Hydraulic Crawler Crane

CIS

900

Max. Lifting Capacity: 100 t* x 3.6 m / 90 t x 3.9 m*

Max. Crane Boom Length: 61.0 m

Max. Fixed Jib Combination: 51.8 m + 18.3 m

* The value are theoretical result.

* Auviliary chanya is pagassary





Model: CKS900



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PARTS AND ATTACHMENTS

SPECIFICATIONS



Power Plant

Model: HINO J08E-VM

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

turbo-charger, intercooler

Exhaust level is equivalent with NRMM (Europe) Stage III A

and/or US EPA Tier3. **Displacement:** 7.684 L

Rated power: 213 kW/2,100 min⁻¹
Max. Torque: 1,017 N·m/1,600 min⁻¹
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 L



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

Oil Quantity (at the reference level): 375 L



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 16 mm 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:

614 mm P.C.D x 617 mm wide drum, grooved for 26 mm wire rope. Rope capacity is 240 m working length and 360 m storage length.

Rear Drum: 614 mm P.C.D \times 617 mm, grooved for 26 mm wire rope. Rope capacity is 165 m working length and 360 m storage length.

Diameter of wire rope

Main winch: 26 mm x 240 m Aux. winch: 26 mm x 165 m Third winch: 22 mm x 145 m

Line Speed*:

Hoisting/lowering: 120 to 3 m/min

Line Pull:

Max. Line Pull*: 208 kN {21.2 tf}

(Referential performance)

Rated Line Pull: 112 kN {11.4 tf}

*Single line on first drum layer



Swing System

Swing unit is powered by hydraulic motor driving spur gears through planetary reducer, 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: 4.0 min⁻¹



Upper Structure

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

Counterweight: 31.9 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, 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.

Carbody weight: 14.4 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.

Shoe (flat): 800 mm wide each crawler

Max. gradeability: 40%



Weight

Including upper and lower machine, 31.9 ton counterweight and 14.4 ton carbody weight, basic boom (or basic boom + basic jib), hook, and other accessories.

Weight: 90.1 ton

Ground pressure: 101 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 | 12.2 m | 61.0 m | | | |
| Fixed Jib | 24.4 m + 9.1 m | 51.8 m + 18.3 m | | | |

Main Specifications (Model: CKS900)

| Crane Boom | | | | | |
|-------------------------------|---|--|--|--|--|
| Max. Lifting Capacity | 100 t * x 3.6 m / 90 t x 3.9 m *3 | | | | |
| Max. Length | 61.0 m | | | | |
| Fixed Jib | | | | | |
| Max. Lifting Capacity | 10.9 t x 18.0 m | | | | |
| Max . Combination | 51.8 m + 18.3 m | | | | |
| Main & Aux. Winch | | | | | |
| Max. Line Speed (1st layer) | 120 m/min | | | | |
| Rated Line Pull (Single line) | 112 kN {11.4 tf} | | | | |
| Wire Rope Diameter | 26 mm | | | | |
| Wire Rope Length | 240 m (Main), 165 m (Aux) | | | | |
| Brake Type (free fall) | Wet-type multiple disc brake (Optional) | | | | |
| Working Speed | | | | | |
| Swing Speed | 4.0 min ⁻¹ {rpm} | | | | |
| Travel Speed | 1.7/1.1 km/h | | | | |
| Power Plant | | | | | |
| Model | HINO J08E-VM | | | | |
| Engine Output | 213 kW/2100 min ⁻¹ | | | | |
| Fuel Tank | 400 L | | | | |
| | | | | | |

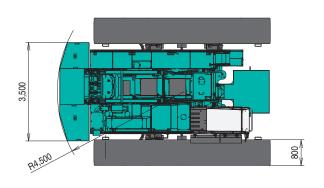
| Hydraulic System | | | | | |
|---------------------------------------|--|--|--|--|--|
| Main Pumps | 3 variable displacement | | | | |
| Max. Pressure | 31.9 MPa {325 kgf/cm²} | | | | |
| Oil Quantity (at the reference level) | 375 L | | | | |
| Self-Removal Device | | | | | |
| | Counterweight/self-removal device (Option) | | | | |
| Weight | | | | | |
| Operating Weight | 90.0 t *1 | | | | |
| Ground Pressure | 101.5 kPa | | | | |
| Counterweight | 31,900 kg | | | | |
| Transport Weight | 41,230 kg *2 | | | | |

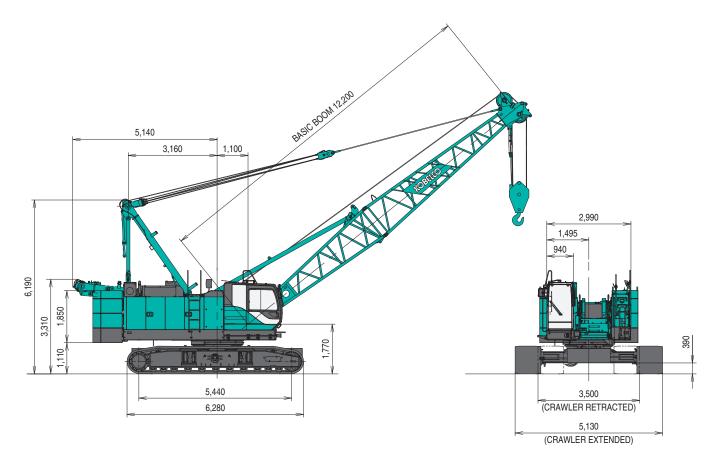
Units are SI units. { } indicates conventional units.

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

- *1 Including upper and lower machine, 31.9 ton counterweight, 14.4 ton carbody weight, basic boom, hook, and other accessories.
- *2 Base machine with boom base, gantry, crawlers, and wire ropes (front/boom boist)
- *3 Auxiliary sheave is must.
- * The value are theoretical result.

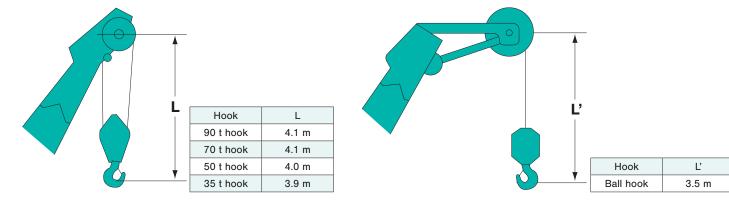
(Unit: mm)





This catalog may contain photographs of machines with specifications, attachments and optional equipment.

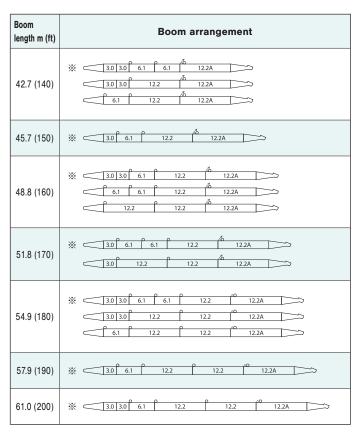
Limit of Hook Lifting



BOOM AND JIB ARRANGEMENTS

Crane Boom Arrangements

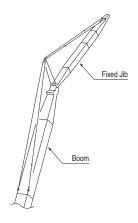
| Boom length m (ft) | Boom arrangement |
|-----------------------|---|
| 12.2 (40) | |
| 15.2 (50) | 3.0 |
| 18.3 (60) | |
| 21.3 (70) | * 3.0 6.1 × |
| 24.4 (80) | |
| 27.4 (90) | |
| 30.5 (100) | * 3.0 3.0 6.1 6.1 3.0 3.0 6.1 6.1 3.0 3.0 6.1 6.1 5.2.2A 5.0 6.1 6.1 12.2A |
| 33.5 (110) | * 3.0 6.1 12.2A |
| 36.6 (120) | * 30 30 6.1 12.2A |
| 39.6 (130) | |



| Symbol | Boom Length | Remarks |
|-----------|-------------|----------------------|
| | 5.8 m | Boom Base |
| \square | 6.4 m | Boom Tip |
| 3.0 | 3.0 m | Insert Boom |
| 6.1 | 6.1 m | Insert Boom |
| 12.2 | 12.2 m | Insert Boom |
| 12.2A | 12.2 m | Insert Boom with lug |
| | | |

- \triangle Mark shows the boom insert with lugs attached
- Mark shows the boom insert with lugs attached and the guy line installing position when the fixed jib is used.
- Mark shows the standard boom arrangement which
 make the boom arrangement of less than the each
 boom length possible.
- Mark shows the installing of the cable roller for the insert boom.

