

**MANITOWOC ENGINEERING CO.**

Divtston of The Manittowoc Company, Inc. Manittowoc, Wtscnstrn 54220

**LIFTCRANE CAPACITIES****BOOM NO. 42 WITH OPEN THROAT TOP
53,300 LB. COUNTERWEIGHT
22'4" CRAWLERS EXTENDED
360 DEGREE RATING**MEETS
ANSI B30.5
REQUIREMENTS**M-80W**

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 20,000 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 AND GANTRY UP. REFER TO BOOM RIGGING NO. 164238 AND WIRE ROPE SPECIFICATION CHART NO. 7487-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 22'4" EXTENDIBLE CRAWLERS, 30" OR 36" TREADS, 15'6" RETRACTABLE GANTRY, 10 PART BOOM HOIST REEVING, TWO 1-1/4" BOOM PENDANTS, 1ST COUNTERWEIGHT = 28,500 LBS., AND 2ND COUNTERWEIGHT = 24,800 LBS.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED				DEDUCT FROM CAPACITIES	
OVER END OF CRAWLERS		OVER SIDE OF EXTENDED CRAWLERS		WHEN JIB IS ATTACHED	
BM. LGTH.	JIB NO. 128	BM. LGTH.	JIB NO. 128	JIB LGTH.	JIB NO. 128
200'	---	200'	---	30'	1,700 LBS.
190'	40'	190'	40'	40'	2,100 LBS.
180'	60'	180'	60'	50'	2,600 LBS.
LOAD BLOCK, HOOK AND WEIGHT BALL ON GROUND AT START.				60'	3,100 LBS.

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
40	12	77.8	44.5	176,400*	50	12	80.2	54.7	153,800*	60	12	81.9	64.8	145,400*
	13	76.3	44.2	162,600*		13	79.1	54.5	149,400*		13	80.9	64.6	140,900*
	14	74.8	44.0	151,000*		14	77.9	54.3	145,200*		14	79.9	64.5	136,800*
	15	73.3	43.7	140,900*		15	76.7	54.0	140,900*		15	79.0	64.3	132,900*
	16	71.8	43.3	132,100*		16	75.5	53.8	132,100*		16	78.0	64.1	129,300*
	17	70.3	43.0	124,400*		17	74.4	53.5	124,400*		17	77.0	63.8	124,400*
	18	68.8	42.6	115,000		18	73.2	53.2	114,800		18	76.0	63.6	114,700
	19	67.2	42.2	105,100		19	72.0	52.9	105,000		19	75.0	63.3	104,800
	20	65.6	41.7	96,800		20	70.7	52.5	96,700		20	74.1	63.0	96,500
	22	62.4	40.7	83,500		22	68.3	51.8	83,300		22	72.1	62.4	83,200
	24	59.1	39.6	73,300		24	65.8	50.9	73,200		24	70.0	61.7	73,000
	26	55.7	38.3	65,300		26	63.2	49.9	65,200		26	68.0	60.9	65,000
	28	52.1	36.8	58,900		28	60.6	48.9	58,700		28	65.9	60.1	58,500
	30	48.4	35.1	53,500		30	58.0	47.6	53,300		30	63.8	59.1	53,100
	32	44.4	33.2	49,000		32	55.2	46.3	48,800		32	61.6	58.1	48,600
	34	40.1	30.9	45,200		34	52.3	44.8	45,000		34	59.4	56.9	44,800
36	35.4	28.3	41,900	36	49.4	43.2	41,700	36	57.2	55.7	41,500			
38	30.0	25.1	39,000	38	46.3	41.3	38,800	38	54.9	54.3	38,600			
40	23.5	21.1	36,500	40	43.0	39.3	36,300	40	52.5	52.8	36,100			
				45	33.6	32.8	31,200	45	46.1	48.5	30,900			
				50	20.9	23.0	27,200	50	39.0	43.0	27,000			
								55	30.6	35.7	23,900			
								60	19.0	24.7	21,300			

NOTE: This capacity chart is for reference use only and must not be used for a specific serial number crane. Serial numbered laminated capacity charts for a specific crane can be purchased from an authorized Manitowoc Distributor.



