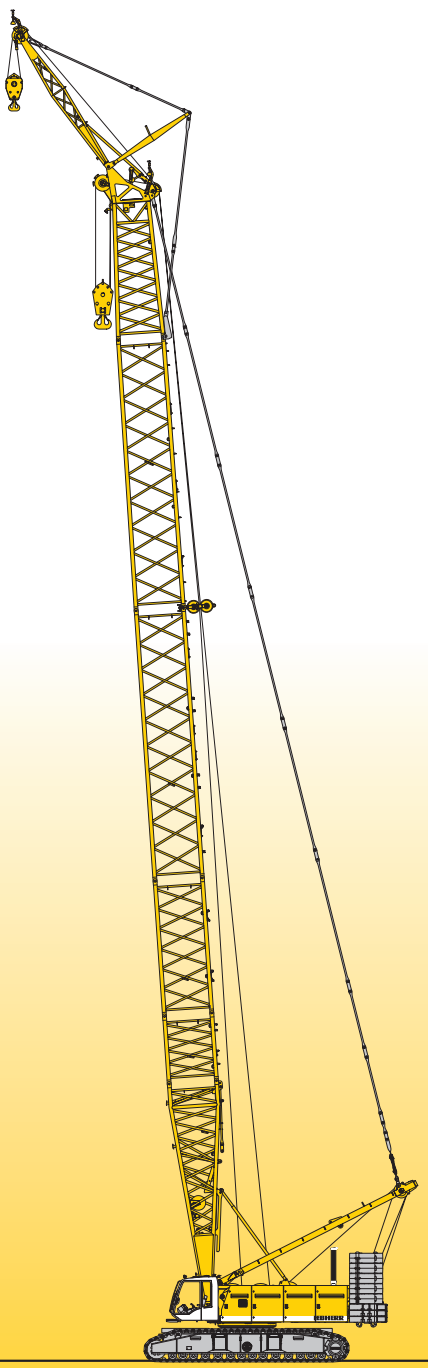
Technical data
Hydraulic lift crane

LR 1280 W
Litronic®



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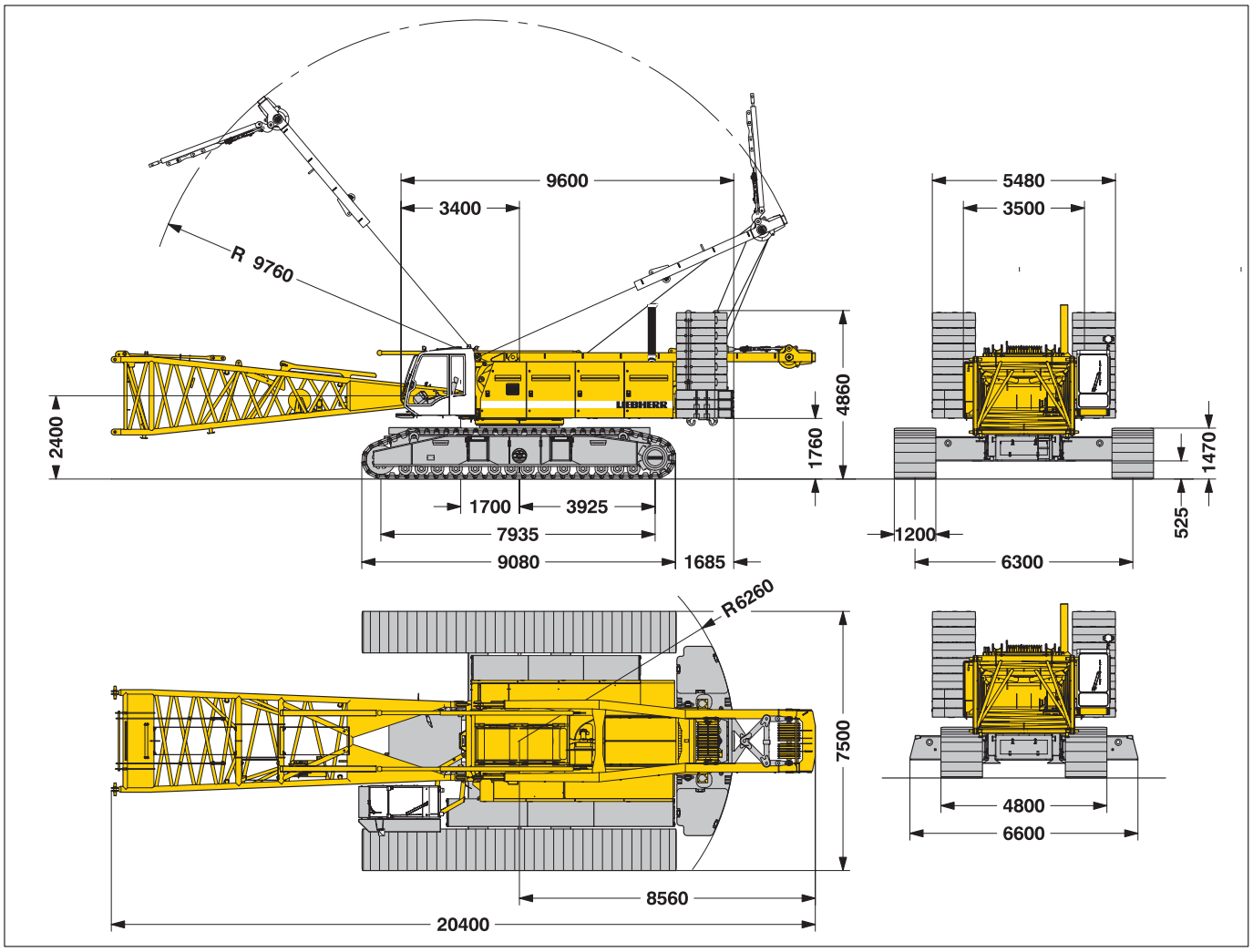
Dimensions

