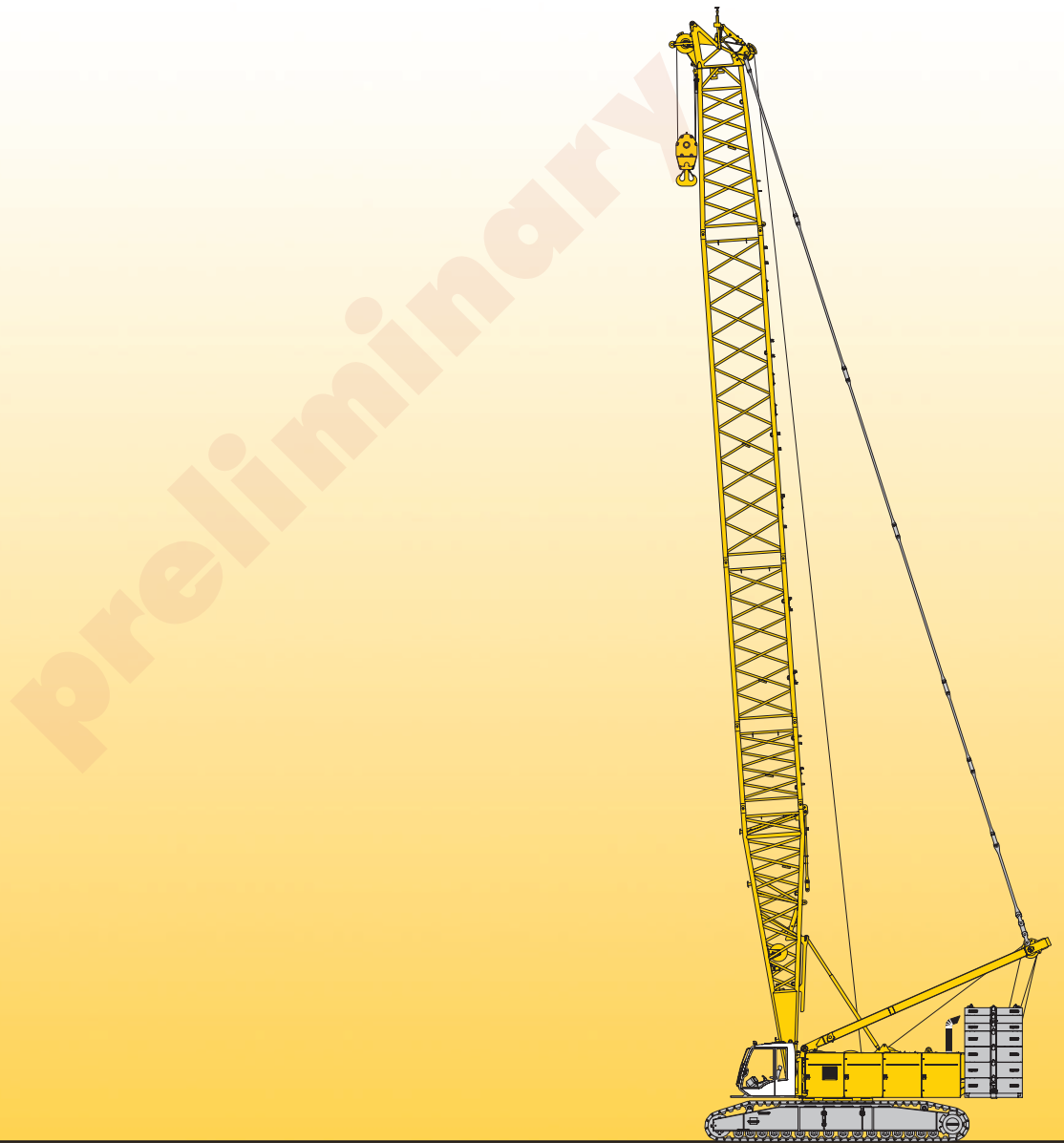


Technical data
Hydraulic lift crane

LR 1300
Litronic®

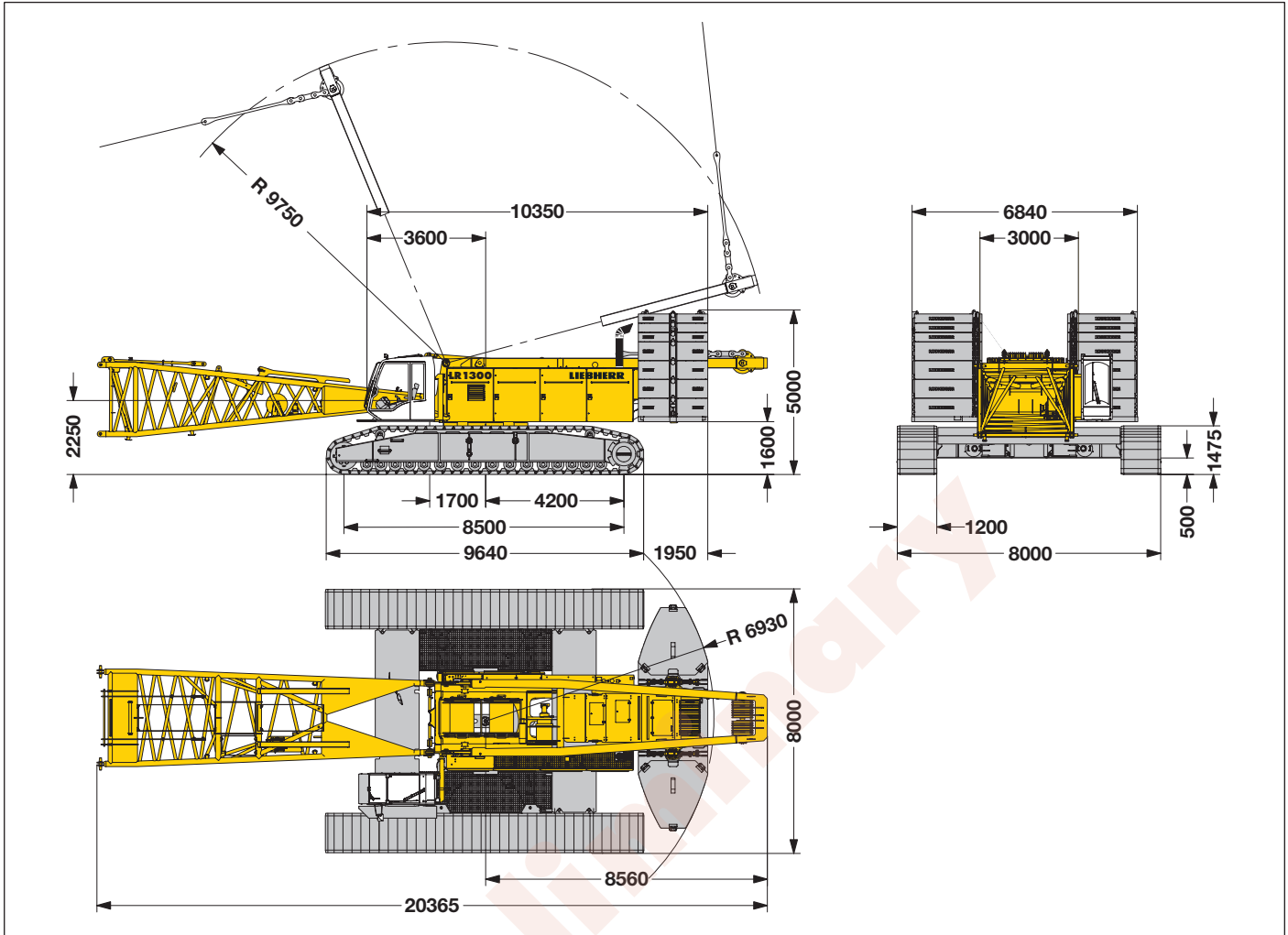


LIEBHERR

Courtesy of Crane.Market

Dimensions

Basic machine with undercarriage



Operating weight

The operating weight includes the basic machine with crawlers, 2 main winches 150 kN and 20 m main boom, consisting of A-frame, boom foot (10 m), boom head (7 m), boom extension (3 m), 124 t basic counterweight, 57 t carbody counterweight and 300 t hook block.

