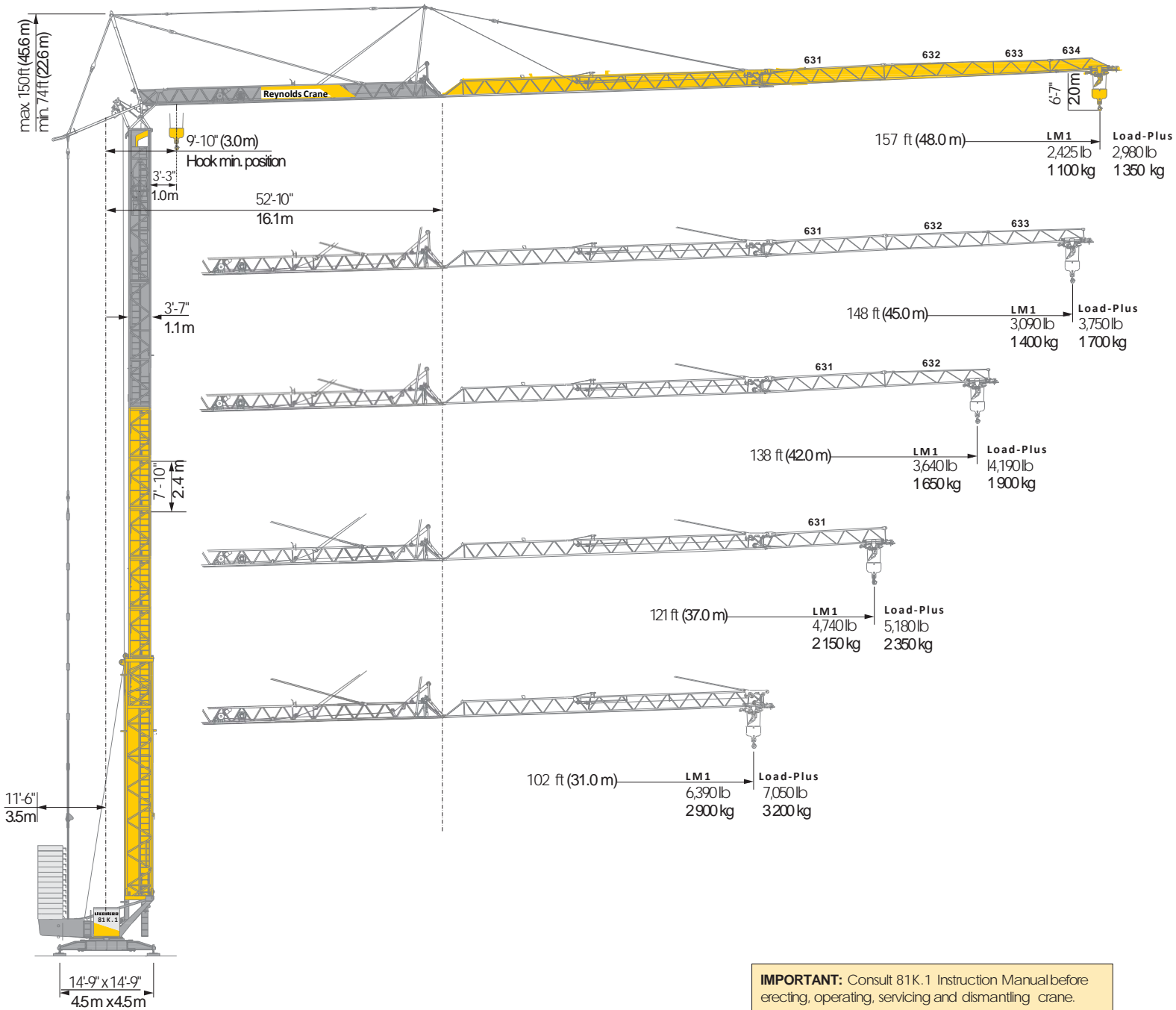


# 81K.1

▶ 6t

# LIEBHERR Fast-Erecting Tower Crane



Rental, RPO, Sales, A&D Iron Worker Crew, Certified Operators:

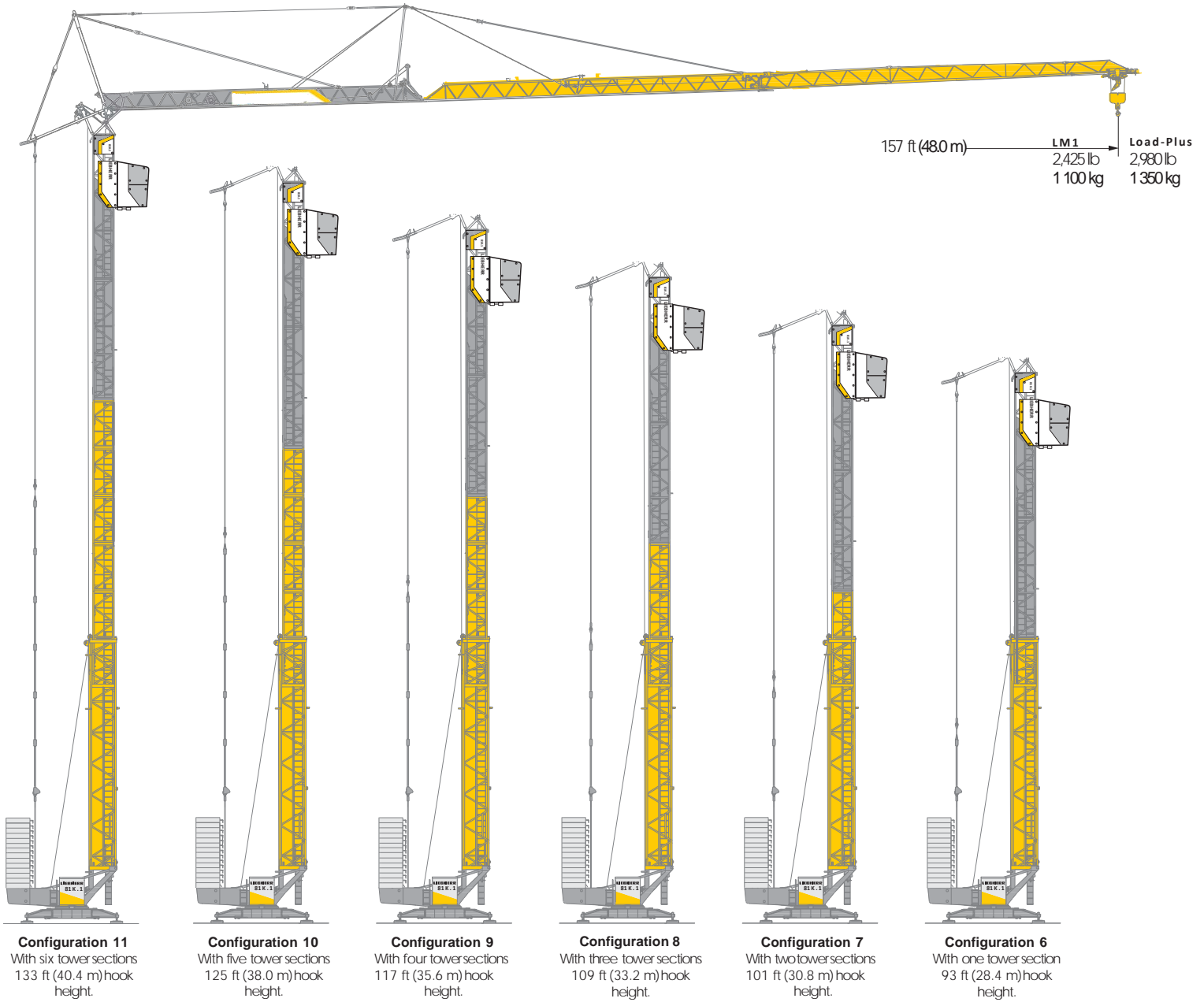
Amy Marten, 920-860-1488

Service, Parts, Annual Inspections:

Kevin Perkins, 608-516-2550

# LIEBHERR 81K.1

## Tower Configurations

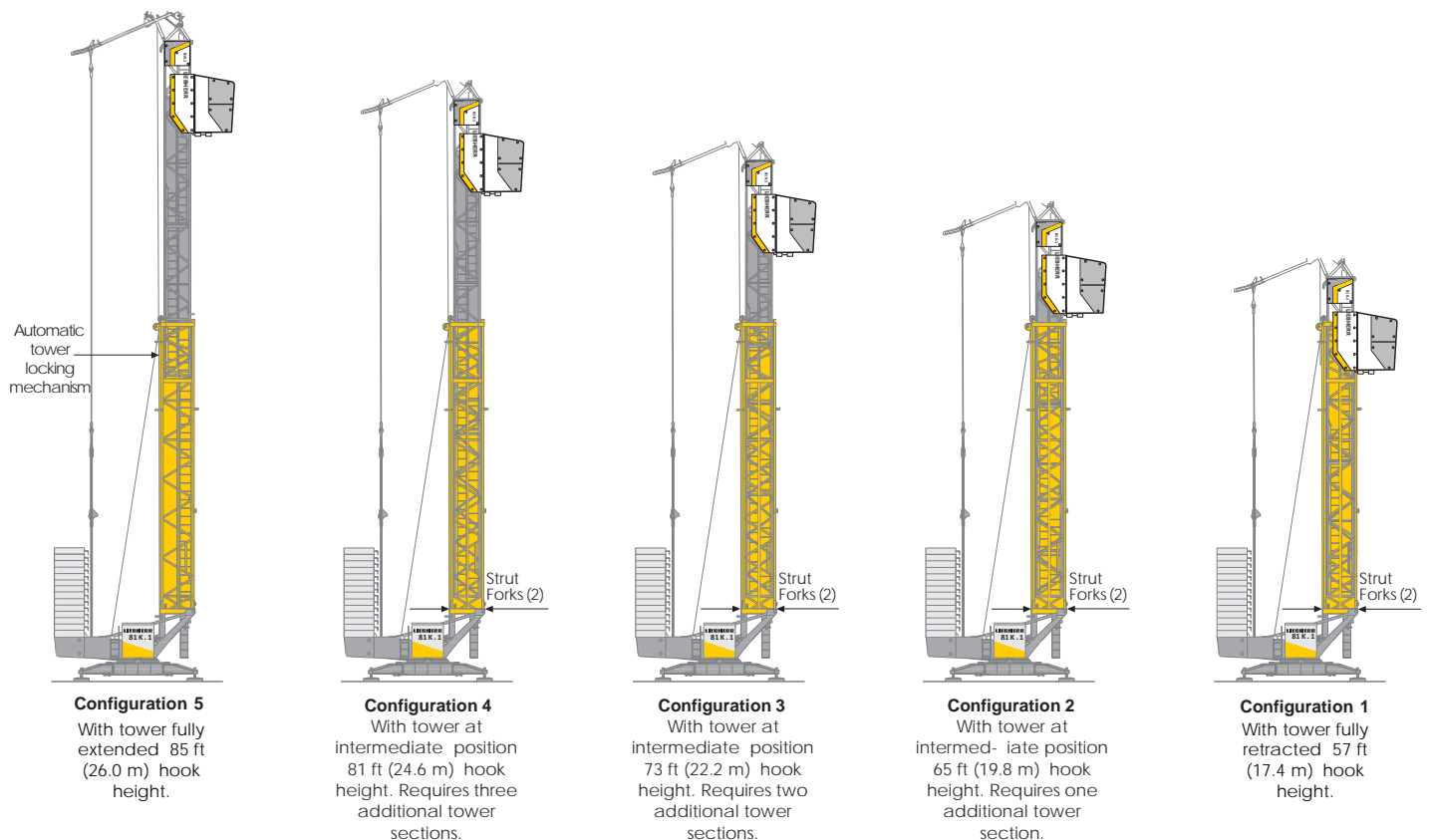


**NOTE:** Guying shown is for illustrative purposes only and may not indicate actual connections required. See 81K.1 Instruction Manual for more information.