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/cm^2

Equipment

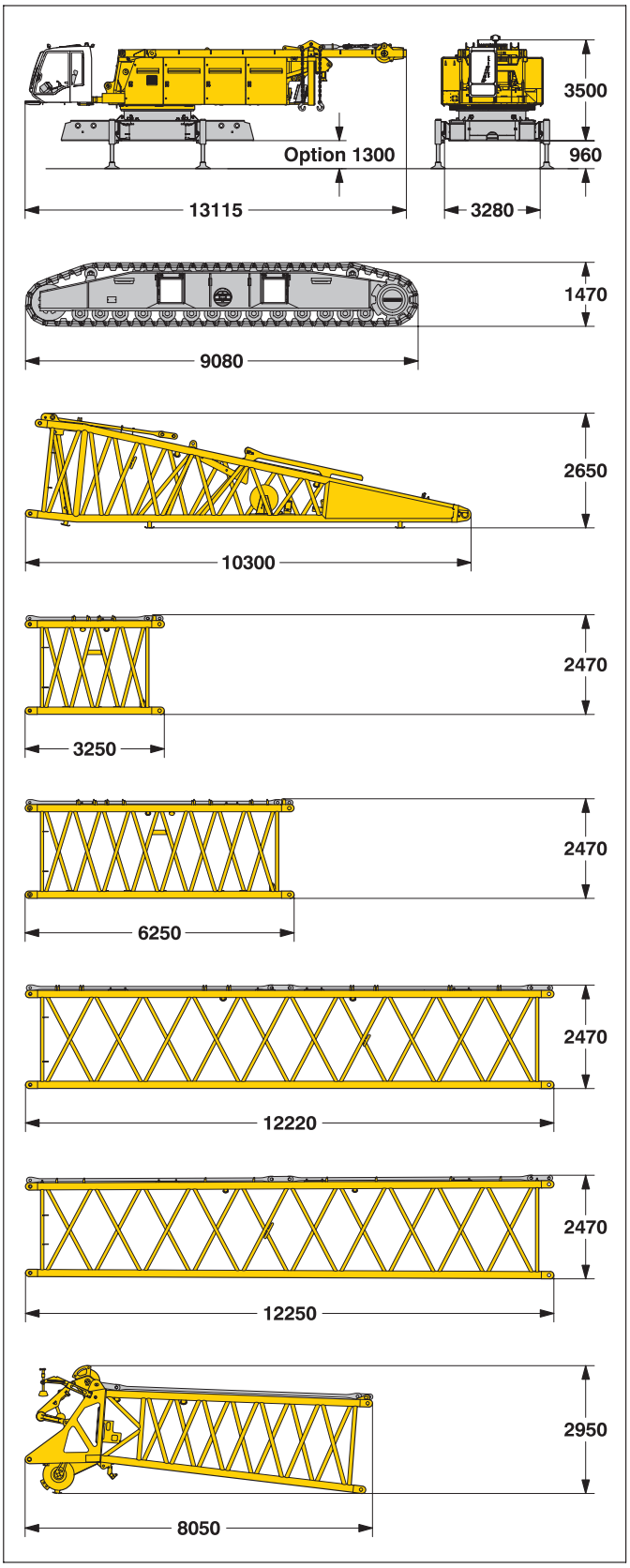
High reach (No. 2821.xx and 2220.xx) ——— 86 m
Fixed jib (No. 0906.xx) ——— 7 m
Auxiliary jib 30 t lifting capacity

