

Crawler Crane

Complies with ANSI/ASME B 30.5

LR 1250.1

EN-US

LR 1004.03.07/08



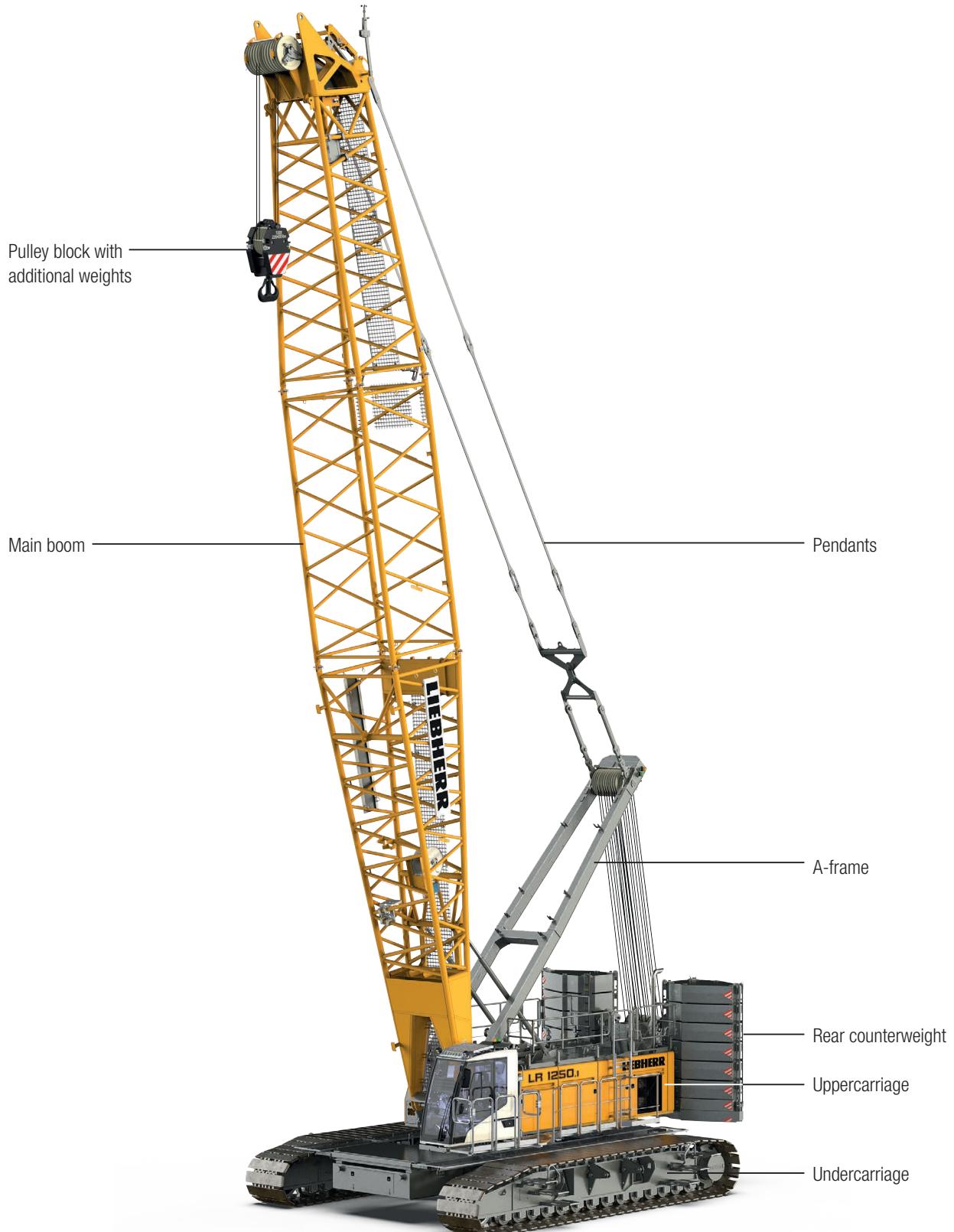
LIEBHERR

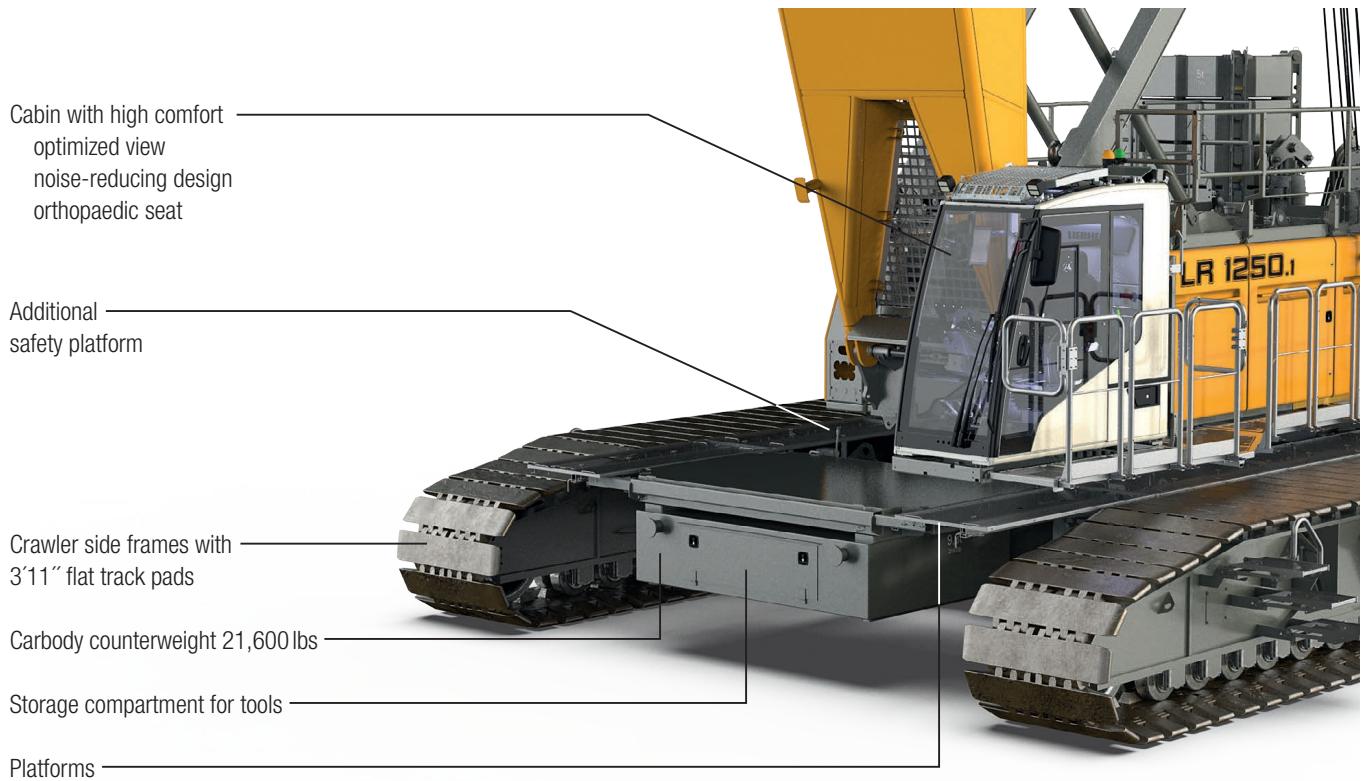
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Remarks

- The load capacities stated are valid for lifting operation only (corresponding with crane classification according to ISO 4301-1, crane group A1).
- Machine is standing on firm, horizontal ground.
- The weight of the lifting device (pulley block, hoist ropes, shackles etc.) must be deducted from the load capacity.
- Additional equipment on boom (e.g. walkways) must be deducted from the load capacity.
- The max. admissible wind speed can be preselected in the LML software and referred to in the load chart.
- Working radii are measured from centre of swing ring and under load.
- The lifting capacities are valid for 360 degrees of swing.
- Calculation of stability under load is based on ANSI/ASME B 30.5 load ratings as well as ISO 4305 Table 2 and tested according to SAE J765 and SAE J987.
- Weights may vary depending on the delivered configuration of the machine, filling level of the tanks as well as generally valid tolerances.
- The illustrations in this brochure may include options which are not within the standard scope of supply of the machine.

Concept and characteristics





High performance

A strong, efficient and reliable diesel engine of the newest generation provides high performance and enables several movements to be carried out simultaneously.

