

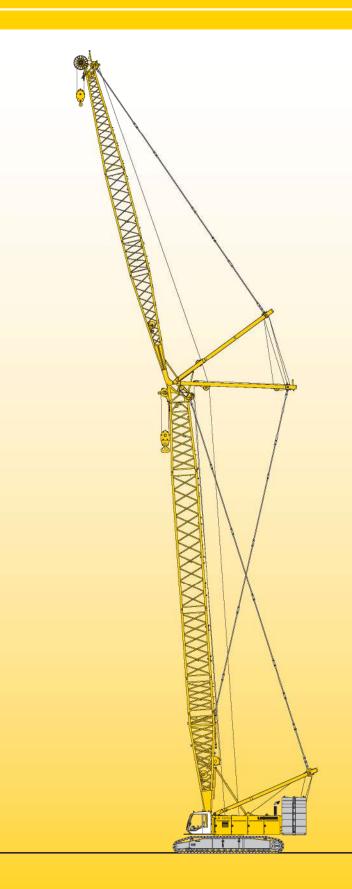
SPECIFICATION SHEETS

A A A A A

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Technical data Hydraulic lift crane

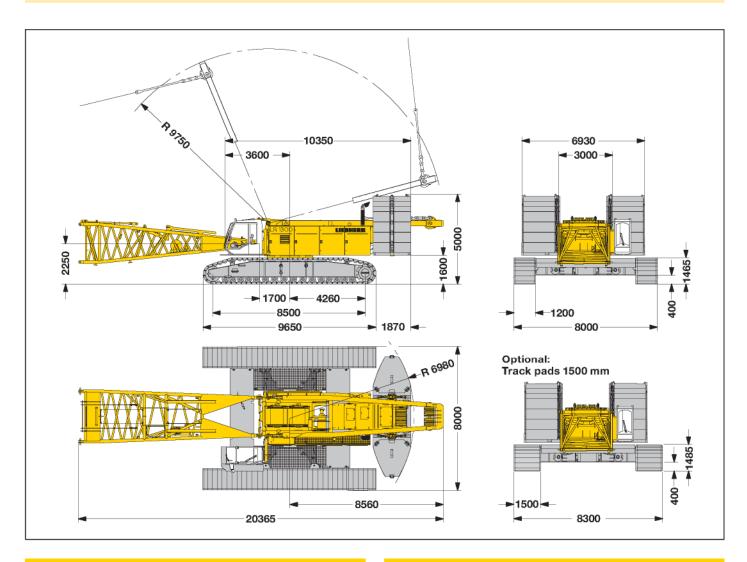






Dimensions

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	—— approx. 290 t
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Ground pressure	
The ground bearing pressure depends on the crane configuration and load	1.45 kg/cm ²

Equipment

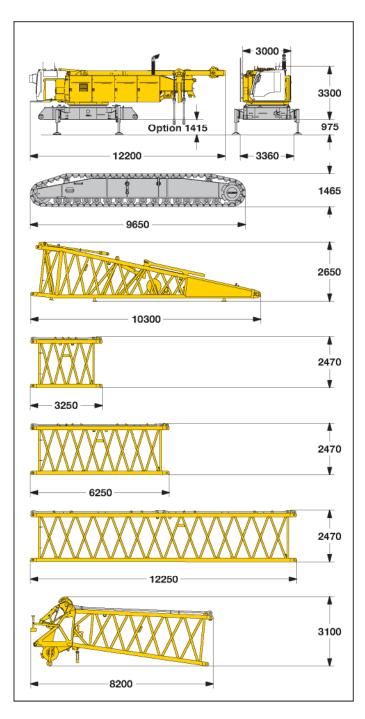
Main boom (No. 2821.xx) max. length	92 m
	113 m
Max. combination — main boom 56 m and luffing jib	113 m
Auxiliary jib	36 t

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.
- The weight of the lifting device (hoist 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.
- 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 (EN 13001-1; EN 13001-2).

Transport dimensions and weights

Basic machine and boom (No. 2821.xx)





with A-frame, 2x 150 kN crane winches, with counterweight and crawlers	out boom foot, basic
Width	3000 mm
Weight without hoist rope*	46000 kg
Weight incl. hoist rope*	51000 kg

CrawlerOptionalStandardTrack pads1500 mm1200 mmWidth1500 mm1400 mmWeight26200 kg22350 kg

Boom foot (No. 2821.30)	
Width	2970 mm
Weight without winch	5700 kg
Weight incl. winch and rope	7400 kg

Boom section (No. 2821.30)	3 m
Width	2970 mm
Weight incl. main boom pendants	1400 kg
Weight incl. main boom and luffing jib pendants	1500 kg

Boom section (No. 2821.30)	6 m
Width	2970 mm
Weight incl. main boom pendants	2130 kg
Weight incl. main boom and luffing jib pendants	2310 kg

Boom section (No. 2821.30)	12 m
Width	2970 mm
Weight incl. main boom pendants	3760 kg
Weight incl. main boom and luffing jib pendants	4120 kg

Boom head (No. 2821.24)	
Width	2970 mm
Weight incl. main boom pendants	5400 kg

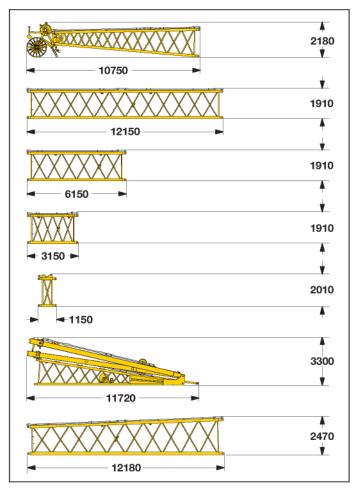


*) Weights depend on the equipment installed

Boom - luffing jib	transpo	ort o	ption
No. 2821.xx/2316.xx	12/12	6/6	3/3 m
Length	12500	6250	3250 mm
Weight*	5920	3260	2100 kg

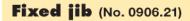
Transport dimensions and weights

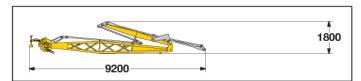
Luffing jib (No. 2316.xx)