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)



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

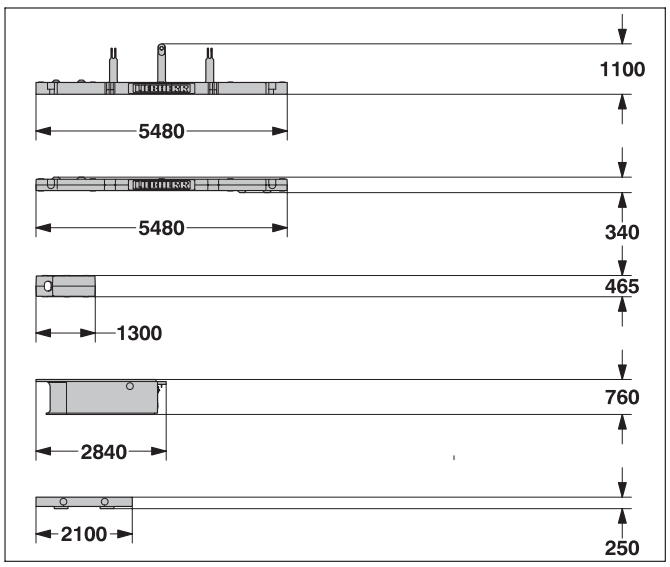
Boom head (No. 2220.xx)

Width	mm	2420
Weight*	kg	4690

*) Including pendants

Transport dimensions and weights

Counterweights



Counterweight	1x
Width — mm	1660
Weight — kg	13300

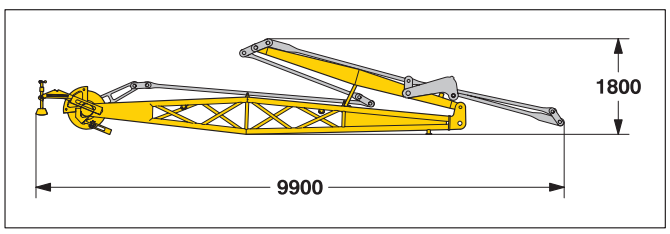
Counterweight	2x
Width — mm	1660
Weight — kg	10600