## 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

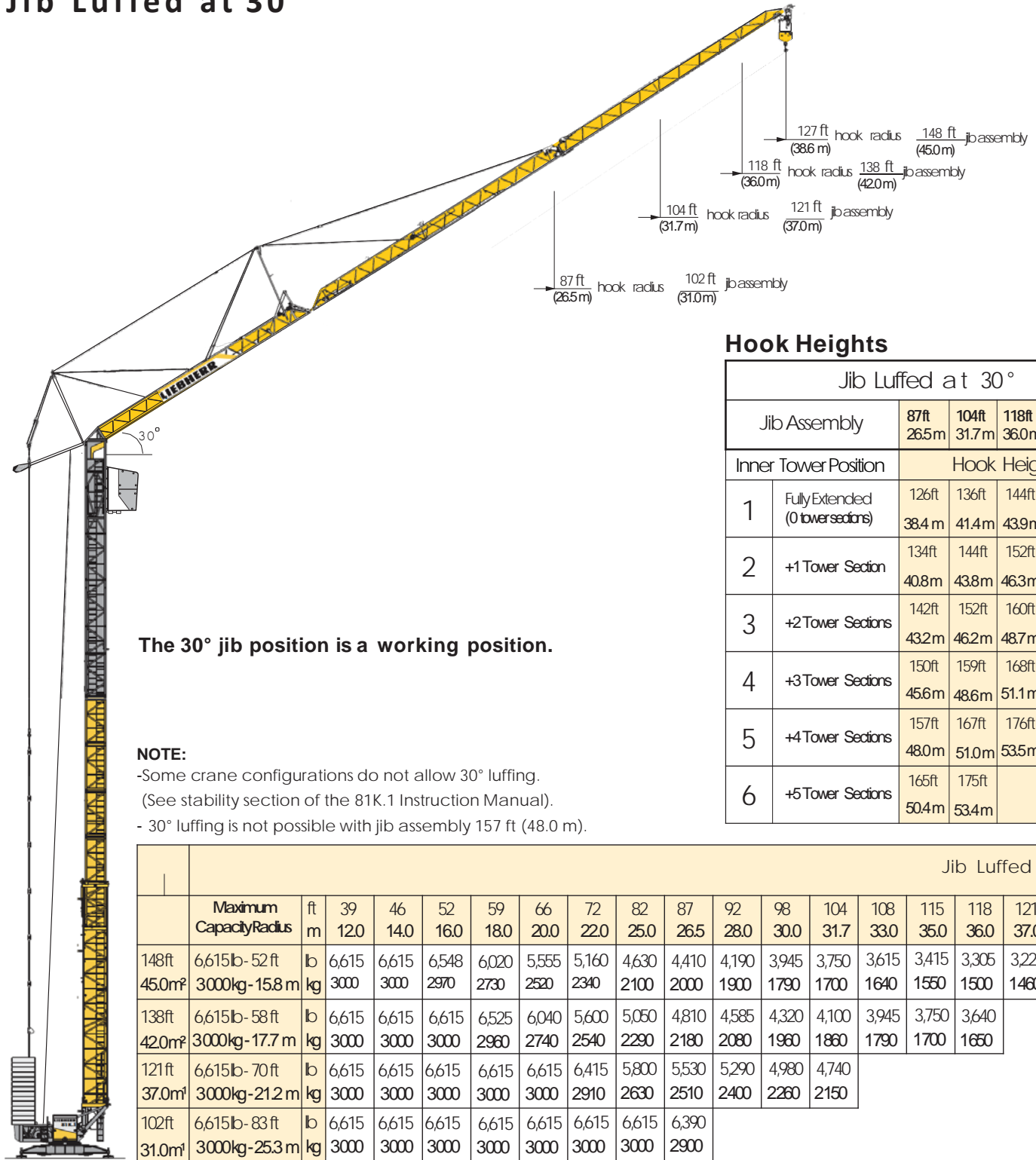
## Radius and Capacities

		<b>LM1</b>																
Hook Radius	Maximum Capacity - Radius	ft m	39	49	59	69	75	82	88	95	102	108	115	121	131	138	148	157
			120	150	180	210	230	250	270	290	310	330	350	370	400	420	450	480
157 ft 48.0m	13,230 lb - 39 ft 6000kg - 12.0m	lb kg	13,230 6,000	10,185 4,620	8,820 3,730	6,860 3,110	6,150 2,790	5,780 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 45.0m	13,230 lb - 44 ft 6000kg - 13.3m	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 42.0m	13,230 lb - 46 ft 6000kg - 14.1m	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 37.0m	13,230 lb - 50 ft 6000kg - 15.1m	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 31.0m	13,230 lb - 53 ft 6000kg - 16.3m	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							

		<b>Load-Plus*</b>																
Hook Radius	Maximum Capacity - Radius	ft m	39	49	59	69	75	82	88	95	102	108	115	121	131	138	148	157
			120	150	180	210	230	250	270	290	310	330	350	370	400	420	450	480
157 ft 48.0m	13,230 lb - 39 ft 6000kg - 12.0m	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 45.0m	13,230 lb - 44 ft 6000kg - 13.3m	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 42.0m	13,230 lb - 46 ft 6000kg - 14.1m	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 37.0m	13,230 lb - 50 ft 6000kg - 15.1m	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 31.0m	13,230 lb - 53 ft 6000kg - 16.3m	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. Load curve changes with the installation of six tower sections. Please consult the 81K.1 Operations Manual for further details.