Total weight _____ appr. 290 t

Ground pressure

Ground bearing pressure _____ 1.7 kg/cm²

Equipment

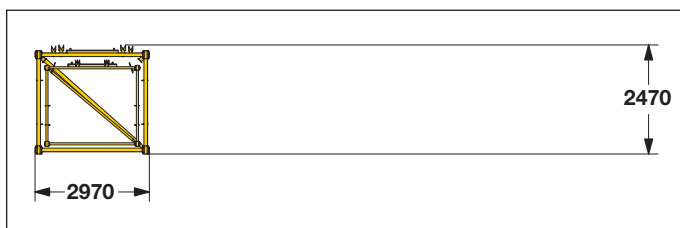
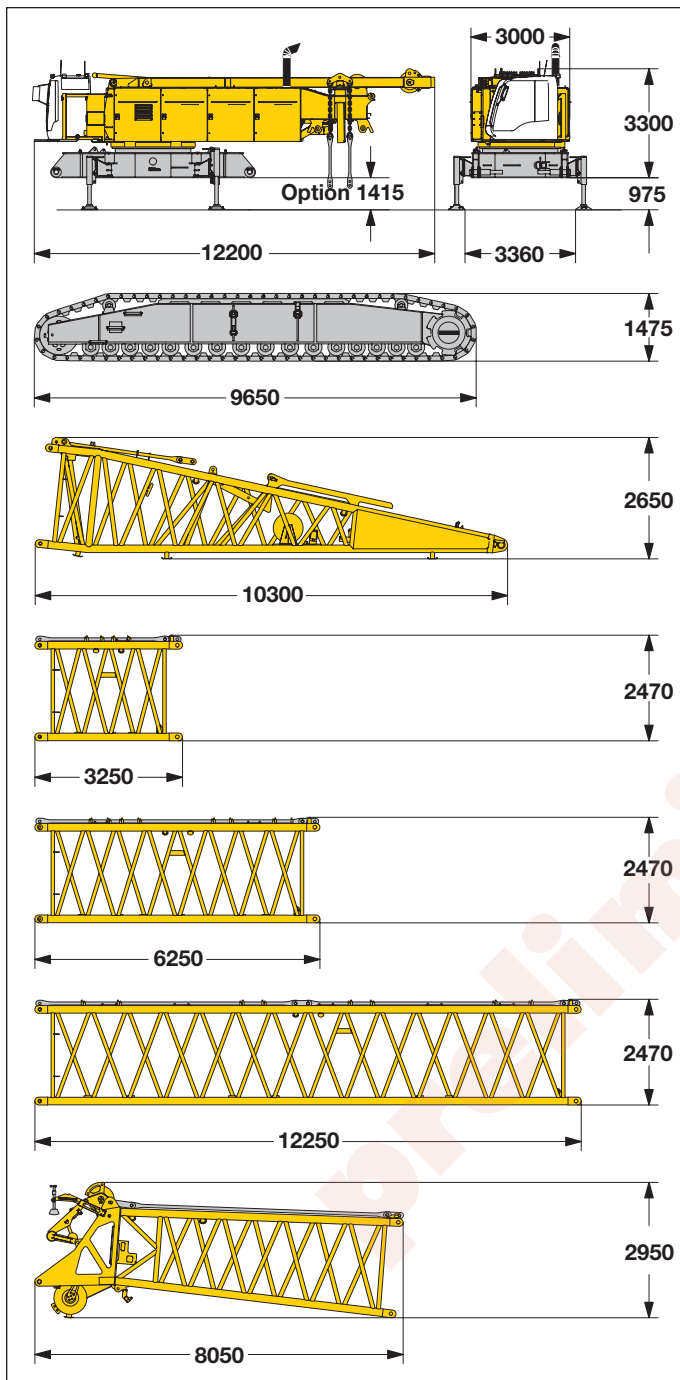
Main boom (No. 2821.xx) max. length _____ 98 m
 High reach boom (No. 2821.xx und 2316.xx) _____ 120 m
 Luffing jib (No. 2316.xx) max. length _____ 113 m
 Max. combination _____ main boom 59 m and luffing jib 113 m
 Auxiliary jib _____ 30 t