Ground pressure

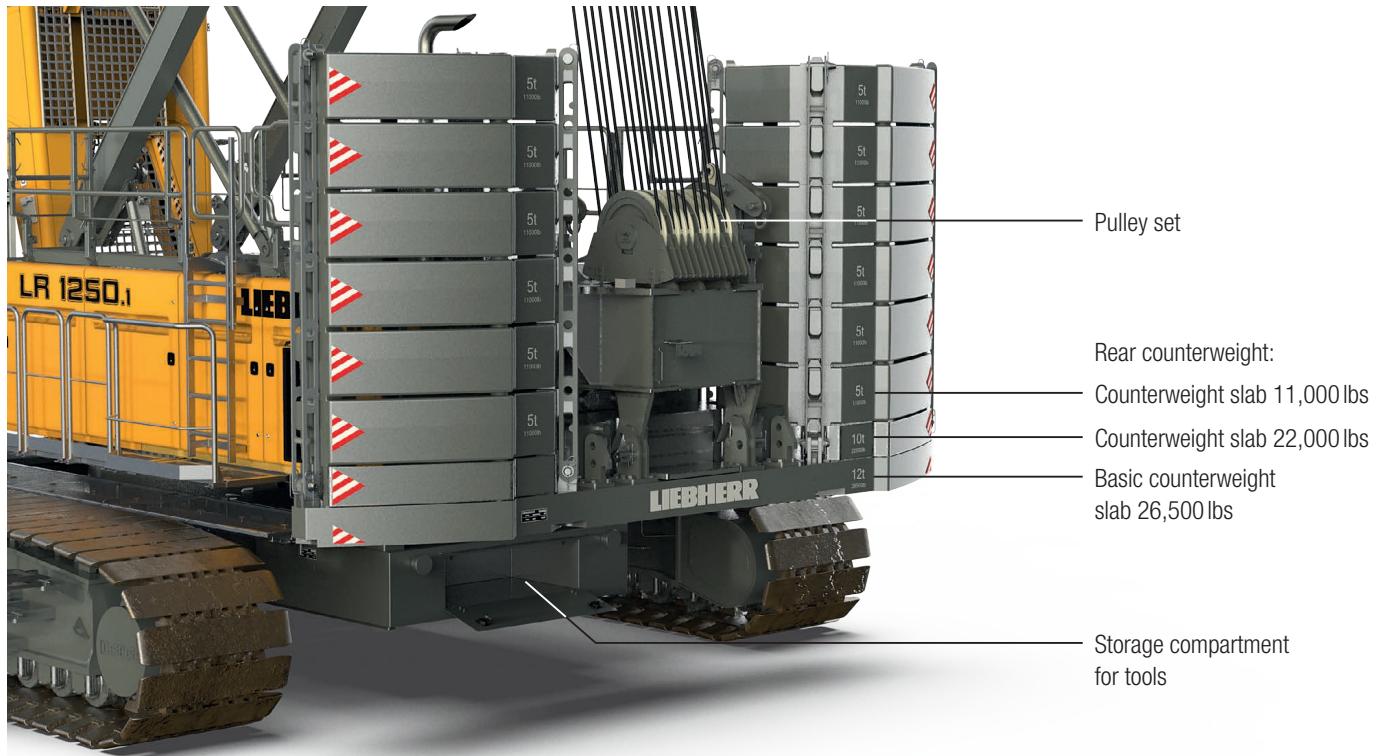
The actual ground pressure is calculated according to the configuration and position of the machine and displayed in the operator's cabin. Using the optional Liebherr Crane Planner the actual ground pressure can already be calculated and displayed in the planning stage.

Cabin with high comfort

Optimised field of vision combined with enhanced comfort: an orthopaedic operator's seat with heating and cooling functions, as well as precise and ergonomic controls are included.

Control

Easy and intuitive handling of control, service and machine functions through a large, clear colour monitor. Built for extreme environmental conditions.



Efficient self-assembly system and short assembly times

The self-assembly system enables safe, independent and quick assembly/disassembly of the crawler side frames, the carbody and rear counterweights, as well as boom elements.

Mobility

Crane parts are optimized for transportation. The maximum transport width is 9.84 ft.

Easy service

The design ensures easy maintenance and service as well as safe access to the components.

Boom/jib

A variety of boom systems and configurations allow for optimum operation on the most diverse jobsites.

Technical description



Diesel engine

Power rating according to ISO 9249	230 kW (308 hp) at 1700 rpm
Engine type	Liebherr D 944 A7-04
Fuel tank capacity	209 gal with continuous level indicator and reserve warning
Exhaust certification	97/68 EC Stage IV; EPA/CARB Tier 4f 97/68 EC Stage V; EPA/CARB Tier 4f ECE-R.96 Power Band H non-certified emission standard



Noise measurement data and vibration

Noise emission	according to 2000/14/EC directive
Emission sound pressure level L _{PA}	72.9 dB(A) (in the cabin)
Guaranteed sound power level L _{WA}	107 dB(A) (of the machine)
Vibration transmitted to the machine operator	< 8.20 ft/s ² (to the hand-arm system) < 1.64 ft/s ² (to the whole body)



Hydraulic system

Hydraulic pumps	double axial displacement pump in open loop hydraulic system allows all functions to be operated simultaneously automatic working pressure cut-off to minimize peak pressure
Hydraulic oil tank capacity	172 gal
Max. working pressure	5,076 PSI
Hydraulic oil	electronic monitoring of alle filters use of synthetic environmentally friendly oil



Control

Control system	includes all control and monitoring functions, designed to withstand extreme environmental conditions and heavy construction tasks
Display	high resolution monitor in the operator's cabin, clear display of complete machine operating data, warnings and failure indications in the required language
Operation	several movements can be performed simultaneously thanks to electro-hydraulic proportional control, all categories of loads can be positioned with utmost precision



Crawlers

Drive system	with fixed axial piston hydraulic motors
Crawler side frame	maintenance-free, with hydraulic chain tensioning device
Brake	hydraulically released, spring-loaded multi-disc holding brake
Drive speed	0-0.994 mph
Flat track pads	width 3.9 ft



Swing gear

Drive system	with fixed axial piston hydraulic motors, planetary gearbox, pinion
Swing ring	roller bearing with external teeth
Brake	hydraulically released, spring-loaded multi-disc holding brake
Swing speed	0-3 rpm continuously variable
Speed control	both swing modes are possible – speed control or free swing for speed control: a multi-disc holding brake locks automatically at zero swing motion.



Hoisting gear

Standard crane winches 1 + 2	internal low-maintenance planetary gearbox in oil bath, load support by the hydraulic system, spring-loaded, multi-disc holding brake, pressure controlled, variable flow hydraulic motors for the main winches, full utilisation of engine power as the winch speed is automatically adjusted to suit the respective line pull
Line pull in the 7th layer	26,977 lbf
Rope diameter	26 mm
Drum diameter	1.9 ft
Rope speed	0-446 ft/min
Rope capacity in 7 layers	1604 ft
Option – winch with free fall	free fall: clutch and braking functions are provided by the service brake (low wear and maintenance-free multi-disc brake in compact design)



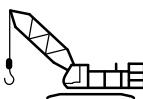
Boom/jib luffing winches

Main boom	
Line pull	max. 40,466 lbf
Rope diameter	24 mm
Boom luffing	15-86° in 130 s
Jib	
Line pull	max. 23,605 lbf
Rope diameter	20 mm
Jib luffing	15-78° in 51 s

Operating weight

Composition of operating weight	basic machine with crawlers winches 1 + 2 (incl. ropes), A-frame 66 ft main boom, consisting of boom foot (33ft), boom head (23ft) and boom section (10 ft) 181,440 lbs rear counterweight (12 x 11,000 lbs + 1 x 26,500 lbs + 1 x 22,000 lbs + 660 lbs) 79,400 lbs carbody counterweight (2 x 21,600 lbs + 2 x 18,300 lbs) 551,200 lbs pulley block
Total weight	approx. 462,971 lbs

Operation modes

			
 Land	✓	✓	✓
 Floating structure (barge operation)	✓	✓	✓*

* only valid for jack-up barges

Optional equipment

Basic machine

Main winches 26,455 lbs with free fall
Painting in customer design
Load hook 27,560/88,100/176,300/220,400/352,700/551,200 lbs

Economy and ecology

Eco-Silent Package
Aux. power unit (APU, 2.8 kW)

Boom/jib

Luffing jib: luffing winch
Carbon fibre pendants

Boom/jib other

Walkway for main boom foot, incl. fall protection
Walkway for main boom head, incl. fall protection
Rope guide for main boom walkway, incl. fall protection
Additional fall protection harness for 1 person
Walkways for main boom sections 10/20/40 ft
Walkways for main boom sections 10/20/40 ft, incl. fall protection

Application packages

Operation mode: personnel lifting (O)
Operation mode: barge operation (O)
Operation mode: foundation work (O)
Operation mode: wind speed pre-selection (S)
Operation mode: travelling with load (S)
Winch synchronization
Radio remote control
Rope reeling function via radio remote control
Assembly radio remote control
Use of luffing jib winch as auxiliary winch
Tagline winch 4,409 lbs free fall
Main winch constant tension for one winch
Two hook operation
Cabin elevator 20 ft hydraulic

Additional access ladder for boom assembly
Railings on rooftop foldable
Railings for cabin platform
Vandalism cabin protection
Cabin protection roof, FOPS level 1
Lifting height indication for both hoist winches
Plug&Play diesel-hydraulic back-up unit 18.4 kW
Swing and boom radius limit device
Aircraft warning light
Swing warning light
Lightning rod
Mechanical angle display
Air intake shut-off valve
Access control

Special features

Crane Planner 2.0
LiDAT

Self-assembly system

Jack-up system standard / telescopic
Self-assembly system counterweight
Self-assembly cylinder
Reeving winch
Track shifting hydraulic

Additional access ladder
Additional floodlights
Cabin air conditioner
Cabin tilting device hydraulic
Gear oil level warning
Litronic additional language

Service package

Refuelling pump diesel / AdBlue
Cold package -25 °C / -40 °C
Hydraulic oil bypass filter
Central lubrication swing ring bearings / outside
Liebherr hydraulic oil plus (longlife & bio)
Liebherr hydraulic oil plus arctic (longlife & bio)
Liebherr hydraulic oil plus arctic (longlife)

Safety features

Assistance system: Boom Up-and-Down Aid
Assistance system: Horizontal Load Path
Assistance system: Vertical Line Finder
Assistance system: Ground Pressure Indication and Visualization
Rear and side view cameras
Winch camera
Zoom camera at boom head
Platforms and railings on uppercarriage 1.9 ft
Additional access ladder for boom assembly
Railings on rooftop foldable
Railings for cabin platform
Vandalism cabin protection
Cabin protection roof, FOPS level 1
Lifting height indication for both hoist winches
Plug&Play diesel-hydraulic back-up unit 18.4 kW
Swing and boom radius limit device
Aircraft warning light
Swing warning light
Lightning rod
Mechanical angle display
Air intake shut-off valve
Access control

