	190.0	340.9	61.5	37,800	107,000
215	354.5	194.8	338.2	60.7	34,100	102,100
220	351.4	199.5	335.4	59.8	30,500	97,500
225	348.2	204.3	332.5	59.0	27,100	93,100
230	344.9	209.1	329.5	58.1	23,800	88,900
235	341.5	213.9	326.4	57.3	20,600	84,900
240	338.0	218.6	323.2	56.4	17,600	81,000
250	330.6	228.2	316.4	54.6	12,000	73,800
260	322.7	237.8	309.2	52.8		67,200
270	314.2	247.4	301.5	51.0		61,100
280	305.2	256.9	293.3	49.1		55,400
290	295.6	266.5	284.4	47.1		50,100
300	285.2	276.2	274.9	45.0		45,100
320	262.1	295.5	253.6	40.7		36,200
340	234.8	314.8	228.4	35.9		28,200
360						

MLC650 VPC-MAX S-1

ASME B30.5



 390.4 ft		 28°				
ft	ft	ft	ft	°	38.7 ft lb	60.0 ft lb
53	421.6	43.7	397.0	85.0	285,900	285,900
54	421.5	44.6	396.9	84.9	285,900	285,900
55	421.3	45.5	396.8	84.7	285,900	285,900
56	421.2	46.5	396.7	84.6	285,900	285,900
57	421.1	47.4	396.6	84.4	285,900	285,900
58	421.0	48.4	396.5	84.3	285,900	285,900
59	420.8	49.3	396.4	84.2	285,900	285,900
60	420.7	50.3	396.3	84.0	285,900	285,900
61	420.6	51.2	396.2	83.9	285,900	285,900
62	420.4	52.2	396.1	83.7	285,900	285,900
65	420.0	55.0	395.7	83.3	285,900	285,900
70	419.2	59.7	395.1	82.6	285,900	285,900
75	418.4	64.4	394.4	81.9	285,900	285,900
80	417.5	69.1	393.6	81.2	285,900	285,900
85	416.6	73.8	392.8	80.5	280,200	285,900
90	415.6	78.5	391.9	79.8	256,900	285,900
95	414.5	83.2	391.0	79.1	236,100	285,900
100	413.3	87.9	390.0	78.4	217,600	285,900
105	412.1	92.6	388.9	77.7	200,900	285,900
110	410.8	97.4	387.8	77.0	185,800	285,900
115	409.5	102.1	386.6	76.3	172,100	285,800
120	408.1	106.8	385.4	75.5	159,500	270,300
125	406.6	111.5	384.1	74.8	148,000	254,400
130	405.1	116.2	382.7	74.1	137,500	239,800
135	403.4	120.9	381.3	73.4	127,700	226,400
140	401.7	125.6	379.8	72.6	118,700	214,100
145	400.0	130.4	378.2	71.9	110,300	202,700
150	398.2	135.1	376.5	71.2	102,500	192,200
155	396.2	139.8	374.8	70.4	95,200	182,400
160	394.3	144.6	373.0	69.7	88,300	173,300
165	392.2	149.3	371.2	68.9	81,900	164,700
170	390.1	154.0	369.3	68.2	75,900	156,700
175	387.9	158.7	367.3	67.4	70,200	149,200
180	385.6	163.5	365.2	66.7	64,900	142,200
185	383.2	168.2	363.0	65.9	59,900	135,500
190	380.8	172.9	360.8	65.1	55,100	129,200
195	378.2	177.7	358.5	64.3	50,500	123,300
200	375.6	182.4	356.1	63.6	46,200	117,700
205	372.9	187.1	353.6	62.8	42,100	112,300
210	370.1	191.9	351.1	62.0	38,300	107,300
215	367.2	196.6	348.4	61.2	34,500	102,500
220	364.2	201.3	345.7	60.4	31,000	97,900
225	361.1	206.1	342.9	59.6	27,600	93,500
230	357.9	210.8	340.0	58.7	24,400	89,400
235	354.6	215.5	337.0	57.9	21,300	85,400
240	351.2	220.3	333.9	57.1	18,300	81,600
250	344.1	229.8	327.3	55.4	12,700	74,400
260	336.6	239.3	320.4	53.7		67,800
270	328.5	248.8	313.0	51.9		61,700
280	319.9	258.3	305.0	50.0		56,100
290	310.7	267.8	296.6	48.2		50,900
300	300.9	277.4	287.6	46.2		46,000
320	279.1	296.5	267.4	42.1		37,100
340	253.7	315.7	243.9	37.7		29,300
360	223.5	334.9	215.8	32.7		22,300