Luffing jib head (No. 2316.20)	
Width	2430 mm
Weight*	2300 kg
Luffing jib section (No. 2316.20)	12 m
Width	2430 mm
Weight*	1800 kg
Luffing jib section (No. 2316.20)	6 m
Width	2430 mm
Weight*	950 kg
Luffing jib section (No. 2316.20)	3 m
Width	2430 mm
Weight*	600 kg
L - boom jib section (No. 2316.20)	1 m
Width	2430 mm
Weight*	640 kg
Luffing jib foot with A-frames (No	. 2316.22)
Width	2670 mm
Weight*	8060 kg
L - boom section tapered (No. 2821/2316.24)	12 m
Width	2970 mm
Weight*	2700 kg

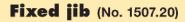
*) including pendants

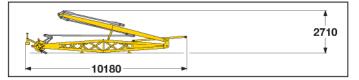




Fixed jib	(No. 0906.21)	
Width		1500 mm
Weight*		2400 kg

including pendants

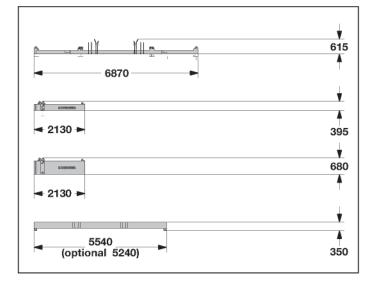




Fixed jib (No. 1507.20)	
Width	2470 mm
Weight*	3300 kg

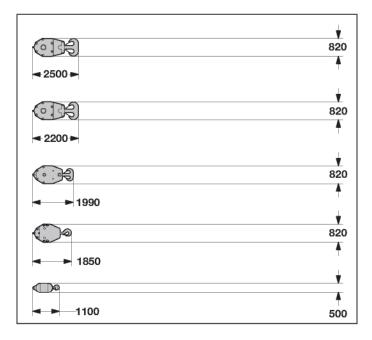
) including carbon fibre pendants

Transport dimensions and weights Counterweights



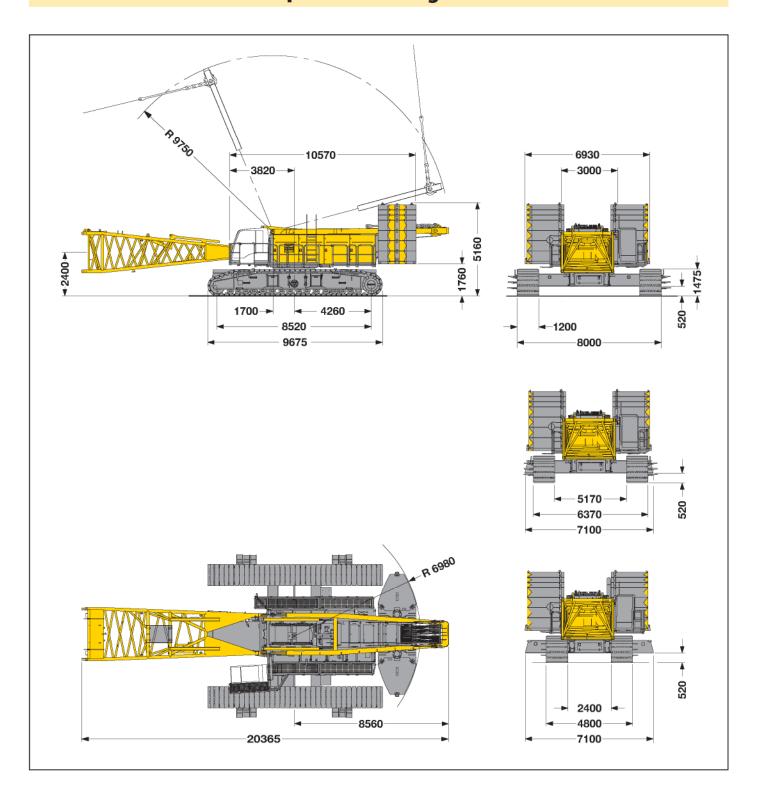
Counterweight		1x									
Width		2110 mm									
Weight		14500 kg									
Counterweight		бх									
Width		2110 mm									
Weight		5000 kg									
Counterweight		8 x									
Width		2110 mm									
Weight		10000 kg									
Carbody counterweig	Carbody counterweight 43										
	Optional	Standard									
Width	1500 mm	1200 mm									
Weight	13400 kg	14250 kg									

Hooks



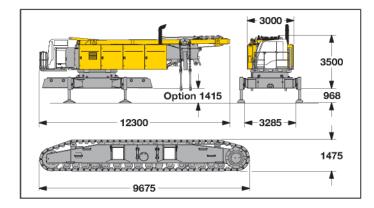
300 t hook block -	11 sh	edve	
			-5
Width		880	1230 mm
Weight		3200	5500 kg
150 t hook block - S	5 she	aves	
Width	500	660	820 mm
Weight	1600	2800	4000 kg
100 t hook block - 3	3 she	aves	
Width	340	480	620 mm
Weight	1100	2050	3000 kg
50 t hook block - 1	shea	ve	
Width	280	410	540 mm
Weight	800	1600	2400 kg
16 t single hook			
Width			500 mm
Weight			900 kg

Dimensions (optional) **Basic machine with telescopic undercarriage**



Transport dimensions and weights (optional)

Basic machine

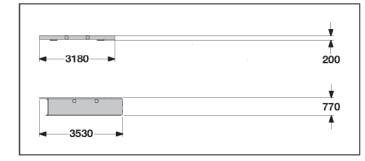


Basic machine

with A-frame, 2x 150 kN crane winches, without boom foot, hoist
ropes, basic counterweight and crawlers3000 mmWidth3000 mmWeight46500 kg