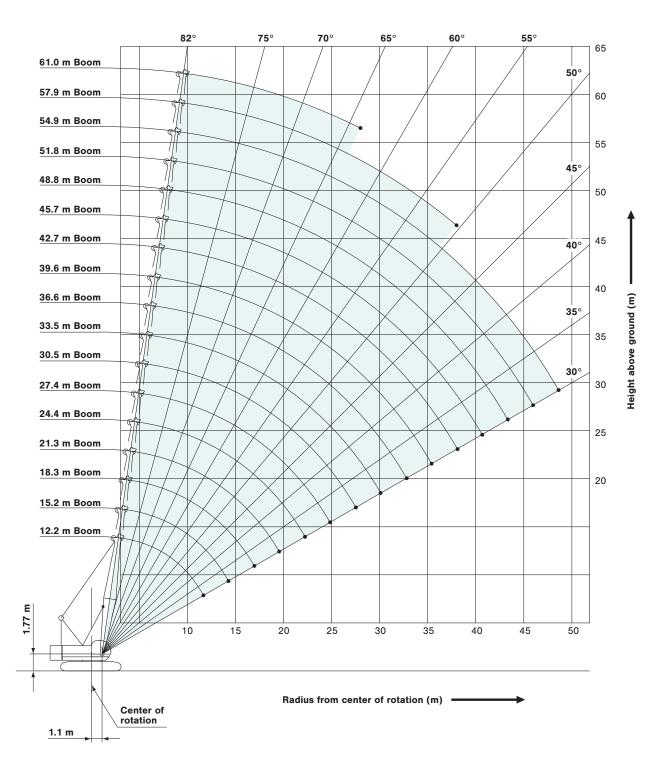
Fixed Jib Arrangements



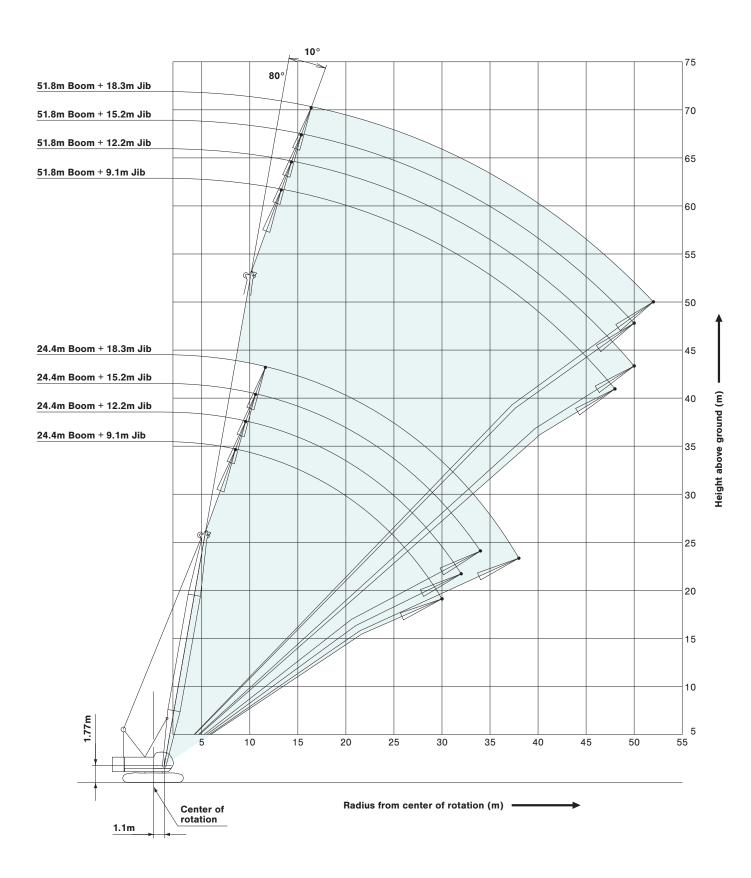
| Crane boom length | Jib length m (ft) | Jib arrangement |
|-------------------|----------------------|-----------------|
| | 9.1 (30) | 4.6/ \4.6 |
| 24.4 m to 51.8 m | 12.2 (40) | 3.0 |
| | 15.2 (50) | 6.1 |
| | 18.3 (60) | 6.1 3.0 |

| Symbol | Jib Length | Remarks |
|--------|------------|------------|
| | 4.6 m | Jib Base |
| | 4.6 m | Jib Tip |
| 3.0 | 3.0 m | Insert Jib |
| 6.1 | 6.1 m | Insert Jib |

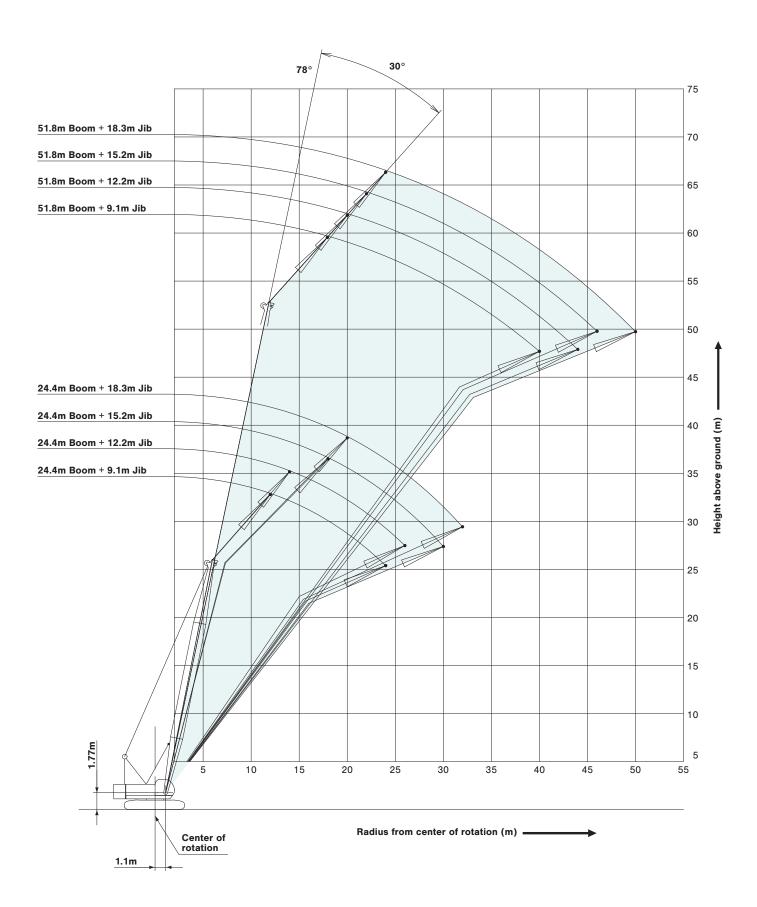
Crane Boom



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 12 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 1.4 (ton).
- · Crawler frames must be fully extended for all crane operations.

(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 24.4 m to 51.8 m.

<Reference Information>

Main hoist loads

| No. of Parts of Line | 1 | 2 | 3 | 4 | 5 |
|----------------------|------|------|------|------|------|
| Maximum Loads (kN) | 112 | 224 | 335 | 447 | 559 |
| Maximum Loads (t) | 11.4 | 22.8 | 34.2 | 45.6 | 57.0 |

| No. of Parts of Line | 6 | 7 | 8 |
|----------------------|------|------|------|
| Maximum Loads (kN) | 671 | 779 | 883 |
| Maximum Loads (t) | 68.4 | 79.4 | 90.0 |

Auxiliary hoist loads

| No. of Parts of Line | 1 |
|----------------------|------|
| Maximum Loads (kN) | 108 |
| Maximum Loads (t) | 11.0 |

| Weight of hook block | | | | | | |
|--|-----|-----|------|-----|-----|--|
| Hook Block 90 t 70 t 50 t 35 t Ball Hook | | | | | | |
| Weight (t) | 1.3 | 0.9 | 0.85 | 0.7 | 0.3 | |

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

Assembling the counterweight

31.9 ton counterweight
14.4 ton carbody weight
(Standard type)

| No.4 | | No.5 |
|------|------|------|
| | No.3 | |
| | No.2 | |
| | No.1 | |

Counterweights

| Carbody weigh | ts |
|---------------|----|

Assembling the counterweight

(Equipped with self removal device)
31.3 ton counterweight
14.4 ton carbody weight

(Optional type)

| | Optional type | ') |
|------|---------------|------|
| No.4 | | No.5 |
| No.2 | | No.3 |
| | No.1 | |

Counterweights

| C | arbody | waiah | to |
|---|--------|-------|----|
| 0 | arbouy | weign | |

 The lifting capacity does not change due to the type of counterweights (standard or optional).

