

## features

- 50 Ton (45,4 Mton) Capacity
- 4-Section 110' (33,5 M) Proportional Boom
- 4-Section 96' (29,3 M) Proportional Boom
- 2-Section 32' (9,8 M) To 49' (14,9 M) Telescopic Offset Jib (15°, 30°)
- 164' (50,1 M) Maximum Tip Height with Telescopic Jib
- 117' (35,6 M) Maximum Main Boom Tip Height
- Self-Lubricating Boom Slider Pads
- Two Speed Planetary Grooved Drum Hoist With Negative Draft Flange and Rope Tensioner
- Auxiliary Hoist Option
- Hoist Drum Rotation Indicator
- Ride Around Operator Control Station
- Pilot Operated Crane Controls
- Fully Enclosed Cab With Diesel Heater Standard, Air Conditioner Option Available
- System Pressure Gauge
- Free Swing with Accu-Swing Control
- Continuous Rotation
- 360° Work Area
- ROCSolid Outriggers feature Radio Remote Outrigger Controls, Audible Outrigger Motion Alarm
- Retracted, Intermediate And Fully Extended Outrigger Load Charts
- Load Chart On Tires Over The Rear
- Load Moment Indicator With Digital Display, CANbus system interface, Overload Shutdown And Internal Boom Length Cable
- Radio ATB
- Rugged, Weatherproof, Automotive Style Electrical System
- Hydraulic Oil Cooler
- Clamp-On Mounting
- Design Meets ANSI B30.5 Recommendations
- Manitex UPTIME Comprehensive Support



# series 5002

## GENERAL SPECIFICATIONS

### BOOM

Inverted T-cross section designed for optimum strength to weight ratio; 4-section telescoping type, extended and retracted proportionally by a double-acting hydraulic cylinder and a cable-crowd system. Fitted with easily replaceable self-lubricating wear pads for smooth operation.

**50110S** – 4-Section 34' (10,4 m) to 110' (33,5 m)  
2-Section 32' (9,8 m) To 49' (14,9 m) Telescopic Offset Jib (0°, 15°, 30°)

**5096S** – 4-Section 30' 6" (9,3 m) to 96' (29,3 m)  
2-Section 32' (9,8 m) To 49' (14,9 m) Telescopic Offset Jib (0°, 15°, 30°)

**Quick Reeve Boom Point** – Six high-density nylon load sheaves mounted on heavy-duty roller bearings. Removable pin-type rope guards.

**Boom Elevation** – Double-acting hydraulic cylinder. Working range from 5° below horizontal to 75° above.

**Load Hook** – 5-ton (4,5 mton) capacity hook with heavy-duty swivel and weight is provided for single-line operation.

### HOIST

Planetary reducer with wet multi-disc spring applied, hydraulically released internal brake and grooved drum; negative draft angle on drum flange and load line tension roller virtually eliminates load line stacking while spooling. High efficiency two speed hydraulic motor equipped with patented brake valve for precise lowering.

**Main Hoist** – Maximum theoretical line speed 453 fpm (138 mpm); maximum theoretical bottom-layer line pull 13396 lb (6 076 kg).

**Optional Aux Hoist** - Same as Main

**Wire Rope** – 400' (122 m), 5/8" (16 mm) diameter. Low Torque type; a designed balance between rope lay and strand lay offers characteristics similar to those attributed to rotation resistant ropes at a 3.5:1 safety design factor.

### SWING SYSTEM

Free swing continuous rotation system. Externally mounted, double-reduction planetary gearbox driven by hydraulic motor. Equipped with a dual brake system; spring-applied hydraulically-released Parking Brake and a foot actuated Dynamic Service brake. Ball-bearing swing circle with external gear. Manitex ACCUswing control allows operator to adjust crane swing speed up to a maximum of 2.0 rpm.

### OUTRIGGERS

Out-and-down style outriggers, operated independently for precise leveling. Fully extended, intermediate extension and fully retracted outrigger beam positions. Bubble levels located in operator cab and near outrigger manual controls.

Maximum outrigger spread 23' 3" (7,1 m), Intermediate outrigger spread 15' 5" (4,7 m), 22" (559 mm) diameter floats.

