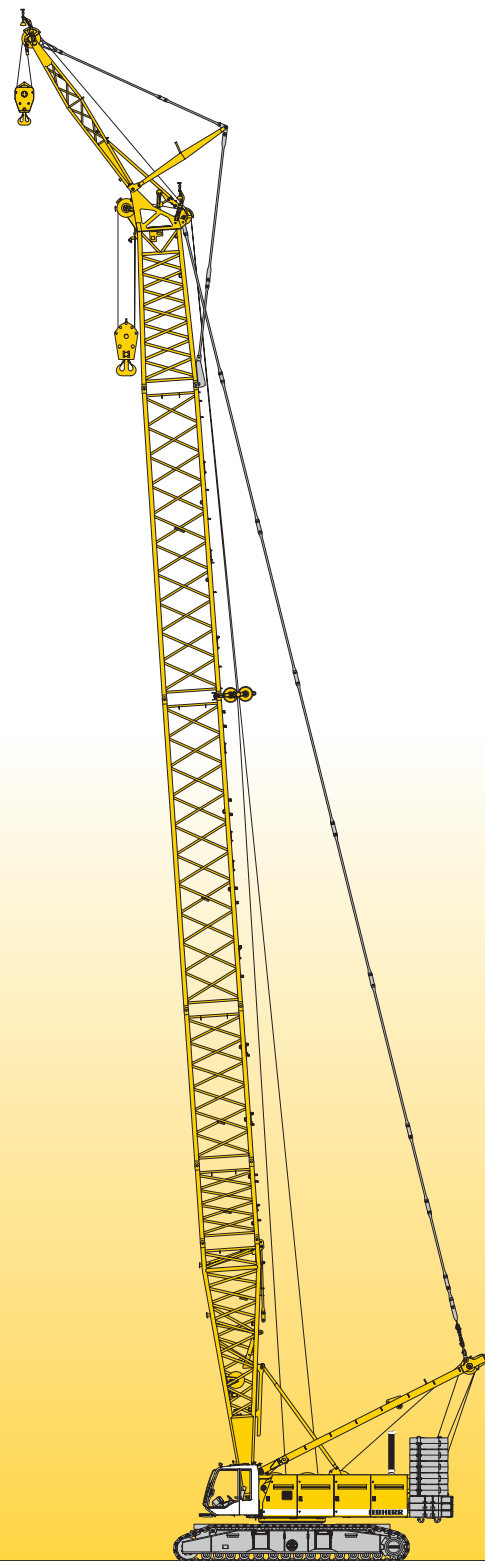


Technical data
Hydraulic lift crane

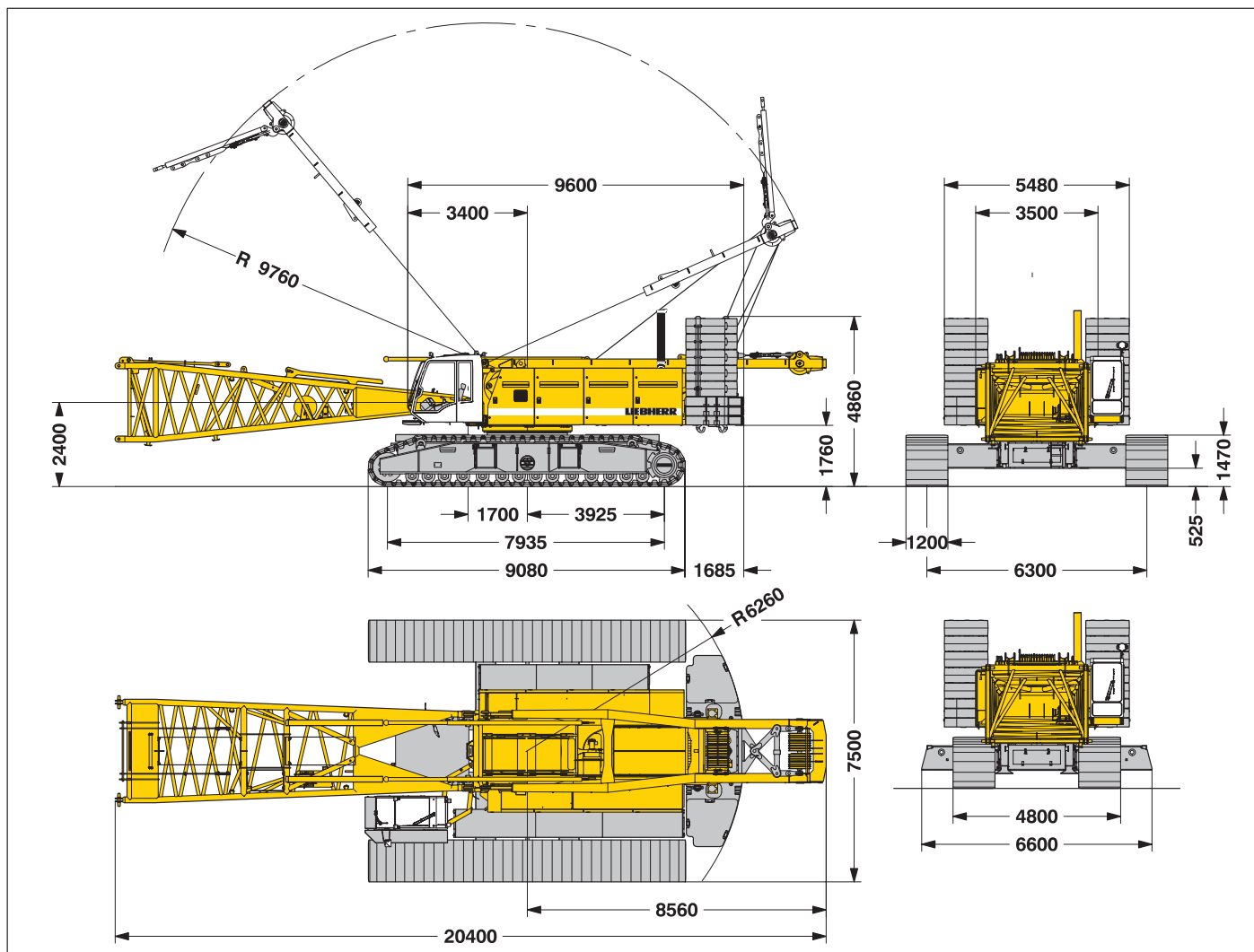
LR 1280 W
Litronic®



LIEBHERR

Dimensions

Basic machine with undercarriage



Operating weight

The operating weight includes the basic machine with crawlers, 2 main winches 150 kN and 29 m main boom, consisting of A-frame, boom foot (10 m), boom head (7 m), boom section tapered (12 m), 85.5 t basic counterweight, 32 t carbody counterweight and 300 t hook block.

Total weight _____ approx. 228 t