Remarks

1. The lifting capacities stated are valid for lifting operation only (corresponding 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 center 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 Tabele 1 + 2, tipping angle 4°.
9. The structures are calculated according to F.E.M. 1.001 - 1998 (EN 13001-2 / 2004)

Transport dimensions and weights

Basic machine and boom (No. 2821.xx)



*) Including pendants

Basic machine

with A-frame, 2x 150 kN crane winches, without boom foot, hoisting ropes, basic counterweight and crawlers

Width	3000 mm
Weight	41800 kg

Crawler

Flat track shoes	1200 mm
Width	1400 mm
Weight	22400 kg

Boom foot (No. 2821.30) without winches

Width	2970 mm
Weight	5700 kg

Boom section (No. 2821.24) 3 m

Width	2970 mm
Weight*	1200 kg

Boom section (No. 2821.24) 6 m

Width	2970 mm
Weight*	1900 kg

Boom section (No. 2821.24) 12 m

Width	2970 mm
Weight*	3350 kg

Boom head (No. 2821.24)

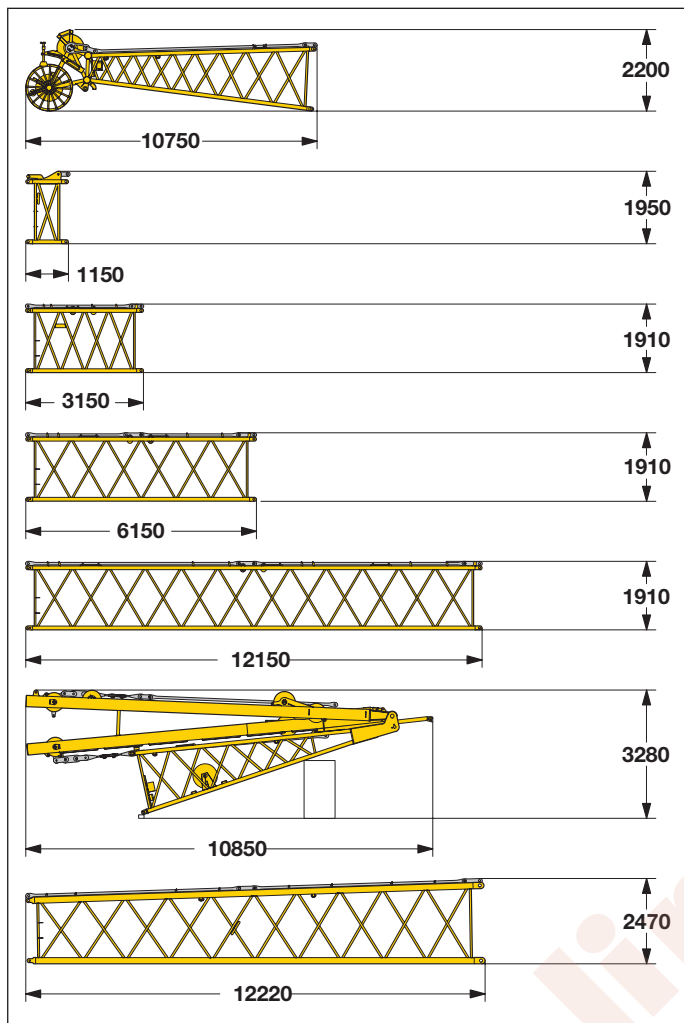
Width	2970 mm
Weight*	5400 kg

Boom - luffing jib transport option

No. 2220.xx/1916.xx	12/12	6/6	3/3 m
Length	12500	6250	3250 mm
Weight*	5100	2840	1810 kg

Transport dimensions and weights

Luffing jib (No. 2316.xx)



Luffing jib head (No. 2316.20)

Width	2430 mm
Weight*	1800 kg

L - boom jib section (No. 2316.22) 1 m

Width	2430 mm
Weight*	XXX kg

Luffing jib section (No. 2316.20) 3 m

Width	2430 mm
Weight*	600 kg

Luffing jib section (No. 2316.20) 6 m

Width	2430 mm
Weight*	950 kg

Luffing jib section (No. 2316.20) 12 m

Width	2430 mm
Weight*	1750 kg

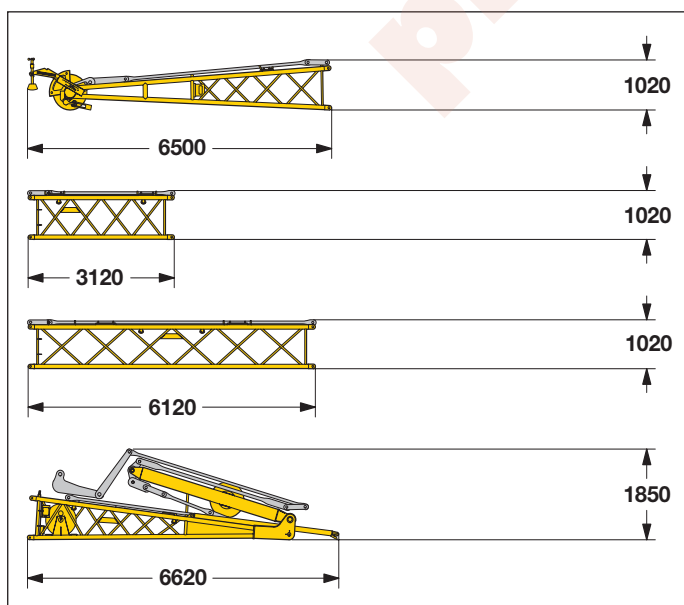
Luffing jib foot with A-frames (No. 2316.22)

