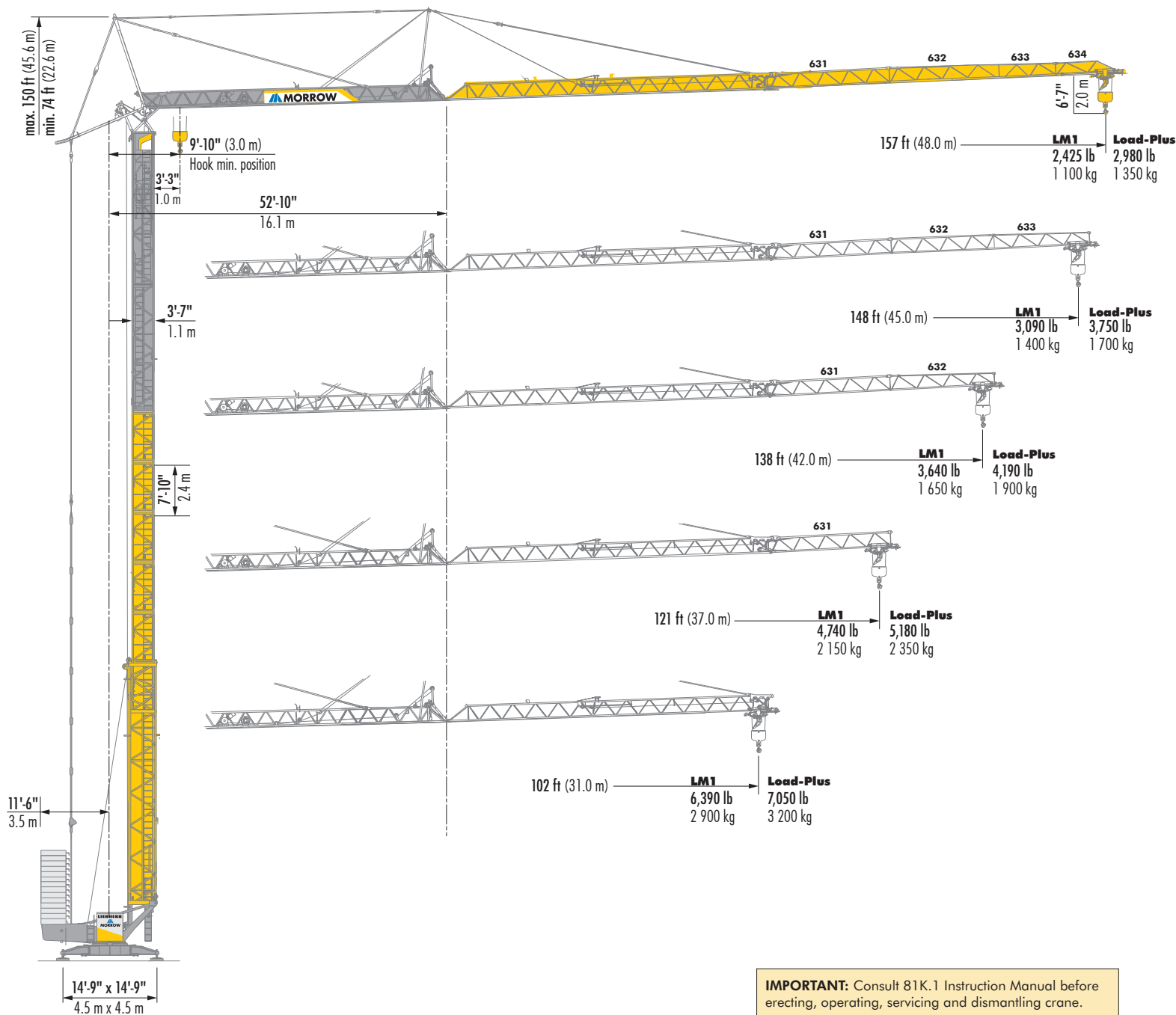


81K.1

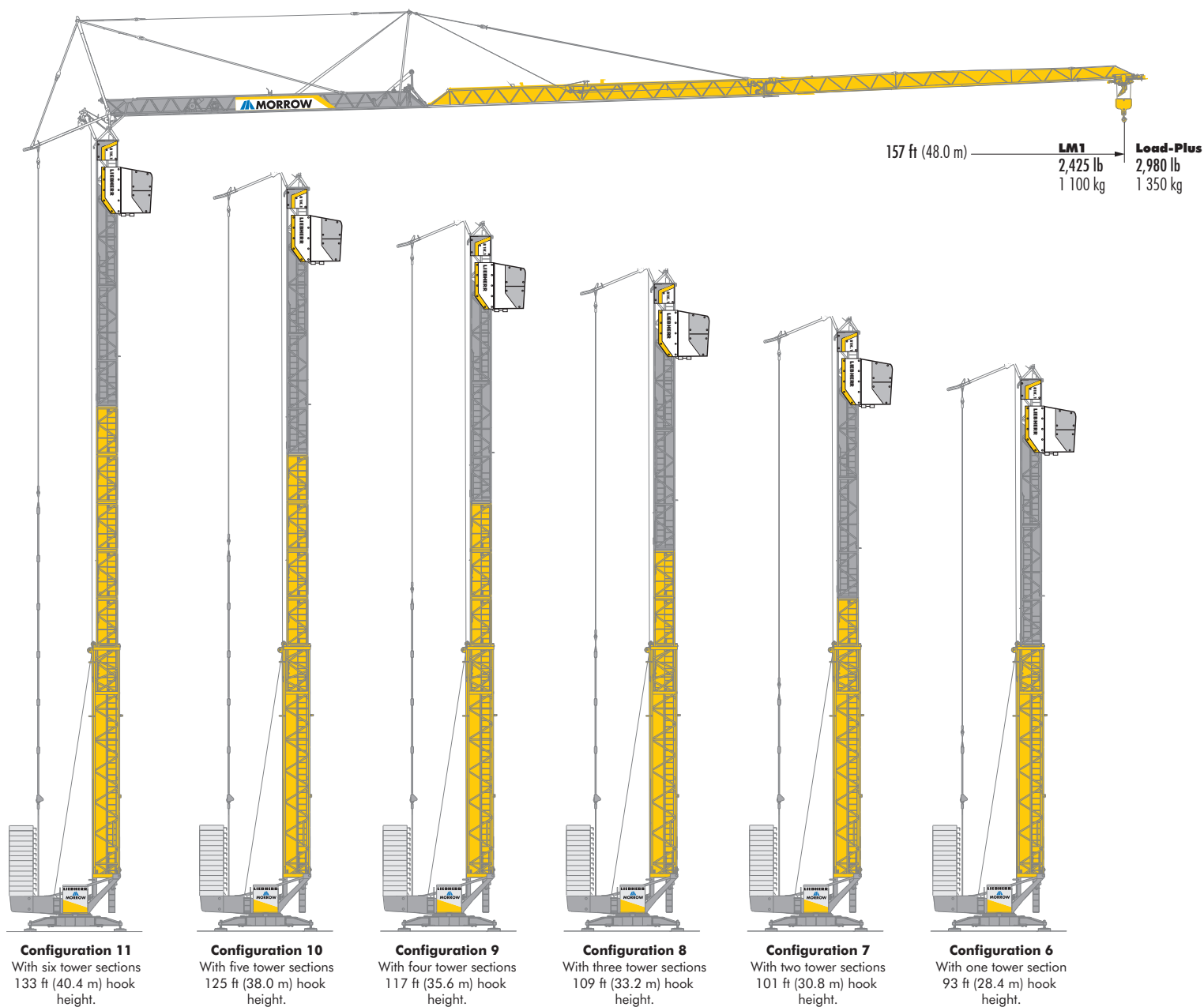
6t

LIEBHERR Fast-Erecting Tower Crane



LIEBHERR 81K.1

Tower Configurations

