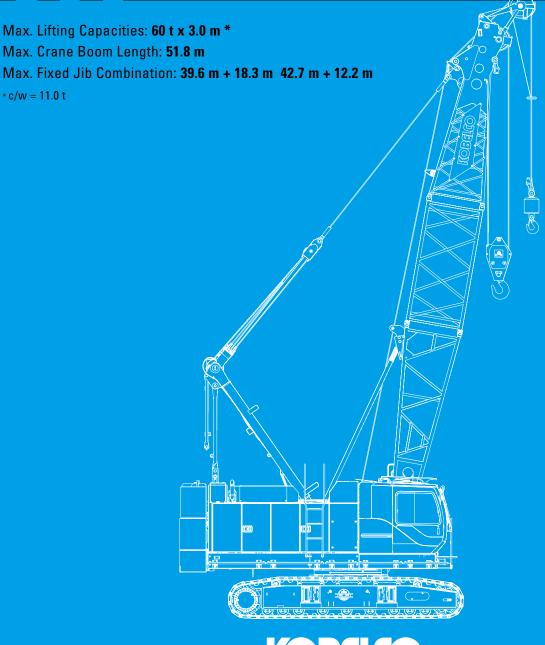
# **Hydraulic Crawler Crane**



600

\*c/w = 11.0 t

Model: CKS600







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# **SPECIFICATIONS**



### **Power Plant**

Model: HINO J08E-VM

Type: 4 cycle, water-cooled, vertical in-line 6, direct injection,

turbo-charger, intercooler

Displacement: 7.684 liters

Rated power: 213 kW/2,100 min<sup>-1</sup>

Max. Torque: 1,017 N·m/1,600 min<sup>-1</sup>

Cooling System: Water-cooled

Starter: 24V-5kW

Radiator: Corrugated type core, thermostatically controlled Air cleaner: Dry type with replaceable paper element Throttle: Twist grip type hand throttle, electrically actuated

Fuel filter: Replaceable paper element

Batteries: Two 12V x 136 Ah/5HR capacity batteries, series

connected

Fuel tank capacity: 400 liters



### **Hydraulic System**

Main pumps: 3 variable displacement piston pumps

**Control:** Full-flow hydraulic control system for infinitely variable pressure to all winches, propel and swing. 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

Max. relief valve pressure:

Load hoist, boom hoist and propel system: 31.9 MPa

Swing system: 27.5 MPa Control system: 5.4 MPa Hydraulic Tank Capacity: 440 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:** Single drum, grooved for 16mm dia. wire rope

**Line Speed:** Single line on first drum layer **Hoisting/Lowering:** 70 to 2 m/min

Boom hoisting/lowering: 16 mm x 150 m

Boom guy line: 30 mm

Boom backstops: Required for all boom length



### **Load Hoisting 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)

Drum Lock: External ratchet for locking drum

Drums:

#### **Front Drums:**

 $550 \ \text{mm}$  P.C.D x  $545 \ \text{mm}$  wide drum, grooved for 22 mm wire rope. Rope capacity is  $180 \ \text{m}$  working length and  $335 \ \text{m}$  storage length.

**Rear Drum:** 550 mm P.C.D x 545 mm grooved for 22 mm wire rope. Rope capacity is 130 m working length and 335m

storage length.

Diameter of wire rope

Main winch: 22 mm x 180 m Aux. winch: 22 mm x 130 m Third winch: 22 mm x 145 m

Line Speed\*:

Hoisting/lowering: 120 to 3 m/min

Line Pull:

Max. Line Pull\*: 153 kN (Referential performance) Rated Line Pull: 78.5 kN \*Single line on first drum layer



### **Swing System**

Swing unit is powered by hydraulic motor driving spur gears through planetary reducers (2 set), 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: 4.5 min<sup>-1</sup>



### **Upper Structure**

Torsion-free precision machined upper frame. All components are located clearly and service friendly. Engine will with low noise level.

Counterweight: 13.0 ton



### **Cab & Control**

Totally enclosed, full vision cab with safety glass, fully adjustable, high backed seat with a headrest 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, footrest, and shoe tray



### **Lower Structure**

Steel-welded carbody with axles. Crawler assemblies can be hydraulically extended for wide-track operation or retracted for transportation. Crawler belt tension is maintained by hydraulic jack force on the track-adjusting bearing block.

