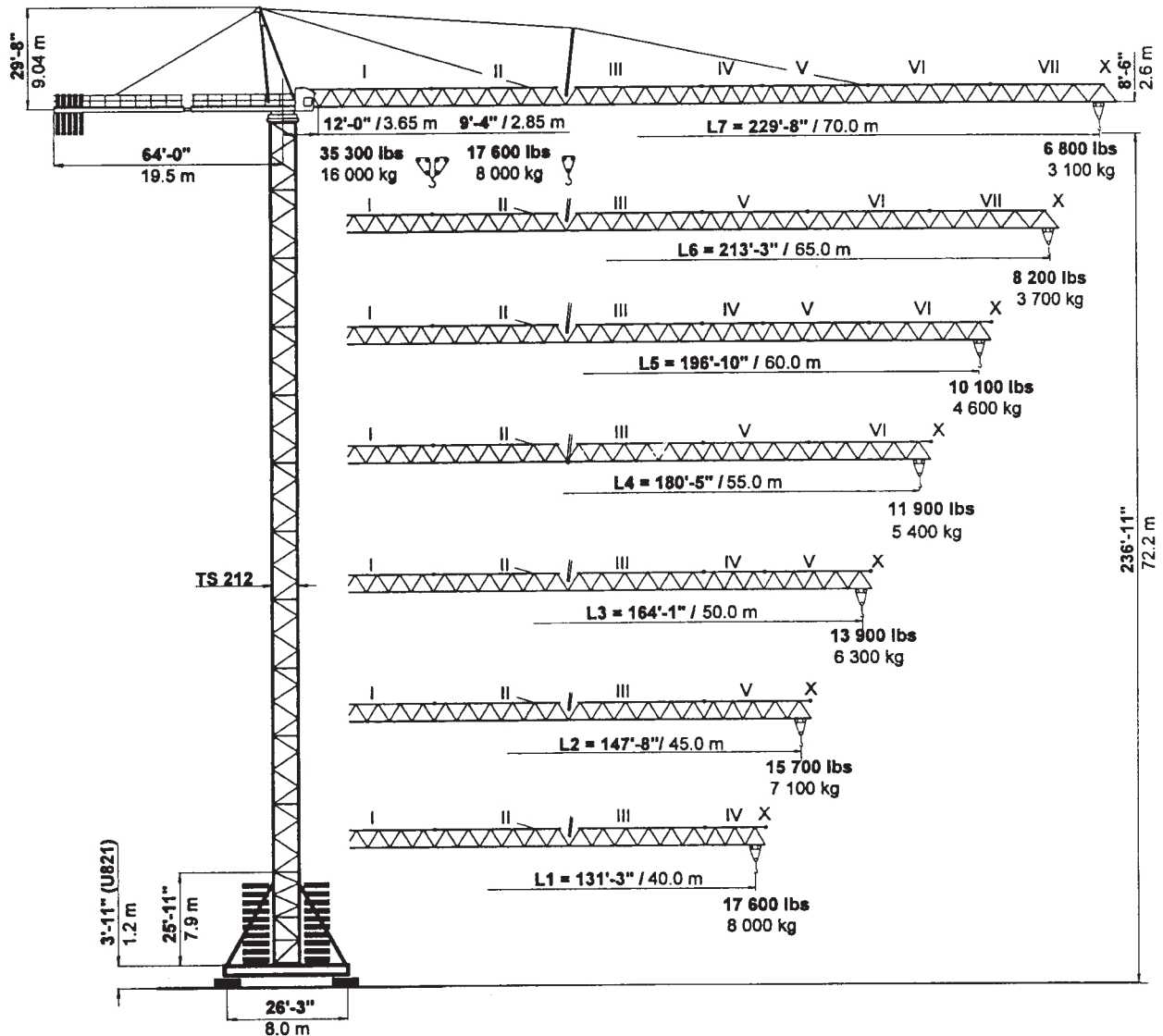




# PEINER SK 315

Hammerhead Tower Crane  
17,600-35,300 lbs. (8-16 mt)  
Lifting Capacity



## SPECIFICATIONS
















simple, available and  
cost effective™

Machines shown may have optional equipment.

