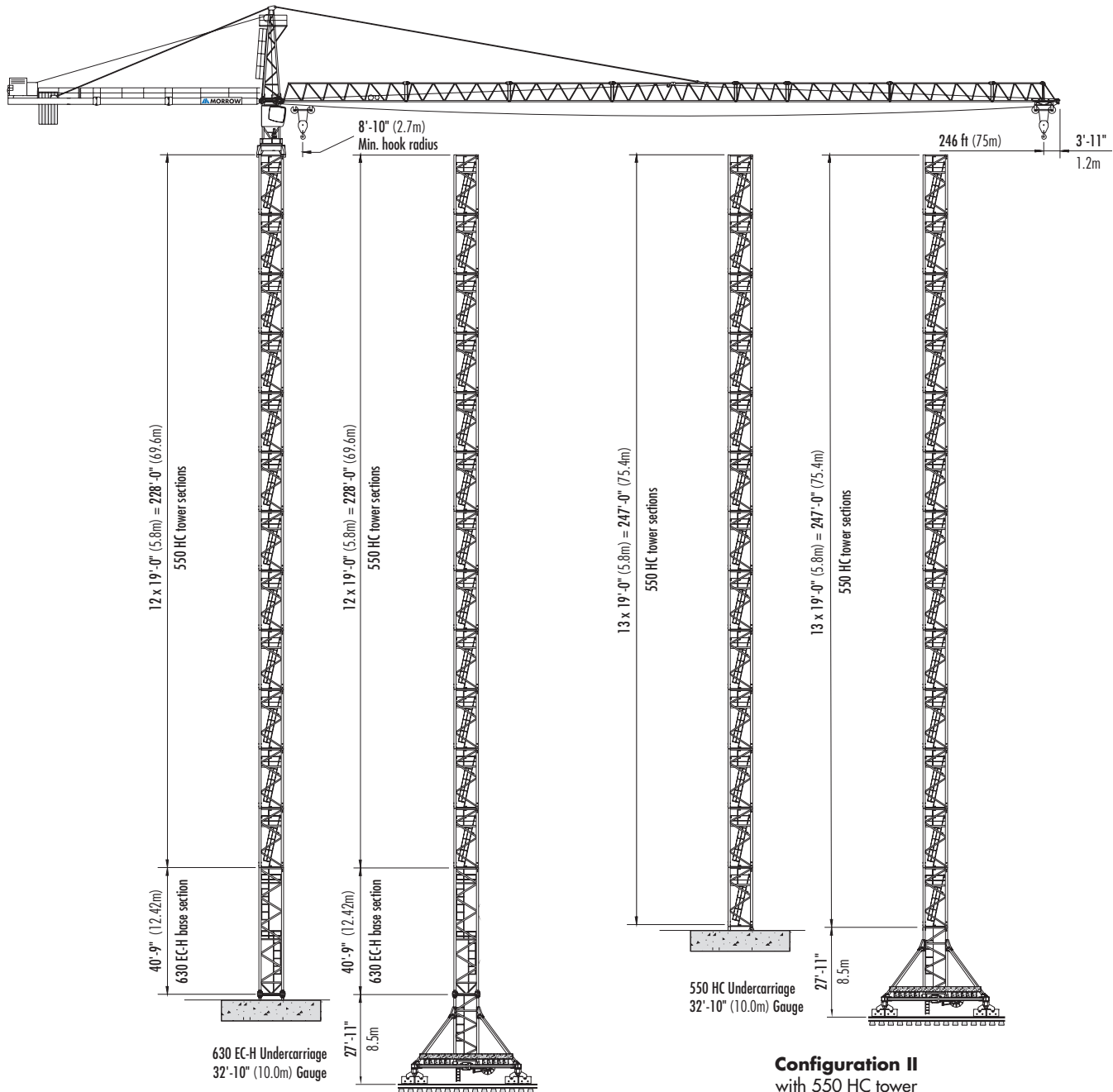


420 EC-H 16 Litronic® LIEBHERR Hammerhead Tower Crane



Configuration I

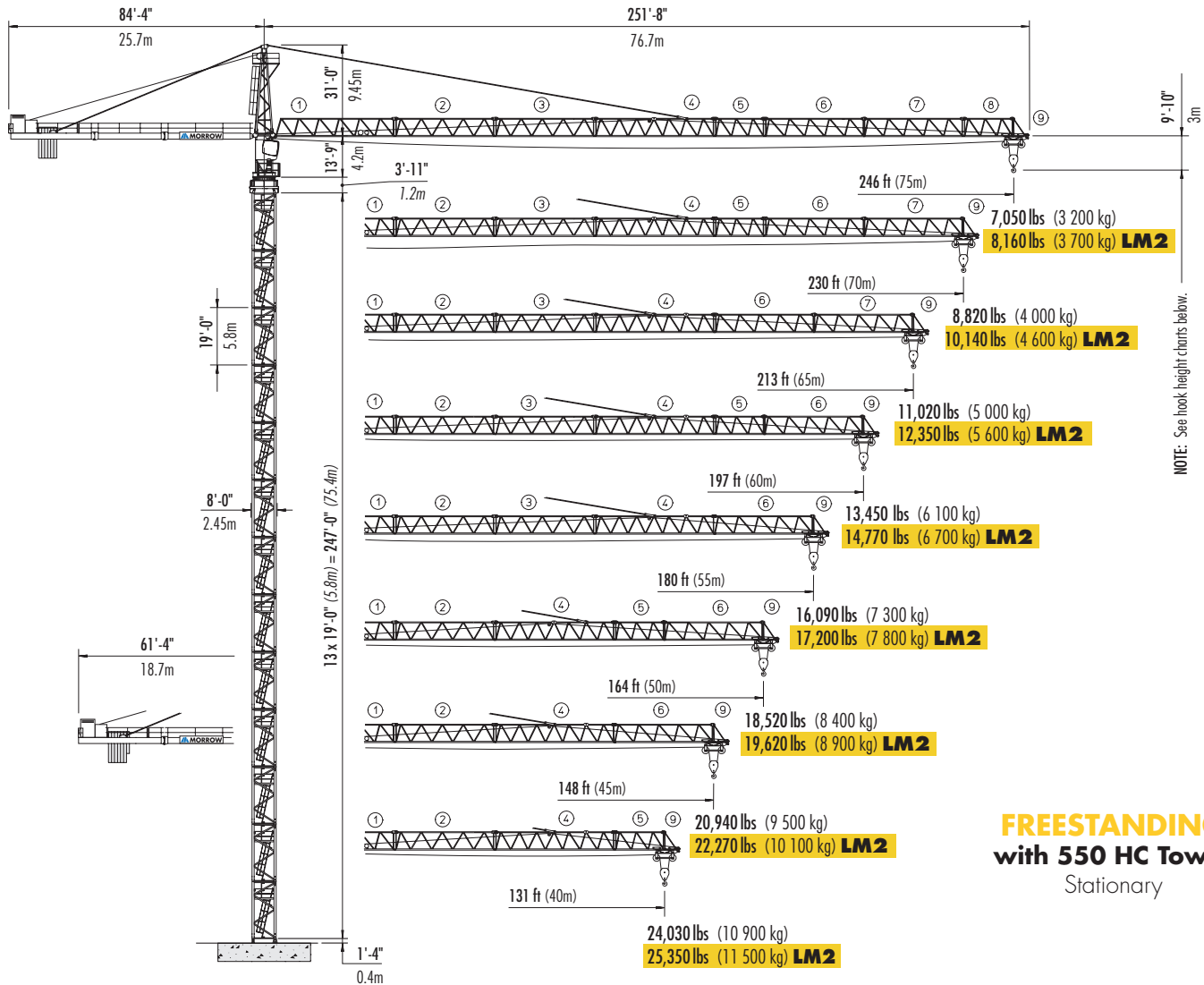
with 630 EC-H base and 550 HC tower
max. 278 ft (84.7m) HUH on 630 EC-H concrete footing
max. 305 ft (92.9m) HUH on 630 EC-H undercarriage

Configuration II

with 550 HC tower
max. 257 ft (78.2m) HUH on concrete footing
max. 283 ft (86.2m) HUH on 550 HC undercarriage

FREESTANDING

Stationary



FREESTANDING with 550 HC Tower Stationary

In addition to jibs shown, the LIEBHERR 420 EC-H 16 Litronic can be erected with a 115-ft (35m), 98-ft (30m) or 82-ft (25m) jib assembly. Contact Morrow for additional information.