### MOUNTING

Lower frame is mounted to chassis by threaded rods and clamp plates. No welding, drilling, or bolting to truck frame is required.

**Lower Frame** – Torsionally resistant, rigid 4-plate design with integrated outriggers and pedestal.

**Rear Underride Protection** – Standard on factory-mounted cranes. Fabricated structure mounted under rear of crane. Complies with Bureau Motor Carrier Safety Standard 393.86.

**Boom Rest** – Heavy-duty fabrication. Easily removed to simplify loading and unloading truck deck.

### CONTROL SYSTEM

Single cab enclosed operator platform and seat mounted to turret. Four "pilot operated" single-axis crane controls provide precise metering and multifunction capability; winch control fitted with hoist drum rotation indicator (**HDRI**). Controls are arranged in accordance with ANSI B30.5 standards. Free swing standard; assists in tandem lifting and centering of boom over loads. Swing system is further refined using Manitex ACCUSwing control to allow setting of swing speed to individual operator preference. The operator station also includes engine start/stop, air foot throttle, signal horn, load moment indicator display, boom angle indicator, load chart and range diagram.

### CAB

Standard features include a diesel heater, top hatch with electric wiper and locking latches, front electric two-speed wiper, spray washer, fuse block, operator cooling fan, dome light, slider side and rear windows, two position side door with keyed outside latch. Cab may be upgraded to include a hydraulic air conditioning unit.

### HYDRAULICS

**Hydraulic System** – A 3-section pump direct-mounted to power take-off on truck transmission provides 41.7 gpm (158 lpm) to the hoist, 28 gpm (106 lpm) to the boom hoist and telescope circuit, and 12 gpm (45 lpm) to the swing and outrigger circuit. 115-gallon (435-liter) baffled reservoir includes suction ball valve with strainer and two 25-micron filters in the return line. Use of SAE O-ring and face seal O-ring hydraulic fittings throughout system.

**Hydraulic Cylinders** – All load-holding cylinders are equipped with integral holding valves.

### WARNING SYSTEMS

**Load Moment Indicator** – CANbus interface system maximize expansion capabilities. Senses boom hoist cylinder pressure, boom length and boom angle. Audio-visual warning indicates overload conditions and overload shutoff feature prevents continuing overload. Operator can access all relative crane configuration and load conditions via display at the operator station. For added reliability, the LMI system features an internal boom length sensing cable.

**Radio Anti-Two-Block System** – Audible warning and shutoff functions prevent hook from contacting boom point. Switch is potted to ensure reliability.

**Back-Up Alarm** – Supplied on factory-mounted cranes, electronic audible motion alarm activated when truck transmission is in reverse gear.

### GENERAL

**Electrical** – State-of-the-art, weather-resistant components throughout; automotive style electrical system for easy installation. System is designed to withstand high pressure washing and varying climates.

**Design/Welding** – Design conforms to ANSI B30.5. Welding conforms to AWS D1.1. Tested to SAE 1063 and SAE 765.

**Manuals** – Operator/maintenance and parts manuals depict correct crane operation, maintenance procedures and parts listing.

