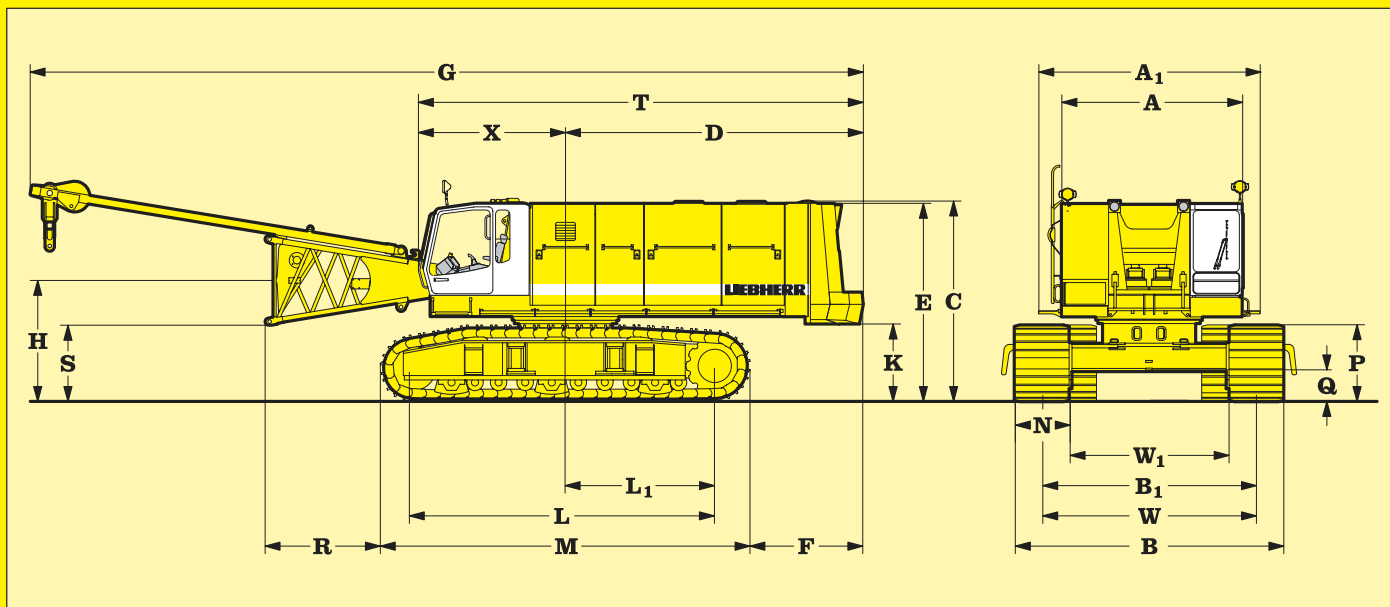


Technical Data Hydraulic crawler crane

HS 883 HD

Litronic®

Basic machine with undercarriage



Dimensions

Dimensions	mm	mm
A Width of superstructure	3300/3480	
A ₁ Width of superstructure with walk way	4040	
C Height of basic machine	3660	
D Tail reach	5460	
Tail swing radius	5510	
E Height over counterweight	3650	
F Distance between rear end of crawler and outside of counterweight	2070	
G Overall length of superstructure with lowered A-frame	15200	
H Ground clearance of boom foot pivot	2210	
K Ground clearance of superstructure	1420	
L Wheel base (centre idler to centre tumbler)	5490	
L ₁ Distance from centre of rotation to centre of tumbler	2725	
M Length of crawlers	6750	
P Height of crawlers	1400	
Q Ground clearance of crawler	550	
R Distance from edge of horizontal boom foot to crawler	2100	
S Ground clearance of horizontal boom foot	1390	
T Length of superstructure	8120	

X Distance from centre of rotation to end of cab	2685		
N Width of track shoes	800	900	1000
W ₁ Track width retracted	2920	2920	2920
W Track width extended	3920	3920	3920
B Crawler width extended	4720	4820	4920
B ₁ Crawler width retracted	4000	4000	4000