## Jib Luffed at 30°

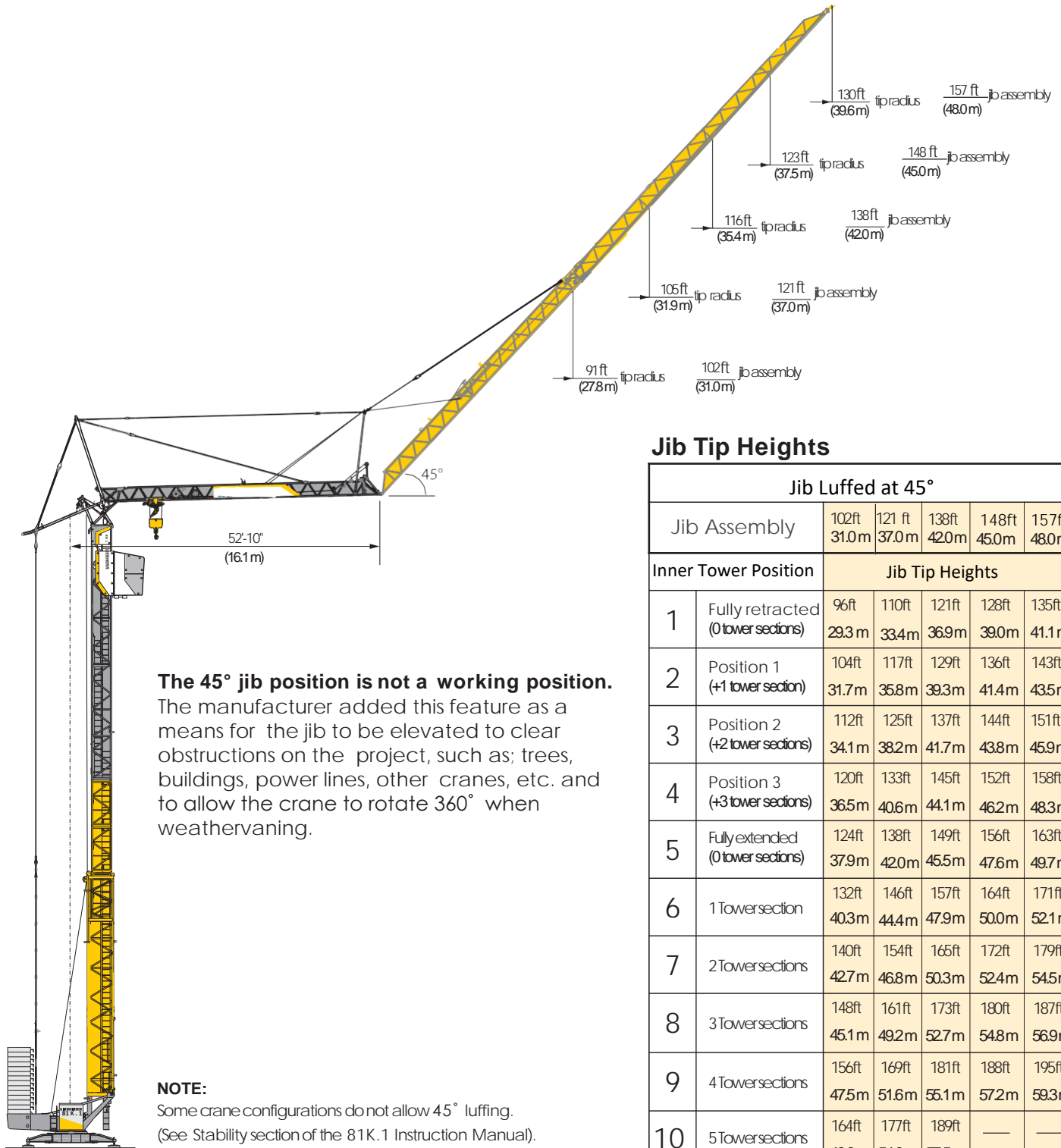


<sup>1</sup> Maximum 5 tower sections allowed with jib assemblies 102 ft (31.0m) and 121 ft (37.0m) when luffed 30°

<sup>2</sup> Maximum 4 tower sections allowed with jib assemblies 138 ft (42.0m) and 48 ft (45.0m) when luffed 30°