Width	2430 mm
Weight*	xxxx kg

L - boom section tapered (No. 2821/2316.24) 12 m

Width	2970 mm
Weight*	3100 kg

Fixed jib (No. 1008.xx)



Fixed jib head (No. 1008.20)

Width	1140 mm
Weight*	935 kg

Luffing jib section (No. 1008.17) 3 m

Width	1100 mm
Weight*	300 kg

Luffing jib section (No. 1008.17) 6 m

Width	1100 mm
Weight*	460 kg

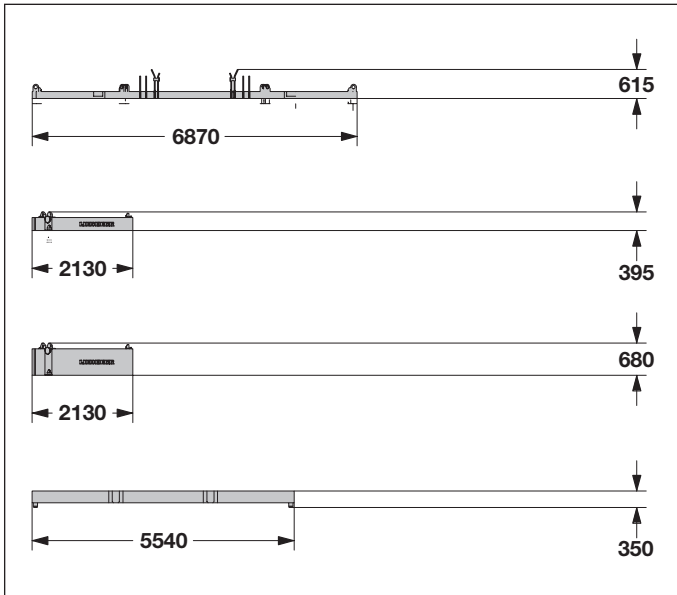
Fixed jib foot with A-frame (No. 1008.20)

Width	1500 mm
Weight*	2050 kg

*) Including pendants

Transport dimension and weight

Counterweights



Counterweight **1x**

Width	2100 mm
Weight	14120 kg

Counterweight **6x**

Width	2100 mm
Weight	5000 kg

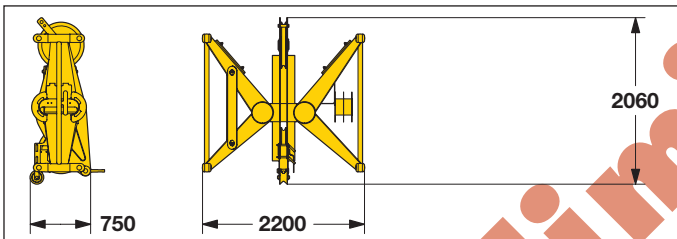
Counterweight **8x**

Width	2100 mm
Weight	10000 kg

Carbody counterweight **4x**

Width	1535 mm
Weight	14250 kg

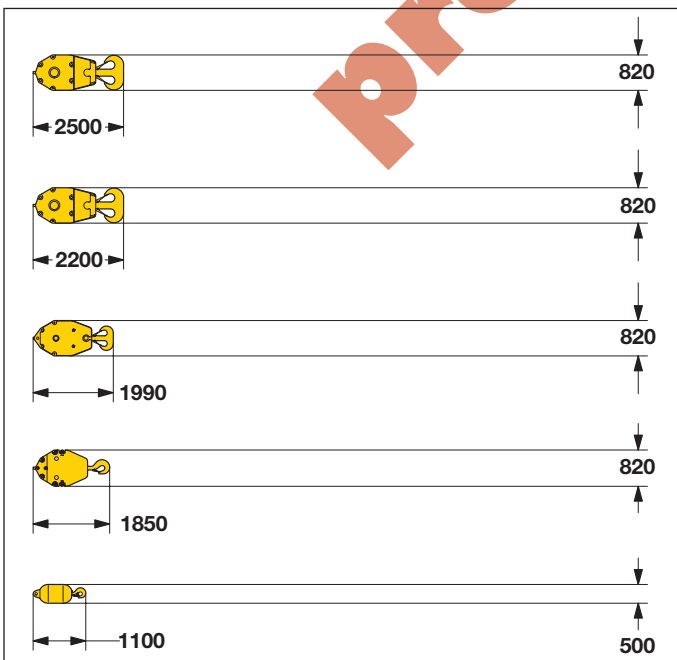
Mid fall (optional)



Mid fall sections (No.2316.25) **0.5 m**

Width	2430 mm
Weight	700 kg

Hooks



300 t hook block - 11 sheaves

Width	880	1230	mm
Weight	3200	5500	kg

150 t hook block - 5 sheaves

Width	500	660	820	mm
Weight	1600	2800	4000	kg

100 t hook block - 3 sheaves

Width	340	480	620	mm
Weight	1100	2050	3000	kg

50 t hook block - 1 sheave

Width	280	410	540	mm
Weight	800	1600	2400	kg

16 t single hook

Width	500	mm
Weight	900	kg

Technical description



Engine

Power rating according to ISO 9249, 450 kW (612 PS) at 1900 rpm
Engine type _____ Liebherr D 9508 A7
Fuel tank _____ 900 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



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 has been installed. All filters are electronically monitored.
The use of synthetic environmentally friendly (biodegradable) oils is possible.
Working pressure _____ max. 350 bar
Oil tank capacity _____ 900 l



Luffing jib winch

Line pull _____ max. 105 kN
Rope diameter _____ 20 mm
Jib luffing _____ 59 sec. from 15° to 78°



Boom winch

Line pull _____ max. 217 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.
Both swing modes are possible – speed control or free swing.
A multi-disc holding brake acts automatically at zero swing motion.
Swing speed from 0 – 1.8 rpm continuously variable.