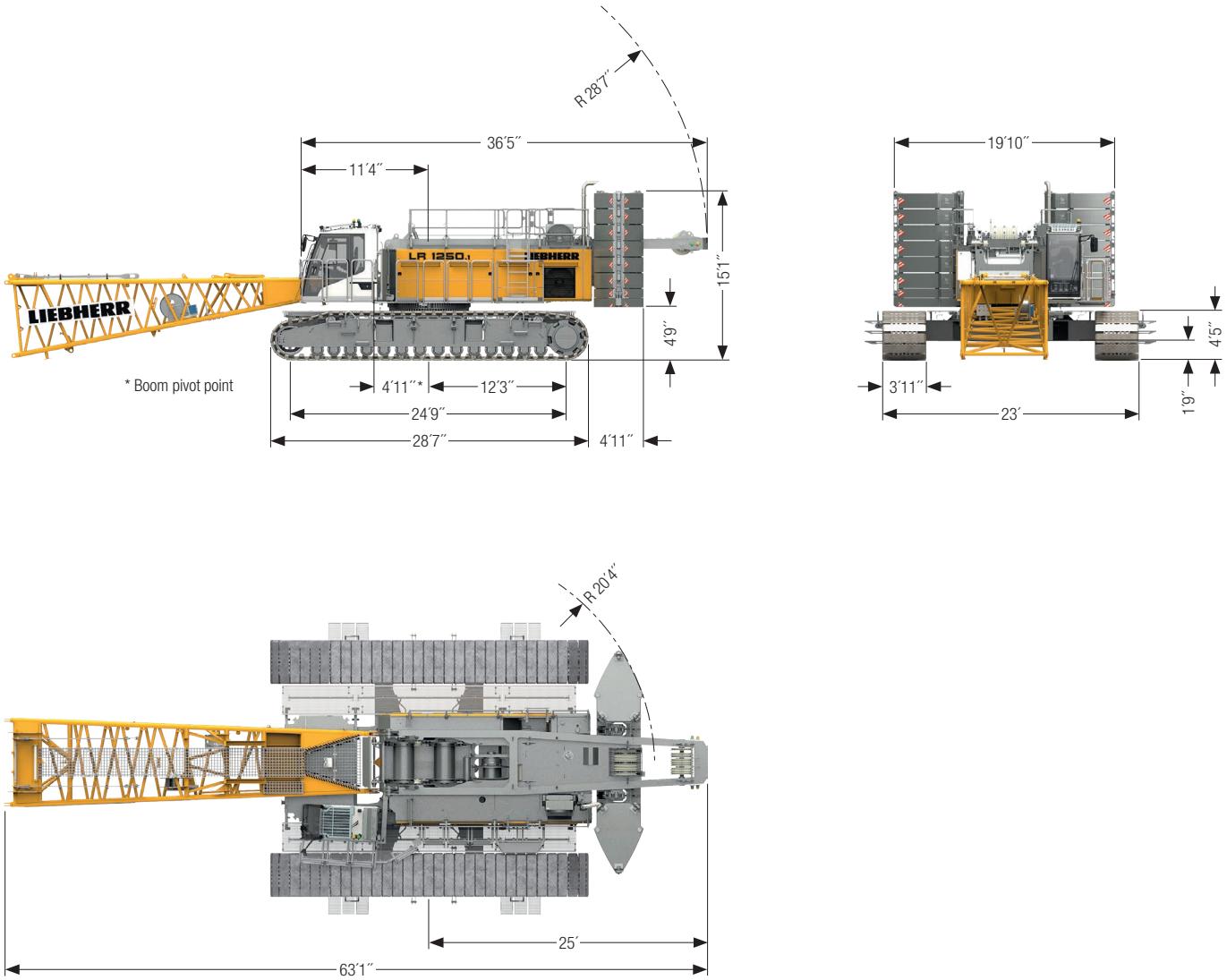
Operator's comfort

Additional access ladder
Additional floodlights
Cabin air conditioner
Cabin tilting device hydraulic
Gear oil level warning
Litronic additional language

(S) standard, (O) option

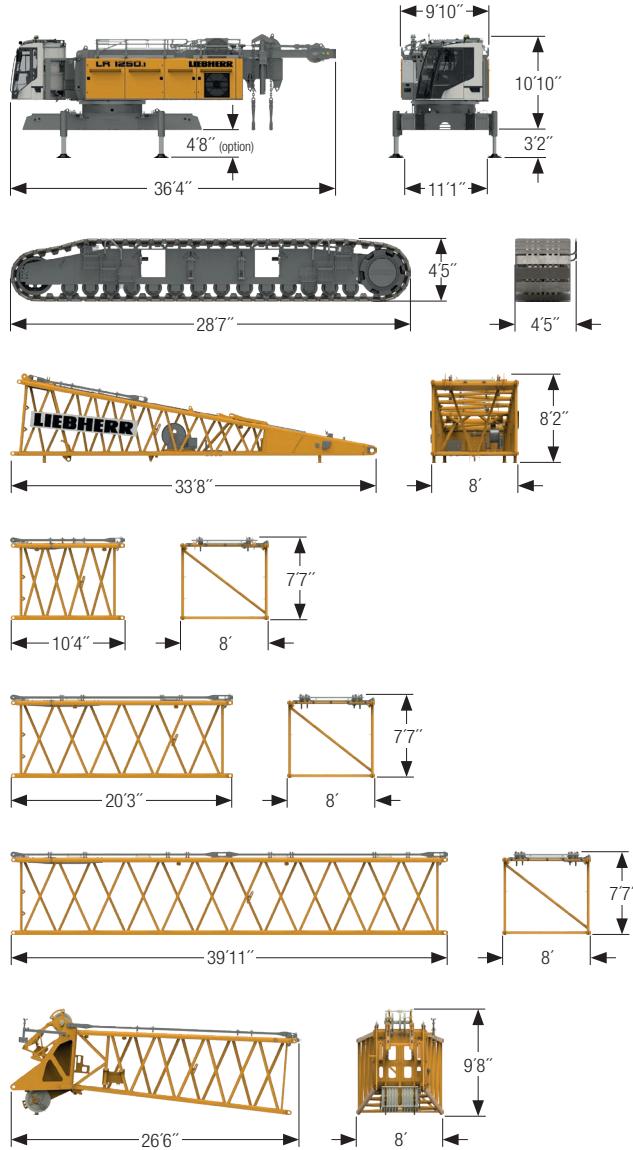
Dimensions

Basic machine with undercarriage



Transport dimensions and weights

Basic machine and main boom 2320.xx



Basic machine

Weight without hoist rope	lbs	82,074
Weight of hoist ropes	lbs/ft	2.28
with A-frame 1, winches 1 + 2 (2x 26,977 lbf), without boom foot, without rear counterweight, without carbody counterweight and crawler side frames		

Crawler side frame

Weight flat track pads 3.9 ft	lbs	43,338
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Boom foot 33 ft (No. 2320.25)

Weight incl. winch	lbs	10,642
Weight without winch	lbs	8,239

Boom section 10 ft (No. 2320.23)

Weight incl. boom pendants	lbs	1,920
Weight incl. boom and jib pendants	lbs	1,894

Boom section 20 ft (No. 2320.23)

Weight incl. boom pendants	lbs	2,963
Weight incl. boom and jib pendants	lbs	3,300

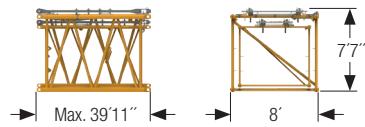
Boom section 40 ft (No. 2320.23)

Weight incl. boom pendants	lbs	5,366
Weight incl. boom and jib pendants	lbs	6,034

Boom head 23 ft (No. 2320.23)

Weight incl. boom pendants	lbs	7,965
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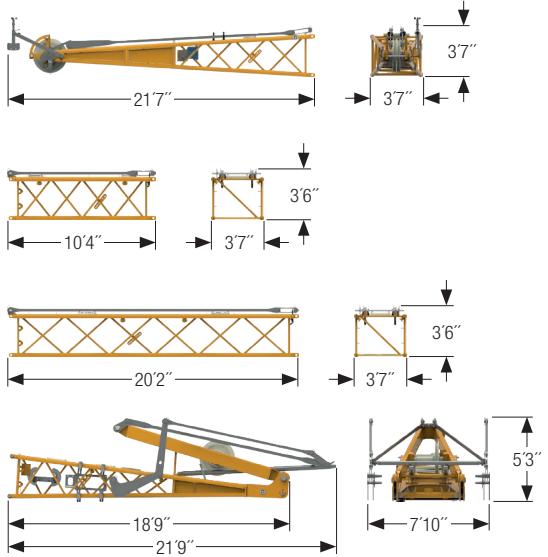
Transport option 2320.xx/1916.xx



Transport option (No. 2320.xx/1916.xx)

No. 2320.xx/1916.xx	ft	10/10	20/20	40/40
Weight including pendants	lbs	3,202	4,912	8,878

Fixed jib 1008.xx



Jib head 18 ft (No. 1008.20)

Weight including pendants

lbs | 1,925

Jib section 10 ft (No. 1008.17)

Weight including pendants

lbs | 589

Jib section 20 ft (No. 1008.17)

Weight including pendants

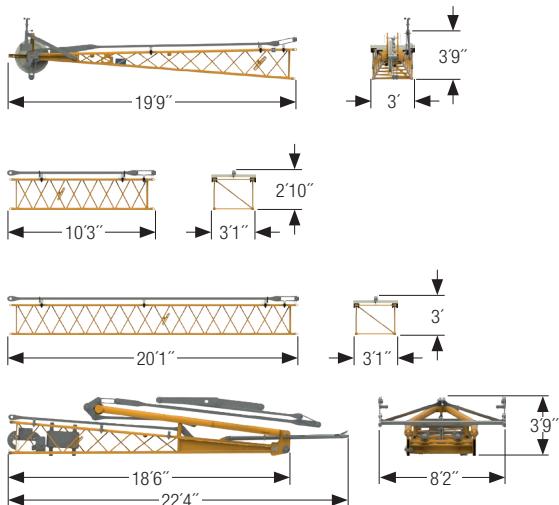
lbs | 988

Jib foot 18 ft with A-frame (No. 1008.20)

Weight including pendants

lbs | 4,652

Fixed jib 0806.xx



Jib head 18 ft (No. 0806.16)

Weight including pendants

lbs | 974

Jib section 10 ft (No. 0806.15)

Weight including pendants

lbs | 311

Jib section 20 ft (No. 0806.15)

Weight including pendants

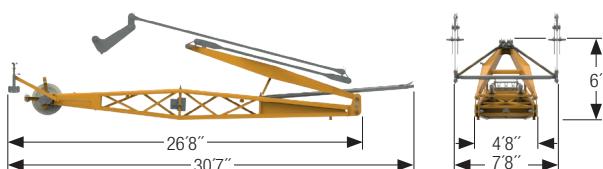
lbs | 549

Jib foot 18 ft with A-frame (No. 0806.16)

