# **KOBELCO**

# **HYDRAULIC CRAWLER CRANE**

# CKE2500

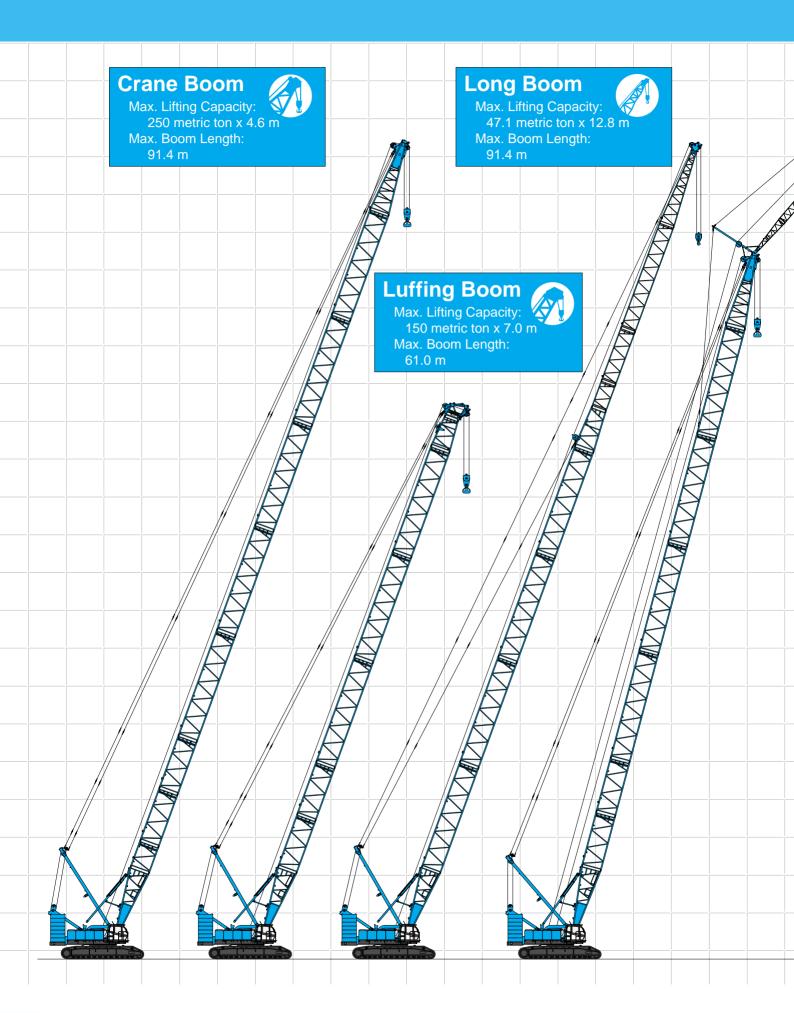
Model: CKE2500-2

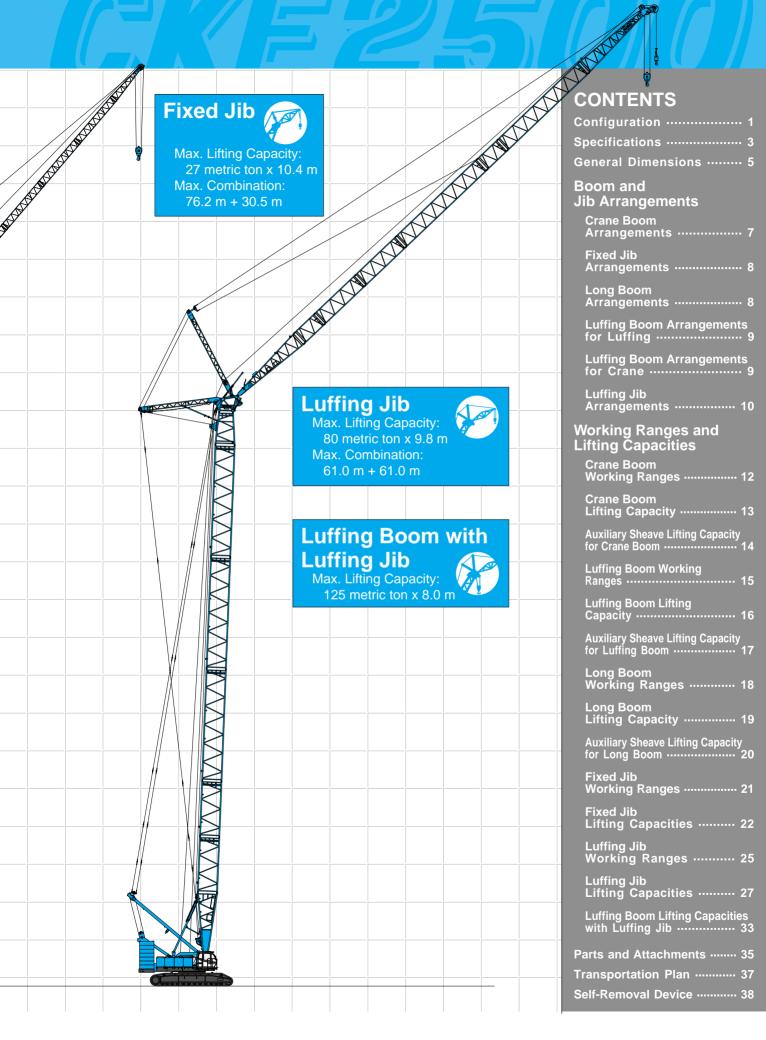


Max. Lifting Capacity: 250 t x 4.6 m Max. Crane Boom Length: 91.4 m

Max. Fixed Jib Combination: 76.2 + 30.5 m
Max. Luffing Jib Combination: 61.0 + 61.0 m

## CONFIGURATION





## **SPECIFICATIONS**



#### **Power Plant**

Model: Hino diesel engine P11C-UN

**Type:**Water-cooled, direct fuel injection, with turbocharger Compiles with NRMM (Europe) Stage IIIA and US EPA Tier III.

Displacement: 10.520 liters

Rated Power:247 kW at 2,000 min<sup>-1</sup> {rpm} (ISO)

Max. torque: 1,300 N·m/1,500 min-1

Cooling system: Liquid, recirculating bypass

Starter: 24 V/6.0 kW

Radiator: Corrugated type core, thermostatically controlled Air cleaner: Dry type with replaceable paper element Throttle: Electric throttle control, twist grip type

Fuel filter: Replaceable paper element

Batteries: Two 12V, 170Ah/20HR capacity batteries, series con-

nected.

Fuel tank capacity: 400 liters



#### **Hydraulic System**

Four variable displacement piston pumps are driven by heavyduty pump drive. Two of variable displacement pumps are used in the main hook hoist circuit, auxiliary hook hoist circuit, jib hoist circuit and each propel circuit. One of the other two pumps is used in the boom hoist circuit, and the other is used in the swing circuit.

**Control:** Full-flow hydraulic control system for infinitely variable pressure to front and rear drums, boom hoist drum and propel. Controls respond instantly to the touch, delivering smooth function operation.

Cooling: Oil-to-air heat exchanger (plate-fin type)

**Filtration:** Full-flow and bypass type with replaceable element **Electrical system:** All wiring corded for easy servicing, individ-

ual fused branch circuits.

#### Max. relief valve pressure:

Load hoist, boom hoist and propel system:

31.9 MPa {325 kgf/cm<sup>2</sup>}

Swing system: 27.5 MPa {280 kgf/cm<sup>2</sup>} Control system: 5.4 MPa {55 kgf/cm<sup>2</sup>}

Reservoir capacity: 600 liters



#### **Boom Hoisting System**

Powered by a hydraulic motor through a planetary reducer. **Brake:** A spring-set, hydraulically released multiple-disc brake is mounted on the boom hoist motor and operated through a counter-balance valve.

**Drum lock:** External ratchet for locking drum.

**Drum:** Double drum, grooved for 26 mm dia. wire rope.

**Line speed:** Double line on first drum layer **Hoisting/Lowering:** 22 to 2 m/min x 2

Diameter of wire ropes

Boom guy line: 38 mm

Boom hoist reeving: 16 parts of 26 mm dia. high strength

wire rope

Boom backstops: Required for all boom lengths



#### **Load Hoist System**

Front and rear drums for load hoist powered by a hydraulic variable plunger motors, driven through planetary reducers.

Negative Brake: A spring-set, hydraulically released multipledisc brake is mounted on the hoist motor and operated through a counter-balance valve. (Positive free fall brake is optional item.)

Drum lock: External ratchet for locking drum

Drums:

#### Front drum:

617.1 mm P.C.D. x 833.7 mm Lg. wide drum, grooved for 25 mm wire rope. Rope capacity is 480 m working length and 600 m storage length.

#### Rear drum:

617.4 mm P.C.D. x 833.7 mm Lg. wide drum, grooved for 25 mm wire rope. Rope capacity is 390 m working length and 600 m storage length.

Note: Rope lengths listed above denote drum capacity and may differ from actual rope lengths supplied when machinery is shipped.

Line speed: Single line on the first drum layer

Hoisting/Lowering: 110 to 3 m/min

Line Pull (Single-line):

Rated line pull: 132 kN {13.5 tf}



#### **Swing System**

Swing unit is powered by hydraulic motor driving spur gears through planetary reducers (2 sets), the swing system provides 360° rotation.

**Swing parking brakes:** A spring-set, hydraulically released multiple-disc brake is mounted on swing motor.

**Swing circle:** Single-row ball bearing with an integral internally cut swing gear.

Swing lock: Manually, four position lock for transportation

Swing speed: 2.2 min<sup>-1</sup> {rpm}



#### **Upper Structure**

Torsion-free precision machined upper frame. All components are located clearly and service friendly. Engine with low noise level. Complies with EC Directive 2000/14/EC.

Counterweight: 90.0 ton



#### **Cab & Control**

Totally enclosed, full vision cab with safety glass, fully adjustable, high backed seat with a head-rest and armrests, and intermittent wiper and window washer (skylight and front window).

#### Cab fittings:

Air conditioner, convenient compartment (for tool), cup holder, ashtray, cigarette lighter, sun visor, roof blind, tinted glass, floor mat, foot-rest, shoe tray

#### **Controls:**

Four adjustable levers for front drum, rear drum, boom drum and swing controls, and boom hoist pedal.



#### **Lower Structure**

Steel-welded carbody with axles. Crawler assemblies are designed with quick disconnect feature for individual removal as a unit from axles. Crawler belt tension is maintained by hydraulic jack force on the track-adjusting bearing block.