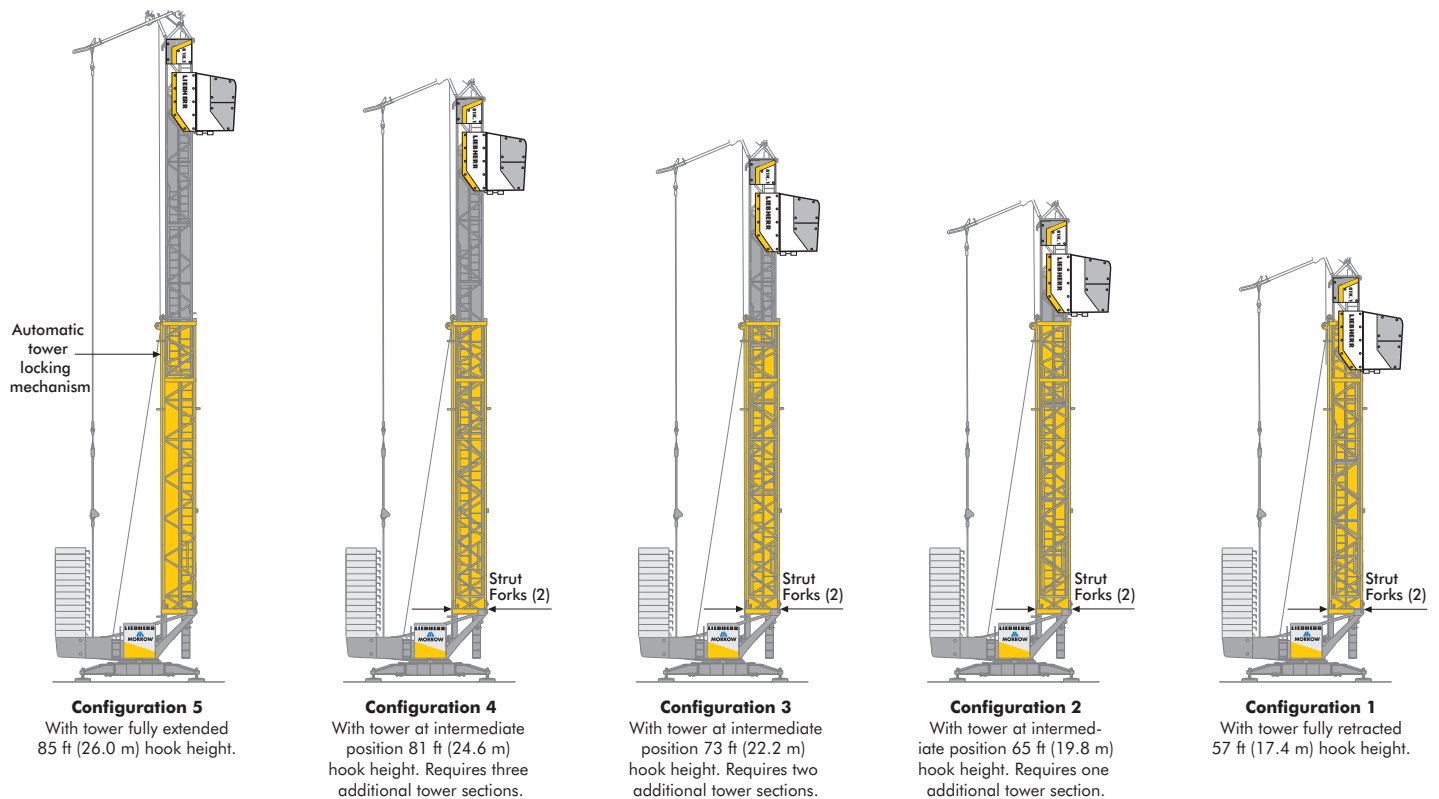


NOTE: Guying shown is for illustrative purposes only and may not indicate actual connections required. See 81K.1 Instruction Manual for more information.