Weight including pendants

lbs | 2,242

Fixed jib 0906.21

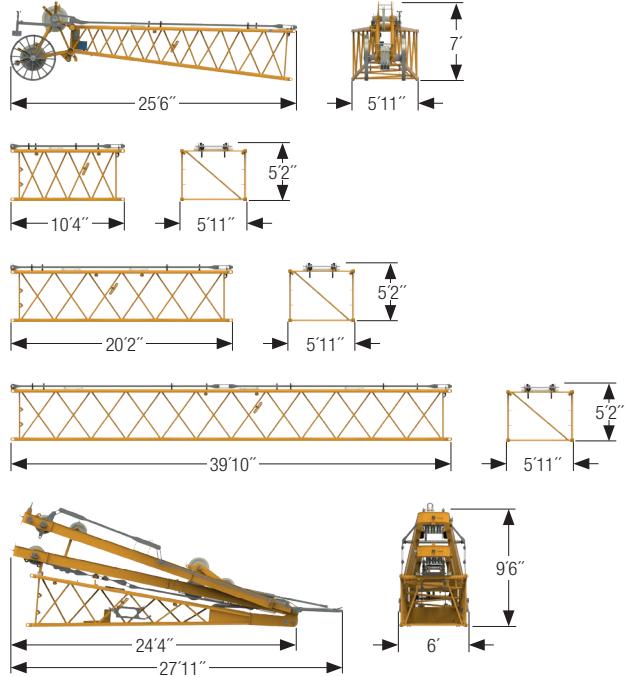


Fixed jib 23 ft (No. 0906.21)

Weight including pendants

lbs | 5,320

Luffing jib 1713.xx



Jib head 23 ft (No. 1713.21)

Weight including pendants lbs | 3,034

Jib section 10 ft (No. 1713.18)

Weight including pendants lbs | 869

Jib section 20 ft (No. 1713.18)

Weight including pendants lbs | 1,376

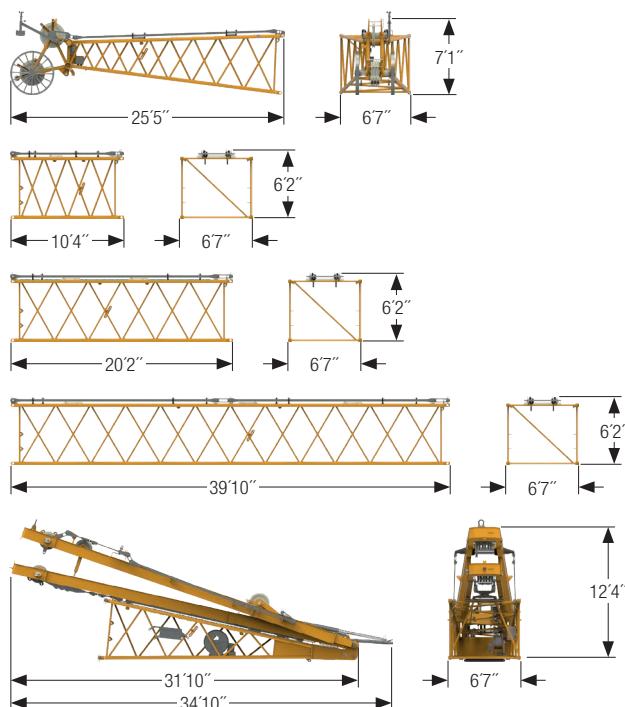
Jib section 40 ft (No. 1713.18)

Weight including pendants lbs | 2,474

Jib foot 23 ft with A-frames 2 + 3 (No. 1713.22)

Weight including pendants lbs | 10,501

Luffing jib 1916.xx



Jib head 23 ft (No. 1916.21)

Weight including pendants lbs | 3,351

Jib section 10 ft (No. 1916.18)

Weight including pendants lbs | 1,089

Jib section 20 ft (No. 1916.18)

Weight including pendants lbs | 1,612

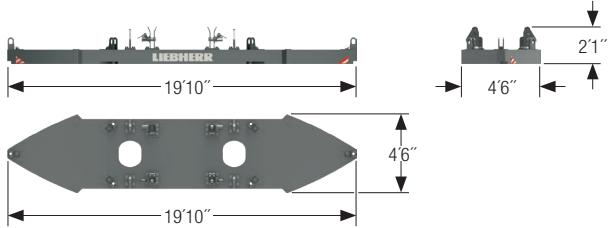
Jib section 40 ft (No. 1916.18)

Weight including pendants lbs | 2,837

Jib foot 23 ft with A-frames 2 + 3 (No. 1916.22)

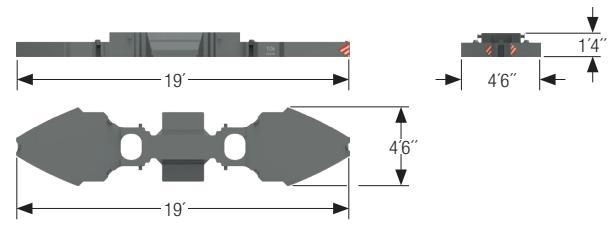
Weight including pendants lbs | 13,750

Counterweight



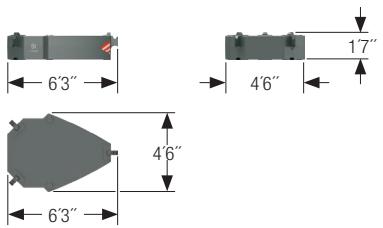
Basic counterweight slab without tie-down (1x)

Weight	lbs 26,500
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Basic counterweight slab without tie-down (1x)

Weight	lbs 22,000
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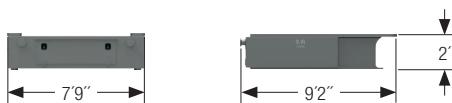
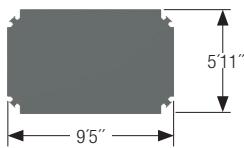
Counterweight slab (12x)

Weight	lbs 11,000
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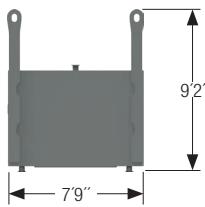
Carbody counterweight slab (2x)

Weight	lbs 18,300
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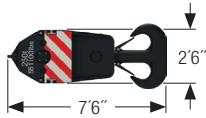


Carbody counterweight (2x)

Weight	lbs 21,600
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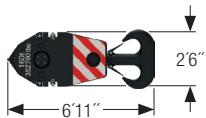


Pulley block with additional weights / load hooks



551,200 lbs pulley block – 11 pulleys

Width	4'1"
Weight	lbs 5,070 / 7,055



352,700 lbs pulley block – 7 pulleys

Width	2'11"
Weight	lbs 3,307 / 4,960 / 6,614



220,400 lbs pulley block – 5 pulleys

Width	2'5"
Weight	lbs 2,866 / 3,968 / 5,071



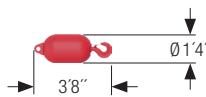
176,300 lbs pulley block – 3 pulleys

Width	1'10"
Weight	lbs 2,205 / 3,307 / 4,409



88,100 lbs pulley block – 1 pulley

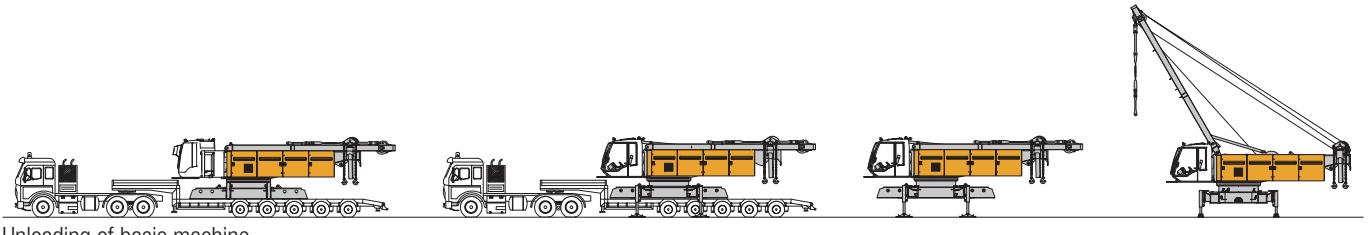
Width	1'7"
Weight	lbs 1,543 / 2,425 / 3,307



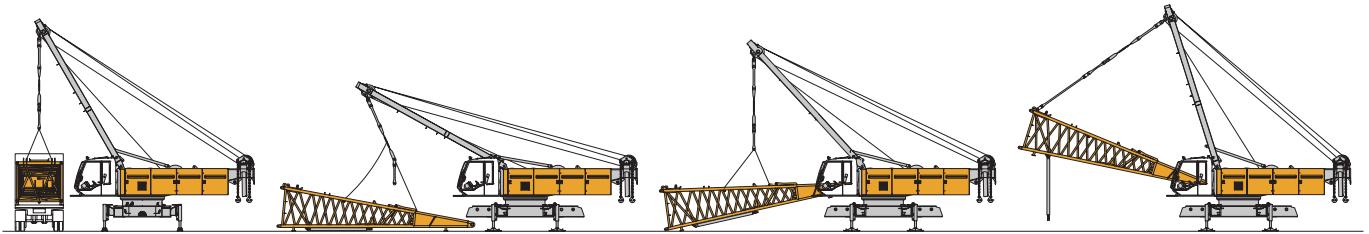
27,560 lbs load hook

Weight	lbs 1,323
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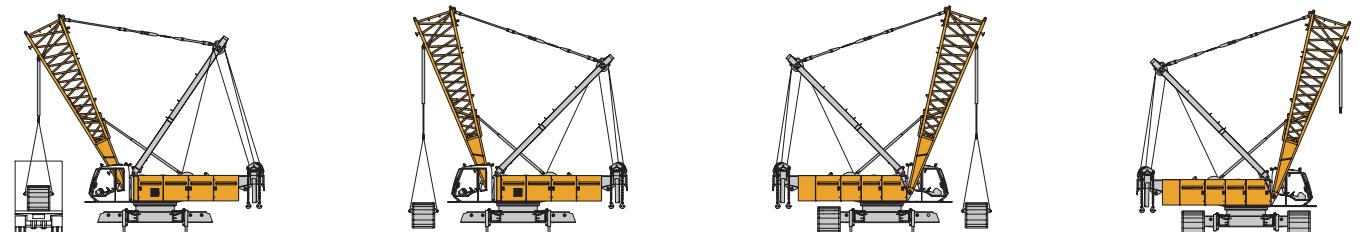
Self-assembly system