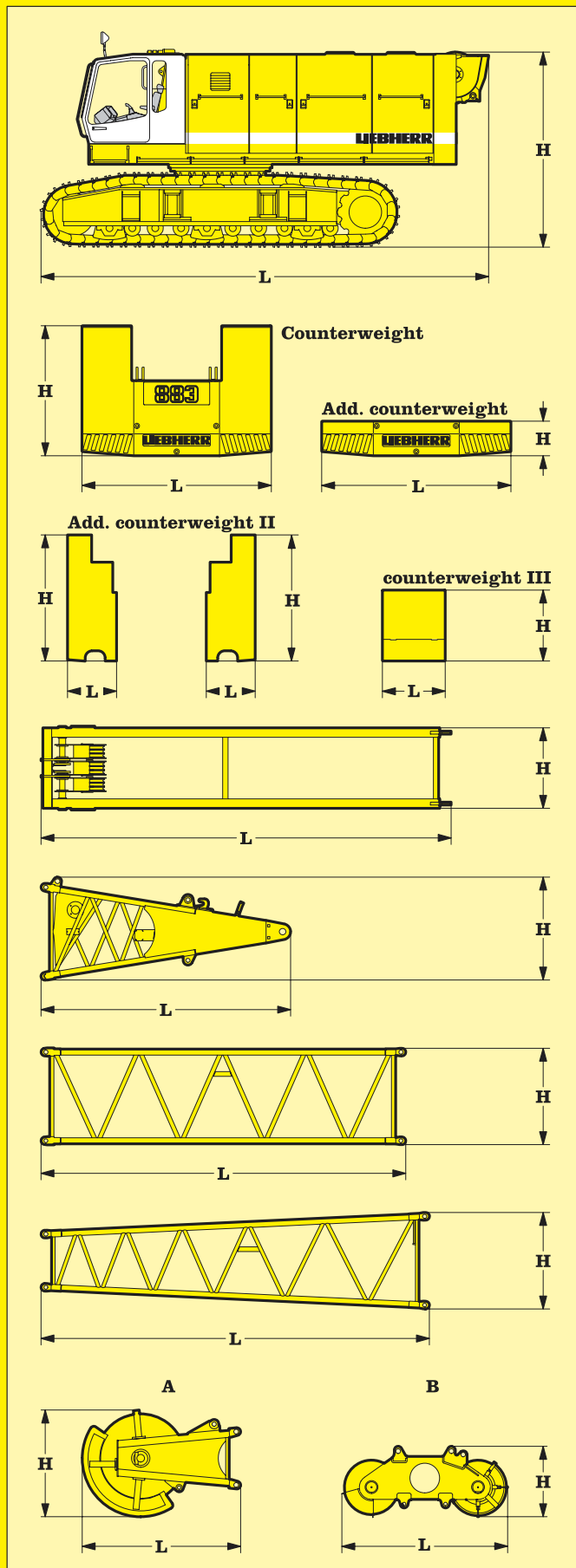
Operating Weight and Ground Pressure

The operating weight includes the basic unit with B9s crawler tracks, 2 main winches 30 t with speed change gear and 11 m boom, consisting of A-frame, boom foot (4 m), boom head section (6.5 m) boom head (0.5 m) and 24.1 t counterweight + 8.4 t add. counterweight. All systems are ready.

with 800 mm flat track shoes	107.7 t - 1.24 kg/cm ²
with 900 mm flat track shoes	108.5 t - 1.11 kg/cm ²
with 1000 mm flat track shoes	109.4 t - 1.00 kg/cm ²
with 800 mm 3-web shoes	105.1 t - 1.21 kg/cm ²
with 900 mm 3-web shoes	105.9 t - 1.08 kg/cm ²
with 1000 mm 3-web shoes	106.8 t - 0.98 kg/cm ²

LEIBHERR

The Better Machine



*) including stay ropes

Basic machine

with HD undercarriage, V-8-Liebherr diesel engine, 2 x 30 t winches with change gear box, without counterweight, boom foot and A-frame

2-web shoes	mm	800	900	1000
Width	mm	4000	4000	4000
Weight	t	68.5	69.3	70.2
L Length	mm	8400	8400	8400
H Height	mm	3660	3660	3660

Counterweight

		Basic	Additional
Width	mm	720	690
Weight	kg	19600	4500
L Length	mm	3200	3200
H Height	mm	2200	585