Crawler	
Track pads	1200 mm
Width	1200 mm
Weight	23000 kg

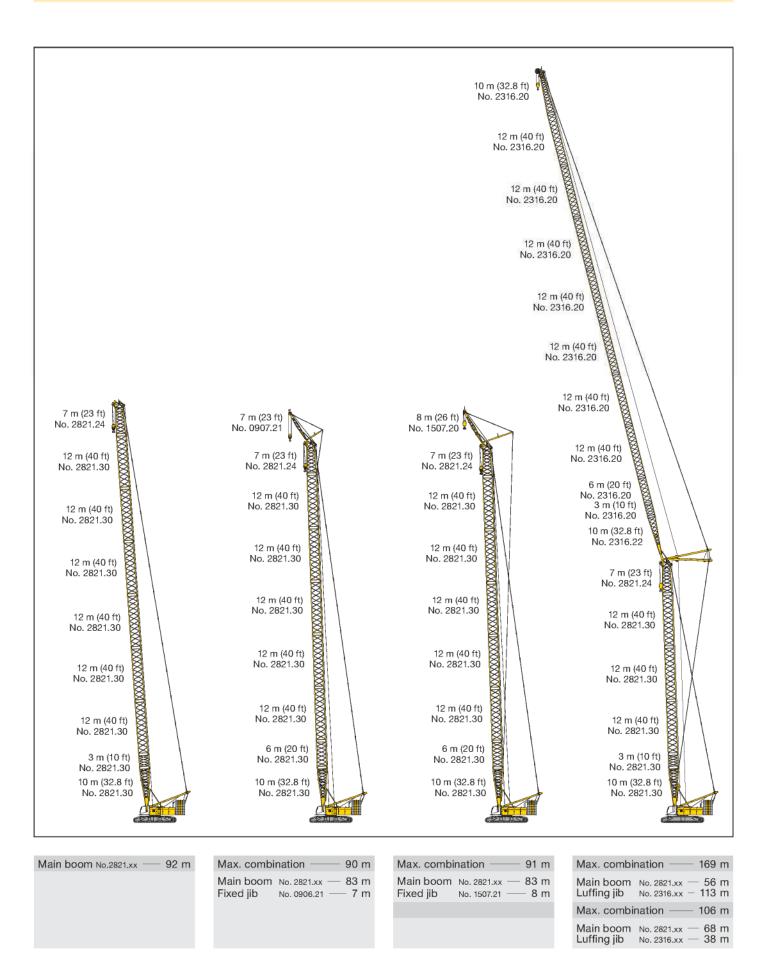
Carbody counterweights (optional)



Carbody counterweight	2 x
Width	1800 mm
Weight	6200 kg

Carbody counterweight	2 x
Width	1800 mm
Weight	20100 kg

Boom combinations



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8 LR 1300 sx
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Power rating according to ISO 9249, 390 kW (523 hp) at 1900 rpm Engine type ______ Liebherr D 856 A7 SCR Fuel tank ______ 900 I capacity with continuous level

indicator and reserve warning

Engine complies with NRMM exhaust certification EPA/CARB Tier 4i or 97/68 EC Stage IIIB.



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



Line pull	max. 105 kN
Rope diameter ———	20 mm
Jib luffing	69 sec. from 15° to 78°



Line pull	max. 217 kN										
Rope diameter	24 mm										
Boom up	127 sec. from 15° to 86										



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

 Track pads
 1200 mm
 (optional 1500 mm)

 Drive speed
 0 – 1.3 km/h



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.



Line pull (1st layer)	——— max. 215 kN
Line pull (7th layer)	150 kN
Rope diameter	28 mm
Drum diameter	730 mm
Rope speed	——— 0 – 138 m/min
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 free-fall system:

Line pull (1st layer in crane operation) —	max.	190 kN
Line pull (7th layer in crane operation)		130 kN
Line pull (1st layer in free-fall operation)		170 kN
Line pull (7th layer in free-fall operation)		118 kN
Rope diameter		– 28 mm
Drum diameter		730 mm
Rope speed	- 0 -	107 m/min
Rope capacity in 7 layers		570 m

The winches are outstanding in their compact design and easy assembly.

Clutch and braking functions on the free-fall system are provided by a compact designed, low wear and maintenance-free multi-disc brake.



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.

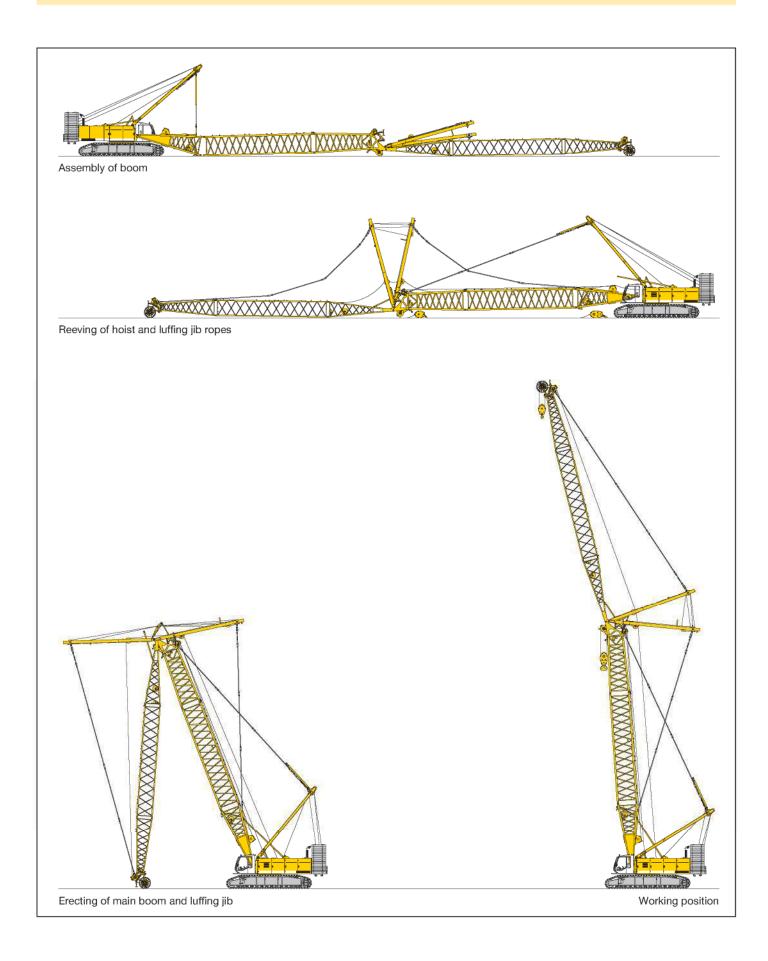
The crawlers are activated by the two foot pedals. Additionally, hand levers can be attached to the pedals.

Remote control for assembly of counterweight and boom hinge pins.

