

MANITOWOC ENGINEERING CO.

Division of the Manitowoc Company, Inc. Manitowoc, Wisconsin 54220



LIFTCRANE BOOM CAPACITIES

MEETS
ANSI B30.5
REQUIREMENTS

M-250

BOOM NO. 44 WITH HEAVY LIFT TOP

37 380 kg COUNTERWEIGHT

360 DEGREE RATING

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 (*).

UPPER BOOM POINT CAPACITY FOR LIFTCRANE SERVICE WITH SINGLE PART WHIP LINE IS 13 610 kg OR 27 220 kg WITH TWO PART WHIP LINE. IN ALL CASES, UPPER BOOM POINT CAPACITIES CANNOT EXCEED THOSE LISTED FOR THE 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.

MACHINE TO OPERATE IN A LEVEL POSITION ON A FIRM UNIFORMLY SUPPORTING SURFACE WITH GANTRY UP. REFER TO BOOM RIGGING NO. 172610, WIRE ROPE SPECIFICATION CHART NO. 7581-A AND COUNTERWEIGHT ARRANGEMENT CHART NO. 7692-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.

MACHINE MAY BE OPERATED WITHIN WIND LIMITS SHOWN IN TABLE PROVIDED CRANE OPERATOR JUDGMENT IS USED TO ALLOW FOR WIND EFFECT ON THE LIFTED LOAD AND OTHER CONSIDERATIONS NOTED ON THE CAPACITY CHART ARE FOLLOWED. WIND WILL HAVE A CONSIDERABLE EFFECT ON A LOAD WITH A LARGE 'SAIL AREA' AND MUST BE COMPENSATED FOR ACCORDINGLY BY REDUCING LOAD RATINGS, REDUCING OPERATING SPEEDS OR BY A COMBINATION OF BOTH. RECOMMEND STOPPING OPERATION WHEN WIND EXCEEDS THOSE SHOWN IN TABLE. LOWER BOOM TO GROUND WHEN WIND IS ABOVE 22 m/s.

MACHINE TO TRAVEL ON A FIRM, LEVEL AND UNIFORMLY SUPPORTING SURFACE AND BOOM WITHIN BOOM ANGLE RANGE SHOWN IN CAPACITY CHART.

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 IS VERTICAL DISTANCE FROM GROUND LEVEL TO CENTERLINE OF BOOM POINT SHAFT.

MACHINE EQUIPPED WITH 9 373 mm CRAWLERS, 1 219 mm TREADS, 8 534 mm RETRACTABLE GANTRY, 12 PART BOOM HOIST REEVING, FOUR 38 mm BOOM PENDANTS, AND 37 380 kg COUNTERWEIGHT.

WIND LIMITS DURING OPERATION	
MAXIMUM WIND VELOCITY	BOOM LENGTH
m/s	METERS
13	21.3 - 61.0
11	64.0 - 70.1

MAXIMUM BOOM LENGTHS LIFTED UNASSISTED		
OVER FRONT OF BLOCKED CRAWLERS BOOM LENGTH	OVER REAR OF BLOCKED CRAWLERS BOOM LENGTH	OVER SIDE OF CRAWLERS BOOM LENGTH
70.1m	67.1m	61.0m
LOAD BLOCK, HOOK AND WEIGHT BALL ON GROUND AT START.		