| | Cran | Crane Boom Lifting Capacities Carbody Weight: 14.4 | | | | | | | | | | | | | |
|---|------------|---|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|---|--|--|--|--|
| | | | | | | | | | | Unit: | metric ton | | | | |
| Boom length Working (m) radius (m) | 12.2 | 15.2 | 18.3 | 21.3 | 24.4 | 27.4 | 30.5 | 33.5 | 36.6 | 39.6 | Boom length (m) Working radius (m) | | | | |
| 3.6 | 100.0 * | | | | | | | | | | 3.6 | | | | |
| 3.9 | 90.0 | 89.9 | 89.7 | | | | | | | | 3.9 | | | | |
| 4.0 | 89.0 | 88.9 | 88.7 | 4.3m/68.4 | | | | | | | 4.0 | | | | |
| 4.5 | 79.6 | 79.5 | 79.4 | 68.4 | 4.7m/68.4 | | | | | | 4.5 | | | | |
| 5.0 | 72.1 | 71.9 | 71.8 | 68.4 | 67.6 | 5.1m/57.0 | | | | | 5.0 | | | | |
| 5.5 | 65.8 | 65.7 | 65.5 | 63.6 | 60.6 | 57.0 | 5.6m/54.0 | | | | 5.5 | | | | |
| 6.0 | 60.5 | 60.3 | 59.9 | 57.5 | 54.9 | 52.7 | 50.5 | 45.6 | 6.4m/41.9 | 6.8m/34.2 | 6.0 | | | | |
| 7.0 | 48.6 | 48.5 | 48.4 | 48.1 | 46.2 | 44.5 | 42.9 | 41.5 | 40.0 | 34.2 | 7.0 | | | | |
| 8.0 | 39.9 | 39.8 | 39.7 | 39.9 | 39.8 | 38.5 | 37.2 | 36.1 | 35.0 | 33.9 | 8.0 | | | | |
| 9.0 | 33.8 | 33.7 | 33.6 | 33.8 | 33.6 | 33.6 | 32.8 | 31.9 | 31.0 | 30.1 | 9.0 | | | | |
| 10.0 | 29.3 | 29.2 | 29.1 | 29.2 | 29.1 | 29.0 | 28.9 | 28.5 | 27.7 | 27.0 | 10.0 | | | | |
| 12.0 | 11.8m/22.9 | 22.9 | 22.8 | 22.9 | 22.8 | 22.7 | 22.6 | 22.6 | 22.5 | 22.3 | 12.0 | | | | |
| 14.0 | | 18.8 | 18.6 | 18.8 | 18.6 | 18.5 | 18.4 | 18.4 | 18.3 | 18.3 | 14.0 | | | | |
| 16.0 | | 14.4m/18.1 | 15.7 | 15.8 | 15.7 | 15.6 | 15.5 | 15.4 | 15.3 | 15.3 | 16.0 | | | | |
| 18.0 | | | 17.0m/14.5 | 13.7 | 13.5 | 13.4 | 13.3 | 13.2 | 13.1 | 13.1 | 18.0 | | | | |
| 20.0 | | | | 19.6m/12.2 | 11.8 | 11.7 | 11.6 | 11.5 | 11.4 | 11.4 | 20.0 | | | | |
| 22.0 | | | | | 10.5 | 10.4 | 10.2 | 10.2 | 10.0 | 10.0 | 22.0 | | | | |
| 24.0 | | | | | 22.3m/10.3 | 9.3 | 9.1 | 9.1 | 8.9 | 8.9 | 24.0 | | | | |
| 26.0 | | | | | | 24.9m/8.8 | 8.2 | 8.2 | 8.0 | 8.0 | 26.0 | | | | |
| 28.0 | | | | | | | 27.6m/7.6 | 7.4 | 7.2 | 7.2 | 28.0 | | | | |
| 30.0 | | | | | | | | 6.8 | 6.6 | 6.5 | 30.0 | | | | |
| 32.0 | | | | | | | | 30.2m/6.7 | 6.0 | 6.0 | 32.0 | | | | |
| 34.0 | | | | | | | | | 32.9m/5.8 | 5.5 | 34.0 | | | | |
| 36.0 | | | | | | | | | | 35.5m/5.1 | 36.0 | | | | |
| Reeves | 8 | 8 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | Reeves | | | | |

| Boom length (m) radius (m) | 42.7 | 45.7 | 48.8 | 51.8 | 54.9 | 57.9 | 61.0 | Boom length (m) Working radius (m) |
|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| 7.0 | 7.3m/31.9 | 7.7m/28.0 | | | | | | 7.0 |
| 8.0 | 31.4 | 27.8 | 8.1m/22.1 | 8.5m/19.2 | | | | 8.0 |
| 9.0 | 29.2 | 26.2 | 20.8 | 18.6 | 16.2 | 9.4m/13.9 | 9.8m/11.8 | 9.0 |
| 10.0 | 26.2 | 24.5 | 19.5 | 17.4 | 15.2 | 13.4 | 11.7 | 10.0 |
| 12.0 | 21.7 | 21.2 | 17.3 | 15.4 | 13.3 | 11.7 | 10.2 | 12.0 |
| 14.0 | 18.1 | 18.0 | 15.5 | 13.8 | 11.9 | 10.4 | 9.0 | 14.0 |
| 16.0 | 15.2 | 15.1 | 14.1 | 12.4 | 10.7 | 9.3 | 8.0 | 16.0 |
| 18.0 | 12.9 | 12.9 | 12.8 | 11.4 | 9.7 | 8.4 | 7.2 | 18.0 |
| 20.0 | 11.2 | 11.2 | 11.1 | 10.4 | 8.9 | 7.6 | 6.5 | 20.0 |
| 22.0 | 9.9 | 9.8 | 9.8 | 9.6 | 8.1 | 7.0 | 5.9 | 22.0 |
| 24.0 | 8.7 | 8.7 | 8.6 | 8.5 | 7.5 | 6.4 | 5.4 | 24.0 |
| 26.0 | 7.8 | 7.7 | 7.7 | 7.6 | 6.9 | 5.9 | 4.9 | 26.0 |
| 28.0 | 7.0 | 7.0 | 6.9 | 6.8 | 6.4 | 5.4 | 4.5 | 28.0 |
| 30.0 | 6.4 | 6.3 | 6.3 | 6.1 | 6.0 | 5.0 | 4.1 | 30.0 |
| 32.0 | 5.8 | 5.7 | 5.7 | 5.6 | 5.4 | 4.6 | 3.8 | 32.0 |
| 34.0 | 5.3 | 5.2 | 5.1 | 5.0 | 4.9 | 4.3 | 3.4 | 34.0 |
| 36.0 | 4.8 | 4.8 | 4.7 | 4.6 | 4.4 | 4.0 | 3.2 | 36.0 |
| 38.0 | 4.4 | 4.4 | 4.2 | 4.1 | 4.0 | 3.6 | 2.9 | 38.0 |
| 40.0 | 38.1m/4.4 | 4.0 | 3.9 | 3.8 | 3.6 | 3.3 | 2.6 | 40.0 |
| 44.0 | | 40.8m/3.9 | 43.4m/3.3 | 3.1 | 3.0 | 2.8 | 2.1 | 44.0 |
| 48.0 | | | | 46.1m/2.8 | 2.5 | 2.2 | 1.7 | 48.0 |
| 52.0 | | | | | 48.7m/2.4 | 51.4m/1.8 | | 52.0 |
| Reeves | 4 | 4 | 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.

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

 $[\]ensuremath{\star}$ The value are theoretical result.



Fixed Jib Lifting Capacities (Without Main Hook Block) (Jib Offset Angle : 10°)

Counterweight: 31.9 t Carbody Weight: 14.4 t

| | | י מוט י | Jiiset | Angi | e . 10 |) | | | | | | | u | nit: metric to | on |
|---------|---------------|---------|--------|------|--------|------|------|------|------|------|------|------|------|----------------|--------------------|
| Во | om length (m) | | 24 | 1.4 | | | 27 | 7.4 | | | 30 |).5 | | Boom length | (m) |
| J | ib length (m) | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | Jib length (r | m) |
| | 9.0 | 10.9 | | | | | | | | | | | | 9.0 | |
| | 10.0 | 10.9 | | | | 10.9 | | | | 10.9 | | | | 10.0 |] |
| | 12.0 | 10.9 | 10.9 | 9.0 | | 10.9 | 10.9 | 9.0 | | 10.9 | 10.9 | | | 12.0 | |
| | 14.0 | 10.9 | 10.9 | 9.0 | 8.1 | 10.9 | 10.9 | 9.0 | 8.1 | 10.9 | 10.9 | 9.0 | 8.1 | 14.0 |] |
| | 16.0 | 10.9 | 10.5 | 8.7 | 7.7 | 10.9 | 10.9 | 9.0 | 7.9 | 10.9 | 10.9 | 9.0 | 8.1 | 16.0 | |
| | 18.0 | 10.9 | 9.5 | 7.8 | 6.8 | 10.9 | 10.2 | 8.3 | 7.2 | 10.9 | 10.6 | 8.7 | 7.5 | 18.0 |] |
| | 20.0 | 10.3 | 8.6 | 7.1 | 6.2 | 10.2 | 9.2 | 7.5 | 6.5 | 10.1 | 9.7 | 7.9 | 6.8 | 20.0 | |
| Ξ | 22.0 | 9.0 | 7.8 | 6.5 | 5.6 | 8.9 | 8.4 | 6.9 | 5.9 | 8.8 | 8.9 | 7.2 | 6.2 | 22.0 | Į |
| | 24.0 | 8.0 | 7.2 | 5.9 | 5.1 | 7.9 | 7.7 | 6.3 | 5.4 | 7.8 | 8.0 | 6.6 | 5.7 | 24.0 | <u>₹</u> |
| radius | 26.0 | 7.2 | 6.7 | 5.5 | 4.7 | 7.1 | 7.1 | 5.8 | 5.0 | 7.0 | 7.1 | 6.2 | 5.3 | 26.0 |]gr |
| | 28.0 | 6.5 | 6.2 | 5.1 | 4.4 | 6.4 | 6.5 | 5.4 | 4.6 | 6.3 | 6.4 | 5.7 | 4.9 | 28.0 | Working radius (m) |
| Working | 30.0 | 5.9 | 5.8 | 4.8 | 4.1 | 5.8 | 5.9 | 5.1 | 4.3 | 5.7 | 5.8 | 5.4 | 4.6 | 30.0 | ls (|
| % | 32.0 | | 5.5 | 4.5 | 3.8 | 5.3 | 5.4 | 4.8 | 4.1 | 5.2 | 5.3 | 5.1 | 4.3 | 32.0 | 3 |
| | 34.0 | | | 4.2 | 3.6 | | 4.9 | 4.5 | 3.8 | 4.7 | 4.8 | 4.8 | 4.0 | 34.0 | 1 |
| | 36.0 | | | | 3.4 | | | 4.3 | 3.6 | | 4.4 | 4.5 | 3.8 | 36.0 | |
| | 38.0 | | | | 3.2 | | | 4.1 | 3.4 | | 4.0 | 4.1 | 3.6 | 38.0 |] |
| | 40.0 | | | | | | | | 3.2 | | | 3.8 | 3.4 | 40.0 | |
| | 42.0 | | | | | | | | | | | | 3.3 | 42.0 |] |
| | 44.0 | | | | | | | | | | | | 3.1 | 44.0 | |
| | Reeves | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Reeves |] |