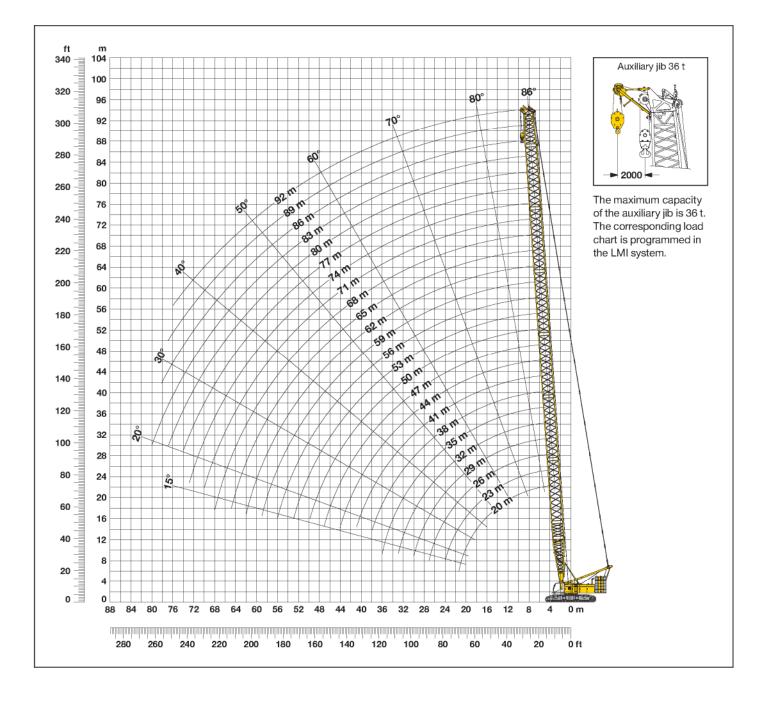


Noise emissions correspond with 2000/14/EC directive on noise emission by equipment used outdoors.

Erecting of main boom to working position



Main boom (No. 2821.xx) 86° – 15° 124 t counterweight and 57 t carbody counterweight



Main boom configuration (No. 2821.xx)

Configuration for boom lengths between 20 m and 92 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	1	1	1
Boom insert	3 m	1		1		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		
Boom insert	12 m				1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	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	1	1	1
Boom length (n	n)	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

Lift chart for main boom (No. 2821.xx) 104 t counterweight and 57 t carbody counterweight

						E	Boom ler	<mark>igth in (m</mark>	ı)						
Radius	20	23	26	32	38	44	50	56	62	68	74	80	83	86	Radius
(m)	t	t	t	t	t	t	t	t	t	t	t	t	t	t	(m)
4.3	300.5														4.3
5	300.5	292.6	295.3												5
6	261.5	260.0	256.1	245.5	236.5	213.4									6
7	225.5	225.3	222.0	215.8	206.9	198.3	189.3	169.3							7
8	195.9	195.7	195.2	191.1	184.6	178.4	168.6	161.3	151.1	135.3					8
9	172.9	172.8	172.2	171.8	166.0	160.2	152.7	145.0	137.8	131.1	118.7	103.1	95.6	88.9	9
10	154.5	154.4	153.8	153.4	151.1	143.6	136.5	130.1	124.0	118.3	111.8	101.7	95.6	88.9	10
12	126.8	126.7	126.2	125.8	122.6	117.3	112.1	107.4	102.8	98.5	94.4	90.5	87.5	83.3	12
14	107.0	106.9	106.5	106.1	102.8	98.7	94.7	91.0	87.3	83.9	80.5	77.4	75.8	74.3	14
16	89.2	89.3	89.2	89.1	88.1	84.8	81.5	78.5	75.5	72.6	69.8	67.1	65.8	64.5	16
18	75.6	75.8	75.6	75.5	75.1	74.1	71.3	68.7	66.1	63.7	61.2	58.9	57.7	56.6	18
20	65.2	65.5	65.4	65.3	64.8	64.5	63.1	60.8	58.5	56.4	54.2	52.2	51.1	50.1	20
24		50.8	50.8	50.8	50.3	49.9	49.3	48.8	47.1	45.3	43.5	41.8	40.9	40.0	24
26			45.3	45.4	44.9	44.5	43.9	43.4	42.6	41.0	39.3	37.7	36.9	36.0	26
32				33.7	33.4	33.0	32.4	31.8	31.2	30.6	29.6	28.3	27.6	26.8	32
38					25.7	25.4	24.8	24.3	23.6	23.0	22.3	21.6	21.0	20.4	38
42						21.6	21.0	20.5	19.8	19.2	18.5	17.9	17.5	17.0	42
50							15.3	15.0	14.3	13.7	13.0	12.4	12.0	11.6	50
55								12.3	11.7	11.1	10.4	9.7	9.4	9.0	55
60									9.4	8.9	8.2	7.5	7.2	6.8	60
65										7.0	6.3	5.7	5.4	5.0	65
70											4.7	4.1	3.7	3.2	70
75												2.5	2.1		75
													TLT 105	25129 M0000	0 Preliminary 5

Lift chart for main boom (No. 2821.xx) 124 t counterweight and 57 t carbody counterweight

