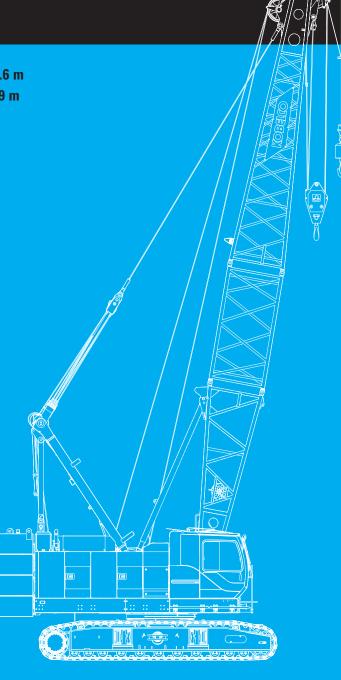
# **Hydraulic Crawler Crane**

# BIIS

800

Max. Lifting Capacity: 80 t x 3.6 m Max. Crane Boom Length: 54.9 m





Model: BMS800



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### **SPECIFICATIONS**



#### **Power Plant**

Model: HINO P11C-VH

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

turbo-charger, intercooler

Displacement: 10,520 liters

Rated power: 271 kW / 1,850 min<sup>-1</sup>

Max. Torque: 1,470 N·m / 1,400 min<sup>-1</sup>

Cooling System: Water-cooled

Starter: 24 V- 6 kW

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 12 V 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 18mm dia. wire rope

**Line Speed:** Single line on first drum layer **Hoisting/Lowering:** 70 to 3 m/min

Boom hoisting/lowering: 18 mm x 143 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. **Positive Brake:** A spring-set, hydraulically released multipledisc brake is mounted on the hoist motor and operated through a counter-balance valve.

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 175 m working length

and 361 m storage length.

**Rear Drum:** 614 mm P.C.D x 617 mm grooved for 26 mm wire rope. Rope capacity is 130 m working length and 361 m  $\,$ 

storage length.

Diameter of wire rope

Main winch: 26 mm x 175 m Aux. winch: 26 mm x 130 m Third winch: 26 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: 108 kN {11.0 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  $360^{\circ}$  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<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: 25.4 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): 800 mm wide each crawler

Max. gradeability: 30 %



#### Weight

Including upper and lower machine, 25.4 ton counterweight and basic boom hook, and other accessories.

Weight: 76.0 ton

Ground pressure: 85.8 kPa



#### **Attachment**

#### Boom & Jib:

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

#### Boom length

|            | Min. Length | Max. Length |  |  |
|------------|-------------|-------------|--|--|
| Crane Boom | 12.2 m      | 54.9 m      |  |  |

#### Main Specifications (Model: BMS800)

| ı | Crane Boom                    |   |  |  |  |
|---|-------------------------------|---|--|--|--|
|   | Max. Lifting Capacity         | 80 t x 3.6 m                            |  |  |  |
|   | Max. Length                   | 54.9 m                                  |  |  |  |
|   | Main & Aux. Winch             |   |  |  |  |
|   | Max. Line Speed (1st layer)   | 120 m/min                               |  |  |  |
|   | Rated Line Pull (Single line) | 108 kN {11.0 tf}                        |  |  |  |
|   | Wire Rope Diameter            | 26 mm                                   |  |  |  |
|   | Wire Rope Length              | 175 m (Main), 130 m (Aux.)              |  |  |  |
|   | Brake Type (free fall)        | Wet-type multiple disc brake (Standard) |  |  |  |
|   | Working Speed                 |   |  |  |  |
|   | Swing Speed                   | 4.0 min <sup>-1</sup> {rpm}             |  |  |  |
|   | Travel Speed                  | 1.7/1.2 km/h                            |  |  |  |
|   | Power Plant                   |   |  |  |  |
|   | Model                         | HINO P11C-VH                            |  |  |  |
|   | Engine Output                 | 271 kW / 1,850 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        | 76.0 t *1                           |  |  |
| Ground Pressure         | 85.8 kPa                            |  |  |
| Counterweight           | 25,400 kg                           |  |  |
| Transport Weight        | 48,630 kg *2                        |  |  |