# PEINER SK 315 Radius and Capacity

Jib # E	Max. capacity max. 17,600 lbs 8.0 t	Radius – ft./m Capacity – lbs./mt																			
		2-Part Line  max. 17,600 lbs max. 8.0 t																			
		75'-6" 23	82'-0" 25	98'-5" 30	114'-10" 35	131'-3" 40	141'-1" 43	147'-8" 45	157'-6" 48	164'-1" 50	173'-11" 53	180'-5" 55	190'-3" 58	196'-10" 60	206'-8" 63	213'-3" 65	223'-1" 68	229'-8" 70			
L7 229'-8" 70.0	9'-4" - 96'-9" 2.85 - 29.5 m	17600	17600	17400	14800	12800	11900	11200	10600	10100	9500	9000	8600	8200	7700	7500	7100	6800			
L6 213'-3" 65.0	9'-4" - 105'-0" 2.85 - 32.0 m	17600	17600	17600	16100	13900	13000	12300	11500	11000	10400	9900	9300	8800	8600	8200					
L5 196'-10" 60.0	9'-4" - 117'-9" 2.85 - 35.9 m	17600	17600	17600	17600	15700	14600	13900	13000	12300	11700	11200	10600	10100							
L4 180'-5" 55.0	9'-4" - 124'-8" 2.85 - 38.0 m	17600	17600	17600	17600	16800	15400	14800	13900	13200	12300	11900									
L3 164'-1" 50.0	9'-4" - 130'-11" 2.85 - 39.9 m	17600	17600	17600	17600	17600	16300	15400	14600	13900											
L2 147'-8" 45.0	9'-4" - 131'-11" 2.85 - 40.2 m	17600	17600	17600	17600	17600	16500	15700													
L1 131'-3" 40.0	9'-4" - 131'-3" 2.85 - 40.0 m	17600	17600	17600	17600	17600															
ft m	35,300 lbs 16.0 t	4-Part Line  max. 35,300 lbs max. 16.0 t																Radius - 2'-7" (- 0.8 m)			
L7 227'-0" 69.2	12'-0" - 48'-7" 3.65 - 14.8 m	21800	19600	16100	13200	11200	10400	9700	9000	8600	7900	7500	7100	6600	6200	6000	5500	5300			
L6 210'-8" 64.2	12'-0" - 52'-2" 3.65 - 15.9 m	23800	21600	17400	14600	12600	11500	10800	9900	9500	8800	8400	7700	7500	6800	6600					
L5 194'-3" 59.2	12'-0" - 57'-9" 3.65 - 17.6 m	26900	24500	19800	16800	14300	13000	12300	11500	10800	10100	9700	9000	8600							
L4 177'-10" 54.2	12'-0" - 61'-0" 3.65 - 18.6 m	28700	26000	21200	17900	15200	14100	13200	12300	11700	10800	10400									
L3 161'-5" 49.2	12'-0" - 63'-8" 3.65 - 19.4 m	30200	27300	22300	18700	16100	14800	14100	12800	12300											
L2 145'-0" 44.2	12'-0" - 64'-0" 3.65 - 19.5 m	30400	27600	22500	19000	16300	15000	14100													
L1 128'-7" 39.2	12'-0" - 66'-3" 3.65 - 20.2 m	31700	28700	23600	19800	17000															

## Speeds

FU 8-160/4		v = 0 → ~290 fpm (88 m / min.)	10.2 HP 7.5 kW
SR 10-190/3		v = 0 → ~96 fpm (30 m / min.)	2 x 16.3 HP 2 x 12.0 kW
K WB 120/4		v = 0 → 0.9 rpm (min <sup>-1</sup> )	2 x 11.4 HP 2 x 8.4 kW
 HK max. = 705' (215 m)      6 - layers			480 V / 60 Hz / 3 ph
Type SR WB 66-80/4F  [108 HP] [79 kW]		 2-Part Line → 444 fpm 134 m/min      5 500 lbs 2 500 kg	Total motor output ~140 HP without SR 10-190/3 ~105 kW  Connected power 170 kVA
		 2-Part Line → 276 fpm 84 m/min      9 300 lbs 4 200 kg	
		 4-Part Line → 180 fpm 54 m/min      13 900 lbs 6 300 kg	
		 4-Part Line → 108 fpm 34 m/min      17 600 lbs 8 000 kg	
		 4-Part Line → 222 fpm 67 m/min      11 000 lbs 5 000 kg	
		 4-Part Line → 138 fpm 42 m/min      18 600 lbs 8 400 kg	
		 4-Part Line → 90 fpm 27 m/min      27 800 lbs 12 600 kg	
		 4-Part Line → 54 fpm 17 m/min      35 300 lbs 16 000 kg	