**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.

Shoe (flat): 760 mm wide each crawler

Max. gradeability: 40%



### Weight

Including upper and lower machine, 13.0 ton counterweight and basic boom, hook, and other accessories.

Weight: 46.1 ton

Ground pressure: 63.1 kPa



#### **Attachment**

### Boom & Jib:

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

### Boom and Jib length

	Min. Length (Min. combination)	Max. Length (Max. combination)
Crane Boom	9.1 m	51.8 m
Fixed Jib	30.5 m + 6.1 m	42.7 m + 12.2 m, 39.6 m + 18.3 m

### Main Specifications (Model: CKS600)

Crane Boom			
Max. Lifting Capacity	60 t x 3.0 m*1		
Max. Length	51.8 m		
Fixed Jib			
Max. Lifting Capacity	7.0 t x 12.0 m		
Max. Combination	39.6 m + 18.3 m		
Main & Aux. Winch			
Max. Line Speed (1st layer)	120 m/min		
Rated Line Pull (Single line)	78.5 kN {8.0 tf}		
Wire Rope Diameter	22 mm x 180 m		
Wire Rope Length	180 m (Main), 130 m (Aux.)		
Brake Type	Wet-type multiple disc brake (Optional)		
Working Speed			
Swing Speed	4.5 min <sup>-1</sup> {rpm}		
Travel Speed	2.3/1.5 km/h		
Power Plant			
Model	HINO J08E-VM		
Engine Output	213 kW/2,100 min <sup>-1</sup>		
Fuel Tank	400 liters		

Hydraulic System			
Main Pumps	3 variable displacement		
Max. Pressure	31.9 MPa {325 kgf/cm <sup>2</sup> }		
Hydraulic Tank Capacity	440 liters		
Weight			
Operating Weight	46.1 t *2		
Ground Pressure	63.1 kPa		
Counterweight	13,030 kg		
Transport Weight	31,430 kg *3		

Units are SI units. { } indicates conventional units.

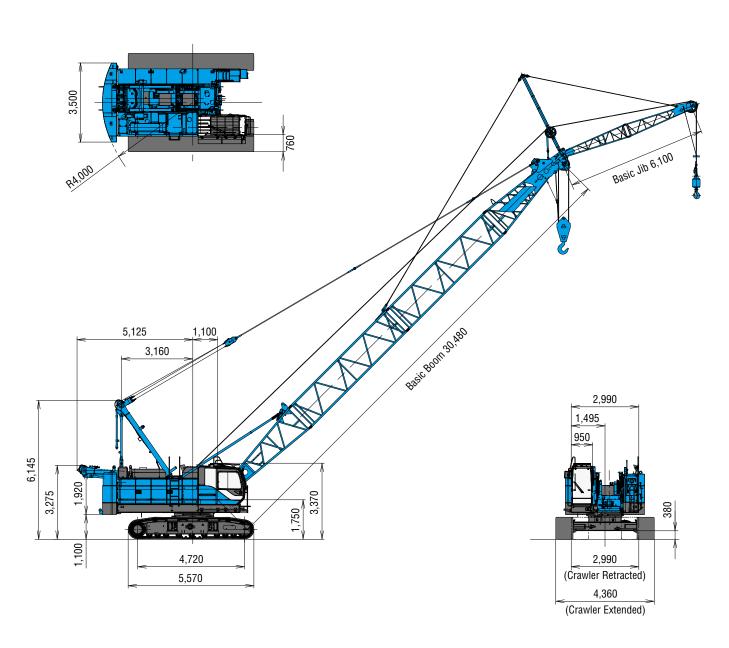
Line speeds in table are for light loads. Line speed varies with load.

