

# MANITOWOC ENGINEERING CO.

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



## LIFTCRANE CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

## M-50W

**BOOM NO. 45A**  
**26,700 LB. COUNTERWEIGHT**  
**19'6" CRAWLERS EXTENDED**  
**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 15,000 LBS. IN ALL CASES, UPPER BOOM POINT CAPACITIES CANNOT EXCEED THOSE LISTED FOR THE MAIN BOOM CAPACITY.

WEIGHT OF JIB, ALL LOAD BLOCKS, HOOKS, WEIGHT BALL, SLINGS, HOIST LINES, ETC., BENEATH BOOM AND JIB POINT SHEAVES, IS CONSIDERED PART OF THE 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 CRAWLERS FULLY EXTENDED (14'6") AND GANTRY UP. REFER TO RIGGING NO. 168234 (WITH 45A TOP) OR 170130 AND WIRE ROPE SPECIFICATION CHART NO. 7529-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 IN WINDS UP TO 15 MPH 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 IS ABOVE 15 MPH AND TIEING OFF OR LOWERING BOOM WHEN WIND IS ABOVE 35 MPH.

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

OPERATING RADIUS IS THE HORIZONTAL DISTANCE FROM THE AXIS OF ROTATION TO THE CENTER OF VERTICAL HOIST LINE OR LOAD BLOCK. BOOM ANGLE IS THE 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 19'6" EXTENDIBLE CRAWLERS, 30" OR 36" TREADS, 17' RETRACTABLE GANTRY, 10 PART BOOM HOIST REEVING, TWO 1-1/8" BOOM PENDANTS, 1ST COUNTERWEIGHT = 21,200 LBS., 2ND COUNTERWEIGHT = 5,500 LBS.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED				DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED	
OVER END OF BLOKCKED CRAWLERS		OVER SIDE OF EXTENDED CRAWLERS			
BOOM LGTH.	JIB NO. 130	BOOM LGTH.	JIB NO. 130	JIB LGTH.	JIB NO. 130
180'	---	170'	---	30'	1,800 LBS.
170'	---	160'	---	40'	2,200 LBS.
160'	40'	150'	---	50'	2,600 LBS.
150'	60'	140'	40'	60'	3,100 LBS.
		130'	60'		

LOAD BLOCK, HOOK AND WEIGHT BALL ON GROUND AT START.

CONSULT JIB CHART FOR JIB CAPACITIES.

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
<b>40</b>	12	78.4	44.4	120,000*	<b>50</b>	12	80.8	54.6	119,400*	<b>60</b>	13	81.4	64.5	105,000*
	13	77.0	44.1	111,500		13	79.6	54.4	111,400*		14	80.4	64.4	96,800
	14	75.5	43.8	96,900		14	78.4	54.2	96,900		15	79.4	64.2	85,500
	15	74.0	43.6	85,700		15	77.3	53.9	85,600		16	78.4	64.0	76,500
	16	72.5	43.2	76,700		16	76.1	53.7	76,600		17	77.5	63.7	69,200
	17	71.0	42.9	69,400		17	74.9	53.4	69,300		18	76.5	63.5	63,100
	18	69.4	42.5	63,400		18	73.7	53.1	63,200		19	75.5	63.2	58,000
	19	67.9	42.1	58,300		19	72.5	52.8	58,100		20	74.5	62.9	53,600
	20	66.3	41.6	53,900		20	71.3	52.4	53,800		21	73.5	62.6	49,800
	21	64.7	41.1	50,100		21	70.1	52.1	50,000		22	72.5	62.3	46,500
	22	63.1	40.6	46,800		22	68.8	51.7	46,700		23	71.5	62.0	43,600
	23	61.5	40.1	43,900		23	67.6	51.2	43,800		24	70.5	61.6	41,000
	24	59.8	39.5	41,300		24	66.3	50.8	41,200		25	69.5	61.2	38,700
	25	58.1	38.9	39,000		25	65.1	50.3	38,900		26	68.4	60.8	36,600
	26	56.4	38.2	37,000		26	63.8	49.8	36,800		27	67.4	60.4	34,800
	27	54.6	37.5	35,100		27	62.5	49.3	34,900		28	66.3	60.0	33,100
28	52.8	36.7	33,400	28	61.2	48.7	33,200	29	65.3	59.5	31,500			
29	51.0	35.9	31,800	29	59.9	48.2	31,700	30	64.2	59.0	30,100			
30	49.1	35.0	30,400	30	58.5	47.5	30,300	32	62.1	58.0	27,600			
32	45.1	33.1	27,900	32	55.7	46.2	27,800	34	59.9	56.8	25,400			
34	40.8	30.8	25,800	34	52.9	44.7	25,600	36	57.6	55.6	23,600			
36	36.0	28.2	23,900	36	49.9	43.1	23,700	38	55.3	54.2	21,900			
38	30.7	25.0	22,300	38	46.8	41.2	22,100	40	52.9	52.7	20,500			
40	24.2	21.0	20,800	40	43.5	39.2	20,700	45	46.6	48.4	17,600			
				45	34.2	32.7	17,700	50	39.5	42.8	15,300			
				50	21.5	22.9	15,500	55	31.0	35.6	13,500			
								60	19.5	24.6	12,000			