Carbody weight: 24.0 ton

**Crawler drive:** Independent hydraulic propel drive is built into each crawler side frame. Each drive consists of a hydraulic motor propelling a driving tumbler through a planetary gear box. Hydraulic motor and gear box are built into the crawler side frame within the shoe width.

**Crawler brakes:** Spring-set, hydraulically released parking brakes are built into each propel drive.

**Steering mechanism:** A hydraulic propel system provides both skid steering (driving one track only) and counter-rotating steering (driving each track in opposite directions).

**Track rollers:** Sealed track rollers for maintenance-free operation.

**Shoes (flat):** 68 shoes, 1,220 mm wide each crawler (Optional 1,330 mm shoe is available)

Max. travel speed: 1.1/0.7 km/h Max. gradeability: 30%



#### Weight

Including upper and lower machine, 90.0 ton counterweight and 24.0 ton carbody weight, basic boom (or basic boom + basic jib), hook, and other accessories.

 Specification
 Weight
 Ground pressure

 Crane boom
 Approx. 213 ton, 108.4 kPa {1.11 kgf/cm²}

 Fixed jib
 Approx. 214 ton, 108.9 kPa {1.11 kgf/cm²}

 Luffing jib
 Approx. 222 ton, 113.0 kPa {1.15 kgf/cm²}



#### **Attachment**

#### **Boom and Jib:**

Welded lattice construction using tubular, high-tensile steel chords with pin connections between sections.

#### Boom and Jib Length

	Min. Length (Min. Combination)	Max. Length (Max. Combination)
Crane Boom	15.2 m	91.4 m
Luffing Boom	15.2 m	61.0 m
Long Boom	64.0 m	91.4 m
Fixed Jib	27.4 m + 12.2 m	76.2 m + 30.5 m
Luffing Jib	21.3 m + 21.3 m	61.0 m + 61.0 m

#### Main Specifications (Model: CKE2500-2)

	wain specifications (woder. CNL2300-2)		
	Crane Boom		
	Max. Lifting Capacity	250 t/4.6 m	
	Max. Length	91.4 m	
	Luffing Boom		
	Max. Lifting Capacity	150 t/7.0 m	
	Max. Length	61.0 m	
	Long Boom		
	Max. Lifting Capacity	47.1 t/12.8 m	
	Max. Length	91.4 m	
	Fixed Jib		
	Max. Lifting Capacity	27 t/10.4 m	
_	Max. Length	30.5 m	
_	Max. Combination	76.2 m + 30.5 m	
	Luffing Jib		
	Max. Lifting Capacity	80 t/9.8 m	
	Jib Length	21.3 m ~ 61.0 m	
_	Max. Combination	61.0 m + 61.0 m	
	Luffing Angle	63° ~ 88°	
	Main & Aux. Winch		
	Max. Line Speed	110 m/min (1st layer)	
_	Rated Line Pull (Single Line)	132 kN {13.5 tf}	
	Wire Rope Diameter	25 mm	
	Wire Rope Length	480 m (Main) 390 m (Aux.)	
	Brake Type	Spring set hydraulically released (Negative)	
	Free-Fall Brake Type	Wet-type multiple disc brake (Optional)	

Working Speed	
Swing Speed	2.2 min <sup>-1</sup> {2.2 rpm}
Travel Speed	1.1/0.7 km/h
Power Plant	
Model	Hino P11C-UN
Engine Output	247 kW/2,000 min <sup>-1</sup> {rpm}
Fuel Tank Capacity	400 liters
Hydraulic System	
Main Pumps	4 variable displacement
Max. Pressure	31.9 MPa {325 kgf/cm²}
Hydraulic Tank Capacity	600 liters
Self-Removal Device	Standard
Weight	
Operating Weight*	Approx. 213 t
Ground Pressure*	108.4 kPa {1.11 kgf/cm²}
Counterweight	90.0 t (Upper), 24.0 t (Lower)
Transport Weight**	Approx. 44.9 t

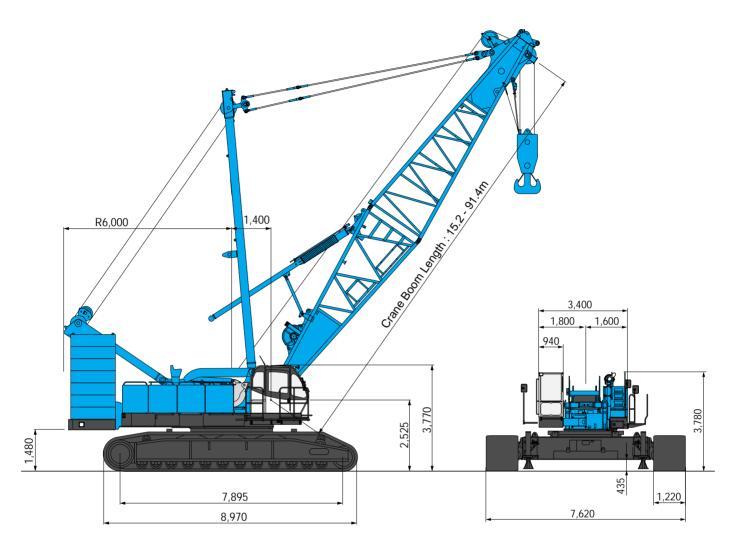
<sup>\*</sup> Including upper and lower machine, 90.0 ton counterweight and 24.0 ton carbody weight, basic boom, hook, and other accessories.

Units are SI units. { } indicates conventional units.

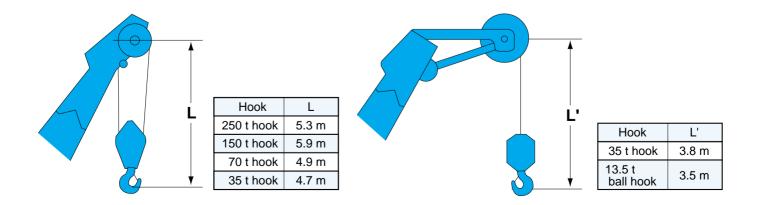
<sup>\*\*</sup> Base machine with trans-lifter, main and aux. winches (non-free fall) including wire rope, and boom hoist winch including wire rope.

# **GENERAL DIMENSIONS**

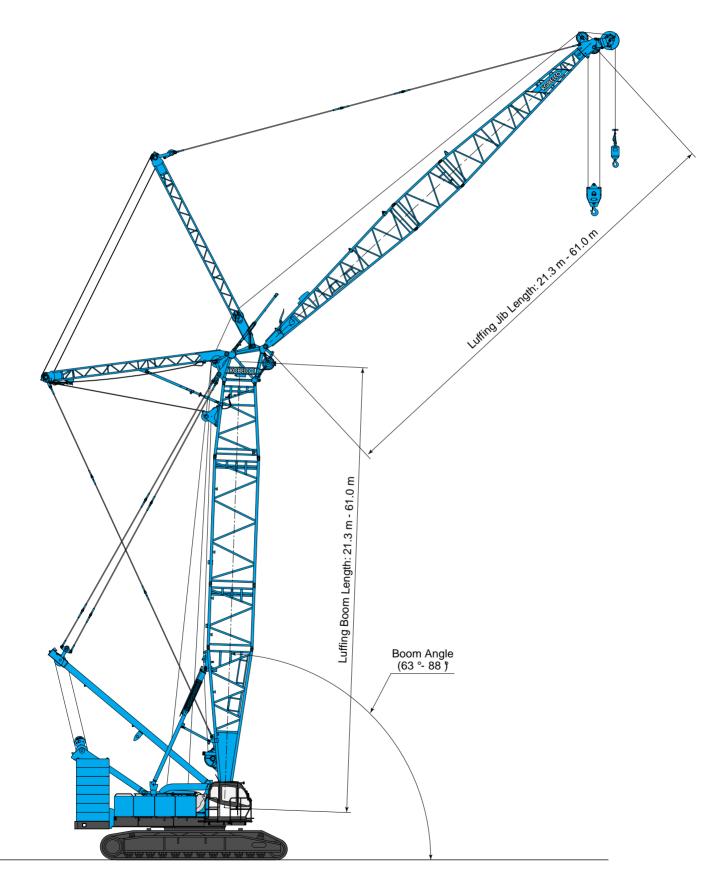
Crane Boom (Unit: mm)



# **Limit of Hook Lifting**



## Luffing Jib (Unit: mm)



## **BOOM AND JIB ARRANGEMENTS**

## **Crane Boom Arrangements**

Boom length m (ft)	Boom arrangement	
15.2 (50)	<u>₿</u> Ţ	
18.3 (60)	B 10 T	
21.3 (70)		
24.4 (80)		
27.4 (90)	# B[10 10  20   T   B  20   20   T   B  40   T   B  40	
30.5 (100)	* B 10 20 20 T	
33.5 (110)	B   10   10   20   20   T      B   10   10   40   T      B   20   40   T	
36.6 (120)	₩ ■ B 10 20 40 T	
39.6 (130)	# B 10 10 20 40 T  B 20 20 40 T  B 40 40 T	
42.7 (140)	* B 10 20 20 40 T	
45.7 (150)	Image: Second content of the conten	
48.8 (160)	★ ■ 10   20   40   40   T	
51.8 (170)	**     <	

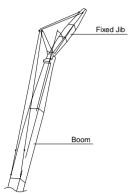
Symbol	Boom Length	Remarks
В	7.6 m	Boom Base
	7.6 m	Boom Top
10	3.0 m	Insert Boom
20	6.1 m	Insert Boom
40	12.2 m	Insert Boom

Boom length m (ft)	Boom arrangement
54.9 (180)	**     *B 10 20 20 40 40 T       **     *B 10 40 40 40 T
57.9 (190)	#     B 10 10 20 20 40 40 T       B 10 10 40 40 40 T       B 20 40 40 40 T
61.0 (200)	★ ■ B 10 20 40 40 40 T
64.0 (210)	B 10 10 20     40     40     T       B 20 20     40     40     T         B 40     40     40     T
67.1 (220)	★ B 10 20 20 40 40 40 T     ★ B 10 40 40 40 T
70.1 (230)	B 10 10 20 20 40 40 40 T         B 10 10 40 40 40 T
73.2 (240)	₩B 10 20 40 40 40 10
76.2 (250)	B 10 10 20     40     40     40     T       B 20 20     40     40     40     T         B 40     40     40     40     T
79.3 (260)	B 10 20 20 40 40 40 T       B 10 40 40 40 40 T
82.3 (270)	#     B 10 10 20 20 40 40 40 40 T       B 10 10 40 40 40 40 T
85.3 (280)	※   ■ 10 20 40 40 40 40 10 T
88.4 (290)	**     <
91.4 (300)	B 10 20 20 40 40 40 40 T

 $<sup>\</sup>ensuremath{\diagup}$  mark shows the guy line installing position when the fixed jib is used.

lephi Indicates the most flexible combination of insert booms, which can be modified to form all shorter boom arrangements.

