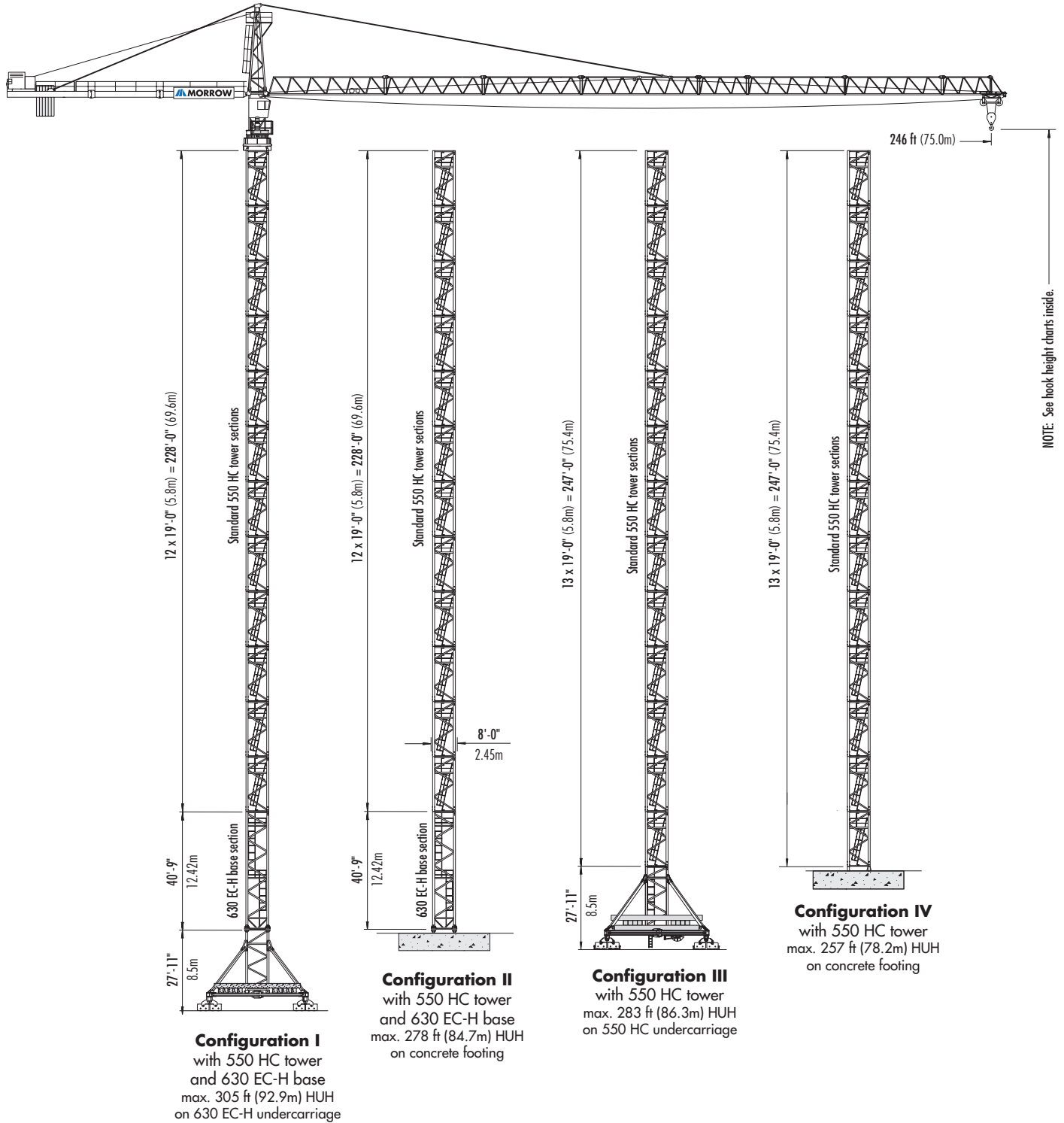


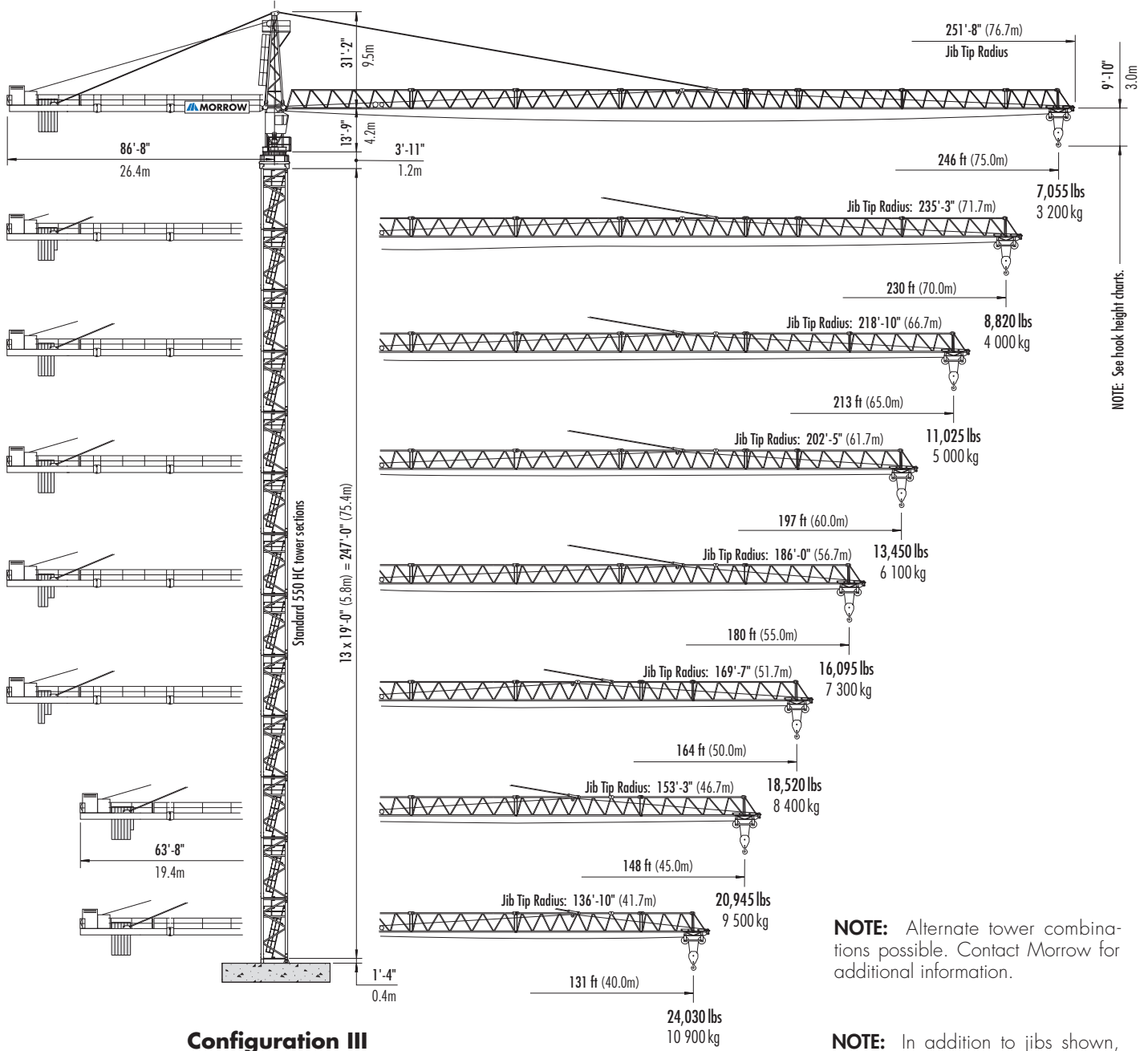
420 EC-H

▶ 16t

LIEBHERR Hammerhead Tower Crane



Jib Assemblies



NOTE: Alternate tower combinations possible. Contact Morrow for additional information.

NOTE: In addition to jibs shown, the LIEBHERR 420 EC-H 16 can be erected with a 115-ft (35.0m), 98-ft (30.0m) or 82-ft (25.0m) jib assembly. Contact Morrow for additional information.

Hook Heights

Configuration I					
550 HC tower sections on 630 EC-H undercarriage and base section					
		No. of Tower Elements	Tower Element Type	rail-travelling undercarriage	
		feet	meters		
0	630ECH BTS	76.5	23.3		
1	550HC STS	95.5	29.1		
2	550HC STS	114.6	34.9		
3	550HC STS	133.6	40.7		
4	550HC STS	152.6	46.5		
5	550HC STS	171.7	52.3		
6	550HC STS	190.7	58.1		
7	550HC STS	209.7	63.9		
8	550HC STS	228.7	69.7		
9	550HC STS	247.8	75.5		
10	550HC STS	266.8	81.3		
11	550HC STS	285.8	87.1		
12 *	550HC STS	304.8	92.9		