| Во | om length (m) | | 33 | 3.5 | | | 36 | 6.6 | | | 39 |).6 | | Boom length (m) |
|---------|---------------|------|------|------|------|------|------|------|------|------|------|------|------|-------------------------------|
| Ji | b length (m) | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | Jib length (m) |
| | 12.0 | 10.9 | 10.9 | | | 10.9 | | | | 10.9 | | | | 12.0 |
| | 14.0 | 10.9 | 10.9 | 9.0 | 8.1 | 10.9 | 10.9 | 9.0 | | 10.9 | 10.9 | 9.0 | | 14.0 |
| | 16.0 | 10.9 | 10.9 | 9.0 | 8.1 | 10.9 | 10.9 | 9.0 | 8.1 | 10.9 | 10.9 | 9.0 | 8.1 | 16.0 |
| | 18.0 | 10.9 | 10.9 | 9.0 | 7.8 | 10.9 | 10.9 | 9.0 | 8.1 | 10.9 | 10.9 | 9.0 | 8.1 | 18.0 |
| | 20.0 | 10.0 | 10.1 | 8.3 | 7.1 | 9.9 | 10.0 | 8.6 | 7.4 | 9.8 | 9.9 | 9.0 | 7.7 | 20.0 |
| | 22.0 | 8.7 | 8.8 | 7.6 | 6.5 | 8.6 | 8.7 | 8.0 | 6.8 | 8.5 | 8.6 | 8.2 | 7.0 | 22.0 |
| | 24.0 | 7.8 | 7.8 | 7.0 | 6.0 | 7.5 | 7.7 | 7.3 | 6.2 | 7.4 | 7.6 | 7.7 | 6.5 | 24.0 |
| | 26.0 | 7.0 | 7.0 | 6.5 | 5.5 | 6.7 | 6.9 | 6.8 | 5.8 | 6.6 | 6.8 | 6.9 | 6.0 | 26.0 ≤ |
| E) | 28.0 | 6.2 | 6.3 | 6.0 | 5.1 | 6.1 | 6.2 | 6.2 | 5.4 | 6.0 | 6.1 | 6.1 | 5.6 | 28.0 Working radius 32.0 34.0 |
| radius | 30.0 | 5.6 | 5.7 | 5.6 | 4.8 | 5.5 | 5.5 | 5.7 | 5.0 | 5.4 | 5.4 | 5.6 | 5.2 | 30.0 g |
| | 32.0 | 5.1 | 5.2 | 5.2 | 4.5 | 5.0 | 5.0 | 5.1 | 4.7 | 4.8 | 4.9 | 5.0 | 4.9 | 32.0 |
| Working | 34.0 | 4.7 | 4.7 | 4.8 | 4.2 | 4.5 | 4.6 | 4.7 | 4.4 | 4.4 | 4.5 | 4.5 | 4.6 | 34.0 |
| Vor | 36.0 | 4.2 | 4.3 | 4.4 | 4.0 | 4.1 | 4.2 | 4.2 | 4.2 | 4.0 | 4.1 | 4.1 | 4.2 | 36.0 |
| > | 38.0 | 3.9 | 4.0 | 4.0 | 3.8 | 3.8 | 3.8 | 3.9 | 3.9 | 3.7 | 3.7 | 3.8 | 3.8 | 38.0 |
| | 40.0 | | 3.7 | 3.7 | 3.6 | 3.4 | 3.5 | 3.6 | 3.6 | 3.3 | 3.4 | 3.4 | 3.5 | 40.0 |
| | 42.0 | | | 3.4 | 3.4 | | 3.2 | 3.3 | 3.3 | 3.0 | 3.1 | 3.2 | 3.2 | 42.0 |
| | 44.0 | | | | 3.2 | | | 3.0 | 3.1 | | 2.7 | 2.9 | 2.9 | 44.0 |
| | 46.0 | | | | | | | | 2.8 | | | 2.6 | 2.7 | 46.0 |
| | 48.0 | | | | | | | | 2.4 | | | 2.2 | 2.4 | 48.0 |
| | 50.0 | | | | | | | | | | | | 2.1 | 50.0 |
| | Reeves | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Reeves |



Ratings according to EN13000.

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

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

Fixed Jib Lifting Capacities (Without Main Hook Block) (Jib Offset Angle : 10°)

Counterweight: 31.9 t Carbody Weight: 14.4 t

Unit: metric ton

| Во | om length (m) | | 42 | 2.7 | | | 45 | 5.7 | | | 48 | 3.8 | | Boom length (r | m) |
|---------|---------------|------|------|------|------|------|------|------|------|------|------|------|------|----------------|----------|
| Ji | b length (m) | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | Jib length (m |) |
| | 14.0 | 10.9 | 10.9 | | | 10.9 | 10.9 | | | 10.9 | | | | 14.0 | |
| | 16.0 | 10.9 | 10.9 | 9.0 | | 10.9 | 10.9 | 9.0 | | 10.9 | 10.9 | | | 16.0 | |
| | 18.0 | 10.9 | 10.9 | 9.0 | 8.1 | 10.8 | 10.9 | 9.0 | 8.1 | 10.8 | 10.9 | 9.0 | 8.1 | 18.0 | |
| | 20.0 | 9.6 | 9.8 | 9.0 | 7.9 | 9.5 | 9.6 | 9.0 | 8.1 | 9.5 | 9.6 | 9.0 | 8.1 | 20.0 | |
| | 22.0 | 8.4 | 8.5 | 8.5 | 7.3 | 8.3 | 8.4 | 8.5 | 7.6 | 8.2 | 8.4 | 8.5 | 7.8 | 22.0 | |
| | 24.0 | 7.3 | 7.5 | 7.6 | 6.7 | 7.2 | 7.4 | 7.5 | 7.0 | 7.2 | 7.3 | 7.4 | 7.2 | 24.0 | |
| | 26.0 | 6.5 | 6.7 | 6.7 | 6.3 | 6.4 | 6.5 | 6.7 | 6.5 | 6.3 | 6.5 | 6.6 | 6.7 | 26.0 | |
| | 28.0 | 5.8 | 5.9 | 6.0 | 5.8 | 5.7 | 5.8 | 5.9 | 6.0 | 5.7 | 5.8 | 5.9 | 5.9 | 28.0 | < |
| Œ | 30.0 | 5.2 | 5.3 | 5.4 | 5.4 | 5.1 | 5.2 | 5.3 | 5.4 | 5.1 | 5.2 | 5.2 | 5.3 | 30.0 | Working |
| radius | 32.0 | 4.7 | 4.8 | 4.9 | 4.9 | 4.6 | 4.7 | 4.8 | 4.8 | 4.6 | 4.6 | 4.7 | 4.8 | 32.0 | gni |
| | 34.0 | 4.3 | 4.3 | 4.4 | 4.5 | 4.2 | 4.2 | 4.3 | 4.4 | 4.1 | 4.2 | 4.3 | 4.3 | 34.0 | a |
| ding | 36.0 | 3.8 | 3.9 | 4.0 | 4.0 | 3.7 | 3.8 | 3.9 | 3.9 | 3.7 | 3.8 | 3.8 | 3.9 | 36.0 | radius |
| Working | 38.0 | 3.5 | 3.6 | 3.6 | 3.7 | 3.5 | 3.5 | 3.5 | 3.6 | 3.4 | 3.4 | 3.5 | 3.5 | 38.0 | <u>E</u> |
| > | 40.0 | 3.2 | 3.3 | 3.3 | 3.3 | 3.1 | 3.2 | 3.2 | 3.3 | 3.0 | 3.1 | 3.2 | 3.2 | 40.0 | ح |
| | 42.0 | 2.9 | 3.0 | 3.0 | 3.1 | 2.8 | 2.9 | 2.9 | 3.0 | 2.8 | 2.8 | 2.9 | 2.9 | 42.0 | |
| | 44.0 | 2.5 | 2.7 | 2.8 | 2.8 | 2.5 | 2.6 | 2.7 | 2.7 | 2.5 | 2.5 | 2.6 | 2.6 | 44.0 | |
| | 46.0 | 2.2 | 2.3 | 2.5 | 2.6 | 2.2 | 2.3 | 2.4 | 2.5 | 2.2 | 2.2 | 2.4 | 2.4 | 46.0 | |
| | 48.0 | | 2.0 | 2.2 | 2.3 | 1.8 | 2.0 | 2.1 | 2.2 | 1.8 | 1.9 | 2.1 | 2.1 | 48.0 | |
| | 50.0 | | | 1.9 | 2.0 | | 1.7 | 1.8 | 1.9 | 1.4 | 1.6 | 1.8 | 1.9 | 50.0 | |
| | 52.0 | | | | 1.7 | | | 1.6 | 1.7 | | | 1.5 | 1.6 | 52.0 | |
| | Reeves | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Reeves | |