Tower Configurations

The highly adaptable **81K.1 fast-erecting crane**, with 11 hook heights for added flexibility and functionality. The graphic on this and the adjoining page illustrates the 11 tower configurations, starting with tower fully retracted and supported by the strut forks (**Configuration 1**), three intermediate positions supported by the strut forks (**Configurations 2-4**) and with tower completely extended, supported by the automatic tower locking mechanism (**Configuration 5**).

With tower completely extended, the crane user can add up to 6 tower sections (some restrictions exist). Eleven tower configurations provide a hook height range of 57 ft (17.4 m) to 133 ft (40.4 m).



LIEBHERR 81K.1

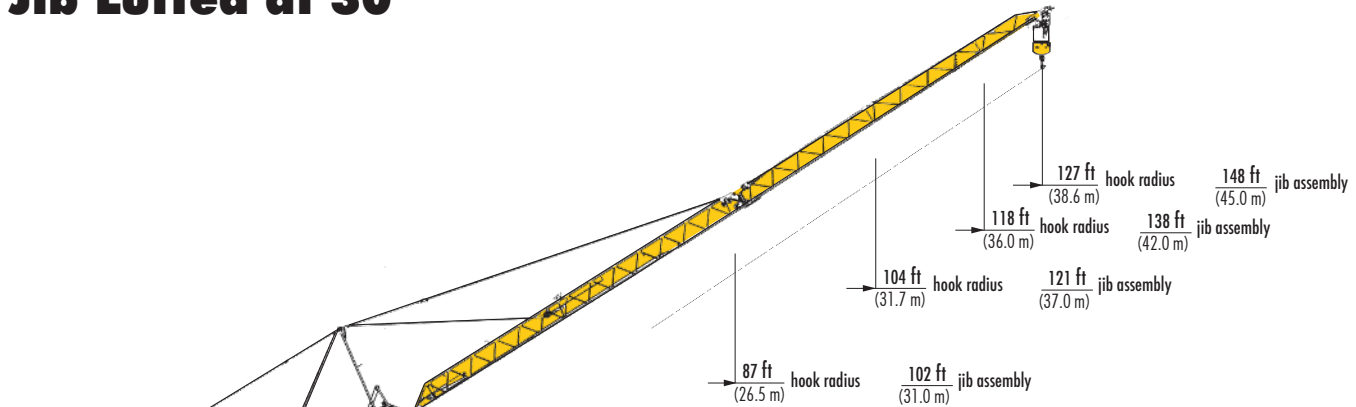
Radius and Capacities

		LM 1																
Hook Radius	Maximum Capacity - Radius	ft m	39 12.0	49 15.0	59 18.0	69 21.0	75 23.0	82 25.0	88 27.0	95 29.0	102 31.0	108 33.0	115 35.0	121 37.0	131 40.0	138 42.0	148 45.0	157 48.0
157 ft 48.0 m	13,230 lb - 39 ft 6 000 kg - 12.0 m	lb kg	13,230 6 000	10,185 4 620	8,225 3 730	6,860 3 110	6,150 2 790	5,580 2 530	5,070 2 300	4,650 2 110	4,280 1 940	3,970 1 800	3,680 1 670	3,420 1 550	3,110 1 410	2,910 1 320	2,650 1 200	2,425 1 100
148 ft 45.0 m	13,230 lb - 44 ft 6 000 kg - 13.3 m	lb kg	13,230 6 000	11,510 5 220	9,330 4 230	7,800 3 540	7,010 3 180	6,370 2 890	5,820 2 640	5,340 2 420	4,920 2 230	4,560 2 070	4,230 1 920	3,970 1 800	3,590 1 630	3,370 1 530	3,090 1 400	
138 ft 42.0 m	13,230 lb - 46 ft 6 000 kg - 14.1 m	lb kg	13,230 6 000	12,280 5 570	9,960 4 520	8,360 3 790	7,520 3 410	6,810 3 090	6,220 2 820	5,710 2 590	5,290 2 400	4,894 2 220	4,560 2 070	4,250 1 930	3,860 1 750	3,640 1 650		
121 ft 37.0 m	13,230 lb - 50 ft 6 000 kg - 15.1 m	lb kg	13,230 6 000	13,230 6 000	10,870 4 930	9,150 4 150	8,250 3 740	7,500 3 400	6,860 3 110	6,330 2 870	5,840 2 650	5,420 2 460	5,070 2 300	4,740 2 150				
102 ft 31.0 m	13,230 lb - 53 ft 6 000 kg - 16.3 m	lb kg	13,230 6 000	13,230 6 000	11,840 5 370	9,960 4 520	8,990 4 080	8,180 3 710	7,500 3 400	6,900 3 130	6,390 2 900							