**Warranty** – 12-month warranty covers parts and labor resulting from defects in material and workmanship.

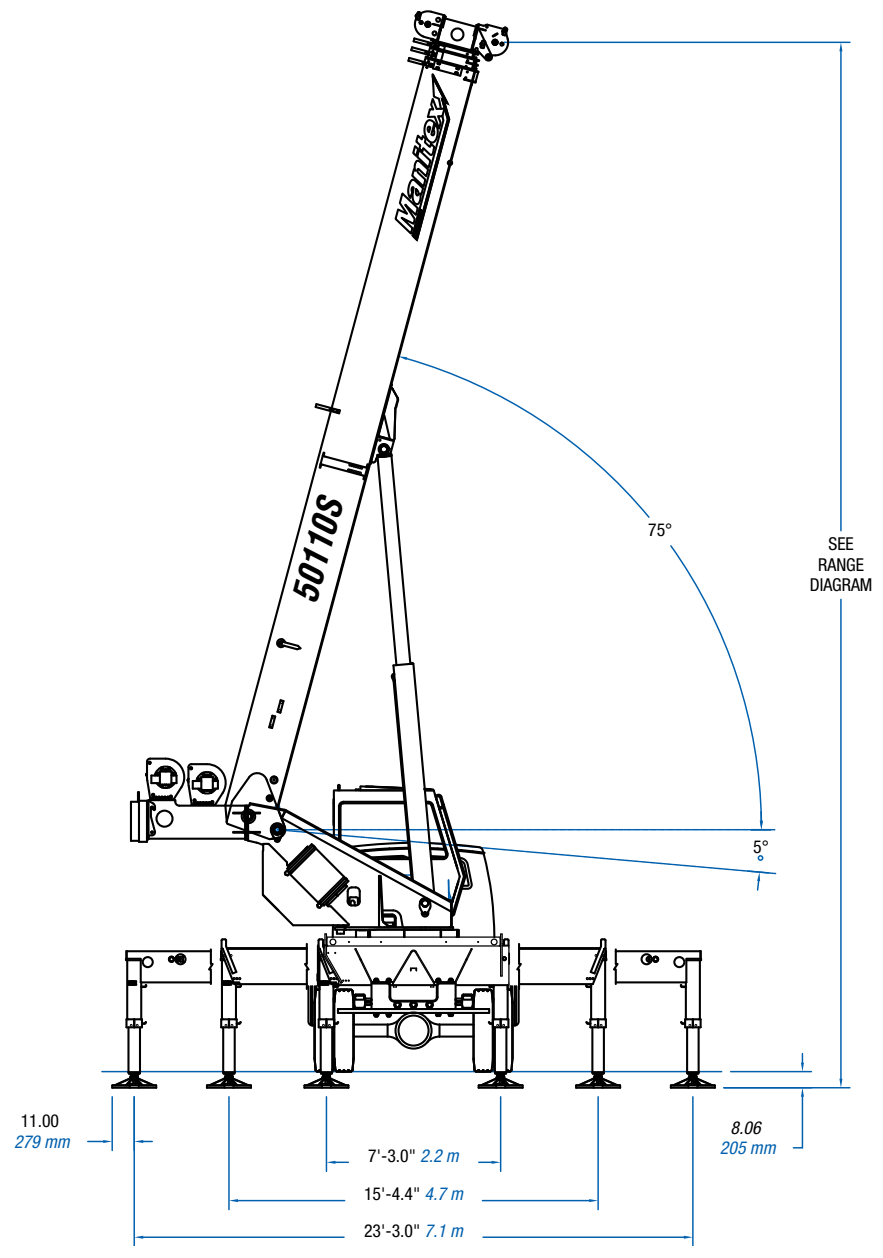
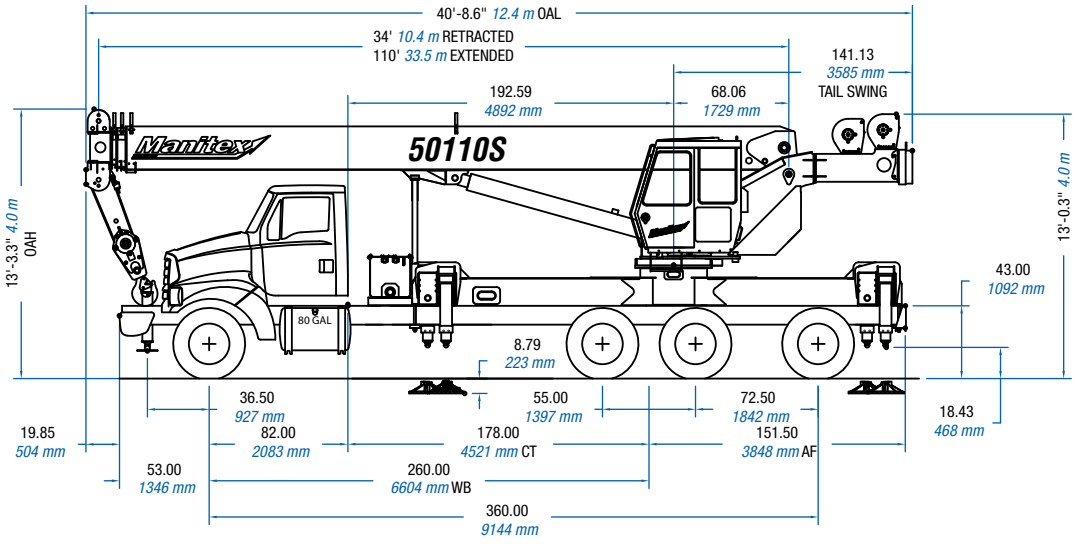
\* In order to ensure continuous improvement, specifications may change without notice.

