

MANITOWOC ENGINEERING CO.

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



LIFTCRANE CAPACITIES

BOOM NO. 22 WITH OPEN THROAT TOP
104,400 LB. COUNTERWEIGHT
360 DEGREE RATING

MEETS
ANSI B30.5
REQUIREMENTS

4000W

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. (20,000 LBS. WHEN REAR AUXILIARY DRUM IS USED). 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 GANTRY UP. REFER TO BOOM RIGGING NO. 4816B AND WIRE ROPE SPECIFICATION CHART NO. 6664-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 24' EXTENDIBLE CRAWLERS, 48" TREADS, 15' RETRACTABLE GANTRY, 12 PART BOOM HOIST REEVING, FOUR 1-3/8" BOOM PENDANTS, 1ST COUNTERWEIGHT = 40,100 LBS. (39,000 LBS. WITH COUNTERWEIGHT ASSEMBLY NO. 48998), 2ND COUNTERWEIGHT = 35,800 LBS., AND 3RD COUNTERWEIGHT = 28,500 LBS.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED					
OVER END OF BLOCKED CRAWLERS		OVER SIDE OF EXTENDED CRAWLERS		OVER SIDE OF RETRACTED CRAWLERS	
BOOM LGTH.	JIB NO. 123	BOOM LGTH.	JIB NO. 123	BOOM LGTH.	JIB NO. 123
220'	---	200'	---	190'	---
210'	---	190'	---	180'	---
200'	40'	180'	50'	170'	50'
190'	60'	170'	60'	160'	60'

LOAD BLOCK, HOOK AND WEIGHT BALL ON GROUND AT START. UPPER BOOM POINT CANNOT BE USED ON 220' BOOM.

DEDUCT FROM CAPACITIES WHEN UPPER BOOM POINT IS ATTACHED		DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED	
		JIB LGTH.	JIB NO. 123
ONE SHEAVE POINT	1,200 LBS.	30'	3,000 LBS.
TWO SHEAVE POINT	1,500 LBS.	40'	3,600 LBS.
		50'	4,200 LBS.
		60'	4,900 LBS.

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	CAPACITY
				CRAWLERS RETRACTED POUNDS	CRAWLERS EXTENDED POUNDS
70	15	80.7	75.2	350,000*	350,000*
	16	79.9	76.0	308,600	332,800*
	17	79.0	75.8	275,000	307,800*
	18	78.2	75.6	248,000	285,200*
	19	77.3	75.4	225,600	270,100*
	20	76.5	75.2	206,900	253,500*
	22	74.8	74.7	177,200	214,000
	24	73.1	74.1	154,800	184,800
	26	71.4	73.4	137,200	162,500
	28	69.7	72.7	123,100	144,800
	30	67.9	72.0	111,500	130,500
	32	66.1	71.1	101,700	118,600
	34	64.3	70.2	93,500	108,600
	36	62.5	69.2	86,400	100,100
	38	60.6	68.1	80,300	92,700
	40	58.7	66.9	74,900	86,300
	45	53.8	63.6	63,900	73,400
	50	48.6	59.6	55,600	63,700
	55	42.8	54.7	49,000	56,000
60	36.4	48.7	43,600	49,800	
65	28.8	40.8	39,200	44,800	
70	18.6	29.5	35,500	40,500	

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY	CAPACITY
				CRAWLERS RETRACTED POUNDS	CRAWLERS EXTENDED POUNDS
80	16	81.1	85.1	308,300	311,000*
	17	80.4	86.0	274,700	306,300*
	18	79.7	85.8	247,600	283,800*
	19	78.9	85.6	225,200	268,800*
	20	78.2	85.4	206,500	252,600*
	22	76.8	85.0	176,800	213,600
	24	75.3	84.5	154,300	184,400
	26	73.8	83.9	136,700	162,100
	28	72.3	83.3	122,500	144,300
	30	70.8	82.6	110,900	130,000
	32	69.3	81.9	101,200	118,100
	34	67.7	81.1	93,000	108,100
	36	66.2	80.3	85,900	99,600
	38	64.6	79.4	79,700	92,200
	40	63.0	78.4	74,300	85,800
	45	58.9	75.6	63,400	72,900
	50	54.6	72.3	55,000	63,100
	55	50.1	68.5	48,400	55,400
	60	45.2	63.9	43,000	49,200
65	39.9	58.5	38,600	44,200	
70	34.0	51.8	34,900	39,900	
75	26.9	43.3	31,700	36,300	
80	17.4	31.0	29,000	33,200	

