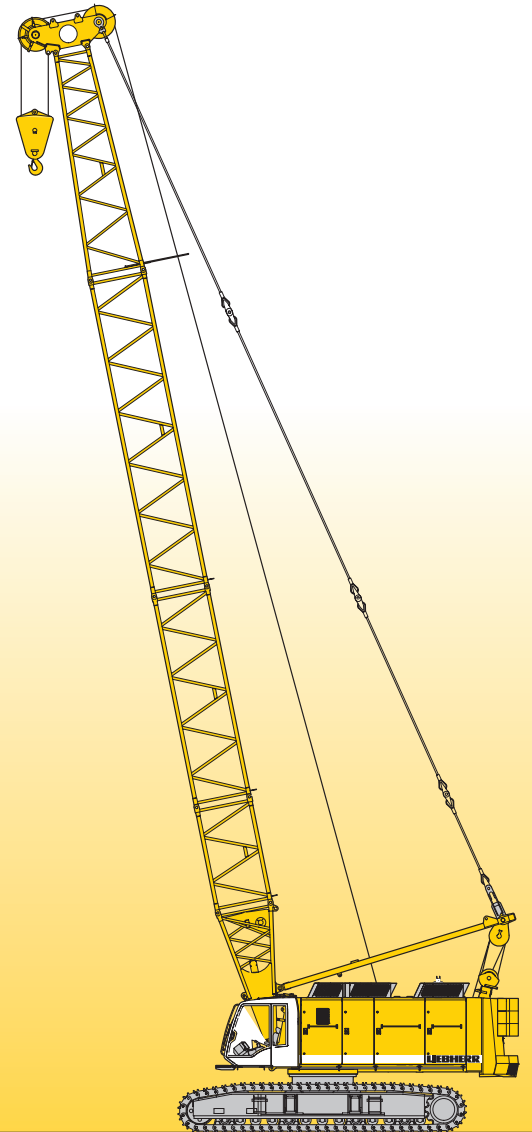


Technical data
Hydraulic crawler crane

HS 885 HD
Litronic®

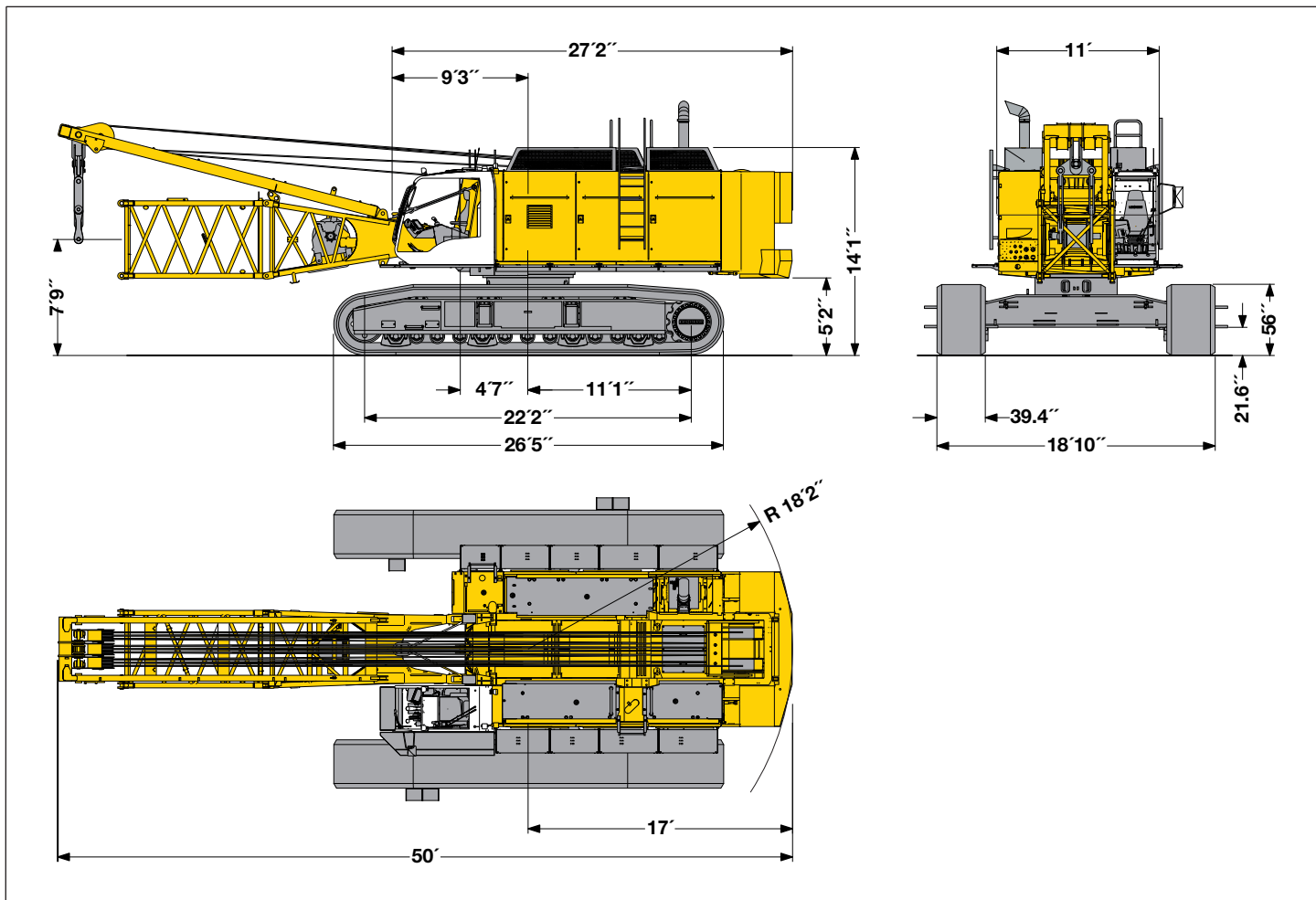
Complies with ANSI B 30.5



LIEBHERR

Dimensions

Basic machine with undercarriage



Operating weight

The operating weight includes the basic machine with HD undercarriage, 2 main winches 66,200 lbs with speed change gear and 36 ft boom, consisting of A-frame, boom foot (13 ft), boom head section (21 ft), boom head (2 ft) and 53,200 lbs basic counterweight, 33,900 lbs add. counterweight and 15,400 lbs carbody counterweight.