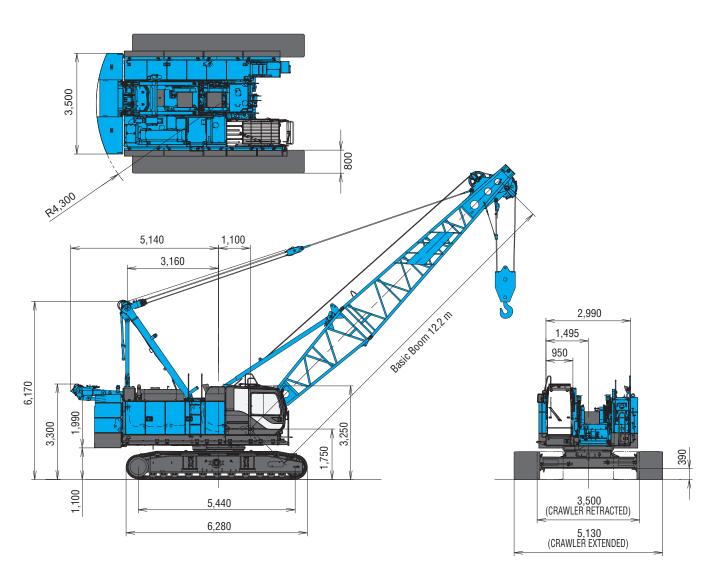
Units are SI units. { } indicates conventional units.

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

<sup>\*1</sup> Including upper and lower machine, 25.4 ton counterweight, 6.5 ton carbody weight, basic boom, hook, and other accessories.

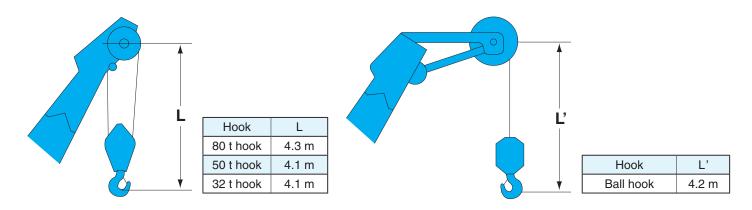
<sup>\*2</sup> Base machine with boom base, gantry, crawlers, and wire ropes (front/rear/boom hoist)

(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<br>length m (ft) | Boom arrangement  |
|-----------------------|---|
| 12.2 (40)             | <b>※ ◎</b> T⊃   |
| 15.2 (50)             | ※ ◆ □ 10 T → □  |
| 18.3 (60)             | ₩ 20 T<br>** < 10 10 T  |
| 21.3 (70)             | ★ ■ 10 20 T     ■ 30 T     ■ 40 T   |
| 24.4 (80)             | ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩   |
| 27.4 (90)             | ★ ■ 10   20   20   T → ■ 20   30   T → ■ 10   10   30   T → ■ |
| 30.5 (100)            | ★   |
| 33.5 (110)            | □ 20 20 30 T     □ 30 30 |

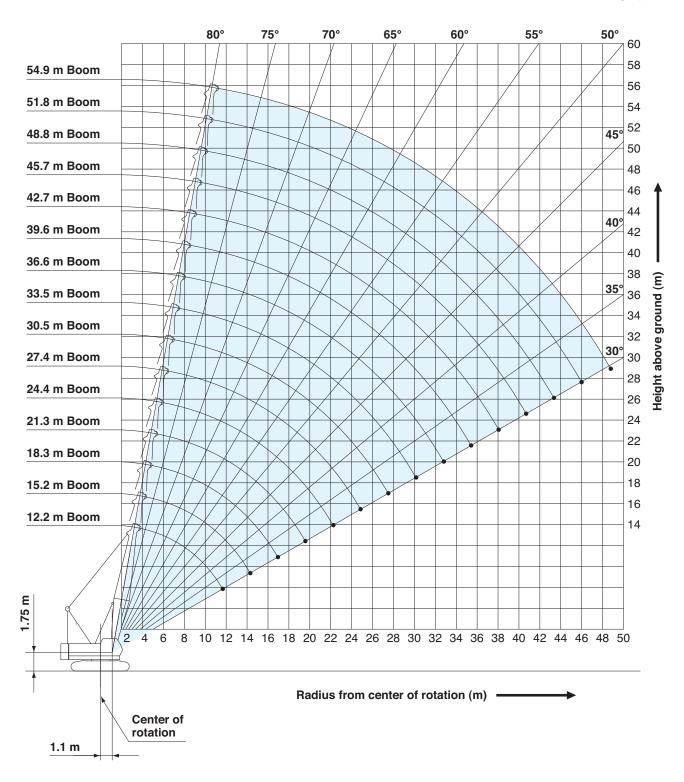
| Boom<br>length m (ft) | Boom arrangement                                     |
|-----------------------|--|
| 36.6 (120)            | B 20 30 1 30 T<br>B 10 10 30 30 T<br>★ 10 20 20 30 T |
| 39.6 (130)            |  |
| 42.7 (140)            |  |
| 45.7 (150)            | ₩ 10 20 20 30 30 T<br>₩ 10 20 20 30 30 T             |
| 48.8 (160)            | ※ ◆ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○              |
| 51.8 (170)            |  |
| 54.9 (180)            | ※ ◆ □ 10   20   20   30   30   30   T → □            |