NOTE: Consult Morrow for specific information regarding alternate tower configurations, special jib assemblies, alternate foundation details, dimensions, reaction forces and slab opening requirements.

¹ Lower top climbing unit to base of crane prior to operating crane at maximum hook height.

HOOK HEIGHTS freestanding and travelling

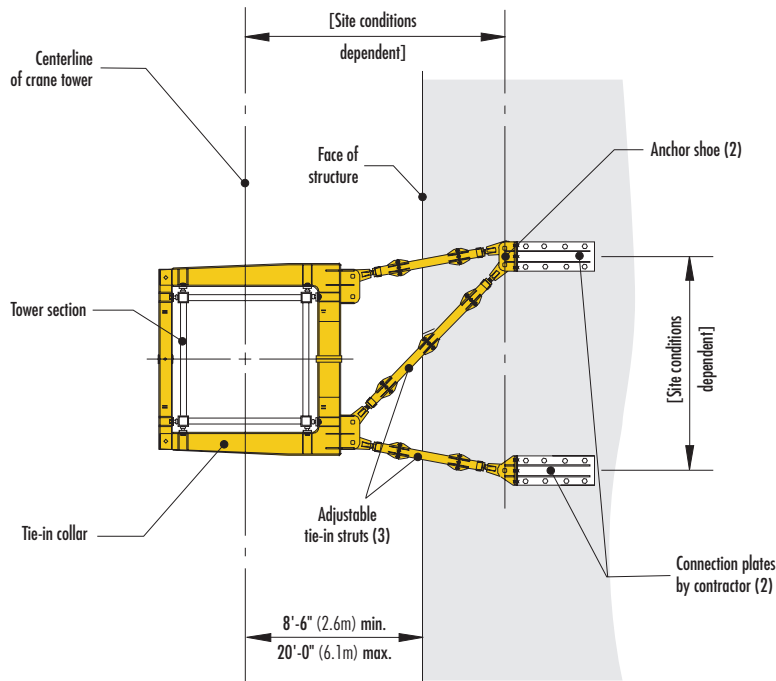
No. of Tower Sections	Tower Configuration I	Hook Height Concrete Foundation		Hook Height 10m Undercarriage	
		ft	m	ft	m
0	630ECH BS	50	15.1	76	23.3
1	550HC TS	69	20.9	95	29.1
2	550HC TS	88	26.7	115	34.9
3	550HC TS	107	32.5	134	40.7
4	550HC TS	126	38.3	153	46.5
5	550HC TS	145	44.1	172	52.3
6	550HC TS	164	49.9	191	58.1
7	550HC TS	183	55.7	210	63.9
8	550HC TS	202	61.5	229	69.7
9	550HC TS	221	67.3	248	75.5
10	550HC TS	240	73.1	267	81.3
11	550HC TS	259	78.9	286	87.1
12 ¹	550HC TS	278	84.7	305	92.9

No. of Tower Sections	Tower Configuration II	Hook Height Concrete Foundation		Hook Height 10m Undercarriage	
		ft	m	ft	m
1	550HC TS	28	8.6	54	16.6
2	550HC TS	47	14.4	73	22.4
3	550HC TS	66	20.2	93	28.2
4	550HC TS	85	26	112	34
5	550HC TS	104	31.8	131	39.8
6	550HC TS	123	37.6	150	45.6
7	550HC TS	142	43.4	169	51.4
8	550HC TS	161	49.2	188	57.2
9	550HC TS	180	55	207	63
10	550HC TS	199	60.8	226	68.8
11	550HC TS	219	66.6	245	74.6
12	550HC TS	238	72.4	264	80.4
13 ¹	550HC TS	257	78.2	283	86.2

NOTE: Information concerning climbing inside the building is available. Contact Morrow Equipment.