Total weight _____ approx. 296,700 lbs

Ground pressure

Ground bearing pressure over side, on compact ground _____ 24 psi

Equipment

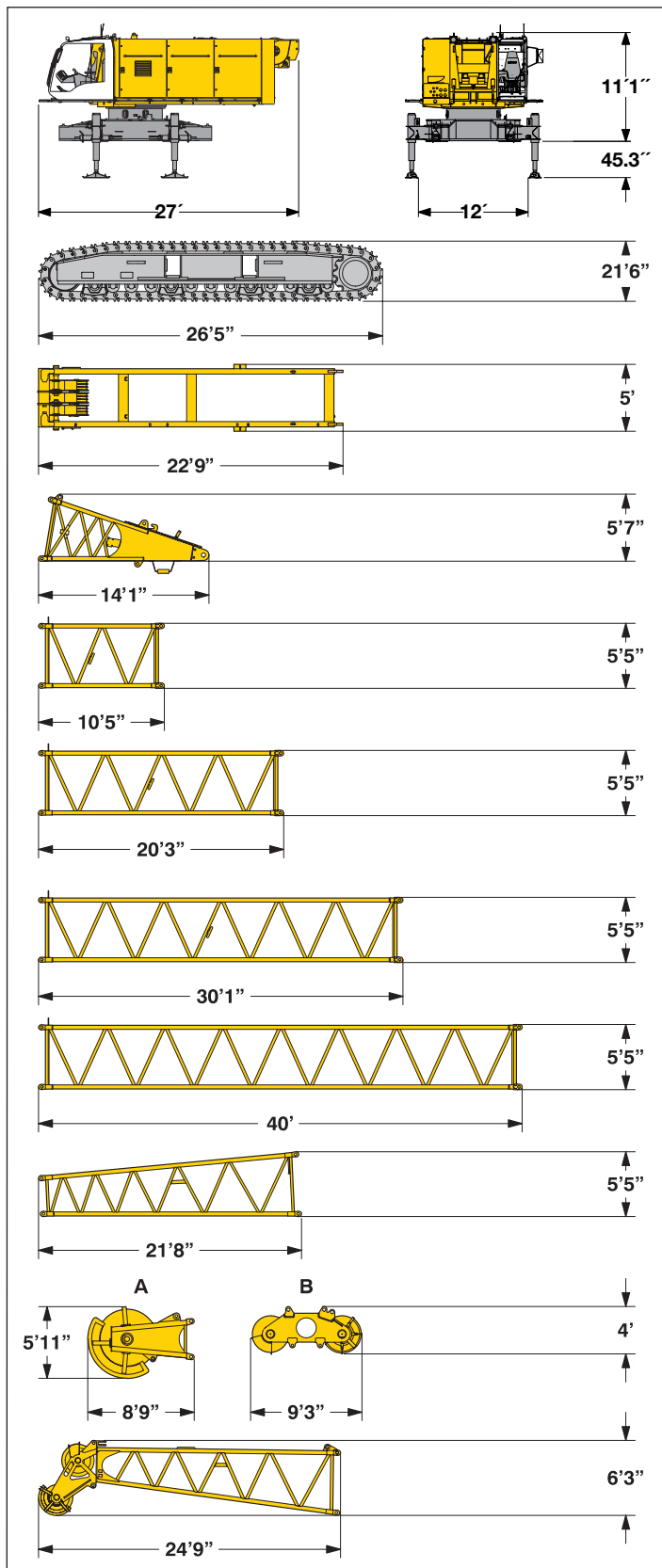
Main boom max. length _____ 184 f t
 Fixed jib (No. 0806.xx) _____ 36 ft – 105 f t
 Universal boom head with interchangeable rope pulleys.
 Modular designed equipment for operation as crane, with dragline or clamshell. For dragline operation, a rotating fairlead is fitted into the boom foot. This minimizes the rope angle to drum, which results in lower rope wear.

Remarks

1. The lifting capacities stated are valid for lifting operation only (corresponds with crane classification according to F.E.M. 1.001, crane group A1)
2. Crane standing on firm, horizontal ground.
3. The weight of the lifting device (hoisting ropes, hook block, shackle etc.) must be deducted from the gross lifting capacity to obtain a net lifting value.
4. Additional equipment on boom (e.g. boom walkways, auxiliary jib) must be deducted to get the net lifting capacity.
5. For max. wind speed please refer to lift chart in operator's cab or manual.
6. Working radii are measured from centre of swing and under load.
7. The lifting capacities are valid for 360 degrees of swing.
8. The structures are calculated according to F.E.M. 1.001 – 1998 (EN 13001-2/ 2004).
9. ANSI B 30.5

Transport dimensions and weights

Basic machine and boom



*) Including pendant ropes

Basic machine

with HD undercarriage, V12- Mercedes Benz diesel engine, 2x66,200 lbs winches with change gear box, without counterweight, boom foot and A-frame

Width	16'2"
Weight	96,700 lbs

Crawler

Double grouser track shoes	39.4"
Width	41.7"
Weight	41,300 lbs

A-frame

Width	24"
Weight	4,850 lbs

Boom foot

Width	5'5"
Weight*	4,600 lbs

Boom section 10 ft

Width	5'5"
Weight*	1,700 lbs

Boom section 20 ft

Width	5'5"
Weight*	2,750 lbs

Boom section 30 ft

Width	5'5"
Weight*	3,700 lbs

Boom section 40 ft

Width	5'5"
Weight*	4,700 lbs

Boom head section 21 ft

Width	9'9"
Weight*	11,900 lbs

Boom head

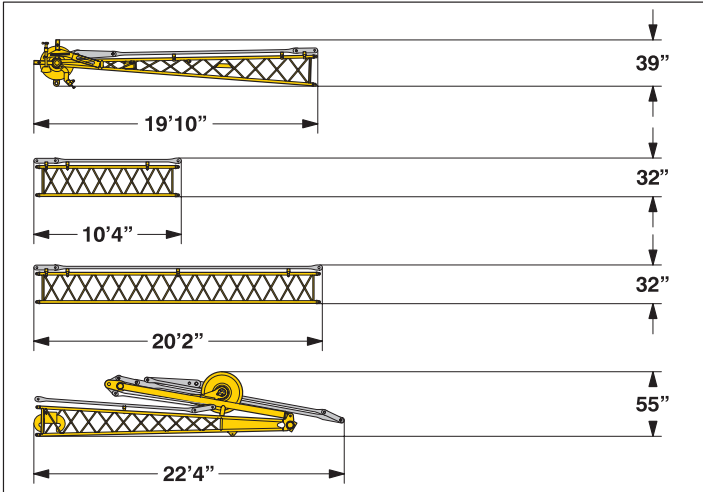
Width	30.7"	42.1"
Weight*	3,300	4,000 lbs

L-boom head

Width	5'5"
Weight*	2,600 lbs

Transport dimensions and weights

Fixed jib (No. 0806.xx)



*) Including pendant straps

Fixed jib head (No. 0806.xx)

Width	45"
Weight in lbs*	980

Fixed jib section (No. 0806.xx) **10 ft**

Width	37"
Weight in lbs*	245

Fixed jib section (No. 0806.xx) **20 ft**

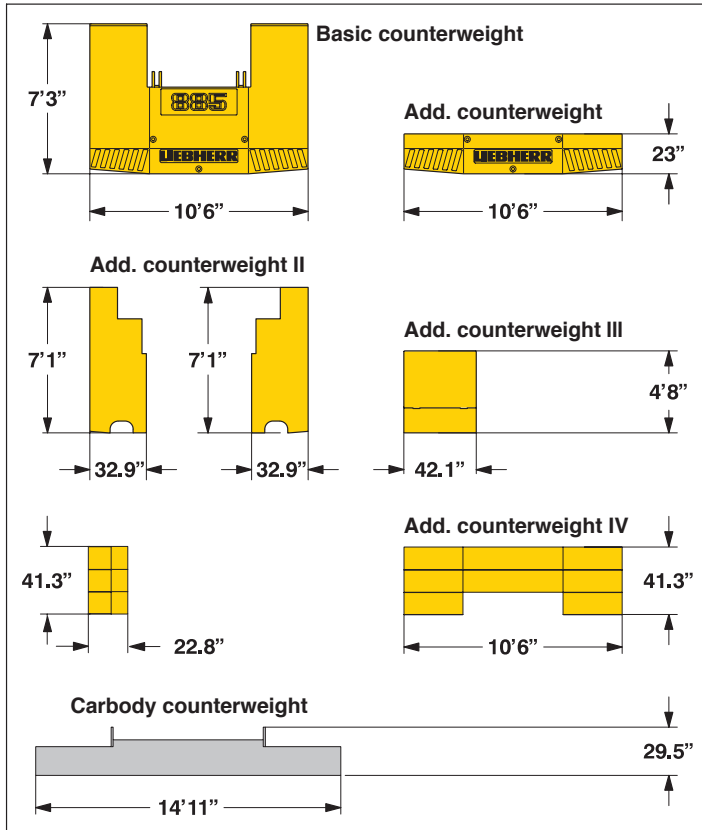
Width	37"
Weight in lbs*	430

Fixed jib foot with A-frame (No. 0806.xx)