Ground pressure

Ground bearing pressure _____ 1.20 kg/cm²

Equipment

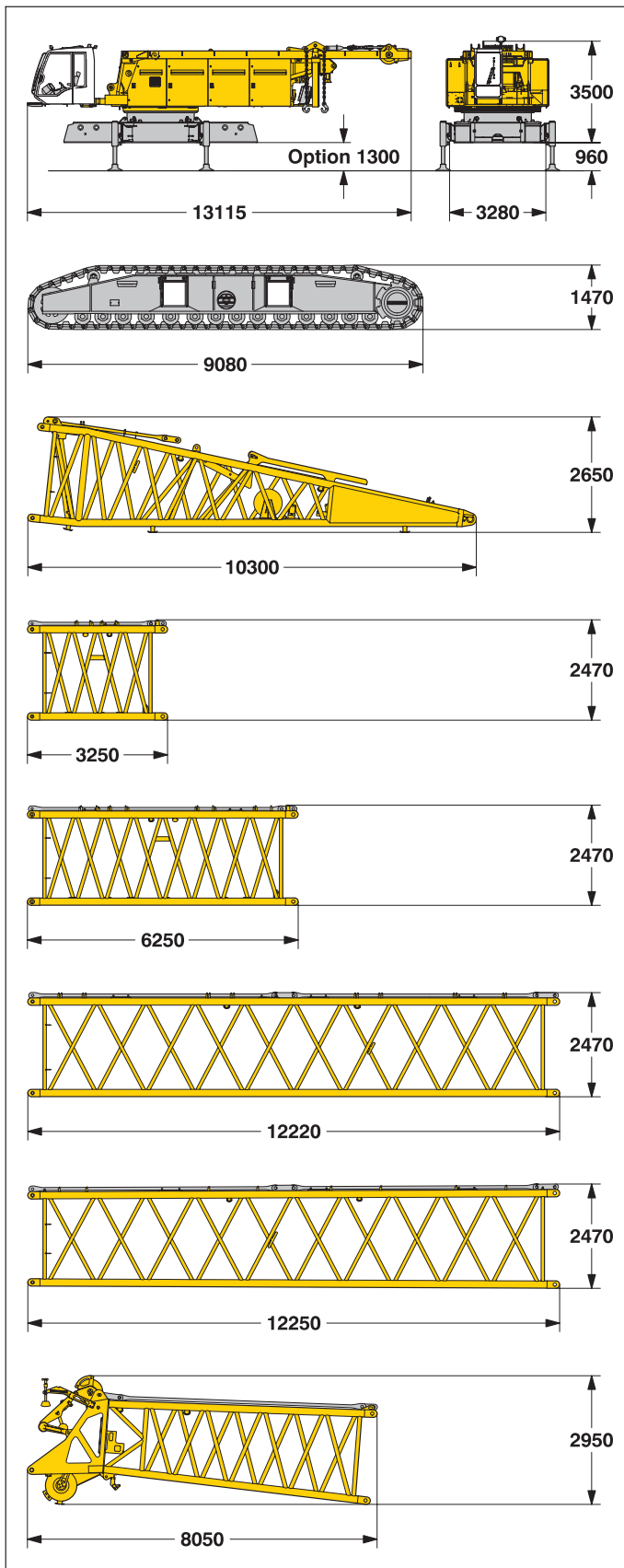
High reach (No. 2821.xx and 2220.xx) _____ 86 m
 Fixed jib (No. 0906.xx) _____ 7 m
 Auxiliary jib 30 t lifting capacity

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. Calculation of stability under load is based on DIN 15019 / part 2 / chart 1 and ISO 4305 Table 1 + 2, tipping angle 4°.
9. The structures are calculated according to F.E.M. 1.001 – 1998 (prEN 13001 / T2 / 1997).

