

MANITOWOC ENGINEERING COMPANY  
Shop Order Text For Serial No

MANITOWOC 4100W BASIC SPECIFICATIONS

TYPE: LIFTCRANE X DRAGLINE CLAMSHELL  
MODEL: 4100W SERIES 1  
S.O. NUMBER:  
SERIAL NO:  
DISTRIBUTOR:  
BUYER:  
SHIP TO:  
DATE SHIPPED:

MACHINE DATA

	HOIST	SWING
ENGINE DRIVE SPROCKET:	92124-2 29T	92053-2 21T
DRIVEN SPROCKET:	33040-2 145T	92052-2 74T
TRANSMISSION CHAIN:	1"P 4-STR 198P(#335216)	1"P 3-STR 160P(#335215)
TRANSMISSION RATIO:		
ENGINE SHAFT:	175666-2 41T	175667-2 37T
CONVERTER:	175666-2 41T	175666-2 41T
CHAIN:	3/4"P 6-STR 90P(#335083)	3/4"P 6-STR 84P(#335092)

DRUMS	LAGGING	WEDGE	ROPE SIZE
SINGLE FRONT: 180533-9	BARE	15836-2	1-1/8"
SINGLE REAR: 180533-9	48935-4 PLAIN LIFT	15836-2	1-1/8"
BOOM HOIST: 182834-9	502307-0 GR 7/8"	77698-2	7/8"
182835-9	502307-0 GR 7/8"	77698-2	7/8"

CRAWLER: LENGTH-26 FT 6 IN (#48384) TREAD-48" (#40246)

DRIVE CHAIN: 5-1/2"P 1-STR 62P (#335217)

COUNTERWEIGHT: 49487	TOTAL WEIGHT: 122,400#
INSIDE: 190744-9 BOX 4,650#	FILL 37,250# TOTAL 41,900#
CENTER: 49484-9 BOX 3,850#	FILL 37,650# TOTAL 41,500#
OUTSIDE: 190745-9 BOX 3,450#	FILL 35,550# TOTAL 39,000#
RIGHT SIDE:	
LEFT SIDE:	
CARBODY:	

POWER PLANT DATA:

ENGINE: CUMMINS N14-C360	SERIAL NUMBER: 11859451
TORQUE CONVERTER YES X NO	
ELECTRIC STARTING YES X NO	
GOVERNOR CONTROL YES X NO	
GOVERNED SPEED RPM-LOW IDLE HIGH IDLE O.S. GOV SPEED STALL	
FAN SUCTION X BLOWER X	

S.O. 4132

BOOM DATA

RIGGING ASSEMBLY #190693      BOOM TYPE #22C      BOOM LENGTH: 180 FT

SECTION	PART #	LENGTH	PENDANT	LENGTH
BUTT:	48705-4	30 FT		
TOP:	65773-2	40 FT	(3) 276963	40' - 9 3/4" BASIC
INSERT:	33407-3	10 FT	(4) 276861	10' INSERT
INSERT:	*623580-0	20 FT	(4) 276862	20' INSERT
INSERT:	**623535-0	40 FT	(8) 276863	40' INSERT
INSERT:	**623545-0	40 FT		

\*PER DRWG 33426  
\*\*PER DRWG 50609

JIB DATA

RIGGING ASSEMBLY	JIB TYPE	JIB LENGTH	FT	
SECTION	PART #	LENGTH	PENDANT	LENGTH
BUTT:				
TOP:				
INSERT:				
STRUT:				
JIB STOP PENDANT:				
JIB STOP PENDANT:				
BACKSTAY PENDANT:				
BACKSTAY PENDANT:				
COUNTERWEIGHT HANDLING PENDANTS:		(2) 276891-0		12' - 2"
GANTRY:	190273-2	17 FT		

WIRE ROPE PER CUSTOMER SPECIFICATIONS

LIFT LOAD LINE:  
LIFT WHIP LINE:  
CLAM CLOSING:  
CLAM HOLDING:  
DRAG LINE:  
DRAG HOLDING:  
AUXILIARY DRUM:  
BOOM HOIST: 760' - 7/8" - 6X26 ALT LAY WS EEIPS IWRC - #719283

CAPACITY CHARTS

LIFTCRANE CAPACITIES: 6950-A  
CLAMSHELL CAPACITIES:  
DRAGLINE CAPACITIES:  
JIB CAPACITIES:  
OPERATING RANGE DIAGRAM:  
RANGE DIAGRAM: 50807  
LOAD LINE SPECIFICATIONS: 5345  
DRUM & LAGGING CHART: 6105  
BARGE LIFT CHART:  
BARGE CLAM CHART:  
BARGE DRAG CHART:

# MANITOWOC ENGINEERING CO.

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



## LIFTCRANE CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

## 4100W SERIES 2

**BOOM NO. 22C WITH OPEN THROAT TOP**  
**146,400 LB. CRANE COUNTERWEIGHT**  
**60,000 LB. CARBODY COUNTERWEIGHT**  
**26'6" 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 OR COMBINATION OF TWO SINGLE PART LINES IS 28,300 LBS. IN ALL CASES, UPPER BOOM POINT CAPACITIES CANNOT EXCEED THOSE LISTED FOR THE MAIN BOOM CAPACITY.

WEIGHT OF UPPER BOOM POINT, 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. 190693 AND WIRE ROPE SPECIFICATION CHART NO. 6592-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.