<b>MAXIMUM TIP HEIGHT</b>	<b>5096S</b>	<b>50110S</b>
Configuration	<b>Boom 96'</b> <i>29,3 m</i>	<b>Boom 110'</b> <i>33,5 m</i>
Extended Boom	<b>103' 10"</b> <i>31,6 m</i>	<b>117'</b> <i>35,6 m</i>
Fixed or Retracted Jib	<b>134' 9"</b> <i>41,1 m</i>	<b>148'</b> <i>45,0 m</i>
Extended Jib	<b>151' 2"</b> <i>46,1 m</i>	<b>164'</b> <i>50,1 m</i>

<b>CHASSIS DATA</b>	<b>5096S</b>	<b>50110S</b>
Wheelbase (WB)	<b>246"</b> <i>6 248 mm</i>	<b>260"</b> <i>6 604 mm</i>
Cab to Tandem (CT)	<b>182"</b> <i>4 622 mm</i>	<b>178"</b> <i>4 521 mm</i>
Cab to End of Frame (EOF)	<b>323"</b> <i>8 204 mm</i>	<b>330"</b> <i>8 382 mm</i>
Frame Section Modulus	<b>27.0 in<sup>3</sup></b> <b>120,000 psi</b> <i>827 371 kPa</i>	<b>27.0 in<sup>3</sup></b> <b>120,000 psi</b> <i>827 371 kPa</i>
Front Axle Gross Weight Rating	<b>20,000 lb</b> <i>9 071 kg</i>	<b>20,000 lb</b> <i>9 071 kg</i>
Rear Axle Gross Weight Rating	<b>40,000 lb</b> <i>18 143 kg</i>	<b>40,000 lb</b> <i>18 143 kg</i>
Minimum Truck Axle Weight - Front*	<b>9,100 lb</b> <i>4 127 kg</i>	<b>9,000 lb</b> <i>4 082 kg</i>
Minimum Truck Axle Weight - Back*	<b>11,150 lb</b> <i>5 057 kg</i>	<b>10,600 lb</b> <i>4 808 kg</i>
Nominal Frame Width	<b>34"</b> <i>864 mm</i>	<b>34"</b> <i>864 mm</i>
<p>Chassis data is minimum general requirements-not for engineering.            Actual dimensions and truck data will depend on truck selection and axle configuration.            *Minimum chassis weight is required to meet 85% stability requirements.</p>		

<b>WEIGHTS</b>	<b>5096S</b>	<b>50110S</b>
Crane (Includes Cab and Platforms)	<b>37,535 lb</b> <i>17 026 kg</i>	<b>38,838 lb</b> <i>17 617 kg</i>
Cab	<b>575 lb</b> <i>261 kg</i>	<b>575 lb</b> <i>261 kg</i>
Aluminum Platforms	<b>542 lb</b> <i>246 kg</i>	<b>542 lb</b> <i>246 kg</i>
32' (9,72 m) to 49' (14,94 m) Telescopic Jib	<b>1,870 lb</b> <i>848 kg</i>	<b>1,870 lb</b> <i>848 kg</i>

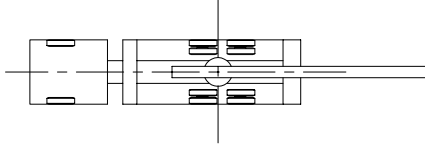
- OAH Overall Height
- CT Cab to Tandem
- CA Cab to Axle
- WB Wheel Base
- OAL Overall Length
- BBC Bumper to Back of Cab
- AF Afterframe
- EOF End Of Frame



## AREA OF OPERATIONS

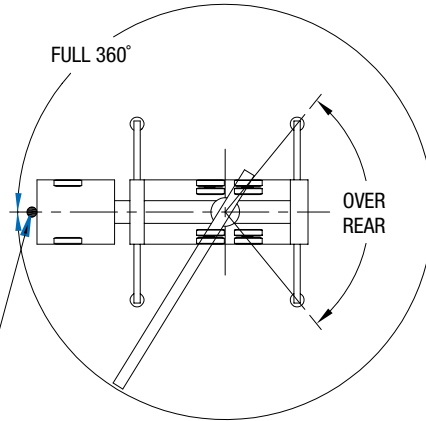
### ON TIRES

WHEN LIFTING ON TIRES, THE BOOM MUST BE CENTERED OVER THE REAR OF THE CRANE WITH THE SWING BRAKE AND THE HOUSELOCK ENGAGED.