Transport dimensions and weights

Basic machine and boom (No. 2821.xx – No. 2220.xx)



*) Including pendants

Basic machine

with A-frame, 2x 150 kN crane winches including wire ropes (max. 665 m), without crawlers, boom foot, basic counterweight and carbody counterweight

Width	mm	3500
Weight	kg	45600

Crawler

2x

Flat track shoes	mm	1200
Width	mm	1250
Weight	kg	21500

Boom foot (No. 2821.30)

Width	mm	2970
Weight*	kg	5700

Boom section (No. 2821.24)

3 m

Width	mm	2970
Weight*	kg	1100

Boom section (No. 2821.24)

6 m

Width	mm	2970
Weight*	kg	1700

Boom section (No. 2821.24)

12 m

Width	mm	2970
Weight*	kg	2900

L - boom

section tapered (No. 2821/2220.24)

12 m

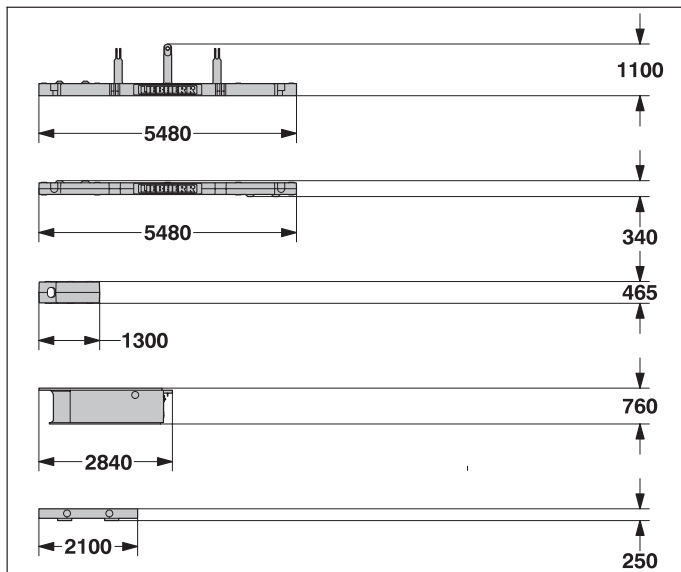
Width	mm	2970
Weight*	kg	2850

Boom head (No. 2220.xx)

Width	mm	2420
Weight*	kg	4690

Transport dimensions and weights

Counterweights



Counterweight **1x**

Width	mm	1660
Weight	kg	13300

Counterweight **2x**

Width	mm	1660
Weight	kg	10600

Counterweight **10x**

Width	mm	1360
Weight	kg	5100

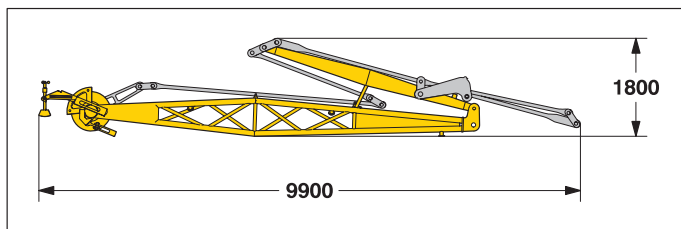
Carbody counterweight **2x**

Width	mm	1650
Weight	kg	10400

Carbody counterweight **2x**

Width	mm	1620
Weight	kg	5600

Fixed jib (No. 0906.xx)

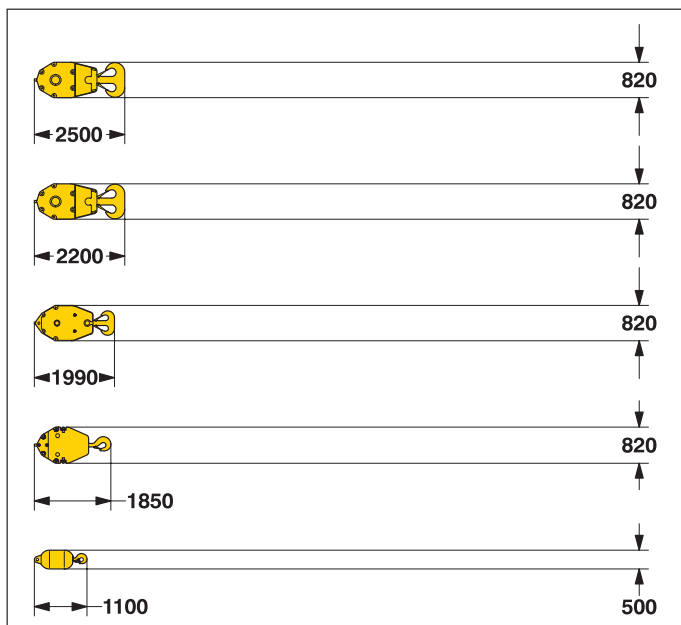


Fixed jib with A-frame

Width	mm	2700
Weight*	kg	2350

*) Including pendants

Hooks



300 t hook block - 11 sheaves

Width	mm	880 — 1230
Weight	kg	3200 — 5500

150 t hook block - 5 sheaves

Width	mm	500 — 660 — 820
Weight	kg	1600 — 2800 — 4000

100 t hook block - 3 sheaves

Width	mm	340 — 480 — 620
Weight	kg	1100 — 2050 — 3000

50 t hook block - 1 sheave

Width	mm	280 — 410 — 540
Weight	kg	800 — 1600 — 2400

16 t single hook

Width	mm	500
Weight	kg	900

Technical description



Engine

Power rating according to ISO 9249, 400 kW (544 PS) at 1900 rpm
Engine type _____ Liebherr D 9408 TI-E
Fuel tank _____ 2x 460 l capacity with continuous level indicator and reserve warning
Engine complies with NRMM exhaust certification EPA / CARB Tier 2 and 97/68 EC Stage II