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

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



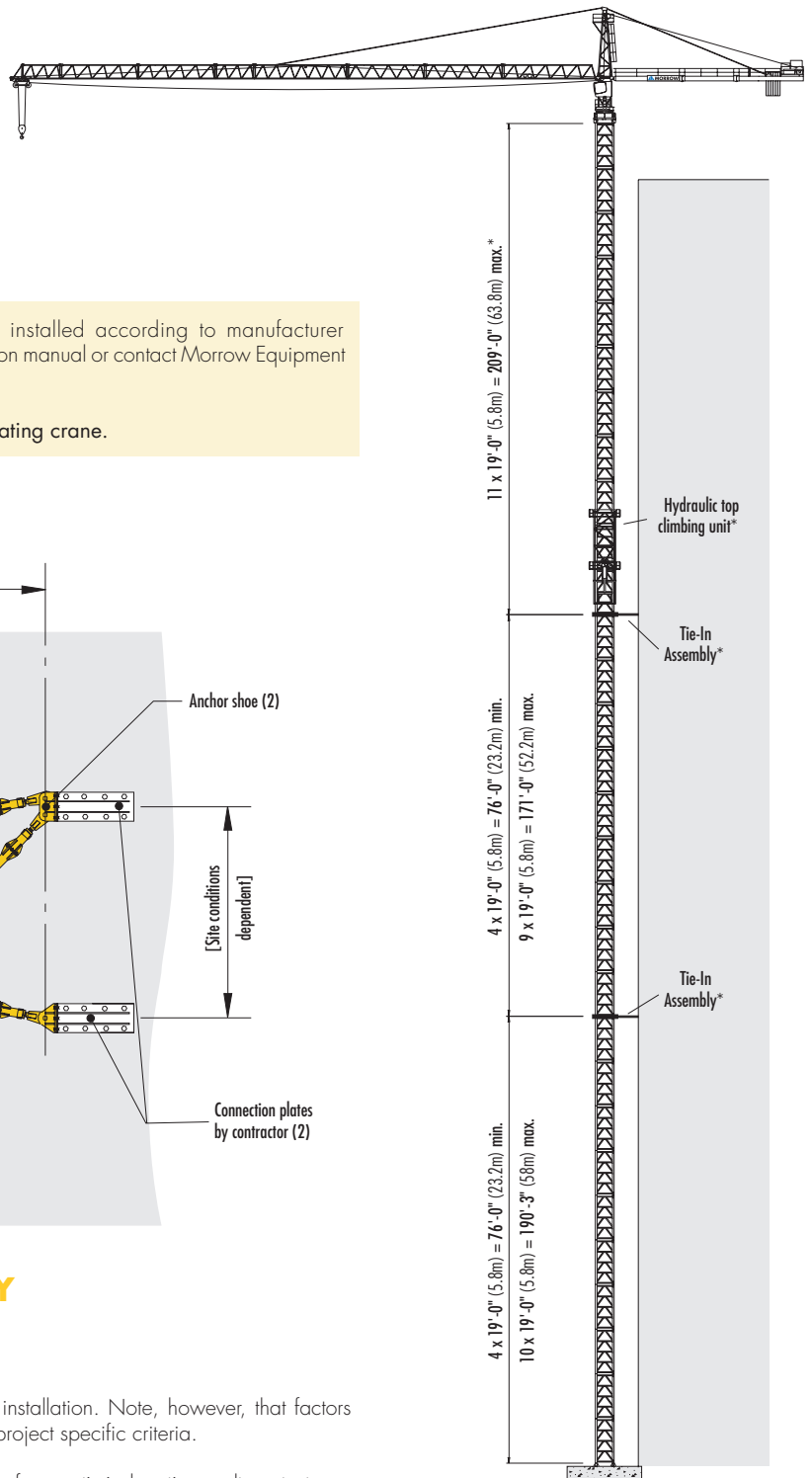
TIE-IN ASSEMBLY

Plan view

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

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

Please consult 420 EC-H 16 Litronic Operation Manual before erecting, operating, servicing or dismantling crane.