### ON OUTRIGGERS

FULL 360°



THE FRONT BUMPER STABILIZER MUST BE SET IN ACCORDANCE TO THE OPERATORS MANUAL BEFORE WORKING IN THE "FULL 360°" AREA.

## DEDUCTIONS

Auxiliary Block	<b>50 lb</b> <i>22,72 kg</i>
Rooster Sheave	<b>70 lb</b> <i>31,75 kg</i>
Lifting from Main Boom with Jib Stowed or Erected	See load rating chart
Overhaul Ball	See manufacturer nameplate
Load Block	See manufacturer nameplate

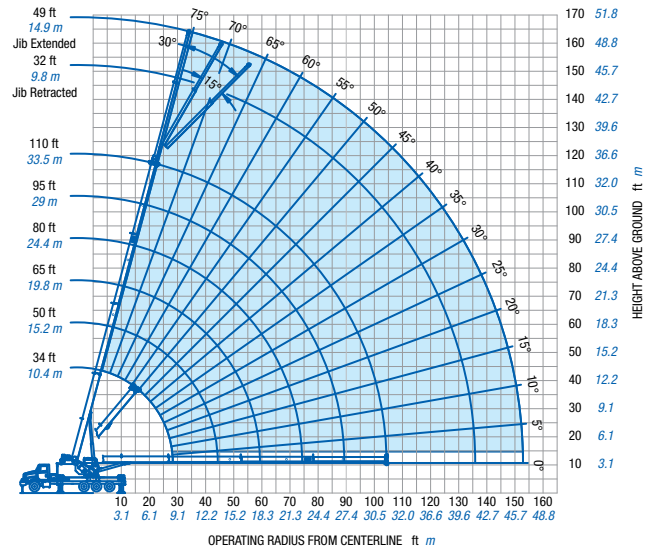
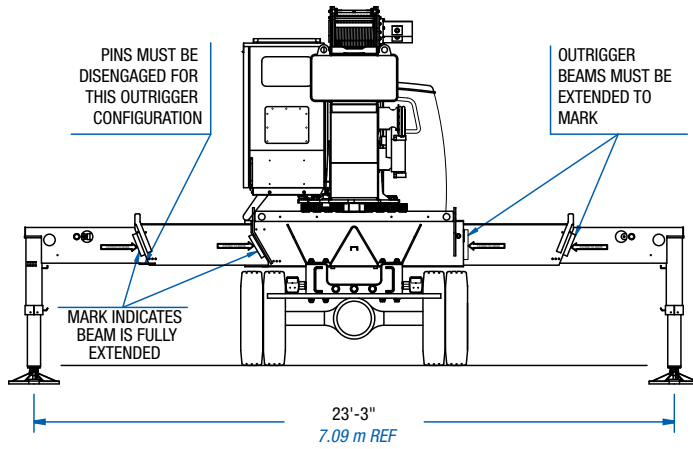
## ALLOWABLE LINE PULL

1 PART LINE	2 PART LINE	3 PART LINE	4 PART LINE	5 PART LINE	6 PART LINE	7 PART LINE	8 PART LINE	9 PART LINE	10 PART LINE	<b>WARNING</b>
										<p><b>Anti-two-block system must be in good operating condition before operating crane.</b></p> <p><b>Refer to the owner's manual.</b></p> <p><b>Keep at least 3 wraps of load line on the drum at all times.</b></p>
<b>10,000 lb</b> <i>4 536 kg</i>	<b>20,000 lb</b> <i>9 072 kg</i>	<b>30,000 lb</b> <i>13 608 kg</i>	<b>40,000 lb</b> <i>18 144 kg</i>	<b>50,000 lb</b> <i>22 680 kg</i>	<b>60,000 lb</b> <i>27 216 kg</i>	<b>70,000 lb</b> <i>31 751 kg</i>	<b>80,000 lb</b> <i>36 287 kg</i>	<b>90,000 lb</b> <i>40 823 kg</i>	<b>100,000 lb</b> <i>45 359 kg</i>	