		Load-Plus*																
Hook Radius	Maximum Capacity - Radius	ft m	39 12.0	49 15.0	59 18.0	69 21.0	75 23.0	82 25.0	88 27.0	95 29.0	102 31.0	108 33.0	115 35.0	121 37.0	131 40.0	138 42.0	148 45.0	157 48.0
157 ft 48.0 m	13,230 lb - 39 ft 6 000 kg - 12.0 m	lb kg	13,230 6 000	10,650 4 830	8,880 4 030	7,580 3 440	6,880 3 120	6,300 2 860	5,800 2 630	5,360 2 430	4,980 2 260	4,650 2 110	4,340 1 970	4,080 1 850	3,730 1 690	3,510 1 590	3,220 1 460	2,980 1 350
148 ft 45.0 m	13,230 lb - 44 ft 6 000 kg - 13.3 m	lb kg	13,230 6 000	11,820 5 360	9,920 4 500	8,530 3 870	7,780 3 530	7,140 3 240	6,590 2 990	6,110 2 770	5,690 2 580	5,310 2 410	4,980 2 260	4,700 2 130	4,300 1 950	4,060 1 840	3,750 1 700	
138 ft 42.0 m	13,230 lb - 46 ft 6 000 kg - 14.1 m	lb kg	13,230 6 000	12,430 5 640	10,380 4 710	8,880 4 030	8,090 3 670	7,430 3 370	6,830 3 100	6,330 2 870	5,890 2 670	5,510 2 500	5,160 2 340	4,850 2 200	4,430 2 010	4,190 1 900		
121 ft 37.0 m	13,230 lb - 50 ft 6 000 kg - 15.1 m	lb kg	13,230 6 000	13,230 6 000	11,110 5 040	9,500 4 310	8,660 3 930	7,940 3 600	7,320 3 320	6,770 3 070	6,370 2 860	5,890 2 670	5,510 2 500	5,180 2 350				
102 ft 31.0 m	13,230 lb - 53 ft 6 000 kg - 16.3 m	lb kg	13,230 6 000	13,230 6 000	12,060 5 470	10,410 4 720	9,520 4 320	8,770 3 980	8,140 3 690	7,560 3 430	7,050 3 200							

*Load-Plus increases the lifting capacity by up to 20% with restrictions including wind speeds, reduced drive speeds and single function only operation. Please consult the 81K.1 Operations Manual for further details.

Jib Luffed at 30°



Hook Heights

Jib Luffed at 30°					
Jib Assembly		87 ft 26.5 m	104 ft 31.7 m	118 ft 36.0 m	127 ft 38.6 m
Inner Tower Position		Hook Heights			
1	Fully Extended (0 tower sections)	126 ft 38.4 m	136 ft 41.4 m	144 ft 43.9 m	149 ft 45.4 m
2	+1 Tower Section	134 ft 40.8 m	144 ft 43.8 m	152 ft 46.3 m	157 ft 47.8 m
3	+2 Tower Sections	142 ft 43.2 m	152 ft 46.2 m	160 ft 48.7 m	165 ft 50.2 m
4	+3 Tower Sections	150 ft 45.6 m	159 ft 48.6 m	168 ft 51.1 m	173 ft 52.6 m
5	+4 Tower Sections	157 ft 48.0 m	167 ft 51.0 m	176 ft 53.5 m	180 ft 55.0 m
6	+5 Tower Sections	165 ft 50.4 m	175 ft 53.4 m	—	—

The 30° jib position is a working position.

NOTE:

- Some crane configurations do not allow 30° luffing.
(See stability section of the 81K.1 Instruction Manual).
- 30° luffing is not possible with jib assembly 157 ft (48.0 m).