MLC650 VPC-MAX S-1

ASME B30.5



390.4 ft		41°				
ft	ft	ft	ft	ft	lb	lb
53						
54						
55						
56						
57						
58	418.6	43.9	397.0	85.0	244,000	244,000
59	418.4	44.9	396.9	84.8	244,000	244,000
60	418.3	45.8	396.8	84.7	244,000	244,000
61	418.2	46.8	396.7	84.5	244,000	244,000
62	418.0	47.7	396.6	84.4	244,000	244,000
65	417.6	50.5	396.3	84.0	244,000	244,000
70	416.8	55.3	395.7	83.3	244,000	244,000
75	416.0	60.0	395.0	82.6	244,000	244,000
80	415.1	64.8	394.3	81.9	244,000	244,000
85	414.1	69.5	393.6	81.2	244,000	244,000
90	413.1	74.2	392.7	80.5	244,000	244,000
95	412.0	79.0	391.8	79.7	241,900	244,000
100	410.9	83.7	390.9	79.0	223,000	244,000
105	409.7	88.5	389.9	78.3	206,000	244,000
110	408.4	93.2	388.8	77.6	190,600	244,000
115	407.0	98.0	387.7	76.9	176,600	244,000
120	405.6	102.8	386.4	76.1	163,800	244,000
125	404.1	107.5	385.2	75.4	152,100	244,000
130	402.6	112.3	383.9	74.7	141,300	242,800
135	400.9	117.0	382.5	74.0	131,400	229,300
140	399.2	121.8	381.0	73.2	122,200	216,900
145	397.5	126.6	379.4	72.5	113,600	205,400
150	395.6	131.4	377.8	71.7	105,700	194,700
155	393.7	136.1	376.2	71.0	98,200	184,800
160	391.7	140.9	374.4	70.3	91,200	175,500
165	389.6	145.7	372.6	69.5	84,700	166,900
170	387.5	150.4	370.7	68.7	78,600	158,800
175	385.3	155.2	368.8	68.0	72,800	151,200
180	383.0	160.0	366.7	67.2	67,300	144,000
185	380.6	164.8	364.6	66.4	62,200	137,300
190	378.1	169.6	362.4	65.7	57,300	130,900
195	375.5	174.4	360.1	64.9	52,700	124,900
200	372.9	179.2	357.7	64.1	48,300	119,300
205	370.2	184.0	355.3	63.3	44,100	113,900
210	367.3	188.8	352.8	62.5	40,100	108,700
215	364.4	193.5	350.2	61.7	36,400	103,900
220	361.4	198.4	347.4	60.9	32,700	99,200
225	358.3	203.2	344.6	60.1	29,300	94,800
230	355.1	207.9	341.8	59.2	26,000	90,600
235	351.8	212.8	338.7	58.4	22,800	86,500
240	348.3	217.6	335.7	57.6	19,800	82,700
250	341.2	227.2	329.2	55.9	14,100	75,400
260	333.5	236.8	322.2	54.1		68,700
270	325.4	246.5	314.8	52.3		62,600
280	316.7	256.2	306.9	50.5		56,900
290	307.4	265.9	298.4	48.6		51,500
300	297.5	275.6	289.3	46.6		46,600
320	275.4	295.1	269.0	42.5		37,600
340						
360						