## BOOM AND JIB COMBINATIONS

5096S	96'	4 Section Boom	32' - 42' 2 - Section Jib
50110S	110'	4 Section Boom	32' - 42' 2 - Section Jib

**USE THIS CHART ONLY WHEN ALL OUTRIGGER BEAMS ARE FULLY EXTENDED**



FULLY EXTENDED OUTRIGGER SPREAD: MODEL 50110S																
MAIN BOOM LOAD RATINGS																
Load Radius	Loaded Boom Angle	Boom Length 34 ft				Boom Length 50 ft (A)				Boom Length 65 ft (B)				Deductions for Jib From Main Boom Capacities		
		Code 1 Over Rear		Code 3 Full 360°		Code 1 Over Rear		Code 3 Full 360°		Code 1 Over Rear		Code 3 Full 360°				
Feet / Meters	°	lb	kg	lb	kg	°	lb	kg	lb	kg	°	lb	kg	lb	kg	
6 / 1.83	71	100000	45 360	100000	45 360											
8 / 2.44	67.5	88100	39 962	88100	39 962											
10 / 3.05	63.5	77900	35 335	77900	35 335	73	51000	23 134	51000	23 134						
12 / 3.66	60	69900	31 707	69900	31 707	70.5	51000	23 134	51000	23 134						
15 / 4.57	53.5	60400	27 397	60400	27 397	67	51000	23 134	51000	23 134	73	40000	18 144	40000	18 144	
20 / 6.10	42	46100	20 911	46100	20 911	60.5	46400	21 047	46400	21 047	68.5	38810	17 604	38810	17 604	
25 / 7.62	26.5	35800	16 239	35670	16 180	53.5	36600	16 602	36600	16 602	63.5	33150	15 037	33150	15 037	
30 / 9.14						45.5	29670	13 458	25590	11 608	58.5	29000	13 154	26150	11 862	
35 / 10.67						36.5	23130	10 492	18980	8 609	53	23610	10 709	19500	8 845	
40 / 12.19						25	18360	8 328	14680	6 659	47	18850	8 550	15190	6 890	
45 / 13.71											40.5	15440	7 004	12160	5 516	
50 / 15.24											32.5	12870	5 838	9920	4 500	
55 / 16.76											22.5	10860	4 926	8170	3 706	
		1150 lbs 521 kg				780 lbs 353 kg				600 lbs 272 kg				Stowed Jib		
		2940 lbs 1 333 kg				2650 lbs 1202 kg				2510 lbs 1138 kg				Erected Jib (Retracted)		
		3320 lbs 1 505 kg				2910 lbs 1319 kg				2710 lbs 1229 kg				Erected Jib (Extended)		