## Counterweight

Jib	L1 - 131'	L2 - 148'	L3 - 164'	L4 - 180'	L5 - 197'	L6 - 213'	L7 - 230'
Configuration	ABBB•	BBAA•	AAAA•	BBBAA	AAAAB	BBAAA	AAAAA
Weight (lbs)	29,970 lbs	32,180 lbs	36,600 lbs	39,120 lbs	43,540 lbs	41,340 lbs	45,750 lbs
Weight (kg)	13,600 kg	14,600 kg	16,600 kg	17,750 kg	19,750 kg	18,750 kg	20,750 kg





# LIEBHERR 540 HC-L 12 Litronic®

## Radius and capacities

Hook Reach	Maximum Capacity – Radius	ft m	13* 4*	66 20	98 30	107 32.5	115 35	123 37.5	131 40	139 42.5	148 45	156 47.5	164 50	172 52.5	180 55	189 57.5	197 60	205 62.5	213 65	
213 ft 65m	26,460 lbs – 127 ft 12 000 kg – 38.8m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	25,245 11 450	22,155 10 410	20,945 9 500	19,160 8 690	17,550 7 960	16,115 7 310	14,795 6 710	13,625 6 180	12,520 5 680	11,530 5 230	10,580 4 800	
197 ft 60m	26,460 lbs – 136 ft 12 000 kg – 41.4m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	24,440 11 540	23,345 10 590	21,495 9 750	19,820 8 990	18,320 8 310	16,955 7 690	15,720 7 130	14,550 6 600			
180 ft 55m	26,460 lbs – 144 ft 12 000 kg – 43.8m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	25,395 11 520	23,415 10 620	21,625 9 810	20,020 9 080	18,520 8 400					
164 ft 50m	26,460 lbs – 150 ft 12 000 kg – 45.8m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	25,065 11 370	23,150 10 500						
148 ft 45m	26,460 lbs – 148 ft 12 000 kg – 45m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000								
131 ft 40m	26,460 lbs – 131 ft 12 000 kg – 40m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000											
115 ft 35m	26,460 lbs – 115 ft 12 000 kg – 35m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000	26,460 12 000													
98 ft 30m	26,460 lbs – 98 ft 12 000 kg – 30m	lbs kg	26,460 12 000	26,460 12 000	26,460 12 000															

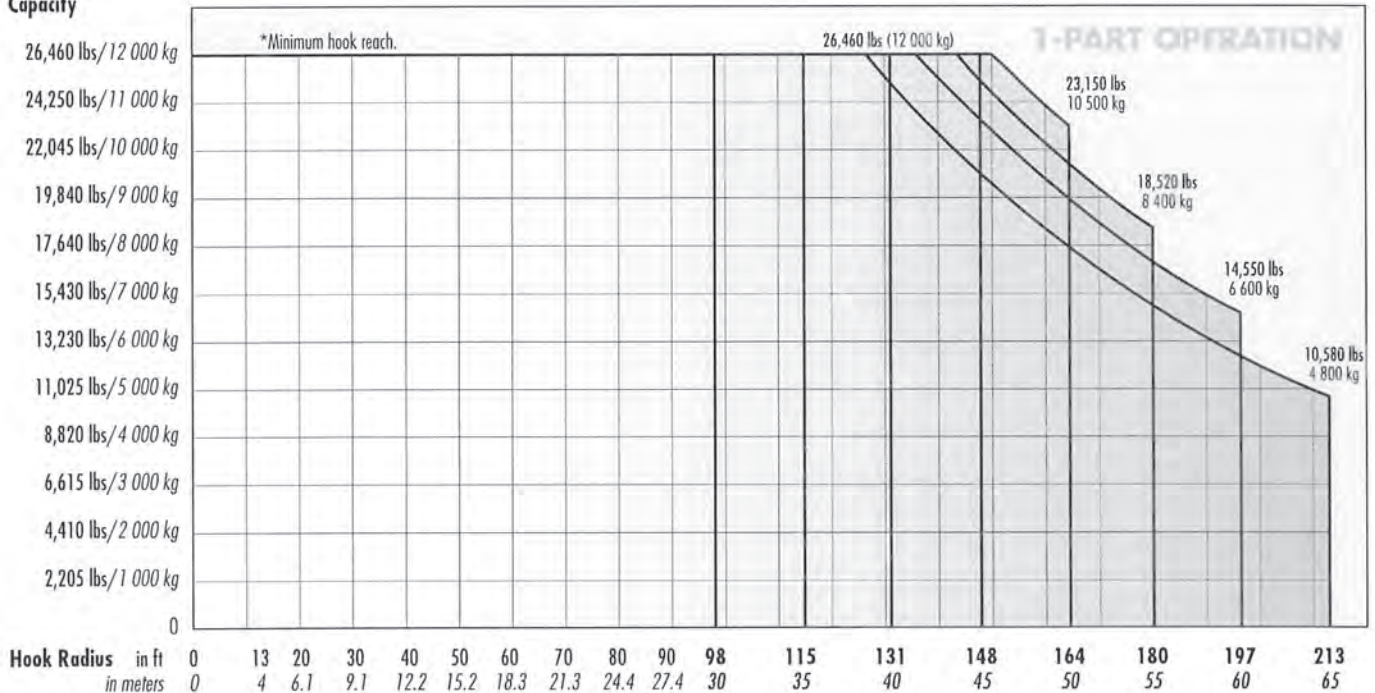
\*Minimum hook reach.