Hydraulic system

An axial displacement pump supplies the open loop hydraulic system for boom luffing, jib luffing and travel. The main hoist winches and swing are operated in a closed loop system. All functions can be operated simultaneously. To minimize peak pressure an automatic working pressure cut-off is integrated in a pump. All filters are electronically monitored. The use of synthetic environmentally friendly (biodegradable) oils is possible.
Working pressure _____ max. 350 bar
Oil tank capacity _____ 1090 l



Boom winch

Line pull (3rd layer) _____ 150 kN
Rope diameter _____ 24 mm
Boom up _____ 137 sec. from 15° to 86°



Swing

Consists of rollerbearing with external teeth, swing drive with fixed axial piston hydraulic motor, spring loaded and hydraulically released multi-disc holding brake, planetary gearbox and pinion. Free swing with hydraulic moment control reduces wear to a minimum. Alternatively the swing control can be changed to simulate closed loop speed control. Then a multi-disc holding brake acts automatically at zero swing motion.
Swing speed from 0 – 1.8 rpm continuously variable.



Noise emission

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



Main winches

Line pull (1st layer) _____ max. 215 kN
Line pull (7th layer) _____ 150 kN
Rope diameter _____ 28 mm
Drum diameter _____ 730 mm
Rope speed m/min _____ 0 – 138
Rope capacity in 7 layers _____ 570 m
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 – winch with freefall system:
Clutch and braking functions on the freefall system are provided by a compact designed, low wear and maintenance free multi-disc brake.



Crawlers

Propulsion through axial piston motor, hydraulically released spring loaded multi-disc brake, crawler tracks, hydraulic chain tensioning device.
Flat track shoes _____ 1200 mm
Drive speed _____ 0 – 1.3 km/h