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

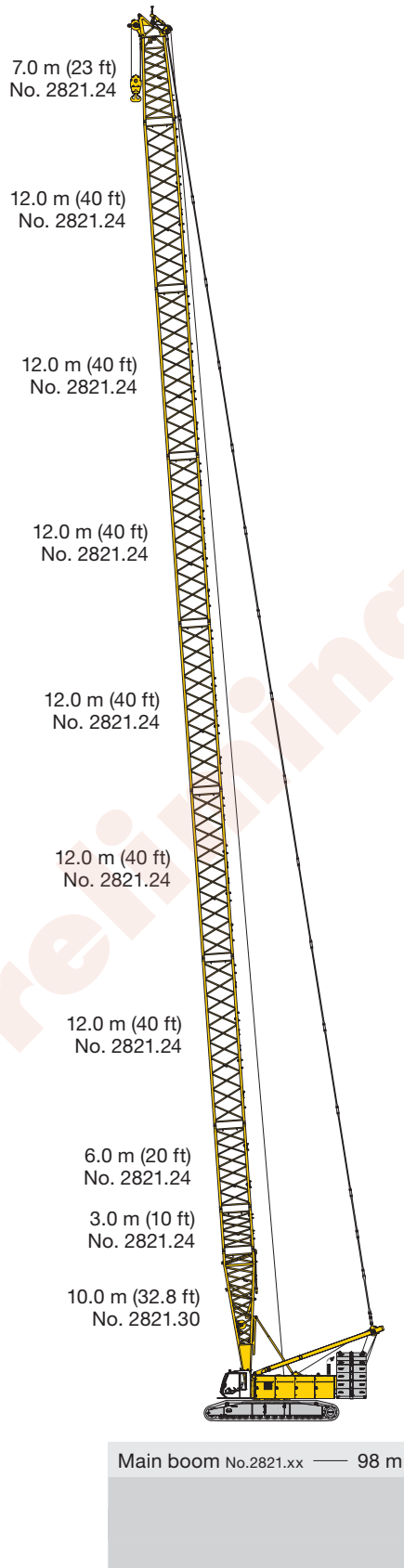
The control system – developed and manufactured by Liebherr – is designed to withstand extreme environmental conditions such as temperature, vibration and electromagnetic interference and to meet all requirements that are needed in heavy duty crane operation.
Complete machine operating data are shown on a high resolution display. Standard operational information is displayed by means of graphical symbols, fault indications are displayed in plain text (more than 15 languages available).
The cranes are equipped with proportional control for all main movements, which can be carried out simultaneously.
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 foot pedals. Additionally, hand levers can be attached to the pedals.
Remote control for assembly of counterweight and boom hinge pins.