## **Fixed Jib Arrangements**



Crane boom length	Jib length m (ft)	Jib arrangement
	12.2 (40)	B 10 T
27.4 m	18.3 (60)	B 10 20 T
76.2 m	24.4 (80)	B 10 20 20 F
	30.5 (100)	B 10 20 20 20 T

Symbol	Jib Length	Remarks
В	4.6 m	Jib Base
	4.6 m	Jib Top
10	3.0 m	Insert Jib
20	6.1 m	Insert Jib

## **Long Boom Arrangements**

Boom length m (ft)	Boom arrangement	
64.0 (210)		
67.1 (220)	■ 20 40 40 40 TB BOAL	
70.1 (230)		
73.2 (240)		
76.2 (250)	**       ** <td< td=""></td<>	
79.3 (260)	**       ** <td< td=""></td<>	
82.3 (270)	※       ■ 10 10 20 40 40 40 TB HOAI 10 20 JT         ■ 20 20 40 40 40 40 TB HOAI 10 20 JT         ■ 40 40 40 40 TB HOAI 10 20 JT	
85.3 (280)	Image: Second content of the second	
88.4 (290)	**     *B 10 10 20 40 40 40 40 TB HOAI 10 20 20 31       **     *B 20 20 40 40 40 40 TB HOAI 10 40 31       **     *B 40 40 40 40 TB HOAI 10 40 31	
91.4 (300)	B     10     10     20     40     40     40     TB HOAH0H10H10     20     120     JT       B     20     20     40     40     40     TB HOAH10H10     40     JT       B     40     40     40     40     TB HOAH 20     40     JT	

 Indicates the most flexible combination of insert long booms, which can be modified to form all shorter long boom arrangements.

arrangementer		
Symbol	Long Boom Length	Remarks
В	7.6 m	Boom Base
JT	9.1 m	Luffing Jib Top
10	3.0 m	Insert Boom
20	6.1 m	Insert Boom
40	12.2 m	Insert Boom
ТВ	4.6 m	Tapered Boom
TOA	3.0 m	Relay Jib
[10]	3.0 m	Luffing Insert Jib
20	6.1 m	Luffing Insert Jib
40	12.2 m	Luffing Insert Jib

## **Luffing Boom Arrangements for Luffing**

Boom length m (ft)	Boom arrangement
21.3 (70)	<u>₩ ■ B 10  20   </u> C
24.4 (80)	
27.4 (90)	★ ■ 101 20 1 20 1.75 c     ■ 11.76 c     ■ 11.76 c     ■ 11.76 c     ■ 11.76 c     □ 11.76
30.5 (100)	* B10 10  20   20   11/8   C   B10 10  40   11/8   C   B 20   40   11/8   C   C   C   C   C   C   C   C   C
33.5 (110)	
36.6 (120)	★ ■ 10110 20 40 11.78 C     ■ 20 20 40 11.78 C     ■ 40 40 10.0 C     ■ 40 11.78 C
39.6 (130)	★ ■ 10   20   20   40   178   C     ■ 10   40   40   178   C     ■ 1178   C     ■ 1178
42.7 (140)	★ B10 10  20   20   40   0 C
45.7 (150)	₩ ■10 20 40 40 11.78 C

Boom length m (ft)	Boom arrangement
48.8 (160)	★ ■ □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
51.8 (170)	
54.9 (180)	
57.9 (190)	※   ──  □  □  □  □  □  □  □  □  □  □  □  □
61.0 (200)	★ B 10 10 20 40 40 40 117B     ★ B 20 20 40 40 40 117B     ★ B 20 20 40 40 40 117B

Symbol	Luffing Boom Length	Remarks			
<b>◯</b> B	7.6 m	Boom Base			
Oc	1.0 m	Luffing Boom Top			
□11.7B	3.6 m	Luffing Tapered Boom			
10	3.0 m	Insert Boom			
20	6.1 m	Insert Boom			
40	12.2 m	Insert Boom			

## **Luffing Boom Arrangements for Crane**

Boom length m (ft)	Boom arrangement
15.2 (50)	<u>B10</u> C 11.7B
18.3 (60)	★ ■1010
21.3 (70)	★ B10 20 11.7B  C  11.7B  C  THE PROPERTY OF THE PROPERT
24.4 (80)	★ ■ 10 10  20
27.4 (90)	★ ■ 10   20   20   17.8   17
30.5 (100)	# B10 10  20   20   178   C   1178   C   B10 10  40   1178   C   C   1178   C   C   C   C   C   C   C   C   C
33.5 (110)	★ ■ 10 20   40   11.7B  11.7B    11.7B
36.6 (120)	★ ■ 10 10  20   40   ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
39.6 (130)	★ B10 20 20 40 1178 C     B10 40 40 1178 C     1178 C
42.7 (140)	★ ■ 10   10   20   20   40   11.76   C       ■ 10   10   40   40   11.76   C       ■ 20   40   40   11.76   C       ■ 20   40   40   11.76   C

Б	
Boom length m (ft)	Boom arrangement
45.7 (150)	※   ─────────────────────────────────
	※ ■ 10 10  20 40 40 11.76
48.8 (160)	B 20 20 40 40 C
	B 40 40 40 11.78 C
51.8 (170)	★ ■ 10 20 20 40 40 178 C  11.78
51.6 (170)	B 10  40   40   40   11/76   C
	★ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
54.9 (180)	B 20 40 40 40 C
	B10 10  40 40 117B
57.9 (190)	※ ■ 10 20 40 40 40 17.76 C  11.78 C
	※   → B[10]10] 20 40 40 40 10 C  11.7B  C
61.0 (200)	B 20 20 40 40 40 117B
	B 40 40 40 40 11,7B C

lephi Indicates the most flexible combination of insert luffing booms, which can be modified to form all shorter luffing boom arrangements.

Symbol	Luffing Boom Length	Remarks			
B	7.6 m	Boom Base			
<i>O</i> c	1.0 m	Luffing Boom Top			
	3.6 m	Luffing Tapered Boom			
10	3.0 m	Insert Boom			
20	6.1 m	Insert Boom			
40	12.2 m	Insert Boom			

## **Luffing Jib Arrangements**

Jib length m (ft)	Jib arrangement
21.3 (70)	W. THOUSET
24.4 (80)	**
27.4 (90)	Serioal 1010ut  Definal 20 lut
30.5 (100)	<u> </u>
33.5 (110)	## JEHOAI 101101 20 LIT
36.6 (120)	######################################

Jib length m (ft)	Jib arrangement
20.0 (420)	<b>※</b> О
39.6 (130)	Q
42.7 (140)	<b>※</b> ○
	* C
45.7 (150)	UBHOAL 20   20   40   UT
48.8 (160)	<b>※</b> ○

mark shows the installing position for mid suspension guy line.

Jib length m (ft)	Jib arrangement
51.8 (170)	**
54.9 (180)	**  JB(0A) 40   40   10  20 LDT
57.9 (190)	######################################
61.0 (200)	* JBHON 20   20   40   110   40   17

Symbol	Luffing Jib Length	Remarks
JB	9.1 m	Luffing Jib Base
DT	9.1 m	Luffing Jib Top
HOA	3.0 m	Relay Jib
[10]	3.0 m	Luffing Insert Jib
20	6.1 m	Luffing Insert Jib
40	12.2 m	Luffing Insert Jib

### **Luffing Boom and Jib Combinations.**

		Jib Length (m)													
		21.3	24.4	27.4	30.5	33.5	36.6	39.6	42.7	45.7	48.8	51.8	54.9	57.9	61.0
	21.3	0	0	0	0	0	0	0	0	0	0	0	0	0	
	24.4	0	0	0	0	0	0	0	0	0	0	0	0	0	
	27.4	0	0	0	0	0	0	0	0	0	0	0	0	0	
	30.5	0	0	0	0	0	0	0	0	0	0	0	0	0	
	33.5	0	0	0	0	0	0	0	0	0	0	0	0	0	
(E)	36.6	0	0	0	0	0	0	0	0	0	0	0	0	0	
	39.6	0	0	0	0	0	0	0	0	0	0	0	0	0	
-ength	42.7	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-1	45.7	0	0	0	0	0	0	0	0	0	0	0	0	0	
ΙĔ	48.8	0	0	0	0	0	0	0	0	0	0	0	0	0	
Boom	51.8	0	0	0	0	0	0	0	0	0	0	0	0	0	
"	54.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	57.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	61.0	×	×	×	0	0	0	0	0	0	0	0	0	0	0

 $\bigcirc$ : Combinations which is allowed.  $\qquad$  X : Combinations which is not allowed.

<sup>※</sup> Indicates the most flexible combination of insert luffing jibs, which can be modified to form all shorter luffing jib arrangements.



#### **Hook Blocks**

A range of hook blocks can be specified, each with a safety latch.