Width	59"
Weight in lbs*	2,050

Transport dimensions and weights

Counterweight



Basic counterweight **1x**

Width	28.3"
Weight in lbs	43,200

Add. counterweight **1x**

Width	26"
Weight in lbs	10,000

Add. counterweight II **2x**

Width	13.4"
Weight in lbs	5,725

Add. counterweight III **1x**

Width	14.8"
Weight in lbs	7,050

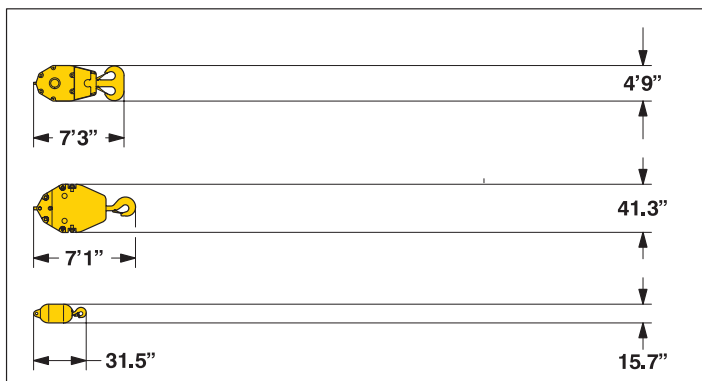
Add. counterweight IV **1x**

Width	22.8"
Weight in lbs	15,400

Carbody counterweight **2x**

Width	8"
Weight in lbs	7,700

Hooks



264,600 lbs hook block - 2 sheaves

Width	12.6"
Weight in lbs	3,100

132,300 lbs hook block - 1 sheave

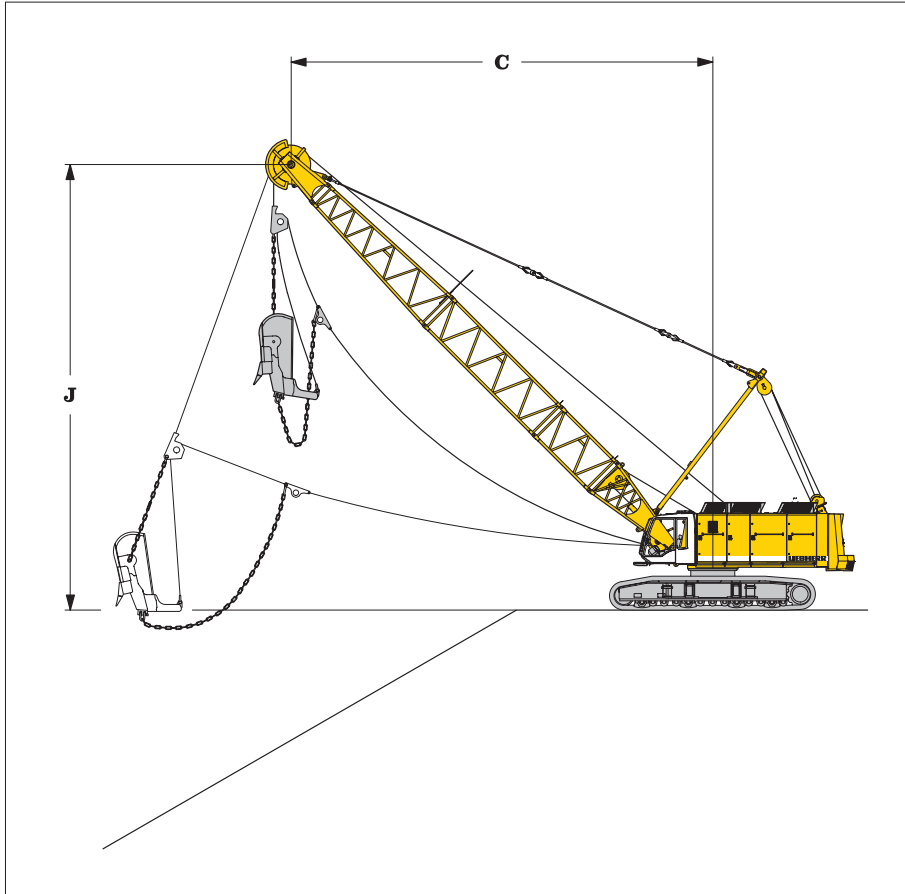
Width	12"
Weight in lbs	2,150

66,150 lbs single hook

Width	16"
Weight in lbs	880

Dragline equipment

71,700 lbs counterweight



Working diagram

- C = Radius / dumping radius
- J = Height of boom head sheave centre above ground level

Capacities in 1000 lbs for boom lengths (59 ft – 108 ft)											counterweight 71,700 lbs								
α	59 ft			69 ft			79 ft			89 ft			98 ft			108 ft			
	C	J	lbs	C	J	lbs	C	J	lbs	C	J	lbs	C	J	lbs	C	J	t	
45	48.2	48.9	46,3	55.4	55.8	36,8	62.3	62.6	29,5	69.2	69.9	24,7	76.4	76.8	20,7	83.0	84.0	18,7	
40	51.8	44.9	40,1	59.4	51.5	30,8	66.9	57.7	25,1	74.5	64.0	21,2	82.0	70.2	17,9	89.6	76.8	16,8	
35	55.1	41.0	33,5	63.0	49.9	26,5	71.2	52.1	22,6	79.1	57.7	19,0	87.3	63.6	15,9	95.5	69.6	15,0	
30	57.7	36.7	29,3	66.3	41.7	24,0	74.8	46.6	19,8	83.3	51.5	16,5	91.9	56.4	13,9	100.4	61.4	13,7	
25	60.0	32.2	26,2	68.9	36.0	21,4	78.0	40.4	18,1	86.9	44.6	15,0	95.8	48.6	12,6	104.7	53.1	12,3	