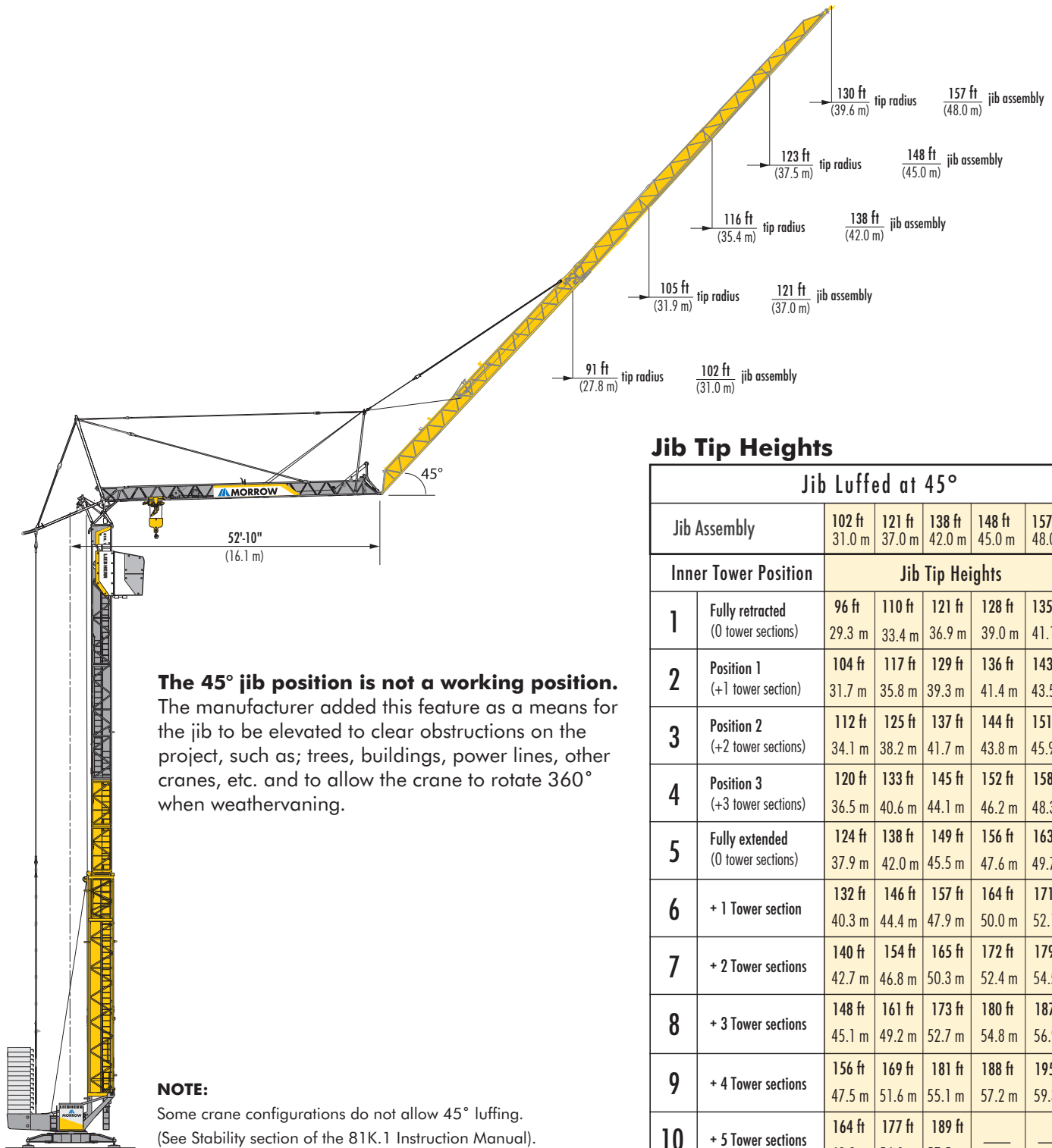
	Jib Luffed at 30°																	
Jib Assy.	Maximum Capacity - Radius	ft m	39 12.0	46 14.0	52 16.0	59 18.0	66 20.0	72 22.0	82 25.0	87 26.5	92 28.0	98 30.0	104 31.7	108 33.0	115 35.0	118 36.0	121 37.0	127 38.6
148 ft 45.0 m ²	6,615 lb - 52 ft 3 000 kg - 15.8 m	lb kg	6,615 3 000	6,615 3 000	6,548 2 970	6,020 2 730	5,555 2 520	5,160 2 340	4,630 2 100	4,410 2 000	4,190 1 900	3,945 1 790	3,750 1 700	3,615 1 640	3,415 1 550	3,305 1 500	3,220 1 460	3,085 1 400
138 ft 42.0 m ²	6,615 lb - 58 ft 3 000 kg - 17.7 m	lb kg	6,615 3 000	6,615 3 000	6,615 3 000	6,525 2 960	6,040 2 740	5,600 2 540	5,050 2 290	4,810 2 180	4,585 2 080	4,320 1 960	4,100 1 860	3,945 1 790	3,750 1 700	3,640 1 650		
121 ft 37.0 m ¹	6,615 lb - 70 ft 3 000 kg - 21.2 m	lb kg	6,615 3 000	6,615 3 000	6,615 3 000	6,615 3 000	6,615 3 000	6,415 2 910	5,800 2 630	5,530 2 510	5,290 2 400	4,980 2 260	4,740 2 150					
102 ft 31.0 m ¹	6,615 lb - 83 ft 3 000 kg - 25.3 m	lb kg	6,615 3 000	6,615 3 000	6,615 3 000	6,615 3 000	6,615 3 000	6,615 3 000	6,615 3 000	6,390 2 900								

¹ Maximum 5 tower sections allowed with jib assemblies 102 ft (31.0 m) and 121 ft (37.0 m) when luffed 30°

² Maximum 4 tower sections allowed with jib assemblies 138 ft (42.0 m) and 148 ft (45.0 m) when luffed 30°