BOOM LENGTH METERS	BOOM LGTH. FEET	OPER. RADIUS METERS	BOOM ANG. DEG.	BOOM POINT ELEV. METERS	BOOM CAPACITY KILOGRAMS	BOOM LENGTH METERS	BOOM LGTH. FEET	OPER. RADIUS METERS	BOOM ANG. DEG.	BOOM POINT ELEV. METERS	BOOM CAPACITY KILOGRAMS
21.3	70	5.5	82.9	23.5	250 000*	24.4	80	6.1	82.4	26.5	218 300
		6.0	81.5	23.4	225 700			6.5	81.4	26.4	188 300
		6.5	80.2	23.3	188 200			7.0	80.2	26.3	160 800
		7.0	78.8	23.2	160 700			7.5	79.0	26.2	140 000
		7.5	77.4	23.1	140 000			8.0	77.8	26.1	123 800
		8.0	76.0	22.9	123 800			8.5	76.6	26.0	110 900
		8.5	74.6	22.8	110 900			9.0	75.4	25.8	100 200
		9.0	73.2	22.6	100 300			10.0	72.9	25.5	83 800
		10.0	70.3	22.2	83 900			11.0	70.4	25.1	71 800
		11.0	67.4	21.8	71 900			12.0	67.8	24.7	62 600
		12.0	64.4	21.3	62 700			13.0	65.2	24.2	55 300
		13.0	61.3	20.7	55 400			14.0	62.6	23.7	49 400
		14.0	58.1	20.1	49 500			15.0	59.8	23.1	44 500
		15.0	54.8	19.4	44 600			16.0	57.0	22.4	40 400
		16.0	51.4	18.5	40 500			18.0	51.1	20.8	33 800
		18.0	43.8	16.6	34 000			20.0	44.5	18.9	28 900
		20.0	34.8	13.9	29 100			22.0	37.0	16.4	25 000
								24.0	27.6	13.0	21 900