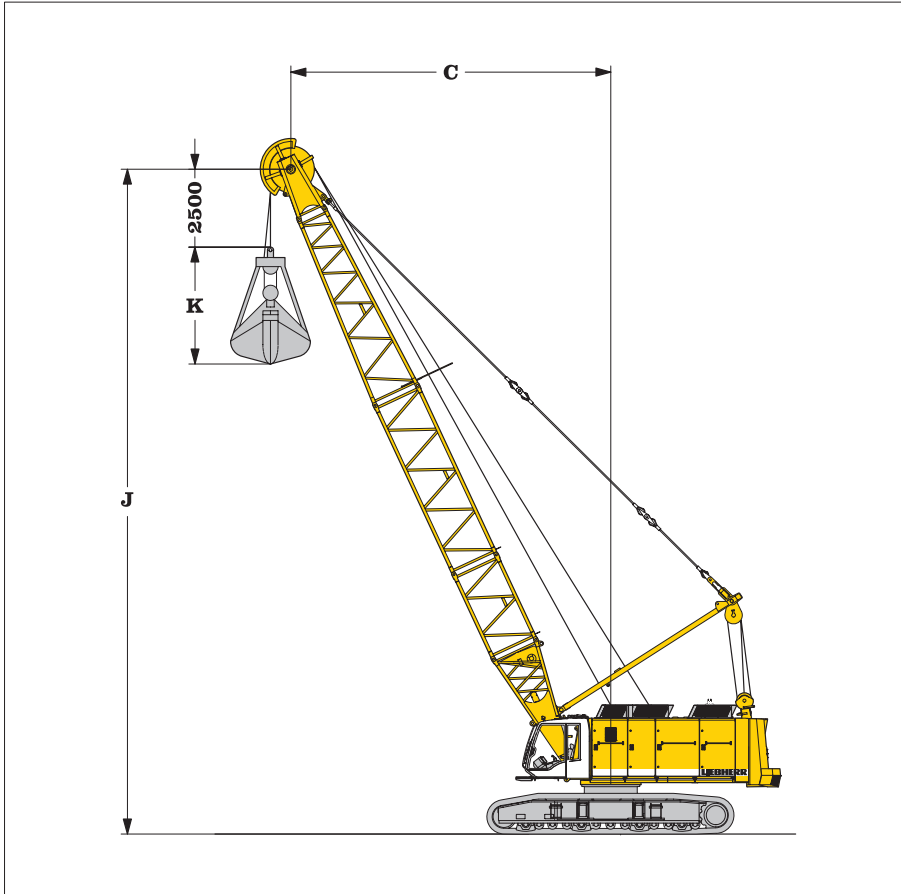
Max. capacities in metric tons do not exceed 75% of tipping load.

Clamshell equipment

71,700 lbs counterweight

Working diagram

- C = Radius / dumping radius
- J = Height of boom head sheave centre above ground level
- K = Length of clamshell (depending on type and capacity of bucket)



Capacities in 1000 lbs for boom lengths (59 ft – 108 ft)

counterweight 71,700 lbs

α	59 ft			69 ft			79 ft			89 ft			98 ft			108 ft		
	C ft	J ft	lbs	C ft	J ft	lbs	C ft	J ft	lbs	C ft	J ft	lbs	C ft	J ft	lbs	C ft	J ft	lbs
65	31.5	60.7	66,1	35.8	69.6	62,2	40.0	78.4	52,9	43.9	87.2	45,8	48.2	96.1	39,9	52.4	105.3	35,1
60	36.0	58.0	61,3	41.0	66.6	51,1	45.9	75.1	43,7	50.8	83.7	37,5	55.8	92.2	32,4	60.7	101.0	28,2
55	40.7	55.4	52,5	46.3	63.6	43,6	51.8	71.5	37,0	57.4	79.7	31,5	63.0	87.6	27,3	68.9	96.1	23,6
50	44.6	52.1	46,1	50.8	59.7	38,1	57.0	67.3	32,2	63.6	74.8	27,3	69.9	82.3	23,4	76.1	90.2	20,0
45	48.2	48.9	41,2	55.4	55.8	34,2	62.3	62.7	28,7	69.2	69.9	24,0	76.1	76.8	20,5	83.0	82.7	17,4
40	51.8	44.9	37,5	59.4	51.5	30,2	66.9	57.7	25,1	74.4	64.0	21,2	82.0	70.2	17,6	89.6	76.8	17,8
35	55.1	41.0	33,1	63.0	46.6	26,7	71.2	52.1	22,3	79.1	58.7	18,7	87.2	63.6	15,6	95.5	69.6	13,2
30	57.7	36.7	29,3	66.3	41.7	24,0	74.8	46.6	19,8	83.3	51.5	16,7	91.8	56.4	13,9	100.4	61.3	11,5
25	60.0	32.1	26,2	68.9	36.0	21,4	78.0	40.4	17,6	86.9	44.6	14,8	95.8	48.6	12,1	104.7	53.1	9,9

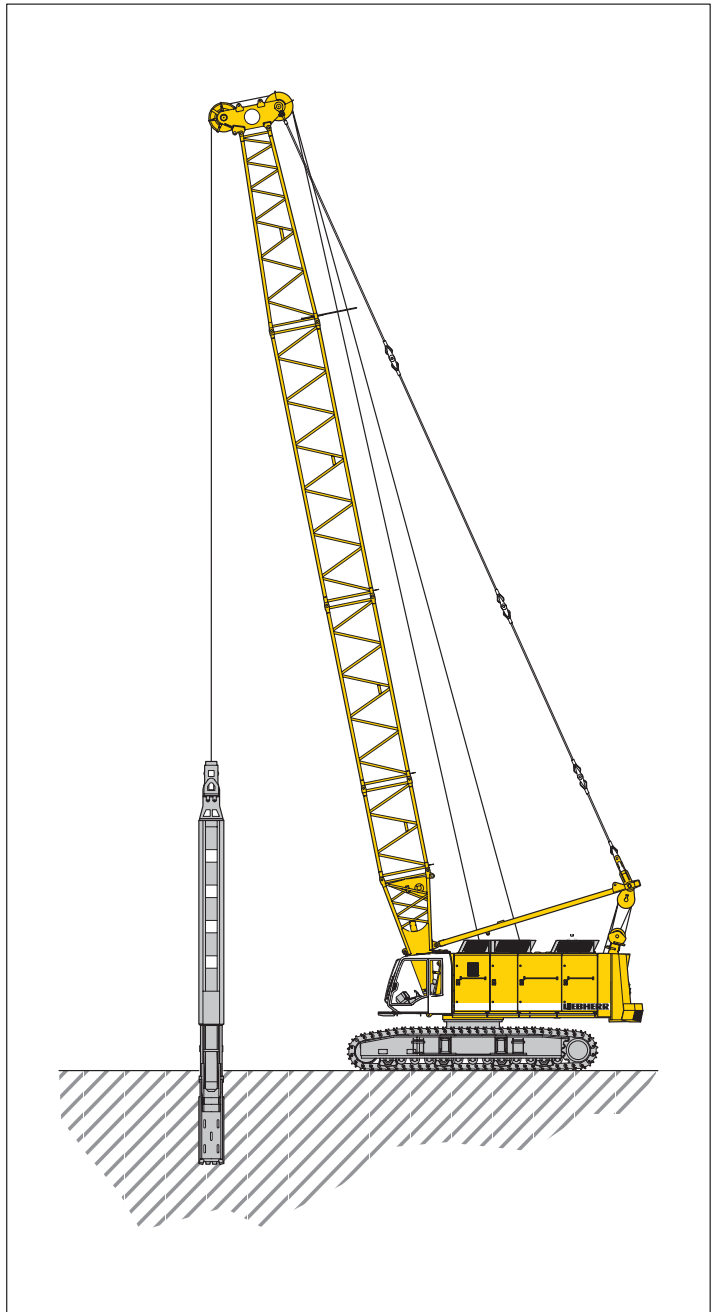
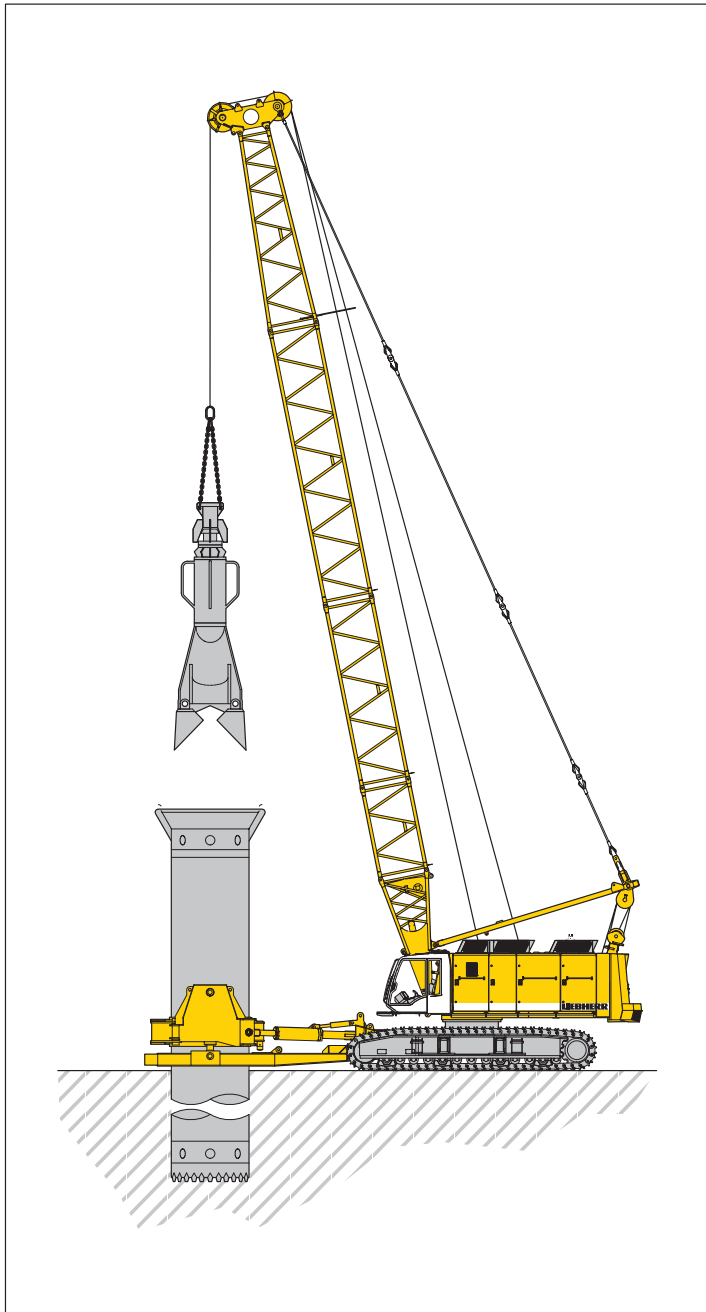
Max. capacities in metric tons do not exceed 66.7 % of tipping load.