1-PART OPERATION

**NOTE!** Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet (100m). For capacity charts for hook heights exceeding 328 feet (100m), refer to the Liebherr 540 HC-L 12 Litronic Operation Manual or contact Marrow Equipment.

### Capacity



# LIEBHERR 540 HC-L 12 Litronic®

## Radius and capacities

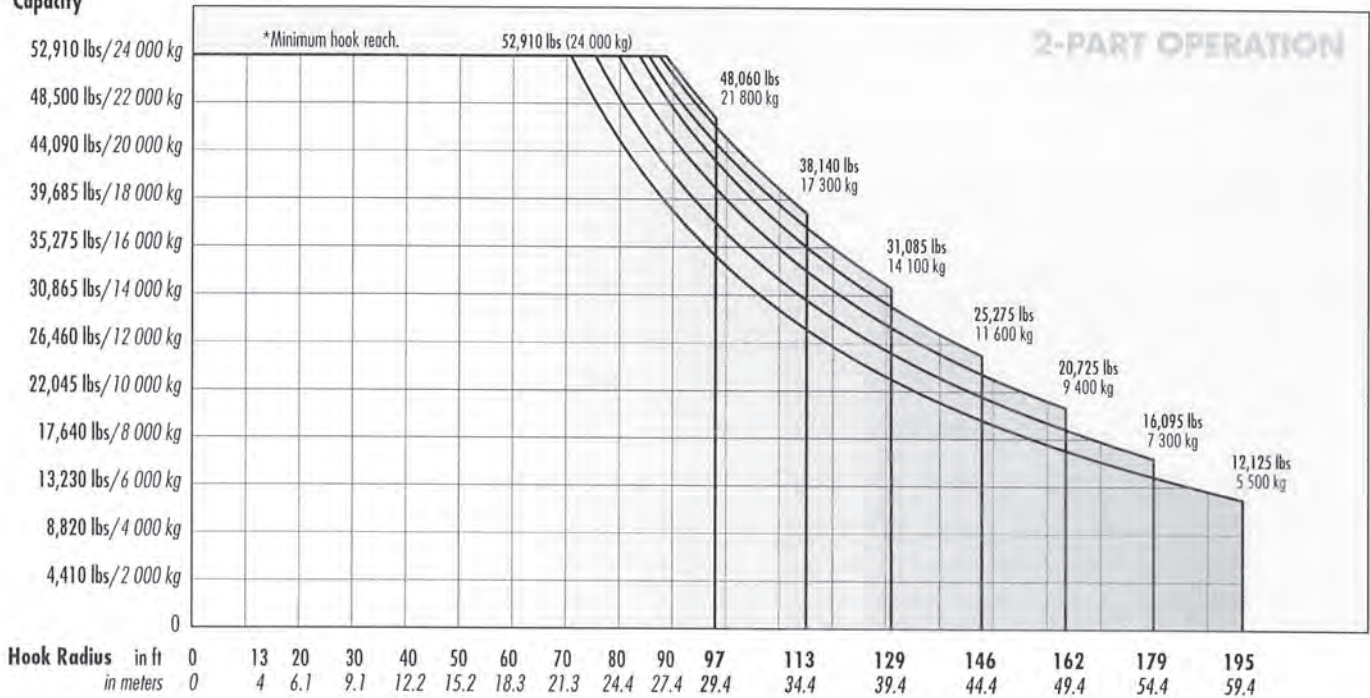
Boom Length	Hook Reach	Maximum Capacity – Radius	ft m	13* 4*	82 25	90 27.5	97 29.4	107 32.5	113 34.4	123 37.5	129 39.4	139 42.5	146 44.4	156 47.5	162 49.4	172 52.5	179 54.4	189 57.5	195 59.4	
197 ft 60m	195 ft 59.4m	52,910 lbs – 71 ft 24 000 kg – 21.6m	lbs kg	52,910 24 000	43,650 19 800	38,490 17 460	34,195 15 510	30,690 13 920	27,645 12 540	25,090 11 380	22,860 10 370	20,920 9 490	19,180 8 700	17,635 8 000	16,270 7 380	15,035 6 820	13,890 6 300	12,850 5 830	12,125 5 500	
180 ft	179 ft 55m	52,910 lbs – 75 ft 24 000 kg – 23m	lbs kg	52,910 24 000	47,530 21 560	42,020 19 060	37,480 17 000	33,730 15 300	30,510 13 840	27,780 12 600	25,400 11 520	23,325 10 580	21,495 9 750	19,840 9 000	18,365 8 330	17,040 7 730	16,095 7 300			
164 ft	162 ft 50m	52,910 lbs – 80 ft 24 000 kg – 24.3m	lbs kg	52,910 24 000	51,060 23 160	45,280 20 540	40,500 18 370	36,550 16 580	33,200 15 060	30,335 13 760	27,820 12 620	25,640 11 630	23,680 10 740	21,935 9 950	20,725 9 400					
148 ft	146 ft 45m	52,910 lbs – 84 ft 24 000 kg – 25.5m	lbs kg	52,910 24 000	52,910 24 000	48,125 21 830	43,055 19 530	38,870 17 630	35,295 16 010	32,230 14 620	29,565 13 410	27,205 12 340	25,575 11 600							
131 ft	129 ft 40m	52,910 lbs – 86 ft 24 000 kg – 26.1m	lbs kg	52,910 24 000	52,910 24 000	49,580 22 490	44,400 20 140	40,100 18 190	36,420 16 520	33,270 15 090	31,085 14 100									
115 ft	113 ft 35m	52,910 lbs – 88 ft 24 000 kg – 26.7m	lbs kg	52,910 24 000	52,910 24 000	50,990 23 130	45,660 20 710	41,160 18 670	38,140 17 300											
98 ft	97 ft 30m	52,910 lbs – 89 ft 24 000 kg – 27.2m	lbs kg	52,910 24 000	52,910 24 000	51,985 23 580	48,060 21 800													