| Во | om length (m) | | 51 | .8 | |
|--------------------|---------------|------|------|------|------|
| Ji | b length (m) | 9.1 | 12.2 | 15.2 | 18.3 |
| | 14.0 | 10.9 | | | |
| | 16.0 | 10.9 | 10.9 | | |
| | 18.0 | 10.7 | 10.8 | 9.0 | 8.1 |
| | 20.0 | 9.4 | 9.5 | 9.0 | 8.1 |
| | 22.0 | 8.1 | 8.3 | 8.3 | 8.0 |
| | 24.0 | 7.1 | 7.2 | 7.3 | 7.4 |
| | 26.0 | 6.2 | 6.4 | 6.5 | 6.6 |
| | 28.0 | 5.6 | 5.7 | 5.8 | 5.8 |
| Working radius (m) | 30.0 | 5.0 | 5.1 | 5.1 | 5.2 |
| lig | 32.0 | 4.4 | 4.5 | 4.6 | 4.7 |
| ľa | 34.0 | 4.0 | 4.1 | 4.2 | 4.2 |
| ing | 36.0 | 3.6 | 3.6 | 3.7 | 3.8 |
| lo. | 38.0 | 3.3 | 3.3 | 3.4 | 3.4 |
| > | 40.0 | 2.9 | 3.0 | 3.0 | 3.1 |
| | 42.0 | 2.7 | 2.7 | 2.8 | 2.8 |
| | 44.0 | 2.3 | 2.4 | 2.5 | 2.5 |
| | 46.0 | 2.1 | 2.1 | 2.2 | 2.3 |
| | 48.0 | 1.7 | 1.8 | 1.9 | 2.0 |
| | 50.0 | | 1.5 | 1.6 | 1.7 |
| | 52.0 | | | | 1.5 |
| | Reeves | 1 | 1 | 1 | 1 |



Ratings according to EN13000.

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

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



Fixed Jib Lifting Capacities (Without Main Hook Block) (Jib Offset Angle : 30°)

Counterweight: 31.9 t Carbody Weight: 14.4 t

| | | י מוט י | JIISEL | Aligi | e . 30 |) | | | | | | | L | Jnit: metric to | on |
|---------|---------------|---------|--------|-------|--------|-----|------|------|------|-----|------|------|------|-----------------|--------------------|
| Во | om length (m) | | 24 | .4 | | | 27 | 7.4 | | | 30 |).5 | | Boom length | (m) |
| Ji | b length (m) | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | Jib length (r | m) |
| | 12.0 | 9.5 | | | | | | | | | | | | 12.0 | |
| | 14.0 | 9.3 | 6.9 | | | 9.4 | | | | 9.5 | | | | 14.0 | 1 |
| | 16.0 | 8.6 | 6.4 | | | 8.9 | 6.5 | | | 9.0 | 6.7 | | | 16.0 | 1 |
| | 18.0 | 8.0 | 5.9 | 4.8 | | 8.3 | 6.1 | 4.9 | | 8.6 | 6.2 | 5.0 | | 18.0 | 1 |
| E | 20.0 | 7.5 | 5.6 | 4.5 | 3.8 | 7.8 | 5.7 | 4.6 | 3.9 | 8.0 | 5.9 | 4.7 | 3.9 | 20.0 | 8 |
|) sn | 22.0 | 7.1 | 5.3 | 4.2 | 3.6 | 7.4 | 5.4 | 4.3 | 3.6 | 7.6 | 5.6 | 4.4 | 3.7 | 22.0 | |
| radius | 24.0 | 6.8 | 5.0 | 4.0 | 3.4 | 7.0 | 5.1 | 4.1 | 3.4 | 7.3 | 5.3 | 4.2 | 3.5 | 24.0 | 19 |
| | 26.0 | | 4.8 | 3.8 | 3.2 | | 4.9 | 3.9 | 3.2 | 7.0 | 5.1 | 4.0 | 3.3 | 26.0 | Working radius (m) |
| Working | 28.0 | | | 3.6 | 3.0 | | 4.7 | 3.7 | 3.0 | 6.4 | 4.9 | 3.8 | 3.1 | 28.0 | ls (|
| % | 30.0 | | | 3.5 | 2.9 | | | 3.6 | 2.9 | | 4.7 | 3.7 | 3.0 | 30.0 | 3 |
| | 32.0 | | | | 2.8 | | | 3.5 | 2.8 | | | 3.6 | 2.9 | 32.0 | 1 |
| | 34.0 | | | | | | | | 2.7 | | | | 2.8 | 34.0 | 1 |
| | 36.0 | | | | | | | | | | | | 2.7 | 36.0 | |
| | Reeves | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Reeves | 1 |

| Во | om length (m) | | 33 | 3.5 | | | 36 | 6.6 | | | 39 |).6 | | Boom length (| (m) |
|--------|---------------|-----|------|------|------|-----|------|------|------|-----|------|------|------|---------------|----------------|
| Ji | b length (m) | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | Jib length (m | n) |
| | 14.0 | 9.5 | | | | 9.5 | | | | | | | | 14.0 | |
| | 16.0 | 9.3 | 6.8 | | | 9.4 | | | | 9.5 | | | | 16.0 | |
| | 18.0 | 8.8 | 6.4 | | | 9.0 | 6.5 | | | 9.2 | 6.6 | | | 18.0 | |
| | 20.0 | 8.3 | 6.1 | 4.8 | 4.0 | 8.5 | 6.2 | 4.9 | 4.1 | 8.8 | 6.3 | 4.9 | | 20.0 | |
| | 22.0 | 7.9 | 5.7 | 4.5 | 3.8 | 8.1 | 5.9 | 4.6 | 3.9 | 8.3 | 6.0 | 4.7 | 3.9 | 22.0 | |
| Ξ | 24.0 | 7.5 | 5.5 | 4.3 | 3.6 | 7.7 | 5.6 | 4.4 | 3.7 | 7.7 | 5.7 | 4.5 | 3.7 | 24.0 | 8 |
|) sn | 26.0 | 7.1 | 5.2 | 4.1 | 3.4 | 7.0 | 5.4 | 4.2 | 3.5 | 6.9 | 5.5 | 4.3 | 3.5 | 26.0 | Working radius |
| radius | 28.0 | 6.4 | 5.0 | 3.9 | 3.2 | 6.2 | 5.1 | 4.0 | 3.3 | 6.1 | 5.2 | 4.1 | 3.3 | 28.0 | 1gr |
| 0 | 30.0 | 5.7 | 4.8 | 3.8 | 3.1 | 5.6 | 4.9 | 3.8 | 3.2 | 5.5 | 5.1 | 3.9 | 3.2 | 30.0 | adi |
| Workin | 32.0 | | 4.7 | 3.7 | 3.0 | 5.1 | 4.8 | 3.7 | 3.1 | 5.0 | 4.9 | 3.8 | 3.1 | 32.0 | |
| 8 | 34.0 | | | 3.5 | 2.9 | | 4.6 | 3.6 | 3.0 | | 4.6 | 3.7 | 3.0 | 34.0 | 3 |
| | 36.0 | | | | 2.8 | | | 3.5 | 2.9 | | 4.1 | 3.6 | 2.9 | 36.0 | |
| | 38.0 | | | | 2.7 | | | 3.4 | 2.8 | | | 3.5 | 2.8 | 38.0 | |
| | 40.0 | | | | | | | | 2.7 | | | | 2.7 | 40.0 | |
| | 42.0 | | | | | | | | | | | | 2.6 | 42.0 | |
| | Reeves | 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 structural components.