Load diagram restricted by safety factors of standard ropes:

Winches	44,100 lbs	55,200 lbs	66,200 lbs
Rope diameter	30 mm	34 mm	36 mm
Calc. breaking load	181,000 lbf	232,000 lbf	261,000 lbf
1-rope clamshell	36,400 lbs	46,300 lbs	51,800 lbs
2-rope clamshell	48,500 lbs	61,700 lbs	69,000 lbs

Equipment

Casing oscillator and slurry wall grab



Casing oscillator

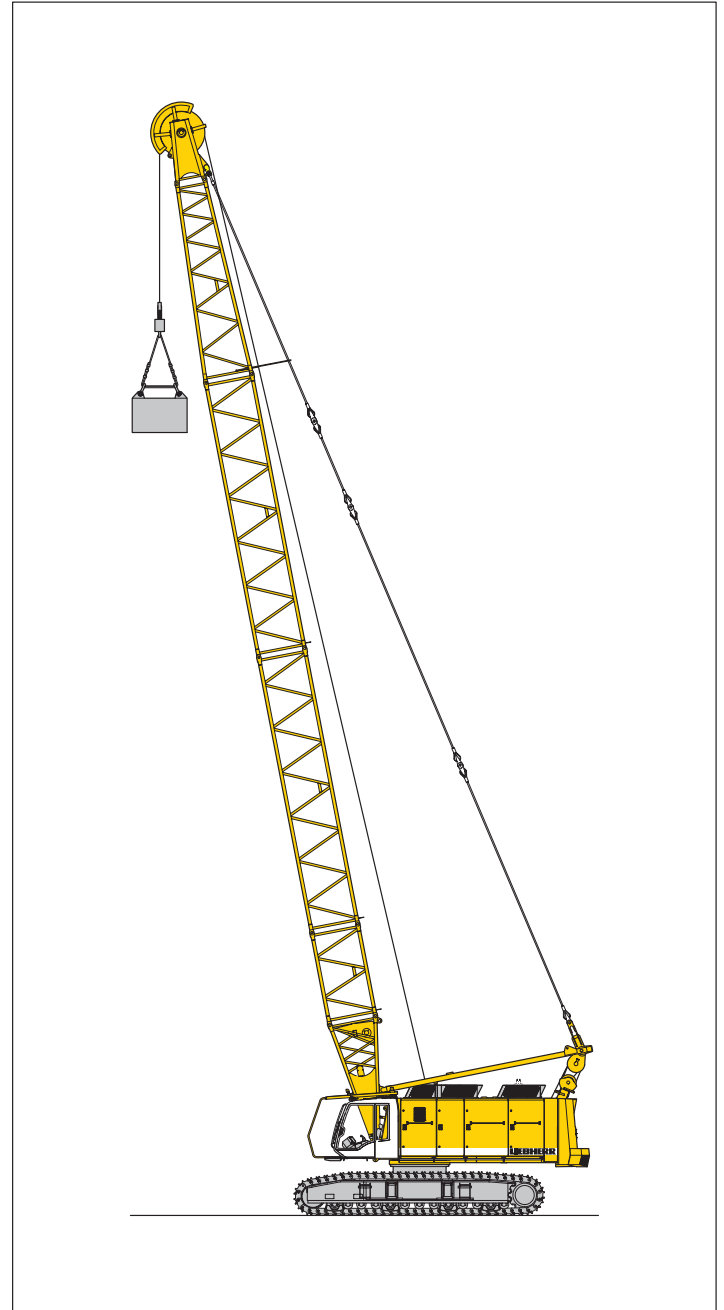
Winch options	2 x 55,200 lbs	2 x 66,200 lbs
Line speed 1st gear (ft/min)	0-226	0-180
Line speed 2nd gear (ft/min)	0-403	0-390
Drilling diameter	8'3"	9'10"
Maximum allowable weight in two rope operation	56,200 lbs	71,700 lbs

Slurry wall grab

Winch options	2 x 55,200 lbs	2 x 66,200 lbs
Line speed 1st gear (ft/min)	0-226	0-180
Line speed 2nd gear (ft/min)	0-403	0-390
Max. chisel weight	20 t	25 t
Maximum allowable weight in two rope operation	56,200 lbs	71,700 lbs

Equipment

Dynamic soil compaction



Capacities in metric tons for boom lengths (69 ft – 108 ft)