Add. counterweight

		II	III
Width	mm	340	375
Weight	kg	2x 2600	3200
L Length	mm	835	1070
H Height	mm	2150	1420

A-frame

		long
Width	mm	1410
Weight	kg	2195
L Length	mm	6930
H Height	mm	1440

Boom foot

		Basic
Width	mm	1660
Weight	kg	2070
L Length	mm	4220
H Height	mm	1750

Tubular boom extension

		3 m	6 m	9 m	12 m
Width	mm	1660	1660	1660	1660
Weight*	kg	770	1240	1670	2120
L Length	mm	3170	6170	6170	12170
H Height	mm	1630	1630	1630	1630

Boom head section

Width	mm	1660
Weight*	kg	1310
L Length	mm	6570
H Height	mm	1630

Boom head

		A	B
Width	mm	780	1070
Weight	kg	1500	1800
L Length	mm	2665	2820
H Height	mm	1800	1210

Transport dimensions and weights



Engine

Water cooled, V-8-cylinder Liebherr diesel engine, turbo charged with intercooler, model D 9408 TI-E, power rating according to ISO 9249, 340 kW (456 hp) at 1900 rpm.

Option:

Water cooled, V-12-cylinder Mercedes Benz diesel engine, turbo charged with intercooler, type OM 444 LA, power rating according to ISO 3046 IFN, 480 kW (644hp) at 1900 rpm.

The automatic limiting load control adapts perfectly the power of the main users to the present engine speed. The temperature and engine speed controlled cooling system saves energy and reduces the noise emission.

Fuel Tank: 920 l capacity with continuous level indicator and reserve warning.



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.

Winch 1 and 2: Axial piston displacement pumps (swash plate design) with 500 l/min. each.

Crawlers: Axial piston displacement pumps (swash plate design) with 2 x 396 l/min.

Swing gear: Axial piston displacement pump (swash plate design) with 283 l/min.

Boom hoist: Axial piston displacement pump (swash plate design) with 200 l/min.

Max. working pressure: 350 bar.

Hydraulic oil tank capacity: 1100 l

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, auger drills etc.



Winches

Winch options:

Line pull (nom. load)	200 kN	250 kN	300 kN
Rope diameter :	30 mm	34 mm	36 mm
Drum diameter :	630 mm	750 mm	820 mm
Rope speed m/min	0-85	0-69	0-55
With change gear box		0-154	0-154
Rope capacity 1st layer	46.5 m	45.9 m	45.9 m

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

Propulsion is via a planetary gearbox in oil bath. Load support by the hydraulic system; additional safety factor provided by a spring loaded, multi-disc holding brake.

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

Working with 2 rope clamshell, the oil motors distribute the load to both winches providing speed compensation, even when working in different rope layers.

Option:

Crane winch 160 kN (16 t) - without clutch, but with multi-disc holding brake.



Noise emission

Special sound proofing results in a very low noise pressure level of 78 dB (A) at 16 m radius.



Equipment

Lattice boom of tubular construction up to 74 m, universal boom head with interchangeable rope pulleys.

Modular designed equipment for operation as crane, dragline or clamshell.

For dragline operation, a rotating fairlead is fitted into the boom foot, which minimizes rope angle to drum, which results in lower rope wear.



Swing Drive

Consists of single row ballbearing 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.

Free swing with hydraulic moment control reduces wear to a minimum, because rotation moment is sustained through the hydraulic system by the diesel engine. A multi-disc holding brake acts automatically at zero swing motion.

Swing speed from 0 - 3.6 rpm continuously variable.



Crawler

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 3 - web track shoes. Drive speed 0 - 1.3 km/h.

Option:

2 speed hydraulic motor for higher travel speed.



Control

The control system - developed and manufactured by Liebherr - is designed to withstand extreme temperature and the many heavy-duty construction tasks for which this crane has been designed. Complete machine operating data are displayed on a high resolution monitor screen.

To ensure clarity of the information on display, different levels of data are shown in enlarged lettering and symbols. Control and monitoring of the sensors are also handled by this high technology system. Error indications are automatically displayed on the monitor in English.

The crane is equipped with proportional control for all movements, which can be carried out simultaneously.