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

Fixed Jib Lifting Capacities (Without Main Hook Block) (Jib Offset Angle : 30°)

Counterweight: 31.9 t Carbody Weight: 14.4 t

| | (JID Offset Angle: 30°) | | | | | | | | | | | | | on | |
|----------------------|-------------------------|-----|------|------|------|-----|------|------|------|-----|-----------------|------|------|---------------|--------------------|
| Boom length (m) 42.7 | | | 45.7 | | | | 48.8 | | | | Boom length (m) | | | | |
| J | ib length (m) | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | 9.1 | 12.2 | 15.2 | 18.3 | Jib length (r | m) |
| | 16.0 | 9.5 | | | | 9.5 | | | | | | | | 16.0 | |
| | 18.0 | 9.4 | 6.7 | | | 9.5 | | | | 9.5 | | | | 18.0 |] |
| | 20.0 | 8.9 | 6.4 | 5.1 | | 9.1 | 6.5 | 5.1 | | 9.2 | 6.6 | 5.1 | | 20.0 | |
| | 22.0 | 8.4 | 6.1 | 4.8 | 4.0 | 8.4 | 6.2 | 4.9 | 4.0 | 8.5 | 6.3 | 4.9 | 4.1 | 22.0 |] |
| | 24.0 | 7.6 | 5.8 | 4.6 | 3.8 | 7.6 | 5.9 | 4.7 | 3.8 | 7.5 | 6.0 | 4.7 | 3.9 | 24.0 | |
| | 26.0 | 6.7 | 5.6 | 4.4 | 3.6 | 6.6 | 5.7 | 4.5 | 3.7 | 6.6 | 5.8 | 4.5 | 3.7 | 26.0 |] |
| Ξ | 28.0 | 6.0 | 5.4 | 4.2 | 3.4 | 5.9 | 5.5 | 4.3 | 3.5 | 5.9 | 5.6 | 4.3 | 3.6 | 28.0 | 8 |
| | 30.0 | 5.3 | 5.2 | 4.0 | 3.3 | 5.3 | 5.3 | 4.1 | 3.3 | 5.2 | 5.4 | 4.1 | 3.4 | 30.0 | Working radius (m) |
| radius | 32.0 | 4.8 | 5.0 | 3.9 | 3.2 | 4.8 | 4.9 | 4.0 | 3.2 | 4.7 | 4.9 | 4.0 | 3.3 | 32.0 | 19 |
| | 34.0 | 4.4 | 4.5 | 3.8 | 3.1 | 4.3 | 4.4 | 3.9 | 3.1 | 4.2 | 4.4 | 3.9 | 3.2 | 34.0 | adi |
| Working | 36.0 | 3.9 | 4.1 | 3.7 | 3.0 | 3.9 | 4.0 | 3.7 | 3.0 | 3.9 | 3.9 | 3.8 | 3.1 | 36.0 | ls (|
| % | 38.0 | | 3.7 | 3.6 | 2.9 | 3.5 | 3.6 | 3.6 | 2.9 | 3.5 | 3.6 | 3.7 | 3.0 | 38.0 | 3 |
| | 40.0 | | | 3.5 | 2.8 | | | 3.4 | 2.8 | | 3.2 | 3.4 | 2.9 | 40.0 | |
| | 42.0 | | | | 2.7 | | | 3.1 | 2.7 | | 2.9 | 3.0 | 2.8 | 42.0 | 1 |
| | 44.0 | | | | 2.6 | | | | 2.7 | | | 2.7 | 2.7 | 44.0 | |
| | 46.0 | | | | | | | | | | | | 2.6 | 46.0 |] |
| | 48.0 | | | | | | | | | | | | 2.3 | 48.0 | |
| L | Reeves | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Reeves | |

| Во | om length (m) | | 51.8 | | | | | | | |
|---------|---------------|-----|------|------|------|--|--|--|--|--|
| Ji | b length (m) | 9.1 | 12.2 | 15.2 | 18.3 | | | | | |
| | 18.0 | 9.5 | | | | | | | | |
| | 20.0 | 9.3 | 6.6 | | | | | | | |
| | 22.0 | 8.5 | 6.4 | 5.0 | | | | | | |
| | 24.0 | 7.5 | 6.1 | 4.8 | 3.9 | | | | | |
| | 26.0 | 6.6 | 5.9 | 4.6 | 3.8 | | | | | |
| | 28.0 | 5.9 | 5.7 | 4.4 | 3.6 | | | | | |
| Ξ | 30.0 | 5.2 | 5.4 | 4.2 | 3.5 | | | | | |
| sn (| 32.0 | 4.7 | 4.8 | 4.1 | 3.4 | | | | | |
| radius | 34.0 | 4.2 | 4.3 | 4.0 | 3.3 | | | | | |
| Jg. | 36.0 | 3.7 | 3.8 | 3.9 | 3.2 | | | | | |
| Working | 38.0 | 3.3 | 3.5 | 3.6 | 3.1 | | | | | |
| Š | 40.0 | 3.0 | 3.2 | 3.3 | 3.0 | | | | | |
| | 42.0 | | 2.9 | 3.0 | 2.9 | | | | | |
| | 44.0 | | 2.6 | 2.7 | 2.6 | | | | | |
| | 46.0 | | | 2.4 | 2.4 | | | | | |
| | 48.0 | | | | 2.2 | | | | | |
| | 50.0 | | | | 2.0 | | | | | |
| | Reeves | 1 | 1 | 1 | 1 | | | | | |

Note:

Ratings according to EN13000.

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

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

SUPPLEMENTAL DATA FOR CLAMSHELL RATING CHART

- 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 bucket, 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.
- Rated loads do not exceed 66% of minimum tipping loads.
- 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 12 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.
- · Crawler frames must be fully extended for all crane operations.

(Clamshell bucket lifting)

- The total load that can be lifted is the value for weight of bucket, slings, and all other load handling accessories deducted from main boom ratings shown.
- The weight of bucket and materials must not exceed rated load.
- Optimum bucket should be required according to material.
 Bucket capacity (m³) x specified gravity of material (ton/m³) + bucket weight (ton) = rated load.
- Bucket weight must also be decreased according to operating cycle and bucket lowering height.
- Rated loads are determined by stability and boom strength.
 During simultaneous operations of boom and swing, rapid acceleration or deceleration must be avoided.
- Do not attempt to cast the bucket while swinging or diagonal draw-cutting.

<Reference Information>

Main hoist loads

| No. of Parts of Line | 1 |
|----------------------|------|
| Maximum Loads (kN) | 98 |
| Maximum Loads (t) | 10.0 |

Assembling the counterweight 20.5 ton counterweight

without carbody weight
(Standard type)

No.2

No.1

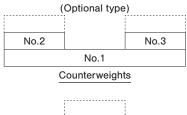
Counterweights

Carbody weights

Assembling the counterweight

(Equipped with self removal device)

19.8 ton counterweight without carbody weight



Carbody weights

 The lifting capacity does not change due to the type of counterweights. (Standard or optional)

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

| | Clams | Counterweight: 20.5 t Without Carbody Weight | | | | |
|---------------------------------|-------|---|------------------------|--------|------------------|---------------------------|
| | Crana | Boom | Crawler Fully Extended | | | |
| | Crane | BOOII | i Capa | Cities | Unit: metric ton | |
| Boom length Load (m) radius (m) | 12.2 | 15.2 | 18.3 | 21.3 | 24.4 | Boom length Loc radius (n |
| 5.0 | 10.0 | | | | | 5.0 |
| 6.0 | 10.0 | 10.0 | | | | 6.0 |
| 7.0 | 10.0 | 10.0 | 10.0 | | | 7.0 |
| 8.0 | 10.0 | 10.0 | 10.0 | 9.5 | | 8.0 |
| 9.0 | 10.0 | 10.0 | 10.0 | 9.5 | 8.7 | 9.0 |
| 10.0 | 9.8 | 9.7 | 9.6 | 9.5 | 8.7 | 10.0 |
| 11.0 | 9.1 | 9.0 | 8.9 | 8.8 | 8.7 | 11.0 |
| 12.0 | | 8.3 | 8.2 | 8.1 | 8.0 | 12.0 |
| 13.0 | | 7.7 | 7.6 | 7.5 | 7.4 | 13.0 |
| 14.0 | | 7.1 | 7.0 | 6.9 | 6.8 | 14.0 |
| 15.0 | | | 6.5 | 6.4 | 6.3 | 15.0 |
| 16.0 | | | 6.1 | 6.0 | 5.9 | 16.0 |
| 17.0 | | | | 5.7 | 5.6 | 17.0 |
| 18.0 | | | | 5.4 | 5.3 | 18.0 |
| 19.0 | | | | 5.2 | 5.1 | 19.0 |
| 20.0 | | | | | 4.9 | 20.0 |
| 21.0 | | | | | 4.7 | 21.0 |
| 22.0 | | | | | | 22.0 |
| 23.0 | | | | | | 23.0 |
| 24.0 | | | | | | 24.0 |
| 25.0 | | | | | | 25.0 |
| 26.0 | | | | | | 26.0 |
| 27.0 | | | | | | 27.0 |
| 28.0 | | | | | | 28.0 |
| 29.0 | | | | | | 29.0 |
| 30.0 | | | | | | 30.0 |
| Reeves | 1 | 1 | 1 | 1 | 1 | Reeves |

Note:

SUPPLEMENTAL DATA FOR REDUCED WEIGHTS RATING CHART

- · 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 12 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 1.4 (ton).
- Crawler frames must be fully extended for all crane operations.