<sup>\*1</sup> c/w = 11.0 t

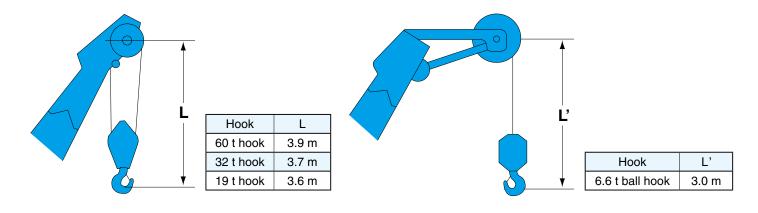
 $<sup>^{\</sup>star 2}$  Including upper and lower machine, 13.0 ton counterweight, basic boom, hook, and other accessories.

<sup>\*3</sup> Base machine with boom base, gantry, crawlers, and wire ropes (front/boom hoist)

(Unit: mm)



# **Limit of Hook Lifting**



# **BOOM AND JIB ARRANGEMENTS**

### **Crane Boom Arrangements**

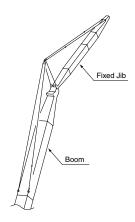
Boom length m (ft)	Boom arrangement
9.1 (30)	<b>※</b> < <b>®</b> ↑
12.2 (40)	<b>※</b> < <b>1</b> 10 <b>1</b> >
15.2 (50)	< <u>10 10 10 10 10 10 10 10 10 10 10 10 10 1</u>
18.3 (60)	<b 30="" ↑="">  &lt;</b>
21.3 (70)	
24.4 (80)	
27.4 (90)	
30.5 (100)	

Boom length m (ft)	Boom arrangement
33.5 (110)	
36.6 (120)	
39.6 (130)	B 20 20 30 30 T B 10 10 20 30 30 T B 10 10 20 30 10 20 T ★ B 20 20 30 10 20 T
42.7 (140)	
45.7 (150)	
48.8 (160)	★
51.8 (170)	☆ I   10   10   20   20   20   30

Symbol	Boom Length	Remarks
B	5.2 m	Boom Base
$\triangleright$	3.9 m	Boom Top
10	3.0 m	Insert Boom
20	6.1 m	Insert Boom
30	9.1 m	Insert Boom
30	9.1 m	Insert Boom with lug

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

# **Fixed Jib Arrangements**

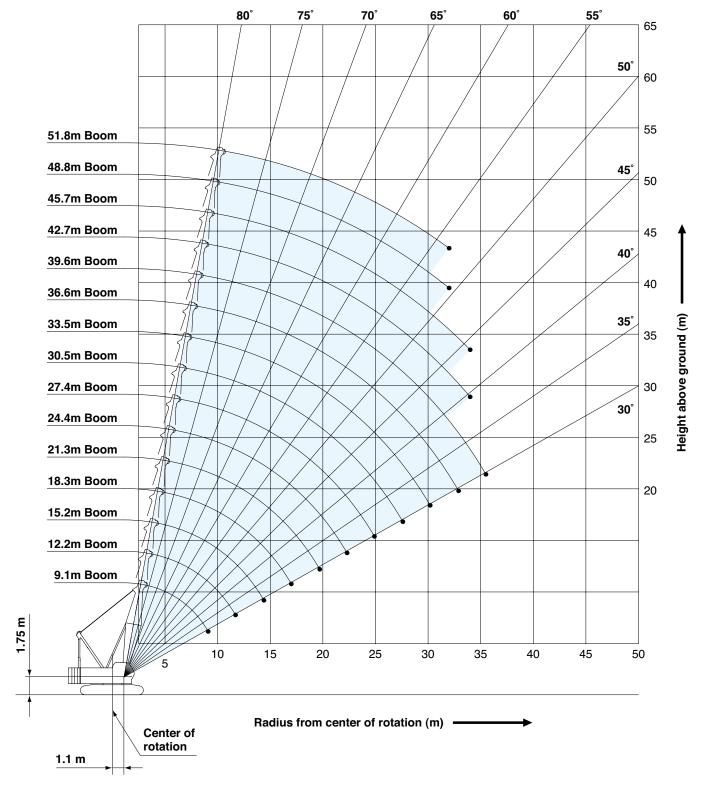


Crane boom length	Jib length m (ft)	Jib arrangement
30.5 m ~ 42.7 m	6.1 (20)	3.0/\3.0
20 E m - 20 6 m	12.2 (40)	B 20 IT
30.5 m ∼ 39.6 m	18.3 (60)	B 20 20 T