				· · · · · · · · · · · · · · · · · · ·						
Hooks	Maight (kg)	No. of sheaves	No. of lines and max. rated loads (tons)							
	Weight (kg)		1	2	3	4	5	6	7	8
250-ton	4,200	11	-	-	-	54.0	-	81.0	-	108.0
150-ton	2,300	6	-	-	40.5	54.0	67.5	81.0	94.5	108.0
70-ton	1,200	3	-	27.0	40.5	54.0	67.5	70.0	-	-
35-ton	900	1	-	27.0	35.0	-	-	-	-	-
13.5-ton ball hook	450	0	13.5	-	-	-	-	-	-	-

Hooks	Weight (kg)	No. of sheaves	No. of lines and max. rated loads (tons)							
			9	10	12	14	16	18	20	22
250-ton	4,200	11	-	135.0	160.0	183.0	205.0	227.0	240.0	250.0
150-ton	2,300	6	121.5	135.0	150.0	-	-	-	-	-
70-ton	1,200	3	-	-	-	-	-	-	-	-
35-ton	900	1	-	-	-	-	-	-	-	-
13.5-ton ball hook	450	0	-	-	-	-	-	-	-	-

Main Hoist Drum Rated Loads in Metric Tons										
No. of Parts of Line	1	2	3	4	5	6	7	8		
Max. Loads (ton)	13.5	27.0	40.5	54.0	67.5	81.0	94.5	108.0		
No. of Parts of Line	9	10	12	14	16	18	20	22		
Max. Loads (ton)	121.5	135.0	160.0	183.0	205.0	227.0	240.0	250.0		

#### Style and Combination of Boom and Jib

	Style	Crane Boom	Luffing Boom	Long Boom	Fixed Jib	Luffing Jib
	7.6 m boom base	Common use(1)	Common use(1)	Common use(1)	Common use(1)	Common use(1)
	7.6 m boom top	Common use(1)	N.A.	N.A.	Common use(1)	N.A.
	1.0 m luffing boom top	N.A.	Common use(1)	N.A.	N.A.	Common use(1)
E	3.0 m insert boom	Common use(1)	Common use(2)	Common use(2)	Common use(2)	Common use(2)
B	6.1 m insert boom	Common use(2)	Common use(1)	Common use(1)	Common use(1)	Common use(1)
	12.2 m insert boom	Common use(5)	Common use(3)	Common use(3)	Common use(4)	Common use(3)
	3.6 m luffing tapered boom	N.A.	Common use(1)	N.A.	N.A.	Common use(1)
	4.6 m tapered boom	N.A.	N.A.	Long Boom only(1)	N.A.	N.A.
	4.6 m jib base	-	-	N.A.	Fixed jib only(1)	N.A.
	4.6 m jib top	-	-	N.A.	Fixed jib only(1)	N.A.
	3.0 m insert jib	-	-	N.A.	Fixed jib only(1)	N.A.
	6.1 m insert jib	-	-	N.A.	Fixed jib only(3)	N.A.
aid	9.1 m luffing jib base	-	-	N.A.	N.A.	Luffing jib only(1)
=	9.1 m luffing jib top	-	-	Common use(1)	N.A.	Common use(1)
	3.0 m relay jib	-	-	Common use(1)	N.A.	Common use(1)
	3.0 m luffing insert jib	-	-	Common use(2)	N.A.	Common use(1)
	6.1 m luffing insert jib	-	-	Common use(2)	N.A.	Common use(2)
	12.2 m luffing insert jib	-	-	Common use	N.A.	Common use(2)

Note: 1. Figure in ( )means the numbers of the maximum usable boom (or jib) respectively. 2. N.A.: Not applicable

#### **Symbols for Attachments:**



















Crane Boom

Auxiliary Sheave for Crane Boom

Luffing Boom

Auxiliary Sheave for Luffing Boom

Long Boom

Auxiliary Sheave for Long Boom

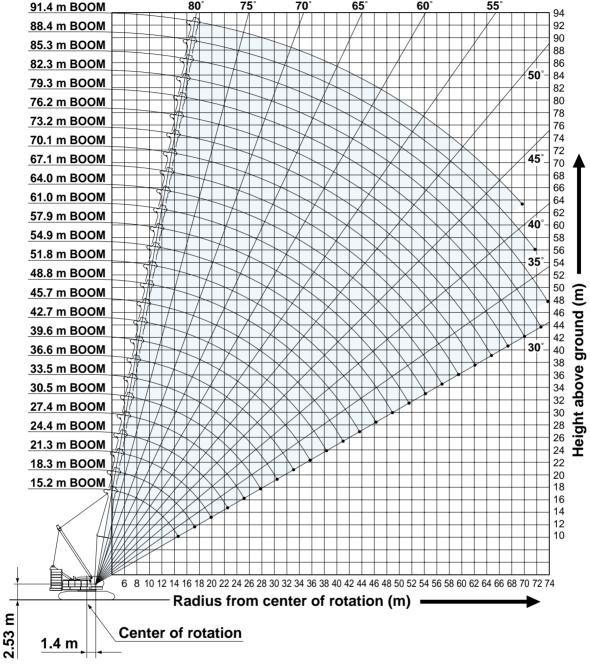
Fixed Jib

Luffing Jib

Luffing Boom with Luffing Jib

# WORKING RANGES AND LIFTING CAPACITIES

### **Crane Boom Working Ranges**



#### NOTES:

- 1. Ratings according to EN13000.
- 2. Ratings in metric tons for 360° working area.
- 3. Operating radius is the horizontal distance from center of rotation to a vertical line through the center of gravity of the load.
- 4. Weight of hook block(s), slings and other load handling accessories is included in rated load. Their total weight must be subtracted from rated load to obtain weight that can be lifted.
- 5. Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted load, ground conditions out-of-level, operating speeds or any other condition that could be detrimental to the safe operation of this equipment. Operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly.
- 6. Ratings are for operation on a firm and level surface, up to 1% gradient.
- At radii and boom lengths where no ratings are shown on chart, operation is not intended nor approved.
- 8. Boom inserts and guy lines must be arranged as shown in the

- "Operator's Manual".
- 9. Boom hoist reeving is 16 part line.
- 10. Gantry must be in raised position for all conditions.
- 11. Boom backstops are required for all boom lengths.
- 12. The boom should be erected over the front of crawlers, not laterally.
- Ratings shown in \_\_\_\_\_\_ are determined by the strength of the boom or other structural component.
- 14. When erecting or lowering the boom length of 88.4 m or over, the pillow plate for erection must be placed at the end of crawlers.
- 15. Instruction in the "Operator's Manual" must be strictly observed when operating the machine.
- 16. Crane boom ratings: Deduct weight of hook block, slings, and all other load handling accessories from crane boom ratings shown.
- 17. Auxiliary sheave ratings for crane boom: Deduct weight of hook block, slings, and all other load handling accessories from auxiliary sheave ratings for crane boom shown.
- 18. Crane boom lengths for auxiliary sheave mounting are 15.2 m to 88.4 m



## **Crane Boom Lifting Capacity**

Unit: metric ton

Counterweight: 90.0 t,	Carbody weight: 24.0 t

Boom Length Working (m) radius (m)	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6	42.7	45.7	48.8	51.8	Boom Length (m) Working radius (m)
4.6	4.6 m/250.0													4.6
5.0	230.7	226.7	5.5m /205.0											5.0
6.0	191.5	191.5	191.1	6.1 m/183.0	6.6 m/174.5									6.0
7.0	165.9	165.6	165.2	165.0	164.7	7.1 m/154.2								7.0
8.0	146.1	145.8	145.4	145.2	144.9	144.6	141.4		8.7 m/115.7					8.0
9.0	130.4	130.1	129.8	129.6	129.2	127.0	127.3	123.8	114.8	9.2 m/107.2	9.8 m/98.3			9.0
10.0	117.7	117.4	117.1	116.9	114.7	115.0	113.3	110.5	107.4	103.8	97.0	10.3 m/92.6	10.8 m/84.7	10.0
12.0	90.0	90.2	90.2	90.2	90.2	90.1	90.0	89.9	87.8	85.9	83.8	82.0	79.5	12.0
14.0	72.2	72.4	72.4	72.4	72.3	72.2	72.1	72.0	72.0	72.0	70.8	69.4	68.0	14.0
16.0	14.8 m/65.7	60.2	60.2	60.2	60.0	59.9	59.8	59.8	59.7	59.6	59.4	59.3	58.7	16.0
18.0		17.5 m/53.5	51.3	51.3	51.1	51.1	50.9	50.8	50.7	50.7	50.4	50.3	50.2	18.0
20.0			44.6	44.6	44.4	44.3	44.1	44.0	43.9	43.9	43.6	43.5	43.4	20.0
22.0			20.1m/44.3	39.3	39.1	39.0	38.7	38.7	38.6	38.5	38.3	38.2	38.0	22.0
24.0				22.7 m/37.6	34.8	34.7	34.5	34.4	34.3	34.2	34.0	33.8	33.7	24.0
26.0					25.4 m/32.3	31.3	30.9	30.8	30.7	30.7	30.4	30.3	30.1	26.0
28.0						28.3	28.0	27.9	27.8	27.7	27.4	27.3	27.1	28.0
30.0							25.5	25.4	25.2	25.2	24.9	24.8	24.6	30.0
32.0							30.7 m/24.8	23.4	23.1	23.0	22.7	22.6	22.4	32.0
34.0								33.3 m/22.1	21.2	21.1	20.8	20.7	20.5	34.0
36.0									35.9 m/19.7	19.5	19.2	19.1	18.9	36.0
38.0										18.0	17.7	17.6	17.4	38.0
40.0										38.6 m/17.6	16.4	16.3	16.1	40.0
42.0											41.2 m/15.7	15.2	14.9	42.0
44.0												43.9 m/14.2	13.9	44.0
46.0													13.0	46.0
48.0													46.5 m/12.8	48.0
Reeves	22	18	16	14	14	12	12	10	10	8	8	7	7	Reeves