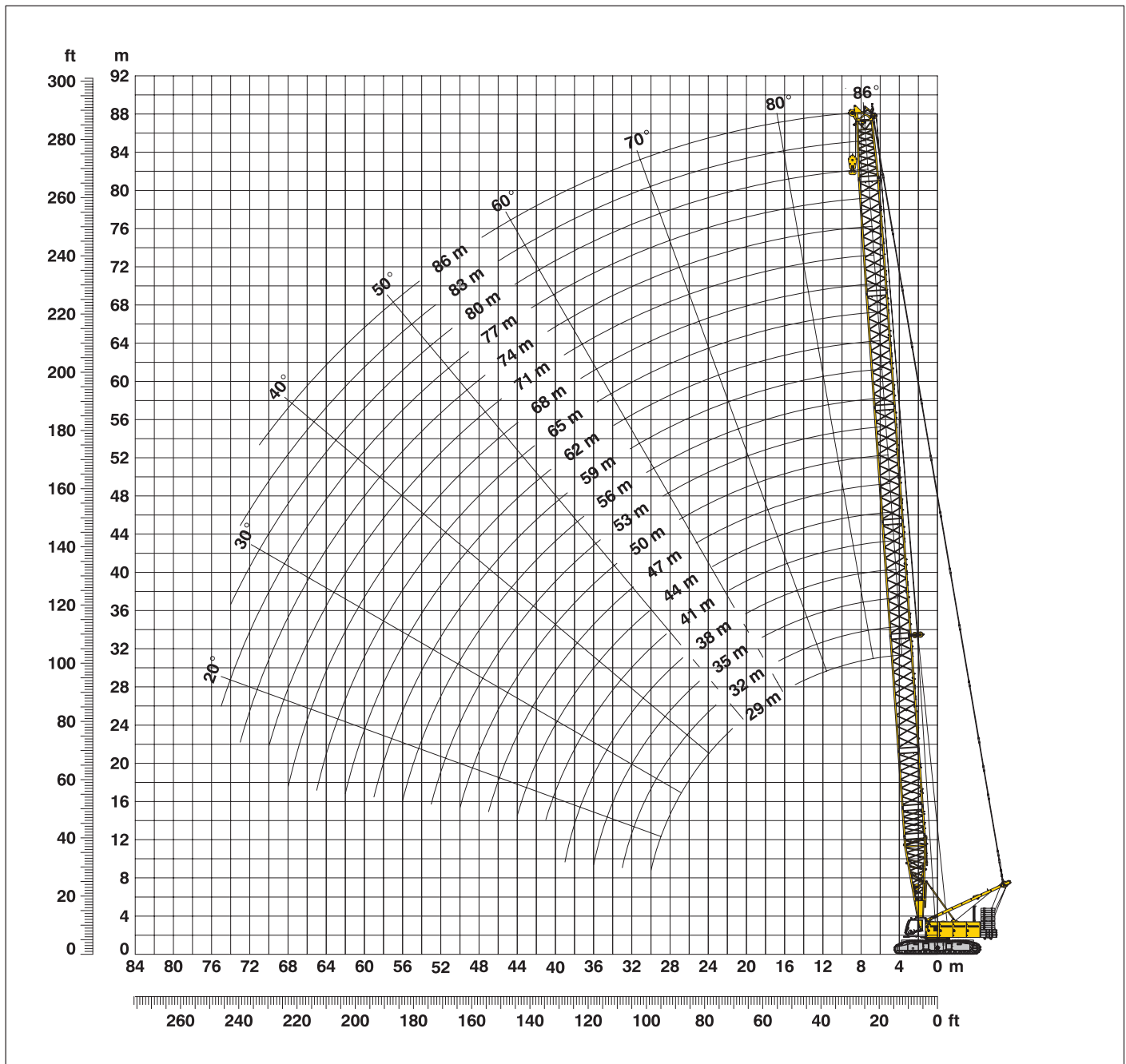


Control

The control system – developed and manufactured by Liebherr – is designed to withstand extreme environmental conditions such as temperature, vibration and electromagnetic interference and to meet all requirements that are needed in heavy duty crane operation. Complete machine operating data are shown on a high resolution display. Standard operational information is displayed by means of graphical symbols, fault indications are displayed in plain text (more than 10 languages available).
The cranes are equipped with proportional control for all main movements, which can be carried out simultaneously.
A backup control system, that allows limited use of the crane is standard. This feature increases the safety and availability of the crane even further. The crane is operated with 2 multi-directional joysticks, the right for winch I and boom, the left for winch II and swing control.
Option:
Bi-directional double T-levers for simultaneous boom and luffing jib operation.
The crawlers are activated by the two central foot pedals. Additionally, hand levers can be attached to the pedals.

L – boom high reach (No.2821 / 2220.xx) **86 m**

Working range 86° - 15°



L – boom configuration (No. 2821.xx / No. 2220.xx)

Configuration for L – boom lengths (29m – 86 m)

Configuration for L – boom lengths (29m – 86 m)	Length	Amount of boom and luffing jib extensions																			
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Boom foot	10.0 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Boom insert	3.0 m		1		1		1		1		1		1		1		1		1		
Boom insert	6.0 m			1	1		1	1		1	1		1	1		1	1		1		
Boom insert	12.0 m					1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	
Tapered	12.0 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Luffing jib head	7.0 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Max. L – boom length (m)		29	32	35	38	41	44	47	50	53	56	59	62	65	68	71	74	77	80	83	86

Lift chart for L – boom (No. 2821 / 2220.xx)

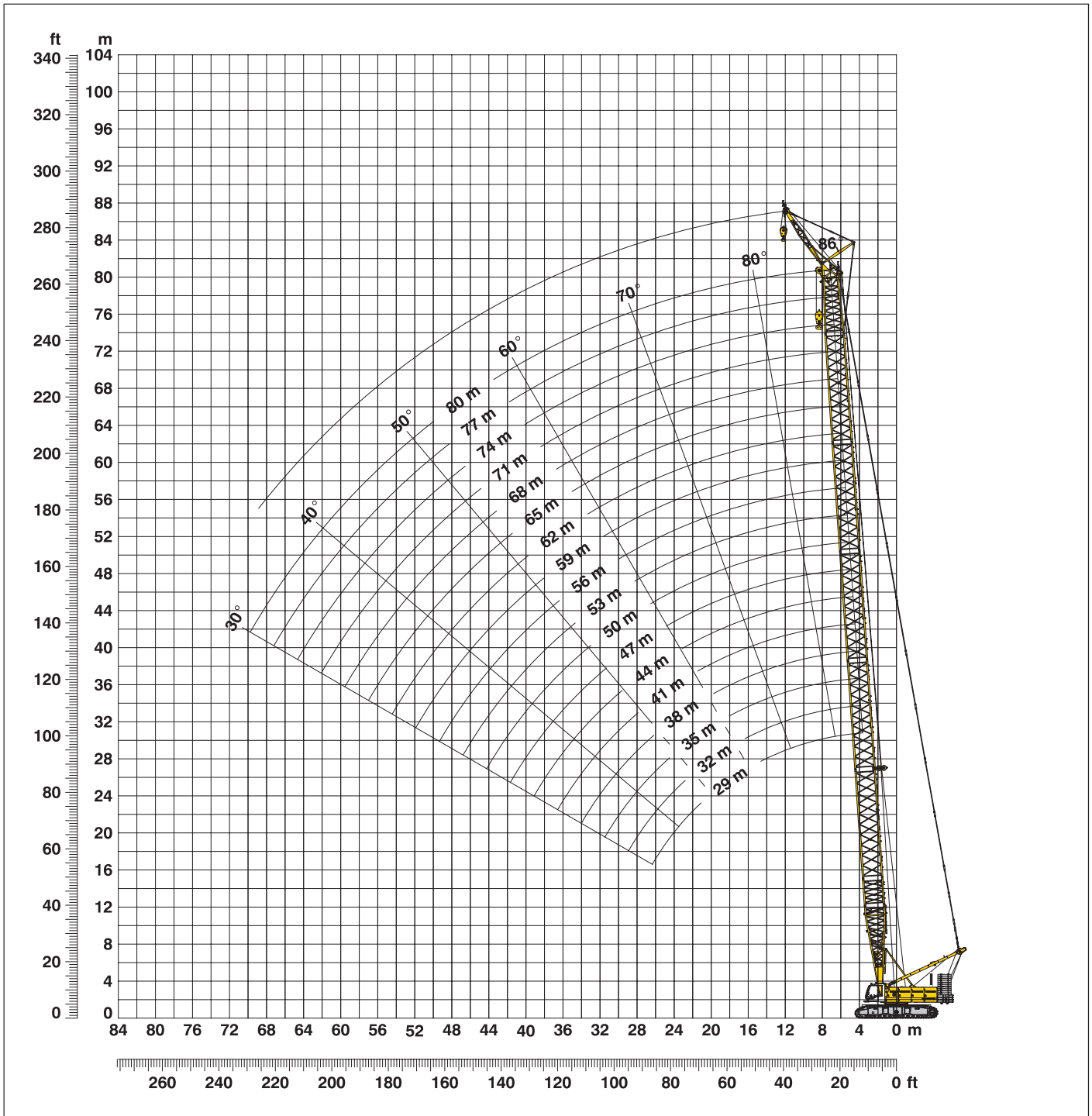
Capacities in metric tons for boom lengths (29 m – 86 m) – with 150 kN winches
85.5 t counterweight and 32.0 t carbody counterweight