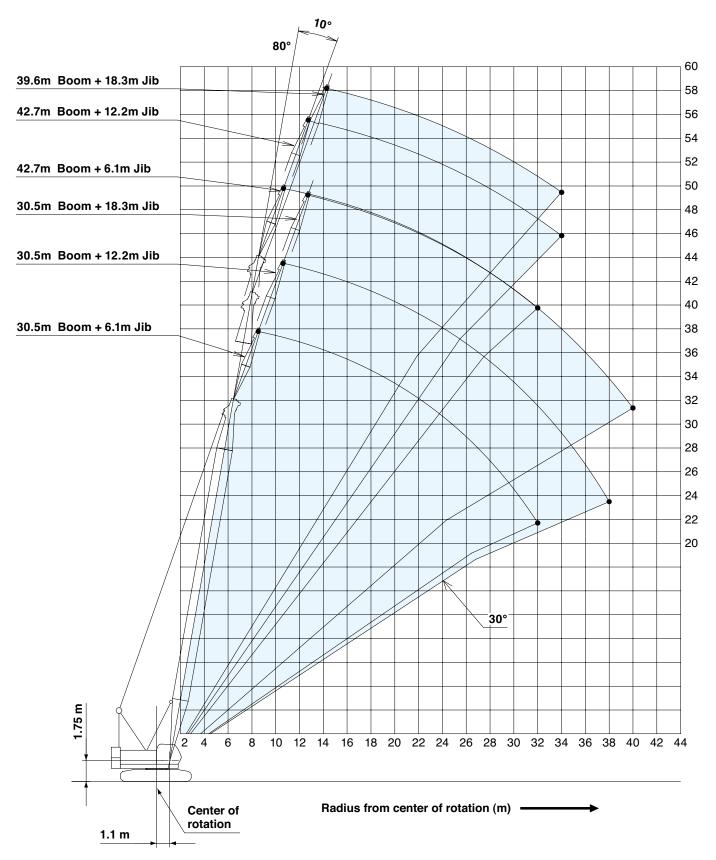
Symbol	Jib Length Remarks	
В	3.0 m	Jib Base
T	3.0 m	Jib Top
20	6.1 m	Insert Jib

 $<sup>\</sup>mbox{\ensuremath{\%}}$  mark shows the standard boom arrangement which enables each boom length of less than that boom length to be configured.