LIEBHERR 81K.1

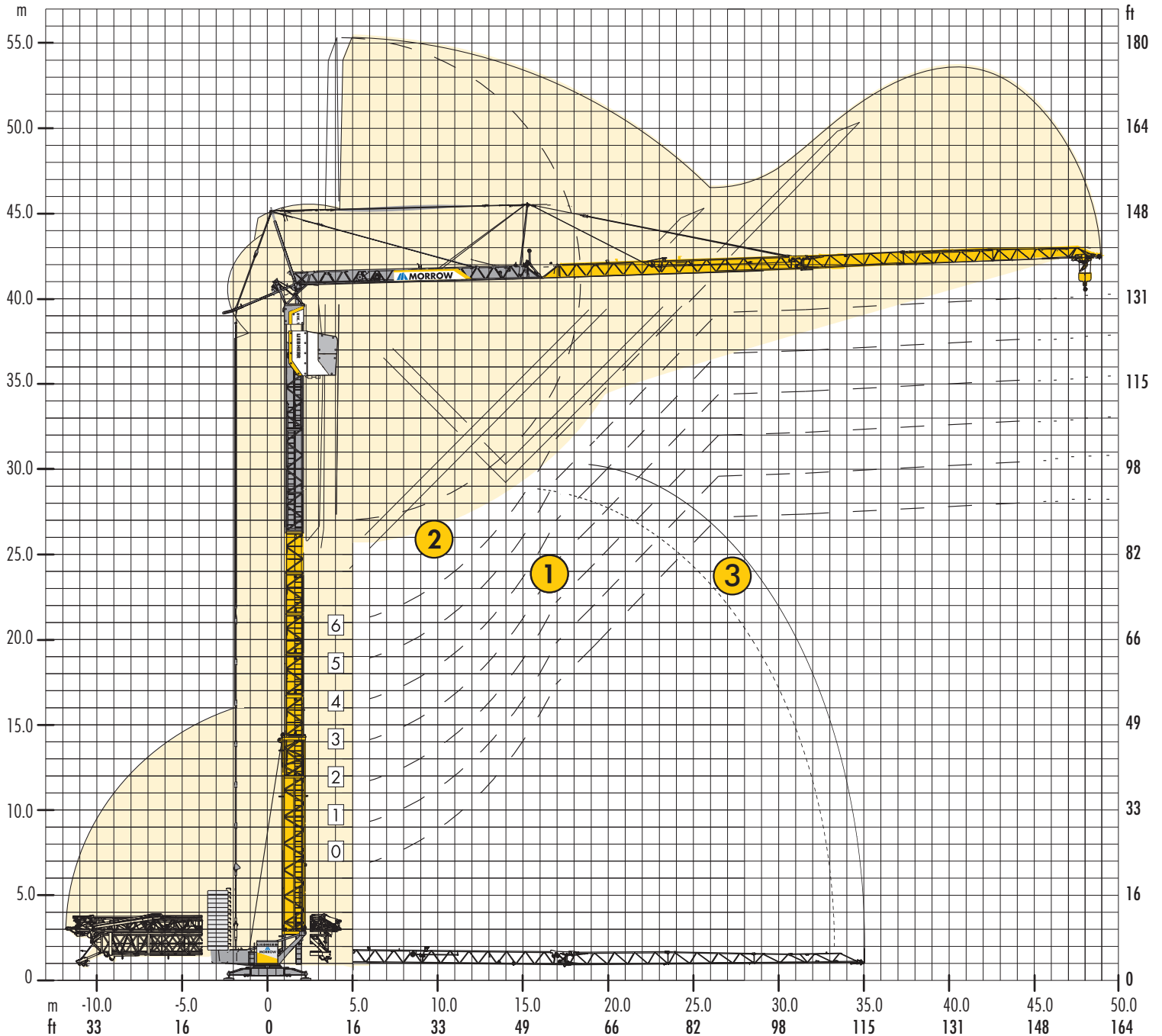
Jib Tip Clearances at 45°



Jib Tip Heights

Jib Luffed at 45°						
Jib Assembly		102 ft 31.0 m	121 ft 37.0 m	138 ft 42.0 m	148 ft 45.0 m	157 ft 48.0 m
Inner Tower Position		Jib Tip Heights				
1	Fully retracted (0 tower sections)	96 ft 29.3 m	110 ft 33.4 m	121 ft 36.9 m	128 ft 39.0 m	135 ft 41.1 m
2	Position 1 (+1 tower section)	104 ft 31.7 m	117 ft 35.8 m	129 ft 39.3 m	136 ft 41.4 m	143 ft 43.5 m
3	Position 2 (+2 tower sections)	112 ft 34.1 m	125 ft 38.2 m	137 ft 41.7 m	144 ft 43.8 m	151 ft 45.9 m
4	Position 3 (+3 tower sections)	120 ft 36.5 m	133 ft 40.6 m	145 ft 44.1 m	152 ft 46.2 m	158 ft 48.3 m
5	Fully extended (0 tower sections)	124 ft 37.9 m	138 ft 42.0 m	149 ft 45.5 m	156 ft 47.6 m	163 ft 49.7 m
6	+ 1 Tower section	132 ft 40.3 m	146 ft 44.4 m	157 ft 47.9 m	164 ft 50.0 m	171 ft 52.1 m
7	+ 2 Tower sections	140 ft 42.7 m	154 ft 46.8 m	165 ft 50.3 m	172 ft 52.4 m	179 ft 54.5 m
8	+ 3 Tower sections	148 ft 45.1 m	161 ft 49.2 m	173 ft 52.7 m	180 ft 54.8 m	187 ft 56.9 m
9	+ 4 Tower sections	156 ft 47.5 m	169 ft 51.6 m	181 ft 55.1 m	188 ft 57.2 m	195 ft 59.3 m
10	+ 5 Tower sections	164 ft 49.9 m	177 ft 54.0 m	189 ft 57.5 m	—	—