Configuration II					
550 HC tower sections on 630 EC-H base section					
		No. of Tower Elements	Tower Element Type	static concrete footing	
		feet	meters		
0	630ECH BTS	49.6	15.1		
1	550HC STS	68.6	20.9		
2	550HC STS	87.7	26.7		
3	550HC STS	106.7	32.5		
4	550HC STS	125.7	38.3		
5	550HC STS	144.8	44.1		
6	550HC STS	163.8	49.9		
7	550HC STS	182.8	55.7		
8	550HC STS	201.8	61.5		
9	550HC STS	220.9	67.3		
10	550HC STS	239.9	73.1		
11	550HC STS	258.9	78.9		
12 *	550HC STS	278.0	84.7		

Configuration III					
550 HC tower sections on 550 HC undercarriage					
		No. of Tower Elements	Tower Element Type	rail-travelling undercarriage	
		feet	meters		
1	550HC STS	54.8	16.7		
2	550HC STS	73.8	22.5		
3	550HC STS	92.8	28.3		
4	550HC STS	111.9	34.1		
5	550HC STS	130.9	39.9		
6	550HC STS	149.9	45.7		
7	550HC STS	169.0	51.5		
8	550HC STS	188.0	57.3		
9	550HC STS	207.0	63.1		
10	550HC STS	226.0	68.9		
11	550HC STS	245.1	74.7		
12	550HC STS	264.1	80.5		
13 *	550HC STS	283.1	86.3		

Configuration IV					
550 HC tower sections					
		No. of Tower Elements	Tower Element Type	static concrete footing	
		feet	meters		
1	550HC STS	26.2	8.6		
2	550HC STS	47.2	14.4		
3	550HC STS	66.3	20.2		
4	550HC STS	85.3	26		
5	550HC STS	104.3	31.8		
6	550HC STS	123.4	37.6		
7	550HC STS	142.4	43.4		
8	550HC STS	161.4	49.2		
9	550HC STS	180.4	55		
10	550HC STS	199.5	60.8		
11	550HC STS	218.5	66.6		
12	550HC STS	237.5	72.4		
13 *	550HC STS	256.6	78.2		

* Lower top climbing unit to base of crane prior to operating crane at maximum hook height.

NOTE: Special tower configurations giving additional hook heights are available using reinforced base tower sections and/or reinforced tower sections. Contact MORROW for more information.

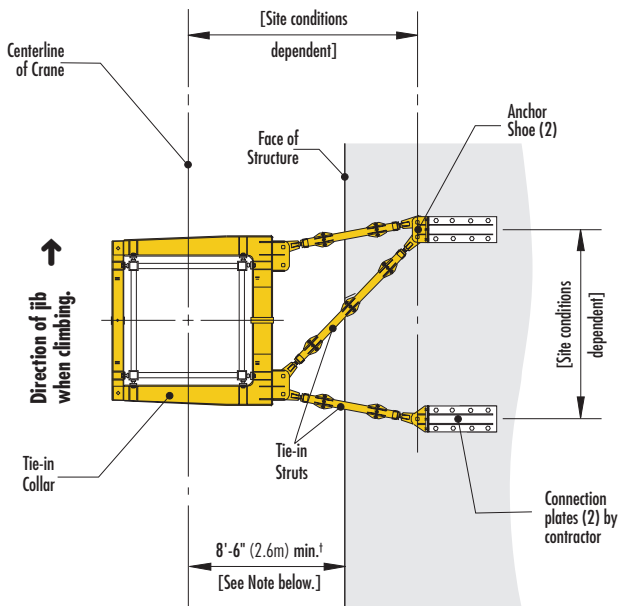
NOTE: Contact MORROW for specific information regarding climbing inside the structure details such as dimensions, reaction forces and slab opening requirements.

Tie-in Details

Consult Operation Manual before erecting, operating, servicing or dismantling crane.

*** NOTE:** Tie-in assemblies must be positioned and installed according to manufacturer requirements. Restrictions apply; please consult operation manual or contact MORROW for specific recommendations.

Lower top climbing unit to upper tie-in prior to operating crane.