TOP CLIMBING
with 550 HC Tower Sections
Tied to structure

Radius and Capacities

2-Part Line	Hook Radius	Jib Tip Radius	Maximum Capacity – Radius	ft m	9 2.7	49 15	66 20	82 25	98 30	115 35	131 40	148 45	164 50	180 55	197 60	213 65	230 70	246 75
	246 ft 75m	251'-8" 76.7m	35,275 lbs – 68 ft 16 000 kg – 20.7m	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	7,050 3 200
	230 ft 70m	235'-3" 71.7m	35,275 lbs – 74 ft 16 000 kg – 22.5m	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 65m	218'-10" 66.7m	35,275 lbs – 80 ft 16 000 kg – 24.3m	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	11,020 5 000		
	197 ft 60m	202'-5" 61.7m	35,275 lbs – 86 ft 16 000 kg – 26.2m	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 55m	186'-0" 56.7m	35,275 lbs – 91 ft 16 000 kg – 27.8m	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	16,090 7 300				
	164 ft 50m	168'-7" 51.7m	35,275 lbs – 93 ft 16 000 kg – 28.3m	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 45m	153'-3" 46.7m	35,275 lbs – 93 ft 16 000 kg – 28.3m	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	20,940 9 500						
	131 ft 40m	136'-10" 41.7m	35,275 lbs – 93 ft 16 000 kg – 28.3m	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							

LM 1

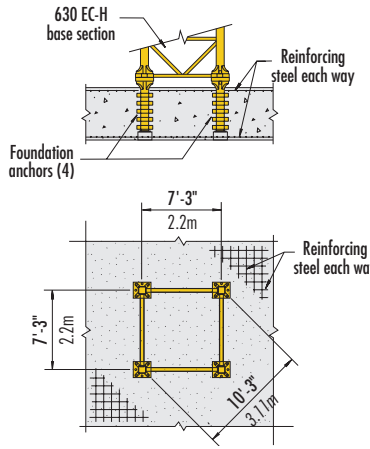
NOTE: In addition to the jibs listed in the charts on this page, the 420 EC-H 16 Litronic can be erected with a 115-ft (35m), 98-ft (30m) or 82-ft (25m) jib assembly. Contact Morrow for additional information.

2-Part Line	Hook Radius	Jib Tip Radius	Maximum Capacity – Radius	ft m	9 2.7	49 15	66 20	82 25	98 30	115 35	131 40	148 45	164 50	180 55	197 60	213 65	230 70	246 75
	246 ft 75m	251'-8" 76.7m	35,275 lbs – 75 ft 16 000 kg – 22.8m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	31,855 14 450	25,915 11 755	21,680 9 833	18,500 8 393	16,040 7 275	14,070 6 380	12,450 5 649	11,110 5 039	9,970 4 524	9,000 4 083	8,160 3 700
	230 ft 70m	235'-3" 71.7m	35,275 lbs – 82 ft 16 000 kg – 24.9m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,060 15 903	28,580 12 965	23,960 10 870	20,500 9 300	17,810 8 080	15,660 7 105	13,910 6 308	12,440 5 643	11,200 5 081	10,140 4 600	
	213 ft 65m	218'-10" 66.7m	35,275 lbs – 88 ft 16 000 kg – 26.8m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	31,070 14 092	26,090 11 835	22,360 10 144	19,470 8 830	17,150 7 780	15,260 6 921	13,680 6 205	12,350 5 600		
	197 ft 60m	202'-5" 61.7m	35,275 lbs – 94 ft 16 000 kg – 28.5m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	33,250 15 083	27,960 12 684	24,000 10 887	20,920 9 490	18,460 8 374	16,450 7 461	14,770 6 700			
	180 ft 55m	186'-0" 56.7m	35,275 lbs – 97 ft 16 000 kg – 29.5m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	34,630 15 707	29,140 13 218	25,030 11 354	21,840 9 905	19,280 8 747	17,200 7 800				
	164 ft 50m	168'-7" 51.7m	35,275 lbs – 98 ft 16 000 kg – 29.9m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	35,190 15 962	29,620 13 437	25,450 11 545	22,210 10 075	19,620 8 900					
	148 ft 45m	153'-3" 46.7m	35,275 lbs – 98 ft 16 000 kg – 30m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	35,270 15 999	29,690 13 469	25,510 11 573	22,270 10 100						
	131 ft 40m	136'-10" 41.7m	35,275 lbs – 98 ft 16 000 kg – 29.8m	lbs kg	35,275 16 000	35,275 16 000	35,275 16 000	35,275 16 000	35,060 15 902	29,510 13 385	25,350 11 500							