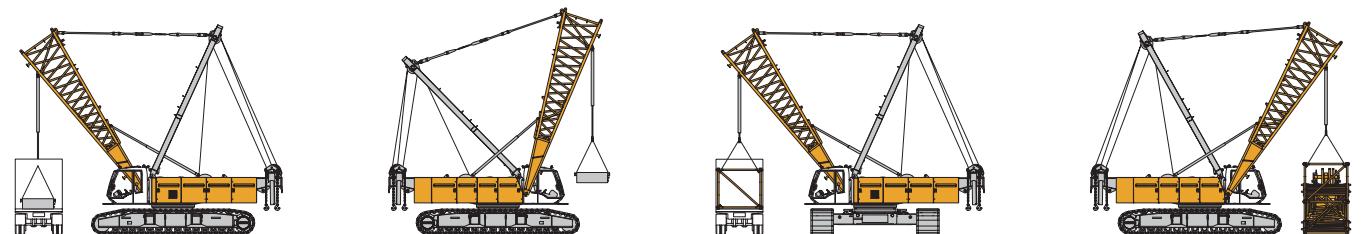
Unloading of basic machine



Unloading and assembly of boom foot

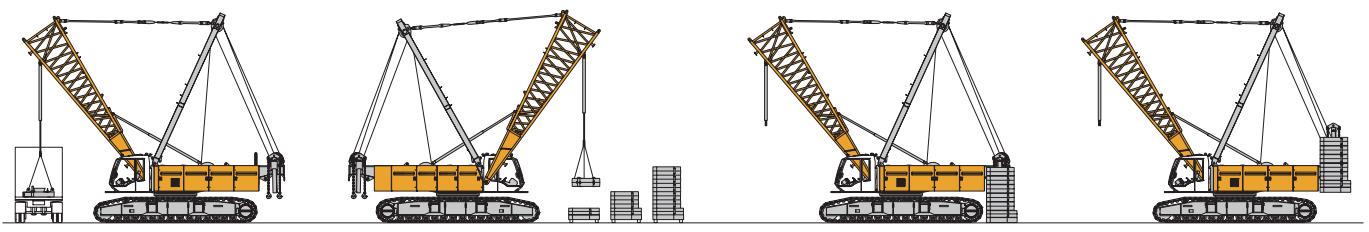


Unloading and assembly of crawler side frames

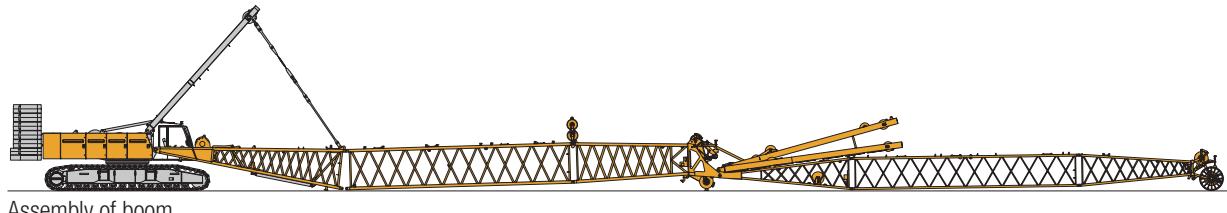


Unloading and assembly of carbody counterweight

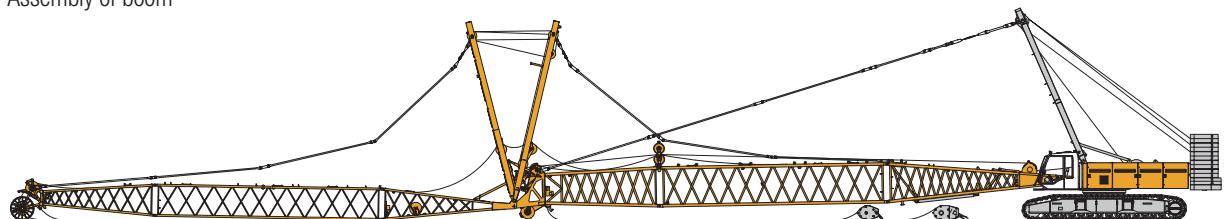
Unloading and assembly of boom



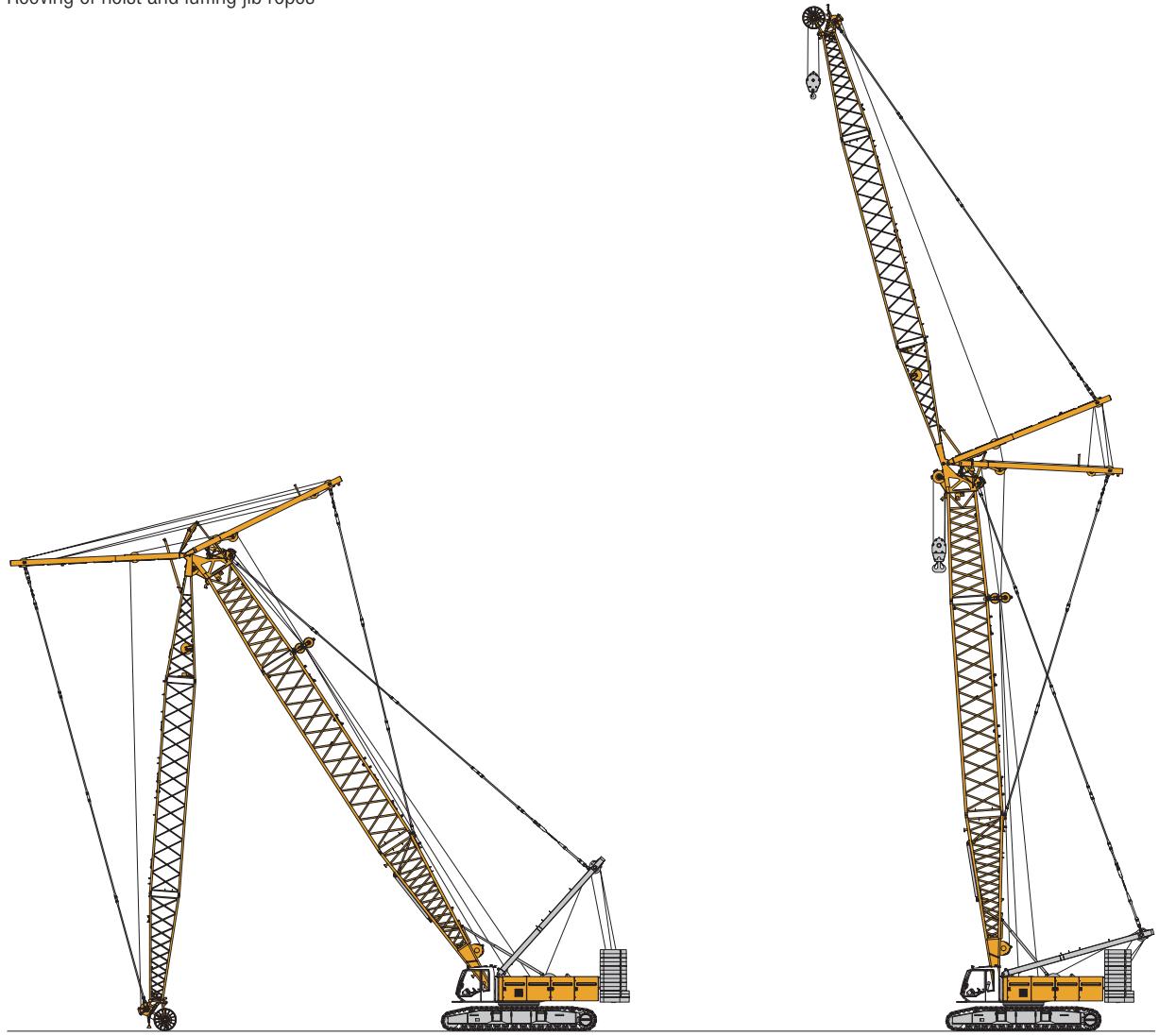
Unloading and assembly of rear counterweight



Assembly of boom

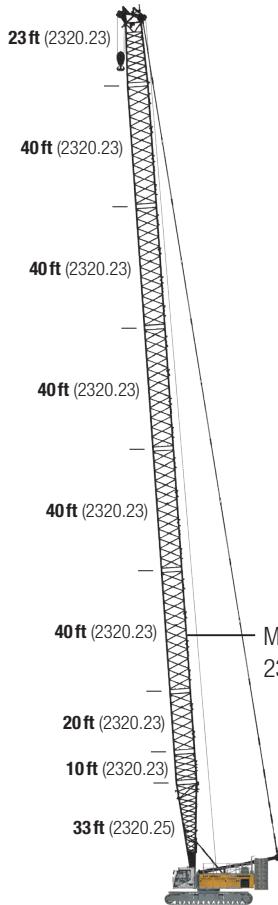


Reeving of hoist and luffing jib ropes



Erecting of main boom and luffing jib

Boom combinations



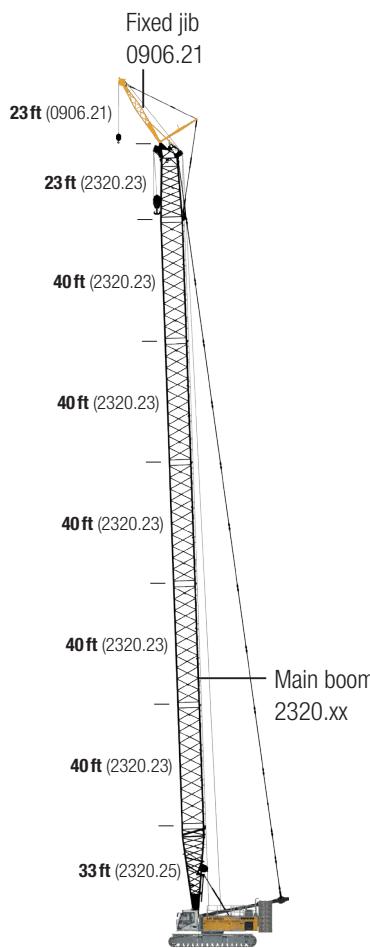
Main boom

Mode 1

Max. length

2320.xx	ft 282
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Further information on page 18.