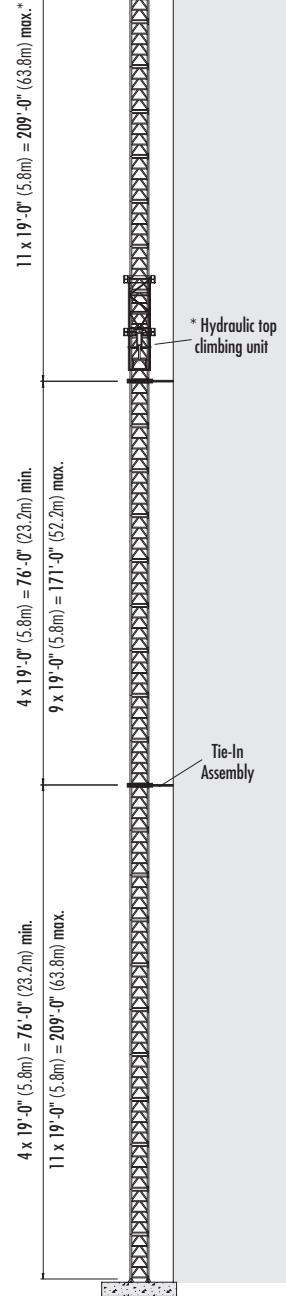
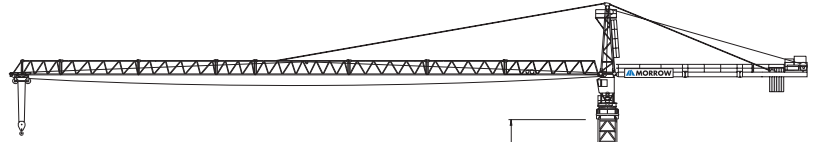
TIE-IN ASSEMBLY
with 550 HC Tower Sections
plan view

NOTE: The tie-in assembly shown above is an example of a typical installation. Please note, however, that factors determining the installation of tie-in assemblies may vary due to project specific criteria.

† Minimum clearance between face of structure and the center of crane is 8'-6" (2.6m) when using 550 HC tower. The maximum clearance is dependent upon project specific criteria.

Verify all dimensions.

Contact Morrow for additional information regarding dimensions, alternate tower configurations, reaction forces, tie-in installation and slab opening requirements.



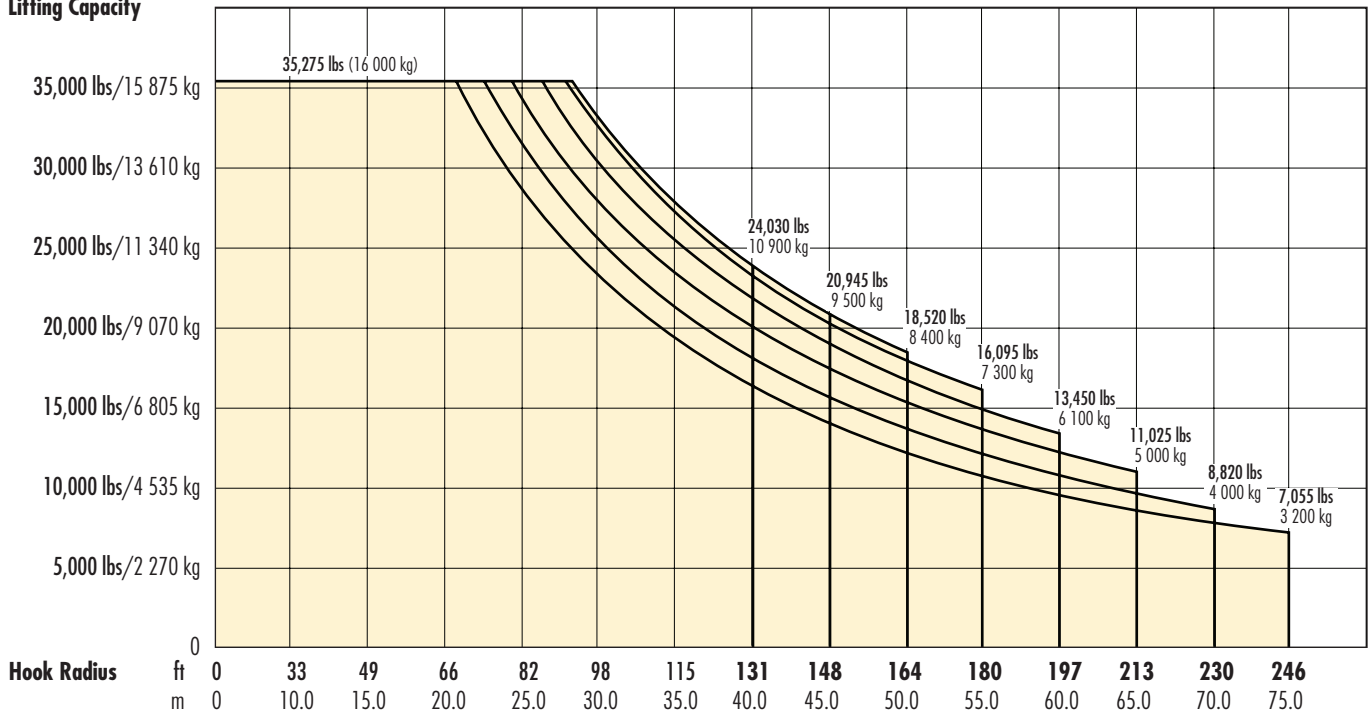
TOP CLIMBING
with 550 HC Tower Sections
Tied to Structure