A special "Interlock" control system is also optionally available. It is designed for power lifting of the dragline bucket without using the grab winch brake.

An additional option is also the so-called "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.

The crane is operated with 2 multi-directional joysticks, right for winch I and boom hoist drive, left for winch II and slewing gear. Crawler control is actuated with the two central foot pedals. Additionally, hand levers can be attached to the pedals.

Options:

- Both main winches with double-T levers
- Special demolition control system
- MDE: Machine data recording
- PDE: Process data recording



Boom hoist drive

Twin drum with internally located planetary gearbox, axial piston hydraulic motor and hydraulically released spring loaded multi-disc brake.

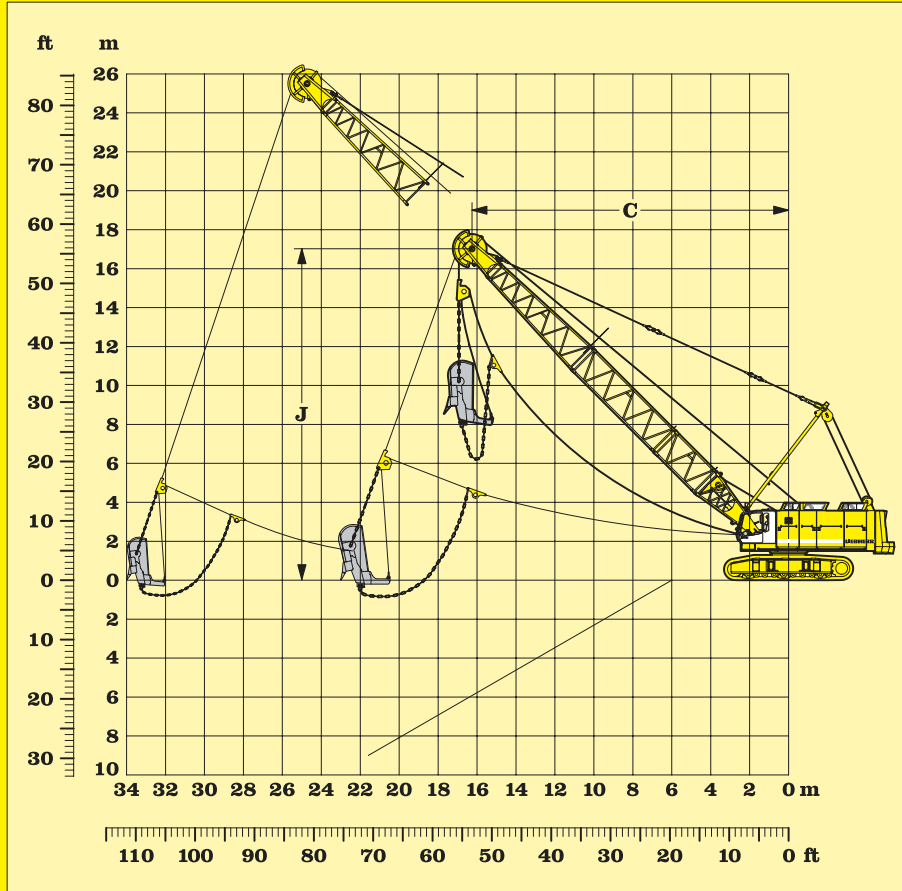
Max. line pull 2x 70 kN. Rope diameter: 20 mm

Max. line speed: 23 m/min.

Two speed boom hoist option

Technical Description

24.1 t counterweight + 5.2 t add. counterweight



Scope of delivery:

- Basic machine with corresponding track shoes
- Add. counterweight 5.2 t
- Second swing drive with free swing
- A-frame
- Boom foot 4 m
- Boom extension 3 m tubular steel
- Boom extension 6 m tubular steel
- Boom extension 9 m tubular steel
- Boom head section 6.4 m
- Boom with interchangeable pulleys
- Stay ropes according to boom length
- Main winches according to specification
- Drag rope should be 2 mm below nominal diameter
- Corresponding fair lead
- Corresponding ropes optional
- Dragline bucket optional

Capacities in metric tons for boom lengths from 18 m – 33 m:

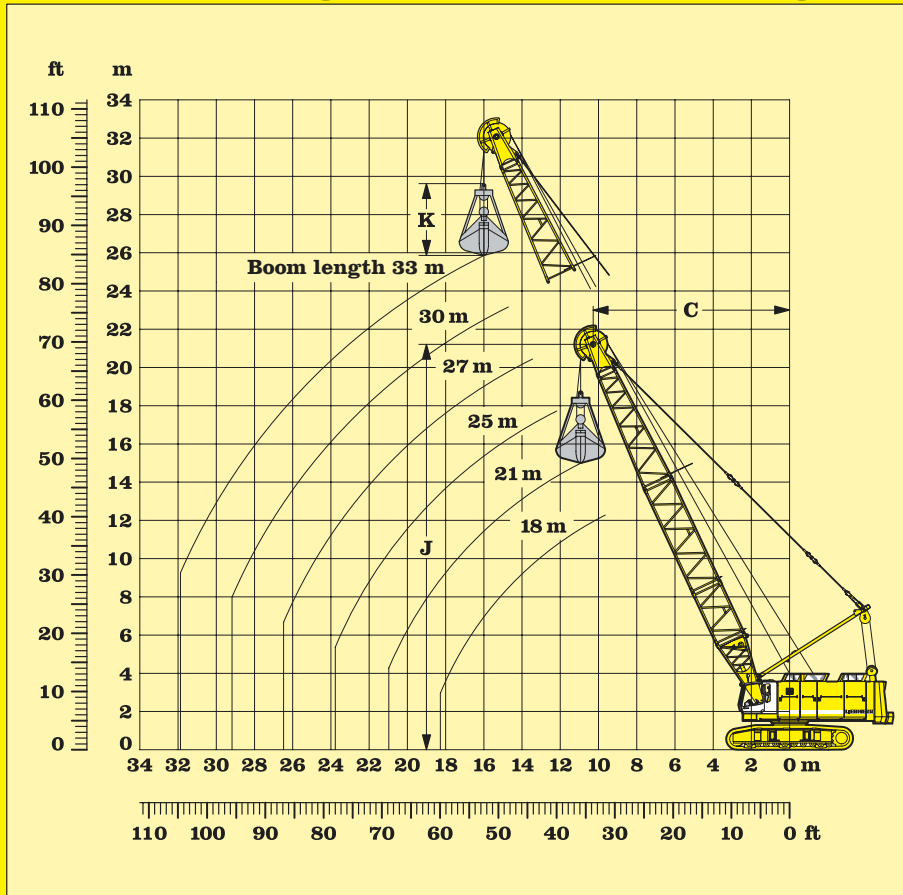
Counterweight 29.3 t

α	18 m			21 m			24 m			27 m			30 m			33 m		
	C	J	t	C	J	t	C	J	t	C	J	t	C	J	t	C	J	t
45	14.7	14.9	18.0	16.9	17.0	14.4	19.0	19.1	11.9	21.1	21.3	10.2	23.3	23.4	8.9	25.3	25.6	8.5
40	15.8	13.7	16.2	18.1	15.7	12.8	20.4	17.6	10.9	22.7	19.5	9.4	25.0	21.4	8.1	27.3	23.4	7.6
35	16.8	12.5	14.8	19.2	15.2	12.0	21.7	15.9	10.1	24.1	17.6	8.6	26.6	19.4	7.2	29.1	21.2	6.8
30	17.6	11.2	13.3	20.2	12.7	10.9	22.8	14.2	9.0	25.4	15.7	7.5	28.0	17.2	6.3	30.6	18.7	6.2
25	18.3	9.8	11.9	21.0	11.0	9.7	23.8	12.3	8.2	26.5	13.6	6.8	29.2	14.8	5.7	31.9	16.2	5.6

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

Dragline equipment

24.1 t counterweight + 5.2 t add. counterweight



Scope of delivery:

- Basic machine with corresponding track shoes
- Add. counterweight 5.2 t
- A-frame
- Boom foot 4 m
- Boom extension 3 m tubular steel
- Boom extension 6 m tubular steel
- Boom extension 9 m tubular steel
- Boom head section 6.4 m
- Boom head with interchangeable pulleys
- Stay ropes according to boom length
- Main winches according to specification
- Tagline winch
- Corresponding ropes optional
- Clamshell optional
- Hoist limit switch
- Load moment limitation
- 4-rope clamshell on request