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LIFT CRANE CAPACITIES

MEETS
ANSI B30.5
REQUIREMENTS

M-80W

BOOM NO. 42 WITH OPEN THROAT TOP
53,300 LB. COUNTERWEIGHT
22'4" 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	
70	14	81.4	74.6	128,600*	90	17	81.4	94.4	104,500*	110	70	52.8	92.8	16,500	
	15	80.6	74.5	124,900*		18	80.7	94.2	101,800*		75	49.4	88.8	15,000	
	16	79.7	74.3	121,300*		19	80.1	94.1	99,100*		80	45.9	84.2	13,700	
	17	78.9	74.1	118,100*		20	79.5	93.9	96,100		85	42.1	79.0	12,600	
	18	78.1	73.9	114,600		22	78.2	93.5	82,700		90	38.1	73.0	11,600	
	19	77.2	73.6	104,700		24	76.8	93.0	72,500		95	33.6	66.0	10,700	
	20	76.4	73.4	96,400		26	75.5	92.5	64,400		100	28.5	57.6	9,900	
	22	74.7	72.9	83,000		28	74.2	92.0	57,900		105	22.4	47.1	9,200	
	24	73.0	72.3	72,800		30	72.9	91.4	52,600		120	22	81.1	124.0	77,000*
	26	71.3	71.6	64,800		32	71.5	90.7	48,000			24	80.2	123.6	72,000
	28	69.5	70.9	58,300		34	70.2	90.0	44,200			26	79.2	123.3	64,000
	30	67.8	70.1	53,000		36	68.8	89.3	40,900			28	78.2	122.9	57,400
	32	66.0	69.2	48,500		38	67.5	88.4	38,000			30	77.3	122.4	52,100
	34	64.2	68.3	44,600		40	66.1	87.6	35,500			32	76.3	121.9	47,500
36	62.3	67.3	41,300	45	62.5	85.1	30,300	34	75.3	121.4		43,700			
38	60.5	66.2	38,400	50	58.9	82.3	26,400	36	74.3	120.9		40,400			
40	58.6	65.0	35,900	55	55.1	79.0	23,200	38	73.3	120.3		37,500			
45	53.6	61.6	30,800	60	51.1	75.2	20,700	40	72.3	119.7		35,000			
50	48.3	57.5	26,800	65	46.8	70.9	18,600	45	69.8	117.9		29,800			
55	42.5	52.5	23,700	70	42.3	65.7	16,800	50	67.2	115.9		25,800			
60	36.0	46.3	21,200	75	37.3	59.7	15,300	55	64.6	113.7		22,700			
65	28.3	38.3	19,100	80	31.6	52.3	14,000	60	61.9	111.1		20,100			
70	17.6	26.3	17,300	85	24.8	42.9	12,900	65	59.2	108.3	18,000				
80	15	81.8	84.6	117,500*	100	18	81.7	104.4	97,600*	130	70	56.3	105.1	16,300	
	16	81.0	84.4	114,200*		19	81.1	104.2	95,100*		75	53.4	101.6	14,700	
	17	80.3	84.3	111,100*		20	80.5	104.0	92,700*		80	50.4	97.6	13,400	
	18	79.6	84.1	108,100*		22	79.4	103.7	82,600		85	47.2	93.2	12,300	
	19	78.8	83.9	104,600		24	78.2	103.3	72,400		90	43.8	88.3	11,300	
	20	78.1	83.7	96,200		26	77.0	102.8	64,300		95	40.2	82.7	10,400	
	22	76.6	83.2	82,800		28	75.8	102.3	57,800		100	36.4	76.3	9,600	
	24	75.2	82.7	72,600		30	74.6	101.8	52,500		105	32.1	68.9	8,900	
	26	73.7	82.1	64,600		32	73.5	101.2	47,900		110	27.3	60.1	8,300	
	28	72.2	81.5	58,100		34	72.3	100.6	44,100		115	21.4	49.0	7,700	
	30	70.7	80.8	52,700		36	71.0	99.9	40,800		100	22	81.8	134.1	70,800*
	32	69.1	80.1	48,200		38	69.8	99.2	37,900			24	80.9	133.8	68,900*
	34	67.6	79.3	44,400		40	68.6	98.4	35,400			26	80.0	133.4	63,800
	36	66.0	78.4	41,100		45	65.5	96.3	30,200			28	79.1	133.1	57,300
38	64.4	77.5	38,200	50	62.3	93.8	26,300	30	78.2	132.7		51,900			
40	62.8	76.5	35,700	55	59.0	91.0	23,100	32	77.3	132.2		47,300			
45	58.7	73.6	30,500	60	55.6	87.7	20,600	34	76.4	131.7		43,500			
50	54.4	70.3	26,600	65	52.0	84.1	18,500	36	75.5	131.2		40,200			
55	49.9	66.4	23,400	70	48.3	79.8	16,700	38	74.6	130.7		37,300			
60	45.0	61.8	20,900	75	44.3	75.0	15,200	40	73.7	130.1		34,700			
65	39.6	56.2	18,800	80	40.0	69.5	13,900	45	71.4	128.5		29,600			
70	33.6	49.4	17,000	85	35.3	62.9	12,800	50	69.0	126.7		25,600			
75	26.4	40.7	15,500	90	29.9	55.1	11,800	55	66.7	124.7		22,500			
80	16.4	27.7	14,200	95	23.5	45.0	10,900	60	64.2	122.4		19,900			
110	19	81.9	114.3	88,500*	110	70	59.2	117.0	16,000	130	75	56.6	113.8	14,500	
	20	81.4	114.2	87,200*		75	56.6	113.8	14,500		80	53.9	110.3	13,200	
	22	80.3	113.8	82,500		80	53.9	110.3	13,200		85	51.1	106.5	12,100	
	24	79.3	113.5	72,200		85	51.1	106.5	12,100		90	48.3	102.2	11,100	
	26	78.2	113.1	64,200		90	48.3	102.2	11,100		95	45.2	97.5	10,200	
	28	77.1	112.6	57,700		95	45.2	97.5	10,200		100	42.0	92.2	9,400	
	30	76.1	112.1	52,300		100	42.0	92.2	9,400		105	38.6	86.3	8,700	
	32	75.0	111.6	47,800		105	38.6	86.3	8,700		110	34.9	79.5	8,100	
	34	73.9	111.0	43,900		110	34.9	79.5	8,100		115	30.8	71.7	7,500	
	36	72.8	110.4	40,600		115	30.8	71.7	7,500		120	26.2	62.5	6,900	
	38	71.7	109.8	37,700		120	26.2	62.5	6,900		125	20.6	50.8	6,500	
	40	70.6	109.1	35,200											
	45	67.8	107.2	30,000											
	50	65.0	105.0	26,100											
55	62.1	102.5	22,900												
60	59.1	99.6	20,400												
65	56.0	96.4	18,300												