Radius and Capacities

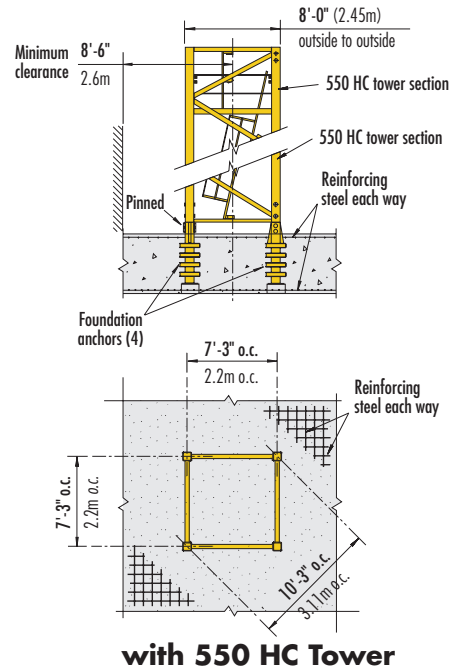
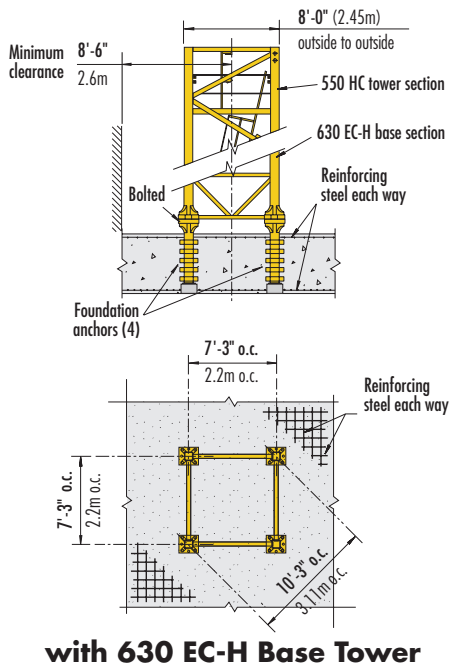
Hook Radius	2-Part Line Max Capacity – Radius	ft m	33	49	66	82	98	115	131	148	164	180	197	213	230	246
			10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0
246 ft 75.0m	35,275 lbs – 67.9 ft 16 000 kg – 20.69m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	28,536 12 944	23,153 10 502	19,312 8 760	16,435 7 455	14,198 6 440	12,412 5 630	10,948 4 966	9,731 4 414	8,701 3 947	7,820 3 547	7,055 3 200
230 ft 70.0m	35,275 lbs – 73.8 ft 16 000 kg – 22.49m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	31,345 14 218	25,489 11 562	21,314 9 668	18,186 8 249	15,754 7 146	13,810 6 264	12,222 5 544	10,897 4 943	9,777 4 435	8,820 4 000	
213 ft 65.0m	35,275 lbs – 79.8 ft 16 000 kg – 24.33m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	34,237 15 530	27,934 12 671	23,439 10 632	20,073 9 105	17,456 7 918	15,364 6 969	13,653 6 193	12,229 5 547	11,025 5 000		
197 ft 60.0m	35,275 lbs – 86.0 ft 16 000 kg – 26.22m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	30,379 13 780	25,534 11 582	21,905 9 936	19,083 8 656	16,828 7 633	14,985 6 797	13,450 6 100			
180 ft 55.0m	35,275 lbs – 91.2 ft 16 000 kg – 27.80m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	32,418 14 705	27,280 12 374	23,430 10 628	20,441 9 272	18,049 8 187	16,095 7 300				
164 ft 50.0m	35,275 lbs – 92.77 ft 16 000 kg – 28.28m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	33,053 14 993	27,857 12 636	23,965 10 870	20,937 9 497	18,520 8 400					
148 ft 45.0m	35,275 lbs – 92.8 ft 16 000 kg – 28.29m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	33,065 14 998	27,864 12 639	23,970 10 873	20,945 9 500						
131 ft 40.0m	35,275 lbs – 93.0 ft 16 000 kg – 28.35m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	33,144 15 034	27,932 12 670	24,030 10 900							

NOTE: In addition to the jibs listed above, the 420 EC-H 16 can be erected with a 115-ft (35.0m), 98-ft (30.0m) or 82-ft (25.0m) jib assembly. Contact MORROW for information.