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 26'6" EXTENDIBLE CRAWLERS, 48" TREADS, 17' RETRACTABLE GANTRY, 12 PART BOOM HOIST REEVING, FOUR 1-3/8" BOOM PENDANTS, 1ST COUNTERWEIGHT = 41,900 LBS., 2ND COUNTERWEIGHT = 41,500 LBS., 3RD COUNTERWEIGHT = 39,000 LBS., TWO 12,000 LB. SIDE COUNTERWEIGHTS, AND TWO 30,000 LB. CARBODY COUNTERWEIGHTS.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED				DEDUCT FROM CAPACITIES WHEN UPPER BOOM POINT IS ATTACHED		DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED	
OVER END OF CRAWLERS		OVER SIDE OF EXTENDED CRAWLERS				JIB LGTH.	JIB NO. 123
BOOM LGTH.	JIB NO. 123	BOOM LGTH.	JIB NO. 123	ONE SHEAVE POINT	1,200 LBS.		
260'	---	260'	---	TWO SHEAVE POINT	1,500 LBS.	30'	3,000 LBS.
250'	---	250'	---	TO COMPLY WITH B30.5 REQUIREMENTS, UPPER BOOM POINT CANNOT BE USED ON 260'		40'	3,600 LBS.
240'	40'	240'	40'			50'	4,200 LBS.
230'	60'	230'	60'			60'	4,900 LBS.
LOAD BLOCK, HOOK AND WEIGHT BALL ON GROUND AT START.				BOOM.		JIB DEDUCTS INCLUDE JIB ADAPTOR.	

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>70</b>	16.5	79.7	75.9	460,000*	<b>80</b>	17	80.6	85.9	392,800*	<b>90</b>	18	81.1	95.9	355,400*
	17	79.3	75.8	400,000*		18	79.9	85.8	378,900*		19	80.4	95.7	346,900*
	18	78.5	75.6	380,100*		19	79.2	85.6	361,800*		20	79.8	95.6	336,900*
	19	77.6	75.4	363,000*		20	78.5	85.4	346,100*		22	78.5	95.2	317,400*
	20	76.8	75.2	347,300*		22	77.0	85.0	318,400*		24	77.2	94.8	291,700*
	22	75.1	74.7	319,600*		24	75.5	84.5	292,500*		26	75.9	94.3	264,800*
	24	73.4	74.1	293,400*		26	74.0	83.9	265,600*		28	74.5	93.7	236,600
	26	71.7	73.5	266,100		28	72.5	83.3	237,000		30	73.2	93.2	213,400
	28	69.9	72.8	237,500		30	71.0	82.7	213,800		32	71.9	92.5	194,200
	30	68.2	72.0	214,300		32	69.5	81.9	194,600		34	70.5	91.9	178,000
	32	66.4	71.2	195,100		34	68.0	81.2	178,500		36	69.2	91.1	164,200
	34	64.6	70.3	178,900		36	66.4	80.3	164,700		38	67.8	90.3	152,300
	36	62.8	69.3	165,200		38	64.8	79.4	152,800		40	66.4	89.5	142,000
	38	60.9	68.2	153,300		40	63.3	78.4	142,400		45	62.9	87.1	121,100
	40	59.1	67.0	143,000		45	59.2	75.7	121,500		50	59.3	84.4	105,200
	45	54.1	63.7	122,100		50	54.9	72.5	105,700		55	55.5	81.2	92,800
	50	48.9	59.8	106,300		55	50.4	68.6	93,300		60	51.5	77.5	82,900
	55	43.2	55.0	93,900		60	45.6	64.1	83,400		65	47.3	73.2	74,700
	60	36.9	49.0	84,000		65	40.3	58.8	75,200		70	42.8	68.2	67,800
	65	29.4	41.3	75,800		70	34.4	52.2	68,300		75	37.9	62.3	62,000
70	19.5	30.3	63,900*	75		27.4	43.9	62,500	80	32.4	55.2	57,000		
				80		18.2	32.0	53,900*	85	25.8	46.2	52,600		
								90	17.1	33.5	45,900*			

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## LIFT CRANE CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

## 4100W SERIES 2

BOOM NO. 22C WITH OPEN THROAT TOP  
146,400 LB. CRANE COUNTERWEIGHT  
60,000 LB. CARBODY COUNTERWEIGHT  
26'6" CRAWLERS EXTENDED  
360 DEGREE RATING