2-PART OPERATION

**NOTE!** Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet (100m). For capacity charts for hook heights exceeding 328 feet (100m), refer to the Liebherr 540 HC-L 12 Litronic Operation Manual or contact Morrow Equipment.

### Capacity





# LIEBHERR 540 HC-L 12 Litronic®

## Hoist Speed and Capacity

Hoist Unit	WiW 300 VZ 405	1-Part Line				
147 hp (110 kW) FC hoist unit Variable frequency drive (VFD) 3-speed electromagnetic gear shifting  1P-41435 2P-41217	Speed	Capacity	Hook Speed	Capacity	Hook Speed	
	1	up to 26,460 lbs up to 11,680 lbs	@ 0 - 148 fpm @ 0 - 272 fpm	up to 12 000 kg up to 5 300 kg	@ 0 - 45m/min @ 0 - 83m/min	
	2	up to 13,890 lbs up to 4,630 lbs	@ 0 - 256 fpm @ 0 - 472 fpm	up to 6 300 kg up to 2 100 kg	@ 0 - 78m/min @ 0 - 144m/min	
	3	up to 6,610 lbs up to 660 lbs	@ 0 - 430 fpm @ 0 - 787 fpm	up to 3 000 kg up to 300 kg	@ 0 - 131m/min @ 0 - 240m/min	
	2-Part Line					
	1	up to 52,910 lbs up to 24,690 lbs	@ 0 - 75 fpm @ 0 - 138 fpm	up to 24 000 kg up to 11 200 kg	@ 0 - 23m/min @ 0 - 42m/min	
	2	up to 29,100 lbs up to 12,350 lbs	@ 0 - 128 fpm @ 0 - 236 fpm	up to 13 200 kg up to 5 600 kg	@ 0 - 39m/min @ 0 - 72m/min	
	3	up to 15,650 lbs up to 5,070 lbs	@ 0 - 213 fpm @ 0 - 394 fpm	up to 7 100 kg up to 2 300 kg	@ 0 - 65m/min @ 0 - 120m/min	

**NOTE!** Capacities and hook speeds indicated will vary depending on the amount of hoist rope installed. This crane model may be equipped with a hoist unit other than that specified in the data above. To verify, check the serial number of the crane and refer to the Liebherr 540 HC-L 12 Litronic Operation Manual for additional information.