Boom Length Working (m) radius (m)	54.9	57.9	61.0	64.0	67.1	70.1	73.2	76.2	79.3	82.3	85.3	88.4	91.4	Boom Length (m) Working radius (m)
10.0	11.4 m/81.4	11.9 m/76.1												10.0
12.0	78.0	75.5	12.4 m/68.8	12.9 m/67.5	13.5 m/63.8									12.0
14.0	66.5	65.2	63.3	62.5	61.3	59.4	14.5 m/54.5	15.1 m/49.1	15.6 m/44.7					14.0
16.0	57.5	56.4	55.4	54.2	53.2	51.2	51.1	48.4	44.5	16.1 m/40.9	16.6 m/37.4	17.2 m/33.8	17.7 m/31.0	16.0
18.0	50.0	49.5	48.6	47.6	46.8	45.6	44.9	44.2	43.2	39.7	36.6	33.3	30.9	18.0
20.0	43.2	43.0	42.9	42.2	41.5	40.6	39.9	39.2	38.4	37.6	35.4	32.2	29.8	20.0
22.0	37.8	37.7	37.5	37.3	37.2	36.5	35.7	35.1	34.4	33.6	32.9	31.2	28.8	22.0
24.0	33.5	33.3	33.2	32.9	32.9	32.6	32.2	31.6	30.9	30.2	29.6	29.2	27.7	24.0
26.0	29.9	29.7	29.6	29.4	29.3	29.0	28.9	28.6	28.0	27.3	26.8	26.3	25.7	26.0
28.0	26.9	26.8	26.6	26.4	26.3	26.0	25.9	25.8	25.4	24.8	24.3	23.9	23.3	28.0
30.0	24.4	24.2	24.1	23.8	23.7	23.5	23.3	23.2	23.0	22.6	22.1	21.7	21.2	30.0
32.0	22.2	22.0	21.9	21.6	21.5	21.3	21.1	21.0	20.8	20.5	20.2	19.8	19.3	32.0
34.0	20.3	20.1	20.0	19.7	19.6	19.4	19.2	19.1	18.9	18.6	18.4	18.1	17.6	34.0
36.0	18.6	18.5	18.3	18.1	17.9	17.7	17.5	17.4	17.2	16.9	16.8	16.6	16.1	36.0
38.0	17.2	17.0	16.9	16.6	16.5	16.2	16.0	15.9	15.7	15.4	15.3	15.2	14.7	38.0
40.0	15.9	15.7	15.5	15.3	15.2	14.9	14.7	14.6	14.4	14.1	13.9	13.8	13.5	40.0
42.0	14.7	14.5	14.4	14.1	14.0	13.7	13.5	13.4	13.2	12.9	12.8	12.7	12.4	42.0
44.0	13.7	13.5	13.3	13.0	12.9	12.6	12.5	12.3	12.1	11.8	11.7	11.6	11.3	44.0
46.0	12.7	12.5	12.4	12.1	12.0	11.7	11.5	11.4	11.2	10.9	10.7	10.6	10.4	46.0
48.0	11.9	11.6	11.5	11.2	11.1	10.8	10.7	10.5	10.3	10.0	9.8	9.7	9.4	48.0
50.0	49.1 m/11.4	10.9	10.7	10.4	10.3	10.0	9.9	9.7	9.5	9.1	8.9	8.8	8.5	50.0
52.0		51.8 m/10.2	10.0	9.7	9.6	9.3	9.1	8.9	8.7	8.3	8.1	8.0	7.7	52.0
54.0			9.3	9.1	8.9	8.6	8.4	8.2	7.9	7.6	7.4	7.2	7.0	54.0
56.0			54.4 m/9.2	8.4	8.3	7.9	7.7	7.5	7.2	6.9	6.7	6.5	6.3	56.0
58.0				57.1 m/8.1	7.7	7.3	7.1	6.9	6.6	6.3	6.1	5.9	5.6	58.0
60.0					59.7 m/7.2	6.7	6.5	6.3	6.0	5.7	5.5	5.3	5.0	60.0
62.0						6.2	6.0	5.8	5.5	5.1	4.9	4.8	4.5	62.0
64.0						62.3 m/6.1	5.5	5.3	5.0	4.6	4.4	4.3	4.0	64.0
66.0							65.0 m/5.3	4.8	4.5	4.2	4.0	3.8	3.5	66.0
68.0								67.6 m/4.5	4.1	3.7	3.5	3.3	2.9	68.0
70.0									3.7	3.3	3.1	2.9	2.4	70.0
72.0									70.2 m/3.6	2.9	2.7	2.5		72.0
74.0										72.9 m/2.8	2.4			74.0
Reeves	7	6	6	5	5	5	5	4	4	4	3	3	3	Reeves

Note: Ratings according to EN13000.

Ratings shown in \_\_\_\_\_are determined by the strength of the boom or other structural components.

Refer to notes P12.



48.0

50.0

Reeves

# Auxiliary Sheave Lifting Capacity for Crane Boom Unit: metric to (With 70 t Main Hook) Counterweight: 90.0 t, Carbody weight: 24.0 t

Unit: metric ton

10.6

48.2 m/10.5

48.0

Reeves

(witn	/U 1	i wa	ın Ho	DOK)	Counterweight: 90.0 t, Carbody weight: 24.0 t									
Boom Length Working (m) radius (m)	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6	42.7	45.7	48.8	51.8	Boom Length (m) Working radius (m)
5.0	5.4 m/27.0	5.8 m/27.0												5.0
6.0	27.0	27.0	6.3 m/27.0	6.9 m/27.0										6.0
7.0	27.0	27.0	27.0	27.0	7.4 m/27.0	7.9 m/27.0								7.0
8.0	27.0	27.0	27.0	27.0	27.0	27.0	8.5 m/27.0							8.0
9.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	9.5 m/27.0					9.0
10.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	10.6 m/27.0	11.1 m/27.0	11.6 m/27.0	10.0
12.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	12.0
14.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	14.0
16.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	16.0
18.0	16.5 m/27.0	19.2 m/27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	18.0
20.0			27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	20.0
22.0			21.8 m/27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	22.0
24.0				27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	24.0
26.0				24.4 m/27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	26.0
28.0					27.1 m/26.6	26.4	26.5	26.4	26.3	26.2	25.9	25.8	25.6	28.0
30.0						29.7 m/23.5	24.0	23.9	23.7	23.7	23.4	23.3	23.1	30.0
32.0							32.4 m/21.0	21.9	21.6	21.5	21.2	21.1	20.9	32.0
34.0								19.9	19.7	19.6	19.3	19.2	19.0	34.0
36.0								35.0 m/18.9	17.8	18.0	17.7	17.6	17.4	36.0
38.0									37.6 m/16.3	16.5	16.2	16.1	15.9	38.0
40.0										15.0	14.9	14.8	14.6	40.0
42.0										40.3 m/14.8	13.6	13.7	13.4	42.0
44.0											42.9 m/13.0	12.6	12.4	44.0
46.0												45.6 m/11.7		46.0

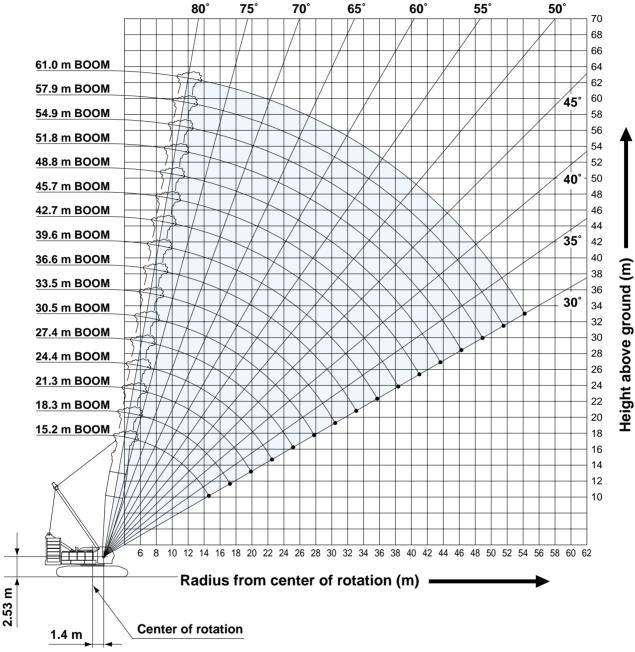
Boom Length Working (m) radius (m)	54.9	57.9	61.0	64.0	67.1	70.1	73.2	76.2	79.3	82.3	85.3	88.4	Boom Length (m) Working radius (m)
12.0	12.2 m/27.0	12.7 m/27.0	13.2 m/27.0	13.7 m/27.0									12.0
14.0	27.0	27.0	27.0	27.0	14.3 m/27.0	14.8 m/27.0	15.3 m/27.0	15.9 m/27.0					14.0
16.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	16.4 m/27.0	16.9 m/27.0	17.4 m/27.0		16.0
18.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	18.0
20.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	20.0
22.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	22.0
24.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	24.0
26.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	26.5	25.8	25.3	24.8	26.0
28.0	25.4	25.3	25.1	24.9	24.8	24.5	24.4	24.3	23.9	23.3	22.8	22.4	28.0
30.0	22.9	22.7	22.6	22.3	22.2	22.0	21.8	21.7	21.5	21.1	20.6	20.2	30.0
32.0	20.7	20.5	20.4	20.1	20.0	19.8	19.6	19.5	19.3	19.0	18.7	18.3	32.0
34.0	18.8	18.6	18.5	18.2	18.1	17.9	17.7	17.6	17.4	17.1	16.9	16.6	34.0
36.0	17.1	17.0	16.8	16.6	16.4	16.2	16.0	15.9	15.7	15.4	15.3	15.1	36.0
38.0	15.7	15.5	15.4	15.1	15.0	14.7	14.5	14.4	14.2	13.9	13.8	13.7	38.0
40.0	14.4	14.2	14.0	13.8	13.7	13.4	13.2	13.1	12.9	12.6	12.4	12.3	40.0
42.0	13.2	13.0	12.9	12.6	12.5	12.2	12.0	11.9	11.7	11.4	11.3	11.2	42.0
44.0	12.2	12.0	11.8	11.5	11.4	11.1	11.0	10.8	10.6	10.3	10.2	10.1	44.0
46.0	11.2	11.0	10.9	10.6	10.5	10.2	10.0	9.9	9.7	9.4	9.2	9.1	46.0
48.0	10.4	10.1	10.0	9.7	9.6	9.3	9.2	9.0	8.8	8.5	8.3	8.2	48.0
50.0	9.6	9.4	9.2	8.9	8.8	8.5	8.4	8.2	8.0	7.6	7.4	7.3	50.0
52.0	50.8 m/9.3	8.7	8.5	8.2	8.1	7.8	7.6	7.4	7.2	6.8	6.6	6.5	52.0
54.0		53.5 m/8.2	7.8	7.6	7.4	7.1	6.9	6.7	6.4	6.1	5.9	5.7	54.0
56.0			7.1	6.9	6.8	6.4	6.2	6.0	5.7	5.4	5.2	5.0	56.0
58.0			56.1 m/7.1	6.2	6.2	5.8	5.6	5.4	5.1	4.8	4.6	4.4	58.0
60.0				58.8 m/5.9	5.6	5.2	5.0	4.8	4.5	4.2	4.0	3.8	60.0
62.0					61.4 m/5.2	4.7	4.5	4.3	4.0	3.6	3.4	3.3	62.0
64.0						4.2	4.0	3.8	3.5	3.1	2.9	2.8	64.0
66.0							3.5	3.3	3.0	2.7	2.5		66.0
68.0							66.7 m/3.3	2.8	2.6				68.0
70.0	_		0			_	0	69.3 m/2.5	_	0			70.0
Reeves	2	2	2	2	2	2	2	2	2	2	2	2	Reeves

Note: Ratings according to EN13000.

Ratings shown in are determined by the strength of the boom or other structural components.

Refer to notes P12.

### **Luffing Boom Working Ranges**



#### NOTES:

- Ratings according to EN13000.
- 2. Ratings in metric tons for 360° working area.
- 3. Operating radius is the horizontal distance from center of rotation to a vertical line through the center of gravity of the load.
- 4. Weight of hook block(s), slings and other load handling accessories is included in rated load. Their total weight must be subtracted from rated load to obtain weight that can be lifted.
- 5. Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted load, ground conditions out-of-level, operating speeds or any other condition that could be detrimental to the safe operation of this equipment. Operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly.
- 6. Ratings are for operation on a firm and level surface, up to 1% gradient.
- At radii and boom lengths where no ratings are shown on chart, operation is not intended nor approved.
- 8. Boom inserts and guy lines must be arranged as shown in the "Operator's Manual".