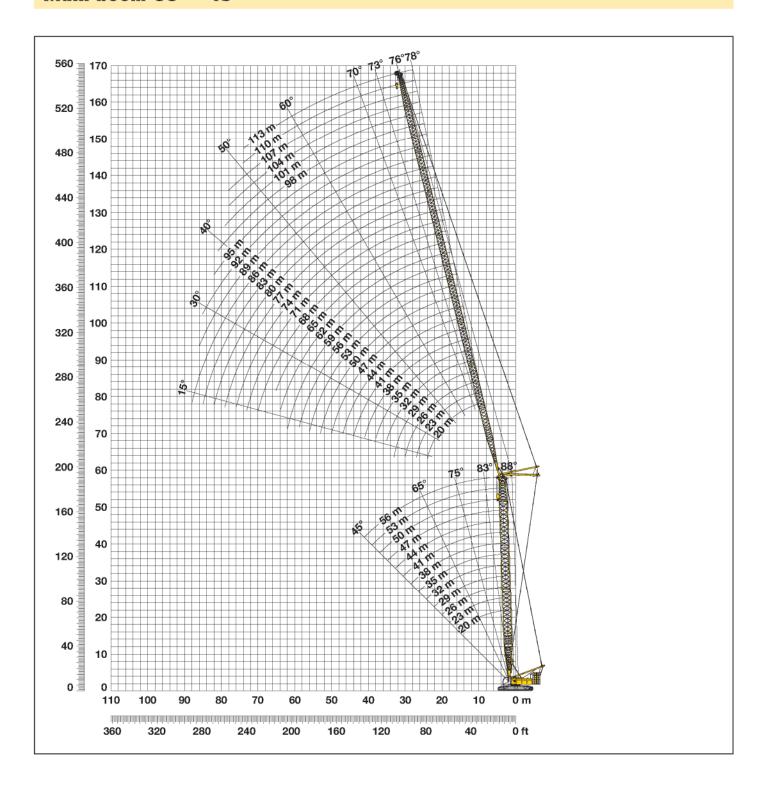
Boom length in (m)																	
Radius	20	23	26	32	38	44	50	56	62	68	74	80	83	86	89	92	Radius
(m)	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	(m)
6.4							189.3										6.4
7							189.3	169.3									7
8					184.6	178.4	168.6	161.3	151.1	135.3							8
9					166.0	160.2	154.1	146.1	138.5	131.7	118.7	103.1	95.6	88.9			9
10			161.2	156.5	152.3	145.7	139.9	134.5	127.6	120.2	111.8	101.7	95.6	88.9	83.5	78.3	10
12	136.7	136.7	134.7	132.8	127.3	124.0	119.6	113.5	108.4	103.5	97.8	91.8	87.5	83.3	79.3	75.4	12
14	115.5	115.5	115.0	112.8	110.3	106.2	102.8	99.0	94.1	89.0	84.1	81.3	79.4	77.1	75.0	71.7	14
16	99.5	99.5	99.1	98.2	95.6	93.5	89.6	86.2	82.8	78.9	73.9	71.3	69.5	67.5	65.9	63.9	16
18	85.8	86.0	85.9	85.8	84.2	82.3	79.9	76.4	73.0	69.6	66.1	64.1	62.3	60.2	58.7	56.8	18
20	74.2	74.5	74.4	74.3	73.8	73.2	71.3	68.8	65.4	61.8	59.1	57.4	56.3	54.5	53.3	51.4	20
22		65.4	65.3	65.3	64.8	64.4	63.8	62.0	59.5	55.8	53.2	51.6	50.6	49.1	48.0	46.7	22
24		58.0	58.0	58.0	57.5	57.1	56.5	56.0	54.0	51.0	48.6	46.8	45.8	44.4	43.4	42.2	24
26			51.9	52.0	51.5	51.1	50.5	50.0	49.3	46.6	44.8	43.0	41.8	40.6	39.5	38.4	26
32				38.9	38.6	38.2	37.6	37.0	36.4	35.8	35.0	33.5	32.8	31.9	31.0	30.1	32
38					30.0	29.7	29.1	28.6	27.9	27.3	26.6	25.9	25.5	24.8	24.2	23.6	38
44						23.6	23.1	22.6	21.9	21.3	20.5	19.9	19.6	19.2	18.9	18.3	44
50							18.5	18.1	17.4	16.8	16.1	15.4	15.1	14.7	14.4	14.0	50
55								15.1	14.5	13.9	13.1	12.6	12.2	11.7	11.5	11.0	55
60									12.1	11.5	10.8	10.2	9.8	9.3	8.9	8.3	60
65										9.4	8.7	7.9	7.5	6.9	6.6	6.1	65
70											6.7	5.9	5.5	4.9	4.6	4.1	70
75												4.1	3.7	3.2	2.9	2.3	75
80													2.1				80 Proliminany 5

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.

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Working range – luffing jib (No. 2316.xx) 78° – 15° Main boom 88° - 45°



Boom configuration for main boom lengths (20 m - 68 m)-see table on page 12 Jib configuration for jib lengths (20 m - 113 m)

	Length													Amo	ount	of lu	uffin	g jit	o ext	ensi	ions												
Luffing jib 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	1	1	1	1	1	1	1	1	1	1
Luffing jib insert	3 m		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1
Luffing jib insert	6 m			1	1			1	1			1	1			1	1			1	1			1	1			1	1			1	1
Luffing jib insert	12 m					1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
Luffing jib head	10 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Luffing jib 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	101	104	107	110	113

Main boom angle 88°

Main boom 20 m

	Jib length in (m)												
Radius	20	41	53	65	77	89	101	110					
(m)	t	t	t	t	t	t	t	t					
12.4		80.5											
15		65.0	57.6										
17	58.3	52.8	52.3										
18	53.1	48.5	47.3	40.4									
20	45.1	41.2	39.8	37.6	28.6								
22	39.4	35.2	34.2	33.7	28.1								
24		31.4	30.1	29.0	26.3	19.1							
26		28.4	26.8	25.6	24.5	18.4	13.7						
28		25.9	24.2	23.1	21.9	17.9	13.4	10.5					
32		22.0	20.4	19.0	18.1	15.6	12.7	9.9					
36		18.8	17.6	16.1	15.0	14.0	11.4	9.2					
42		15.4	14.2	12.7	11.8	10.3	9.4	8.4					
50			11.0	9.8	8.5	7.3	6.2	5.5					
60				7.2	6.0	4.7	3.7	2.9					
65				6.1	5.1	3.8	2.7						
75					3.5	2.3							

Main boom 41 m

	Jib length in (m) 20 41 53 65 77 89 101 113												
Radius	20	41	53	65	77	89	101	113					
(m)	t	t	t	t	t	t	t	t					
8.8	117.0												
14	96.2	69.4											
16	78.4	67.1	50.5										
19	60.3	57.0	48.1	35.5									
22	47.6	45.0	41.7	33.6	25.4								
24		39.3	38.1	32.1	24.5	17.6							
26		35.2	33.8	30.5	23.8	17.2	12.6						
28		31.8	30.3	29.4	23.2	16.8	12.5						
30		29.2	27.7	26.7	22.7	16.5	12.2	8.9					
38		21.7	20.3	19.4	18.0	14.9	11.1	8.0					
44		15.1	16.6	15.7	14.7	12.7	10.2	7.4					
55			12.1	11.1	10.2	8.9	8.1	6.3					
65				8.3	7.3	6.2	5.2	4.3					
75					5.3	4.1	3.1	2.2					
80						3.3	2.3						
85						2.6							

Main boom 59 m

	Jib length in (m)												
Radius	20	41	53	65	77	89	101	104					
(m)	t	t	t	t	t	t	t	t					
9.4	94.8												
14	79.3	55.6											
17	63.1	53.7	41.8										
19	54.1	48.3	40.7	30.6									
22	43.5	40.2	36.4	29.7	22.2								
24	38.0	35.4	33.3	28.7	21.8	15.5							
28		29.0	27.3	25.6	20.7	15.1	11.2	10.4					
30		26.7	25.1	23.9	20.2	14.9	11.0	10.3					
32		24.8	23.2	21.9	19.7	14.6	10.9	10.2					
36		21.4	19.9	18.9	17.5	14.0	10.5	9.9					
40		19.0	17.5	16.4	15.1	12.8	10.0	9.4					
44		16.8	15.3	14.3	13.3	11.2	9.3	8.9					
55			11.3	10.2	9.3	7.8	7.0	6.7					
65				7.8	6.6	5.4	4.4	4.2					
75					4.8	3.6	2.7	2.5					
85						2.2							

