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

Liftcrane Boom Capacities

Boom No. 49A
No Crane Counterweight
400,000 Lb. Wheeled Counterweight
360 Degree Rating

Meets ANSI B30.5 Requirements

MAX-ER 400 On 2250 or M-250

LIFTING CAPACITIES: Lifting capacities for various boom lengths and operating radii are for freely suspended loads and do not exceed 75% of a static tipping load. Capacities based on structural competence are denoted by an asterisk (*).

Wheeled counterweight must be attached to support beam and MAX-ER mode must be selected to operate. Swing and travel (forward or side crawl) requires proper position of counterweight wheels when contacting ground. Lower boom to ground before removing wheeled counterweight.

Upper boom point capacity for liftcrane service with single part whip line is 30,000 Lbs. or 60,000 Lbs. 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 main boom 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 uniformly supporting surface with gantry and mast up. Refer to boom rigging **No. 176112** or **No. 192708**, Wire Rope Specification chart **No. 7581-G** and Counterweight Arrangement chart **No. 7692-A** or **No. 8026-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 operators manual for operating guidelines.

MACHINE TRAVEL: Machine to travel on a firm, level and uniformly supporting surface with boom within boom angle range shown in capacity chart. Travel may be limited depending upon ground conditions. Counter-rotation or cutting lowerworks while traveling capacities above 600,000 Lbs. may require travel surface to be either wetted timber matting or greased steel plates. Refer to Maximum Allowable Travel Specification chart **No. 7748-A** when operating without load.

OPERATING RADIUS: Operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block. Boom angle 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 MAX-ER 400, 30 Ft. 9 in. crawlers, 48 in. treads, 28 Ft. retractable gantry, 80 Ft. mast, 12 part boom hoist reeving, four 1-1/2 in. boom pendants or boom support straps, no crane counterweight and 400,000 Lb. wheeled counterweight.

Maximum boom length lifted unassisted over side or end = 162 Ft.
Load block, hook and weight ball on ground at start.

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Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
82 Ft. BOOM			
18	83.0	91.1	1,000,000 *
19	82.3	90.9	870,000 *
20	81.6	90.7	865,000 *
21	80.9	90.5	860,000 *
22	80.2	90.3	832,800 *
23	79.5	90.1	798,300 *
24	78.8	89.9	766,400 *
25	78.0	89.7	737,000 *
26	77.3	89.4	709,600 *
28	75.9	88.9	660,300 *
30	74.4	88.3	617,100 *
32	72.9	87.6	579,000 *
34	71.5	86.9	545,100 *
36	70.0	86.1	514,800 *
38	68.4	85.3	487,500 *
40	66.9	84.4	462,800 *
42	65.4	83.4	440,300 *
44	63.8	82.4	419,800 *
46	62.2	81.3	401,000 *
48	60.6	80.1	383,600 *
50	58.9	78.9	367,700 *
55	54.7	75.4	332,600 *
60	50.1	71.2	303,100 *
65	45.3	66.4	260,700 *
70	39.9	60.6	240,400 *
75	33.8	53.4	222,700 *
80	26.5	44.1	207,100 *
102 Ft. BOOM			
21	82.7	110.8	765,000 *
22	82.1	110.7	760,000 *
23	81.6	110.5	755,000 *
24	81.0	110.3	750,000 *
25	80.4	110.1	734,100 *
26	79.8	109.9	706,800 *
28	78.7	109.5	657,500 *
30	77.5	109.0	614,400 *
32	76.4	108.5	576,400 *
34	75.2	107.9	542,500 *
36	74.0	107.3	512,200 *
38	72.9	106.7	485,000 *
40	71.7	106.0	460,300 *
42	70.5	105.2	437,900 *
44	69.3	104.5	417,400 *
46	68.0	103.6	398,600 *
48	66.8	102.7	381,300 *