- 9. Boom hoist reeving is 16 part line.
- 10. Gantry must be in raised position for all conditions.
- 11. Boom backstops are required for all boom lengths.
- 12. The boom should be erected over the front of crawlers, not laterally.
- 13. Ratings shown in \_\_\_\_\_ are determined by the strength of the boom or other structural component.
- 14. Instruction in the "Operator's Manual" must be strictly observed when operating the machine.
- 15. Luffing boom ratings: Deduct weight of hook block, slings, and all other load handling accessories from luffing boom ratings shown.
- 16. Auxiliary sheave ratings for luffing boom: Deduct weight of hook block, slings, and all other load handling accessories from auxiliary sheave ratings for luffing boom shown.
- 17. Luffing boom lengths for auxiliary sheave mounting are 15.2 m to 61.0 m



# **Luffing Boom Lifting Capacity**

Unit: metric ton

_												-
Boom length Working (m) radius (m)	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6	42.7		Boom length (m) Working radius (m)
5.0	5.4 m/150.0	5.9 m/143.6										5.0
6.0	150.0	143.6	6.4 m/143.8									6.0
7.0	150.0	143.6	143.8	144.2	7.5 m/144.6							7.0
8.0	144.9	143.6	143.8	144.0	143.8	132.2	8.6 m/116.0					8.0
9.0	129.2	128.9	128.8	128.4	128.2	123.8	114.6	9.1 m/111.3	9.6 m/100.0			9.0
10.0	116.5	116.2	116.0	115.7	114.0	111.8	109.7	107.7	98.5	10.1 m/95.1	10.7 m/83.0	10.0
12.0	88.9	88.8	88.7	88.6	88.5	88.4	88.3	88.2	86.9	84.9	78.8	12.0
14.0	71.2	71.1	71.0	70.9	70.8	70.7	70.6	70.5	70.4	70.3	70.2	14.0
16.0	15.3 m/61.6	59.2	59.1	59.0	58.9	58.8	58.7	58.6	58.5	58.4	58.3	16.0
18.0		17.9 m/50.7	50.5	50.4	50.3	50.2	50.1	50.0	49.9	49.8	49.7	18.0
20.0			43.8	43.7	43.6	43.5	43.4	43.3	43.2	43.0	42.9	20.0
22.0			20.6 m/42.2	38.4	38.3	38.2	38.1	38.0	37.9	37.6	37.5	22.0
24.0				23.2 m/35.7	34.1	33.9	33.8	33.7	33.6	33.3	33.2	24.0
26.0					25.8 m/30.8	30.4	30.3	30.2	30.0	29.8	29.7	26.0
28.0						27.4	27.3	27.2	27.1	26.8	26.7	28.0
30.0						28.5 m/26.8	24.9	24.8	24.6	24.3	24.2	30.0
32.0							31.1 m/23.7	22.6	22.4	22.2	22.1	32.0
34.0								33.8 m/21.0	20.6	20.3	20.2	34.0
36.0									18.9	18.6	18.5	36.0
38.0									36.4 m/18.6	17.2	17.1	38.0
40.0										39.0 m/16.5	15.9	40.0
42.0											41.7 m/15.0	42.0
44.0												44.0
46.0												46.0
Reeves	12	12	12	12	12	10	10	10	8	8	7	Reeves

Boom length Working (m) radius (m)	48.8	51.8	54.9	57.9	61.0	Boom length (m) Working radius (m)
10.0	11.2 m/81.0	11.7 m/77.9				10.0
12.0	77.3	76.1	12.3 m/73.2	12.8 m/69.2	13.3 m/65.2	12.0
14.0	68.7	64.9	63.8	63.0	62.0	14.0
16.0	58.2	58.0	56.8	54.8	54.0	16.0
18.0	49.6	49.5	49.3	48.9	47.9	18.0
20.0	42.8	42.7	42.5	42.4	42.2	20.0
22.0	37.4	37.3	37.1	37.0	36.9	22.0
24.0	33.1	33.0	32.8	32.7	32.5	24.0
26.0	29.6	29.5	29.2	29.1	29.0	26.0
28.0	26.6	26.5	26.3	26.2	26.0	28.0
30.0	24.1	24.0	23.7	23.6	23.4	30.0
32.0	21.9	21.8	21.5	21.4	21.3	32.0
34.0	20.0	19.9	19.6	19.5	19.4	34.0
36.0	18.4	18.3	18.0	17.9	17.7	36.0
38.0	16.9	16.8	16.5	16.4	16.2	38.0
40.0	15.6	15.5	15.2	15.1	14.9	40.0
42.0	14.5	14.3	14.1	14.0	13.7	42.0
44.0	13.5	13.3	13.0	12.9	12.7	44.0
46.0	44.3 m/13.3	12.4	12.1	12.0	11.7	46.0
48.0		47.0 m/11.9	11.2	11.1	10.9	48.0
50.0			49.6 m/10.6	10.4	10.1	50.0
52.0				9.7	9.4	52.0
54.0				52.2 m/9.6	8.7	54.0
56.0					54.9 m/8.4	56.0
58.0						58.0
60.0						60.0
62.0						62.0
Reeves	6	6	6	6	5	Reeves

Note: Ratings according to EN13000.
Ratings shown in \_\_\_\_\_\_ are determ are determined by the strength of the boom or other structural components.

Refer to notes P15.

16



### **Auxiliary Sheave Lifting Capacity for Luffing Boom** Counterweight: 90.0 t, Carbody weight: 24.0 t

Unit: metric ton

<b>\</b>			,									
Boom length Working (m) radius (m)	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6	42.7	45.7	Boom length (m) Working radius (m)
6.0	6.2 m/13.5	6.7 m/13.5										6.0
7.0	13.5	13.5	7.2 m/13.5	7.8 m/13.5								7.0
8.0	13.5	13.5	13.5	13.5	8.3 m/13.5	8.8 m/13.5						8.0
9.0	13.5	13.5	13.5	13.5	13.5	13.5	9.4 m/13.5	9.9 m/13.5				9.0
10.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	10.4 m/13.5	10.9 m/13.5	11.5 m/13.5	10.0
12.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	12.0
14.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0
16.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	16.0
18.0	16.6 m/13.5	19.2 m/13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	18.0
20.0			13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	20.0
22.0			21.9 m/13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	22.0
24.0				13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	24.0
26.0				24.5 m/13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	26.0
28.0					27.1 m/13.5	13.5	13.5	13.5	13.5	13.5	13.5	28.0
30.0						29.8 m/13.5	13.5	13.5	13.5	13.5	13.5	30.0
32.0							32.4 m/13.5	13.5	13.5	13.5	13.5	32.0
34.0								13.5	13.5	13.5	13.5	34.0
36.0								35.1 m/13.5	13.5	13.5	13.5	36.0
38.0									37.7 m/13.5	13.5	13.5	38.0
40.0										13.5	13.5	40.0
42.0										40.3 m/13.5	13.5	42.0
44.0											43.0 m/12.9	44.0
Reeves	1	1	1	1	1	1	1	1	1	1	1	Reeves

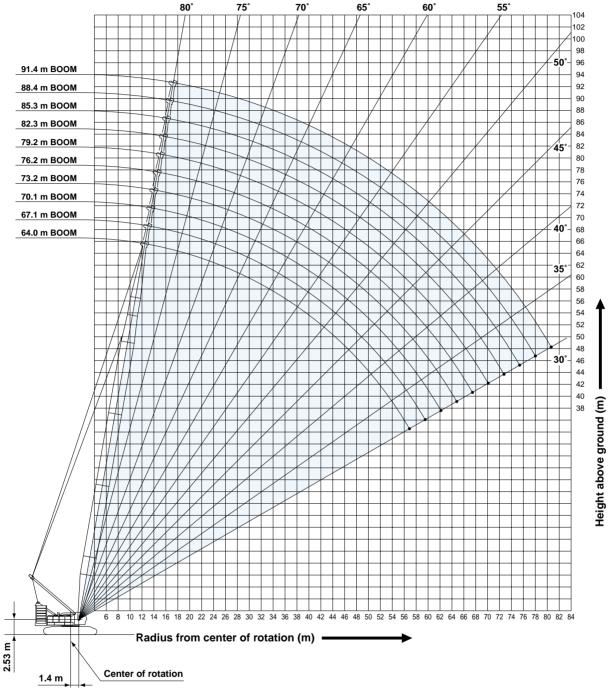
Boom						Boom
Working (m)	48.8	51.8	54.9	57.9	61.0	length (m) Working
radius (m)	10.5	40 F/40 F	10.1/10.5	10.0 m/10.5		radius (m)
12.0	13.5	12.5 m/13.5	13.1 m/13.5	13.6 m/13.5	444 40 5	12.0
14.0	13.5	13.5	13.5	13.5	14.1 m/13.5	14.0
16.0	13.5	13.5	13.5	13.5	13.5	16.0
18.0	13.5	13.5	13.5	13.5	13.5	18.0
20.0	13.5	13.5	13.5	13.5	13.5	20.0
22.0	13.5	13.5	13.5	13.5	13.5	22.0
24.0	13.5	13.5	13.5	13.5	13.5	24.0
26.0	13.5	13.5	13.5	13.5	13.5	26.0
28.0	13.5	13.5	13.5	13.5	13.5	28.0
30.0	13.5	13.5	13.5	13.5	13.5	30.0
32.0	13.5	13.5	13.5	13.5	13.5	32.0
34.0	13.5	13.5	13.5	13.5	13.5	34.0
36.0	13.5	13.5	13.5	13.5	13.5	36.0
38.0	13.5	13.5	13.5	13.5	13.5	38.0
40.0	13.5	13.5	13.5	13.5	13.5	40.0
42.0	13.3	13.1	12.9	12.8	12.5	42.0
44.0	12.3	12.1	11.8	11.7	11.5	44.0
46.0	45.6 m/11.5	11.2	10.9	10.8	10.5	46.0
48.0		10.3	10.0	9.9	9.7	48.0
50.0		48.3 m/10.2	9.1	9.2	8.9	50.0
52.0			50.9 m/8.7	8.5	8.2	52.0
54.0				53.5 m/8.0	7.5	54.0
56.0					6.8	56.0
58.0					56.2 m/6.7	58.0
60.0						60.0
62.0						62.0
Reeves	1	1	1	1	1	Reeves

Note: Ratings according to EN13000.