Main boom 32 m

			J	ib leng	th in (n	1)		
Radius	20	41	56	65	77	89	101	113
(m)	t	t	t	t	t	t	t	t
11	117.0							
13	108.8	76.1						
16	82.6	71.2	49.9					
18	68.6	63.2	48.8	37.2				
22	49.0	46.4	42.3	34.9	26.8			
24		40.4	39.0	33.2	25.8	18.3		
26		36.1	35.1	31.7	25.1	17.8	13.0	
28		32.5	31.5	30.3	24.4	17.3	12.8	9.3
32		27.4	26.3	25.2	23.6	16.5	12.2	9.0
36		23.5	22.3	21.6	20.2	15.9	11.6	8.5
42		19.4	18.2	17.2	16.6	13.8	10.9	7.8
55			12.3	11.3	10.6	9.2	8.6	6.8
65				8.5	7.5	6.3	5.4	4.5
75					5.4	4.2	3.2	2.3
80						3.4	2.3	
85						2.6		

Main boom 56 m

	Jib length in (m) 20 41 53 65 77 92 101 113												
Radius	20	41	53	65	77	92	101	113					
(m)	t	t	t	t	t	t	t	t					
9.3	101.3												
14	83.1	57.6											
17	65.5	55.4	43.1										
19	56.1	49.4	42.0	31.5									
22	45.2	40.6	37.3	30.4	22.6								
24	39.3	35.6	34.0	29.3	22.2								
26		32.1	30.6	27.5	21.6	14.5							
28		29.2	27.7	26.2	21.1	14.2	11.5						
30		26.8	25.4	24.3	20.5	13.9	11.2	8.1					
38		20.1	18.8	17.9	16.5	12.9	10.3	7.4					
44		16.8	15.5	14.5	13.5	11.0	9.4	6.9					
55			11.4	10.3	9.4	7.9	7.2	5.4					
65				7.8	6.7	5.4	4.6	3.8					
70					5.8	4.4	3.6	2.7					
75					4.9	3.5	2.8						
85						2.1							

Main boom 65 m Main boom 68 m

	Jib le	ength i	n (m)		Jib le	ength i	n (m)
2	20	41	53		Rac	lius	38
	t	t	t		(n	n)	t
8	4.8				13.	4	52.0
7	3.6	50.7			1	4	52.0
6	0.7	48.7	37.8		1	6	49.7
5	2.8	44.7	36.8		1	8	46.5
4	9.0	43.3	36.2		2	0	42.6
4	3.0	38.0	33.6		2	2	36.8
3	7.9	33.5	31.0		2	4	32.8
		30.3	28.3		2	6	29.7
		25.4	23.6		2	8	27.1
		21.9	20.2		3	0	25.3
		19.2	17.5		3	2	23.4
		18.1	16.5		3	4	21.7
		17.1	15.4		3	6	20.2
		16.1	14.5		3	8	19.1
			10.6		4	0	18.0
					4	2	15.1
	84 73 64 55 49 43	Jib k 20 t 84.8 73.6 60.7 52.8 49.0 43.0 37.9	20 41 t t 84.8 50.7 60.7 48.7 52.8 44.7 49.0 43.3 43.0 38.0 37.9 33.5 30.3 25.4 21.9 19.2 18.1 17.1	t t t 84.8 50.7 50.7 60.7 48.7 37.8 52.8 44.7 36.8 49.0 43.3 36.2 43.0 38.0 33.6 37.9 33.5 31.0 30.3 28.3 25.4 23.6 21.9 20.2 19.2 17.5 18.1 16.5 17.1 15.4 16.1 14.5 14.5 14.5	20 41 53 t t t 84.8 - 73.6 50.7 60.7 48.7 37.8 52.8 44.7 36.8 49.0 43.3 36.2 43.0 38.0 33.6 37.9 33.5 31.0 30.3 28.3 2.1.9 20.2 19.2 17.5 18.1 16.5 17.1 15.4 16.1 14.5	20 41 53 Rac t t t t (n 84.8 - 13. 13. 73.6 50.7 - 1 60.7 48.7 37.8 1 52.8 44.7 36.8 1 49.0 43.3 36.2 2 43.0 38.0 33.6 2 37.9 33.5 31.0 2 30.3 28.3 2 21.9 20.2 3 19.2 17.5 3 18.1 16.5 3 16.1 14.5 3 16.1 14.5 3	20 41 53 Radius t t t (m) 84.8 - 13.4 73.6 50.7 14 60.7 48.7 37.8 16 52.8 44.7 36.8 18 49.0 43.3 36.2 20 43.0 38.0 33.6 22 37.9 33.5 31.0 24 30.3 28.3 26 28 21.9 20.2 30 30 49.1 19.2 17.5 32 18.1 16.5 34 19.2 17.5 32 18.1 16.5 34 16.1 14.5 36

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Main boom angle 83°

Main boom 20 m

	Jib length in (m) 20 41 53 65 77 89 101 110												
Radius	20	41	53	65	77	89	101	110					
(m)	t	t	t	t	t	t	t	t					
11.5	117.0												
18	64.6	61.6											
22	45.3	43.5	44.6										
24	39.0	37.0	37.9										
26		32.9	32.8	33.7									
30		26.5	26.0	26.4	25.1								
32		24.4	23.7	23.4	23.4	17.2							
36		20.9	19.7	19.3	19.2	16.5	12.2						
38		19.5	18.3	17.7	17.3	15.9	12.1	9.1					
42		17.0	15.9	14.9	14.4	13.6	11.5	8.9					
44		15.8	14.8	13.7	13.2	12.2	11.3	8.6					
55			10.4	9.5	8.5	7.3	6.7	5.9					
65				6.9	5.9	4.8	3.8	3.3					
70					5.0	3.8	2.8	2.1					
75					4.1	3.0	2.1						
80						2.3							