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

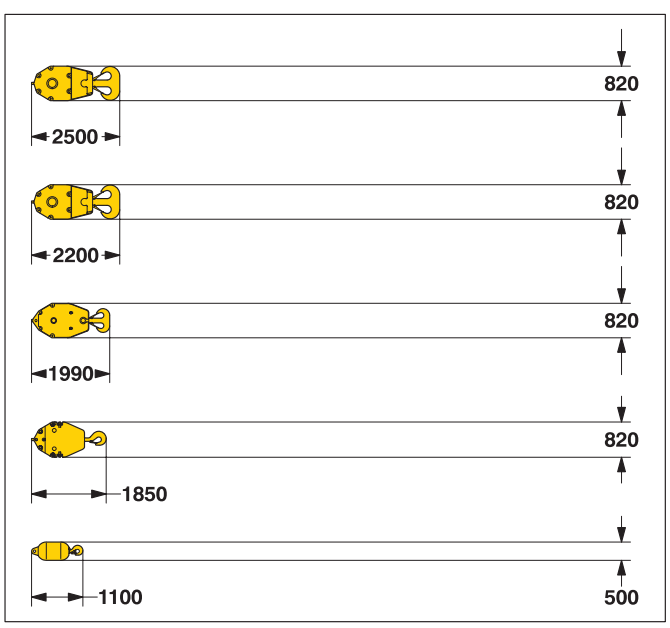
Fixed jib (No. 0906.xx)



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

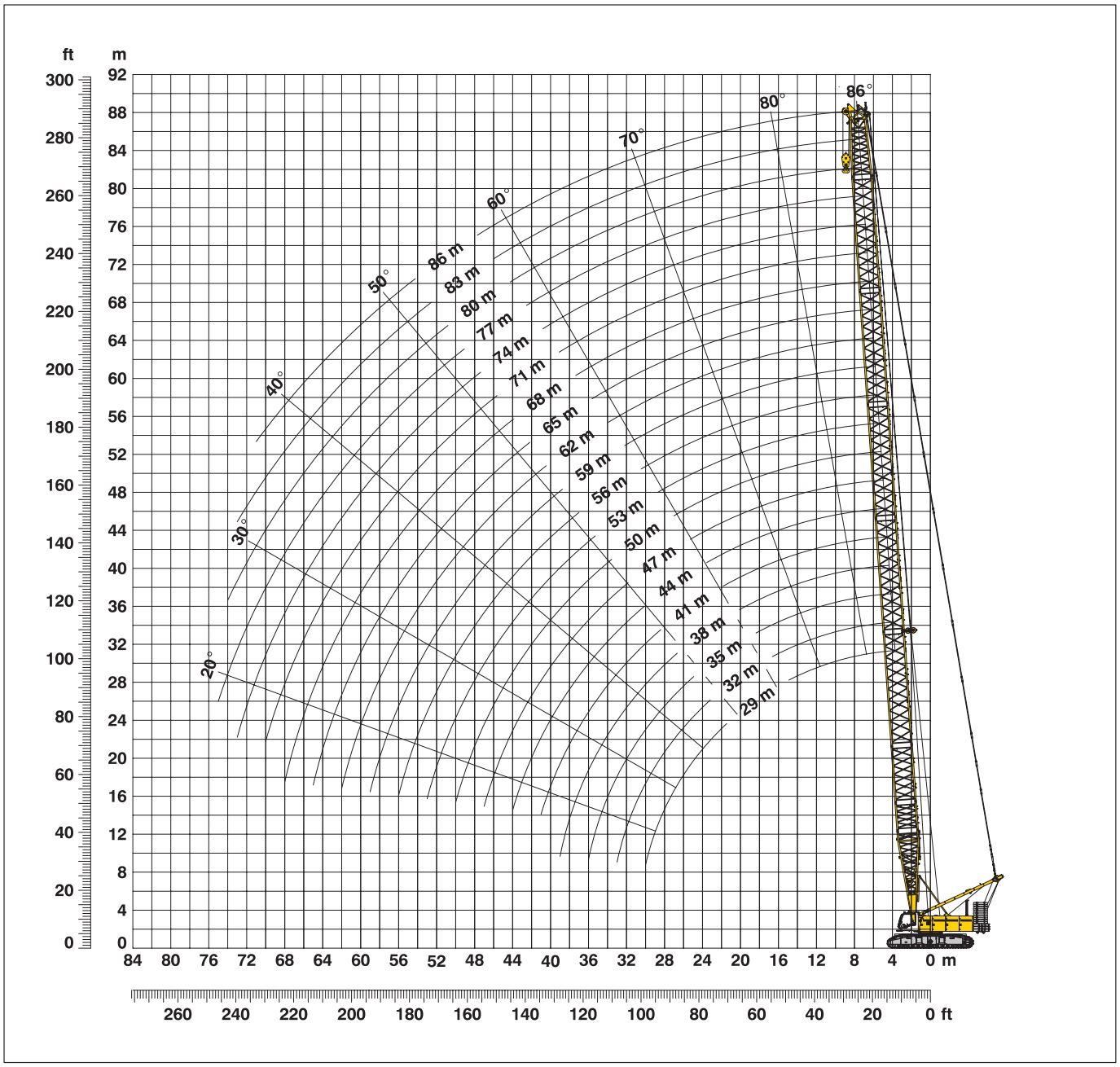
Propulsion through axial piston motor, hydraulically released spring loaded multi–disc brake, crawler tracks, hydraulic chain tensioning device.
Flat track shoes ——— 1200 mm
Drive speed ——— 0 – 1.3 km/h