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
100	19	81.4	105.9	332,900*
	20	80.8	105.7	327,100*
	22	79.6	105.4	316,200*
	24	78.5	105.0	290,800*
	26	77.3	104.6	263,900*
	28	76.1	104.1	236,200
	30	74.9	103.6	212,900
	32	73.7	103.0	193,700
	34	72.5	102.4	177,500
	36	71.3	101.7	163,700
110	38	70.1	101.0	151,800
	40	68.9	100.3	141,400
	45	65.8	98.2	120,500
	50	62.6	95.8	104,700
	55	59.3	93.0	92,300
	60	55.9	89.9	82,300
	65	52.4	86.2	74,100
	70	48.7	82.1	67,200
	75	44.8	77.4	61,400
	80	40.5	72.0	56,400
120	85	35.9	65.6	52,000
	90	30.7	58.0	48,200
	95	24.5	48.5	44,900
	100	16.3	35.0	39,300*
	22	80.6	115.5	291,600*
	24	79.5	115.2	282,900*
	26	78.5	114.8	263,200*
	28	77.4	114.4	235,800
	30	76.3	113.9	212,500
	32	75.3	113.4	193,300
34	74.2	112.8	177,100	
36	73.1	112.2	163,300	
38	72.0	111.6	151,400	
40	70.9	110.9	141,000	
45	68.1	109.1	120,100	
50	65.3	106.9	104,200	
55	62.4	104.5	91,800	
60	59.4	101.7	81,800	
65	56.3	98.5	73,600	
70	53.1	95.0	66,800	
75	49.8	91.0	60,900	
80	46.3	86.5	55,900	
85	42.6	81.4	51,600	
90	38.6	75.6	47,800	
95	34.2	68.8	44,400	
100	29.2	60.7	41,400	
105	23.3	50.6	38,700	
110	15.5	36.4	33,900*	
140	22	81.4	125.6	285,000*
	24	80.4	125.3	271,700*
	26	79.4	125.0	259,800*
	28	78.5	124.6	235,300
	30	77.5	124.2	212,100
	32	76.5	123.7	192,800
	34	75.5	123.2	176,600
	36	74.5	122.7	162,800
	38	73.5	122.1	150,900
	40	72.5	121.5	140,500
45	70.0	119.8	119,500	
50	67.5	117.8	103,700	
55	64.8	115.6	91,300	
60	62.2	113.1	81,300	
65	59.4	110.3	73,100	
70	56.6	107.2	66,200	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
120	75	53.7	103.7	60,400
	80	50.7	99.9	55,300
	85	47.5	95.5	51,000
	90	44.2	90.7	47,200
	95	40.7	85.2	43,800
	100	36.9	79.0	40,800
	105	32.7	71.8	38,100
	110	28.0	63.3	35,700
	115	22.3	52.6	33,500
	130	24	81.2	135.5
26		80.3	135.1	248,600*
28		79.4	134.8	234,700*
30		78.5	134.4	211,800
32		77.6	134.0	192,500
34		76.7	133.5	176,300
36		75.7	133.0	162,500
38		74.8	132.5	150,600
40		73.9	131.9	140,200
45		71.6	130.4	119,300
50	69.3	128.6	103,400	
55	66.9	126.6	91,000	
60	64.5	124.3	81,000	
65	62.0	121.8	72,800	
70	59.5	119.0	65,900	
75	56.9	115.9	60,000	
80	54.2	112.5	55,000	
85	51.5	108.7	50,700	
90	48.6	104.5	46,800	
95	45.6	99.8	43,500	
100	42.4	94.7	40,500	
105	39.0	88.9	37,800	
110	35.4	82.3	35,300	
115	31.4	74.7	33,100	
120	26.8	65.7	31,100	
125	21.4	54.5	29,300	
26	81.0	145.3	239,700*	
28	80.1	144.9	230,800*	
30	79.3	144.6	211,300	
32	78.5	144.2	192,100	
34	77.6	143.8	175,800	
36	76.8	143.3	162,000	
38	75.9	142.8	150,100	
40	75.1	142.3	139,700	
45	73.0	140.9	118,700	
50	70.8	139.2	102,800	
55	68.6	137.4	90,400	
60	66.4	135.3	80,400	
65	64.2	133.0	72,200	
70	61.9	130.5	65,300	
75	59.5	127.7	59,500	
80	57.1	124.6	54,400	
85	54.6	121.2	50,100	
90	52.1	117.5	46,200	
95	49.5	113.4	42,900	
100	46.7	108.9	39,900	
105	43.8	104.0	37,200	
110	40.8	98.5	34,700	
115	37.5	92.3	32,500	
120	34.0	85.4	30,500	
125	30.2	77.4	28,700	
130	25.8	68.0	27,000	
135	20.7	56.4	25,500	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
150	28	80.8	155.1	218,600*
	30	80.0	154.7	210,300*
	32	79.2	154.4	191,600
	34	78.5	154.0	175,400
	36	77.7	153.6	161,600
	38	76.9	153.1	149,600
	40	76.1	152.6	139,200
	45	74.1	151.3	118,200
	50	72.1	149.8	102,400
	55	70.1	148.1	89,900
60	68.1	146.2	79,900	
65	66.0	144.0	71,700	
70	63.9	141.7	64,800	
75	61.7	139.1	59,000	
80	59.6	136.3	53,900	
85	57.3	133.3	49,600	
90	55.0	129.9	45,700	
95	52.7	126.2	42,400	
100	50.2	122.3	39,400	
105	47.7	117.9	36,700	
110	45.0	113.1	34,200	
115	42.3	107.9	32,000	
120	39.3	102.1	30,000	
125	36.2	95.7	28,200	
130	32.9	88.4	26,500	
135	29.2	80.1	25,000	
140	25.0	70.3	23,500	
145	19.9	58.2	22,200	
28	81.4	165.2	208,500*	
30	80.6	164.9	203,500*	
32	79.9	164.5	191,100	
34	79.2	164.2	174,900	
36	78.5	163.8	161,000	
38	77.7	163.4	149,100	
40	77.0	162.9	138,700	
45	75.2	161.7	117,700	
50	73.3	160.3	101,800	
55	71.4	158.7	89,300	
60	69.5	156.9	79,300	
65	67.6	154.9	71,100	
70	65.6	152.8	64,200	
75	63.7	150.4	58,400	
80	61.6	147.8	53,300	
85	59.6	145.0	49,000	
90	57.5	141.9	45,100	
95	55.3	138.6	41,800	
100	53.1	135.0	38,700	
105	50.9	131.1	36,000	
110	48.5	126.9	33,600	
115	46.1	122.2	31,400	
120	43.5	117.2	29,400	
125	40.9	111.7	27,600	
130	38.0	105.6	25,900	
135	35.0	98.9	24,300	
140	31.8	91.3	22,900	
145	28.2	82.6	21,600	
150	24.1	72.5	20,400	
155	19.3	59.9	19,200*	

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## 4100W SERIES 2

BOOM NO. 22C WITH OPEN THROAT TOP  
146,400 LB. CRANE COUNTERWEIGHT  
60,000 LB. CARBODY COUNTERWEIGHT  
26'6" CRAWLERS EXTENDED  
360 DEGREE RATING