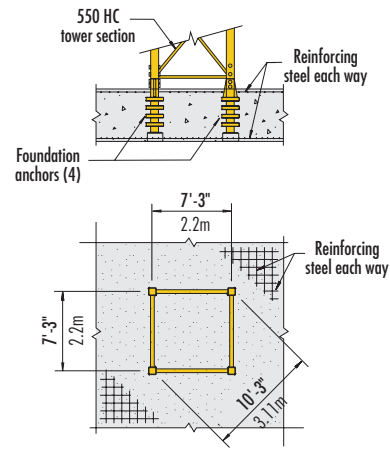
LM 2

IMPORTANT: Litronic® cranes are equipped with Liebherr's state of the art PLC system that provides precise monitoring, control and coordination of all cranes functions. This feature also permits a load increase of up to 20% as illustrated in the heavy lift mode (**LM2**) chart above. Contact Morrow for more information regarding the many features of the 420 EC-H 16 Litronic tower crane.

Foundation Details



with 630 EC-H Base Section
Concrete slab



with 550 HC Tower Section
Concrete slab

Hoist Speed and Capacity

Hoist Unit	2-Part Line				LM 1
WiW 300 VZ 411	Speed	Capacity	Line Speed	Capacity	Line Speed
147 hp (110 kW) FC hoist unit Variable frequency drive (VFD) 3-speed electromagnetic gear shifting 6L-270	1	up to 35,275 lbs up to 17,640 lbs	@ 0 – 115 fpm @ 0 – 213 fpm	up to 16 000 kg up to 8 000 kg	@ 0 – 35 m/min @ 0 – 65 m/min
	2	up to 20,720 lbs up to 9,040 lbs	@ 0 – 184 fpm @ 0 – 370 fpm	up to 9 400 kg up to 4 100 kg	@ 0 – 56 m/min @ 0 – 113 m/min
	3	up to 11,460 lbs up to 3,750 lbs	@ 0 – 308 fpm @ 0 – 617 fpm	up to 5 200 kg up to 1 700 kg	@ 0 – 94 m/min @ 0 – 188 m/min

IMPORTANT: Capacities and line speeds indicated will vary depending on the amount of hoist wire rope installed. This crane model may be equipped with a hoist unit other than that specified in the data shown above. To verify, check serial number and refer to 420 EC-H 16 Litronic Operation Manual for additional information.

Motor Information

Drive Unit	Horsepower	Kilowatts	Speed	
Trolley (VFD)	14 hp	10.5 kW	0 – 299 fpm	0 – 91 m/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	25m/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: 200 Amperes

NOTES:

- For electric power provided by an electric utility, do not use open Delta transformers.
- For electric power provided by a generator, the minimum generator size required is 200 kW. Verify the generator provided is suitable for use with variable frequency drives (VFDs). 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 8'-1" 9.42m x 1.77m x 2.47m	9,060 lbs 4 110 kg	Jib Section ① #611 	40'-3" x 6'-4" x 6'-9" 12.26m x 1.93m x 2.05m	8,400 lbs 3 810 kg
Slewing Assembly (Complete) ¹ 	20'-2" x 9'-5" x 10'-5" 6.15m x 2.87m x 3.18m	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	4,700 lbs 2 130 kg
Slewing Assembly Upper Part ² 	15'-11" x 9'-0" x 9'-1" 4.85m x 2.74m x 2.77m	16,760 lbs 7 600 kg	Jib Section ③ #622 	33'-10" x 5'-9" x 6'-6" 10.3m x 1.76m x 1.98m	4,650 lbs 2 110 kg
Slewing Assembly Lower Part ³ 	4'-7" x 9'-5" x 10'-4" 1.4m x 2.87m x 3.16m	16,310 lbs 7 400 kg	Jib Section ④ #631 	40'-5" x 5'-9" x 6'-6" 12.33m x 1.76m x 1.99m	5,670 lbs 2 570 kg
AC Hoist Unit (VFD) ⁴ 147 hp (110 kW) 	9'-10" x 7'-6" x 7'-6" 2.99m x 2.28m x 2.28m	13,670 lbs 6 200 kg	Jib Section ⑤ #632 	17'-8" x 5'-9" x 6'-5" 5.38m x 1.76m x 1.97m	2,250 lbs 1 020 kg
Counterjib Section #1 (Inner) 	29'-9" x 6'-4" x 6'-4" 9.07m x 1.93m x 1.93m	7,140 lbs 3 240 kg	Jib Section ⑥ #633 	33'-11" x 5'-9" x 6'-5" 10.34m x 1.76m x 1.96m	3,400 lbs 1 540 kg
Counterjib Section #2 (Intermediate) 	23'-7" x 6'-2" x 6'-4" 7.2m x 1.88m x 1.93m	6,040 lbs 2 740 kg	Jib Section ⑦ #634 	33'-8" x 5'-9" x 6'-4" 10.27m x 1.76m x 1.94m	2,200 lbs 1 000 kg
Counterjib Section #3 (Outer) 	30'-6" x 7'-10" x 7'-7" 9.3m x 2.38m x 2.32m	8,580 lbs 3 980 kg	Jib Section ⑧ #635 	17'-1" x 5'-9" x 6'-4" 5.21m x 1.76m x 1.94m	1,070 lbs 485 kg
Counterjib A ⁵ 	59'-7" x 7'-10" x 7'-7" 18.17m x 2.38m x 2.32m	22,400 lbs 10 160 kg	Jib Section ⑨ #641 	6'-0" x 6'-4" x 6'-3" 1.84m x 1.93m x 1.91m	600 lbs 270 kg
Counterjib B ⁶ 	82'-7" x 7'-10" x 7'-7" 25.17m x 2.38m x 2.32m	29,260 lbs 13 270 kg	Jib Assembly ⁹ 246-ft (75m) ①②③④⑤⑥⑦⑧⑨	246'-5" x 6'-4" x 6'-9" 75.1m x 1.93m x 2.05m	41,670 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 (70m) ①②③④⑤⑥⑦⑨	230'-0" x 6'-4" x 6'-9" 70.1m x 1.93m x 2.05m	40,570 lbs 18 400 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 ⁹ 213-ft (65m) ①②③④⑥⑦⑨	213'-7" x 6'-4" x 6'-9" 65.1m x 1.93m x 2.05m	37,920 lbs 17 200 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 ⁹ 197-ft (60m) ①②③④⑤⑥⑨	197'-2" x 6'-4" x 6'-9" 60.1m x 1.93m x 2.05m	38,140 lbs 17 300 kg
Trolley 	7'-5" x 6'-6" x 5'-10" 2.25m x 1.97m x 1.79m	1,420 lbs 645 kg	Jib Assembly ⁹ 180-ft (55m) ①②③④⑥⑨	180'-9" x 6'-4" x 6'-9" 55.1m x 1.93m x 2.05m	35,940 lbs 16 300 kg
Hook Block 	2'-5" x 1'-3" x 5'-9" 0.73m x 0.37m x 1.74m	1,790 lbs 810 kg	Jib Assembly ⁹ 164-ft (50m) ①②④⑤⑥⑨	164'-4" x 6'-4" x 6'-9" 50.1m x 1.93m x 2.05m	32,850 lbs 14 900 kg
Counterweight ⁸ A Block 	4'-6" x 11" x 10'-9" 1.37m x 0.28 x 3.28m	6,350 lbs 2 880 kg	Jib Assembly ⁹ 148-ft (45m) ①②④⑥⑨	148'-0" x 6'-4" x 6'-9" 45.1m x 1.93m x 2.05m	30,200 lbs 13 700 kg
Counterweight ⁸ B Block 	4'-6" x 11" x 7'-7" 1.37m x 0.28 x 2.32m	4,410 lbs 2 000 kg	Jib Assembly ⁹ 131-ft (40m) ①②④⑤⑨	131'-7" x 6'-4" x 6'-9" 40.1m x 1.93m x 2.05m	29,100 lbs 13 200 kg

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

¹ Slewing Assembly Complete includes operator's cab, swing motors, slewing ring and slewing ring support. 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 and slewing ring support.

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, pendant bars and D block weighing 5,290 lbs (2 400 kg) with platform.

⁶ Counterjib B includes one each counterjib sections #1, #2, #3, plus handrails, pendant bars and D block weighing 5,290 lbs (1 550 kg) with platform.

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 Litronic 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.

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