Main boom 41 m

	Jib length in (m) 20 41 53 65 77 89 101 113												
Radius	20	41	53	65	77	89	101	113					
(m)	t	t	t	t	t	t	t	t					
14	93.4												
22	61.7	56.5											
24	55.9	51.8	44.8										
26	49.9	47.2	43.3										
28		44.0	40.9	31.9									
32		37.5	35.5	30.7	23.3								
36		32.1	31.0	28.2	22.5	16.1							
38		29.4	28.8	27.1	22.0	15.8	11.4						
42		25.0	25.3	24.4	20.8	15.2	11.1	7.7					
46		21.8	21.6	21.5	19.7	14.5	10.7	7.5					
55			15.8	16.0	15.9	12.9	9.7	6.8					
70				9.6	9.4	9.1	8.2	5.5					
80					6.6	5.9	5.6	4.6					
85						4.8	4.2	3.2					
90						3.7	3.2						
95							2.4						

Main boom 59 m

			J	ib leng	th in (n	ר)		
Radius	20	41	53	65	77	89	101	104
(m)	t	t	t	t	t	t	t	t
16.2	71.7							
24	50.9	44.7						
26	47.0	41.5	36.7					
28	43.4	38.2	35.5					
30		35.7	33.0	28.2				
34		31.2	28.9	26.4	20.6			
38		27.6	25.8	23.6	20.0	14.3		
40		25.8	24.3	22.4	19.5	14.2	10.3	
42		24.1	23.1	21.4	18.7	14.0	10.3	9.6
44		22.7	22.1	20.3	17.9	13.7	10.2	9.6
46		21.3	20.6	19.2	17.2	13.3	10.0	9.4
48		19.8	19.3	18.3	16.6	12.9	9.8	9.2
60			13.2	12.9	12.5	10.4	8.5	8.0
70				9.6	9.1	8.2	7.0	6.6
80					6.6	5.6	5.1	5.1
95						2.7	2.3	2.2

Main boom 32 m

				_		· ·					
Radius	20	41	53	65	77	89	101	113			
(m)	t	t	t	t	t	t	t	t			
13	108.7										
20	73.0	64.8									
24	55.5	54.0	47.3								
26	47.2	50.0	45.3								
28		45.6	43.1	32.9							
30		41.1	40.3	32.1	24.6						
34		34.4	35.2	30.2	23.8	16.7					
38		28.5	29.5	28.4	22.7	16.1	11.8				
42		24.3	25.2	24.8	21.6	15.4	11.3	8.1			
46		20.8	21.4	21.7	20.1	14.7	10.8	7.7			
55			15.5	15.7	16.0	13.0	10.0	7.0			
65				11.1	11.1	10.9	8.9	6.2			
80					6.2	5.7	5.4	4.4			
85						4.6	4.0	3.0			
90						3.4	2.9				
95							2.2				

Main boom 56 m

			J	ib leng	th in (n	1)		
Radius	20	41	53	65	77	89	101	113
(m)	t	t	t	t	t	t	t	t
15.9	75.6							
22	56.8	47.9						
26	48.4	42.4	38.1					
28	44.4	38.9	36.3					
30		36.4	33.8	28.8				
34		31.8	29.6	27.0	20.9			
38		27.9	26.4	24.2	20.3	14.8		
40		25.9	24.9	23.0	19.8	14.6	10.5	
44		22.9	22.5	20.8	18.3	14.0	10.2	7.2
46		21.4	20.9	19.7	17.7	13.6	10.0	7.1
48		19.9	19.5	18.7	17.1	13.2	9.9	7.0
60			13.1	13.1	12.8	10.8	8.6	6.1
70				9.7	9.1	8.4	7.3	5.2
80					6.6	5.7	5.3	4.2
90						3.7	3.1	2.2
95						2.8	2.4	
00						2.0	2.4	

Main boom 65 m Main boom 68 m

	Jib l	ength i	n (m)
Radius	20	41	53
(m)	t	t	t
17	63.3		
24	48.0	41.7	
26	44.5	39.0	
28	41.7	36.2	33.0
30	38.7	33.7	31.0
32		31.6	29.0
34		29.5	27.1
36		27.8	25.6
38		26.3	24.2
40		24.7	22.8
42		23.2	21.6
44		22.0	20.7
46		20.7	19.5
48		19.3	18.3
50		18.0	17.1
60			12.7

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Main boom angle 75°

Main boom 20 m

			J	ib leng	th in (m	1)		
Radius	20	41	53	65	77	89	101	110
(m)	t	t	t	t	t	t	t	t
18	85.3							
26	43.1	44.7						
32		30.2	32.0					
36		25.1	25.3	24.9				
42		19.9	19.1	19.4	18.8			
44		18.5	17.8	17.7	18.0			
46		17.1	16.5	16.2	16.3	14.0		
48		15.1	15.4	14.9	15.1	13.9		
50			14.5	13.9	14.1	13.0		
55			12.3	11.6	11.1	11.2	9.8	7.5
60				9.8	9.2	8.6	8.4	7.2
65				8.4	7.6	6.7	6.6	6.3
70				6.8	6.4	5.4	4.8	4.7
75					5.3	4.2	3.6	3.2
80					4.2	3.2	2.5	2.1
85						2.5		

Main boom 41 m

			J	ib leng	th in (n	1)		
Radius	20	41	53	65	77	89	101	113
(m)	t	t	t	t	t	t	t	t
22.3	58.6							
32	40.9	37.4						
38		31.2	29.2					
40		29.8	27.6					
42		28.1	26.3	23.7				
48		23.7	22.7	21.0	18.7			
50		22.5	21.7	19.9	18.1			
55			19.1	17.9	16.2	13.7		
60			17.0	16.1	14.4	12.4	9.7	
65			14.8	14.4	13.1	11.2	9.3	6.4
70				12.9	11.8	10.2	8.6	6.1
75				11.4	10.4	9.2	7.8	5.8
85					8.0	7.0	5.9	4.8
90						6.0	4.9	3.9
95						5.1	4.1	2.5
105							2.6	

Main boom 59 m

			J	ib leng	th in (m	ı)		
Radius	20	41	53	65	77	89	101	104
(m)	t	t	t	t	t	t	t	t
28	40.7							
36	31.7	27.3						
42		23.6	21.6					
46		21.7	19.9	17.3				
48		20.7	18.9	17.1				
50		19.8	18.0	16.3				
55		17.9	16.2	14.6	12.8			
60			14.7	13.2	11.5	9.5		
65			13.2	11.9	10.3	8.4	7.1	6.6
70				10.6	9.3	7.5	6.3	6.0
75				9.3	8.2	6.8	5.5	5.2
80				8.1	7.1	6.0	4.8	4.5
85					6.1	5.0	3.8	3.6
90					5.2	4.1	3.0	2.8
95						3.3	2.3	2.1
100						2.6		