Load Radius	Loaded Boom Angle	Boom Length 80 ft (C)				Boom Length 96 ft (D)				Boom Length 110 ft (E)				Deductions for Jib From Main Boom Capacities		
		Code 1 Over Rear		Code 3 Full 360°		Code 1 Over Rear		Code 3 Full 360°		Code 1 Over Rear		Code 3 Full 360°				
Feet / Meters	°	lb	kg	lb	kg	°	lb	kg	lb	kg	°	lb	kg	lb	kg	
20 / 6.10	73.5	28230	12 805	28230	12 805											
25 / 7.62	69.5	24350	11 045	24350	11 045	73.5	20000	9 071	20000	9 071						
30 / 9.14	65.5	21280	9 653	21280	9 653	70.5	18680	8 473	18680	8 473	74	15500	7 030	15500	7 030	
35 / 10.67	61.5	19000	8 618	19000	8 618	67.5	16580	7 520	16580	7 520	71.5	14660	6 649	14660	6 649	
40 / 12.19	57.5	16870	7 652	15470	7 017	64	14820	6 722	14820	6 722	69	13270	6 019	13270	6 019	
45 / 13.71	53	15120	6 858	12440	5 643	60.5	13330	6 046	12610	5 719	66	11960	5 424	11960	5 424	
50 / 15.24	48	13130	5 956	10190	4 622	57	12050	5 465	10360	4 699	63	10850	4 921	10480	4 753	
55 / 16.76	43	11140	5 053	8460	3 837	53	10920	4 953	8620	3 909	60	9950	4 513	8740	3 964	
60 / 18.29	37	9540	4 327	7080	3 211	49	9700	4 399	7250	3 288	56.5	9210	4 177	7360	3 338	
65 / 19.81	30	8220	3 729	5950	2 699	44.5	8390	3 805	6120	2 775	53.5	8410	3 814	6240	2 830	
70 / 21.34	21	7110	3 225	5010	2 273	40	7290	3 306	5190	2 354	50	7400	3 356	5300	2 404	
75 / 22.86						34.5	6360	2 884	4410	2 000	46	6470	2 934	4520	2 050	
80 / 24.38						28	5560	2 521	3730	1 691	42	5670	2 571	3850	1 746	
85 / 25.91						20	4860	2 204	3140	1 424	37.5	4980	2 258	3260	1 478	
90 / 27.43											33	4380	1 986	2750	1 247	
95 / 28.98											27	3840	1 741	2300	1 043	
100 / 30.48											19	3350	1 519	1900	861	
		490 lbs 222 kg				420 lbs 191 kg				360 lbs 163 kg				Stowed Jib		
		2420 lbs 1 097 kg				2360 lbs 1 071 kg				2320 lbs 1 053 kg				Erected Jib (Retracted)		
		2580 lbs 1 171 kg				2500 lbs 1 133 kg				2430 lbs 1 103 kg				Erected Jib (Extended)		

FULLY EXTENDED OUTRIGGER SPREAD: MODEL 50110S

32 FT RETRACTED JIB LIFTING CAPACITIES

		0° offset				15° offset				30° offset						
Load Radius	Loaded Boom Angle	Code 7 Over Rear		Code 8 Full 360°		Loaded Boom Angle	Code 9 Over Rear		Code 10 Full 360°		Loaded Boom Angle	Code 11 Over Rear		Code 12 Full 360°		
		lb	kg	lb	kg		lb	kg	lb	kg		lb	kg	lb	kg	
Feet	Meters	∠				∠					∠					
40	12,19	74.5	7300	3 311	7300	3 311										
45	13,72	72.5	7300	3 311	7300	3 311										
50	15,24	70.5	7300	3 311	7300	3 311	73.5	6500	2 948	6500	2 948					
55	16,76	68.5	6980	3 166	6980	3 166	71.5	6500	2 948	6500	2 948	74	5800	2 630	5800	2 630
60	18,29	66.5	6600	2 993	6600	2 993	69.5	6120	2 775	6120	2 775	72	5750	2 608	5750	2 608
65	19,81	64	6230	2 825	6230	2 825	67	5780	2 621	5780	2 621	69.5	5450	2 472	5450	2 472
70	21,34	62	5870	2 662	5280	2 394	65	5450	2 472	5450	2 472	67	5160	2 340	5160	2 340
75	22,86	59.5	5530	2 508	4480	2 032	62.5	5160	2 340	4890	2 218	64.5	4900	2 222	4900	2 222
80	24,38	57	5110	2 317	3800	1 723	60	4880	2 213	4170	1 891	62	4670	2 118	4470	2 027
85	25,91	54.5	4690	2 127	3200	1 451	57.5	4630	2 100	3530	1 601	59.5	4450	2 018	3800	1 723
90	27,43	52	4280	1 941	2690	1 220	54.5	4400	1 995	2980	1 351	56.5	4250	1 927	3210	1 456
95	28,96	49	3740	1 696	2230	1 011	51.5	4000	1 814	2500	1 133	53.5	4070	1 846	2700	1 224
100	30,48	46	3260	1 478	1830	830	48.5	3490	1 583	2060	934	50.5	3660	1 660	2230	1 011
105	32,00	43	2830	1 283	1470	666	45.5	3030	1 374	1670	757	47	3170	1 437	1810	821
110	33,53	39.5	2440	1 106	1140	517	42	2620	1 188	1320	598	43.5	2730	1 238	1440	653
115	35,05	35.5	2090	948	850	385	38	2240	1 016	1000	453	39	2330	1 056	1090	494
120	36,58	31.5	1770	802			34	1890	857			34.5	1950	884	760	344
125	38,10	26.5	1480	671			29	1570	712			29	1600	725		
130	39,62	20.5	1210	548			22	1270	576			20	1250	566		
135	41,15	10	950	430												