(Crane boom lifting)

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

| Counterweight | Carbody weight | Boom length | | | |
|---------------|----------------|------------------|------------------|--|--|
| Counterweight | Carbody weight | Without aux. | With aux. | | |
| 20.5 ton | Without | 12.2 m to 57.9 m | 12.2 m to 54.9 m | | |
| 19.8 ton | Without | 12.2 m to 57.9 m | 12.2 m to 54.9 m | | |

Assembling the counterweight

20.5 ton counterweight
without carbody weight
(Standard type)

No.2

No.1

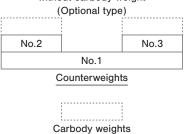
Counterweights

Carbody weights

Assembling the counterweight

(Equipped with self removal device)

19.8 ton counterweight without carbody weight



• The lifting capacity does not change due to the type of counterweights (standard or optional).

<Reference Information>

Main hoist loads

| No. of Parts of Line | 1 | 2 | 3 | 4 | 5 |
|----------------------|------|------|------|------|------|
| Maximum Loads (kN) | 112 | 224 | 335 | 447 | 559 |
| Maximum Loads (t) | 11.4 | 22.8 | 34.2 | 45.6 | 57.0 |

| No. of Parts of Line | 6 | 7 | 8 |
|----------------------|------|------|------|
| Maximum Loads (kN) | 671 | 779 | 883 |
| Maximum Loads (t) | 68.4 | 79.4 | 90.0 |

Auxiliary hoist loads

| No. of Parts of Line | 1 |
|----------------------|------|
| Maximum Loads (kN) | 108 |
| Maximum Loads (t) | 11.0 |

| Weight of hook block | | | | | | | | | | |
|----------------------|------|------|------|------|-----------|--|--|--|--|--|
| Hook Block | 90 t | 70 t | 50 t | 35 t | Ball Hook | | | | | |
| Weight (t) | 1.3 | 0.9 | 0.85 | 0.7 | 0.3 | | | | | |

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

Reduced Weights Rating Charts Without Carbody Weight **Crawler Fully Extended Crane Boom Lifting Capacities** Unit: metric ton Boom length (m) Load radius (m) 12.2 15.2 18.3 21.3 36.6 39.6 81.2 77.3 71.4 3.9 3.9 4.0 80.2 74.6 69.0 4.3m/59.0 4.0 4.5 67.1 63.2 55.8 4.7m/49.9 4.5 5.0 54.8 54.8 51.6 49.0 46.4 5.1m/42.2 5.0 39.7 5.5 46.2 46.2 45.8 43.7 41.6 5.6m/37.1 5.5 34.5 6.4m/29.8 6.8m/26.9 6.0 40.0 39.9 39.7 39.4 37.6 36.0 33.1 6.0 31.2 28.2 27.1 7.0 31.3 31.1 30.9 30.6 30.3 29.2 26.2 7.0 8.0 25.7 25.6 25.4 25.4 25.4 25.3 25.2 24.4 23.6 22.8 8.0 9.0 21.7 21.6 21.4 21.4 21.4 21.4 21.3 21.3 20.8 20.1 9.0 10.0 18.8 18.6 18.5 18.5 18.5 18.5 18.4 18.3 18.2 18.0 10.0 12.0 11.8m/15.0 14.5 14.4 14.4 14.4 14.3 14.2 14.2 14.0 13.9 12.0 11.7 11.4 11.2 14.0 11.9 11.7 11.7 11.6 11.5 11.3 14.0 14.4m/11.5 16.0 9.8 9.8 9.8 9.7 9.6 9.5 9.4 9.3 16.0 17.0m/9.0 8.4 8.3 8.3 8.1 8.1 7.9 7.8 18.0 18.0 20.0 19.6m/7.6 7.2 7.1 7.0 6.9 6.8 6.7 20.0 5.9 5.8 22.0 6.4 6.3 6.1 6.1 22.0 22.3m/6.3 5.6 5.3 5.2 5.1 24.0 24.0 26.0 24.9m/5.3 4.8 4.8 4.6 4.5 26.0 27.6m/4.4 4.3 4.1 4.0 28.0 28.0 3.8 3.7 3.6 30.0 30.0 32.0 30.2m/3.8 3.3 3.2 32.0 32.9m/3.2 34.0 2.9 34.0 35.5m/2.7 36.0 36.0 38.0 38.0 40.0 40.0 44.0 44.0 8 8 8 6 5 4 4 4 4 4 Reeves Reeves

Counterweight: 20.5 t

| Boom length Load (m) radius (m) | 42.7 | 45.7 | 48.8 | 51.8 | 54.9 | 57.9 | B lei (n | oom ength n) Load radius (m) |
|---------------------------------|-----------|-----------|-----------|-----------|------|-----------|----------|---------------------------------------|
| 4.5 | | | | | | | | 4.5 |
| 5.0 | | | | | | | | 5.0 |
| 5.5 | | | | | | | | 5.5 |
| 6.0 | | | | | | | | 6.0 |
| 7.0 | 7.3m/24.1 | 7.7m/22.2 | | | | | | 7.0 |
| 8.0 | 22.0 | 21.4 | 8.1m/19.8 | 8.5m/17.2 | | | | 8.0 |
| 9.0 | 19.5 | 18.9 | 18.3 | 16.6 | 14.5 | 9.4m/12.5 | | 9.0 |
| 10.0 | 17.4 | 16.9 | 16.4 | 15.5 | 13.5 | 11.9 | | 10.0 |
| 12.0 | 13.8 | 13.7 | 13.5 | 13.1 | 11.9 | 10.4 | | 12.0 |
| 14.0 | 11.1 | 11.1 | 11.1 | 11.0 | 10.6 | 9.3 | | 14.0 |
| 16.0 | 9.1 | 9.1 | 9.1 | 9.0 | 8.9 | 8.3 | | 16.0 |
| 18.0 | 7.7 | 7.7 | 7.7 | 7.6 | 7.5 | 7.4 | | 18.0 |
| 20.0 | 6.6 | 6.6 | 6.5 | 6.4 | 6.3 | 6.3 | | 20.0 |
| 22.0 | 5.7 | 5.7 | 5.6 | 5.5 | 5.4 | 5.4 | | 22.0 |
| 24.0 | 4.9 | 4.9 | 4.9 | 4.8 | 4.7 | 4.6 | | 24.0 |
| 26.0 | 4.3 | 4.3 | 4.3 | 4.2 | 4.1 | 4.0 | | 26.0 |
| 28.0 | 3.8 | 3.8 | 3.8 | 3.7 | 3.6 | 3.5 | | 28.0 |
| 30.0 | 3.4 | 3.4 | 3.4 | 3.3 | 3.1 | 3.0 | | 30.0 |
| 32.0 | 3.1 | 3.1 | 3.0 | 2.9 | 2.7 | 2.6 | | 32.0 |
| 34.0 | 2.7 | 2.7 | 2.6 | 2.5 | 2.3 | 2.3 | | 34.0 |
| 36.0 | 2.4 | 2.4 | 2.3 | 2.2 | 2.0 | 1.9 | | 36.0 |
| 38.0 | 2.1 | 2.1 | 2.0 | 1.9 | 1.7 | 1.7 | | 38.0 |
| 40.0 | 38.1m/2.1 | 1.9 | 1.8 | 1.6 | 1.5 | 1.4 | | 40.0 |
| 44.0 | | 40.8m/1.8 | 43.4m/1.4 | | | | | 44.0 |
| 48.0 | | | | | | | | 48.0 |
| 52.0 | | | | | | | | 52.0 |
| Reeves | 4 | 2 | 2 | 2 | 2 | 2 | | Reeves |

Ratings according to EN13000.

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

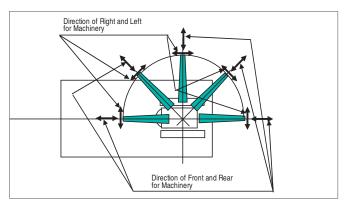
Lifting capacities may vary depending on hook used or with/without auxiliary sheave.

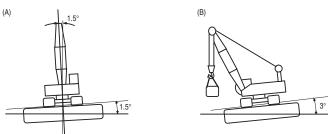
SUPPLEMENTAL DATA FOR BARGE RATING CHART

- 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.
- Condition of barge stability this rating chart were determined under the condition below. The stability of barge shall meet below condition. During operation the machinery static inclination against horizontal level.
 - (A) Both sides (right & left) of machine

 Maximum inclination shall be within 1.5 degrees
 - (B) Front & backward of machine

 Maximum inclination shall be within 3.0 degrees





- · Working area shall be inshore and smooth water.
- Applicable regulations for structure japanese construction codes for mobile crane
 - * Regulation of class of shipping (abs, lloyd, bv, nk, etc) are not adapted.
- 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 12 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 1.4 (ton).
- Crawler frames must be fully extended for all crane operations.
- The machinery should be fastened to the deck of the barge to prevent tip over and sliding.
- · Towing area

Towing area shall be within coastal area and quiet wave condition. Offshore and open sea is not considered for this machinery. Depend on the height of wave, counterweight shall be reduced during towing.