## Motor Information

Drive Unit	Horsepower	Kilowatts	Speed
Luffing (Variable Frequency Drive)	147 hp	110 kW	1.9 min
Swing (VFD)	2 x 14.7 hp	2 x 11 kW	0.6 rpm
Travelling	Information available upon request		

## Power Requirements

- 480 V phase-phase, 277 V each phase to ground with 120° phase shift between phases. **Do not use open Delta.**
- 3-phase, 60 Hz power supply plus ground wire.
- Static: 350 Amperes, 194 kVA (Power requirements for travelling configuration available upon request).

## Counterweights

Boom Length	213' – 164' (65m – 50m)	148' – 131' (45m – 40m)	115' – 98' (35m – 30m)
Number of steel blocks required	11	10	9
Total weight	119,075 lbs	108,250 lbs	97,425 lbs
Total weight	54 010 kg	49 100 kg	44 190 kg

**NOTE!** Weight of the steel counterweight blocks are 10,825 lbs (4 910 kg) each. It is recommended that the weight of each counterweight be verified before installation. Counterweight figures displayed in the chart above are for crane with hoist unit WiW 300 VZ 405. If another hoist unit is installed, refer to the 540 HC-L 12 Litronic Operation Manual or contact Morrow Equipment for additional information.

Specifications subject to change without prior notice. For additional information, contact Morrow Equipment.

# Potain Igo T 130

## Product Guide



### Features

- 8000 kg (17,637 lb) maximum capacity
- 1400 kg (3086 lb) capacity at 50 m (164 ft)
- 50 m (164 ft) maximum operating hook radius
- 37,3 m (122 ft) maximum tip hook height with jib horizontal
- 61 m (200 ft) maximum hook height with 50 m (164 ft) jib set at 30°
- Variable height lattice mast from 19,3 m (63 ft) to 37,3 m (122 ft) with optional mast inserts

# Specifications



## Jib

47 m (154 ft) radius standard offsettable lattice jib; 50 m (164 ft) radius jib is optional. Two (2) tie bar lines with adjustable lengths allow jib to be offset up to 30°. Opening and aligning are carried out automatically by four (4) hydraulic cylinders.



## Mast

Telescoping lattice mast raised by an auxiliary winch and pulley block. Hook heights of 19,3 m (63 ft) and 22,3 m (73 ft) achievable with standard mast. 360° rotation possible during raising sequence.



## \*Optional mast inserts

Three (3) 6 m (20 ft) mast inserts available to reach a maximum horizontal hook height of 37,3 m (122 ft). Increasing mast height with one insert provides hook heights of 25,3 m (83 ft) and 28,3 m (93 ft); second mast insert provides hook heights of 31,3 m (103 ft) and 34,3 m (113 ft); third mast insert provides a hook height of 37,3 m (122 ft).



## Chassis

Outriggers swing and lock into position. 5 m (16.4 ft) square outrigger spread with 4 m (13.1 ft) maximum turning radius. Outrigger pads are stowed on the crane during transport (600 mm x 600 mm [23.6 in x 23.6 in]).



## \*Ballast

Ballast requirement for the crane consists of, at minimum, eleven (11) slabs each weighing 4050 kg (8929 lb). An additional slab is required in some raised jib configurations.



## Electrical requirement

480 volt, 60 Hz measured at the turntable. Power Control allows for a reduction in power supply for a proportional reduction in hoisting speed. Earth rod and electric cable stored on the crane during transport.



## Reeving

SM/DM block for 2 (SM) or 4-part line (DM). Manual removal of one pin to change between SM and DM.



## Anemometer

Electronic wind speed meter to alert the operator of wind speed conditions. Provides selective display on the radio remote. Crane can be operated in wind speeds up to 72 km/h (45 mph) and weather vane in winds up to 150 km/h (93 mph).