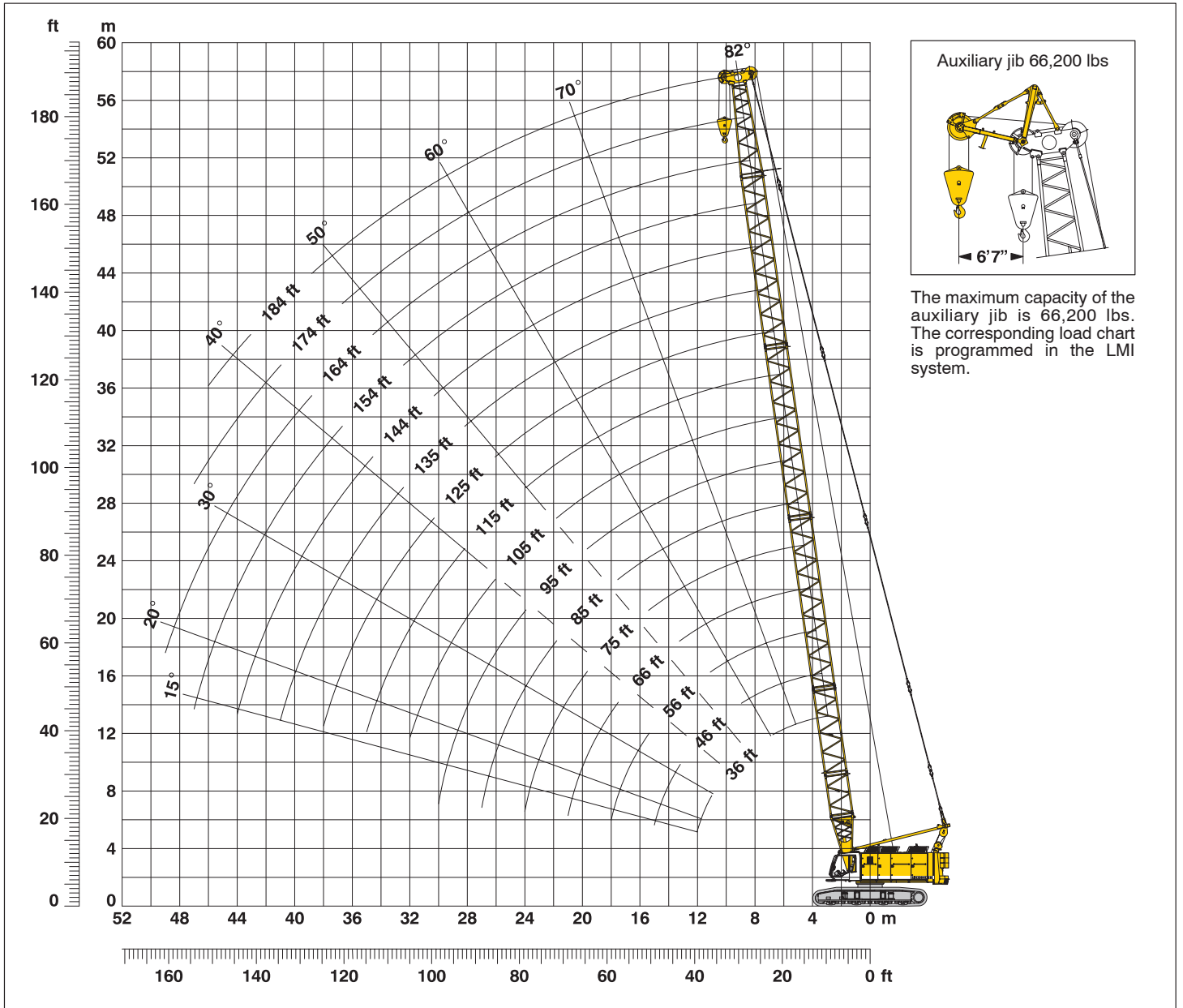
Radius (ft)	Boom length				
	69 ft lbs	79 ft lbs	89 ft lbs	98 ft lbs	108 ft lbs
26.2	66,200	66,200	55,200	55,200	55,200
29.5	44,100	44,100	44,100	44,100	44,100

Max. capacities in metric tons do not exceed 75% of tipping load.

All loads given are max. values and must not be exceeded. They are only permitted in two rope automatic operation and are valid for work on a surface with max. inclination of 1 %. Lifting heights shall not exceed 82 ft.

Working range - main boom 86° - 15°

87,100 lbs counterweight and 15,400 carbody counterweight



Main boom configuration (table 1)

Configuration for boom lengths (36 ft – 184 ft)

	Length	Amount of boom extensions															
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Boom foot	13 ft*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Boom extension	10 ft*		1														
Boom extension	20 ft*			1													
Boom extension	30 ft*				1	1	1	1	2								
Boom extension	40 ft*									2	2	2	2	3	3	3	
Boom head section	21 ft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Boom head	2 ft*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Boom length in (ft)		36	46	56	66	75	85	95	105	115	125	135	144	154	164	174	184

* Actual lengths of boom sections are metric (e.g. 4 m, 3 m, 6 m, 9 m, 12 m, 0.6 m). The figures shown above are approximate conversions to feet.

Lift chart for main boom

87,100 lbs counterweight and 15,400 lbs carbody counterweight

Capacities in 1000 lbs for boom lengths (36 ft – 243 ft) – with 66,200 lbs winches																			
Radius	Boom length in (ft)														Radius				
	Standard boom head										L – boom head								
(ft)	36	46	56	66	75	85	95	105	115	135	154	164	184	194	203	223	243	(ft)	
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	
*14.4	300.0																		*14.4
*15	286.4	276.7	251.5																*15
20	223.1	219.6	215.9	213.4	208.8	203.7													20
25	166.7	167.2	167.4	167.4	166.9	162.8	161.1	151.0	140.4										25
30	126.9	127.4	127.6	127.6	127.5	127.4	127.2	127.0	124.8	108.0	88.5								30
35	101.8	102.4	102.6	102.6	102.4	102.3	102.1	101.8	101.6	94.6	83.4	76.1	63.3	58.2					35
40		85.1	85.3	85.3	85.2	85.0	84.8	84.5	84.2	83.7	75.7	70.6	59.4	55.8	50.9	42.3			40
45		72.4	72.7	72.8	72.6	72.4	72.2	71.9	71.6	71.0	69.3	64.4	55.3	52.6	48.1	40.3	32.6		45
50			63.0	63.1	63.0	62.8	62.5	62.2	61.9	61.3	60.6	58.9	51.4	48.4	45.8	38.4	31.1		50
55			55.3	55.5	55.4	55.2	55.0	54.6	54.3	53.7	53.0	51.4	50.7	44.0	42.8	37.4	29.9		55
60				49.6	49.5	49.3	49.1	48.8	48.4	47.8	47.1	46.5	45.1	40.6	39.6	36.3	29.2		60
65				44.4	44.4	44.2	44.0	43.7	43.4	42.7	42.0	41.6	40.3	37.0	35.9	33.7	28.4		65
70					40.0	39.9	39.7	39.4	39.1	38.4	37.7	37.3	36.4	33.8	32.7	30.6	26.7		70
75					36.3	36.3	36.1	35.8	35.4	34.8	34.0	33.7	32.9	30.9	29.9	27.9	24.7		75
80						33.1	32.9	32.6	32.3	31.6	30.9	30.5	29.3	28.3	27.4	25.4	22.7		80
85						30.3	30.2	29.9	29.6	28.9	28.2	27.8	26.1	26.0	25.1	23.2	20.7		85
90							27.7	27.4	27.2	26.5	25.8	25.3	23.3	24.0	23.1	21.3	18.9		90
95							25.5	25.3	25.0	24.3	23.6	23.2	21.0	22.1	21.3	19.5	17.3		95
100								23.4	23.1	22.4	21.7	21.3	19.3	20.4	19.6	17.9	16.0		100
110									19.8	19.2	18.5	18.0	16.4	17.2	16.7	15.0	13.3		110
115										17.8	17.0	16.6	15.1	15.9	15.4	13.7	11.9		115
120										16.5	15.8	15.4	14.0	14.6	14.1	12.6	10.6		120
125										15.3	14.6	14.2	13.0	13.4	12.9	11.6	9.4		125
130										14.2	13.5	13.1	12.1	12.1	11.8	10.6	8.6		130
135											12.5	12.1	11.1	11.1	10.6	9.7	7.9		135
140											11.6	11.2	10.1	10.2	9.6	8.8	7.2		140
145											10.5	10.3	9.2	9.5	8.9	7.9	6.5		145
150											9.3	9.3	8.3	8.7	8.1	7.0	5.7		150
155												8.2	7.6	7.9	7.4	6.3	5.0		155
160												7.2	6.9	7.1	6.7	5.7	4.3		160
165													6.1	6.4	6.0	5.1	3.6		165
170													5.2	5.7	5.4	4.4	3.2		170
175													4.4	5.1	4.7	3.8	2.7		175
180													3.6	4.5	4.1	3.3	2.3		180
185														3.9	3.5	2.8			185
190														3.3	3.0	2.3			190
195															2.4	1.8			195