Erecting Clearances

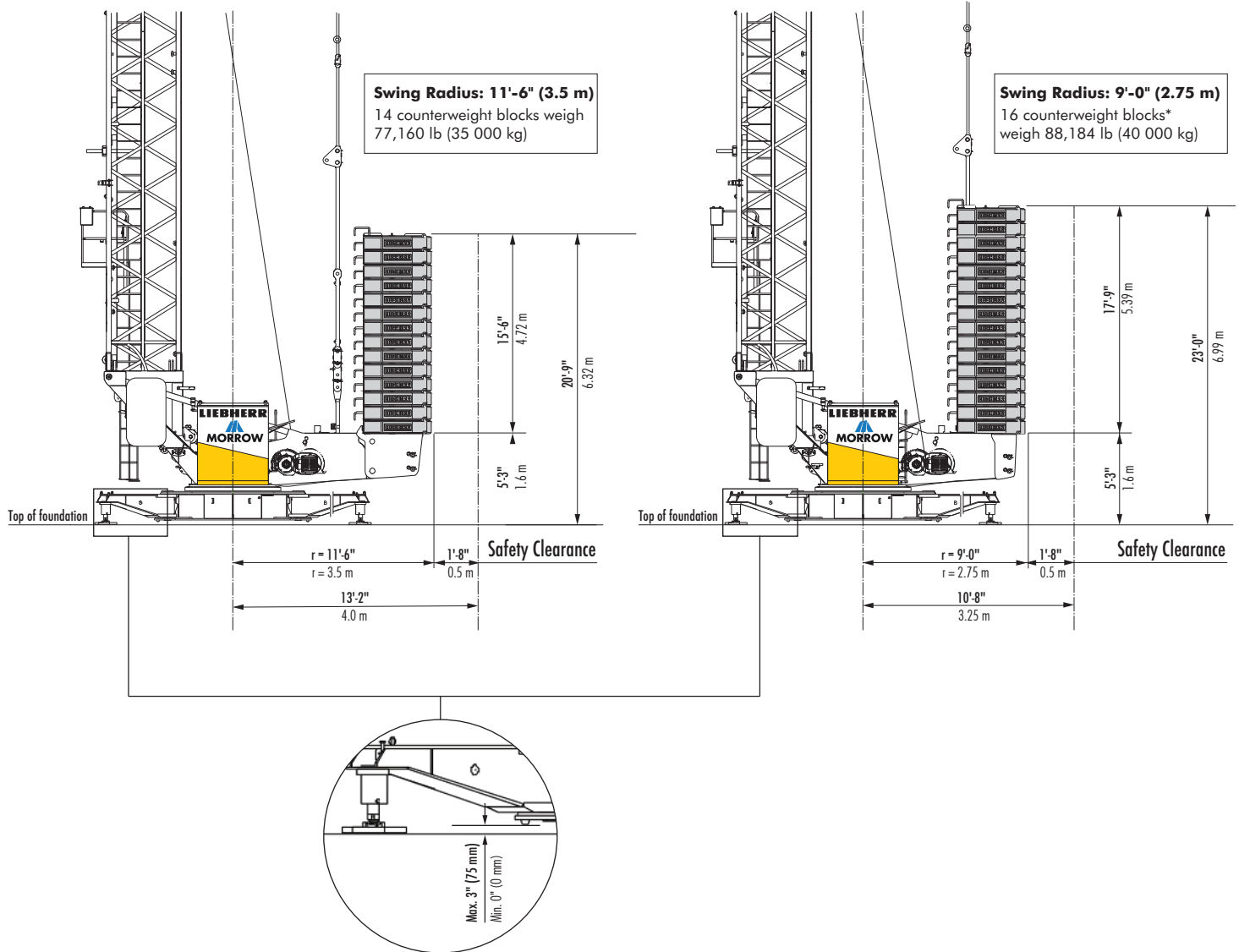


- ① Standard erecting curves from 0 to 6 tower sections.
- ② Elevated erecting curve (+14'-8") using the example of 6 tower sections.
- ③ Erecting curve 157 ft (48.0 m) radius.

IMPORTANT: Consult 81K.1 Instruction Manual before erecting, operating, servicing and dismantling crane.

LIEBHERR 81K.1

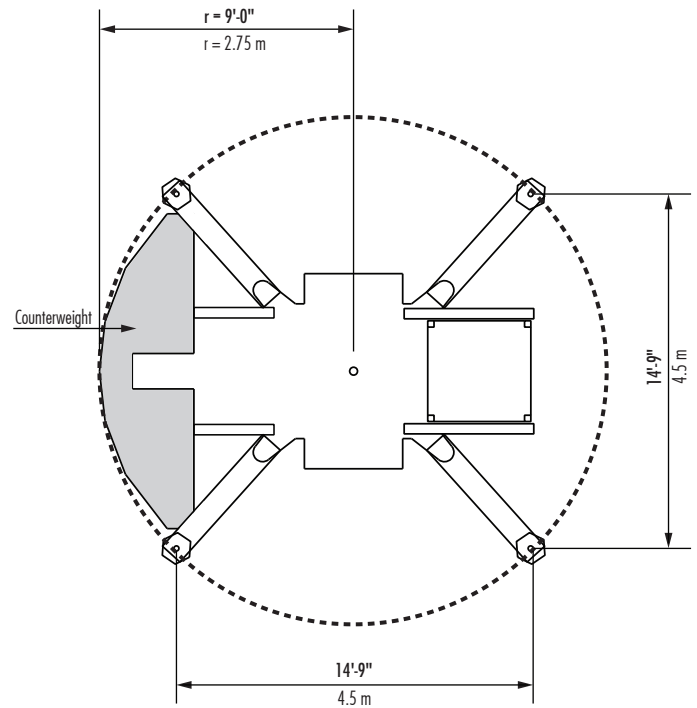
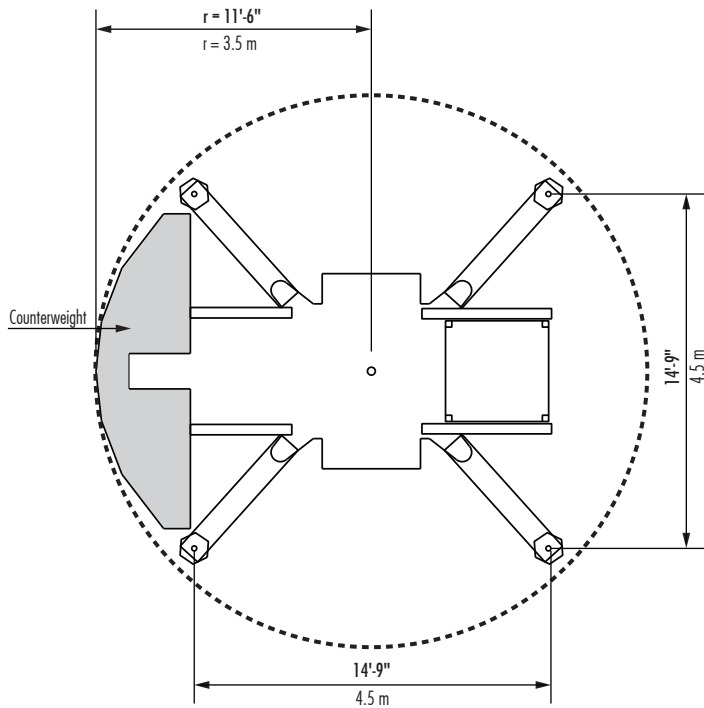
Counterweight and Clearances