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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	
140	24	81.6	143.9	63,300*	160	60	69.3	155.0	19,300	180	100	57.6	157.2	8,400	
	26	80.8	143.6	61,700*		65	67.4	153.0	17,200		105	55.7	153.9	7,600	
	28	79.9	143.2	57,100		70	65.4	150.8	15,400		110	53.7	150.3	7,000	
	30	79.1	142.9	51,700		75	63.5	148.4	13,900		115	51.7	146.5	6,400	
	32	78.3	142.5	47,200		80	61.4	145.8	12,600		120	49.6	142.4	5,900	
	34	77.4	142.0	43,300		85	59.4	142.9	11,400		125	47.5	138.0	5,400	
	36	76.6	141.6	40,000		90	57.3	139.8	10,400		130	45.3	133.2	4,900	
	38	75.7	141.1	37,100		95	55.1	136.5	9,600		135	43.0	128.0	4,500	
	40	74.9	140.5	34,600		100	52.9	132.8	8,800		140	40.6	122.4	4,200	
	45	72.8	139.1	29,400		105	50.6	128.9	8,100		145	38.1	116.3	3,800	
	50	70.6	137.4	25,400		110	48.2	124.6	7,400		150	35.5	109.6	3,500	
	55	68.4	135.5	22,300		115	45.8	119.9	6,800		155	32.6	102.1	3,200	
	60	66.2	133.4	19,800		120	43.2	114.8	6,300		190	30	82.0	193.6	31,600*
	65	63.9	131.1	17,600		125	40.5	109.2	5,800			32	81.4	193.3	31,300*
	70	61.6	128.5	15,900		130	37.7	103.0	5,400			34	80.8	192.9	31,000*
75	59.3	125.6	14,400	135	34.6	96.1	5,000	36	80.2	192.6		30,700*			
80	56.9	122.5	13,100	140	31.3	88.4	4,600	38	79.5	192.2		30,500*			
85	54.4	119.1	11,900	145	27.7	79.5	4,200	40	78.9	191.9		30,200*			
90	51.8	115.3	10,900	150	23.5	69.0	3,900	45	77.4	190.8		28,400			
95	49.2	111.1	10,000	155	18.5	55.9	3,600	50	75.8	189.6		24,400			
100	46.4	106.6	9,200	170	28	81.7	173.6	39,800*	55	74.3		188.3	21,200		
105	43.5	101.5	8,500		30	81.0	173.3	39,500*	60	72.7		186.8	18,700		
110	40.4	95.9	7,900		32	80.4	173.0	39,200*	65	71.1		185.1	16,600		
115	37.1	89.7	7,300		34	79.7	172.6	38,800*	70	69.5		183.3	14,800		
120	33.6	82.6	6,800		36	79.0	172.3	38,500*	75	67.9		181.4	13,300		
125	29.7	74.4	6,300		38	78.3	171.9	36,500	80	66.3		179.2	12,000		
130	25.2	64.7	5,800		40	77.6	171.4	34,000	85	64.6		176.9	10,800		
135	19.8	52.6	5,400		45	75.9	170.2	28,800	90	62.9	174.5	9,800			
150	26	81.4	153.7		53,200*	50	74.1	168.9	24,800	95	61.2	171.8	8,900		
	28	80.6	153.4		52,800*	55	72.4	167.4	21,600	100	59.5	168.9	8,100		
	30	79.8	153.0		51,500	60	70.6	165.7	19,100	105	57.7	165.9	7,400		
	32	79.1	152.7		47,000	65	68.8	163.8	17,000	110	55.9	162.6	6,800		
	34	78.3	152.3		43,200	70	67.0	161.8	15,200	115	54.1	159.1	6,200		
	36	77.5	151.8		39,800	75	65.1	159.5	13,700	120	52.2	155.3	5,700		
	38	76.7	151.4		36,900	80	63.3	157.1	12,400	125	50.2	151.3	5,200		