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS	
				RETRACTED POUNDS	EXTENDED POUNDS
09	17	81.5	96.1	267,100	267,100
	18	80.8	96.0	247,400	267,100
	19	80.2	95.8	225,000	263,000
	20	79.5	95.6	206,200	250,500
	22	78.2	95.2	176,500	213,400
	24	76.9	94.8	154,000	184,200
	26	75.6	94.3	136,400	161,800
	28	74.3	93.8	122,200	144,100
	30	73.0	93.2	110,600	129,700
	32	71.7	92.5	100,900	117,800
	34	70.3	91.8	92,600	107,800
	36	68.9	91.1	85,500	99,200
	38	67.6	90.3	79,400	91,900
	40	66.2	89.4	74,000	85,500
	45	62.7	87.1	63,000	72,500
	50	59.0	84.3	54,600	62,700
	55	55.2	81.0	48,000	55,100
	60	51.2	77.3	42,700	48,900
	65	47.0	73.0	38,200	43,800
	70	42.5	67.9	34,500	39,600
75	37.6	62.0	31,400	36,000	
80	32.0	54.8	28,600	32,900	
85	25.4	45.6	26,300	30,200	
90	16.4	32.5	24,200	27,800	
10	19	81.2	105.9	224,600	243,000
	20	80.6	105.8	205,800	243,000
	22	79.4	105.4	176,100	213,100
	24	78.3	105.0	153,500	183,800
	26	77.1	104.6	135,900	161,400
	28	75.9	104.1	121,800	143,600
	30	74.7	103.6	110,100	129,200
	32	73.5	103.0	100,400	117,300
	34	72.3	102.4	92,100	107,300
	36	71.1	101.7	85,000	98,800
	38	69.9	101.0	78,800	91,400
	40	68.7	100.3	73,400	85,000
	45	65.6	98.2	62,500	72,000
	50	62.4	95.7	54,100	62,200
	55	59.1	92.9	47,400	54,500
	60	55.7	89.7	42,100	48,300
	65	52.2	86.1	37,700	43,300
	70	48.4	81.9	33,900	39,000
	75	44.5	77.2	30,800	35,400
	80	40.2	71.7	28,000	32,300
85	35.6	65.3	25,700	29,600	
90	30.3	57.6	23,600	27,200	
95	24.0	47.8	21,700	25,200	
100	15.6	33.9	20,100	23,300	
11	20	81.5	115.9	205,500	215,900
	22	80.4	115.6	175,700	212,800
	24	79.3	115.2	153,200	183,500
	26	78.3	114.8	135,600	161,100
	28	77.2	114.4	121,400	143,300
	30	76.1	113.9	109,700	128,900
	32	75.1	113.4	100,000	117,000
	34	74.0	112.8	91,700	107,000
	36	72.9	112.2	84,600	98,400
	38	71.8	111.6	78,500	91,000
	40	70.7	110.9	73,100	84,600
	45	67.9	109.0	62,100	71,600
	50	65.1	106.9	53,700	61,800
	55	62.2	104.4	47,000	54,100
	60	59.2	101.6	41,700	47,900
	65	56.1	98.4	37,200	42,900
	70	52.9	94.9	33,500	38,600
	75	49.6	90.8	30,400	35,000
	80	46.1	86.3	27,600	31,900
	85	42.3	81.2	25,300	29,200
90	38.3	75.3	23,200	26,800	
95	33.9	68.4	21,300	24,700	
100	28.9	60.2	19,700	22,900	
105	22.9	49.9	18,200	21,200	
12	22	81.2	125.7	175,500	186,800
	24	80.2	125.4	153,000	183,400
	26	79.3	125.0	135,300	160,900
	28	78.3	124.6	121,100	143,100
	30	77.3	124.2	109,500	128,700
	32	76.3	123.7	99,700	116,800
	34	75.4	123.2	91,500	106,700
	36	74.4	122.7	84,400	98,200
	38	73.4	122.1	78,200	90,800
	40	72.4	121.5	72,800	84,300
	45	69.9	119.8	61,800	71,400
	50	67.3	117.8	53,400	61,500
	55	64.7	115.6	46,700	53,800
	60	62.0	113.1	41,400	47,600
	65	59.3	110.2	36,900	42,600
	70	56.4	107.1	33,200	38,300
	75	53.5	103.6	30,000	34,700
	80	50.5	99.7	27,300	31,600
	85	47.3	95.3	24,900	28,900
	90	44.0	90.5	22,800	26,500
95	40.4	84.9	21,000	24,400	
100	36.6	78.7	19,300	22,600	
105	32.4	71.4	17,900	20,900	
110	27.6	62.7	16,500	19,400	
115	21.9	51.9	15,300	18,000	