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)

	Length	Amount of boom and luffing jib extensions																			
Boom foot	10.0 m	1	1	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		1
Boom insert	6.0 m			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	4
Tapered	12.0 m	1	1	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	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)

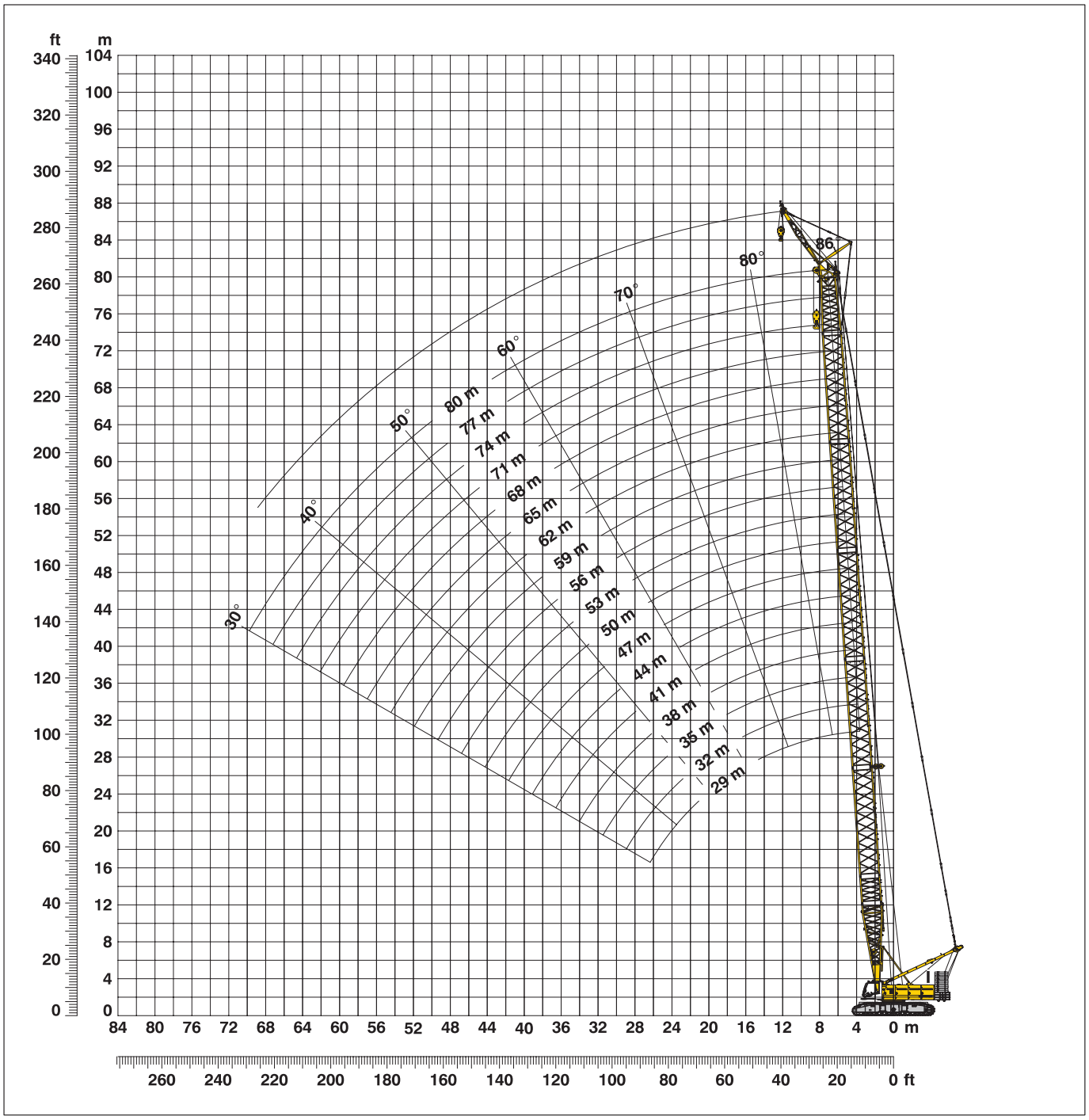
Capacities in metric tons for boom lengths (29 m – 86 m) – with 150 kN winches
85.5 t counterweight and 32.0 t carbody counterweight