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REQUIREMENTS

## M-50W

**BOOM NO. 45A**  
**26,700 LB. COUNTERWEIGHT**  
**19'6" CRAWLERS EXTENDED**  
**360 DEGREE RATING**

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
<b>70</b>	14	81.8	74.5	95,600*	<b>90</b>	36	69.1	89.1	23,100	<b>120</b>	21	81.9	124.0	49,100
	15	81.0	74.3	85,400		38	67.8	88.3	21,500		22	81.4	123.8	45,800
	16	80.1	74.2	76,400		40	66.4	87.5	20,100		23	80.9	123.7	42,800
	17	79.3	74.0	69,100		45	62.8	85.0	17,100		24	80.4	123.5	40,200
	18	78.4	73.7	63,000		50	59.2	82.2	14,800		25	79.9	123.3	37,900
	19	77.6	73.5	57,900		55	55.4	78.9	13,000		26	79.4	123.1	35,800
	20	76.8	73.3	53,500		60	51.4	75.1	11,500		27	78.9	122.9	33,900
	21	75.9	73.0	49,700		65	47.1	70.7	10,300		28	78.5	122.7	32,200
	22	75.1	72.8	46,400		70	42.6	65.6	9,300		29	78.0	122.5	30,600
	23	74.2	72.5	43,500		75	37.6	59.6	8,400		30	77.5	122.3	29,200
	24	73.4	72.2	40,900		80	31.9	52.2	7,600		32	76.5	121.8	26,700
	25	72.5	71.8	38,600		85	25.1	42.8	7,000		34	75.5	121.3	24,500
	26	71.6	71.5	36,500		90	15.8	29.0	6,400		36	74.5	120.8	22,600
	27	70.8	71.2	34,600							38	73.5	120.2	21,000
28	69.9	70.8	32,900					40	72.5	119.5	19,600			
<b>100</b>	29	69.0	70.4	31,400	<b>100</b>	18	81.9	104.2	62,700	<b>130</b>	45	70.0	117.8	16,600
	30	68.1	70.0	29,900		19	81.4	104.1	57,500		50	67.4	115.8	14,300
	32	66.4	69.1	27,400		20	80.8	103.9	53,100		55	64.8	113.6	12,500
	34	64.5	68.2	25,300		21	80.2	103.7	49,300		60	62.1	111.0	11,000
	36	62.7	67.2	23,400		22	79.6	103.5	46,000		65	59.4	108.2	9,800
	38	60.8	66.1	21,800		23	79.0	103.4	43,100		70	56.6	105.0	8,800
	40	58.9	64.9	20,300		24	78.5	103.1	40,500		75	53.6	101.5	7,900
	45	54.0	61.5	17,400		25	77.9	102.9	38,200		80	50.6	97.5	7,100
	50	48.7	57.4	15,100		26	77.3	102.7	36,100		85	47.4	93.1	6,400
	55	42.9	52.4	13,300		27	76.7	102.5	34,200		90	44.0	88.2	5,900
	60	36.4	46.2	11,800		28	76.1	102.2	32,500		95	40.5	82.6	5,300
	65	28.6	38.2	10,600		29	75.5	101.9	30,900		100	36.6	76.2	4,900
	70	18.0	26.2	9,600		30	74.9	101.7	29,500		105	32.3	68.8	4,500
						32	73.7	101.1	27,000		110	27.5	60.0	4,100
				34	72.5	100.5	24,800	115	21.7	48.9	3,700			