Main boom + fixed jib

Mode 3

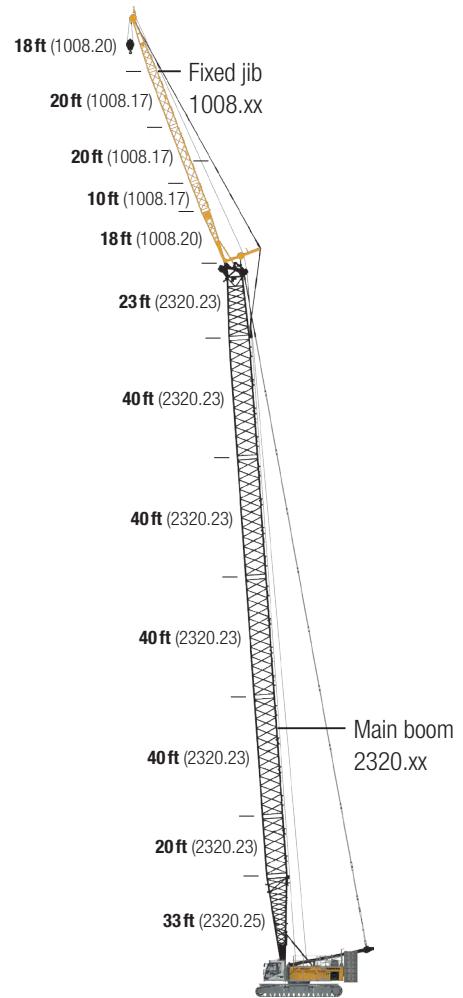
Max. combination

2320.xx	ft 253
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0906.21	ft 23
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Total length	ft 276
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Further information on page 38.



Main boom + fixed jib

Mode 3

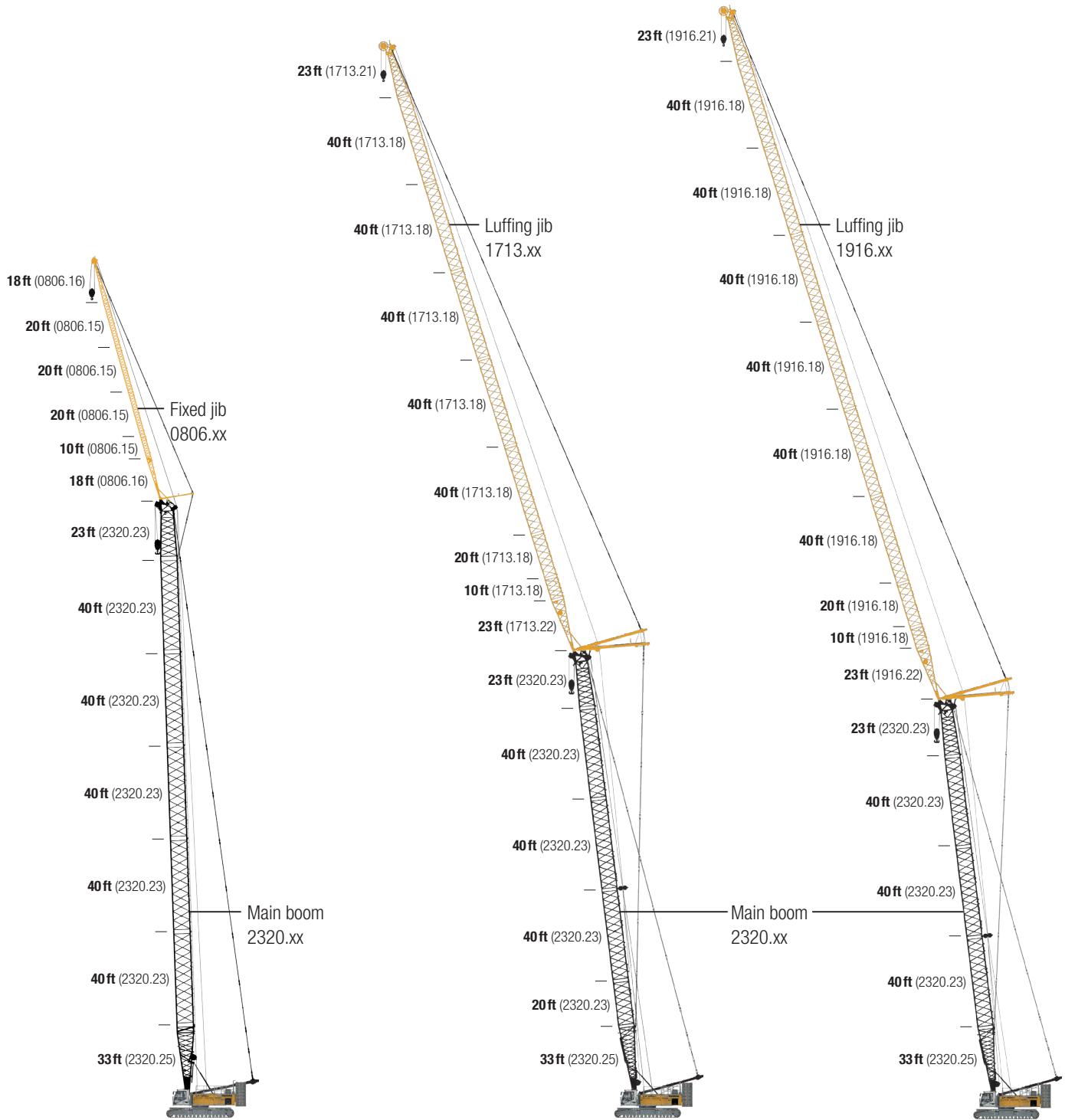
Max. combination

2320.xx	ft 233	243
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1008.xx	ft 85	56
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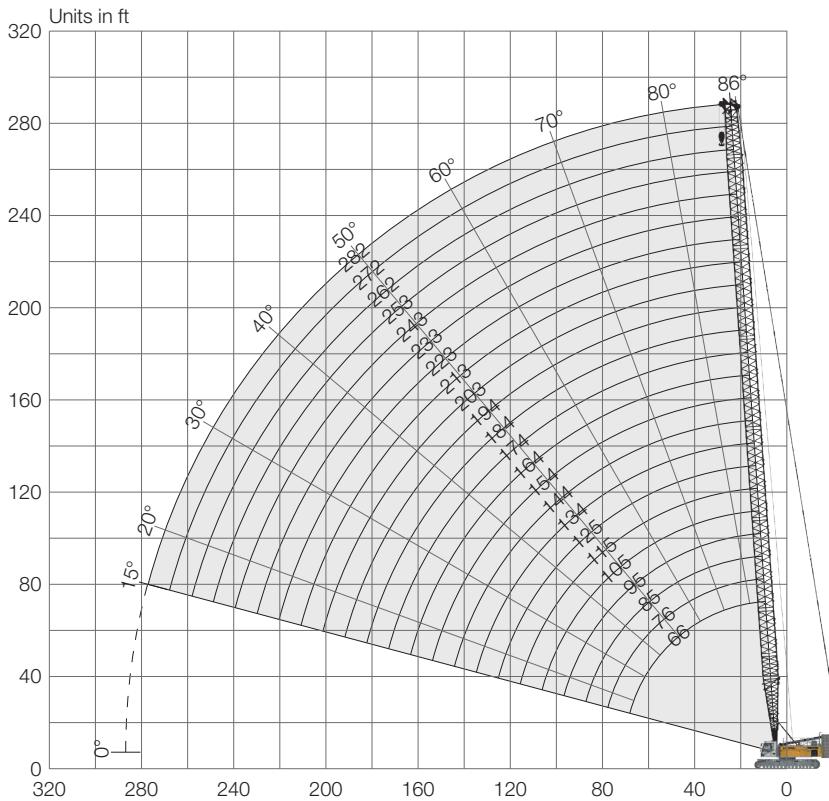
Total length	ft 318	299
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Further information on page 32.