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS		BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS		
				RETRACTED POUNDS	EXTENDED POUNDS					RETRACTED POUNDS	EXTENDED POUNDS	
140	26	80.8	145.3	134,500	157,000*	160	105	50.7	130.9	16,000	19,100	
	28	80.0	145.0	120,300	142,400		110	48.3	126.7	14,700	17,600	
	30	79.2	144.6	108,600	127,900		115	45.9	122.0	13,500	16,200	
	32	78.3	144.2	98,900	116,000		120	43.4	117.0	12,400	15,000	
	34	77.5	143.8	90,600	105,900		125	40.7	111.4	11,300	13,800	
	36	76.6	143.3	83,500	97,300		130	37.9	105.3	10,400	12,800	
	38	75.8	142.8	77,300	89,900		135	34.8	98.5	9,600	11,800	
	40	75.0	142.3	71,900	83,500		140	31.6	90.8	8,800	10,900	
	45	72.8	140.9	60,800	70,500		145	28.0	82.1	8,000	10,100	
	50	70.7	139.2	52,400	60,600		150	23.9	71.8	7,300	9,400	
	55	68.5	137.4	45,800	52,900		155	18.9	59.0	6,700	8,600	
	60	66.3	135.3	40,400	46,700		170	30	81.1	175.1	107,500	126,200*
	65	64.0	133.0	36,000	41,600			32	80.4	174.7	97,700	114,900
	70	61.7	130.4	32,200	37,300			34	79.7	174.4	89,400	104,800
	75	59.4	127.6	29,100	33,700			36	79.0	174.0	82,300	96,200
	80	57.0	124.5	26,300	30,600			38	78.3	173.6	76,100	88,800
	85	54.5	121.1	23,900	27,900			40	77.7	173.2	70,700	82,400
	90	51.9	117.3	21,800	25,500			45	75.9	172.0	59,600	69,300
95	49.3	113.2	20,000	23,400	50	74.2		170.7	51,200	59,500		
100	46.5	108.7	18,300	21,600	55	72.4		169.2	44,500	51,700		
105	43.6	103.7	16,900	19,900	60	70.6		167.5	39,200	45,500		
110	40.6	98.2	15,500	18,400	65	68.9		165.7	34,700	40,400		
115	37.3	92.0	14,300	17,000	70	67.0		163.6	31,000	36,100		
120	33.8	85.0	13,200	15,800	75	65.2		161.4	27,800	32,500		
125	29.9	76.9	12,200	14,700	80	63.3		159.0	25,100	29,400		
130	25.5	67.4	11,300	13,600	85	61.4		156.4	22,700	26,700		
135	20.3	55.6	10,400	12,700	90	59.5		153.6	20,600	24,300		
150	26	81.4	155.4	134,100	157,000*	95		57.5	150.5	19,700	22,200	
	28	80.7	155.1	119,900	142,000	100		55.5	147.2	17,100	20,300	
	30	79.9	154.8	108,200	127,500	105	53.4	143.6	15,600	18,600		
	32	79.1	154.4	98,500	115,600	110	51.3	139.7	14,200	17,100		
	34	78.3	154.0	90,200	105,500	115	49.1	135.6	13,000	15,800		
	36	77.6	153.6	83,100	96,900	120	46.8	131.1	11,900	14,500		
	38	76.8	153.1	76,900	89,500	125	44.5	126.2	10,900	13,400		
	40	76.0	152.6	71,400	83,100	130	42.0	120.9	10,000	12,300		