				36	71.3	99.8	23,000							
				38	70.1	99.1	21,300							
				40	68.9	98.3	19,900							
				45	65.7	96.2	16,900	22	82.0	134.0	45,600			
				50	62.6	93.7	14,600	23	81.6	133.8	42,700			
				55	59.3	90.9	12,800	24	81.1	133.7	40,100			
				60	55.8	87.6	11,400	25	80.7	133.5	37,800			
				65	52.3	83.9	10,100	26	80.3	133.3	35,700			
				70	48.5	79.7	9,100	27	79.8	133.1	33,800			
				75	44.6	74.9	8,200	28	79.4	132.9	32,100			
				80	40.3	69.3	7,500	29	78.9	132.7	30,500			
				85	35.6	62.8	6,800	30	78.5	132.5	29,100			
				90	30.2	54.9	6,200	32	77.6	132.1	26,500			
				95	23.8	44.9	5,700	34	76.6	131.6	24,400			
								36	75.7	131.1	22,500			
								38	74.8	130.6	20,800			
								40	73.9	130.0	19,400			
								45	71.6	128.4	16,400			
								50	69.3	126.6	14,200			
								55	66.9	124.6	12,300			
								60	64.4	122.3	10,900			
								65	62.0	119.7	9,600			
								70	59.4	116.8	8,600			
								75	56.8	113.7	7,700			
								80	54.1	110.2	6,900			
								85	51.4	106.3	6,300			
								90	48.5	102.1	5,700			
								95	45.4	97.4	5,200			
								100	42.2	92.1	4,700			
								105	38.8	86.1	4,300			
								110	35.1	79.4	3,900			
								115	31.0	71.6	3,600			
								120	26.4	62.3	3,200			
								125	20.8	50.7	3,000			
<b>110</b>	17	81.7	94.3	68,900	<b>110</b>	30	76.3	112.0	29,300					
	18	81.0	94.1	62,800		32	75.2	111.5	26,800					
	19	80.4	93.9	57,700		34	74.2	110.9	24,600					
	20	79.8	93.7	53,300		36	73.1	110.3	22,800					
	21	79.1	93.6	49,500		38	72.0	109.7	21,100					
	22	78.5	93.3	46,200		40	70.9	109.0	19,700					
	23	77.8	93.1	43,200		45	68.1	107.1	16,700					
	24	77.1	92.9	40,700		50	65.2	104.9	14,400					
	25	76.5	92.6	38,300		55	62.3	102.4	12,600					
	26	75.8	92.4	36,300		60	59.3	99.5	11,100					
	27	75.2	92.1	34,400		65	56.2	96.3	9,900					
	28	74.5	91.8	32,700		70	53.0	92.7	8,900					
	29	73.9	91.6	31,100		75	49.7	88.6	8,000					
	30	73.2	91.2	29,700		80	46.1	84.1	7,200					
32	71.8	90.6	27,200	85	42.4	78.8	6,600							
34	70.5	89.9	25,000	90	38.3	72.9	6,000							
				95	33.8	65.9	5,500							
				100	28.8	57.5	5,000							
				105	22.7	46.9	4,600							