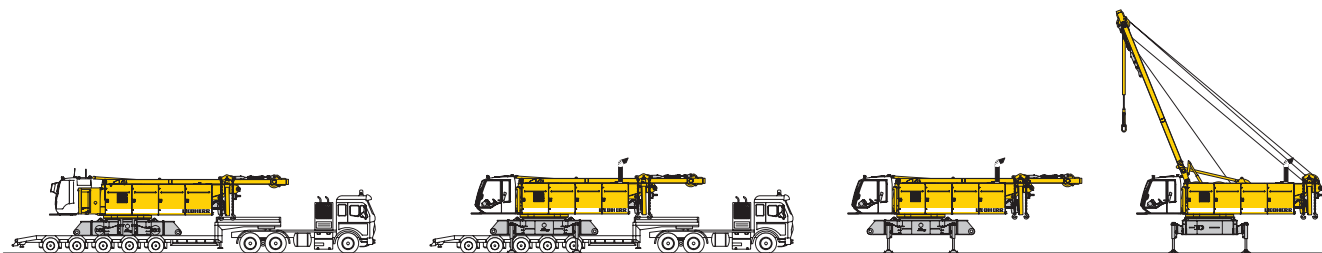
Noise emission

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

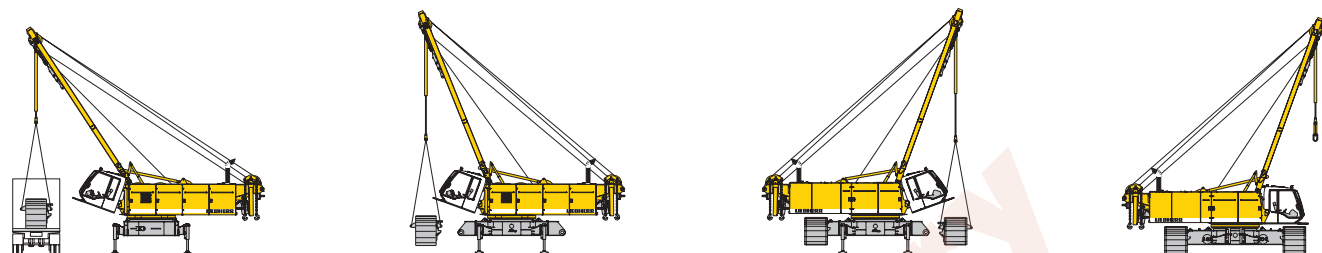
Boom combinations



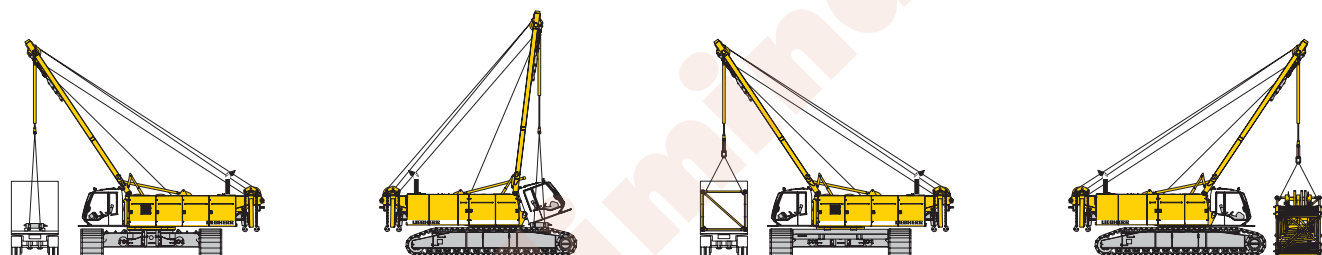
Self assembly system



Unloading of basic machine

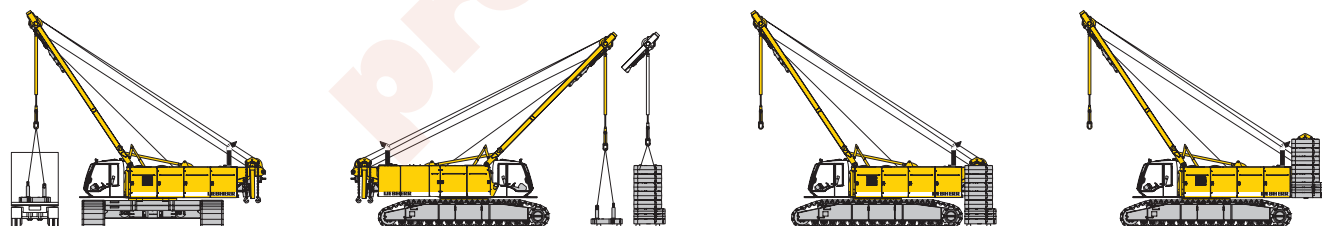


Unloading and assembly of crawlers

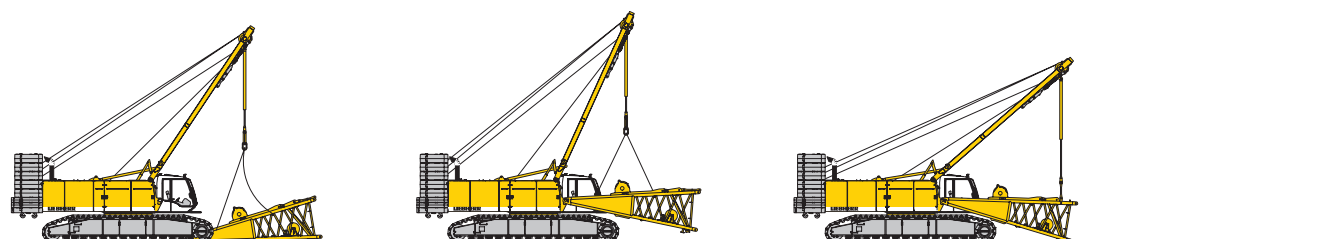


Unloading and assembly of carbody counterweight

Unloading and assembly of boom

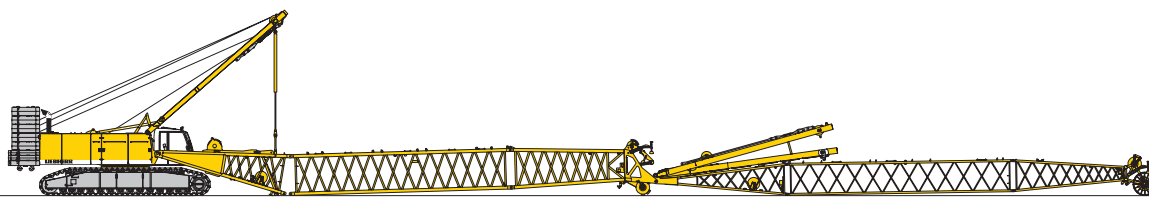


Unloading and assembly of counterweight

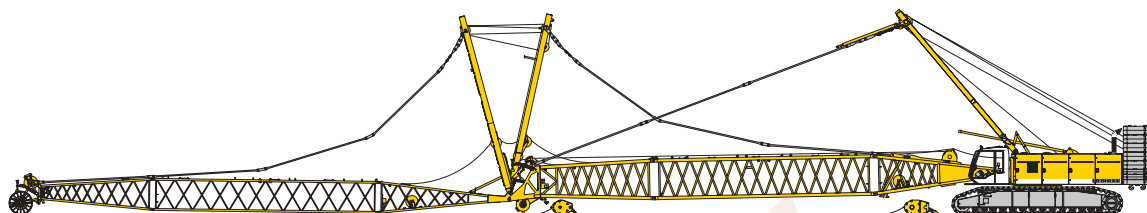


Unloading and assembly of boom foot

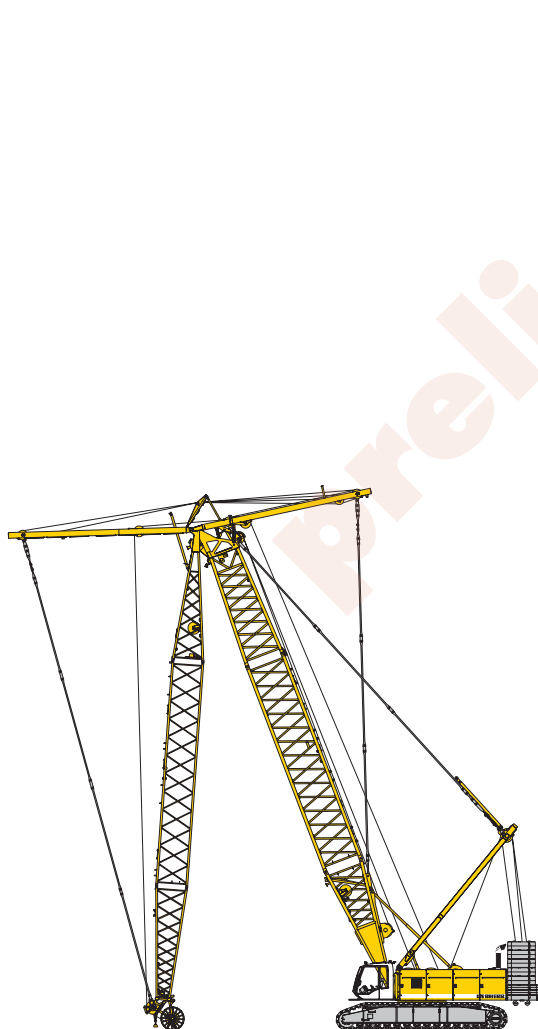
Erecting of main boom to working position