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BOOM LENGTH METERS	BOOM LGTH. FEET	OPER. RADIUS METERS	BOOM ANG. DEG.	BOOM POINT ELEV. METERS	BOOM CAPACITY KILOGRAMS
2 7 · 4	9 0	6.4	82.6	29.5	195 100
		6.5	82.4	29.5	188 900
		7.0	81.3	29.4	160 900
		7.5	80.3	29.3	140 100
		8.0	79.2	29.2	123 900
		8.5	78.1	29.1	110 900
		9.0	77.0	29.0	100 200
		10.0	74.9	28.7	83 800
		11.0	72.7	28.4	71 800
		12.0	70.4	28.0	62 500
		13.0	68.2	27.6	55 200
		14.0	65.9	27.1	49 300
		15.0	63.5	26.6	44 400
		16.0	61.1	26.0	40 300
		18.0	56.1	24.7	33 800
		20.0	50.8	23.1	28 800
		22.0	45.0	21.2	25 000
		24.0	38.5	18.8	21 800
3 0 · 5	1 0 0	6.7	82.8	32.6	176 100
		7.0	82.2	32.5	160 900
		7.5	81.2	32.4	140 000
		8.0	80.3	32.3	123 800
		8.5	79.3	32.2	110 800
		9.0	78.4	32.1	100 100
		10.0	76.4	31.9	83 600
		11.0	74.5	31.6	71 600
		12.0	72.5	31.2	62 300
		13.0	70.5	30.9	55 000
		14.0	68.5	30.5	49 100
		15.0	66.4	30.0	44 200
		16.0	64.3	29.5	40 100
		18.0	60.0	28.4	33 500
		20.0	55.4	27.0	28 600
		22.0	50.6	25.4	24 700
		24.0	45.4	23.5	21 600
		26.0	39.7	21.2	19 000
		28.0	33.1	18.3	16 800
3 3 · 5	1 1 0	7.0	82.9	35.6	160 300
		7.5	82.0	35.5	140 000
		8.0	81.2	35.4	123 700
		8.5	80.3	35.3	110 700
		9.0	79.4	35.2	100 100
		10.0	77.7	35.0	83 600
		11.0	75.9	34.7	71 500
		12.0	74.1	34.4	62 200
		13.0	72.3	34.1	54 900
		14.0	70.5	33.8	49 000
		15.0	68.7	33.3	44 100
		16.0	66.8	32.9	39 900
		18.0	63.0	31.9	33 400
		20.0	59.0	30.7	28 500
		22.0	54.9	29.3	24 600
		24.0	50.5	27.7	21 400
		26.0	45.8	25.8	18 800
		28.0	40.6	23.6	16 600
		30.0	34.9	20.9	14 800
		32.0	28.0	17.4	13 200
3 6 · 6	1 2 0	7.3	83.0	38.6	147 000
		7.5	82.7	38.6	140 100
		8.0	81.9	38.5	123 600
		8.5	81.1	38.4	110 600
		9.0	80.3	38.3	99 900
		10.0	78.7	38.1	83 400
		11.0	77.1	37.9	71 300
		12.0	75.5	37.6	62 000
		13.0	73.9	37.3	54 700
		14.0	72.2	37.0	48 700
		15.0	70.5	36.6	43 800
		16.0	68.9	36.2	39 700
		18.0	65.4	35.3	33 100
		20.0	61.9	34.3	28 200
		22.0	58.2	33.1	24 300
		24.0	54.4	31.7	21 100
		26.0	50.4	30.0	18 600
		28.0	46.1	28.2	16 400
		30.0	41.4	26.0	14 500
		32.0	36.3	23.4	13 000
		34.0	30.3	20.1	11 600
3 9 · 6	1 3 0	7.9	82.7	41.6	125 900
		8.0	82.6	41.6	123 800
		8.5	81.8	41.5	110 600
		9.0	81.1	41.4	99 900
		10.0	79.6	41.3	83 400
		11.0	78.1	41.0	71 300
		12.0	76.6	40.8	62 000
		13.0	75.1	40.5	54 700
		14.0	73.6	40.2	48 700
		15.0	72.1	39.9	43 800
		16.0	70.6	39.5	39 700
		18.0	67.4	38.7	33 100
		20.0	64.2	37.7	28 200
		22.0	60.9	36.6	24 200
		24.0	57.5	35.4	21 100
		26.0	54.0	34.0	18 500
		28.0	50.3	32.3	16 300
		30.0	46.3	30.5	14 500
		32.0	42.0	28.3	12 900
		34.0	37.4	25.8	11 600
		36.0	32.2	22.8	10 300
		38.0	25.9	19.0	9 300
4 2 · 7	1 4 0	8.2	82.8	44.7	117 200
		8.5	82.4	44.6	110 500
		9.0	81.7	44.5	99 800
		10.0	80.4	44.4	83 200
		11.0	79.0	44.2	71 100
		12.0	77.6	43.9	61 800
		13.0	76.2	43.7	54 400
		14.0	74.8	43.4	48 500
		15.0	73.4	43.1	43 500
		16.0	72.0	42.8	39 400
		18.0	69.1	42.0	32 800
		20.0	66.2	41.1	27 900
		22.0	63.2	40.1	24 000
		24.0	60.1	39.0	20 800
		26.0	56.9	37.7	18 200
		28.0	53.6	36.3	16 100
		30.0	50.2	34.6	14 200
		32.0	46.5	32.8	12 600
		34.0	42.6	30.7	11 300
		36.0	38.3	28.2	10 000
		38.0	33.6	25.3	9 000