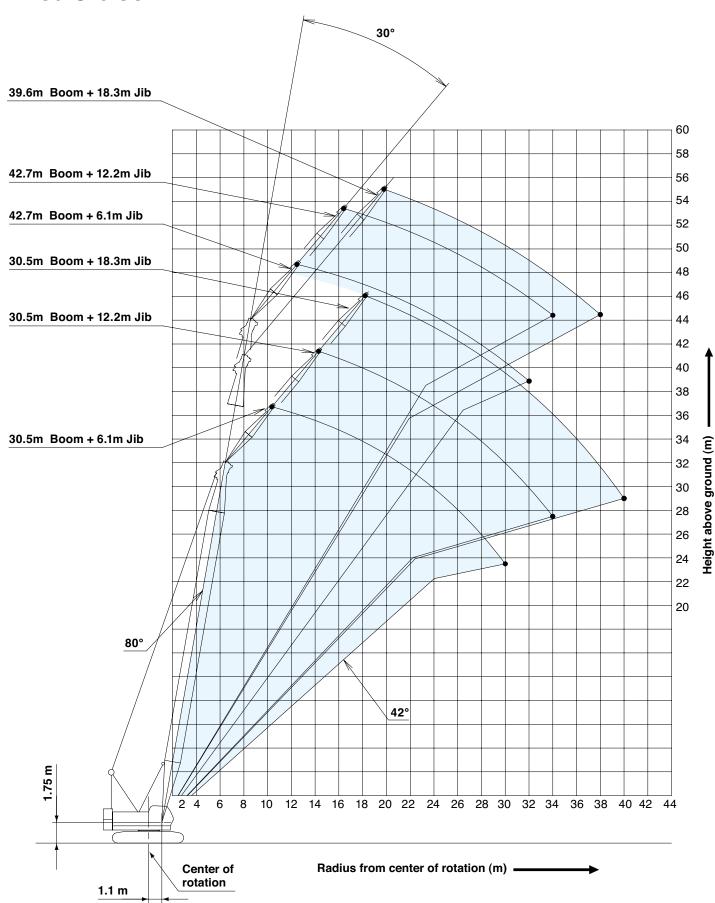
### **Crane Boom**



### Fixed Jib 10°



### Fixed Jib 30°



# SUPPLEMENTAL DATA

- Ratings according to EN13000.
- Operating radius is the horizontal distance from centerline of Rotation to a vertical line through the center of gravity of the load.
- Deduct weight of hook block (s), slings and all other load handling accessories from main boom ratings shown.
- 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.
- The operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly.
- 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.
- •Boom inserts and guy lines must be arranged as shown in the "operator's manual".
- •Boom hoist reeving is 10 part line.
- Gantry must be in raised position for all conditions.
- •Boom backstops are required for all boom lengths.
- The boom should be erected over the front of the crawlers, not laterally.
- Ratings inside of boxes \_\_\_\_\_ are limited by strength of materials.
- •The minimum rated load is 1.0 (ton).
- Crawler frames must be fully extended for all crane operations.
- When erecting or lowering the boom or the jib combination showen below, the blocks for erection must be placed under the front of the crawlers.
  - The boom length 48.8 m (160 ft) or over
  - The combination length of the boom 39.6 m (130 ft) and the fixed jib 18.3 m (60 ft)
  - The combination length of the boom 42.7 m (140 ft) and the any length of fixed jib

### (Crane boom lifting)

•The total load that can be lifted is the value for weight of main hook block, slings, and all other load handling accessories deducted from crane boom ratings shown.

#### (Fixed jib lifting)

- The total load that can be lifted is the value for weight of jib hook block, slings, and all other load handling accessories deducted from fixed jib ratings shown.
- •The availability of fixed jib mounting
- On crane boom : Range 30.5 m to 42.7 m. But 18.3 m jib is not allowed to install on 42.7 m main boom.

#### <Reference information>

### Main hoist loads

No. of Parts of Line	1	2	3	4	5
Maximum Loads (kN)	69	137	206	275	343
Maximum Loads (t)	7.0	14.0	21.0	28.0	35.0
					ı

No. of Parts of Line	6	7	8	9
Maximum Loads (kN)	412	481	549	588
Maximum Loads (t)	42.0	49.0	56.0	60.0

#### **Auxiliary hoist loads**

No. of Parts of Line	1
Maximum Loads (kN)	69
Maximum Loads (t)	7.0

	Weig	ght of hoo	ok block	
Hook Block	60 t	32 t	19 t	7.0 t Ball Hook
Weight (t)	0.7	0.5	0.4	0.16

Operation of this equipment in excess of rated loads or disregard of instruction voids the warranty.

# **LIFTING CAPACITIES**

4.	rane Boom Lifting Cap Counterweig Unit	
Boom length Working (m) radius (m)	9.1	Boom length (m) Working radius (m)
3.0	3.0m/60.0	3.0
3.5	52.6	3.5
4.0	42.2	4.0
4.5	34.2	4.5
5.0	28.6	5.0
5.5	24.6	5.5
6.0	21.5	6.0
7.0	17.2	7.0
8.0	14.2	8.0
9.0	12.1	9.0
10.0	9.1m/12.0	10.0
Reeves	9	Reeves