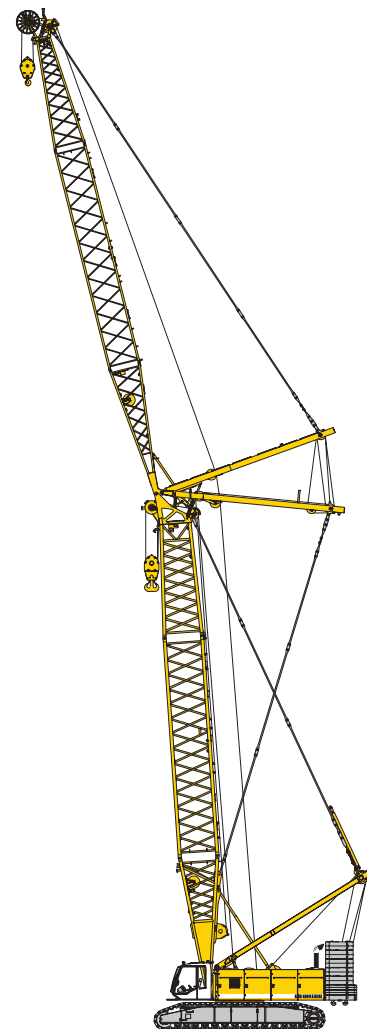
Assembly of boom



Reeving of hoist and luffing jib ropes



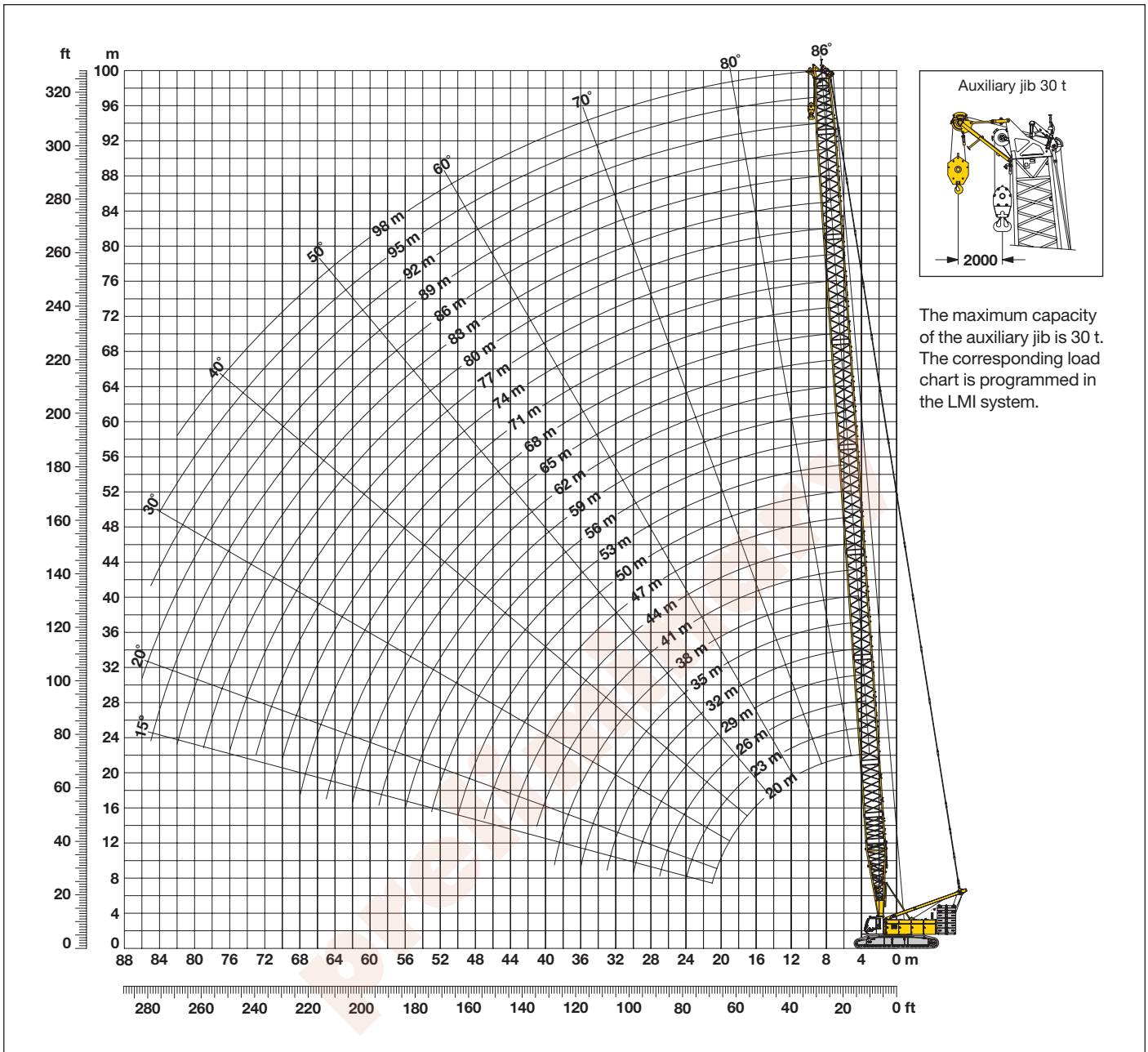
Erecting of main boom and luffing jib



Working position

Main boom (No. 2821.xx) 86°-15°

124 t counterweight and 57 t carbody counterweight



Main boom configuration (Table 1 – No. 2821.xx)