	Boom length (m)											
Radius	29	38	44	50	56	62	68	74	80	83	86	Radius
(m)	t	t	t	t	t	t	t	t	t	t	t	(m)
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

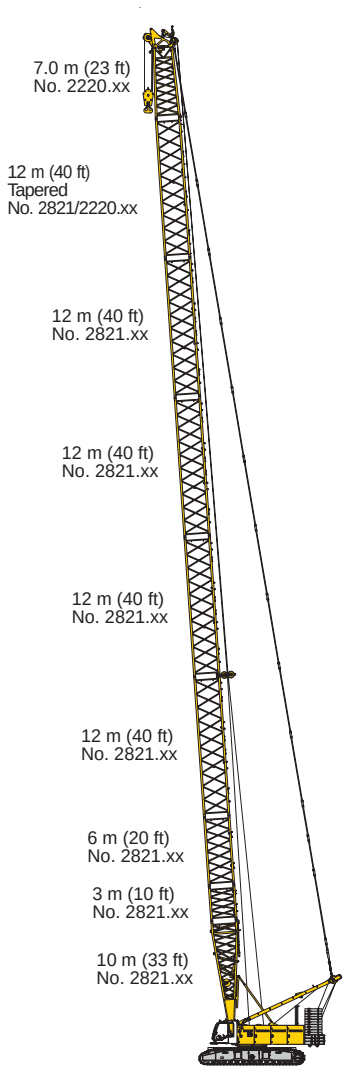
Radius (m)	t
9	72.8
10	72.8
12	69.2
16	51.5
20	40.0
24	32.0
28	26.0
32	21.4
36	17.8
40	14.1
44	12.4
50	9.3
60	5.4
70	2.6

Main boom 80 m

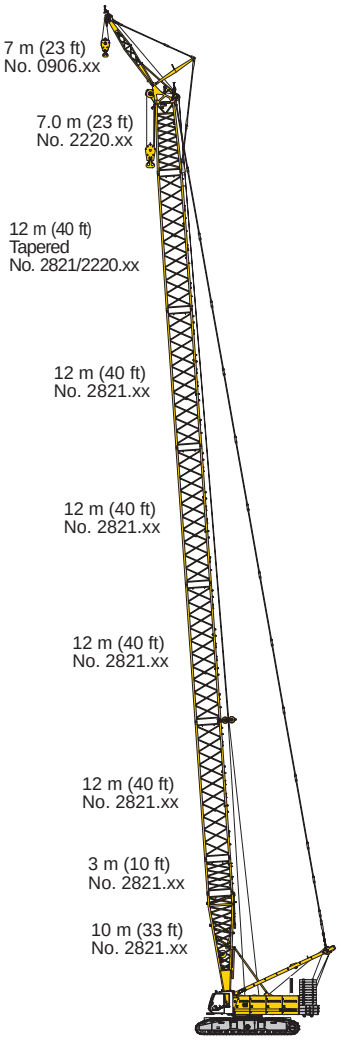
Radius (m)	t
9.1	72.2
10	72.2
12	67.8
16	50.5
20	39.2
24	31.3
28	25.4
32	20.9
36	17.3
40	13.8
44	12.0
50	9.0
60	5.1
70	2.3