## Controls

Wireless remote control provides information to the operator about wind speed, radius, hook height, load, and moment. Lights and buzzers alert the operator when nearing limits of operation. Battery charger and extra battery are provided with crane.

Auxiliary push button tethered remote ensures continual operation in case of battery or other malfunction of the wireless remote control. Optional tethered remote control ensures continual operation with same functions and ergonomics as standard wireless remote control.



## Swing

RVF 161 Optima+ slewing mechanism with maximum swing speed of 0.8 rpm. Progressive control of speed with counter-slewing possible, anti-load swinging system makes aligning the load and jib easier. Multiple rpm speeds possible depending upon parameter selected.



## Hoist

33 LVF 20 Optima: 29,5 HP variable frequency hoist with 2 τ (2.2 USτ) line pull. Progressive speed change according to the accelerating or decelerating ramps. Optima allows the hoist to adapt its speed to the weight of the load.



## Trolley

5 DVF 5: 5.4 HP variable frequency hoist with 500 kg (1102 lb) line pull. Progressive speed change according to acceleration or deceleration ramps controlled by the frequency converter.



## Hydraulic equipment

Hydraulic cylinders are used for unfolding the mast and jib. All actions are carried about by the remote control.



## \*Optional transport axle sets

Axle sets are available for both jobsite and highway applications. Jobsite axles are rated for 25 km/h (15.5 mph) and highway axles are rated for 80 km/h (50 mph).

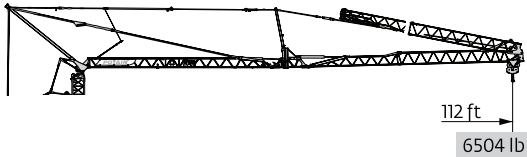
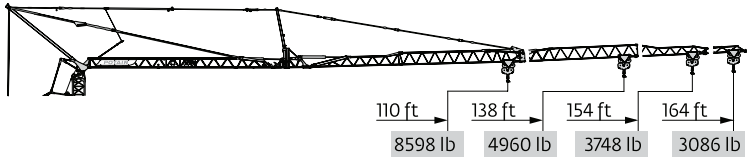
## \*Optional equipment

- \* STANDARD NORTH AMERICAN SPECIFICATION: 50 m (164 ft) jib radius, includes offsettable jib, 3 mast inserts, Dialog Wind, cold weather kit and 12 counterweight slabs.
- \* Offsettable jib
- \* Mast inserts 6 m (20 ft)
- \* Electric slip ring
- \* Central lubrication
- \* Ultra View cab
- \* Cab 800
- \* Cold weather kit
- \* Top Zone
- \* Top Tracing II
- \* Transport axles and kits