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 metric tons for boom lengths from 18 m – 33 m:													Counterweight 29.3 t					
α	18 m			21 m			24 m			27 m			30 m			33 m		
	C	J	t	C	J	t	C	J	t	C	J	t	C	J	t	C	J	t
65	9.6	18.5	30.9	10.9	21.2	26.6	12.2	23.9	22.4	13.4	26.6	19.6	14.7	29.3	17.0	16.0	32.1	14.6
60	11.0	17.7	26.2	12.5	20.3	22.0	14.0	22.9	18.7	15.5	25.5	15.9	17.0	28.1	13.5	18.5	30.8	11.8
55	12.4	16.9	22.5	14.1	19.4	18.8	15.8	21.8	15.7	17.5	24.3	13.1	19.2	26.7	11.4	21.0	29.3	10.1
50	13.6	15.9	19.8	15.5	18.2	16.4	17.4	20.5	13.5	19.4	22.8	11.6	21.3	25.1	10.1	23.2	27.5	8.7
45	14.7	14.9	17.7	16.9	17.0	14.4	19.0	19.1	12.0	21.1	21.3	10.4	23.2	23.4	8.9	25.3	25.6	7.6
40	15.8	13.7	16.1	18.1	15.7	12.9	20.4	17.6	11.1	22.7	19.5	9.4	25.0	21.4	7.9	27.3	23.4	6.7
35	16.8	12.5	14.8	19.2	14.2	12.1	21.7	15.9	10.1	24.1	17.9	8.5	26.6	19.4	7.1	29.1	21.2	6.0
30	17.6	11.2	13.3	20.2	12.7	10.9	22.8	14.2	9.0	25.4	15.7	7.6	28.0	17.2	6.3	30.6	18.7	5.2
25	18.3	9.8	11.9	21.0	11.0	9.7	23.8	12.3	8.0	26.5	13.6	6.7	29.2	14.8	5.5	31.9	16.2	4.5

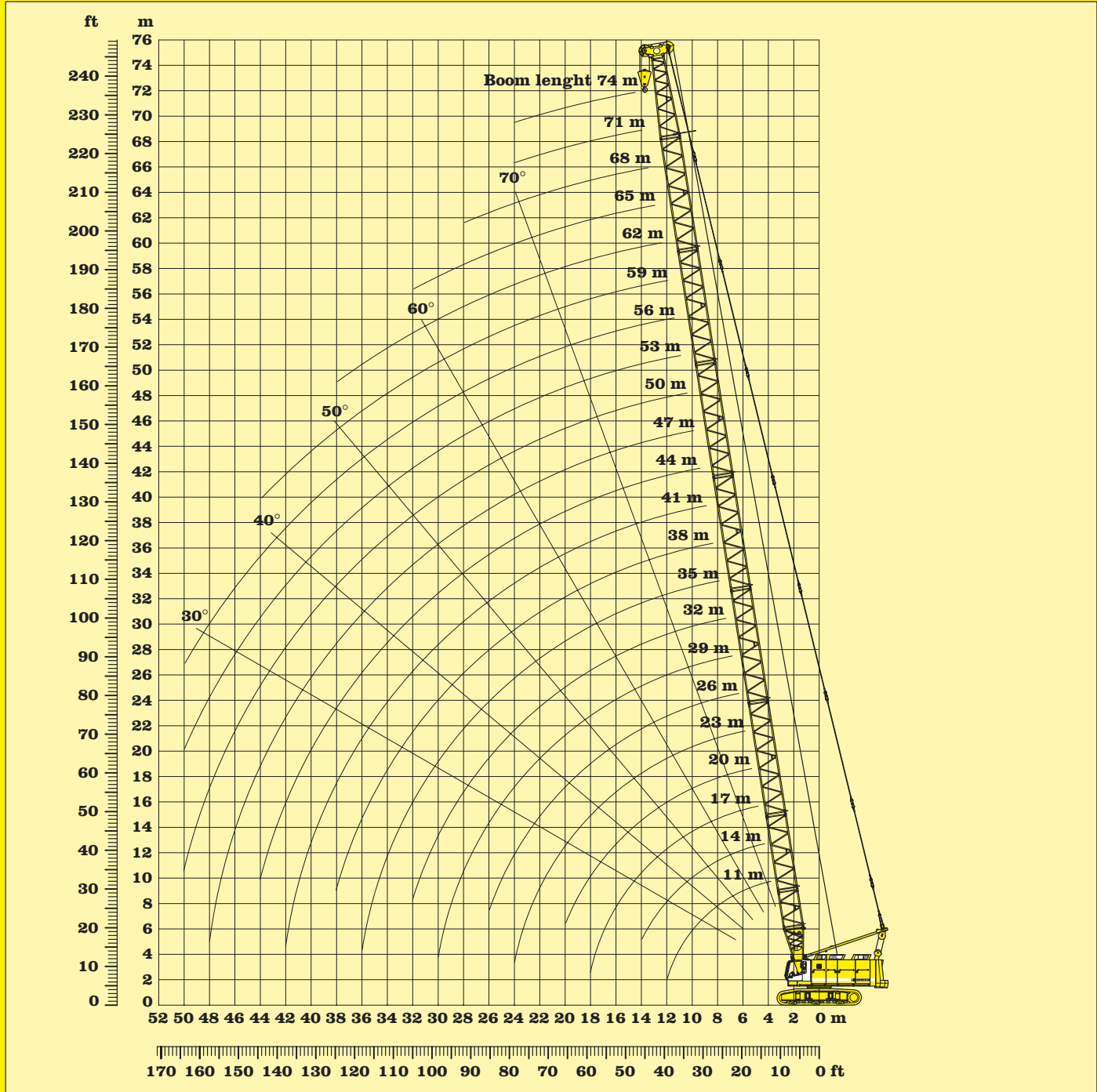
Max. capacities in metric tons do not exceed 66.7 % of tipping load.