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
170	30	81.2	175.0	192,600*
	32	80.5	174.7	188,400*
	34	79.8	174.3	174,600
	36	79.2	174.0	160,800
	38	78.5	173.6	148,800
	40	77.8	173.1	138,400
	45	76.0	172.0	117,400
	50	74.3	170.7	101,500
	55	72.5	169.2	89,100
	60	70.8	167.5	79,000
	65	69.0	165.7	70,800
	70	67.2	163.7	63,900
	75	65.3	161.5	58,100
	80	63.4	159.1	53,000
	85	61.5	156.5	48,700
	90	59.6	153.6	44,900
	95	57.6	150.6	41,500
100	55.6	147.3	38,500	
105	53.6	143.7	35,800	
110	51.4	139.9	33,300	
115	49.2	135.8	31,100	
120	47.0	131.3	29,100	
125	44.6	126.4	27,300	
130	42.2	121.1	25,600	
135	39.6	115.4	24,100	
140	36.9	109.0	22,600	
145	34.0	102.0	21,300	
150	30.8	94.1	20,100	
155	27.3	85.1	18,900	
160	23.4	74.6	17,800	
165	18.7	61.6	16,400*	
180	32	81.1	184.8	180,000*
	34	80.4	184.5	174,100*
	36	79.8	184.1	160,300
	38	79.1	183.8	148,300
	40	78.5	183.4	137,900
	45	76.8	182.3	116,900
	50	75.2	181.0	101,000
	55	73.5	179.6	88,500
	60	71.9	178.1	78,500
	65	70.2	176.4	70,300
	70	68.5	174.5	63,400
	75	66.8	172.4	57,500
	80	65.0	170.2	52,500
	85	63.3	167.8	48,100
	90	61.5	165.1	44,300
	95	59.6	162.3	40,900
	100	57.8	159.3	37,900
105	55.9	156.0	35,200	
110	53.9	152.5	32,700	
115	51.9	148.7	30,500	
120	49.9	144.6	28,500	
125	47.8	140.3	26,700	
130	45.6	135.6	25,000	
135	43.3	130.5	23,500	
140	40.9	124.9	22,000	
145	38.4	118.9	20,700	
150	35.8	112.3	19,500	
155	33.0	105.0	18,300	
160	29.9	96.8	17,200	
165	26.6	87.5	16,200	
170	22.7	76.6	15,300	
175	18.2	63.2	13,500*	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
190	32	81.5	194.9	171,000*
	34	80.9	194.6	166,100*
	36	80.3	194.3	159,800
	38	79.7	193.9	147,900
	40	79.1	193.6	137,400
	45	77.5	192.5	116,400
	50	76.0	191.4	100,500
	55	74.4	190.0	88,000
	60	72.9	188.6	78,000
	65	71.3	186.9	69,700
	70	69.7	185.2	62,800
	75	68.1	183.2	57,000
	80	66.4	181.1	52,000
	85	64.8	178.9	47,600
	90	63.1	176.4	43,800
	95	61.4	173.8	40,400
	100	59.7	171.0	37,400
105	57.9	167.9	34,700	
110	56.1	164.7	32,200	
115	54.3	161.2	30,000	
120	52.4	157.5	28,000	
125	50.4	153.5	26,200	
130	48.5	149.2	24,500	
135	46.4	144.6	22,900	
140	44.3	139.7	21,500	
145	42.1	134.4	20,200	
150	39.8	128.6	18,900	
155	37.4	122.3	17,800	
160	34.8	115.5	16,700	
165	32.1	107.9	15,700	
170	29.1	99.4	14,800	
175	25.8	89.8	13,900	
180	22.1	78.6	13,100	
185	17.7	64.8	11,000*	
200	34	81.4	204.7	157,200*
	36	80.8	204.4	153,500*
	38	80.2	204.1	147,400
	40	79.6	203.7	136,900
	45	78.2	202.8	115,900
	50	76.7	201.6	100,000
	55	75.2	200.4	87,500
	60	73.7	199.0	77,400
	65	72.2	197.5	69,200
	70	70.7	195.8	62,300
	75	69.2	194.0	56,400
	80	67.7	192.0	51,400
	85	66.1	189.9	47,000
	90	64.5	187.6	43,200
	95	62.9	185.1	39,800
	100	61.3	182.5	36,800
	105	59.7	179.6	34,100
110	58.0	176.6	31,600	
115	56.3	173.4	29,400	
120	54.5	169.9	27,400	
125	52.8	166.3	25,600	
130	50.9	162.3	23,900	
135	49.1	158.1	22,300	
140	47.2	153.6	20,900	
145	45.2	148.8	19,600	
150	43.1	143.7	18,300	
155	41.0	138.2	17,200	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
200	160	38.7	132.2	16,100
	165	36.4	125.7	15,100
	170	33.9	118.6	14,200
	175	31.2	110.7	13,300
	180	28.4	102.0	12,400
	185	25.2	92.1	11,700
	190	21.6	80.5	10,900
195	17.3	66.3	8,500*	
210	36	81.2	214.6	146,000*
	38	80.7	214.2	143,300*
	40	80.1	213.9	136,600
	45	78.7	213.0	115,500
	50	77.3	211.9	99,600
	55	75.9	210.7	87,100
	60	74.5	209.4	77,100
	65	73.1	208.0	68,800
	70	71.7	206.4	61,900
	75	70.2	204.6	56,100
	80	68.8	202.8	51,000
	85	67.3	200.8	46,700
	90	65.8	198.6	42,800
	95	64.3	196.3	39,400
	100	62.8	193.8	36,400
	105	61.3	191.1	33,700
	110	59.7	188.3	31,300
115	58.1	185.3	29,100	
120	56.5	182.1	27,100	
125	54.8	178.6	25,200	
130	53.1	175.0	23,500	
135	51.4	171.1	22,000	
140	49.6	167.0	20,600	
145	47.8	162.6	19,200	
150	46.0	157.9	18,000	
155	44.0	152.9	16,800	
160	42.0	147.6	15,800	
165	39.9	141.8	14,800	
170	37.8	135.6	13,800	
175	35.5	128.9	12,900	
180	33.1	121.6	12,100	
185	30.5	113.5	11,300	
190	27.7	104.5	10,600	
195	24.6	94.3	9,900	
200	21.0	82.4	8,800*	
205	16.8	67.8	6,500*	

# MANITOWOC ENGINEERING CO.

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



## LIFT CRANE CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

## 4100W SERIES 2

BOOM NO. 22C WITH OPEN THROAT TOP  
146,400 LB. CRANE COUNTERWEIGHT  
60,000 LB. CARBODY COUNTERWEIGHT  
26" CRAWLERS EXTENDED  
360 DEGREE RATING