	rar	ie B	oor	n Li	ftin	g C	apa	citi	es					Coun	terweig	ht: 13.0 t
	Unit: metric ton															
Boom length Working (m) radius (m)	9.1	12.2	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)
3.0	3.0m/56.0															3.0
3.5	54.3	3.6m/50.0														3.5
4.0	45.9	43.3	4.1m/38.9													4.0
4.5	37.2	37.0	34.6	4.7m/30.9												4.5
5.0	31.2	31.1	30.3	28.7	5.2m/26.0											5.0
5.5	26.8	26.7	26.7	25.7	24.4	5.7m/22.3										5.5
6.0	23.5	23.4	23.3	23.2	22.1	21.1	6.2m/19.5	6.8m/16.9								6.0
7.0	18.7	18.7	18.6	18.6	18.5	17.8	17.1	16.4								7.0
8.0	15.6	15.4	15.4	15.3	15.3	15.2	14.7	14.1	8.0m/13.6	8.0m/13.1	8.4m/12.0	8.9m/10.8				8.0
9.0	13.3	13.1	13.1	13.0	12.9	12.9	12.8	12.4	11.9	11.5	11.1	10.7	9.4m/ 9.8	9.9m/ 8.9		9.0
10.0	9.1m/13.1	11.4	11.3	11.3	11.2	11.1	11.1	11.0	10.6	10.2	9.8	9.5	9.2	8.8	10.5m/ 8.0	10.0
12.0		11.8m/ 9.2	8.8	8.8	8.7	8.6	8.6	8.5	8.4	8.2	7.9	7.6	7.4	7.1	6.8	12.0
14.0			7.2	7.1	7.0	7.0	6.9	6.8	6.7	6.7	6.5	6.3	6.0	5.8	5.5	14.0
16.0			14.4m/ 7.0	6.0	5.9	5.8	5.7	5.6	5.5	5.5	5.3	5.2	5.0	4.8	4.5	16.0
18.0				17.1m/ 5.5	4.9	4.8	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.0	3.8	18.0
20.0					19.7m/ 4.3	4.1	4.0	3.9	3.8	3.8	3.6	3.6	3.5	3.3	3.1	20.0
22.0						3.5	3.5	3.3	3.2	3.2	3.0	3.0	2.9	2.7	2.6	22.0
24.0						22.3m/ 3.4	3.0	2.8	2.7	2.7	2.5	2.5	2.4	2.2	2.1	24.0
26.0							25.0m/ 2.8	2.4	2.3	2.3	2.1	2.1	1.9	1.8	1.7	26.0
28.0								27.6m/ 2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.3	28.0
30.0									1.7	1.6	1.5	1.4	1.3	1.2	1.0	30.0
32.0									30.3m/ 1.7	1.4	1.2	1.2	1.0			32.0
34.0										32.9m/ 1.3	1.0					34.0
36.0											35.6m/1.0					36.0
Reeves	8	8	6	5	4	4	3	3	3	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 structual components.

Weight of hooks, hook blocks, slings and other lifting devices are a part of the total load.

Their total weight must be subtracted from the rated load to obtain the weight that can be lifted.

Lifting capacities may vary depending on hook used or with/without auxiliary sheave.

Please refer rated chart in operator's cabin.

	Fixed Jib Lifting Capacities (Without Main Hook Block) Jib Offset Angle: 10°											Counterweight: 13.0 t				
Во	30.5 33.5 36.6 39.6									42	2.7	t: metric ton  Boom length (m)				
$\vdash$	ib length (m)	6.1	12.2	18.3	6.1	12.2	18.3	6.1	12.2	18.3	6.1	12.2	18.3	6.1	12.2	Jib length (m)
	9.0	7.0			7.0											9.0
	10.0	7.0			7.0			7.0			7.0					10.0
	12.0	7.0	7.0	4.5	7.0	7.0		7.0	7.0		7.0			6.9		12.0
	14.0	6.7	6.7	4.5	6.5	6.4	4.5	6.2	6.2	4.5	5.9	5.9	4.5	5.7	5.7	14.0
	16.0	5.5	5.7	4.5	5.4	5.4	4.5	5.2	5.2	4.5	4.9	5.0	4.5	4.7	4.7	16.0
	18.0	4.6	4.7	4.5	4.5	4.6	4.5	4.4	4.4	4.3	4.1	4.2	4.1	3.9	4.0	18.0
=	20.0	3.9	4.0	4.0	3.8	3.9	3.9	3.7	3.8	3.7	3.5	3.6	3.5	3.3	3.4	20.0 ≤
l) sr	22.0	3.3	3.4	3.5	3.2	3.3	3.4	3.1	3.3	3.2	2.9	3.0	3.0	2.8	2.9	22.0
Working radius (m)	24.0	2.8	3.0	3.0	2.7	2.9	2.9	2.6	2.8	2.8	2.5	2.6	2.6	2.3	2.4	22.0 working radius (m) 24.0 26.0 28.0
ngı	26.0	2.4	2.6	2.6	2.3	2.5	2.5	2.2	2.4	2.4	2.1	2.2	2.2	2.0	2.1	26.0 월
or iš	28.0	2.1	2.2	2.3	1.9	2.1	2.2	1.8	2.0	2.1	1.7	1.9	1.9	1.6	1.7	28.0
>	30.0	1.8	1.9	2.0	1.6	1.8	1.9	1.5	1.7	1.8	1.4	1.6	1.6	1.3	1.5	30.0
	32.0	1.5	1.7	1.7	1.4	1.6	1.6	1.3	1.5	1.5	1.2	1.3	1.4	1.1	1.2	32.0
	34.0		1.4	1.5	1.2	1.3	1.4	1.1	1.2	1.3		1.1	1.1		1.0	34.0
	36.0		1.2	1.3	1.0	1.1	1.2		1.0	1.1						36.0
	38.0		1.1	1.1		1.0	1.0									38.0
	40.0			1.0												40.0
	Reeves	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Reeves