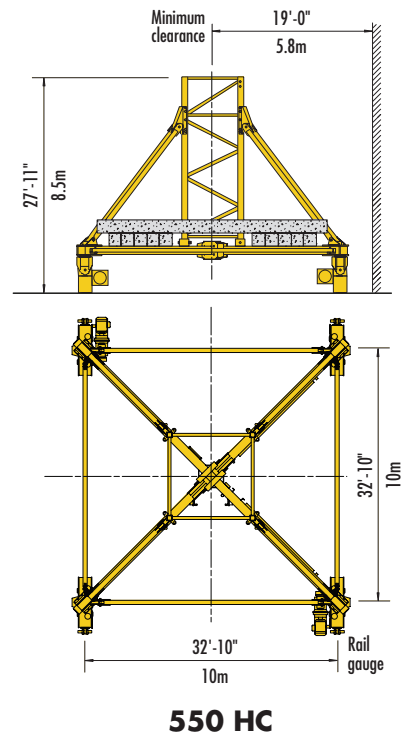
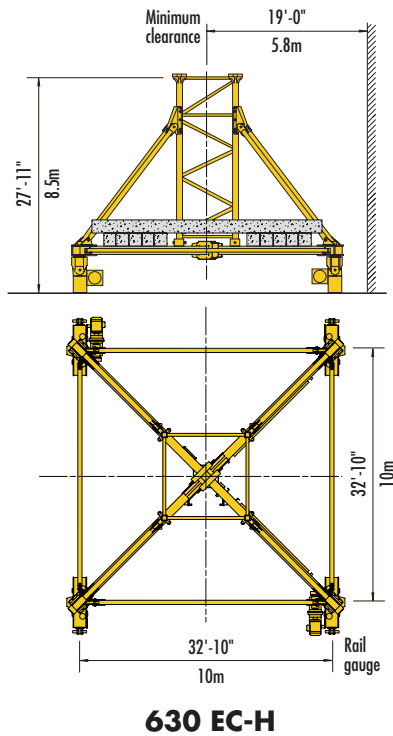
Lifting Capacity



Foundation Details on concrete footing



Undercarriage Details on rail-travelling undercarriage



NOTE: For information regarding rail-travelling, static undercarriages and central ballast configurations, see 420 EC-H Operation Manual.

Hoist Speed and Capacity

Hoist Unit	WiW 301 JX 408	2-Part Line				
		Gear	Capacity	Line Speed	Capacity	Line Speed
147 hp (110 kW) AC hoist unit 4-speed gearbox Electromagnetic gear shifting Eddy current brake Lebus™ drum	71324	1	up to 35,275 lbs	@ 118 fpm	up to 16 000 kg	@ 36 m/min
		2	up to 16,980 lbs	@ 220 fpm	up to 7 700 kg	@ 67 m/min
		3	up to 9,040 lbs	@ 371 fpm	up to 4 100 kg	@ 113 m/min
		4	up to 1,100 lbs	@ 860 fpm	up to 500 kg	@ 262 m/min

NOTE: Capacities and line 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 420 EC-H 16 Operation Manual for additional information.

Motor Information

Drive Unit	Horsepower	Kilowatts	Speed	
Trolley (VFD)	14.7 hp	11.0 kW	0 – 377 fpm	0 – 115.0m/min
Swing (fluid coupling)	2 x 10 hp	2 x 7.5 kW	0.6 rpm	
Traveling (fluid coupling)	4 x 10 hp	4 x 7.5 kW	82 fpm	25.0 m/min

Power Requirements

Power supply: 3-phase 480 V, 60 Hz; 3-wire plus ground; no Neutral.