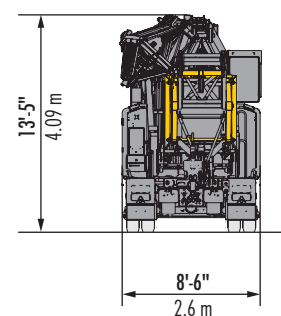
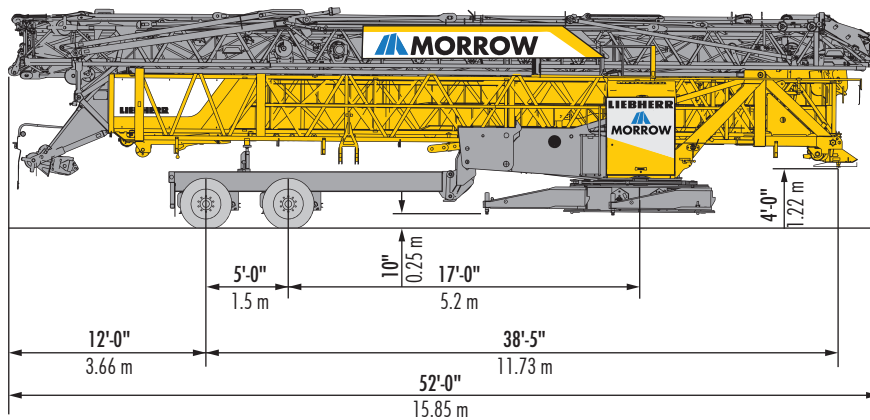
Counterweight Type	Counterweight Weight	Swing Radius	Quantity + Total Weight
Concrete Block	5,512 lb (2 500kg)	11'-6" (3.5 m)	14 blocks = 77,160 lb (35 000 kg)
		9'-0" (2.75 m)	16 blocks = 88,184 lb (40 000 kg)* 18 blocks = 99,208 lb (45 000 kg)

*Certain configurations require up to 18 counterweight blocks, and in some cases also require central ballast. Consult the 81K.1 Operations Manual for the specific requirements based on the applicable configuration.

Swing Radius



Transporter



King pin towing assembly - double axle
52,840 lb (23,960 kg)

LIEBHERR 81K.1

Hoist Speed and Capacity

Hoist Drive	WiW 210 MZ 406		2-Part Line			
20 hp (15 kW) AC hoist unit Variable frequency drive (VFD) Single-speed gearbox	Speed	Capacity	Hook Speed	Capacity	Hook Speed	
	1	13,230 lb @ 42 ft/min 880 lb @ 250 ft/min		6 000 kg @ 12.7 m/min 400 kg @ 76.1 m/min		

Drive Information

Drive Unit (VFD)	Horsepower	Kilowatts	Speed	
Trolley	4	3	0 - 197 ft/min	0 - 60 m/min
Swing	6.7	5	0.8 rpm	
Luffing	4	3	0° - 45° in 110 secs.	

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;

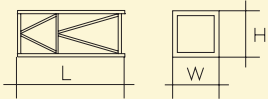
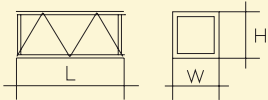
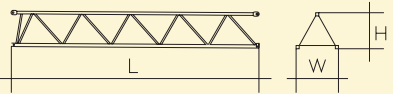
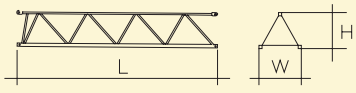
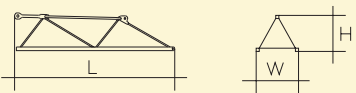
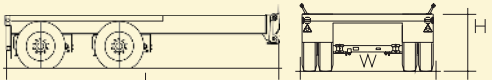
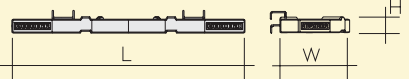
Service size: 60 Amperes

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 50kW. 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.

Components

Description		Dimensions L x W x H	Wt.
Tower Section with climbing support		8'-2" x 3'-7" x 3'-7" 2.50 m x 1.10 m x 1.10 m	1,320 lb 600 kg
Tower Section without climbing support		8'-2" x 3'-7" x 3'-7" 2.50 m x 1.10 m x 1.10 m	1,100 lb 500 kg
Jib Extension 631 102 ft to 121 ft radius		20'-4" x 2'-10" x 2'-9" 6.20 m x 0.87 m x 0.84 m	700 lb 320 kg
Jib Extension 632 121 ft to 138 ft radius		17'-1" x 2'-10" x 2'-6" 5.20 m x 0.87 m x 0.76 m	350 lb 160 kg
Jib Extension 633 138 ft to 148 ft radius		10'-2" x 2'-10" x 2'-0" 3.10 m x 0.87 m x 0.61 m	175 lb 80 kg
Jib Extension 634 148 ft to 157 ft radius		13'-6" x 2'-10" x 2'-1" 4.10 m x 0.87 m x 0.62 m	187 lb 85 kg
Road Axle Tandem Axle		17'-4" x 8'-6" x 3'-3" 5.28 m x 2.59 m x 0.99 m	6,100 lb 2 770 kg
Counterweight each		13'-2" x 4'-6" x 1'-7" 4.00 m x 1.36 m x 0.48 m	5,512 lb 2 500 kg

NOTE: Weights and dimensions are approximate. Scale components before lifting. Consult 81K.1 Instruction Manual before erecting, operating, servicing and dismantling crane.

Specifications are subject to change without prior notice. Drawings shown in this datasheet are for illustrative purposes only. Refer to the 81K.1 Instruction Manual. For additional information, contact MORROW. All rights reserved.