Main boom 32 m

			J	ib leng	th in (m	1)		
Radius	20	41	53	65	77	89	101	113
(m)	t	t	t	t	t	t	t	t
20	70.1							
30	45.6	43.0						
34		37.6	34.5					
40		31.0	30.0	27.3				
44		27.5	26.7	24.9	20.7			
50		23.4	22.7	21.6	19.9	14.7		
55			20.0	19.2	17.9	14.1	10.0	
60			17.7	17.0	16.1	13.3	9.8	6.7
65				15.1	14.3	12.2	9.4	6.5
70				13.5	12.8	11.4	9.0	6.2
80					10.0	9.0	7.9	5.5
85					8.8	7.8	6.8	5.0
90						6.8	5.8	3.4
95						5.8	4.9	
100							4.0	
105							3.3	

Main boom 56 m

			J	ib leng	th in (m	1)		
Radius	20	41	53	65	77	89	101	113
(m)	t	t	t	t	t	t	t	t
26.2	44.7							
36	32.4	28.7						
42		24.4	22.5					
44		23.5	21.5					
46		22.4	20.6	18.3				
50		20.4	18.6	16.9				
55		18.2	16.7	15.1	13.4			
60			15.1	13.8	12.0	10.0		
65			13.7	12.3	10.8	9.0	7.6	
70				11.0	9.8	8.0	6.7	5.3
75				9.7	8.6	7.3	5.9	4.5
80				8.5	7.5	6.3	5.2	3.7
85					6.4	5.3	4.2	3.1
90					5.5	4.4	3.3	2.2
95						3.7	2.6	
100						2.9		

Main boom 65 m Main boom 68 m

ngth in (m) 38

t

24.4 24.2 22.8 21.6 20.6 19.7 18.9 18.1 16.5

us

	Jib l	ength i	n (m)	
Radius	20	41	53	
(m)	t	t	t	
28.5	36.8			
30	35.4			
32	33.4			
34	31.6			
36	30.0			
38	28.6	24.3		
40		23.2		
42		22.0		
44		20.9	19.0	
46		20.0	18.1	
48		19.1	17.4	
50		18.3	16.6	
55		16.7	14.9	
60			13.4	
65			12.3	
70			10.9	

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Main boom angle 65°

Main boom 20 m

		Jib length in (m)										
Radius	20	41	53	65	77	89	101	110				
(m)	t	t	t	t	t	t	t	t				
24	59.9											
30	37.9											
36		28.7										
42		20.4	20.4									
48		16.0	16.0									
50		14.8	14.7	15.1								
55			12.0	12.0								
60			10.1	9.8	9.8							
65				8.1	8.0	7.2						
70				6.8	6.3	5.8	4.8					
75					5.0	4.5	4.1	3.1				
80					4.0	3.3	3.0	2.6				
85					3.0	2.3	2.0					

Main boom 32 m

		Jib length in (m)											
Radius	20	41	53	65	77	89	101	113					
(m)	t	t	t	t	t	t	t	t					
30	42.9												
36	15.1												
42		26.9											
48		22.7	21.8										
55		19.0	18.2	17.3									
65			14.4	13.6	12.7								
70				12.1	11.1	10.0							
75				10.8	9.7	8.6	7.4						
85					7.4	6.4	5.3	4.1					
90					6.4	5.4	4.3	3.2					
95						4.5	3.5	2.4					
100						3.7	2.7						
105							2.0						

Main boom 41 m

			J	ib leng	th in (n	ר)		
Radius	20	41	53	65	74	89	101	
(m)	t	t	t	t	t	t	t	
34	34.7							
38	30.2							
44		23.1						
55		17.6	16.7					
60		15.1	14.8	13.8				
65			13.2	12.2	11.4			
70			11.8	10.7	9.9			
75				9.4	8.6	7.0		
80				8.2	7.5	6.0	4.8	
90					5.5	4.1	3.0	
95						3.3	2.2	
100						2.6		

Main boom 56 m

	Jib length in (m)									
Radius	20	41	53	65	77	., 89				
(m)	t	t	t	t	t	t				
38.3	25.3									
44	21.9									
46	15.1									
55		14.7								
60		12.9	11.6							
65		11.3	10.1	8.9						
70			8.8	7.6						
75			7.7	6.5	5.3					
80				5.6	4.3	3.1				
85				4.7	3.5	2.3				
90					2.8					
95					2.1					

Main boom 59 m

	Jib length in (m)								
Radius	20	41	53	65	77	89			
(m)	t	t	t	t	t	t			
39.6	23.4								
44	21.2								
46	20.0								
55		13.9							
60		12.2	10.9						
65		10.6	9.5						
70			8.2	7.0					
75			7.1	5.9	4.7				
80				5.0	3.8	2.5			
85				4.1	3.0				
90				3.4	2.2				

	Jib length in (m)							
Radius	20	41	53					
(m)	t	t	t					
42.1	19.8							
44	19.3							
46	18.4							
48	17.5							
50	15.1							
55		12.2						
60		10.7						
65		9.3	8.0					
70		8.1	6.9					
75			5.9					
80			5.0					

Main boom 65 m Main boom 68 m

Jib length i	n (m)
Radius	38
(m)	t
53.7	12.1
55	11.7
60	10.3
65	8.9

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Main boom angle 45°

Main boom 20 m

	Jib length in (m)							
Radius	20	41	53	65	77	89		
(m)	t	t	t	t	t	t		
33.4	30.1							
34	36.6							
36	34.0							
55		16.4						
65			11.6					
75				8.1				
80				5.9				
85					5.3			
90					4.1	3.5		
95						2.9		

Main boom 32 m

		Jib length in (m)								
Radius	20	41	53	65	77					
(m)	t	t	t	t	t					
41.9	25.0									
44	23.5									
60		14.3								
65		12.7								
70			10.5							
75			9.2							
80				7.0						
85				6.0						
90					4.0					
100					2.6					

Main boom 41 m

	Jib length in (m)							
Radius	20	41	53	65				
(m)	t	t	t	t				
48.3	18.4							
50	17.6							
70		9.2						
80			6.0					
90				3.2				
90 95				2.5				

Main boom 56 m

	Jib length in (m)							
Radius	20	41						
(m)	t	t						
58.9	9.5							
60	9.3							
80		3.0						

Main boom 59 m

	Jib length in (m)							
Radius	20	41						
(m)	t	t						
61	7.9							
80		2.1						

Main boom 65 m

	Jib length in (m)						
Radius	20						
(m)	t						
65.3	4.8						

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