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BOOM LENGTH METERS	BOOM LGTH. FEET	OPER. RADIUS METERS	BOOM ANG. DEG.	BOOM POINT ELEV. METERS	BOOM CAPACITY KILOGRAMS
4 5 7	1 5 0	8.5	82.9	47.7	109 500
		9.0	82.3	47.6	99 600
		10.0	81.0	47.5	83 100
		11.0	79.7	47.3	70 900
		12.0	78.5	47.1	61 600
		13.0	77.2	46.8	54 300
		14.0	75.9	46.6	48 300
		15.0	74.6	46.3	43 400
		16.0	73.3	46.0	39 200
		18.0	70.6	45.3	32 600
		20.0	67.9	44.5	27 700
		22.0	65.2	43.6	23 700
		24.0	62.3	42.5	20 600
		26.0	59.4	41.4	18 000
		28.0	56.4	40.0	15 800
		30.0	53.3	38.6	14 000
		32.0	50.1	36.9	12 400
		34.0	46.7	35.1	11 000
		36.0	43.0	33.0	9 800
		38.0	39.1	30.6	8 800
4 8 8	1 6 0	40.0	34.9	27.8	7 800
		42.0	30.1	24.6	6 900
		8.8	83.0	50.7	102 700
		9.0	82.8	50.7	99 500
		10.0	81.6	50.6	82 800
		11.0	80.4	50.4	70 700
		12.0	79.2	50.2	61 400
		13.0	78.0	50.0	54 000
		14.0	76.8	49.7	48 000
		15.0	75.6	49.4	43 100
		16.0	74.3	49.2	38 900
		18.0	71.9	48.5	32 300
		20.0	69.4	47.8	27 400
		22.0	66.8	46.9	23 400
		24.0	64.2	46.0	20 300
		26.0	61.5	44.9	17 700
		28.0	58.8	43.7	15 500
		30.0	56.0	42.4	13 700
		32.0	53.1	40.9	12 100
		34.0	50.0	39.2	10 700
5 1 8	1 7 0	36.0	46.8	37.4	9 500
		38.0	43.4	35.3	8 400
		40.0	39.8	33.0	7 400
		42.0	35.9	30.3	6 600
		44.0	31.6	27.2	5 800
		9.1	83.0	53.8	96 700
		10.0	82.1	53.6	82 800
		11.0	81.0	53.5	70 600
		12.0	79.8	53.3	61 300
		13.0	78.7	53.1	53 900
		14.0	77.6	52.9	48 000
		15.0	76.4	52.6	43 000
		16.0	75.3	52.3	38 900
		18.0	73.0	51.7	32 300
		20.0	70.6	51.0	27 300
		22.0	68.3	50.2	23 400
		24.0	65.8	49.4	20 200
		26.0	63.4	48.4	17 700
		28.0	60.8	47.3	15 500
5 1 8	1 7 0	30.0	58.3	46.0	13 600
		32.0	55.6	44.7	12 000
		34.0	52.8	43.2	10 700
		36.0	50.0	41.5	9 500
		38.0	47.0	39.7	8 400
		40.0	43.8	37.7	7 400
		42.0	40.4	35.4	6 500
		44.0	36.8	32.8	5 800
		46.0	32.8	29.8	5 100
		48.0	28.4	26.3	4 400
5 4 9	1 8 0	9.8	82.8	56.8	86 300
		10.0	82.5	56.7	82 900
		11.0	81.5	56.6	70 500
		12.0	80.4	56.4	61 100
		13.0	79.3	56.2	53 700
		14.0	78.3	56.0	47 700
		15.0	77.2	55.7	42 800
		16.0	76.1	55.5	38 600
		18.0	74.0	54.9	32 000
		20.0	71.8	54.3	27 000
		22.0	69.5	53.5	23 100
		24.0	67.3	52.7	19 900
		26.0	65.0	51.8	17 300
		28.0	62.6	50.7	15 200
		30.0	60.2	49.6	13 300
		32.0	57.8	48.4	11 700
		34.0	55.2	47.0	10 300
		36.0	52.6	45.5	9 100
		38.0	49.9	43.8	8 100
		40.0	47.1	42.0	7 100
5 7 9	1 9 0	42.0	44.1	40.0	6 300
		44.0	41.0	37.7	5 500
		46.0	37.6	35.2	4 800
		48.0	33.9	32.3	4 100
		50.0	29.9	29.0	3 500
		10.4	82.6	59.7	77 600
		11.0	81.9	59.7	70 200
		12.0	80.9	59.5	60 900
		13.0	79.9	59.3	53 500
		14.0	78.9	59.1	47 500
		15.0	77.9	58.9	42 600
		16.0	76.9	58.6	38 400
		18.0	74.8	58.1	31 800
		20.0	72.8	57.5	26 800
		22.0	70.7	56.8	22 900
		24.0	68.5	56.0	19 700
		26.0	66.4	55.1	17 100
		28.0	64.2	54.2	14 900
		30.0	61.9	53.1	13 100
		32.0	59.7	52.0	11 500
5 7 9	1 9 0	34.0	57.3	50.7	10 100
		36.0	54.9	49.3	8 900
		38.0	52.4	47.8	7 800
		40.0	49.9	46.1	6 900
		42.0	47.2	44.3	6 000
		44.0	44.4	42.3	5 200
		46.0	41.4	40.1	4 500
		48.0	38.3	37.6	3 900
		50.0	34.9	34.8	3 300
		52.0	31.2	31.6	2 800