# LIEBHERR 81K.1

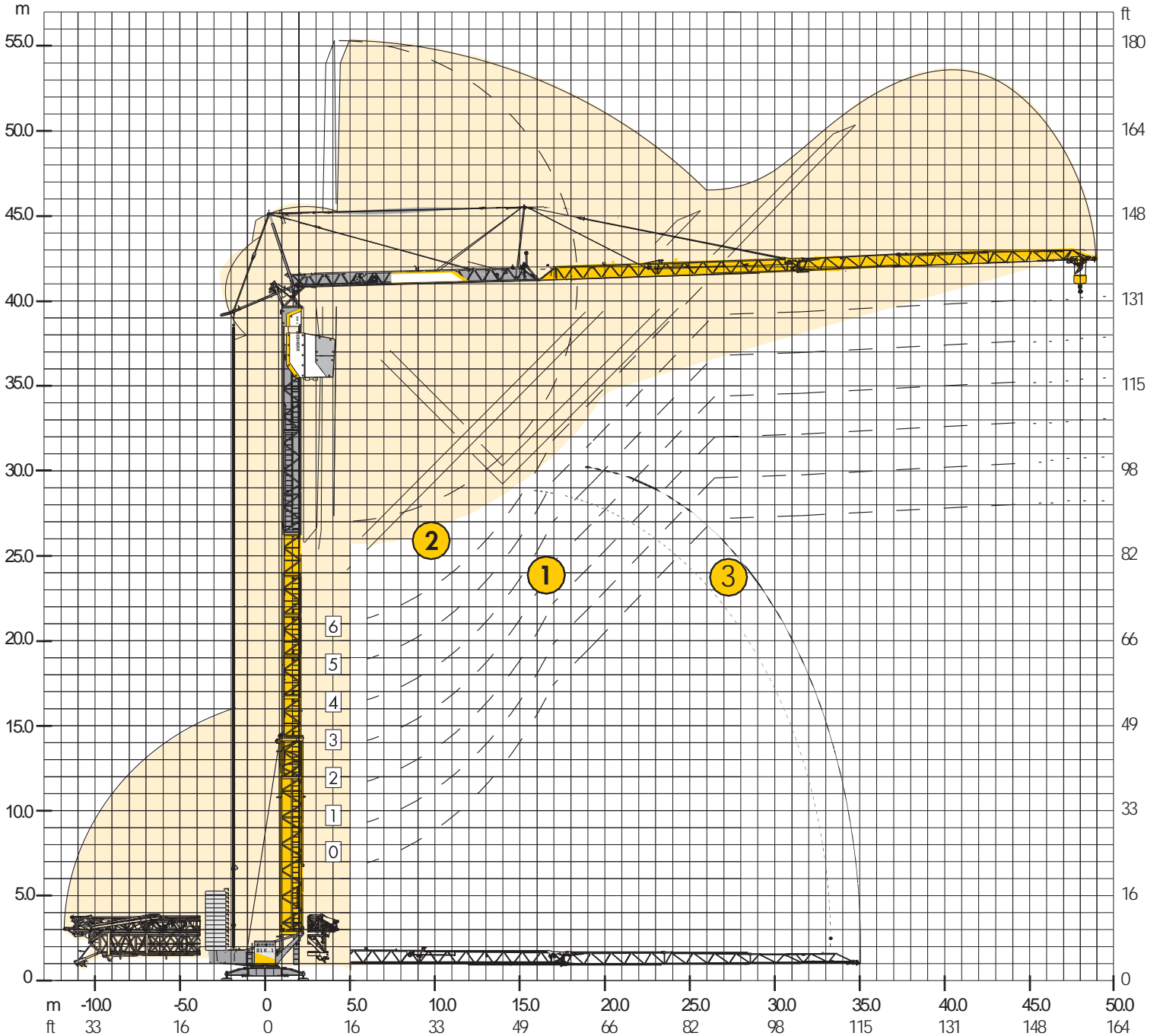
## Jib Tip Clearances at 45°



### Jib Tip Heights

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

## Erecting Clearances

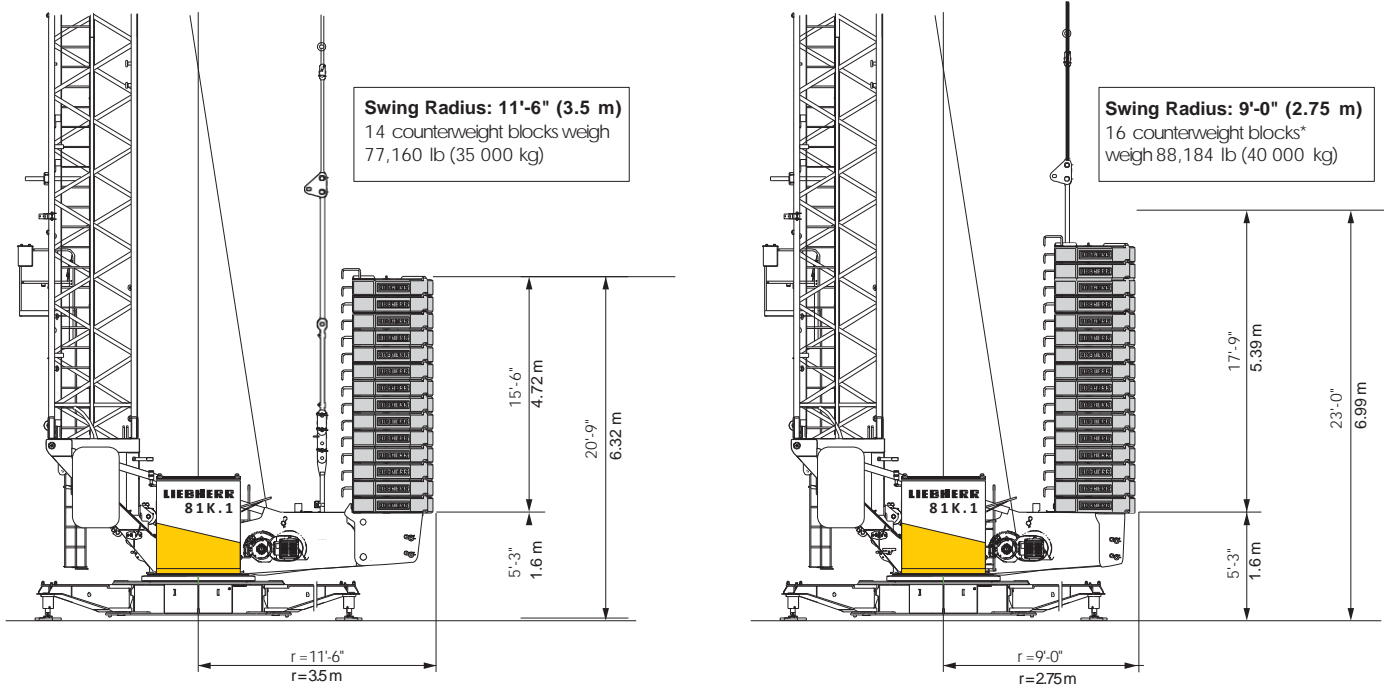


- ① Standard erecting curves from 0 to 6 tower sections.
- ② Elevated erecting curve (+14'-8") using the example of 6 tower sections.
- ③ Erecting curve 157 ft (48.0 m) radius.