	45	74.0	151.3	60,400	70,100	135	39.4	115.0	9,100	11,400		
	50	72.0	149.8	52,000	60,200	140	36.7	108.7	8,300	10,500		
	55	70.0	148.0	45,300	52,500	145	33.8	101.6	7,600	9,700		
	60	67.9	146.1	40,000	46,300	150	30.6	93.6	6,900	8,900		
	65	65.9	144.0	35,500	41,200	155	27.1	84.6	6,200	8,200		
	70	63.8	141.6	31,800	36,900	160	23.1	73.9	5,700	7,500		
	75	61.6	139.1	28,600	33,300	165	18.4	60.7	5,100	6,900		
	80	59.4	136.2	25,900	30,200	180	32	80.9	184.9	97,300	114,500	
	85	57.2	133.1	23,500	27,500		34	80.3	184.5	89,000	104,400	
	90	54.9	129.8	21,400	25,100		36	79.7	184.2	81,800	95,800	
95	52.5	126.1	19,500	23,000	38		79.0	183.8	75,600	88,400		
100	50.0	122.1	17,900	21,100	40		78.4	183.4	70,200	81,900		
105	47.5	117.7	16,400	19,500	45		76.7	182.3	59,100	68,800		
110	44.9	112.9	15,100	17,900	50		75.1	181.0	50,700	59,000		
115	42.1	107.6	13,800	16,600	55		73.4	179.6	44,000	51,200		
120	39.1	101.8	12,700	15,300	60		71.8	178.1	38,600	45,000		
125	36.0	95.3	11,700	14,200	65		70.1	176.3	34,200	39,900		
130	32.6	88.0	10,800	13,200	70		68.4	174.4	30,400	35,600		
135	28.9	79.6	9,900	12,200	75		66.7	172.4	27,300	32,000		
140	24.6	69.7	9,100	11,300	80		64.9	170.1	24,500	28,800		
145	19.6	57.4	8,400	10,500	85		63.1	167.7	22,100	26,100		
160	28	81.3	165.2	119,600	141,700		90	61.3	165.0	20,000	23,700	
	30	80.5	164.9	107,900	127,300		95	59.5	162.2	18,200	21,600	
	32	79.8	164.6	98,100	115,300		100	57.6	159.2	16,500	19,800	
	34	79.1	164.2	89,800	105,200		105	55.7	155.9	15,000	18,100	
	36	78.3	163.8	82,700	96,600	110	53.8	152.3	13,700	16,600		
	38	77.6	163.4	76,500	89,200	115	51.8	148.5	12,500	15,200		
	40	76.9	162.9	71,100	82,800	120	49.7	144.5	11,300	14,000		
	45	75.0	161.7	60,100	69,700	125	47.6	140.1	10,300	12,800		
	50	73.2	160.2	51,600	59,900	130	45.4	135.3	9,400	11,800		
	55	71.3	158.6	45,000	52,200	135	43.1	130.2	8,500	10,800		
	60	69.4	156.9	39,600	45,900	140	40.8	124.6	7,700	9,900		
	65	67.5	154.9	35,200	40,800	145	38.3	118.6	7,000	9,100		
	70	65.5	152.7	31,400	36,600	150	35.6	111.9	6,300	8,300		
	75	63.5	150.3	28,200	32,900	155	32.8	104.6	5,700	7,600		
	80	61.5	147.7	25,500	29,800	160	29.7	96.3	5,100	7,000		
	85	59.4	144.9	23,100	27,100	165	26.3	86.9	4,500	6,300		
	90	57.3	141.8	21,000	24,700	170	22.5	75.9	4,000	5,800		
	95	55.2	138.6	19,200	22,600	175	17.9	62.3	3,600	5,200		
100	53.0	134.9	17,500	20,800								