Load diagram restricted by safety factors of standard ropes:

Winches	200 kN	250 kN	300 kN
Rope diameter	30 mm	34 mm	36 mm
Calc. breaking load	820 kN	1051 kN	1184 kN
1-rope clamshell	14.5 t	19.0 t	21.5 t
2-rope clamshell	22.5 t	28.9 t	32.5 t

Clamshell equipment

24.1 t counterweight + 8.4 t add. counterweight



Scope of delivery:

- Basic machine with corresponding track shoes
- Add. counterweight 8.4 t
- A-frame
- Pulley block
- Boom foot 4 m
- Boom extension 3 m tubular steel
- Boom extension 6 m tubular steel
- Boom extension 9 m tubular steel
- Boom head 0.5 m with interchangeable pulleys
- Stay ropes according to boom length
- Main winches according to specification
- Hoisting limit switch
- Load moment limitation
- Corresponding hook block optional

Remarks:

1. The lifting capacities are valid for wide track.
2. The lifting capacities stated do not exceed 75 % of the tipping load.
3. The lifting capacities are indicated in metric tons with unlimited swing (360 degrees).
4. The weight of the lifting device must be deducted to arrive at the net lifting capacity.
5. Working radii are measured from centre of swing.
6. Crane standing on firm, horizontal ground.
7. Indicated values on load chart are affected by off-lead operation, wind speeds, load under slew and stop/go movements.