(Crane boom lifting)

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

<Reference Information>

Main hoist loads

| No. of Parts of Line | 1 | 2 | 3 | 4 | 5 |
|----------------------|------|------|------|------|------|
| Maximum Loads (kN) | 112 | 224 | 335 | 447 | 490 |
| Maximum Loads (t) | 11.4 | 22.8 | 34.2 | 45.6 | 50.0 |

Auxiliary hoist loads

| No. of Parts of Line | 1 |
|----------------------|------|
| Maximum Loads (kN) | 108 |
| Maximum Loads (t) | 11.0 |

| Weight of Hook Block | | | | | |
|----------------------|------|------|------|------|----------------|
| Hook Block | 90 t | 70 t | 50 t | 35 t | 11 t Ball Hook |
| Weight (t) | 1.3 | 0.9 | 0.85 | 0.7 | 0.3 |

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

Assembling the counterweight

31.9 ton counterweight
14.4 ton carbody weight
(Standard type)

| No.4 | | No.5 |
|------|------|------|
| | No.3 | |
| | No.2 | |
| | No.1 | |
| | | |

Counterweights

Carbody weights

Assembling the counterweight

(Equipped with self removal device) 31.3 ton counterweight 14.4 ton carbody weight (Optional type)

| No.4 | | No.5 | | |
|------|--|------|--|--|
| No.2 | | No.3 | | |
| No.1 | | | | |

Counterweights

Carbody weights

 The lifting capacity does not change due to the type of counterweights (standard or optional).

| Barge Rating Chart Crane Boom Lifting Capacities Counterweight: 31.9 t Carbody Weight: 14.4 t Crawler Fully Extended Unit: metric ton | | | | | | eight: 14.4 t | | | |
|---|------------|-----------|-----------|-----------|-----------|---------------|-----------|-----------|---------------------------------|
| Boom length (m) radius (m) | | 18.3 | 21.3 | 24.4 | 27.4 | 30.5 | 33.5 | 36.6 | Boom length (m) Load radius (m) |
| 4.5 | 4.6m/50.0 | | | | | | | | 4.5 |
| 5.0 | 44.8 | | | | | | | | 5.0 |
| 5.5 | 37.0 | 40.4 | | | | | | | 5.5 |
| 6.0 | 31.5 | 36.9 | 6.2m/35.5 | 6.9m/31.4 | | | | | 6.0 |
| 7.0 | 26.7 | 31.4 | 31.2 | 30.9 | 7.5m/28.1 | | | | 7.0 |
| 8.0 | 23.0 | 26.6 | 26.5 | 26.4 | 26.3 | 8.2m/24.9 | 8.9m/22.2 | | 8.0 |
| 9.0 | 20.1 | 22.9 | 22.8 | 22.7 | 22.6 | 22.5 | 22.1 | 9.6m/19.4 | 9.0 |
| 10.0 | 15.8 | 20.3 | 20.2 | 20.1 | 20.0 | 19.9 | 19.8 | 19.1 | 10.0 |
| 12.0 | 11.9 | 16.1 | 16.0 | 15.9 | 15.8 | 15.7 | 15.6 | 15.5 | 12.0 |
| 14.0 | 14.4m/10.8 | 12.6 | 12.8 | 12.7 | 12.6 | 12.5 | 12.4 | 12.3 | 14.0 |
| 16.0 | | 10.4 | 10.8 | 10.8 | 10.7 | 10.6 | 10.5 | 10.4 | 16.0 |
| 18.0 | | 17.0m/8.5 | 8.7 | 9.0 | 9.2 | 9.1 | 9.0 | 8.9 | 18.0 |
| 20.0 | | | 19.6m/7.4 | 7.7 | 8.0 | 8.1 | 8.0 | 7.9 | 20.0 |
| 22.0 | | | | 6.5 | 6.9 | 7.0 | 7.0 | 6.9 | 22.0 |
| 24.0 | | | | 22.3m/6.3 | 5.9 | 6.1 | 6.2 | 6.1 | 24.0 |
| 26.0 | | | | | 24.9m/5.5 | 5.2 | 5.4 | 5.3 | 26.0 |
| 28.0 | | | | | | 27.6m/4.6 | 4.6 | 4.6 | 28.0 |
| 30.0 | | | | | | | 4.0 | 4.0 | 30.0 |
| 32.0 | | | | | | | 30.2m/3.9 | 3.5 | 32.0 |
| 34.0 | | | | | | | | 32.9m/3.2 | 34.0 |
| Reeves | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | Reeves |

Note:

Ratings according to japanese construction codes for mobile cranes and japanese safety ordinance on cranes, etc.

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

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

TRANSPORTATION PLAN

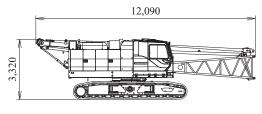
| Name | Dimension | | Weight (kg) |
|--|------------------------|---------|-------------|
| Base Machine • Boom base • Gantry • Crawler • Wire rope (Front / rear / boom hoist) | 12,090 | 3,500 | 41,230 |
| Base Machine • Gantry • Crawler • Wire rope (Front / rear / boom hoist) | 8,210 | 3,500 | 39,170 |
| Base Machine Boom base Gantry Wire rope (Front / rear / boom hoist) Without crawler Without side steps | 12,090 000 3,500 | 2,990*1 | 26,870 |
| Base Machine • Gantry • Wire rope (Front / rear / boom hoist) • Without crawler • Without side steps | 7,700 0,28 3,500 | 2,990*1 | 24,810 |
| Crawler | 6,280 | 1,040 | 7,180 |

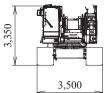
*1 With the side step on cabin side : 3,170 With the side steps on the both sides : 3,340

PARTS AND ATTACHMENTS

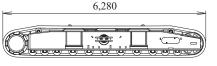
Base Machine

Boom base, Gantry, Crawler, Wire rope (Front/rear/boom hoist) Weight: 41,230 kg Width: 3,500 mm





Crawler Weight: 7,180 kg

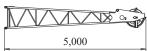




Jib Tip

Weight: 280 kg





Jib Base

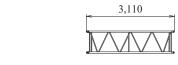
Weight: 200 kg

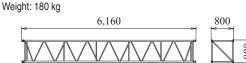




3.0 m Jib Insert

Weight: 100 kg



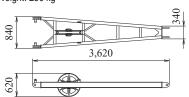


Strut

6.1 m

Jib Insert

Weight: 250 kg



Crane **Backstop**

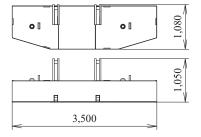
Weight: 270 kg (1 piece)

800

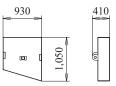


Counterweight No.1

Weight: 10,540 kg



Counterweight No.4 (L) Weight: 1,280 kg



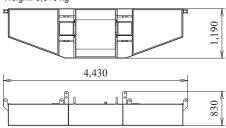
Counterweight No.4 (R) Weight: 1,900 kg

1,300

000

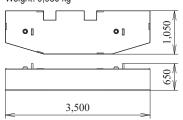
Counterweight (1) (Option)

Weight: 8,310 kg



Counterweight No.2

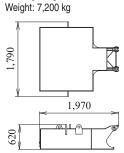
Weight: 9,930 kg



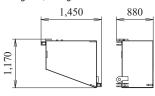
1,050

410

Carbody Weight

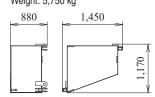


Counterweight (L) (2) (4) (Option) Weight: 5,750 kg



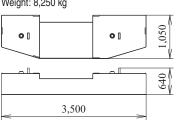
Counterweight (R) (3) (5) (Option)

Weight: 5,750 kg



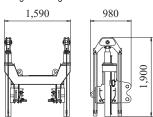
Counterweight No.3

Weight: 8,250 kg

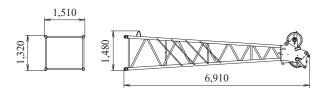


Self removal unit (Option)

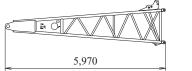
Weight: 870 kg



Boom Tip Weight: 1,220 kg



Boom Base Weight: 1,120 kg



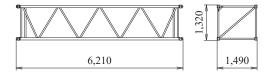


3.0 m **Boom Insert** Weight: 300 kg

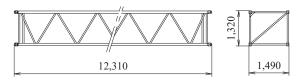




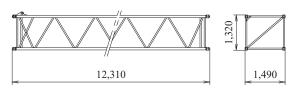
6.1 m **Boom Insert** Weight: 520 kg



12.2 m **Insert Boom** Weight: 950 kg

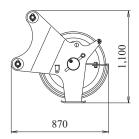


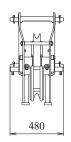
12.2 m Boom Insert (with lug) Weight: 970 kg



Auxiliary Sheave

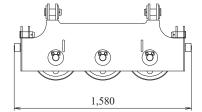
Weight: 195 kg

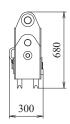




Upper Spreader

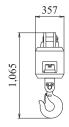
Weight: 280 kg



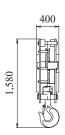


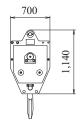
Ball Hook

Weight: 300 kg



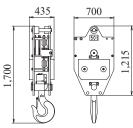
35 t Hook Weight: 700 kg

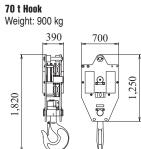




50 t Hook

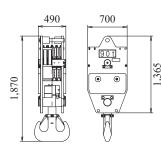
Weight: 850 kg





90 t Hook

Weight: 1,300 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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