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	CAPACITY CRAWLERS	
				RETRACTED POUNDS	EXTENDED POUNDS
100	32	81.4	195.0	96,900	114,100
	34	80.8	194.7	88,500	104,000
	36	80.2	194.3	81,400	95,400
	38	79.6	194.0	75,200	88,000
	40	79.0	193.6	69,700	81,500
	45	77.4	192.6	58,700	68,400
	50	75.9	191.4	50,200	58,500
	55	74.3	190.0	43,600	50,800
	60	72.8	188.6	38,200	44,600
	65	71.2	186.9	33,700	39,400
	70	69.6	185.1	30,000	35,100
	75	67.9	183.2	26,800	31,500
	80	66.3	181.1	24,000	28,400
	85	64.7	178.8	21,700	25,700
	90	63.0	176.4	19,600	23,300
	100	59.5	170.9	16,000	19,300
	105	57.8	167.8	14,500	17,600
	110	56.0	164.6	13,200	16,100
	115	54.1	161.1	12,000	14,700
	120	52.2	157.3	10,900	13,500
125	50.3	153.3	9,900	12,400	
130	48.3	149.0	8,900	11,300	
135	46.3	144.4	8,100	10,300	
140	44.1	139.4	7,300	9,500	
145	41.9	134.1	6,500	8,600	
150	39.6	128.3	5,800	7,900	
155	37.2	122.0	5,200	7,200	
160	34.6	115.1	4,600	6,500	
165	31.9	107.5	4,100	5,900	
170	28.9	98.9		5,300	
175	25.6	89.2		4,700	
180	21.9	77.9		4,200	
200	34	81.3	204.8	88,200	95,500*
	36	80.7	204.5	81,000	95,000
	38	80.1	204.1	74,800	87,600
	40	79.5	203.6	69,400	81,100
	45	78.1	202.8	58,300	68,100
	50	76.6	201.7	49,900	58,200
	55	75.1	200.4	43,200	50,400
	60	73.6	199.0	37,800	44,200
	65	72.1	197.5	33,300	39,000
	70	70.6	195.8	29,600	34,800
	75	69.1	194.0	26,400	31,100
	80	67.6	192.0	23,600	28,000
	85	66.0	189.8	21,300	25,300
	90	64.4	187.5	19,200	22,900
	95	62.8	185.0	17,300	20,800
	100	61.2	182.4	15,600	18,900
	105	59.6	179.5	14,100	17,200
	110	57.9	176.5	12,800	15,700
	115	56.2	173.3	11,600	14,300
	120	54.4	169.8	10,500	13,100
125	52.7	166.1	9,400	12,000	
130	50.8	162.2	8,500	10,900	
135	49.0	157.9	7,700	9,900	
140	47.0	153.4	6,900	9,100	
145	45.0	148.6	6,100	8,200	
150	43.0	143.4	5,400	7,500	
155	40.8	137.9	4,800	6,700	
160	38.6	131.8	4,200	6,100	
165	36.2	125.3		5,500	
170	33.7	118.2		4,900	
175	31.1	110.3		4,300	
210	36	81.1	214.6	80,600	94,600
	38	80.6	214.3	74,400	87,200
	40	80.0	213.9	68,900	80,700
	45	78.6	213.0	57,900	67,600
	50	77.3	211.9	49,400	57,700
	55	75.9	210.7	42,700	50,000
	60	74.4	209.4	37,300	43,700
	65	73.0	207.9	32,900	38,600
	70	71.6	206.4	29,100	34,300
	75	70.1	204.6	25,900	30,700
	80	68.7	202.7	23,200	27,500
	85	67.2	200.7	20,800	24,800
	90	65.7	198.5	18,700	22,400
	95	64.2	196.2	16,800	20,300
	100	62.7	193.7	15,200	18,500
	105	61.1	191.0	13,700	16,800
	110	59.6	188.2	12,300	15,300
	115	58.0	185.2	11,100	13,900
	120	56.4	181.9	10,000	12,600
	125	54.7	178.5	9,000	11,500
130	53.0	174.9	8,000	10,400	
135	51.3	171.0	7,200	9,500	
140	49.5	166.8	6,400	8,600	
145	47.7	162.4	5,700	7,800	
150	45.8	157.7	5,000	7,000	
155	43.9	152.7	4,300	6,300	
160	41.9	147.3		5,600	
165	39.8	141.5		5,000	
170	37.6	135.3		4,400	
220	38	81.0	224.4	73,900	86,800
	40	80.5	224.1	68,500	80,300
	45	79.2	223.2	57,400	67,200
	50	77.8	222.2	48,900	57,300
	55	76.5	221.0	42,200	49,500
	60	75.2	219.8	36,800	43,200
	65	73.8	218.4	32,400	38,100
	70	72.5	216.9	28,600	33,800
	75	71.1	215.2	25,400	30,200
	80	69.7	213.4	22,700	27,000
	85	68.3	211.5	20,300	24,300
	90	66.9	209.5	18,200	21,900
	95	65.5	207.2	16,300	19,800
	100	64.0	204.9	14,600	17,900
	105	62.6	202.4	13,100	16,200
	110	61.1	199.7	11,800	14,700
	115	59.6	196.9	10,600	13,300
	120	58.1	193.8	9,500	12,100
	125	56.5	190.6	8,400	11,000
	130	55.0	187.2	7,500	9,900
135	53.3	183.6	6,600	8,900	
140	51.7	179.8	5,800	8,000	
145	50.0	175.7	5,100	7,200	
150	48.3	171.4	4,400	6,500	
155	46.5	166.8		5,700	
160	44.7	161.9		5,100	
165	42.8	156.7		4,400	