Crane configuration

Capacities in metric tons for boom lengths from 11 m to 74 m:																	Counterweight 32.5 t						
boom length	11 m	14 m	17 m	20 m	23 m	26 m	29 m	32 m	35 m	38 m	41 m	44 m	47 m	50 m	53 m	56 m	59 m	62 m	65 m	68 m	71 m	74 m	
Radius in (m)	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	
4.0	120.0																						
4.5	120.0	120.0																					
5.0	101.7	101.6	100.9																				
5.5	86.5	86.5	86.5	86.4																			
6.0	75.1	75.1	75.0	75.0	74.9	74.8																	
7.0	59.2	59.2	59.1	59.1	59.0	58.9	58.7	58.7	57.8														
8.0	48.7	48.7	48.6	48.6	48.4	48.3	48.1	48.1	48.0	47.9	45.1												
9.0	41.2	41.2	41.1	41.1	40.9	40.8	40.6	40.6	40.5	40.3	40.2	37.4	33.4										
10.0	35.7	35.6	35.5	35.5	35.3	35.2	35.0	35.0	34.9	34.7	34.6	34.4	32.4	29.3	27.0	22.0	18.5						
11.0	31.3	31.2	31.2	31.1	31.0	30.8	30.7	30.7	30.5	30.3	30.2	30.0	29.9	27.6	25.9	21.0	17.5	14.8					
12.0	28.8	27.7	27.7	27.6	27.5	27.3	27.2	27.2	27.0	26.9	26.7	26.5	26.4	25.9	24.8	20.0	16.5	14.4	12.9	10.5	6.2		
13.0		24.9	24.8	24.8	24.7	24.5	24.3	24.3	24.2	24.0	23.8	23.7	23.5	23.3	23.2	19.2	15.5	13.7	12.2	10.0	5.8	5.3	
14.0		22.5	22.4	22.4	22.3	22.1	22.0	22.0	21.8	21.6	21.5	21.3	21.1	20.9	20.8	18.4	14.4	13.0	11.4	9.5	5.5	4.7	
16.0			18.8	18.7	18.6	18.4	18.2	18.2	18.1	17.9	17.7	17.6	17.4	17.2	17.0	16.9	12.9	11.4	10.0	8.3	4.8	3.9	
18.0			16.0	15.9	15.8	15.6	15.4	15.5	15.3	15.1	15.0	14.8	14.6	14.4	14.2	14.1	11.6	10.2	9.1	7.4	4.1	3.2	
20.0				13.7	13.6	13.4	13.3	13.3	13.1	13.0	12.8	12.6	12.4	12.2	12.1	11.9	10.4	9.2	8.2	6.5	3.3	2.5	
22.0					11.8	11.7	11.5	11.6	11.4	11.2	11.0	10.9	10.7	10.5	10.3	10.1	9.7	8.2	7.3	5.6	2.5	1.8	
24.0					10.3	10.3	10.1	10.1	10.0	9.8	9.6	9.4	9.3	9.1	8.9	8.7	8.5	7.2	6.5	4.6	1.8	1.1	
26.0						9.0	8.9	8.9	8.8	8.6	8.4	8.3	8.1	7.9	7.7	7.5	7.3	6.5	5.7	3.7			
28.0							7.9	7.9	7.8	7.6	7.4	7.3	7.1	6.9	6.6	6.4	6.2	5.7	4.9	2.8			
30.0							7.0	7.1	6.9	6.7	6.6	6.4	6.1	5.9	5.7	5.5	5.3	4.9	4.0				
32.0								6.3	6.2	6.0	5.8	5.6	5.3	5.1	4.9	4.7	4.5	4.1	3.1				
34.0									5.4	5.3	5.1	4.9	4.6	4.4	4.2	4.0	3.8	3.3					
36.0									4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4	3.2	2.6					
38.0										4.0	3.9	3.7	3.5	3.3	3.1	2.8	2.6	1.5					
40.0											3.4	3.2	3.0	2.8	2.6	2.3	2.1						
42.0											2.9	2.7	2.5	2.3	2.1	1.9	1.7						
44.0												2.3	2.1	1.9	1.7	1.5	1.3						
46.0													1.7	1.5	1.3	1.1							
48.0														1.4	1.2	1.0	0.8						
50.0															0.9	0.7	0.5						

Up to 65 m of boom length self erection is possible.

The necessary hoist rope reeving arrangement has to be provided according to the load diagram in the cabin.

Optimal boom configuration for boom lengths between 11 m to 74 m:																							
	Length	Amount of boom extensions																					
		11	14	17	20	23	26	29	32	35	38	41	44	47	50	53	56	59	62	65	68	71	74
Boom foot	4.0 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Boom extension	3.0 m		1					1							1					1			
Boom extension	6.0 m			1					1							1					1		
Boom extension	9.0 m				1					1				1							1		
Boom extension	12.0 m					1	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	
Boom head extension	6.4 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Boom head	0.6 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Boom length in (m)		11	14	17	20	23	26	29	32	35	38	41	44	47	50	53	56	59	62	65	68	71	74

Load diagram for crane configuration

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