MLC650 VPC-MAX S-1

ASME B30.5



400.3 ft		28°				38.7 ft		60.0 ft	
ft	ft	ft	ft	°	lb	lb	lb	lb	lb
54	431.4	44.7	406.9	85.0	267,900	267,900			
55	431.2	45.6	406.8	84.8	267,900	267,900			
56	431.1	46.6	406.7	84.7	267,900	267,900			
57	431.0	47.5	406.6	84.6	267,900	267,900			
58	430.9	48.5	406.5	84.4	267,900	267,900			
59	430.8	49.4	406.4	84.3	267,900	267,900			
60	430.6	50.3	406.3	84.2	267,900	267,900			
61	430.5	51.3	406.2	84.0	267,900	267,900			
62	430.4	52.2	406.0	83.9	267,900	267,900			
63	430.2	53.2	405.9	83.8	267,900	267,900			
65	429.9	55.0	405.7	83.5	267,900	267,900			
70	429.2	59.8	405.1	82.8	267,900	267,900			
75	428.4	64.5	404.4	82.1	267,900	267,900			
80	427.5	69.2	403.6	81.4	267,900	267,900			
85	426.6	73.9	402.9	80.7	267,800	267,800			
90	425.6	78.6	402.0	80.1	255,000	267,700			
95	424.5	83.3	401.1	79.4	234,200	267,700			
100	423.4	88.1	400.1	78.7	215,600	267,600			
105	422.2	92.8	399.1	78.0	198,900	267,500			
110	421.0	97.5	398.0	77.3	183,800	267,400			
115	419.7	102.2	396.8	76.6	170,000	267,300			
120	418.3	107.0	395.6	75.9	157,500	267,200			
125	416.9	111.7	394.3	75.2	146,000	252,900			
130	415.4	116.4	393.0	74.5	135,400	238,400			
135	413.8	121.1	391.6	73.8	125,600	225,000			
140	412.1	125.8	390.1	73.1	116,600	212,700			
145	410.4	130.6	388.6	72.3	108,200	201,300			
150	408.6	135.3	386.9	71.6	100,400	190,700			
155	406.8	140.0	385.3	70.9	93,100	180,900			
160	404.9	144.7	383.5	70.2	86,200	171,700			
165	402.9	149.5	381.7	69.4	79,800	163,200			
170	400.8	154.2	379.9	68.7	73,800	155,200			
175	398.6	159.0	377.9	68.0	68,100	147,700			
180	396.4	163.7	375.9	67.2	62,800	140,600			
185	394.1	168.4	373.8	66.5	57,700	134,000			
190	391.7	173.2	371.6	65.7	52,900	127,700			
195	389.3	177.9	369.4	65.0	48,400	121,700			
200	386.7	182.6	367.1	64.2	44,100	116,100			
205	384.1	187.4	364.7	63.5	40,000	110,800			
210	381.4	192.1	362.2	62.7	36,100	105,700			
215	378.5	196.9	359.6	61.9	32,400	100,900			
220	375.7	201.6	357.0	61.1	28,800	96,300			
225	372.7	206.3	354.3	60.4	25,500	91,900			
230	369.6	211.1	351.4	59.6	22,200	87,800			
240	363.1	220.6	345.5	58.0	16,200	80,000			
250	356.3	230.1	339.2	56.3		72,800			
260	349.0	239.6	332.5	54.6		66,200			
270	341.2	249.1	325.3	52.9		60,200			
280	332.9	258.6	317.7	51.2		54,500			
290	324.1	268.2	309.6	49.4		49,300			
300	314.8	277.8	300.9	47.5		44,400			
320	294.0	296.8	281.7	43.6		35,500			
340	270.1	316.0	259.6	39.4		27,700			
360	242.0	335.2	233.5	34.8		20,700			
380	208.1	354.5	201.8	29.4		13,100			

MLC650 VPC-MAX S-1

ASME B30.5



 400.3 ft		 35°				
ft	ft	ft	ft	°	lb	lb
54						
55						
56						
57	430.0	45.2	406.8	84.9	265,600	265,600
58	429.9	46.2	406.7	84.8	265,600	265,600
59	429.7	47.1	406.6	84.6	265,600	265,600
60	429.6	48.0	406.5	84.5	265,600	265,600
61	429.5	49.0	406.4	84.4	265,600	265,600
62	429.3	50.0	406.3	84.2	265,600	265,600
63	429.2	50.9	406.2	84.1	265,600	265,600
65	428.9	52.8	406.0	83.8	265,600	265,600
70	428.2	57.5	405.4	83.1	265,600	265,600
75	427.4	62.3	404.7	82.4	265,600	265,600
80	426.5	67.0	404.0	81.7	265,600	265,600
85	425.5	71.8	403.2	81.1	265,600	265,600
90	424.6	76.5	402.4	80.4	258,200	265,600
95	423.5	81.2	401.5	79.7	237,200	265,600
100	422.4	85.9	400.6	79.0	218,400	265,600
105	421.2	90.7	399.5	78.3	201,600	265,600
110	419.9	95.4	398.5	77.6	186,300	265,600
115	418.6	100.2	397.3	76.9	172,400	265,600
120	417.3	104.9	396.1	76.2	159,700	265,500
125	415.8	109.6	394.9	75.5	148,100	254,600
130	414.3	114.3	393.6	74.8	137,400	239,900
135	412.7	119.1	392.2	74.1	127,600	226,500
140	411.1	123.9	390.7	73.3	118,400	214,100
145	409.3	128.6	389.2	72.6	109,900	202,600
150	407.6	133.3	387.6	71.9	102,000	192,000
155	405.7	138.1	386.0	71.2	94,700	182,100
160	403.8	142.9	384.3	70.5	87,800	172,900
165	401.8	147.6	382.5	69.7	81,300	164,300
170	399.7	152.3	380.6	69.0	75,200	156,300
175	397.5	157.1	378.7	68.3	69,500	148,700
180	395.3	161.9	376.7	67.5	64,100	141,600
185	393.0	166.6	374.6	66.8	59,000	134,900
190	390.6	171.4	372.5	66.0	54,100	128,600
195	388.1	176.2	370.2	65.3	49,500	122,600
200	385.6	180.9	367.9	64.5	45,200	117,000
205	382.9	185.7	365.5	63.7	41,100	111,600
210	380.2	190.4	363.1	63.0	37,100	106,500
215	377.4	195.2	360.5	62.2	33,400	101,700
220	374.5	200.0	357.9	61.4	29,800	97,000
225	371.5	204.8	355.2	60.6	26,400	92,600
230	368.4	209.6	352.4	59.8	23,100	88,400
240	361.9	219.1	346.5	58.2	17,000	80,600
250	355.0	228.7	340.2	56.6		73,400
260	347.7	238.3	333.5	54.9		66,800
270	339.9	247.9	326.3	53.2		60,600
280	331.6	257.5	318.7	51.4		55,000
290	322.8	267.0	310.6	49.6		49,700
300	313.3	276.7	301.9	47.7		44,800
320	292.5	295.9	282.7	43.8		35,800
340	268.4	315.3	260.4	39.6		27,900
360	240.2	334.7	234.2	34.9		20,900
380						