Radius (m)	Boom length (m)											Radius (m)
	29	38	44	50	56	62	68	74	80	83	86	
4.9	250.7											4.9
5	250.7											5
6	219.0	201.6	182.8									6
7	175.9	169.6	158.6	148.7	134.0							7
8	160.7	146.0	137.6	127.0	122.8	116.3	102.7					8
9	134.1	125.6	119.8	114.6	109.3	103.9	98.9	89.1	78.0	73.0	68.2	9
10	120.5	113.8	107.3	103.0	98.2	93.7	89.5	82.8	77.3	73.0	68.2	10
12	98.3	91.4	88.8	84.9	79.4	77.3	74.7	70.9	64.4	62.4	59.8	12
14	81.9	77.9	74.8	67.8	69.0	66.3	61.8	60.2	54.7	54.6	52.4	14
16	67.9	66.9	64.4	61.9	55.0	54.9	55.2	51.0	48.2	47.3	45.5	16
18	57.7	57.2	55.9	54.2	52.3	49.4	48.4	46.5	43.4	40.8	38.6	18
20	49.9	49.4	49.2	48.0	46.3	43.9	39.9	38.7	38.9	37.7	36.1	20
22	43.8	43.3	43.0	42.6	41.2	39.8	38.2	35.4	34.6	33.6	32.3	22
24	38.8	38.4	38.1	37.6	37.2	35.8	34.5	32.9	31.1	30.1	26.0	24
26	34.7	34.3	34.0	33.6	33.2	32.4	31.1	28.7	27.7	26.0	24.6	26
28	31.2	30.8	30.6	30.1	29.3	29.2	27.7	26.8	25.9	24.9	23.4	28
30	28.2	27.9	27.7	27.2	26.8	26.3	25.8	24.6	23.5	23.0	21.9	30
32		25.4	25.1	24.7	24.3	23.8	23.3	22.5	21.4	20.9	20.3	32
34		23.2	22.9	22.5	22.1	21.6	21.1	20.5	19.5	19.0	18.5	34
36		21.2	21.0	20.6	20.2	19.6	19.2	18.7	17.9	17.4	16.8	36
38		19.4	19.3	18.8	18.5	17.9	17.5	16.9	16.4	15.9	15.4	38
40			17.7	17.3	16.9	16.4	16.0	15.4	14.2	14.6	14.1	40
42			16.3	15.9	15.6	14.9	14.7	13.7	13.4	13.4	12.9	42
44			15.1	14.8	14.4	13.9	13.4	12.9	12.4	12.1	11.8	44
46				13.6	13.3	12.8	12.3	11.8	11.3	11.0	10.7	46
48				12.6	12.2	11.7	11.3	10.7	10.2	10.0	9.7	48
50				11.6	11.3	10.8	10.3	9.8	9.3	9.0	8.7	50
55					9.2	8.7	8.3	7.7	7.3	7.0	6.7	55
60						7.0	6.6	6.1	5.6	5.3	5.0	60
65							5.1	4.6	4.1	3.9	3.6	65
70								3.4	2.9	2.7	2.4	70

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

Working range - fixed jib (No. 0906.xx) 30°

Main boom 88°- 30°



Boom configuration for boom lengths (29 m – 80 m) – see table 1 on page 6

Lift chart – fixed jib (No. 0906.xx) 7 m Offset 30°

Main boom 29 m

Radius (m)	t
7.3	74.1
10	70.8
12	68.6
14	66.4
16	62.3
18	58.8
20	50.9
22	44.6
24	39.5
26	35.3
28	31.8
30	28.8
32	26.2
34	23.8

Main boom 32 m

Radius (m)	t
7.5	80.0
10	75.9
12	71.5
14	67.7
16	63.7
18	58.6
20	50.7
22	44.4
24	39.3
26	35.1
28	31.6
30	28.6
34	23.7
36	21.7

Main boom 38 m

Radius (m)	t
7.7	83.4
10	77.8
12	73.7
14	69.4
16	65.5
18	56.1
20	50.3
22	44.0
24	39.0
26	34.8
30	28.2
34	23.3
38	19.6
42	16.5

Main boom 44 m

Radius (m)	t
7.9	82.8
10	78.9
12	74.5
14	70.7
16	63.1
18	55.3
22	43.7
26	34.4
30	27.9
34	23.0
38	19.3
42	16.2
46	13.8
48	12.7