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BOOM LENGTH METERS	BOOM LGTH. FEET	OPER. RADIUS METERS	BOOM ANG. DEG.	BOOM POINT ELEV. METERS	BOOM CAPACITY KILOGRAMS
6 1 0	2 0 0	10.4	82.9	62.8	77 400
		11.0	82.3	62.7	70 100
		12.0	81.4	62.6	60 700
		13.0	80.4	62.4	53 300
		14.0	79.5	62.2	47 300
		15.0	78.5	62.0	42 300
		16.0	77.5	61.8	38 100
		18.0	75.6	61.3	31 500
		20.0	73.6	60.7	26 500
		22.0	71.7	60.0	22 600
		24.0	69.7	59.3	19 400
		26.0	67.6	58.5	16 800
		28.0	65.6	57.6	14 600
		30.0	63.5	56.6	12 800
		32.0	61.3	55.5	11 200
		34.0	59.2	54.3	9 800
		36.0	56.9	53.0	8 600
		38.0	54.6	51.6	7 500
		40.0	52.3	50.1	6 500
		42.0	49.8	48.4	5 700
		44.0	47.3	46.6	4 900
		46.0	44.6	44.6	4 200
		48.0	41.8	42.4	3 600
		50.0	38.9	40.0	3 000
		52.0	35.7	37.3	2 400
6 4 0	2 1 0	11.0	82.7	65.8	70 300
		12.0	81.8	65.7	60 600
		13.0	80.9	65.5	53 200
		14.0	80.0	65.3	47 200
		15.0	79.1	65.1	42 200
		16.0	78.1	64.9	38 000
		18.0	76.3	64.4	31 400
		20.0	74.4	63.9	26 400
		22.0	72.6	63.2	22 500
		24.0	70.7	62.5	19 300
		26.0	68.8	61.8	16 700
		28.0	66.8	60.9	14 500
		30.0	64.8	60.0	12 700
		32.0	62.8	59.0	11 100
		34.0	60.8	57.9	9 700
		36.0	58.7	56.7	8 500
		38.0	56.6	55.4	7 400
		40.0	54.4	53.9	6 400
		42.0	52.1	52.4	5 600
		44.0	49.8	50.7	4 800
		46.0	47.4	48.9	4 100
		48.0	44.8	46.9	3 400
		50.0	42.2	44.8	2 800
		52.0	39.4	42.4	2 300
6 7 1	2 2 0	11.6	82.5	68.8	64 000
		12.0	82.2	68.7	60 400
		13.0	81.3	68.6	52 900
		14.0	80.4	68.4	46 900
		15.0	79.6	68.2	42 000
		16.0	78.7	68.0	37 800
		18.0	76.9	67.6	31 100
		20.0	75.2	67.0	26 100
		22.0	73.4	66.4	22 200
		24.0	71.6	65.8	19 000
		26.0	69.8	65.1	16 400
		28.0	67.9	64.2	14 200
		30.0	66.1	63.4	12 300
		32.0	64.2	62.4	10 700
		34.0	62.2	61.4	9 300
		36.0	60.3	60.2	8 200
		38.0	58.3	59.0	7 100
		40.0	56.2	57.7	6 100
		42.0	54.1	56.3	5 300
		44.0	52.0	54.7	4 500
		46.0	49.7	53.0	3 800
		48.0	47.4	51.2	3 100
		50.0	45.0	49.3	2 500