Ratings shown in \_\_\_\_\_\_ are determined by the strength of the boom or other structural components.

Refer to notes P15.

## **Long Boom Working Ranges**



#### NOTES:

- 1. Ratings according to EN13000.
- 2. Ratings in metric tons for 360° working area.
- 3. Operating radius is the horizontal distance from center of rotation to a vertical line through the center of gravity of the load.
- 4. Weight of hook block(s), slings and other load handling accessories is included in rated load. Their total weight must be subtracted from rated load to obtain weight that can be lifted.
- 5. Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted load, ground conditions out-of-level, operating speeds or any other condition that could be detrimental to the safe operation of this equipment. Operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly.
- 6. Ratings are for operation on a firm and level surface, up to 1% gradient.
- 7. At radii and boom lengths where no ratings are shown on chart, operation is not intended nor approved.

- 8. Boom inserts and guy lines must be arranged as shown in the "Operator's Manual".
- 9. Boom hoist reeving is 16 part line.
- 10. Gantry must be in raised position for all conditions.
- 11. Boom backstops are required for all boom lengths.
- 12. The boom should be erected over the front of crawlers, not laterally.
- 13. Ratings shown in \_\_\_\_\_ are determined by the strength of the boom or other structural component.
- 14. Instruction in the "Operator's Manual" must be strictly observed when operating the machine.
- 15. Long boom ratings: Deduct weight of hook block, slings, and all other load handling accessories from long boom ratings shown.
- 16. Auxiliary sheave ratings for long boom: Deduct weight of hook block, slings, and all other load handling accessories from auxiliary sheave ratings for long boom shown.
- 17. Long boom lengths for auxiliary sheave mounting are 64.0 m to 91.4 m.



## **Long Boom Lifting Capacity**

Boom length (m) Working radius (m) 64.0 67.1 70.1 73.2 76.2 79.2 82.3 12.0 12.8 m/47.1 | 13.3 m/46.1 | 13.8 m/45.0 12.0 14.0 45.0 44.9 44.8 14.3 m/44.2 14.9 m/41.1 15.4 m/36.2 | 15.9 m/32.3 14.0 42.0 39.4 37.2 35.2 41.8 35.5 33.2 31.3 41.9 41.7 39.6 37.2 16.0 16.0 32.2 39.1 36.9 39.2 37.0 39.3 37.1 30.1 28.3 26.7 18.0 18.0 20.0 35.1 20.0 29.6 22.0 35.1 35.0 34.9 33.3 22.0 33.4 31.5 33.2 31.2 33.3 31.3 24.0 33.1 31.7 28.0 25.2 24.0 30.9 30.2 26.7 24.0 26.0 26.0 28.5 25.9 23.7 21.8 20.1 27.8 25.3 23.0 21.1 25.5 24.4 22.9 21.0 19.3 27.9 25.4 23.1 21.2 22.8 21.8 28.3 25.7 28.1 25.6 28.0 28.0 30.0 30.0 23.5 21.6 19.9 20.9 20.1 19.2 23.4 21.5 19.8 32.0 32.0 34.0 34.0 19.5 19.4 36.0 36.0 18.7 17.3 17.9 38.0 18.4 18.3 18.1 18.0 17.8 38.0 40.0 17.1 17.0 16.7 16.6 16.5 16.4 40.0 42.0 16.2 15.9 15.8 15.5 15.4 15.3 15.2 42.0 14.7 13.7 14.4 14.3 13.3 44.0 15.1 14.1 14.8 14.5 14.2 44.0 13.9 13.4 13.5 13.2 46.0 46.0 13.3 12.5 12.9 12.1 48.0 13.0 12.6 12.5 12.4 12.3 48.0 50.0 12.2 11.8 11.7 11.6 11.5 50.0 52.0 11.7 11.5 11.3 11.1 11.0 10.9 10.8 52.0 10.3 9.7 54.0 10.8 10.7 10.4 10.2 54.0 11.1 10.1 56.0 10.4 10.0 10.2 9.6 56.0 9.8 9.5 9.2 56.9 m/ 10.2 58.0 9.6 9.5 9.1 9.0 8.9 58.0 59.6 m/ 9.2 60.0 8.9 8.6 8.5 8.4 60.0 8.2 7.7 7.9 7.4 7.0 62.0 8.5 8.1 8.0 62.0 7.6 62.2 m/ 8.4 64.0 7.5 7.1 64.0 66.0 64.9 m/ 7.6 66.0 67.5 m/ 6.9 68.0 6.8 6.7 68.0 70.0 6.4 6.3 70.0 72.0 70.2 m/ 6.3 6.0 72.0 74.0 72.8 m/ 5.9 74.0

4

4

4

Unit: metric ton

Counterweight: 90.0 t, Carbody weight: 24.0 t

Boom length Working (m) radius (m)	85.3	88.4	91.4	Boom length (m) Working radius (m)
16.0	16.5 m/27.0	17.0 m/24.9	17.5 m/21.3	16.0
18.0	27.0	24.0	20.9	18.0
20.0	25.3	22.4	19.5	20.0
22.0	23.9	21.1	18.3	22.0
24.0	22.6	19.9	17.3	24.0
26.0	21.4	18.9	16.3	26.0
28.0	20.4	18.0	15.5	28.0
30.0	19.5	17.1	14.8	30.0
32.0	18.6	16.4	14.1	32.0
34.0	17.9	15.7	13.6	34.0
36.0	17.2	15.1	13.0	36.0
38.0	16.6	14.6	12.6	38.0
40.0	16.1	14.1	12.1	40.0
42.0	15.1	13.6	11.7	42.0
44.0	14.1	13.2	11.4	44.0
46.0	13.1	12.8	11.0	46.0
48.0	12.2	12.3	10.7	48.0
50.0	11.4	11.3	10.5	50.0
52.0	10.7	10.6	10.2	52.0
54.0	10.0	9.9	9.8	54.0
56.0	9.4	9.3	9.2	56.0
58.0	8.8	8.7	8.6	58.0
60.0	8.3	8.2	8.1	60.0
62.0	7.8	7.7	7.6	62.0
64.0	7.3	7.2	7.1	64.0
66.0	6.9	6.8	6.7	66.0
68.0	6.6	6.5	6.4	68.0
70.0	6.2	6.1	5.9	70.0
72.0	5.9	5.8	5.7	72.0
74.0	5.6	5.5	5.4	74.0
76.0	75.4 m/5.4	5.3	5.1	76.0
78.0		4.9	4.8	78.0
80.0			4.5	80.0
82.0			80.7 m/4.4	82.0
84.0				84.0
Reeves	2	2	2	Reeves

4

Reeves

Note:

Ratings according to EN13000.

Ratings shown in \_\_\_\_\_\_are determined by the strength of the boom or other structural components.

Reeves

Refer to notes P18.



# Auxiliary Sheave Lifting Capacity for Long Boom (With 35 t Main Hook) Counterweight: 90.0 t, Carboo

Unit: metric ton

Counterweight: 90.0 t, Carbody weight: 24.0 t

<b>,</b>	oo i mam moony										
Boom length Working (m) radius (m)	64.0	67.1	70.1	73.2	76.2	79.2	82.3	85.3	88.4	91.4	Boom length (m) Working radius (m)
12.0	13.5 m/13.5										12.0
14.0	13.5	13.5	14.5 m/13.5	15.0 m/13.5	15.6 m/13.5						14.0
16.0	13.5	13.5	13.5	13.5	13.5	16.1 m/13.5	16.6 m/13.5	17.2m /13.5	17.7 m/13.5		16.0
18.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	18.2 m/13.5	18.0
20.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	20.0
22.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	22.0
24.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	24.0
26.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	26.0
28.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	28.0
30.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	30.0
32.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	12.8	32.0
34.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	12.3	34.0
36.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	11.7	36.0
38.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.3	11.3	38.0
40.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	12.8	10.8	40.0
42.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	12.3	10.4	42.0
44.0	13.5	13.5	13.4	13.2	13.1	13.0	12.9	12.8	11.9	10.1	44.0
46.0	12.8	12.6	12.4	12.2	12.1	12.0	11.9	11.8	11.5	9.7	46.0
48.0	12.0	11.7	11.6	11.3	11.2	11.1	11.0	10.9	11.0	9.4	48.0
50.0	11.2	10.9	10.8	10.5	10.4	10.3	10.2	10.1	10.0	9.2	50.0
52.0	10.4	10.2	10.0	9.8	9.7	9.6	9.5	9.4	9.3	8.9	52.0
54.0	9.8	9.5	9.4	9.1	9.0	8.9	8.8	8.7	8.6	8.5	54.0
56.0	9.1	8.9	8.7	8.5	8.4	8.3	8.2	8.1	8.0	7.9	56.0
58.0	8.4	8.3	8.2	7.9	7.8	7.7	7.6	7.5	7.4	7.3	58.0
60.0		7.7	7.6	7.4	7.3	7.2	7.1	7.0	6.9	6.8	60.0
62.0		60.7 m/7.5	7.2	6.9	6.8	6.7	6.6	6.5	6.4	6.3	62.0
64.0			63.3 m/6.9	6.4	6.3	6.2	6.1	6.0	5.9	5.8	64.0
66.0				5.9	5.9	5.8	5.7	5.6	5.5	5.4	66.0
68.0					5.5	5.5	5.4	5.3	5.2	5.1	68.0
70.0					68.6 m/5.4	5.1	5.0	4.9	4.8	4.6	70.0
72.0						71.3 m/4.8	4.7	4.6	4.5	4.4	72.0
74.0							73.9 m/4.4	4.3	4.2	4.1	74.0
76.0								4.0	4.0	3.8	76.0
78.0								76.5m /3.9	3.8	3.5	78.0
80.0									79.1 m/3.7	3.2	80.0
82.0										81.8 m/2.9	82.0
Reeves	1	1	1	1	1	1	1	1	1	1	Reeves
·		·	·	·	·	·	·	<u></u>	·	· ·	

Note: Ratings according to EN13000.

Ratings shown in \_\_\_\_\_\_ are determined by the strength of the boom or other structural components.

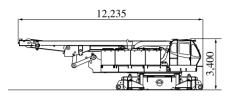
Refer to notes P18.