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
102 Ft. BOOM			
50	65.6	101.8	365,400 *
55	62.4	99.2	330,300 *
60	59.1	96.2	300,900 *
65	55.8	92.8	258,700 *
70	52.2	89.0	238,400 *
75	48.5	84.6	220,800 *
80	44.5	79.6	205,400 *
85	40.2	73.8	189,900
90	35.5	67.0	175,700
95	30.1	58.8	163,100
122 Ft. BOOM			
23	83.0	130.8	680,000 *
24	82.5	130.6	675,000 *
25	82.0	130.4	670,000 *
26	81.5	130.3	665,000 *
28	80.6	129.9	655,500 *
30	79.6	129.5	612,400 *
32	78.7	129.1	574,400 *
34	77.7	128.6	540,600 *
36	76.7	128.1	510,300 *
38	75.8	127.6	483,000 *
40	74.8	127.0	458,400 *
42	73.8	126.4	435,900 *
44	72.8	125.8	415,400 *
46	71.8	125.1	396,600 *
48	70.8	124.4	379,400 *
50	69.8	123.6	363,400 *
55	67.3	121.5	328,400 *
60	64.7	119.1	299,000 *
65	62.0	116.5	256,800 *
70	59.3	113.5	236,600 *
75	56.5	110.2	219,000 *
80	53.6	106.6	203,600 *
85	50.5	102.5	188,700
90	47.4	97.9	174,400
95	44.0	92.8	161,900
100	40.4	87.1	150,800
105	36.5	80.5	140,800
110	32.2	72.8	131,900
115	27.3	63.7	123,700
142 Ft. BOOM			
26	82.7	150.5	600,000 *
28	81.9	150.2	600,000 *
30	81.1	149.9	600,000 *
32	80.3	149.5	573,000 *
34	79.5	149.1	539,200 *
36	78.6	148.7	508,900 *
38	77.8	148.2	481,600 *
40	77.0	147.7	457,000 *
42	76.1	147.2	434,600 *
44	75.3	146.7	414,100 *
46	74.5	146.1	395,300 *
48	73.6	145.5	378,000 *

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
142 Ft. BOOM			
50	72.8	144.8	362,100 *
55	70.6	143.1	327,100 *
60	68.5	141.1	297,700 *
65	66.3	138.9	255,600 *
70	64.0	136.5	235,400 *
75	61.7	133.8	217,800 *
80	59.4	130.9	202,400 *
85	57.0	127.6	188,000
90	54.5	124.1	173,800
95	52.0	120.2	161,200
100	49.3	115.9	150,100
105	46.5	111.2	140,100
110	43.6	106.1	131,200
115	40.6	100.3	123,000
120	37.3	93.9	115,700
125	33.7	86.6	108,900
130	29.8	78.2	102,800
135	25.2	68.1	97,100
162 Ft. BOOM			
28	82.9	170.4	550,000 *
30	82.2	170.1	545,000 *
32	81.5	169.8	540,000 *
34	80.8	169.5	536,700 *
36	80.1	169.1	506,400 *
38	79.3	168.7	479,200 *
40	78.6	168.3	454,600 *
42	77.9	167.8	432,100 *
44	77.2	167.4	411,700 *
46	76.4	166.9	392,900 *
48	75.7	166.3	375,600 *
50	75.0	165.8	359,700 *
55	73.1	164.2	324,700 *
60	71.2	162.5	295,300 *
65	69.4	160.7	253,400 *
70	67.4	158.6	233,300 *
75	65.5	156.3	215,700 *
80	63.5	153.8	200,200 *
85	61.5	151.1	186,400
90	59.5	148.2	172,100
95	57.4	145.0	159,600
100	55.2	141.5	148,400
105	53.0	137.8	138,400
110	50.7	133.7	129,500
115	48.4	129.3	121,400
120	45.9	124.5	114,000
125	43.4	119.3	107,300
130	40.7	113.6	101,100
135	37.8	107.2	95,400
140	34.8	100.2	90,200
145	31.4	92.2	85,300
150	27.8	83.1	80,800