Above lift chart is for reference only. For actual lift duty please refer to lift chart in operator's cab or manual.

* Capacities over 246,300 lbs require a special heavy duty boom head.

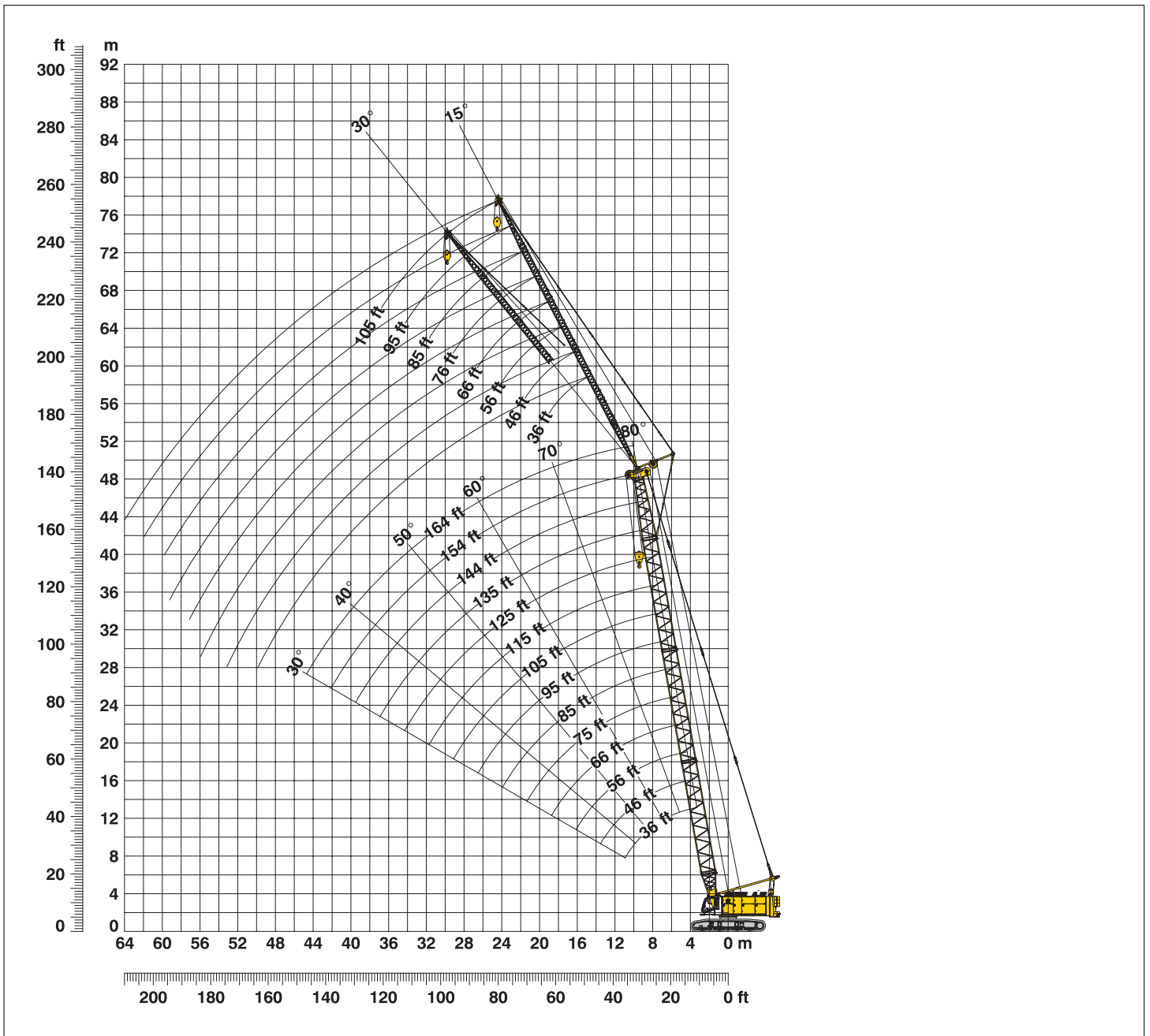
L – boom configuration

Configuration for boom lengths (194 ft – 243 ft)							
	Length	Amount of boom extensions					
Boom foot	13 ft*	1	1	1	1	1	1
Boom extension	10 ft*		1		1		1
Boom extension	20 ft*			1	1		
Boom extension	40 ft*	4	4	4	4	5	5
L – boom head	23 ft*	1	1	1	1	1	1
L – boom length in (ft)		194	203	213	223	233	243

* Actual lengths of boom sections are metric (e.g. 4 m .3 m. 6 m. 12 m. 7 m). The figures shown above are approximate conversions to feet.

Working range - fixed jib (No. 0806.xx) 15° and 30°

Main boom 80° - 30°



Boom configuration for boom lengths (36 ft - 164 ft) – see table 1 on page 10

Fixed jib configuration for fixed jib lengths (36 ft - 105 ft)

	Length	Amount of fixed jib extensions								
Fixed jib foot	18 ft	1	1	1	1	1	1	1	1	1
Fixed jib insert	10 ft*		1		1		1		1	1
Fixed jib insert	20 ft*	0	0	1	1	2	2	3	3	
Fixed jib head	18 ft	1	1	1	1	1	1	1	1	
Fixed jib length (ft)		36	46	56	66	76	85	95	105	

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

Technical description



Engine

Power rating according to ISO 9249, 450 kW (603 hp) at 1900 rpm

Engine type ———— Liebherr D 9508 A7

Fuel tank ———— 920 l capacity with continuous level
————— indicator and reserve warning

Engine complies with NRMM exhaust certification EPA / CARB Tier 3 and 97/68 EC Stage III

Option:

Power rating according to ISO 3046, 670 kW (898 hp) at 1900 rpm

Engine type ———— MAN D 2842 LE

Fuel tank ———— 920 l capacity with continuous level
————— indicator and reserve warning

Engine complies with NRMM exhaust certification EPA / CARB Tier 2.