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	
220	38	81.1	224.4	135,900*	
	40	80.6	224.0	133,400*	
	45	79.3	223.2	115,000	
	50	77.9	222.1	99,100	
	55	76.6	221.0	86,600	
	60	75.3	219.8	76,600	
	65	73.9	218.4	68,300	
	70	72.5	216.9	61,400	
	75	71.2	215.2	55,500	
	80	69.8	213.5	50,500	
230	85	68.4	211.6	46,100	
	90	67.0	209.5	42,300	
	95	65.6	207.3	38,900	
	100	64.1	205.0	35,800	
	105	62.7	202.5	33,100	
	110	61.2	199.8	30,700	
	115	59.7	196.9	28,500	
	120	58.2	193.9	26,500	
	125	56.6	190.7	24,600	
	130	55.1	187.3	23,000	
240	135	53.5	183.8	21,400	
	140	51.8	179.9	20,000	
	145	50.1	175.9	18,600	
	150	48.4	171.6	17,400	
	155	46.7	167.0	16,300	
	160	44.8	162.1	15,200	
	165	43.0	156.9	14,200	
	170	41.0	151.4	13,200	
	175	39.0	145.4	12,300	
	180	36.9	139.0	11,500	
250	185	34.6	132.1	10,700	
	190	32.3	124.5	10,000	
	195	29.8	116.2	9,300	
	200	27.0	106.9	8,600	
	205	24.0	96.4	8,000	
	210	20.6	84.2	6,500*	
	215	16.4	69.3	4,400*	
	260	38	81.5	234.5	132,900*
		40	81.0	234.2	125,200*
		45	79.7	233.3	114,500
50		78.5	232.4	98,600	
55		77.2	231.3	86,100	
60		75.9	230.1	76,100	
65		74.6	228.8	67,800	
70		73.3	227.3	60,900	
75		72.0	225.8	55,000	
80		70.7	224.1	50,000	
270	85	69.4	222.3	45,600	
	90	68.0	220.3	41,700	
	95	66.7	218.2	38,400	
	100	65.3	216.0	35,300	
	105	64.0	213.6	32,600	
	110	62.6	211.1	30,200	
	115	61.1	208.4	28,000	
	120	59.7	205.6	26,000	
	125	58.3	202.6	24,100	
	130	56.8	199.4	22,400	
280	135	55.3	196.1	20,900	
	140	53.8	192.5	19,400	
	145	52.2	188.7	18,100	
	150	50.6	184.7	16,900	
	155	49.0	180.5	15,700	
	160	47.3	176.0	14,700	
	165	45.6	171.3	13,600	
	170	43.8	166.2	12,700	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS	
230	175	42.0	160.8	11,800	
	180	40.1	155.1	11,000	
	185	38.1	148.9	10,200	
	190	36.0	142.3	9,400	
	195	33.9	135.1	8,700	
	200	31.6	127.4	8,100	
	205	29.1	118.8	7,400	
	210	26.4	109.3	6,800*	
	215	23.5	98.5	6,100*	
	220	20.1	86.0	4,400*	
240	40	81.4	244.3	123,400*	
	45	80.2	243.5	112,600*	
	50	78.9	242.6	98,100	
	55	77.7	241.5	85,600	
	60	76.5	240.4	75,600	
	65	75.3	239.1	67,300	
	70	74.0	237.8	60,400	
	75	72.8	236.3	54,500	
	80	71.5	234.7	49,500	
	85	70.3	232.9	45,100	
250	90	69.0	231.1	41,200	
	95	67.7	229.1	37,800	
	100	66.4	227.0	34,800	
	105	65.1	224.7	32,100	
	110	63.8	222.3	29,700	
	115	62.5	219.8	27,400	
	120	61.1	217.1	25,400	
	125	59.7	214.3	23,600	
	130	58.3	211.3	21,900	
	135	56.9	208.1	20,300	
260	140	55.5	204.8	18,900	
	145	54.0	201.2	17,600	
	150	52.5	197.5	16,300	
	155	51.0	193.6	15,200	
	160	49.5	189.4	14,100	
	165	47.9	185.0	13,100	
	170	46.2	180.3	12,200	
	175	44.6	175.4	11,300	
	180	42.8	170.2	10,400	
	185	41.0	164.6	9,600	
270	190	39.2	158.7	8,900	
	195	37.3	152.3	8,200	
	200	35.2	145.5	7,500*	
	205	33.1	138.2	6,700*	
	210	30.9	130.1	6,000*	
	215	28.5	121.4	5,300*	
	220	25.8	111.6	4,700*	
	225	23.0	100.6	4,000*	
	280	45	80.6	253.6	106,600*
		50	79.4	252.7	97,800
55		78.2	251.7	85,200	
60		77.1	250.7	75,200	
65		75.9	249.4	66,900	
70		74.7	248.1	60,000	
75		73.5	246.7	54,100	
80		72.3	245.2	49,100	
85		71.1	243.5	44,700	
90		69.9	241.7	40,800	
290	95	68.7	239.9	37,400	
	100	67.4	237.8	34,400	
	105	66.2	235.7	31,700	
	110	64.9	233.4	29,300	
	115	63.6	231.0	27,100	
	120	62.4	228.5	25,000	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY POUNDS
250	125	61.1	225.8	23,200
	130	59.7	222.9	21,500
	135	58.4	219.9	20,000
	140	57.0	216.8	18,500
	145	55.7	213.4	17,200
	150	54.3	209.9	16,000
	155	52.8	206.3	14,800
	160	51.4	202.4	13,700
	165	49.9	198.3	12,700
	170	48.4	193.9	11,800
260	175	46.8	189.4	10,900
	180	45.3	184.6	10,100
	185	43.6	179.5	9,300
	190	41.9	174.1	8,500
	195	40.2	168.3	7,800*
	200	38.4	162.2	7,000*
	205	36.5	155.7	6,200*
	210	34.5	148.7	5,500*
	215	32.4	141.1	4,800*
	220	30.2	132.9	4,100*
270	45	80.9	263.8	104,800*
	50	79.8	262.9	95,700*
	55	78.7	262.0	84,700
	60	77.6	260.9	74,700
	65	76.4	259.7	66,400
	70	75.3	258.5	59,500
	75	74.2	257.1	53,600
	80	73.0	255.6	48,500
	85	71.8	254.1	44,100
	90	70.7	252.4	40,300
280	95	69.5	250.6	36,900
	100	68.3	248.6	33,900
	105	67.1	246.6	31,100
	110	65.9	244.4	28,700
	115	64.7	242.1	26,500
	120	63.5	239.7	24,500
	125	62.3	237.1	22,600
	130	61.0	234.4	20,900
	135	59.7	231.6	19,400
	140	58.5	228.6	17,900
290	145	57.2	225.5	16,600
	150	55.8	222.1	15,400
	155	54.5	218.7	14,200
	160	53.1	215.0	13,100
	165	51.7	211.2	12,100
	170	50.3	207.1	11,200
	175	48.9	202.9	10,300
	180	47.4	198.4	9,500
	185	45.9	193.7	8,700
	190	44.3	188.7	7,900*
300	195	42.7	183.4	7,000*
	200	41.1	177.8	6,200*
	205	39.4	171.9	5,400*
	210	37.6	165.6	4,700*
	215	35.8	158.9	4,000*



# LIFTCRANE CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

**4100W**  
**SERIES 2**  
**CRAWLER**

**BOOM NO. 22C WITH OPEN THROAT TOP**  
**146,400 LB. CRANE COUNTERWEIGHT**  
**60,000 LB. CARBODY COUNTERWEIGHT**  
**26'6" CRAWLERS EXTENDED**

**WARNING:** This chart will apply only when two 12,000 lb. side ctwts. and two 30,000 lb. carbody ctwts. bear MEC registered Serial Numbers.