	40	75.9	150.9	34,400	85	61.3	154.5	11,200	130	48.2	146.9	4,700			
	45	73.9	149.5	29,200	90	59.4	151.6	10,200	135	46.2	142.3	4,300			
	50	71.9	148.0	25,200	95	57.4	148.5	9,300	140	44.0	137.3	3,900			
	55	69.9	146.2	22,100	100	55.4	145.2	8,500	145	41.8	131.9	3,600			
	60	67.9	144.3	19,500	105	53.3	141.6	7,800	150	39.5	126.0	3,200			
	65	65.8	142.1	17,400	110	51.2	137.7	7,200	200	32	81.8	203.4	27,000*		
	70	63.7	139.7	15,700	115	49.0	133.5	6,600		34	81.2	203.1	26,900*		
	75	61.5	137.1	14,100	120	46.7	128.9	6,100		36	80.7	202.7	26,800*		
80	59.3	134.3	12,800	125	44.3	124.0	5,600	38		80.1	202.4	26,700*			
85	57.1	131.2	11,700	130	41.9	118.7	5,100	40		79.5	202.0	26,400*			
90	54.8	127.8	10,700	135	39.3	112.8	4,700	45		78.0	201.0	25,700*			
95	52.4	124.1	9,800	140	36.5	106.3	4,300	50		76.6	199.9	24,200			
100	49.9	120.0	9,000	145	33.6	99.2	4,000	55		75.1	198.6	21,000			
105	47.4	115.6	8,300	150	30.4	91.1	3,700	60		73.6	197.2	18,500			
110	44.7	110.8	7,700	155	26.9	81.9	3,400	65		72.1	195.7	16,300			
115	41.9	105.4	7,100	160	22.8	71.1	3,100	70		70.6	194.0	14,600			
120	39.0	99.5	6,600	180	30	81.5	183.4	36,100*		75	69.1	192.1	13,000		
125	35.8	93.0	6,100		32	80.9	183.1	35,800*		80	67.5	190.1	11,700		
130	32.4	85.5	5,600		34	80.3	182.8	35,400*		85	66.0	188.0	10,600		
135	28.6	77.0	5,200		36	79.6	182.4	35,100*		90	64.4	185.6	9,600		
140	24.3	66.9	4,800		38	79.0	182.1	34,800*	95	62.8	183.1	8,700			
145	19.1	54.3	4,500		40	78.3	181.6	33,800	100	61.1	180.5	7,900			
160	26	81.9	163.8		46,000*	45	76.7	180.5	28,600	105	59.5	177.6	7,200		
	28	81.2	163.5		45,700*	50	75.0	179.3	24,600	110	57.8	174.5	6,500		
	30	80.5	163.2		45,400*	55	73.4	177.8	21,500	115	56.1	171.3	5,900		
	32	79.7	162.8		45,000*	60	71.7	176.3	18,900	120	54.4	167.8	5,400		
	34	79.0	162.5		42,900	65	70.0	174.5	16,800	125	52.6	164.1	4,900		
	36	78.3	162.1		39,600	70	68.3	172.6	15,000	130	50.7	160.1	4,500		
	38	77.6	161.6		36,700	75	66.6	170.5	13,500	135	48.9	155.9	4,100		
	40	76.8	161.2		34,200	80	64.8	168.2	12,200	140	46.9	151.3	3,700		
	45	75.0	159.9		29,000	85	63.1	165.8	11,000	145	44.9	146.5	3,300		
	50	73.1	158.5	25,000	90	61.3	163.1	10,000	150	42.9	141.3	3,000			
	55	71.2	156.8	21,900	95	59.4	160.3	9,200							

NOTICE: This capacity chart is for reference use only and must not be used for a specific serial number crane. Serial numbered laminated capacity charts for a specific crane can be purchased from an authorized Manitowoc Distributor.