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

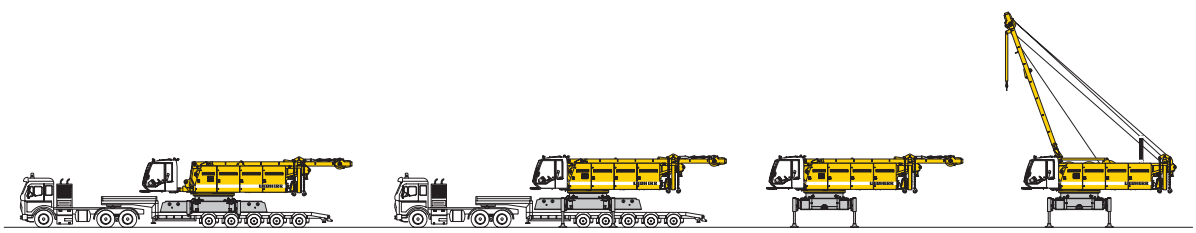


Max. combination	86 m
Main boom No. 2821.xx	67 m
Tapered No. 2821/2220.xx	12 m
Boom head No. 2220.xx	7 m

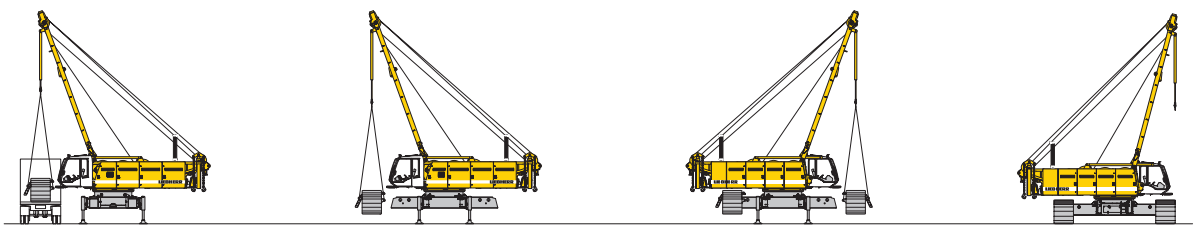


Max. combination	87 m
Main boom No. 2821.xx	80 m
Fixed jib No. 0906.xx	7 m

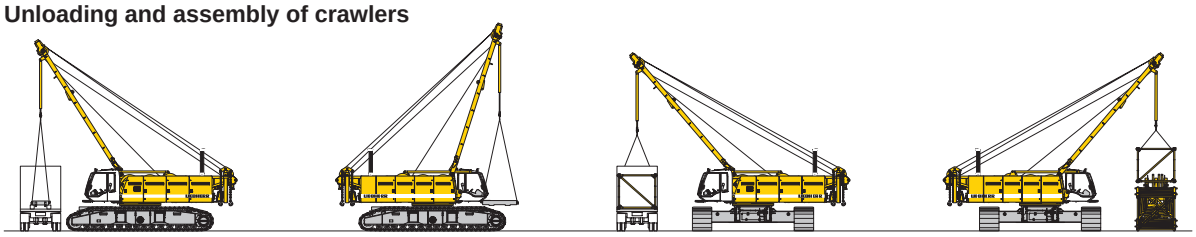
Self assembly system



Unloading of basic machine

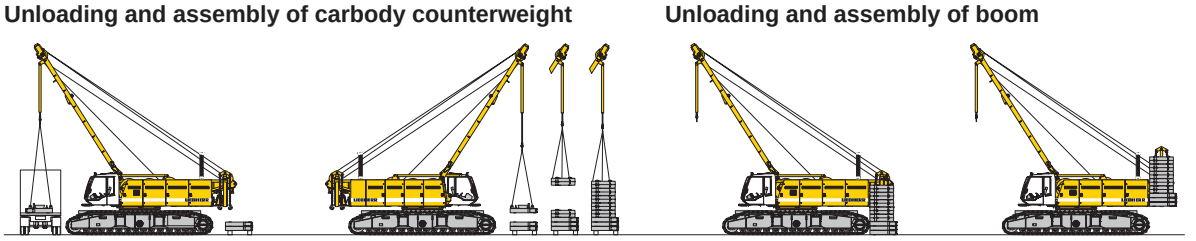


Unloading and assembly of crawlers