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<b>140</b>	24	81.8	143.8	39,900	<b>160</b>	27	81.7	163.6	32,000*	<b>180</b>	30	81.7	183.3	23,900*
	25	81.4	143.6	37,600		28	81.4	163.4	31,600		32	81.0	183.0	23,700*
	26	81.0	143.5	35,500		29	81.0	163.2	30,100		34	80.4	182.7	23,600*
	27	80.5	143.3	33,600		30	80.6	163.1	28,600		36	79.8	182.3	21,700
	28	80.1	143.1	31,900		32	79.9	162.7	26,100		38	79.1	181.9	20,100
	29	79.7	142.9	30,300		34	79.2	162.3	23,900		40	78.5	181.5	18,600
	30	79.3	142.7	28,900		36	78.5	161.9	22,000		45	76.8	180.4	15,600
	32	78.5	142.3	26,300		38	77.7	161.5	20,400		50	75.2	179.1	13,400
	34	77.6	141.9	24,200		40	77.0	161.0	18,900		55	73.5	177.7	11,500
	36	76.8	141.4	22,300		45	75.1	159.8	16,000		60	71.9	176.1	10,000
	38	75.9	140.9	20,700		50	73.3	158.3	13,700		65	70.2	174.4	8,800
	40	75.1	140.4	19,200		55	71.4	156.7	11,900		70	68.5	172.5	7,800
	45	73.0	138.9	16,200		60	69.5	154.9	10,400		75	66.7	170.4	6,900
	50	70.8	137.3	13,900		65	67.6	152.9	9,100		80	65.0	168.1	6,100
	55	68.6	135.4	12,100		70	65.6	150.7	8,100		85	63.2	165.7	5,400
	60	66.4	133.3	10,600		75	63.6	148.3	7,200		90	61.4	163.0	4,800
	65	64.1	130.9	9,400		80	61.6	145.7	6,400		95	59.6	160.1	4,300
	70	61.8	128.4	8,400		85	59.5	142.8	5,800		100	57.7	157.1	3,900
	75	59.5	125.5	7,500		90	57.4	139.7	5,200		105	55.8	153.8	3,400
	80	57.1	122.4	6,700		95	55.3	136.4	4,700		110	53.9	150.2	3,100
85	54.6	118.9	6,100	100	53.1	132.7	4,200	115	51.9	146.4	2,700			
90	52.0	115.2	5,500	105	50.8	128.7	3,800							
95	49.4	111.0	5,000	110	48.4	124.4	3,400							
100	46.6	106.4	4,500	115	46.0	119.8	3,000							
105	43.7	101.4	4,100	120	43.4	114.7	2,700							
110	40.6	95.8	3,700											
115	37.3	89.6	3,300											
120	33.8	82.5	3,000											
125	29.9	74.3	2,700											
130	25.4	64.6	2,500											
<b>150</b>	25	81.9	153.7	37,200*	<b>170</b>	29	81.5	173.4	27,400*					
	26	81.6	153.6	35,400		30	81.2	173.2	27,300*					
	27	81.2	153.4	33,500		32	80.5	172.9	25,900					
	28	80.8	153.3	31,800		34	79.8	172.5	23,700					
	29	80.4	153.1	30,200		36	79.1	172.1	21,800					
	30	80.0	152.9	28,800		38	78.5	171.7	20,200					
	32	79.2	152.5	26,200		40	77.8	171.3	18,700					
	34	78.5	152.1	24,100		45	76.0	170.1	15,800					
	36	77.7	151.7	22,200		50	74.3	168.8	13,500					
	38	76.9	151.2	20,600		55	72.5	167.2	11,600					
	40	76.1	150.7	19,100		60	70.8	165.6	10,200					
	45	74.1	149.4	16,100		65	69.0	163.7	8,900					
	50	72.1	147.8	13,800		70	67.1	161.6	7,900					
	55	70.1	146.1	12,000		75	65.3	159.4	7,000					
	60	68.1	144.2	10,500		80	63.4	157.0	6,200					
	65	66.0	142.0	9,300		85	61.5	154.3	5,600					
	70	63.9	139.6	8,300		90	59.6	151.5	5,000					
	75	61.7	137.0	7,400		95	57.6	148.4	4,400					
	80	59.5	134.2	6,600		100	55.6	145.1	4,000					
	85	57.3	131.0	6,000		105	53.5	141.5	3,600					
90	54.9	127.6	5,400	110	51.3	137.6	3,200							
95	52.6	123.9	4,800	115	49.1	133.4	2,800							
100	50.1	119.9	4,400	120	46.9	128.8	2,500							
105	47.6	115.5	4,000											
110	44.9	110.6	3,600											
115	42.1	105.3	3,200											
120	39.2	99.4	2,900											
125	36.0	92.8	2,600											