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

# LIEBHERR 81K.1

## Counterweight and Clearances

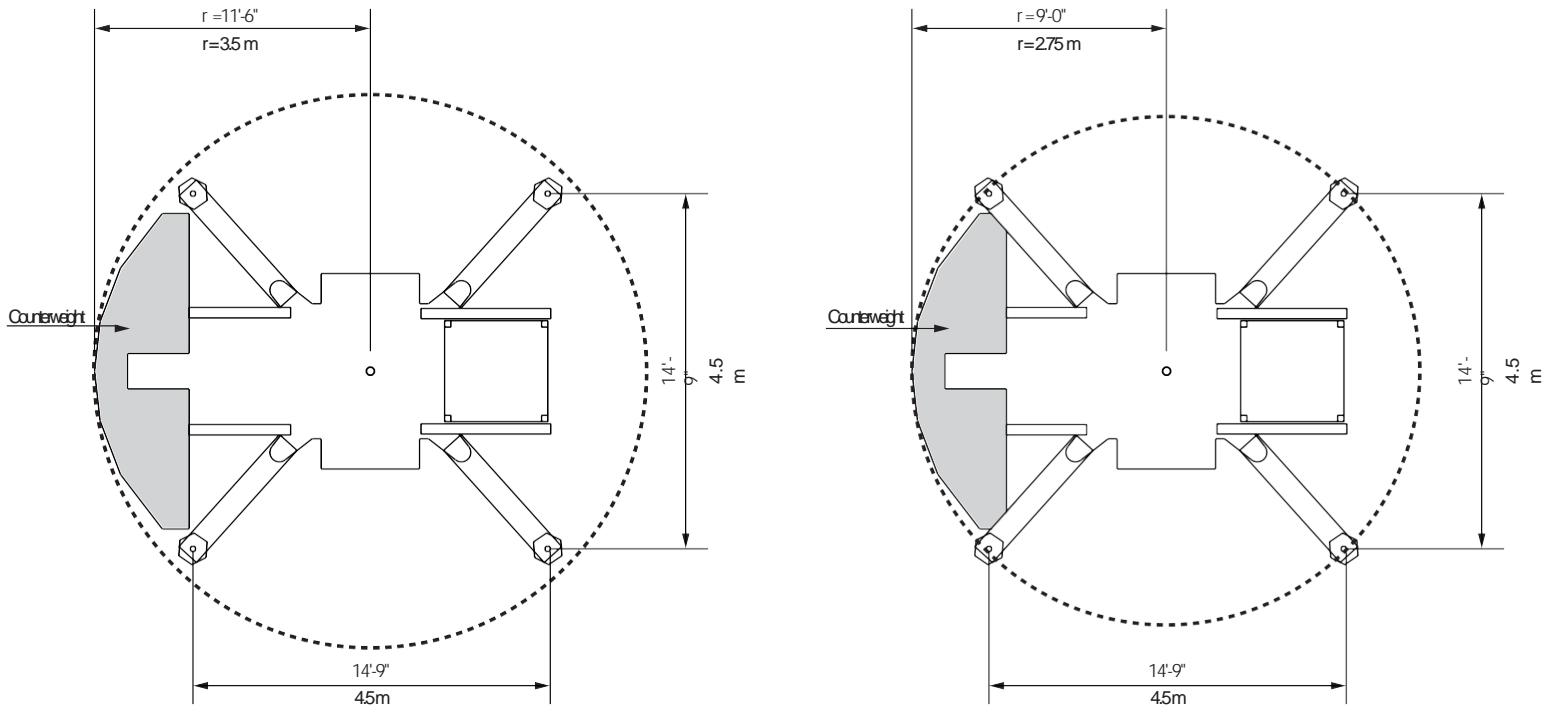


Counterweight Type	Counterweight Weight	Swing Radius	Quantity + Total Weight
Concrete Block	5,512 lb (2 500kg)	11'-6" (3.5 m)	14 blocks = 77,160 lb (35 000 kg)
		9'-0" (2.75 m)	16 blocks = 88,184 lb (40 000 kg)* 18 blocks = 99,208 lb (45 000 kg)

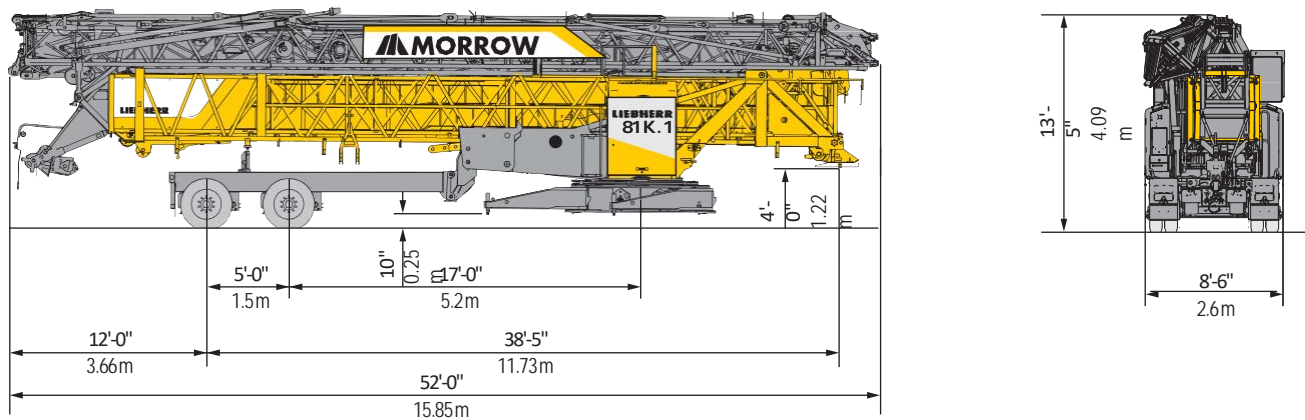
\*Certain configurations require up to 18 counterweight blocks, and in some cases also require central ballast. Consult the 81K.1 Operations Manual for the specific requirements based on the applicable configuration.



## 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
	<b>1</b>		13,230 lb @ 880 lb @	42 ft/min 250 ft/min	6 000 kg @ 400 kg @