Main boom 50 m

Radius (m)	t
8.1	82.2
10	79.3
12	75.3
14	70.4
16	60.8
20	47.2
24	37.9
28	30.5
32	24.8
36	20.6
40	17.2
44	14.6
48	12.3
50	11.3

Main boom 56 m

Radius (m)	t
8.3	81.6
10	79.6
12	76.1
14	67.8
16	56.9
20	45.5
24	36.6
28	29.6
32	24.4
36	20.2
40	16.8
44	14.2
50	11.0
55	8.8

Main boom 62 m

Radius (m)	t
8.5	80.9
10	79.9
12	76.3
14	65.2
16	56.5
20	43.9
24	35.2
28	28.8
32	24.0
36	19.7
40	16.3
44	13.7
50	10.5
60	6.5

Main boom 65 m

Radius (m)	t
8.6	80.5
10	80.0
12	74.9
16	55.5
20	43.1
24	34.6
28	28.3
32	23.5
36	19.5
40	16.1
44	13.5
50	10.3
60	6.4
65	4.9

Main boom 68 m

Radius (m)	t
8.7	77.6
10	77.4
12	73.3
16	54.4
20	42.3
24	33.9
28	27.3
32	22.9
36	19.2
40	15.9
44	13.2
50	10.0
60	6.1
65	4.6

Main boom 74 m

Radius (m)	t
8.9	73.3
10	73.3
12	69.8
16	52.4
20	40.7
24	32.6
28	26.3
32	21.9
36	18.2
40	15.2
44	12.7
50	9.5
60	5.6
70	2.8

Main boom 77 m

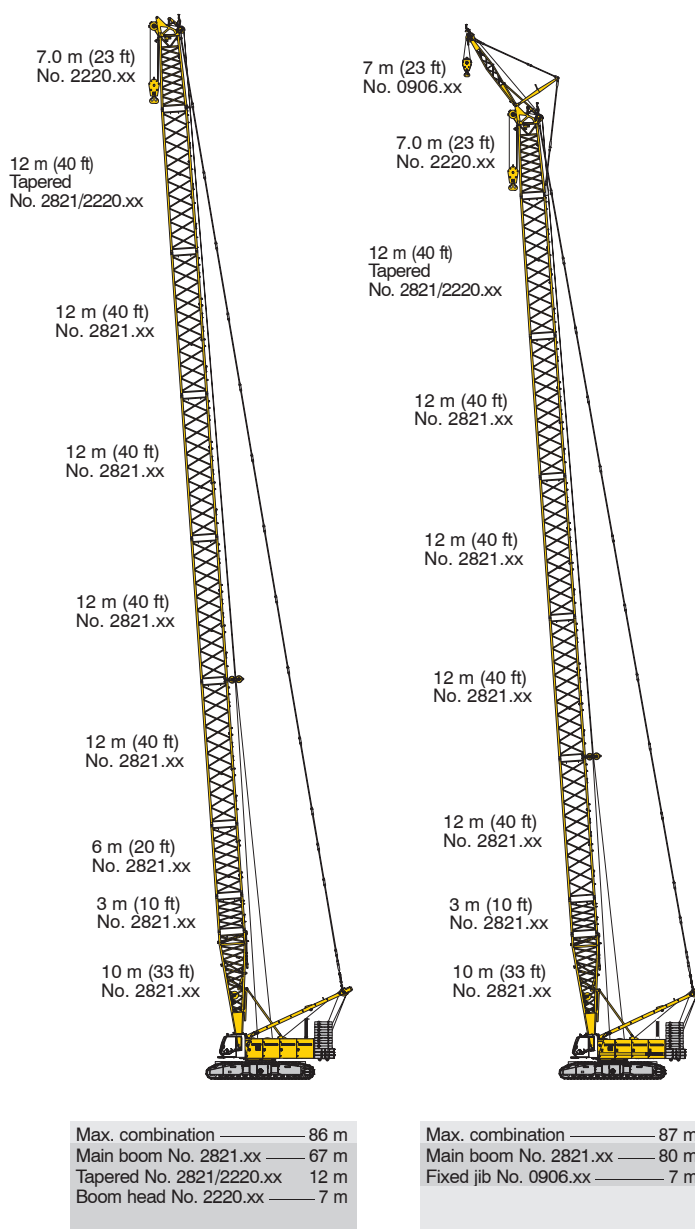
Radius (m)	t
9	72.8
10	72.8
12	69.2
16	51.5
20	40.0
24	32.0
28	26.0
32	21.4
36	17.8
40	14.1
44	12.4
50	9.3
60	5.4
70	2.6

Main boom 80 m

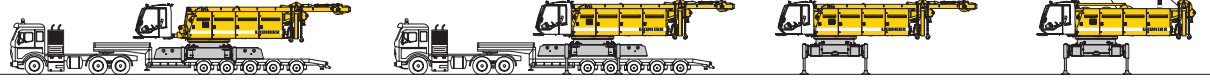
Radius (m)	t
9.1	72.2
10	72.2
12	67.8
16	50.5
20	39.2
24	31.3
28	25.4
32	20.9
36	17.3
40	13.8
44	12.0
50	9.0
60	5.1
70	2.3

Capacities in metric tons with fixed jib (No. 0906.xx) 85.5 t counterweight + 32 t carbody counterweight. Above lift chart is for reference only. For actual lift duty and complete chart with all available configurations please refer to lift chart in operator's cab or manual.