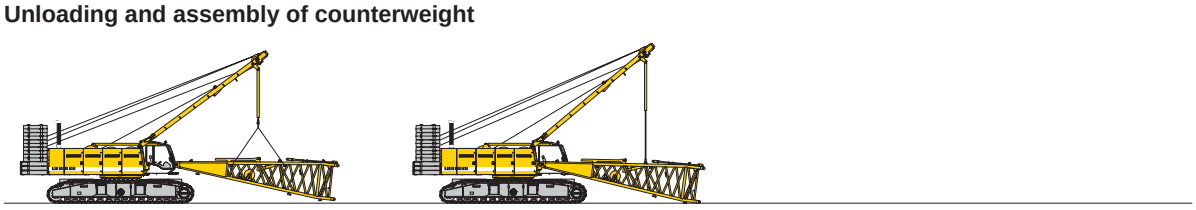


Unloading and assembly of carbody counterweight

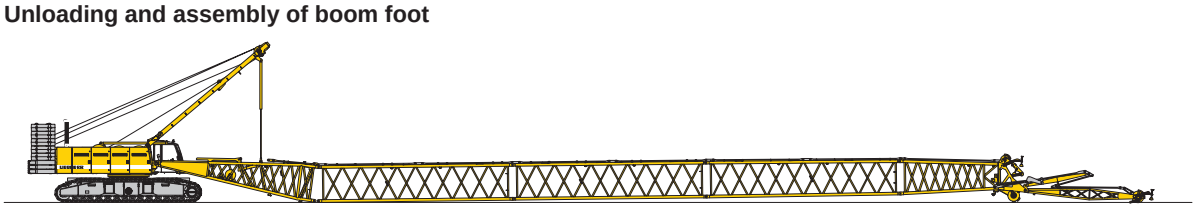
Unloading and assembly of boom



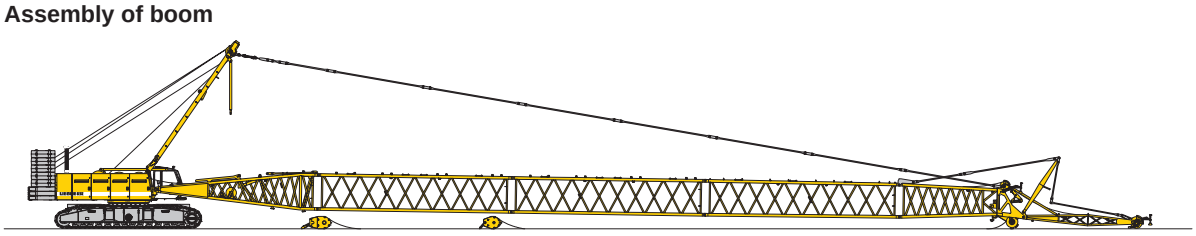
Unloading and assembly of counterweight



Unloading and assembly of boom foot



Assembly of boom



Reeving of hoist and fixed jib ropes

LR 1280 W – 100 98 991 – 08/2004 Subject to change without notice.

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