			Jib I fset		_	-	ties (	With	out I	Main	Ноо	k Blo	ck)	Cou		ght: 13.0 t
Во	om length (m)		30.5			33.5			36.6			39.6		42	2.7	Boom length (m
J	ib length (m)	6.1	12.2	18.3	6.1	12.2	18.3	6.1	12.2	18.3	6.1	12.2	18.3	6.1	12.2	Jib length (m)
	12.0	7.0			7.0			7.0			7.0					12.0
	14.0	7.0			6.8			6.6			6.3			6.1		14.0
	16.0	5.7	5.0		5.7	5.0		5.5	5.0		5.2	5.0		5.0		16.0
	18.0	4.8	5.0	3.2	4.7	5.0	3.2	4.6	4.9		4.4	4.7		4.2	4.5	18.0
	20.0	4.1	4.3	3.2	4.0	4.3	3.2	3.9	4.2	3.2	3.7	4.0	3.2	3.6	3.8	20.0
=	22.0	3.5	3.7	3.2	3.4	3.7	3.2	3.3	3.6	3.2	3.2	3.4	3.2	3.0	3.3	22.0
radius (m)	24.0	3.0	3.2	3.2	2.9	3.2	3.2	2.8	3.1	3.2	2.7	3.0	3.1	2.6	2.8	24.0
adin	26.0	2.5	2.8	2.9	2.4	2.7	2.9	2.4	2.7	2.8	2.2	2.5	2.7	2.1	2.4	26.0
	28.0	2.2	2.4	2.6	2.1	2.4	2.5	2.0	2.3	2.4	1.9	2.2	2.3	1.8	2.1	28.0
Working	30.0	1.9	2.1	2.3	1.8	2.0	2.2	1.7	2.0	2.1	1.6	1.8	2.0	1.5	1.8	24.0 26.0 28.0 30.0
≥	32.0		1.8	2.0	1.5	1.8	1.9	1.4	1.7	1.8	1.3	1.6	1.7	1.2	1.5	32.0
	34.0		1.6	1.8		1.5	1.7	1.2	1.4	1.6	1.0	1.3	1.5	1.0	1.2	34.0
	36.0			1.5		1.3	1.4		1.2	1.4		1.1	1.2		1.0	36.0
	38.0			1.3			1.2		1.0	1.2			1.0			38.0
	40.0			1.1			1.1			1.0						40.0
	Reeves	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Reeves

Note:

Ratings according to EN13000.

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

Weight of hooks, hook blocks, slings and other lifting devices are a part of the total load.

Their total weight must be subtracted from the rated load to obtain the weight that can be lifted.

Lifting capacities may vary depending on hook used or with/without auxiliary sheave. Please refer rated chart in operator's cabin.