## **PARTS AND ATTACHMENTS**

#### **Base Machine**

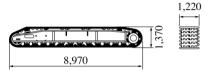
With trans-lifter, main and aux. winches (non-free fall) including wire rope and boom hoist winch including wire rope

Weight: 44,900 kg Width: 3,400 mm



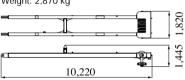
#### Crawler

Weight: 20,700 kg



#### Mast

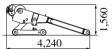
Weight: 2,870 kg



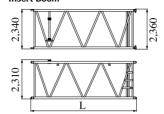
#### Gantry

Weight: 3,020 kg





#### **Insert Boom**

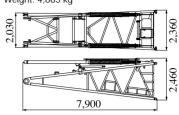


	L (mm)	Weight (kg)*
3.0m	3,175	890
6.1m	6,220	1,440
12.2m	12,320	2,540

<sup>\*</sup>with boom guy cables

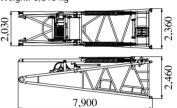
#### Dimensions: mm Weight: kg **Boom Base**

Weight: 4,665 kg



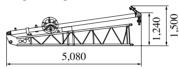
#### **Boom Base (with Winch)**

Weight: 6,810 kg



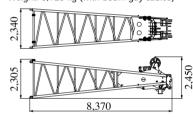
#### Jib Base with Strut (For Crane)

Weight: 510 kg Width: 1,040 mm



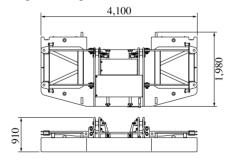
#### **Boom Top**

Weight: 3,720 kg (with boom guy cables)



#### Counterweight A

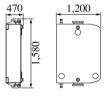
Weight: 11,040 kg



#### Counterweight B, C

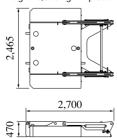
Weight:

Counterweight B: 5,625 kg x 7 pieces Counterweight C: 5,625 kg x 7 pieces



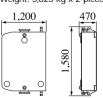
#### Carbodyweight A

Weight: 6,350 kg x 2 pieces



#### Carbodyweight B

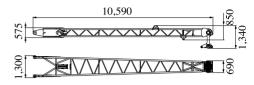
Weight: 5,625 kg x 2 pieces

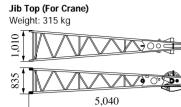


Dimensions: mm Weight: kg

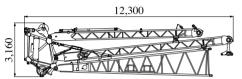
#### Front Strut (Luffing Jib)

Weight: 1,410 kg





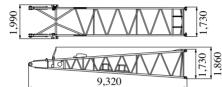
#### Travel Kit Assembly Weight: 6,730 kg



#### **Luffing Jib Base** Weight: 1,470 kg

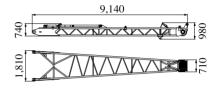
**Luffing Tapered Boom** 

Weight: 1,190 kg

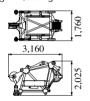


#### Rear Strut (Luffing Jib)

Weight: 1,510 kg

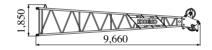


#### Luffing Boom Top Weight: 2,085 kg



#### Luffing Jib Top Weight: 1,400 kg





## **Other Attachments**

Attachments	Weight	Dimensions (L x W x H)
3.0 m insert jib (for crane)	110 kg	3,130 mm x 1,020 mm x 840 mm
6.1 m insert jib (for crane)	190 kg	6,175 mm x 1,020 mm x 840 mm
Relay jib	400 kg (with guy cables)	3,170 mm x 1,670 mm x 1,690 mm
Tapered boom with idler sheave & link (for long)	1,170 kg	4,905 mm x 2,340 mm x 2,360 mm
3.0 m luffing insert jib	420 kg (with guy cables)	3,160 mm x 1,670 mm x 1,690 mm
6.1 m luffing insert jib	670 kg (with guy cables)	6,210 mm x 1,670 mm x 1,690 mm
12.2 m luffing insert jib	1,170 kg (with guy cables)	12,310 mm x 1,670 mm x 1,690 mm
Jib backstop (for luffing)	260 kg	3,580 mm x 250 mm x 280 mm (x 2 pieces)
Strut backstop (for luffing)	255 kg	3,390 mm x 210 mm dia. (x 2 pieces)
Auxiliary sheave (for crane)	290 kg	2,010 mm x 720 mm x 735 mm
Auxiliary sheave (for luffing)	380 kg	1,070 mm x 910 mm x 890 mm
Luffing jib drum	2,050 kg (with wire rope)	1,780 mm x 1,190 mm x 1,040 mm
250-ton hook	4,200 kg	2,310 mm x1,620 mm x 720 mm
150-ton hook	2,300 kg	2,250 mm x 715 mm x 700 mm
70-ton hook	1,200 kg	1,825 mm x 380 mm x 700 mm
35-ton hook	900 kg	1,575 mm x 365 mm x 700 mm
Ball hook	450 kg	1,200 mm x 380 mm dia.

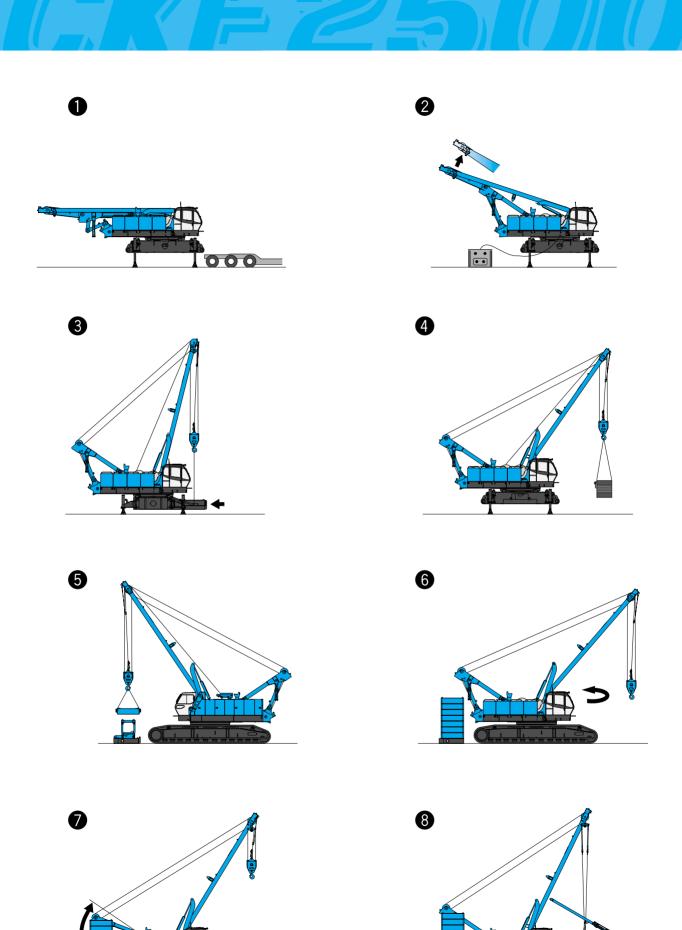
Note: Estimated weights may vary ± 2%.

# **TRANSPORTATION PLAN**

#### Luffing Boom 61.0 m + Luffing Jib 61.0 m

Configuration	Description	Total Weight
No.1 Low Loader	Base Machine = With trans-lifter, main and aux. winches (non-free fall) including wire rope, boom hoist winch including wire rope	44.90 ton
No.2 Semi Loader	Crawler = (2 x 20.7 ton)	41.40 ton
No.3 & No.4 Flat Bed Trailer	Carbodyweight A x 1 =  Counterweight (2 x 5.63 ton) =  12.2 m Insert Boom x 1 =  12.2 m Luffing Insert Jib x 1 =  Total =	6.35 ton 11.26 ton 2.54 ton 1.17 ton 21.32 ton
No.5 Flat Bed Trailer	Counterweight (3 x 5.63 ton) = 12.2 m Insert Boom x 1 = 6.1 m Luffing Insert Jib x 1 = Total =	16.89 ton 2.54 ton 0.67 ton 20.10 ton
No.6 Tent Side Truck  13,620  006: 007 007 007 007 007 007 007 007 007 00	3.0 m Insert Boom (2 x 0.89 ton) = 6.1 m Insert Boom x 1 = 6.1 m Luffing Insert Jib x 1 = 3.0 m Luffing Insert Jib x 1 = Relay Jib x 1 = Total =	1.78 ton 1.44 ton 0.67 ton 0.42 ton 0.40 ton 4.71 ton
No.7 Tent Side Truck  13,620  006; 0821	Luffing Jib Top x 1 =  Luffing Tapered Boom x 1 =  Counterweight (2 x 5.63 ton) =  Counterweight A x 1 =  Total =	1.40 ton 1.19 ton 11.26 ton 11.04 ton 24.89 ton
No.8 Semi Loader  12,300	Travel Kit Assembly = Counterweight (2 x 5.63 ton) = Carbodyweight B (2 x 5.63 ton) = Total =	6.73 ton 11.26 ton 11.26 ton 29.25 ton
No.9 Tent Side Truck  13,620	Boom Base x 1 =  Conterweight (3 x 5.63 ton) =  Total =	6.81 ton 16.89 ton 23.70 ton
Note: Estimated weights may vary	1 + 2%	

# **SELF-REMOVAL DEVICE**





#### Standard Equipment

#### Upper structure/Lower structure

Counterweight: 90.0 ton (total weight) Carbody weight: 24.0 ton (total weight)

1,220 mm shoe crawlers Batteries (170Ah/20HR)

Trans-lifter (jack system)

Gantry raising/lowering cylinder

Electric hand throttle grip

Variable boom hoist speed controller

Variable main/aux. hoist speed controller Swing neutral-free/brake select switch

Side deck for cab

Side deck (right side guard)

Steps (crawlers)

Two front working lights

Tools (for routine maintenance)

Two rear view mirrors

Electric fuel pump

Counterweight self removal

Crawler self removal

Base boom self removal

Cable roller (for boom)

#### Cab/Control

Boom hoist pedal (EU area only)

Air conditioner

Cup holder

Ashtray

Cigar lighter

Intermittent wiper & window washer (skylight and front window)

Sun visor

Roof blind

Floor mat (cloth)

Foot rest

Shoe tray

Level gauge (operator cabin)

#### **Safety Device**

Load Moment Indicator (with boom lowering slow stop function)

LMI release key (for hook over-hoist prevention device

and boom over-hoist prevention device)

LCD multi display

Ultimate stop function for boom over-hoist

Function lock lever

Propel lever lock

Mechanical drum lock pawl (main, aux. and boom hoist)

Signal horn

Swing parking brake

Mechanical swing lock pin (four positions)

Swing flashers/warning buzzer

Cab window guard (left side)

Cab top quard

Fire extinguisher

External lamp for over-load alarm

Life hammer

Note: Standard equipment may vary depending on your areas or countries.

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