| Symbol | Boom Length | Remarks     |
|--------|-------------|-------------|
| ⟨B     | 5.2 m       | Boom Base   |
|        | 7.0 m       | Boom Top    |
| 10     | 3.0 m       | Insert Boom |
| 20     | 6.1 m       | Insert Boom |
| 30     | 9.1 m       | Insert Boom |

<sup>\*\*</sup> indicates the most flexible combination of insert luffing booms, which can be modified to form all shorter luffing boom arrangements.

### **Crane Boom**

Unit: m



### 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 1.1 (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.

#### <Reference Information>

#### Main hoist loads

| No. of Parts of Line | 1    | 2    | 3    | 4    | 5    |
|----------------------|------|------|------|------|------|
| Maximum Loads (kN)   | 108  | 216  | 324  | 431  | 539  |
| Maximum Loads (t)    | 11.0 | 22.0 | 33.0 | 44.0 | 55.0 |

| No. of Parts of Line | 6    | 7    | 8    |
|----------------------|------|------|------|
| Maximum Loads (kN)   | 647  | 755  | 785  |
| Maximum Loads (t)    | 66.0 | 77.0 | 80.0 |

#### **Auxiliary hoist loads**

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

| Weight of hook block                |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| Hook Block 80 t 50 t 32 t Ball Hook |  |  |  |  |  |
| Weight (t) 0.95 0.7 0.55 0.3        |  |  |  |  |  |

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

#### Assembling the counterweight

25.4 ton counterweight

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

Counterweights

| (A) Cı                             | (A) Crane Boom Lifting Capacities |            |            |           |           |           |           |           |                                    |  |
|------------------------------------|-----------------------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|------------------------------------|--|
| Boom length Working (m) radius (m) | 12.2                              | 15.2       | 18.3       | 21.3      | 24.4      | 27.4      | 30.5      | 33.5      | Boom length (m) Working radius (m) |  |
| 3.0                                | 3.6m/80.0                         |            |            |           |           |           |           |           | 3.0                                |  |
| 4.0                                | 69.5                              | 4.3m/63.2  | 4.8m/56.0  |           |           |           |           |           | 4.0                                |  |
| 5.0                                | 56.2                              | 56.4       | 53.4       | 5.3m/47.3 | 5.9m/40.2 |           |           |           | 5.0                                |  |
| 6.0                                | 44.7                              | 45.4       | 43.2       | 41.4      | 39.6      | 6.4m/35.4 | 6.9m/31.5 |           | 6.0                                |  |
| 7.0                                | 36.0                              | 37.8       | 36.2       | 34.8      | 33.5      | 32.3      | 31.1      | 7.5m/27.9 | 7.0                                |  |
| 8.0                                | 29.8                              | 31.8       | 31.1       | 30.0      | 28.9      | 28.0      | 27.0      | 26.2      | 8.0                                |  |
| 9.0                                | 25.3                              | 27.0       | 26.8       | 26.3      | 25.4      | 24.6      | 23.9      | 23.2      | 9.0                                |  |
| 10.0                               | 22.0                              | 23.4       | 23.2       | 23.2      | 22.6      | 22.0      | 21.3      | 20.7      | 10.0                               |  |
| 12.0                               | 11.8m/17.4                        | 18.4       | 18.2       | 18.1      | 18.0      | 17.9      | 17.4      | 17.0      | 12.0                               |  |
| 14.0                               |                                   | 15.1       | 14.9       | 14.8      | 14.7      | 14.6      | 14.5      | 14.3      | 14.0                               |  |
| 16.0                               |                                   | 14.5m/14.4 | 12.5       | 12.4      | 12.3      | 12.2      | 12.1      | 12.0      | 16.0                               |  |
| 18.0                               |                                   |            | 17.1m/11.5 | 10.6      | 10.5      | 10.4      | 10.3      | 10.2      | 18.0                               |  |
| 20.0                               |                                   |            |            | 19.8m/9.4 | 9.1       | 9.0       | 8.9       | 8.8       | 20.0                               |  |
| 22.0                               |                                   |            |            |           | 8.0       | 7.9       | 7.8       | 7.7       | 22.0                               |  |
| 24.0                               |                                   |            |            |           | 22.4m/7.8 | 7.0       | 6.9       | 6.8       | 24.0                               |  |
| 26.0                               |                                   |            |            |           |           | 25.0m/6.6 | 6.1       | 6.0       | 26.0                               |  |
| 28.0                               |                                   |            |            |           |           |           | 27.7m/5.6 | 5.4       | 28.0                               |  |
| 30.0                               |                                   |            |            |           |           |           |           | 4.8       | 30.0                               |  |
| 32.0                               |                                   |            |            |           |           |           |           | 30.3m/4.8 | 32.0                               |  |
| Reeves                             | 8                                 | 6          | 6          | 5         | 4         | 4         | 3         | 3         | Reeves                             |  |