*\*Denotes optional equipment  
\*\*Requires optional anemometer*

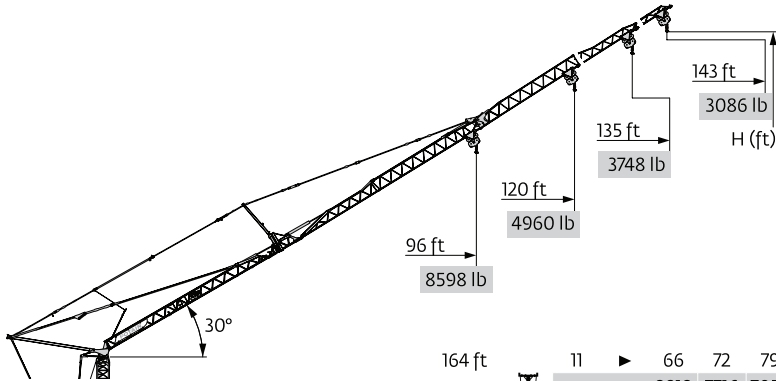


# Load charts



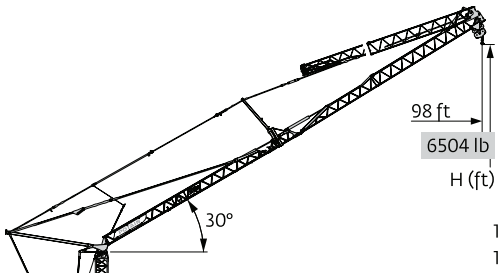
164 ft	11	▶	43	46	52	59	66	72	74	75	79	85	92	98	105	112	118	125	131	138	144	151	157	164	ft	
▲▲▲▲			17,637	16,314	13,669	11,905	10,362	9259	-	8598	8157	7496	6834	6173	5732	5291	4850	4519	4189	3968	3748	3527	3307	3086	lb	
									8818	8598	8157	7496	6834	6173	5732	5291	4850	4519	4189	3968	3748	3527	3307	3086	lb	
154 ft	11	▶	46	49	52	59	66	72	79	80	82	85	92	98	105	112	118	125	131	138	144	151	154	ft		
▲▲▲▲			17,637	16,314	14,991	13,007	11,244	10,141	9039	-	8598	8157	7496	6834	6283	5732	5401	4960	4630	4409	4079	3858	3748		lb	
										8818	8598	8157	7496	6834	6283	5732	5401	4960	4630	4409	4079	3858	3748		lb	
138 ft	11	▶	50	52	59	66	72	79	82	85	88	89	92	98	105	112	118	125	131	138				ft		
▲▲▲▲			17,637	16,755	14,330	12,566	11,244	10,141	9480	9039	-	8598	8378	7716	7055	6504	6063	5622	5291	4960					lb	
										8818	8598	8378	7716	7055	6504	6063	5622	5291	4960						lb	
110 ft	11	▶		61	66	72	79	82	85	89	92	98	105	108	110										ft	
▲▲▲▲				17,637	16,094	14,330	13,007	12,346	11,685	11,244	10,803	9921	9039	-	8598											lb
													8818	8598											lb	

164 ft	11	▶		50	52	59	66	72	79	85	88	92	98	105	112										ft	
▲▲▲▲				17,637	16,755	14,330	12,566	11,244	10,141	9039	-	8378	7716	7055	6504											lb
											8818	8378	7716	7055	6504											lb



▲▲▲▲		164 ft	154 ft	138 ft	110 ft
H+3	ⓘ	-	-	-	-
H+2	ⓘ	200	195	186	171
		180	175	166	151
H+1		171	165	156	141
H+0		151	146	137	122
		-	-	-	-

164 ft	11	▶	66	72	79	85	92	98	105	112	118	125	131	138	143	ft
▲▲▲▲			8818	7716	7055	6283	5732	5181	4740	4409	4079	3748	3527	3307	3086	lb
154 ft	11	▶	70	72	79	85	92	98	105	112	118	125	135			ft
▲▲▲▲			8818	8598	7716	6834	6283	5732	5291	4850	4519	4189	3748			lb
138 ft	11	▶		77	85	92	98	105	112	120						ft
▲▲▲▲				8818	7716	7055	6504	5952	5512	4960						lb
110 ft	11	▶				94	96									ft
▲▲▲▲						8818	8598									lb



164 ft	11	▶		77	79	85	92	98																		ft	
▲▲▲▲				8818	8598	7716	7055	6504																			lb

▲▲▲▲		164 ft	154 ft	138 ft
H+3		-		
	ⓘ	172		
H+2	ⓘ	162		
		152		
H+1		142		
		133		
H+0		123		
		-		







ⓘ For these heights, the load charts are reduced.




## For Exam Use Only

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

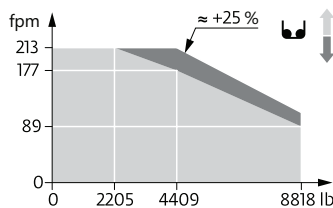
The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane





# Mechanisms

400 V - 50 Hz 480 V - 60 Hz												hp	kW	
	33 LVF 20 Optim a	fpm	10	52	89	177	213	5	26	44	89	107	29.5	22
		lb	8818	8818	8818	4409	2205	17637	17637	17637	8818	4409		
	5 DVF 5	fpm	49 - 98 - 180 (8818 → 17,637 lb) 49 - 98 - 230 (1102 → 8818 lbg) 49 - 98 - 328 (0 → 1102 lb)									5.4	4	
	RVF 161 Optima+	rpm	0 → 0.8									6	4.5	
	TVF 324	fpm	82									2 x 4	2 x 3	
















 IEC 60204-32	 kVA
400 V (+10% -10%) 50 Hz 480 V (+6% -10%) 60 Hz	35 → 20 kVA 

33 LVF 20 Optima



	Hoisting
	Trolleying
	Slewing
	Traveling

## Symbols glossary

 Jib	 Mast	 Anemometer	 Swing
 Outrigger	 Chassis	 Hydraulic equipment	 Controls
 Electrical requirement	 Ballast	 Transport axle	 Ballasting derrick
 Reeving	 Hoist	 Trolley	