Main boom 2320.xx

Main boom lengths 66-282 ft



Auxiliary jib 79,366 lbs (option)

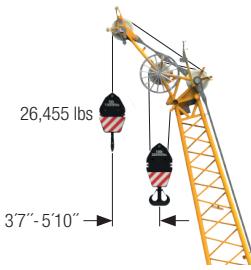
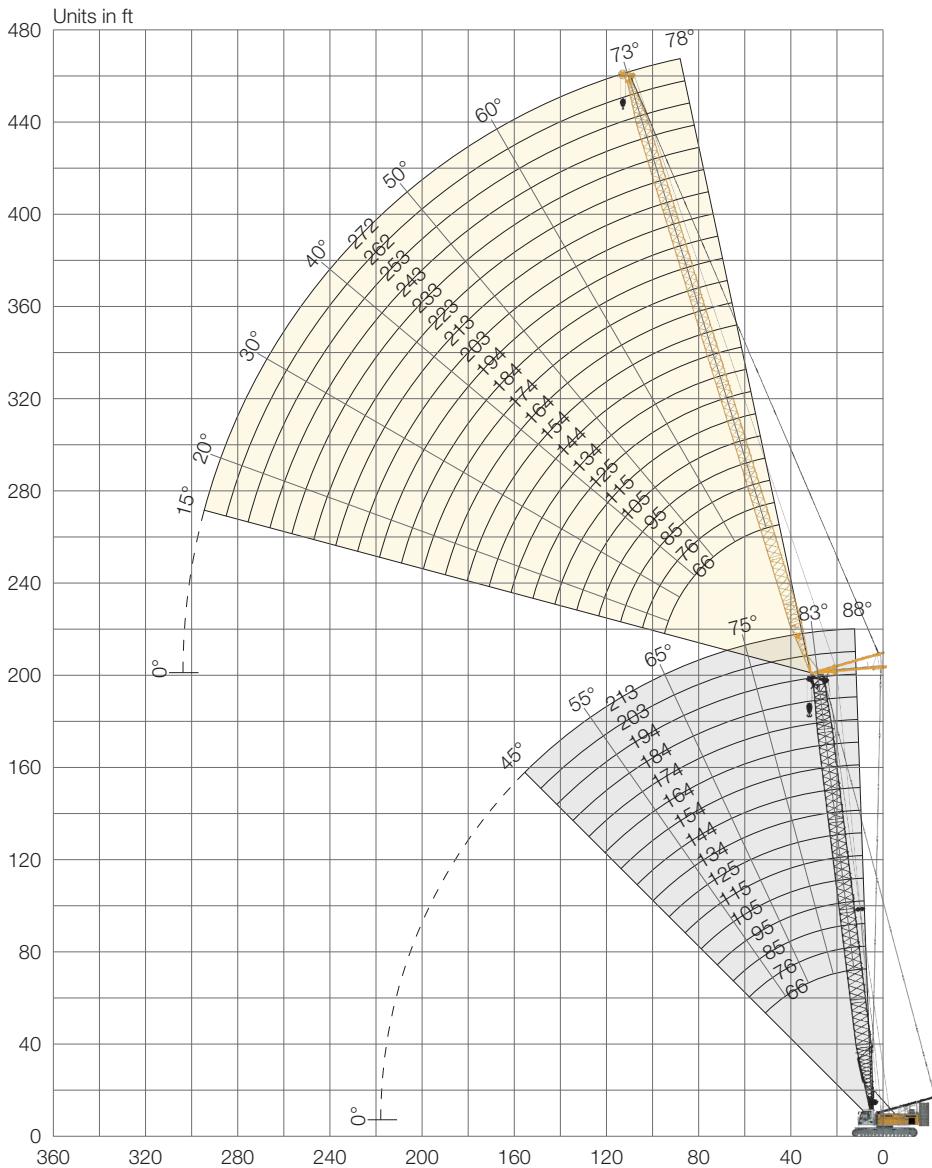
The maximum capacity of the auxiliary jib is 79,366 lbs. The corresponding load chart is programmed in the LML system.

Main boom configuration 2320.xx

Boom section	Amount of boom sections											
Boom foot 33 ft	1	1	1	1	1	1	1	1	1	1	1	1
Boom section 10ft	1		1		1		1		1		1	1
Boom section 20ft		1	1			1	1			1	1	
Boom section 40ft				1	1	1	1	2	2	2	2	3
Boom head 23ft	1	1	1	1	1	1	1	1	1	1	1	1
Boom length [ft]	66	76	85	95	105	115	125	134	144	154	164	174
Auxiliary jib	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Boom foot 33 ft	1	1	1	1	1	1	1	1	1	1	1	1
Boom section 10ft	1		1			1		1		1		1
Boom section 20ft		1	1				1	1		1	1	
Boom section 40ft	3	3	3	4	4	4	4	5	5	5	5	5
Boom head 23ft	1	1	1	1	1	1	1	1	1	1	1	1
Boom length [ft]	184	194	203	213	223	233	243	253	262	272	282	
Auxiliary jib	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Luffing jib 1713.xx

Jib lengths 66-272 ft



Auxiliary jib 26,455 lbs (option)

The maximum capacity of the auxiliary jib is 26,455 lbs.

Jib configuration 1713.xx

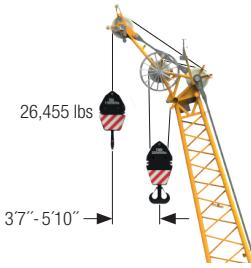
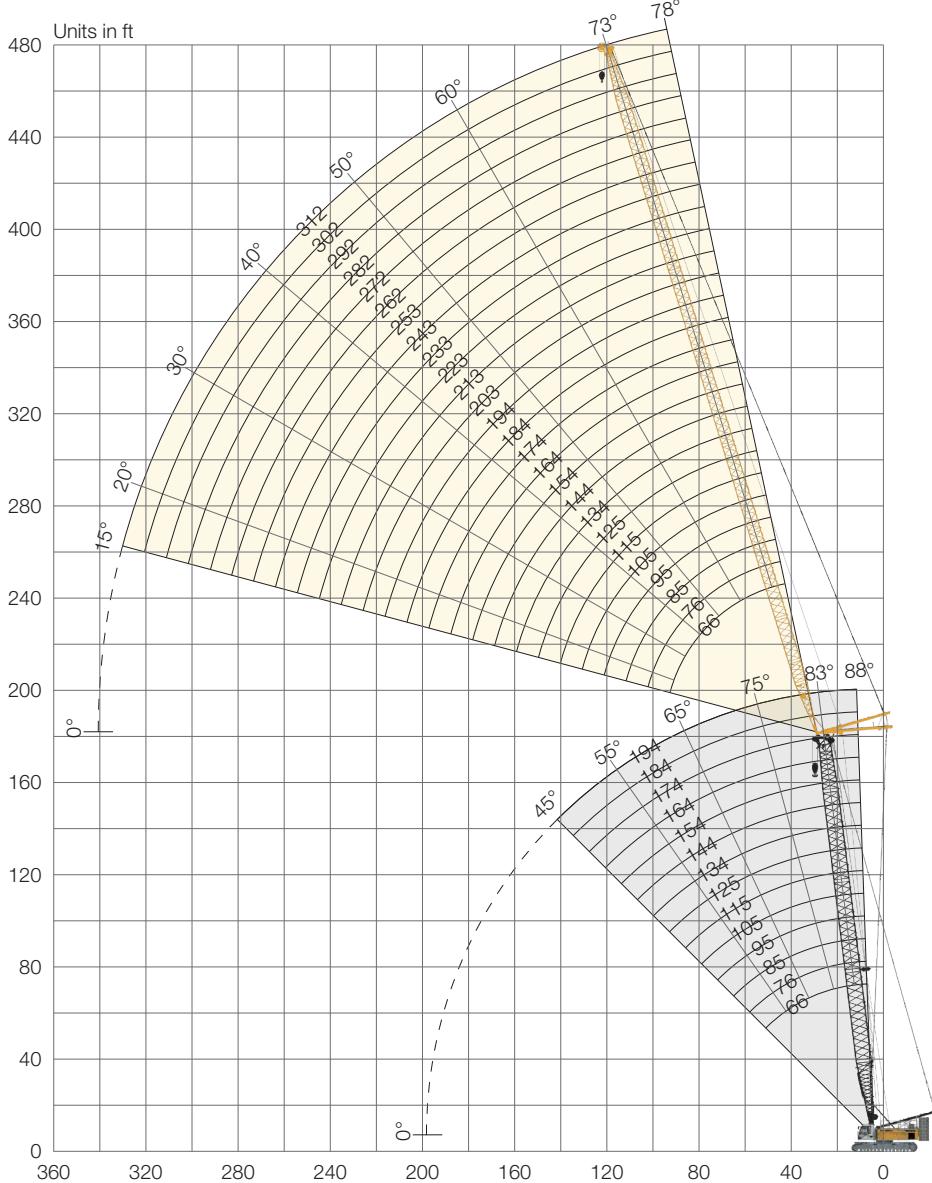
Jib section	Amount of jib sections																					
Jib foot 23ft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
Jib section 10ft		1		1		1		1		1		1		1		1		1				
Jib section 20ft	1	1			1	1			1		1		1		1		1		1			
Jib section 40ft			1	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4				
Jib head 23ft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
Jib length [ft]	66	76	85	95	105	115	125	134	144	154	164	174	184	194	203	213	223	233	243	253	262	272
Auxiliary jib	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Actual lengths of boom sections are metric (e.g. 3 m, 6m). The figures shown above are approximate conversions to feet.

For main boom configuration please refer to the table on page 18.

Luffing jib 1916.xx

Jib lengths 66-312 ft



Auxiliary jib 26,455 lbs (option)

The maximum capacity of the auxiliary jib is 26,455 lbs.