| Boom length (m) radius (m) | 36.6      | 39.6      | 42.7      | 45.7      | 48.8           | 51.8       | 54.9       | Boom length (m) Working radius (m) |  |
|----------------------------|-----------|-----------|-----------|-----------|----------------|------------|------------|------------------------------------|--|
| 8.0                        | 8.0m/25.3 | 8.5m/23.1 |           |           |                |            |            | 8.0                                |  |
| 9.0                        | 22.4      | 21.8      | 9.0m/21.2 | 9.6m/19.2 |                |            |            | 9.0                                |  |
| 10.0                       | 20.1      | 19.5      | 19.0      | 18.4      | 10.1m/17.7     | 10.6m/16.3 | 11.2m/15.0 | 10.0                               |  |
| 12.0                       | 16.5      | 16.0      | 15.6      | 15.2      | 14.8           | 14.3       | 13.9       | 12.0                               |  |
| 14.0                       | 13.9      | 13.5      | 13.2      | 12.8      | 12.5           | 12.1       | 11.7       | 14.0                               |  |
| 16.0                       | 11.9      | 11.6      | 11.3      | 11.0      | 10.7           | 10.3       | 10.0       | 16.0                               |  |
| 18.0                       | 10.1      | 9.9       | 9.8       | 9.5       | 9.2            | 8.9        | 8.6        | 18.0                               |  |
| 20.0                       | 8.7       | 8.5       | 8.5       | 8.3       | 8.1            | 7.8        | 7.5        | 20.0                               |  |
| 22.0                       | 7.5       | 7.4       | 7.4       | 7.2       | 7.1            | 6.8        | 6.6        | 22.0                               |  |
| 24.0                       | 6.6       | 6.5       | 6.4       | 6.3       | 6.2            | 6.1        |            | 24.0                               |  |
| 26.0                       | 5.9       | 5.8       | 5.7       | 5.6       | 5.4            | 5.3        | 5.2        | 26.0                               |  |
| 28.0                       | 5.2       | 5.1       | 5.0       | 4.9       | 4.8            | 4.6        | 4.5        | 28.0                               |  |
| 30.0                       | 4.7       | 4.6       | 4.5       | 4.4       | 4.2            | 4.1        | 4.0        | 30.0                               |  |
| 32.0                       | 4.2       | 4.1       | 4.0       | 3.9       | 3.8            | 3.6        | 3.5        | 32.0                               |  |
| 34.0                       | 33.0m/4.0 | 3.7       | 3.6       | 3.5       | 3.3            | 3.2        | 3.1        | 34.0                               |  |
| 36.0                       |           | 35.6m/3.4 | 3.2       | 3.1       | 3.0            | 2.8        | 2.7        | 36.0                               |  |
| 38.0                       |           |           | 2.9       | 2.8       | 2.7            | 2.5        | 2.4        | 38.0                               |  |
| 40.0                       |           |           | 38.2m/2.9 | 2.5       | 2.4            | 2.2        | 2.1        | 40.0                               |  |
| 42.0                       |           |           |           | 40.9m/2.4 | 9m/2.4 2.1 2.0 |            | 1.8        | 42.0                               |  |
| 44.0                       |           |           |           |           | 43.5m/1.9      | 1.7        | 1.6        | 44.0                               |  |
| 46.0                       |           |           |           |           |                | 1.5        | 1.4        | 46.0                               |  |
| 48.0                       |           |           |           |           |                | 46.2m/1.5  | 1.2        | 48.0                               |  |
| 50.0                       |           |           |           |           |                |            | 48.8/1.1   | 50.0                               |  |
| Reeves                     | 3         | 3         | 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 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)   | 74  |
| Maximum Loads (t)    | 7.5 |