480 V phase-phase, 277 V each phase to ground with 120° phase shift between phases.


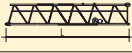
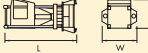
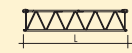
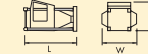
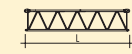

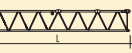

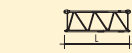
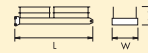
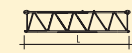
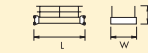
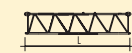
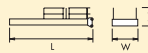

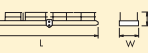
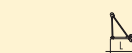
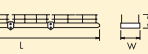
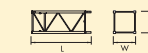
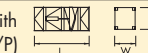







Service size: 250 Amperes

NOTES:

1. For electric power provided by an electric utility, do not use open Delta transformers.
2. For electric power provided by a generator, the minimum generator size required is 500 kW. A properly sized generator is critical to the safe operation of the crane.

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

Component List

Description	Dimensions L x W x H	Weight	Description	Dimensions L x W x H	Weight
Tower Top 	30'-11" x 5'-10" x 6'-4" 9.42m x 1.77m x 1.94m	8,885 lbs 4 030 kg	Jib Section ① #611 	40'-3" x 6'-4" x 6'-9" 12.26m x 1.93m x 2.05m	9 260 lbs 4 200 kg
Slewing Assembly (Complete) ¹ 	19'-8" x 9'-9" x 10'-4" 6.0m x 2.87m x 3.16m	33,070 lbs 15 000 kg	Jib Section ② #621 	33'-9" x 5'-9" x 6'-6" 10.28m x 1.76m x 1.99m	4,565 lbs 2 070 kg
Slewing Assembly Upper Part ² 	15'-11" x 9'-0" x 8'-10" 4.84m x 2.74m x 2.7m	16,775 lbs 7 610 kg	Jib Section ③ #622 	33'-10" x 5'-9" x 6'-6" 10.3m x 1.76m x 1.98m	4,385 lbs 1 990 kg
Slewing Assembly Lower Part ³ 	4'-7" x 9'-9" x 10'-4" 1.4m x 2.87m x 3.16m	16,075 lbs 7 290 kg	Jib Section ④ #631 	40'-5" x 5'-9" x 6'-6" 12.33m x 1.76m x 1.99m	5,665 lbs 2 570 kg
AC Hoist Unit w/frame ⁴ 147 hp (110 kW) 	7'-9" x 11'-9" x 6'-11" 2.37m x 3.59m x 2.11m	17,100 lbs 7 755 kg	Jib Section ⑤ #632 	17'-8" x 5'-9" x 6'-5" 5.38m x 1.76m x 1.97m	2,160 lbs 980 kg
Counterjib Section #1 (Inner) 	29'-9" x 6'-4" x 6'-1" 9.07m x 1.93m x 1.85m	8,245 lbs 3 740 kg	Jib Section ⑥ #633 	33'-11" x 5'-9" x 6'-5" 10.34m x 1.76m x 1.96m	3,375 lbs 1 530 kg
Counterjib Section #2 (Intermediate) 	23'-7" x 6'-2" x 6'-1" 7.2m x 1.88m x 1.85m	5,995 lbs 2 720 kg	Jib Section ⑦ #634 	33'-8" x 5'-9" x 6'-4" 10.27m x 1.76m x 1.94m	2,115 lbs 960 kg
Counterjib Section #3 (Outer) 	28'-7" x 7'-11" x 6'-1" 8.72m x 2.42m x 1.85m	7,075 lbs 3 210 kg	Jib Section ⑧ #635 	17'-1" x 5'-9" x 6'-4" 5.21m x 1.76m x 1.94m	1,035 lbs 470 kg
Counterjib A ⁵ 	57'-9" x 7'-11" x 6'-1" 17.59m x 2.42m x 1.85m	16,490 lbs 7 480 kg	Jib Section ⑨ #641 	6'-0" x 6'-4" x 6'-3" 1.84m x 1.93m x 1.91m	575 lbs 260 kg
Counterjib B ⁶ 	80'-8" x 7'-11" x 6'-1" 24.59m x 2.42m x 1.85m	23,300 lbs 10 570 kg	Jib Assembly ⁹ 246-ft (75.0m) ①②③④⑤⑥⑦⑧⑨	248'-0" x 6'-4" x 6'-9" 75.6m x 1.93m x 2.05m	41,665 lbs 18 900 kg
Standard Tower Section 550 HC (Pin/Pin) 	20'-7" x 8'-0" x 8'-0" 6.28m x 2.45m x 2.45m	14,155 lbs 6 420 kg	Jib Assembly ⁹ 230-ft (70.0m) ①②③④⑤⑥⑦⑧⑨	231'-8" x 6'-4" x 6'-9" 70.6m x 1.93m x 2.05m	40,565 lbs 18 400 kg
Bottom Climbing Unit with hydraulics 500 HC-L (P/P) 	20'-8" x 8'-4" x 8'-0" 6.3m x 2.55m x 2.45m	40,940 lbs 18 570 kg	Jib Assembly ⁹ 213-ft (65.0m) ①②③④⑤⑥⑦⑧⑨	215'-3" x 6'-4" x 6'-9" 65.6m x 1.93m x 2.05m	37,920 lbs 17 200 kg
Base Section 630 EC-H (P/B) 	40'-9" x 8'-10" x 8'-10" 12.42m x 2.68m x 2.68m	31,965 lbs 14 500 kg	Jib Assembly ⁹ 197-ft (60.0m) ①②③④⑤⑥⑧⑨	198'-10" x 6'-4" x 6'-9" 60.6m x 1.93m x 2.05m	38,140 lbs 17 300 kg
Top Climbing Unit ⁷ w/hydraulics 	40'-9" x 9'-1" x 10'-4" 12.43m x 2.77m x 3.16m	22,420 lbs 10 170 kg	Jib Assembly ⁹ 180-ft (55.0m) ①②③④⑤⑥⑧⑨	182'-5" x 6'-4" x 6'-9" 55.6m x 1.93m x 2.05m	35,935 lbs 16 300 kg
Trolley 	7'-5" x 7'-0" x 4'-7" 2.25m x 1.97m x 1.79m	1,420 lbs 645 kg	Jib Assembly ⁹ 164-ft (50.0m) ①②④⑤⑥⑧⑨	166'-0" x 6'-4" x 6'-9" 50.6m x 1.93m x 2.05m	32,850 lbs 14 900 kg
Hook Block 	2'-5" x 1'-1" x 5'-9" 0.73m x 0.33m x 1.74m	1,765 lbs 800 kg	Jib Assembly ⁹ 148-ft (45.0m) ①②④⑥⑧⑨	149'-7" x 6'-4" x 6'-9" 45.6m x 1.93m x 2.05m	30,205 lbs 13 700 kg
Counterweight ⁸ Block A 	4'-6" x 11" x 9'-10" 1.37m x 0.28 x 3.0m	6,350 lbs 2 880 kg	Jib Assembly ⁹ 131-ft (40.0m) ①②④⑤⑧⑨	133'-0" x 6'-4" x 6'-9" 40.6m x 1.93m x 2.05m	29,100 lbs 13 200 kg
Counterweight ⁸ Block B 	4'-6" x 11" x 6'-11" 1.37m x 0.28 x 2.1m	4,410 lbs 2 000 kg	Hydraulic Equipment for Top Climbing Unit 	8'-6" x 4'-11" x 2'-0" 2.6m x 1.5m x 0.6m	2,425 lbs 1 100 kg