# TRANSPORTATION PLAN

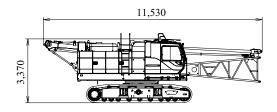
Name	Dimension	Weight (kg)
Base Machine  • Boom base  • Gantry  • Crawler  • Wire rope (Front / boom hoist)	11,530 0.25°E	31,430
• Gantry • Crawler • Wire rope (Front / rear / boom hoist)	7,830 2,990 2,990 2,990	30,020
Base Machine • Boom base • Wire rope (Front / boom)	6,280 02E'E	28,770
• Gantry • Wire rope (Front / boom / boom drum) • Without crawler	7,690	19,200
Crawler	925 5,565	5,410

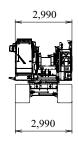
-	

# **PARTS AND ATTACHMENTS**

### **Base Machine**

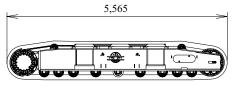
Boom base, Gantry, Crawler, Wire rope (Front/boom hoist) Weight: 31,430 kg Width: 2,990 mm





### Crawler

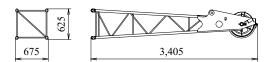
Weight: 5,410 kg





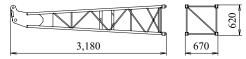
### Jib Tip

Weight: 145 kg



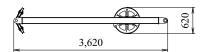
### **Boom Base**

Weight: 125 kg



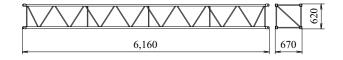
### Jib Strut

Weight: 190 kg



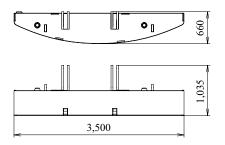
### 6.1 m (20 ft) Jib Insert

Weight: 140 kg



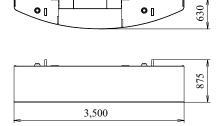
### Counterweight No.1

Weight: 4,920 kg



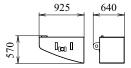
### Counterweight No.2

Weight: 6,080 kg



### Counterweight No.2 (L)

Weight: 800 kg

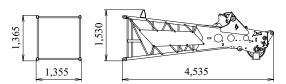


### Counterweight No.2 (R)

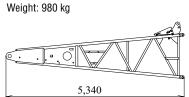
Weight: 1,230 kg

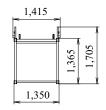


# **Boom Tip** Weight: 1,010 kg









# 3.0 m (10 ft) Boom Insert

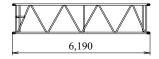
Weight: 255 kg





#### 6.1 m (20 ft) **Boom Insert**

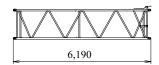
Weight: 430 kg





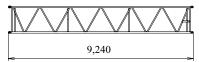
### 6.1 m (20 ft) Boom Insert with Lug

Weight: 445 kg





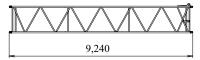
### 9.1 m (30 ft) **Boom Insert** Weight: 615 kg



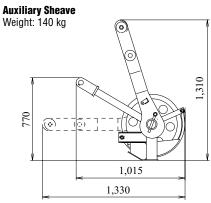


### 9.1 m (30 ft) **Boom Insert with Lug**

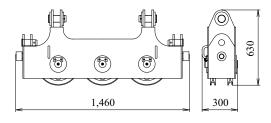
Weight: 630 kg





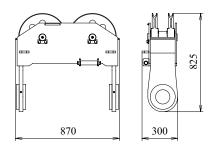


# **Upper Spreader** Weight: 280 kg



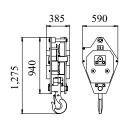
### **Lower Spreader**

Weight: 200 kg



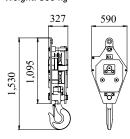
### 19 t Hook

Weight: 400 kg

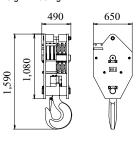


### 32 t Hook

Weight: 500 kg



### 60 t Hook Weight: 700 kg



Note: This catalog may contain photographs of machines with specifications, attachments and optional equipment not certified for operation in your country. Please consult KOBELCO for those items you may require. Due to our policy of continual product improvements all designs and specifications are subject to change without advance notice.

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