#### Assembling the counterweight

16.39 ton counterweight

No.2

No.1

Counterweights

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

|                            | Clamshell Rating Charts Crane Boom Capacities |      |      |      |      |  |  |   |  |  |  |
|----------------------------|---|------|------|------|------|--|--|---|--|--|--|
| Boom length (m) radius (m) | 12.2  | 15.2 | 18.3 | 21.3 | 24.4 |  |  | Boom<br>length<br>(m) Working<br>radius (m) |  |  |  |
| 5.0                        | 7.5   |      |      |      |      |  |  | 5.0   |  |  |  |
| 5.5                        | 7.5   | 7.5  |      |      |      |  |  | 5.5   |  |  |  |
| 6.0                        | 7.5   | 7.5  |      |      |      |  |  | 6.0   |  |  |  |
| 7.0                        | 7.5   | 7.5  | 7.5  |      |      |  |  | 7.0   |  |  |  |
| 8.0                        | 7.5   | 7.5  | 7.5  | 7.5  | 7.2  |  |  | 8.0   |  |  |  |
| 9.0                        | 7.5   | 7.5  | 7.5  | 7.5  | 7.2  |  |  | 9.0   |  |  |  |
| 10.0                       | 7.5   | 7.5  | 7.5  | 7.5  | 7.2  |  |  | 10.0  |  |  |  |
| 11.0                       |   | 7.5  | 7.5  | 7.5  | 7.2  |  |  | 11.0  |  |  |  |
| 12.0                       |   | 7.5  | 7.5  | 7.5  | 7.2  |  |  | 12.0  |  |  |  |
| 13.0                       |   | 7.5  | 7.5  | 7.5  | 7.2  |  |  | 13.0  |  |  |  |
| 14.0                       |   |      | 7.5  | 7.5  | 7.2  |  |  | 14.0  |  |  |  |
| 15.0                       |   |      | 7.5  | 7.5  | 7.1  |  |  | 15.0  |  |  |  |
| 16.0                       |   |      | 7.5  | 7.5  | 6.9  |  |  | 16.0  |  |  |  |
| 17.0                       |   |      |      | 7.1  | 6.7  |  |  | 17.0  |  |  |  |
| 18.0                       |   |      |      | 6.6  | 6.5  |  |  | 18.0  |  |  |  |
| 19.0                       |   |      |      |      | 6.0  |  |  | 19.0  |  |  |  |
| 20.0                       |   |      |      |      | 5.6  |  |  | 20.0  |  |  |  |
| 21.0                       |   |      |      |      | 5.2  |  |  | 21.0  |  |  |  |
| Reeves                     | 1   | 1    | 1    | 1    | 1    |  |  | Reeves                                      |  |  |  |

Note:

### SUPPLEMENTAL DATA FOR REDUCED WEIGHTS RATING CHART

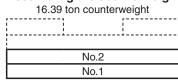
- Ratings according to EN13000.
- Operating radius is the horizontal distance from centerline of rotation to a vertical line through the center of gravity of the load.
- Deduct weight of hook block(s), slings and all other load handling accessories from main boom ratings shown.
- Ratings shown are based 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 1.1(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 | Boom Length  |             |  |  |  |
|---------------|--------------|-------------|--|--|--|
| Counterweight | Without Aux. | With Aux.   |  |  |  |
| 16.39 ton     | 12.2m~51.8m  | 12.2m~48.8m |  |  |  |

#### Assembling the counterweight



Counterweights

#### Assembling the counterweight

(Equipped with self removal device) 17.7 ton counterweight (optional type)



Counterweights

 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)   | 108  | 216  | 324  | 431  | 539  |
| Maximum Loads (t)    | 11.0 | 22.0 | 33.0 | 44.0 | 55.0 |

| No. of Parts of Line | 6    | 7    | 8    |
|----------------------|------|------|------|
| Maximum Loads (kN)   | 647  | 755  | 785  |
| Maximum Loads (t)    | 66.0 | 77.0 | 80.0 |

#### **Auxiliary hoist loads**

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

|                                     | Weight of hook block |     |      |     |  |  |  |  |  |  |
|-------------------------------------|----------------------|-----|------|-----|--|--|--|--|--|--|
| Hook Block 80 t 50 t 32 t Ball Hook |                      |     |      |     |  |  |  |  |  |  |
| Weight (t)                          | 0.95                 | 0.7 | 0.55 | 0.3 |  |  |  |  |  |  |