**LIFTING CAPACITIES:** Capacities for various boom lengths and operating radii may be based on per cent of tipping, strength of structural components, operating speeds and other factors.

Capacities are for freely suspended loads and do not exceed **75%** of a static tipping load. Capacities based on structural competence are shown by shaded areas.

Capacities are shown in pounds. Deduct 1200 pounds from capacities listed when single sheave upper boom point is attached and 1500 pounds when two sheave upper boom point is attached. To comply with B30.5 requirements, upper boom point cannot be used on the 260 ft. boom. Weight of jib, (see chart A), all load blocks, hooks, weight ball, slings, hoist lines beneath boom and jib point sheaves, etc., 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.

**OPERATING CONDITIONS:** Machine to operate in a level position on a firm surface with crawlers fully extended and gantry in working position and be rigged in accordance with and under conditions referred to in rigging drawing No. 190693 and load line specification chart No. 6592-A.

Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, as well as adverse operating conditions & physical machine depreciation.

**OPERATING RADIUS:** Operating radius is the horizontal distance from the axis of rotation to the center of vertical hoist line or load block with the load freely suspended. Add 14" to boom point radius for radius of sheave when using single part hoist line.

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:** Boom point elevation, in feet, is the vertical distance from ground level to centerline of boom point shaft.

**MACHINE EQUIPMENT:** Machine equipped with 26'6" extendible crawlers, 48" treads, 17' retractable gantry, 12 part boom hoist reeving, four 1 3/8" boom pendants, 1st ctwt. 41,900 lbs., 2nd ctwt. 41,500 lbs., 3rd ctwt. 39,000 lbs., two 12,000 lbs. side ctwt's. and two 30,000 lbs. carbody ctwt's.

HOIST REEVING FOR MAIN LOAD BLOCK						
No. Parts of Line	1	2	3	4	5	6
Max. Load — Lbs.	32,500	65,000	97,500	130,000	162,500	195,000
No. Parts of Line	7	8	9	10	11	12
Max. Load — Lbs.	227,500	260,000	292,500	325,000	357,500	400,000
No. Parts of Line	13	14				
Max. Load — Lbs.	430,000	460,000				

LOAD AND WHIP LINE SPECIFICATIONS	
LOAD LINE: 1-1/8" — 6x31 Warrington-Seale, Extra Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 65 Ton. (Approx. Weight Per Ft. in Lbs. 2.34)	
WHIP LINE: 1-1/8" — 6x31 Warrington-Seale, Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 56.5 Ton. Maximum Load — 28,300 Lbs. Per Line. (Approx. Weight Per Ft. in Lbs. 2.34)	

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED				(A) DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED	
OVER FRONT OF BLOCKED CRAWLERS		OVER SIDE OF EXTENDED CRAWLERS		Jib Lgth.	Jib No. 123
Boom Lgth.	Jib No. 123	Boom Lgth.	Jib No. 123		
260'	---	260'	---	30'	3,000 Lb.
250'	---	250'	---	40'	3,600 Lb.
240'	40'	240'	40'	50'	4,200 Lb.
230'	60'	230'	60'	60'	4,900 Lb.

Load block, hook and weight ball on ground at start.

For jib capacities, consult jib chart.

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	
16.5	79.7	75.9	460,000	17	80.6	85.9	392,800	18	81.1	95.9	355,400	19	81.4	105.9	332,900
17	79.3	75.8	400,000	18	79.9	85.8	378,900	19	80.4	95.7	346,900	20	80.8	105.7	327,100
18	78.5	75.6	380,100	19	79.2	85.6	361,800	20	79.8	95.6	336,900	22	79.6	105.4	316,200
19	77.6	75.4	363,000	20	78.5	85.4	346,100	22	78.5	95.2	317,400	24	78.5	105.0	290,800
20	76.8	75.1	347,300	22	77.0	84.9	318,400	24	77.2	94.7	291,700	26	77.3	104.5	263,900
22	75.1	74.6	319,600	24	75.5	84.5	292,500	26	75.9	94.3	264,800	28	76.1	104.1	236,200
24	73.4	74.1	293,400	26	74.0	83.9	265,600	28	74.5	93.7	236,600	30	74.9	103.6	212,900
26	71.7	73.5	266,100	28	72.5	83.3	237,000	30	73.2	93.2	213,400	32	73.7	103.0	193,700
28	69.9	72.8	237,500	30	71.0	82.7	213,800	32	71.9	92.5	194,200	34	72.5	102.4	177,500
30	68.2	72.0	214,300	32	69.5	81.9	194,600	34	70.5	91.9	178,000	36	71.3	101.7	163,700
32	66.4	71.2	195,100	34	68.0	81.2	178,500	36	69.2	91.1	164,200	38	70.1	101.0	151,800
34	64.6	70.2	178,900	36	66.4	80.3	164,700	38	67.8	90.3	152,300	40	68.9	100.3	141,400
36	62.8	69.3	165,200	38	64.8	79.4	152,800	40	66.4	89.5	142,000	45	65.8	98.2	120,500
38	60.9	68.2	153,300	40	63.3	78.4	142,400	45	62.9	87.1	121,100	50	62.6	95.8	104,700
40	59.1	67.0	143,000	45	59.2	75.7	121,500	50	59.3	84.4	105,200	55	59.3	93.0	92,300
45	54.1	63.7	122,100	50	54.9	72.5	105,700	55	55.5	81.2	92,800	60	55.9	89.8	82,300
50	48.9	59.8	106,300	55	50.4	68.6	93,300	60	51.5	77.5	82,900	65	52.4	86.2	74,100
55	43.2	54.9	93,900	60	45.6	64.1	83,400	65	47.3	73.2	74,700	70	48.7	82.1	67,200
60	36.9	49.0	84,000	65	40.3	58.8	75,200	70	42.8	68.2	67,800	75	44.8	77.4	61,400
65	29.4	41.3	75,800	70	34.3	52.2	68,300	75	37.9	62.3	62,000	80	40.5	72.0	56,400
70	19.5	30.3	63,900	75	27.4	43.9	62,500	80	32.4	55.2	57,000	85	35.9	65.6	52,000
				80	18.2	32.0	53,900	85	25.8	46.2	52,600	90	30.7	58.0	48,200
								90	17.1	33.5	45,900	95	24.5	48.5	44,900
												100	16.3	35.0	35,300