## 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;

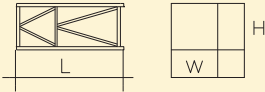
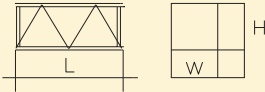
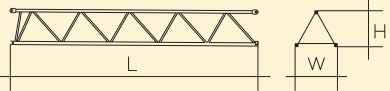
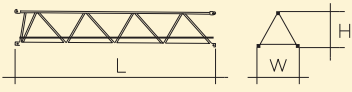
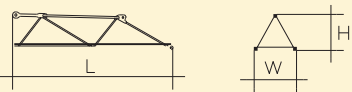

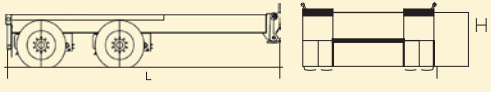
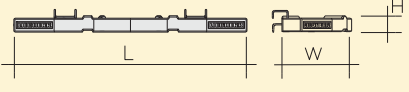
**Service size:** 60 Amperes

### 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.



### LOCAL SUPPORT BY REYNOLDS CRANE:

**Locations:** Milwaukee, WI • DeForest, WI • Coming Soon: Minneapolis, MN

**Stocked Parts and Service Bays:** DeForest, WI

**Rental, RPO, Sales, A&D Iron Worker Crew, Certified Operators:** Amy Marten, 920-860-1488

**Service, Parts, Annual Inspections:** Kevin Perkins, 608-516-2550