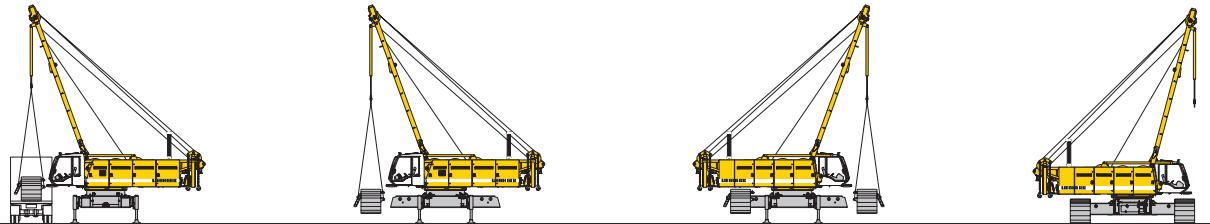
Boom combinations



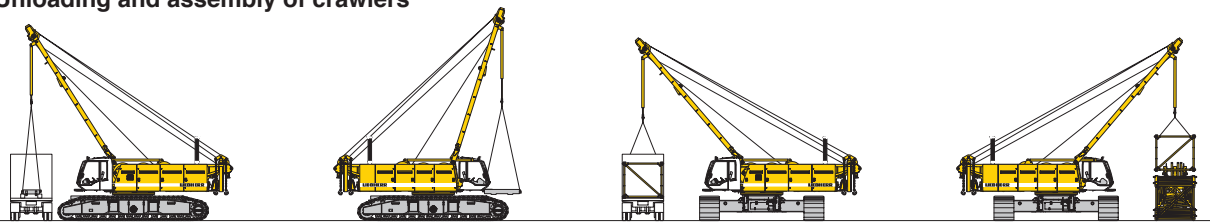
Self assembly system



Unloading of basic machine

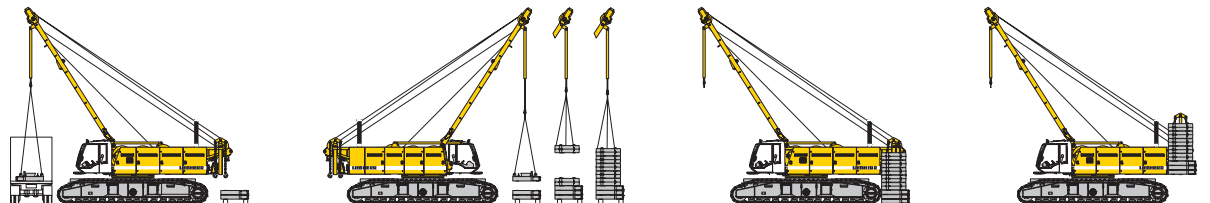


Unloading and assembly of crawlers

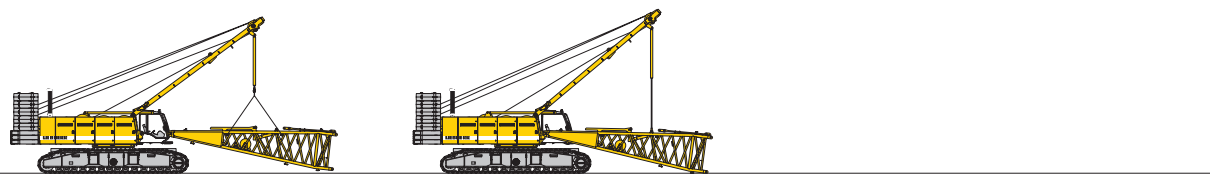


Unloading and assembly of carbody counterweight

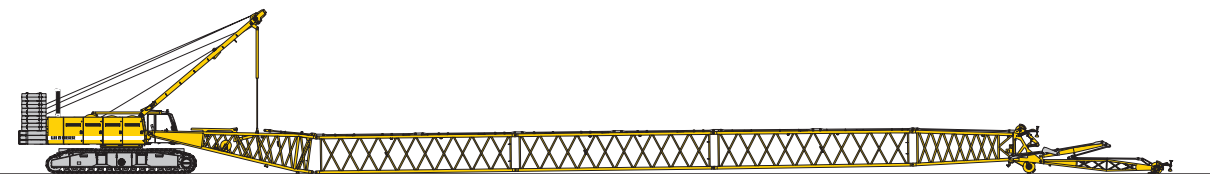
Unloading and assembly of boom



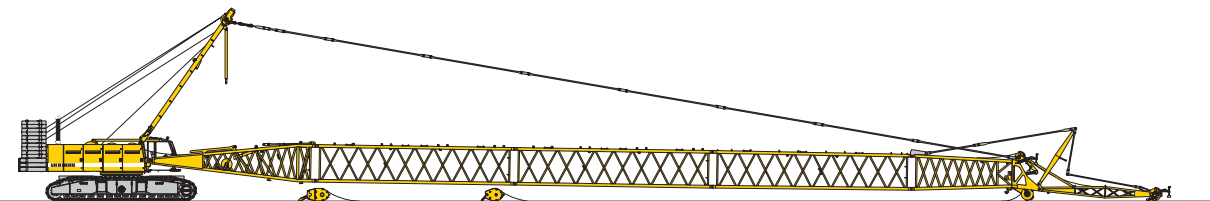
Unloading and assembly of counterweight



Unloading and assembly of boom foot



Assembly of boom



Reeving of hoist and fixed jib ropes