**CAUTION! CHECK AMOUNT OF COUNTERWEIGHT ON MACHINE BEFORE USE OF THIS CHART.**

Capacities continued on reverse side.

Form No. 6934-A, 7-27-78/GA

# SEE CONDITIONS ON REVERSE SIDE

Boom Lgh.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgh.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgh.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgh.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended
22	80.6	115.5	115.5	291,600															
24	79.5	115.2	115.2	282,900															
26	78.5	114.8	114.8	263,200															
28	77.4	114.3	114.3	235,800															
30	76.3	113.9	113.9	212,500															
32	75.3	113.4	113.4	193,300															
34	74.2	112.8	112.8	177,100															
36	73.1	112.2	112.2	163,300															
38	72.0	111.6	111.6	151,400															
40	70.9	110.9	110.9	141,000															
45	68.1	109.1	109.1	120,100															
50	65.3	106.9	106.9	104,200															
55	62.4	104.5	104.5	91,800															
60	59.4	101.7	101.7	81,800															
65	56.3	98.5	98.5	73,600															
70	53.1	95.0	95.0	66,800															
75	49.8	91.0	91.0	60,900															
80	46.3	86.5	86.5	55,900															
85	42.6	81.4	81.4	51,600															
90	38.6	75.6	75.6	47,800															
95	34.2	68.8	68.8	44,400															
100	29.2	60.7	60.7	41,400															
105	23.3	50.6	50.6	38,700															
110	15.5	36.4	36.4	33,900															
22	81.4	125.6	125.6	285,000															
24	80.4	125.3	125.3	271,700															
26	79.4	125.0	125.0	259,800															
28	78.5	124.6	124.6	235,300															
30	77.5	124.1	124.1	212,100															
32	76.5	123.7	123.7	192,800															
34	75.5	123.2	123.2	176,600															
36	74.5	122.7	122.7	162,800															
38	73.5	122.1	122.1	150,900															
40	72.5	121.5	121.5	140,500															
45	70.0	119.8	119.8	119,500															
50	67.5	117.8	117.8	103,700															
55	64.8	115.6	115.6	91,300															
60	62.2	113.1	113.1	81,300															
65	59.4	110.3	110.3	73,100															
70	56.6	107.2	107.2	66,200															
75	53.7	103.7	103.7	60,400															
80	50.7	99.9	99.9	55,300															
85	47.5	95.5	95.5	51,000															
90	44.2	90.7	90.7	47,200															
95	40.7	85.2	85.2	43,800															
100	36.9	79.0	79.0	40,800															
105	32.7	71.8	71.8	38,100															
110	28.0	63.2	63.2	35,700															
115	22.3	52.6	52.6	33,500															
24	81.2	135.5	135.5	260,000															
26	80.3	135.1	135.1	248,600															
28	79.4	134.8	134.8	234,700															
30	78.5	134.4	134.4	211,800															
32	77.6	133.9	133.9	192,500															
34	76.7	133.5	133.5	176,300															
36	75.7	133.0	133.0	162,500															
38	74.8	132.5	132.5	150,600															
40	73.9	131.9	131.9	140,200															
45	71.6	130.4	130.4	119,300															
50	69.3	128.6	128.6	103,400															
55	66.9	126.6	126.6	91,000															
60	64.5	124.3	124.3	81,000															
65	62.0	121.8	121.8	72,800															
70	59.5	119.0	119.0	65,900															
75	56.9	115.9	115.9	60,000															
80	54.2	112.5	112.5	55,000															
85	51.5	108.7	108.7	50,700															
90	48.6	104.5	104.5	46,800															
95	45.6	99.8	99.8	43,500															
100	42.4	94.7	94.7	40,500															
105	39.0	88.8	88.8	37,800															
110	35.4	82.3	82.3	35,300															
115	31.4	74.7	74.7	33,100															
120	26.8	65.7	65.7	31,100															
125	21.4	54.5	54.5	29,300															
26	81.0	145.3	145.3	239,700															
28	80.1	144.9	144.9	230,800															
30	79.3	144.6	144.6	211,300															
32	78.5	144.2	144.2	192,100															
34	77.6	143.7	143.7	175,800															
36	76.8	143.3	143.3	162,000															
38	75.9	142.8	142.8	150,100															
40	75.1	142.3	142.3	139,700															
45	73.0	140.9	140.9	118,700															
50	70.8	139.2	139.2	102,800															
55	68.6	137.4	137.4	90,400															
60	66.4	135.3	135.3	80,400															
65	64.2	133.0	133.0	72,200															
70	61.9	130.5	130.5	65,300															
75	59.5	127.7	127.7	59,500															
80	57.1	124.6	124.6	54,400															
85	54.6	121.2	121.2	50,100															
90	52.1	117.5	117.5	46,200															
95	49.5	113.4	113.4	42,900															
100	46.7	108.9	108.9	39,900															
105	43.8	103.9	103.9	37,200															
110	40.8	98.5	98.5	34,700															
115	37.5	92.3	92.3	32,500															
120	34.0	85.4	85.4	30,500															
125	30.2	77.4	77.4	28,700															
130	25.8	68.0	68.0	27,000															
135	20.7	56.4	56.4	25,500															
28	80.8	155.1	155.1	218,600															
30	80.0	154.7	154.7	210,300															
32	79.2	154.4	154.4	191,600															
34	78.5	154.0	154.0	175,400															
36	77.7	153.5	153.5	161,600															
38	76.9	153.1	153.1	149,600															
40	76.1	152.6	152.6	139,200															
45	74.1	151.3	151.3	118,200															