NOTE: Weights and dimensions are approximate. Scale components before lifting. Please consult Manual before erecting, operating, servicing or dismantling crane.

¹ Slewing Assembly Complete includes operator's cab, swing motors, slewing ring, slewing ring support and 4 climbing shoes. Does not include monorail assembly. Monorail assembly weighs 1,005 lbs (455 kg).

² Slewing Assembly Upper Part includes operator's cab and swing motors. Does not include slewing ring and slewing ring support.

³ Slewing Assembly Lower Part includes slewing ring, slewing ring support and 4 climbing shoes.

⁴ Includes hoist unit, frame, fluids as well as 23mm x 1000 feet (305m) of hoist rope.

⁵ Counterjib A includes one each counterjib sections #1, #3, plus handrails and pendant bars. Counterjib A is required for jibs 131 ft (40.0m) and 148 ft (45.0m).

⁶ Counterjib B includes one each counterjib sections #1, #2, #3, plus handrails and pendant bars. Counterjib B is required for jibs 164 ft (50.0m) through 246 ft (75.0m).

⁷ For transport, can be broken down into two panels. Top climbing unit includes front panel, rear panel, hydraulic unit, ladders, platforms and assorted accessories.

⁸ Counterweight block dimensions are for blocks constructed with frames. When fabricating counterweights, consult 420 EC-H 16 Operation Manual for concrete requirements.

⁹ Jib Assembly includes jib sections, pendant bars with connecting pins and plates, trolley drive, trolley, hook and trolley wire rope. Jib assemblies can be split into two parts; see Operation Manual for details.