Jib configuration 1916.xx

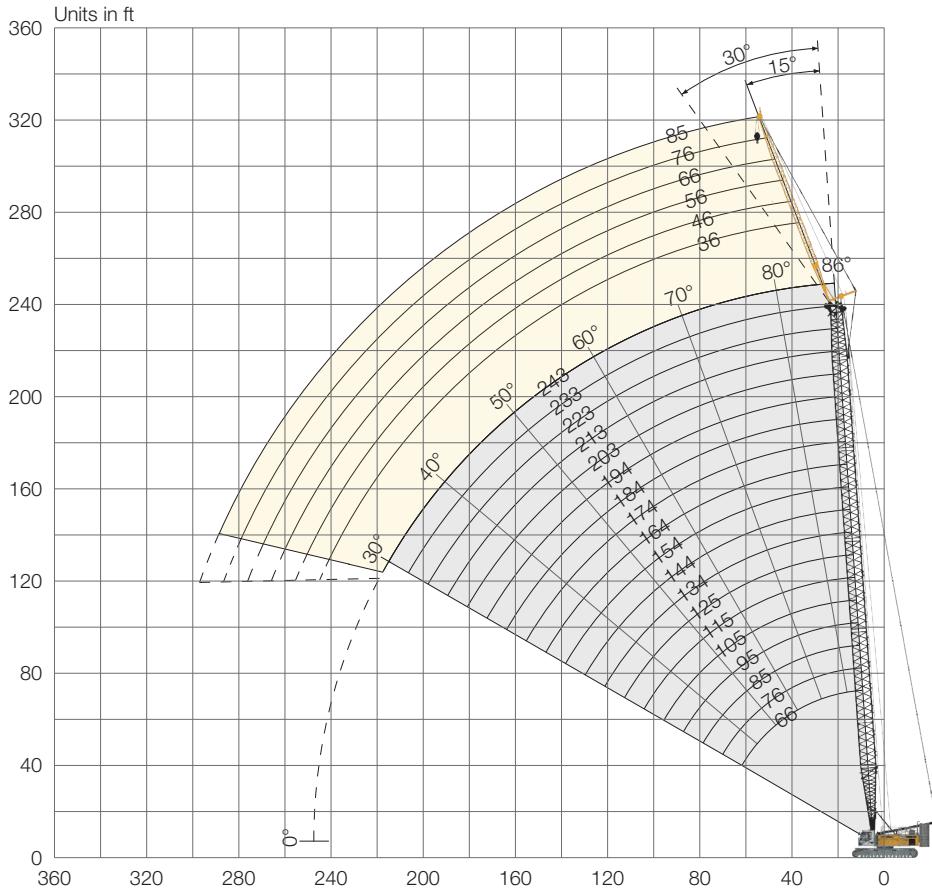
Jib section	Amount of jib sections																				
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Jib foot 23ft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Jib section 10ft		1		1		1		1		1		1		1		1		1		1	
Jib section 20ft	1	1			1	1			1	1			1	1			1	1		1	1
Jib section 40ft			1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	6	
Jib head 23ft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Jib length [ft]	66	76	85	95	105	115	125	134	144	154	164	174	184	194	203	213	223	233	243	253	
Auxiliary jib	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Actual lengths of boom sections are metric (e.g. 3 m, 6m). The figures shown above are approximate conversions to feet.

For main boom configuration please refer to the table on page 18.

Fixed jib 1008.xx

Jib lengths 36-85 ft



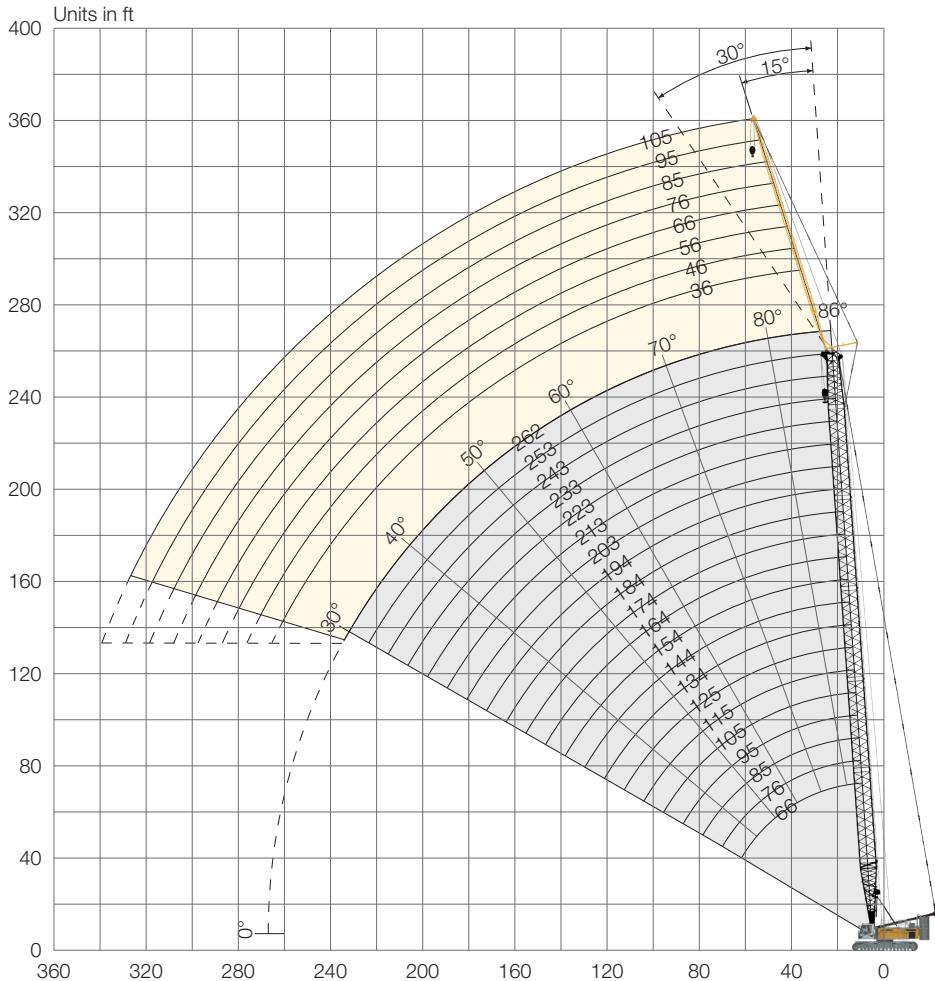
Jib configuration 1008.xx

Jib section	Amount of jib sections					
Jib foot 18ft	1	1	1	1	1	1
Jib section 10ft		1		1		1
Jib section 20ft			1	1	2	2
Jib head 18ft	1	1	1	1	1	1
Jib length [ft]	36	46	56	66	76	85

Actual lengths of boom sections are metric (e.g. 3 m, 6 m). The figures shown above are approximate conversions to feet.
For main boom configuration please refer to the table on page 18.

Fixed jib 0806.xx

Jib lengths 36-105 ft



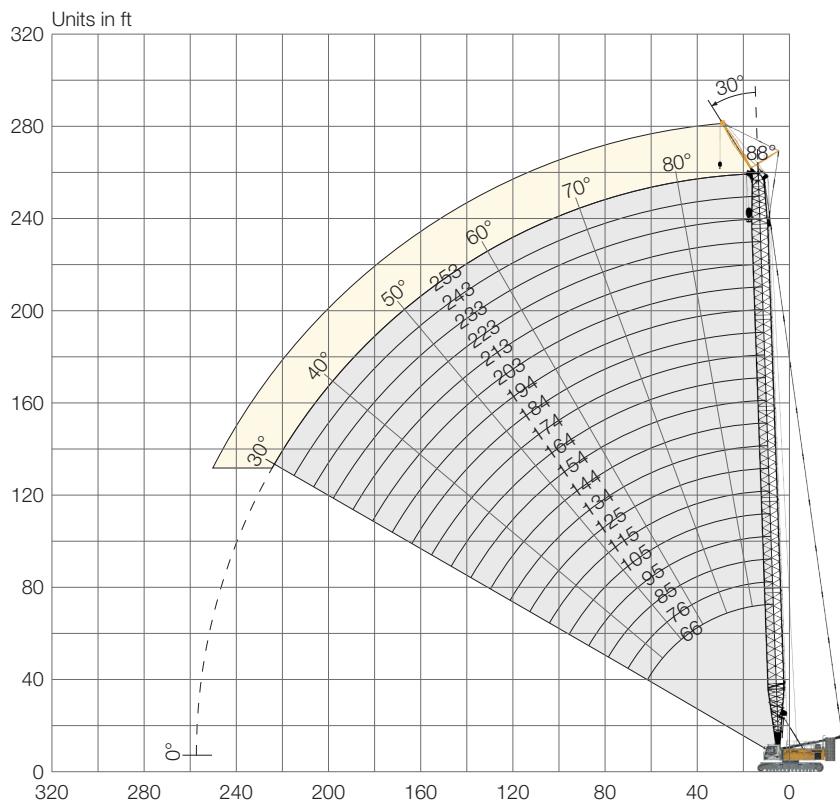
Jib configuration 0806.xx

Jib section	Amount of jib sections							
Jib foot 18ft	1	1	1	1	1	1	1	1
Jib section 10ft		1		1		1		1
Jib section 20ft			1	1	2	2	3	3
Jib head 18ft	1	1	1	1	1	1	1	1
Jib length [ft]	36	46	56	66	76	85	95	105

Actual lengths of boom sections are metric (e.g. 3m, 6m). The figures shown above are approximate conversions to feet.
For main boom configuration please refer to the table on page 18.

Fixed jib 0906.21

Jib length 23 ft



The jib length is 23 ft, for main boom configuration please refer to the table on page 18.

Load capacities with fixed jib 30°

Load capacities in 1000 lbs with 66 ft main boom

Radius [ft]	Jib length 23 ft
35	134.2
40	130.7
50	124.6
55	116.8
60	104.0
65	93.4
70	84.6
75	77.1
80	70.7
85	65.0

181,440 lbs rear counterweight and 79,400 lbs carbody counterweight

Load capacities in 1000 lbs with 115 ft main boom

Radius [ft]	Jib length 23 ft
30	155.8
50	132.0
60	102.9
70	83.5
80	69.6
90	59.2
100	51.1
110	44.6
120	39.1
130	34.5

181,440 lbs rear counterweight and 79,400 lbs carbody counterweight

Load capacities in 1000 lbs with 164 ft main boom

Radius [ft]	Jib length 23 ft
25,9	155.8
50	131.0
65	90.9
75	74.5
90	57.5
100	49.4
115	40.0
125	35.1
140	29.1
150	25.8
170	20.3

181,440 lbs rear counterweight and 79,400 lbs carbody counterweight

Load capacities in 1000 lbs with 213 ft main boom

Radius [ft]	Jib length 23 ft
27,6	123.0
55	113.5
70	80.6
90	55.9
105	44.3
125	33.3
140	27.3
160	21.2
175	17.5
195	13.5
215	10.1

181,440 lbs rear counterweight and 79,400 lbs carbody counterweight

Load capacities in 1000 lbs with 253 ft main boom

Radius [ft]	Jib length 23 ft
29	89.2
55	86.5
75	71.7
95	50.2
115	36.8
135	27.6
160	19.6
180	14.8
200	11.0
220	7.9
250	4.1

181,440 lbs rear counterweight and 79,400 lbs carbody counterweight

TLT 11962445. Above load charts are for reference only. For actual lift duty please refer to load chart in operator's cabin or manual. Otherwise we recommend you to plan your lifting job using Crane Planner 2.0.



www.liebherr.com/CranePlanner

 **Crane Planner 2.0**

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