Hydraulic system

The main pumps are operated by a distributor gearbox. Axial piston displacement pumps work in closed and open circuits supplying oil only when needed (flow control on demand). To minimize peak pressure an automatically working pressure cut off is integrated. This spares pumps and saves energy. The hydraulic oil is cleaned through electronically controlled pressure and return filters. Possible contamination is signaled in the cabin. The use of synthetic environmentally friendly oils is possible. Ready made hydraulic retrofit kits are available to customize requirements e.g. powering casing oscillators, VM-vibrators, hydraulic grabs, hanging leads etc.

Working pressure ———— max. 5076 psi

Oil tank capacity ———— 238 gal



Boom winch

Line pull ———— max. 2 x 15,500 lbs

Rope diameter ———— 20 mm

Boom up ———— 84 sec. from 15° to 82°



Swing

Consists of rollerbearing with external teeth for lower tooth flank pressure, fixed axial piston hydraulic motor, spring loaded and hydraulically released multi-disc holding brake, planetary gearbox and pinion. Swing speed from 0 – 3.6 rpm continuously variable, selector for 3 speed ranges to increase swing precision.

Standard:

Second swing drive



Noise emission

Noise emissions correspond with 2000/14/EC directive on noise emission by equipment used outdoors.



Main winches

Winch options:

Line pull (nom. load) ——— 47,400 lbs ——— 55,200 lbs ——— 66,200 lbs

Rope diameter ———— 30 m ———— 34 m ———— 36 m

Drum diameter ———— 24.8" ———— 29.5" ———— 32.3"

Rope speed (ft/min) ———— 0–279 ———— 0–226 ———— 0–180

With change gear bos (ft/min) ———— 0–403 ———— 0–390

Rope capacity 1st layer ——— 153 ft ———— 151 ft ———— 151 ft

The winches are outstanding in their compact design and easy assembly. Propulsion is via a planetary gearbox in an oil bath. Load support by the hydraulic system; additional safety factor provided by a spring loaded, multi-disc holding brake. The main winches use pressure controlled, variable flow hydraulic motors. This system features sensors that automatically adjust oil flow to provide max. winch speed depending on load.

Option:

Crane winch (main winch) ——— 35,300 lbs with multi-disc holding brake

Auxiliary winch ———— 15,500 lbs in boom foot

Tagline winch ———— 15,500 lbs with free fall

15,500 lbs with free fall



Crawlers

The track width of the undercarriage is changed hydraulically.

Propulsion through axial piston motor, hydraulically released spring loaded multi-disc brake, maintenance free crawler tracks, hydraulic chain tensioning device.

Flat or double grouser track shoes

Drive speed 0 – 0.8 mph

Option:

- 2 speed hydraulic motor for higher travel speed



Control

The control system – developed and manufactured by Liebherr – is designed to withstand extreme temperature changes and the rough heavy duty tasks common in the construction industry. Complete machine operating data are shown on a high resolution display. The crane is equipped with proportional control for all movements, which can be carried out simultaneously. Dragline operation: A special "Interlock" control system is an option available. It is designed for power lifting of the dragline bucket without using the drag winch brake.

An additional option is the "Redundant Control System", which allows restricted operation of the machine in the event of a failure on the electronic base control or its sensors.

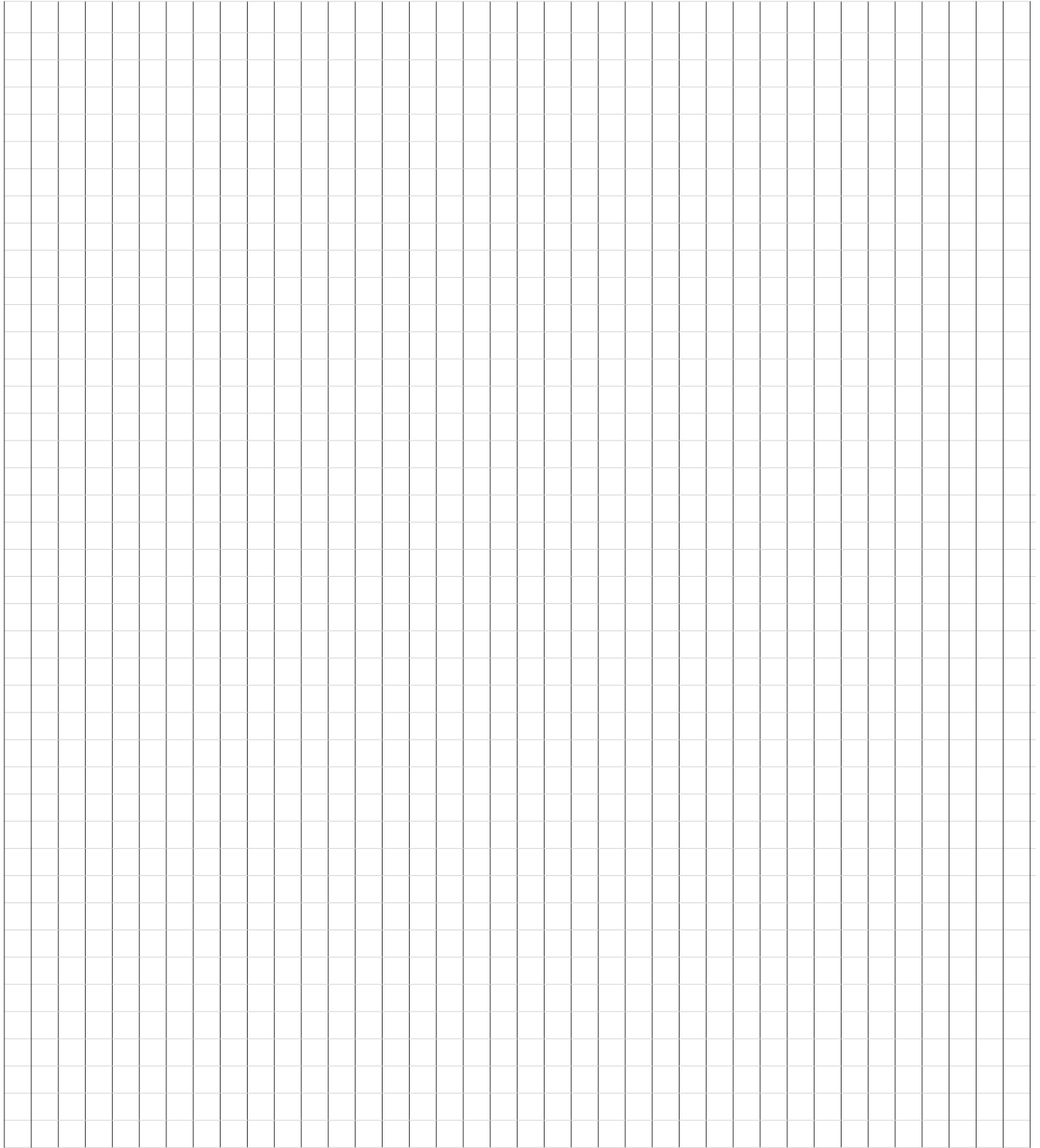
On request, Liebherr also offers special custom designed control systems for free fall winches.

Operation: Left joy stick for boom winch and swing, right two directional levers for winch I and II. Crawler control is actuated with the two central foot pedals. Additionally, hand levers can be attached to the pedals.

Options:

- Special demolition control system
- MDE: Machine data recording
- PDE: Process data recording
- GSM modem.

Notice



Notice