FULLY EXTENDED OUTRIGGER SPREAD: MODEL 50110S

49 FT EXTENDED JIB LIFTING CAPACITIES

		0° offset				15° offset				30° offset						
Load Radius	Loaded Boom Angle	Code 13 Over Rear		Code 14 Full 360°		Loaded Boom Angle	Code 15 Over Rear		Code 16 Full 360°		Loaded Boom Angle	Code 17 Over Rear		Code 18 Full 360°		
		lb	kg	lb	kg		lb	kg	lb	kg		lb	kg	lb	kg	
Feet	Meters	∠				∠					∠					
45	13,72	75	5400	2 449	5400	2 449										
50	15,24	73.5	5400	2 449	5400	2 449										
55	16,76	69.5	5400	2 449	5400	2 449	75	4700	2 131	4700	2 131					
60	18,29	71.5	5400	2 449	5400	2 449	73.5	4480	2 032	4480	2 032					
65	19,81	66	5230	2 372	5230	2 372	71.5	4280	1 941	4280	1 941	75	3520	1 596	3520	1 596
70	21,34	64	4930	2 236	4930	2 236	69.5	4100	1 859	4100	1 859	73.5	3410	1 546	3410	1 546
75	22,86	62	4660	2 113	4660	2 113	67.5	3940	1 787	3940	1 787	71	3310	1 501	3310	1 501
80	24,38	68	4410	2 000	4410	2 000	65.5	3790	1 719	3790	1 719	69	3210	1 456	3210	1 456
85	25,91	60	4170	1 891	3810	1 728	63.5	3650	1 655	3650	1 655	67	3130	1 419	3130	1 419
90	27,43	45.5	3950	1 791	3290	1 492	61.5	3520	1 596	3520	1 596	64.5	3050	1 383	3050	1 383
95	28,96	36	3750	1 700	2820	1 279	59	3400	1 542	3250	1 474	62	2980	1 351	2980	1 351
100	30,48	39.5	3560	1 614	2420	1 097	57	3290	1 492	2800	1 270	59.5	2910	1 319	2910	1 319
105	32,00	42.5	3380	1 533	2050	929	54.5	3190	1 446	2400	1 088	57	2860	1 297	2680	1 215
110	33,53	55.5	3010	1 365	1720	780	52	3050	1 383	2030	920	54.5	2810	1 274	2280	1 034
115	35,05	53	2660	1 206	1420	644	49	2920	1 324	1700	771	51.5	2760	1 251	1920	870
120	36,58	50.5	2330	1 056	1150	521	46	2580	1 170	1400	636	48.5	2730	1 238	1580	716
125	38,10	48	2040	925	910	412	43	2260	1 025	1130	512	45	2400	1 088	1280	580
130	39,62	57.5	1770	802			39.5	1960	889	870	394	41	2070	938	990	449
135	41,15	32	1520	689			35.5	1680	762			36.5	1760	798		
140	42,68	28	1290	585			31	1410	639			31	1460	662		
145	44,20	22.5	1070	485			25	1160	526							
150	45,72	15	870	394			15.5	910	412							

**UPTime is the Manitex commitment to complete support of thousands of units working every day.**

## ***UPTime***

- Includes 24-7-365 parts assistance.
- Utilizes the efficiency of the Manitex Online Parts Search and Order System.
- Relies on Manitex's UPTrak support tracking system for performance analysis and resource allocation.
- Features REMan, Manitex's cost effective rebuild/exchange program.
- Provides expert service technicians for troubleshooting and site visits.
- Mandates training; at our facility and yours. It includes coordinated support from all component suppliers.
- Involves every Manitex team member in the support of every Manitex customer.

### **What does UPTime mean to Manitex customers?**

***UPTime*** means reliability.

***UPTime*** means utilization.

***UPTime*** means profitability.



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