Configuration for boom lengths between 20 m and 98 m																												
Length	Amount of boom extensions																											
Boom foot	10 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Boom insert	3 m	1		1		1		1		1		1		1		1		1		1		1						
Boom insert	6 m		1	1		1	1		1	1		1	1		1	1		1	1		1	1						
Boom insert	12 m			1	1	1	1	1	2	2	2	3	3	3	3	4	4	4	4	5	5	5	6					
Boom head	7 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Boom length (m)		20	23	26	29	32	35	38	41	44	47	50	53	56	59	62	65	68	71	74	77	80	83	86	89	92	95	98

Liftchart for main boom (No. 2821.xx)

104 t counterweight and 57 t carbody counterweight

Radius (m)	Boom length in (m)															Radius (m)	
	20 t	23 t	26 t	32 t	38 t	44 t	50 t	56 t	62 t	68 t	74 t	80 t	86 t	92 t	95 t		
4,5		300,5															4,5
5	293,8	300,5	297,6														5
6	262,1	261,2	259,5	247,6	239,3	214,6											6
7	226,1	226,0	224,6	218,1	209,5	200,5	191,6	171,4									7
8	196,5	196,4	196,1	193,2	187,1	181,2	171,5	164,1	153,5	133,2							8
9	173,4	173,4	173,1	172,8	168,3	162,3	153,9	146,3	139,2	130,7	114,0	102,1	88,1				9
10	154,9	154,9	154,6	154,3	152,0	144,6	137,7	131,4	125,5	120,0	109,4	101,3	88,1	77,3	71,9		10
12	127,2	127,2	126,9	126,7	123,5	118,3	113,3	108,7	104,3	100,2	96,2	92,5	83,8	74,8	70,0		12
14	107,3	107,4	107,1	106,9	103,6	99,7	95,9	92,3	88,8	85,6	82,4	79,4	76,4	71,5	66,8		14
18	75,8	76,1	76,1	76,1	75,9	75,1	72,5	70,1	67,6	65,4	63,1	60,9	58,8	56,7	55,7		18
20	65,4	65,8	65,8	65,8	65,6	65,3	64,3	62,2	60,1	58,1	56,1	54,2	52,3	50,5	49,6		20
24		51,0	51,1	51,3	51,0	50,8	50,3	50,0	48,6	47,0	45,4	43,8	42,2	40,7	40,0		24
26			45,7	45,9	45,7	45,4	45,0	44,6	44,1	42,7	41,2	39,7	38,3	36,9	36,2		26
32				34,2	34,1	33,8	33,4	33,0	32,5	32,1	31,5	30,3	29,1	27,9	27,3		32
38					26,4	26,2	25,8	25,4	24,9	24,5	23,9	23,4	22,6	21,6	21,1		38
44						20,8	20,4	20,1	19,6	19,1	18,6	18,1	17,5	16,9	16,3		44
50							16,3	16,1	15,6	15,1	14,7	14,2	13,6	13,1	12,8		50
55								13,5	13,0	12,6	12,0	11,5	11,0	10,4	10,2		55
60									10,8	10,4	9,9	9,4	8,8	8,3	8,0		60
65										8,5	8,0	7,5	7,0	6,4	6,2		65
70											6,4	6,0	5,4	4,9	4,6		70
75												4,6	4,0	3,4	3,1		75
80													2,6	2,0			80

Liftchart for main boom (No. 2821.xx)

124 t counterweight and 57 t carbody counterweight

Radius (m)	Boom length in (m)															Radius (m)	
	20 t	23 t	26 t	32 t	38 t	44 t	50 t	56 t	62 t	68 t	74 t	80 t	86 t	92 t	98 t		
7,2									153,5								7,2
8								171,5	164,1	153,5	133,2						8
9								162,9	157,0	149,0	141,7	130,7	114,0	102,1	88,1		9
10					154,4	148,2	142,6	137,6	130,7	121,5	109,4	101,3	88,1	77,3	67,1		10
12	137,1	137,2	136,1	134,4	129,2	126,3	122,0	116,6	111,6	106,9	100,1	94,7	83,8	74,8	66,0		12
14	115,8	115,9	115,6	114,2	112,1	108,3	105,1	102,0	97,2	92,3	87,1	85,3	78,7	71,5	62,7		14
16	99,8	100,0	99,7	99,5	97,2	95,6	92,0	88,7	85,9	82,5	77,6	75,0	70,3	65,2	59,1		16
18	86,0	86,3	86,3	86,4	85,7	84,2	82,2	78,5	75,9	73,1	69,9	67,8	63,7	59,6	54,4		18
20	74,4	74,8	74,8	74,8	74,6	74,3	73,3	70,9	68,1	65,4	62,5	61,3	58,4	55,3	50,7		20
24		58,2	58,4	58,5	58,2	58,0	57,6	57,2	55,8	54,1	51,6	50,2	48,1	46,0	43,8		24
26			52,3	52,5	52,2	52,0	51,6	51,2	50,7	49,3	47,6	46,1	44,2	42,0	39,9		26
30				43,2	43,0	42,7	42,3	41,9	41,4	40,9	40,0	38,7	37,3	36,0	33,7		30
32				39,4	39,3	39,0	38,6	38,2	37,7	37,3	36,7	35,6	34,3	33,1	31,5		32
38					30,6	30,5	30,1	29,7	29,2	28,8	28,2	27,7	27,1	26,0	24,9		38
44						24,4	24,1	23,7	23,2	22,8	22,2	21,7	21,2	20,6	19,7		44
50							19,5	19,3	18,8	18,3	17,8	17,3	16,7	16,2	15,6		50
55								16,2	15,8	15,4	14,8	14,4	13,8	13,3	12,7		55
60									13,4	13,0	12,5	12,0	11,4	10,9	10,3		60
65										10,9	10,4	9,9	9,4	8,8	8,0		65
70											8,7	8,2	7,4	6,8	6,0		70
75												6,4	5,7	5,0	4,3		75
80													4,1	3,5	2,8		80
85														2,7	2,1		85

preliminary