MLC650 VPC-MAX S-1

ASME B30.5



410.1 ft		28°				
ft	ft	ft	ft	°	38.7 ft lb	60.0 ft lb
55	441.2	45.7	416.6	85.0	251,400	251,400
56	441.0	46.7	416.5	84.8	251,400	251,400
57	440.9	47.6	416.4	84.7	251,400	251,400
58	440.8	48.5	416.3	84.6	251,400	251,400
59	440.7	49.4	416.2	84.4	251,400	251,400
60	440.5	50.4	416.1	84.3	251,400	251,400
61	440.4	51.3	416.0	84.2	251,400	251,400
62	440.3	52.2	415.9	84.0	251,400	251,400
63	440.2	53.2	415.8	83.9	251,400	251,400
64	440.0	54.2	415.7	83.8	251,400	251,400
65	439.9	55.1	415.6	83.6	251,400	251,400
70	439.1	59.8	415.0	83.0	251,300	251,300
75	438.4	64.5	414.3	82.3	251,200	251,200
80	437.5	69.3	413.6	81.6	251,200	251,200
85	436.6	74.0	412.8	81.0	251,100	251,100
90	435.6	78.7	411.9	80.3	251,000	251,000
95	434.6	83.4	411.0	79.6	233,600	250,900
100	433.5	88.1	410.1	78.9	215,100	250,800
105	432.4	92.9	409.1	78.3	198,300	250,700
110	431.1	97.6	408.0	77.6	183,200	250,600
115	429.9	102.3	406.9	76.9	169,400	250,400
120	428.5	107.1	405.7	76.2	156,900	250,300
125	427.1	111.8	404.4	75.5	145,400	250,200
130	425.6	116.5	403.1	74.8	134,800	238,000
135	424.1	121.2	401.8	74.1	125,000	224,600
140	422.5	125.9	400.3	73.5	116,000	212,300
145	420.8	130.7	398.8	72.8	107,600	200,900
150	419.1	135.4	397.3	72.1	99,700	190,300
155	417.3	140.2	395.6	71.4	92,400	180,500
160	415.4	144.9	393.9	70.6	85,600	171,300
165	413.5	149.7	392.2	69.9	79,200	162,800
170	411.4	154.4	390.3	69.2	73,200	154,800
175	409.4	159.1	388.5	68.5	67,500	147,300
180	407.2	163.8	386.5	67.8	62,100	140,200
185	404.9	168.6	384.4	67.1	57,100	133,500
190	402.6	173.4	382.3	66.3	52,300	127,200
195	400.2	178.1	380.1	65.6	47,800	121,300
200	397.8	182.8	377.9	64.9	43,400	115,700
205	395.2	187.6	375.6	64.1	39,400	110,300
210	392.6	192.3	373.2	63.4	35,500	105,300
215	389.8	197.1	370.6	62.6	31,700	100,500
220	387.0	201.8	368.1	61.9	28,200	95,900
225	384.1	206.6	365.4	61.1	24,800	91,500
230	381.1	211.3	362.7	60.3	21,600	87,300
240	374.9	220.8	357.0	58.8	15,500	79,500
250	368.2	230.3	350.8	57.2		72,400
260	361.2	239.8	344.4	55.6		65,800
270	353.7	249.4	337.5	53.9		59,700
280	345.8	258.9	330.1	52.2		54,100
290	337.3	268.4	322.3	50.5		48,800
300	328.3	278.0	314.0	48.7		44,000
320	308.5	297.1	295.7	45.0		35,100
340	285.9	316.3	274.6	41.0		27,300
360	259.6	335.5	250.2	36.7		20,300
380	228.4	354.8	221.1	31.8		12,600