50	72.1	149.8	149.8	102,400															
55	70.1	148.1	148.1	89,900															
60	68.1	146.2	146.2	79,900															
65	66.0	144.0	144.0	71,700															
70	63.9	141.7	141.7	64,800															
75	61.7	139.1	139.1	59,000															
80	59.6	136.3	136.3	53,900															
85	57.3	133.2	133.2	49,600															
90	55.0	129.9	129.9	45,700															
95	52.7	126.2	126.2	42,400															
100	50.2	122.3	122.3	39,400															
105	47.7	117.9	117.9	36,700															
110	45.0	113.1	113.1	34,200															
115	42.3	107.9	107.9	32,000															
120	39.3	102.1	102.1	30,000															
125	36.2	95.7	95.7	28,200															
130	32.9	88.4	88.4	26,500															
135	29.2	80.1	80.1	25,000															
140	25.0	70.3	70.3	23,500															
145	19.9	58.2	58.2	22,200															
28	81.4	165.2	165.2	208,500															
30	80.6	164.9	164.9	203,500															
32	79.9	164.5	164.5	191,100															
34	79.2	164.2	164.2	174,900															
36	78.5	163.8	163.8	161,000															
38	77.7	163.3	163.3	149,100															
40	77.0	162.9	162.9	138,700															
45	75.2	161.7	161.7	117,700															
50	73.3	160.2	160.2	101,800															
55	71.4	158.7	158.7	89,300															
60	69.5	156.9	156.9	79,300															
65	67.6	154.9	154.9	71,100															
70	65.6	152.8	152.8	64,200															
75	63.7	150.4	150.4	58,400															
80	61.6	147.8	147.8	53,300															
85	59.6	145.0	145.0	49,000															
90	57.5	141.9	141.9	45,100															
95	55.3	138.6	138.6	41,800															
100	53.1	135.0	135.0	38,700															
105	50.9	131.1	131.1	36,000															
110	48.5	126.8	126.8	33,600															
115	46.1	122.2	122.2	31,400															
120	43.5	117.2	117.2	29,400															
125	40.9	111.7	111.7	27,600															
130	38.0	105.6	105.6	25,900															
135	35.0	98.9	98.9	24,300															
140	31.8	91.3	91.3	22,900															
145	28.2	82.6	82.6	21,600															
150	24.1	72.5	72.5	20,400															
155	19.3	59.9	59.9	19,200															
30	81.2	175.0	175.0	192,600															
32	80.5	174.7	174.7	188,400															
34	79.8	174.3	174.3	174,600															
36	79.2	174.0	174.0	160,800															
38	78.5	173.6	173.6	148,800															
40	77.8	173.1	173.1	138,400															
45	76.0	172.0	172.0	117,400															
50	74.3	170.7	170.7	101,500															
55	72.5	169.2	169.2	89,100															
60	70.8	167.5	167.5	79,000															
65	69.0	165.7	165.7	70,800															
70	67.2	163.7	163.7	63,900															
75	65.3	161.5	161.5	58,100															
80	63.4	159.1	159.1	53,000															
85	61.5	156.5	156.5	48,700															
90	59.6	153.6	153.6	44,900															
95	57.6	150.6	150.6	41,500															
100	55.6	147.3	147.3	38,500															
105	53.6	143.7	143.7	35,800															
110	51.4	139.9	139.9	33,300															
115	49.2	135.8	135.8	31,100															
120	47.0	131.3	131.3	29,100															
125	44.6	126.4	126.4	27,300															
130	42.2	121.1	121.1	25,600															
135	39.6	115.3	115.3	24,100															
140	36.9	109.0	109.0	22,600															
145	34.0	102.0	102.0	21,300															
150	30.8	94.1	94.1	20,100															
155	27.3	85.1	85.1	18,900															
160	23.4	74.6	74.6	17,800															
165	18.7	61.6	61.6	16,400															
32	81.1	184.8	184.8	180,000															
34	80.4	184.5	184.5	174,100															
36	79.8	184.1	184.1	160,300															
38	79.1	183.8	183.8	148,300															
40	78.5	183.4	183.4	137,900															
45	76.8	182.3	182.3	116,900															
50	75.2	181.0	181.0	101,000															
55	73.5	179.6	179.6	88,500															
60	71.9	178.1	178.1	78,500															
65	70.2	176.3	176.3	70,300															
70	68.5	174.5	174.5	63,400															
75	66.8	172.4	172.4	57,500															
80	65.0	170.2	170.2	52,500															
85	63.3	167.7	167.7	48,100															
90	61.5	165.1	165.1	44,300															
95	59.6	162.3	162.3	40,900															
100	57.8	159.3	159.3	37,900															
105	55.9	156.0	156.0	35,200															
110	53.9	152.5	152.5	32,700															
115	51.9	148.7	148.7	30,500															
120	49.9	144.6	144.6	28,500															
125	47.8	140.3	140.3	26,700															
130	45.6	135.5	135.5	25,000															
135	43.3	130.4	130.4	23,500															
140	40.9	124.9	124.9	22,000															
145	38.4	118.9	118.9	20,700															
150	35.8	112.3	112.3	19,500															
155	33.0	105.0	105.0	18,300															
160	29.9	96.8	96.8	17,200															
165	26.6	87.5	87.5	16,200															
170	22.7	76.6	76.6	15,300															
175	18.2	63.2	63.2	13,500															
32	81.5	194.9	194.9	171,000															
34	80.9	194.6	194.6	166,100															
36	80.3	194.3	194.3	159,800															
38	79.7	193.9	193.9	147,900															
40	79.1	193.6	193.6	137,400															
45	77.5	192.5	192.5	116,4															