MLC650 VPC-MAX S-1

ASME B30.5



		410.1 ft		35°			
						38.7 ft	60.0 ft
						lb	lb
ft	ft	ft	ft	°	lb	lb	lb
55							
56							
57	439.9	45.3	416.7	85.0	249,400	249,400	
58	439.8	46.2	416.6	84.9	249,400	249,400	
59	439.6	47.1	416.5	84.8	249,400	249,400	
60	439.5	48.1	416.4	84.6	249,400	249,400	
61	439.4	49.1	416.3	84.5	249,400	249,400	
62	439.3	50.1	416.2	84.3	249,400	249,400	
63	439.1	51.0	416.1	84.2	249,400	249,400	
64	439.0	51.9	416.0	84.1	249,400	249,400	
65	438.8	52.9	415.8	83.9	249,400	249,400	
70	438.1	57.6	415.3	83.3	249,400	249,400	
75	437.3	62.3	414.6	82.6	249,400	249,400	
80	436.5	67.1	413.9	81.9	249,300	249,300	
85	435.6	71.8	413.1	81.3	249,300	249,300	
90	434.6	76.5	412.3	80.6	249,200	249,200	
95	433.6	81.3	411.5	79.9	236,700	249,200	
100	432.5	86.0	410.5	79.2	217,900	249,100	
105	431.3	90.8	409.5	78.6	201,000	249,000	
110	430.1	95.5	408.5	77.9	185,700	249,000	
115	428.8	100.2	407.4	77.2	171,900	248,900	
120	427.5	105.0	406.2	76.5	159,200	248,800	
125	426.1	109.7	405.0	75.8	147,500	248,600	
130	424.6	114.5	403.7	75.1	136,900	239,600	
135	423.0	119.3	402.3	74.4	127,000	226,100	
140	421.4	124.0	400.9	73.7	117,800	213,700	
145	419.8	128.7	399.5	73.0	109,300	202,300	
150	418.0	133.5	397.9	72.3	101,400	191,600	
155	416.2	138.3	396.3	71.6	94,100	181,700	
160	414.3	143.0	394.6	70.9	87,100	172,500	
165	412.4	147.7	392.9	70.2	80,700	163,900	
170	410.3	152.5	391.1	69.5	74,600	155,900	
175	408.2	157.3	389.2	68.8	68,900	148,300	
180	406.1	162.1	387.2	68.1	63,400	141,200	
185	403.8	166.8	385.2	67.3	58,300	134,500	
190	401.5	171.5	383.1	66.6	53,500	128,200	
195	399.1	176.4	381.0	65.9	48,900	122,200	
200	396.6	181.1	378.7	65.1	44,600	116,500	
205	394.0	185.9	376.4	64.4	40,400	111,200	
210	391.4	190.6	374.0	63.6	36,500	106,100	
215	388.7	195.4	371.5	62.9	32,700	101,200	
220	385.8	200.2	369.0	62.1	29,200	96,600	
225	382.9	205.0	366.3	61.4	25,700	92,200	
230	379.9	209.7	363.6	60.6	22,500	88,000	
240	373.7	219.3	357.9	59.0	16,300	80,200	
250	367.0	228.9	351.8	57.4		73,000	
260	359.9	238.5	345.3	55.8		66,300	
270	352.4	248.0	338.5	54.2		60,200	
280	344.4	257.7	331.1	52.5		54,500	
290	335.9	267.2	323.3	50.7		49,300	
300	326.9	276.9	315.0	48.9		44,300	
320	307.0	296.2	296.6	45.2		35,400	
340	284.3	315.5	275.6	41.2		27,600	
360	257.8	334.9	251.0	36.8		20,500	
380							