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

|                                 |            |            |           | eigh<br>Lif |           |           |           |           |           |           |           |           | Cou        |            | ght: 16.39 t                             |
|---------------------------------|------------|------------|-----------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|--|
| Boom length Load (m) radius (m) | 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<br>length<br>(m) Load<br>radius (m) |
|                                 | 3.6m/72.0  |            |           |             |           |           |           |           |           |           |           |           |            |            | 3.5                                      |
| 4.0                             |            | 4.3m/58.4  |           |             |           |           |           |           |           |           |           |           |            |            | 4.0                                      |
| 4.5                             | 55.0       |            | 4.8m/47.6 | /           |           |           |           |           |           |           |           |           |            |            | 4.5                                      |
| 5.0                             | 47.2       | 47.2       |           | 5.3m/40.1   |           |           |           |           |           |           |           |           |            |            | 5.0                                      |
| 5.5                             | 40.3       | 40.2       | 40.1      |             | 5.9m/33.8 |           |           |           |           |           |           |           |            |            | 5.5                                      |
| 6.0                             | 35.0       | 35.0       | 34.9      | 34.7        | 33.2      |           | 6.9m/26.2 |           |           |           |           |           |            |            | 6.0                                      |
| 7.0                             | 27.8       | 27.7       | 27.6      | 27.6        | 27.4      | 26.8      | 25.8      | 7.5m/23.1 |           |           |           |           |            |            | 7.0                                      |
| 8.0                             | 22.9       | 22.8       | 22.7      | 22.7        | 22.6      | 22.5      | 22.3      | 21.6      | 8.0m/20.8 |           | -         |           |            |            | 8.0                                      |
| 9.0                             | 19.5       | 19.4       | 19.3      | 19.2        | 19.1      | 19.1      | 18.9      | 18.8      | 18.3      | 17.7      | 17.1      | 9.6m/15.4 |            |            | 9.0                                      |
| 10.0                            | 16.9       | 16.8       | 16.7      | 16.6        | 16.5      | 16.4      | 16.3      | 16.2      | 16.2      | 15.8      | 15.3      | 14.8      | 10.1m/14.1 | 10.6m/12.9 | 10.0                                     |
| 12.0                            | 11.8m/13.6 | 13.1       | 13.0      | 13.0        | 12.8      | 12.8      | 12.7      | 12.6      | 12.5      | 12.4      | 12.3      | 12.0      | 11.6       | 11.2       | 12.0                                     |
| 14.0                            |            | 10.7       | 10.6      | 10.5        | 10.4      | 10.4      | 10.2      | 10.1      | 10.1      | 10.0      | 9.8       | 9.7       | 9.6        | 9.3        | 14.0                                     |
| 16.0                            |            | 14.5m/10.3 | 8.9       | 8.8         | 8.7       | 8.6       | 8.5       | 8.4       | 8.3       | 8.2       | 8.1       | 8.0       | 7.9        | 7.8        | 16.0                                     |
| 18.0                            |            |            | 17.1m/8.2 | 7.5         | 7.4       | 7.3       | 7.2       | 7.1       | 7.0       | 6.9       | 6.8       | 6.7       | 6.6        | 6.4        | 18.0                                     |
| 20.0                            |            |            |           | 19.8m/6.6   | 6.4       | 6.3       | 6.2       | 6.1       | 6.0       | 5.9       | 5.8       | 5.7       | 5.5        | 5.4        | 20.0                                     |
| 22.0                            |            |            |           |             | 5.6       | 5.5       | 5.4       | 5.3       | 5.2       | 5.1       | 5.0       | 4.8       | 4.7        | 4.6        | 22.0                                     |
| 24.0                            |            |            |           |             | 22.4m/5.5 | 4.9       | 4.7       | 4.6       | 4.5       | 4.4       | 4.3       | 4.2       | 4.1        | 3.9        | 24.0                                     |
| 26.0                            |            |            |           |             |           | 25.0m/4.6 | 4.2       | 4.1       | 4.0       | 3.9       | 3.7       | 3.6       | 3.5        | 3.4        | 26.0                                     |
| 28.0                            |            |            |           |             |           |           | 27.7m/3.7 | 3.6       | 3.5       | 3.4       | 3.3       | 3.2       | 3.0        | 2.9        | 28.0                                     |
| 30.0                            |            |            |           |             |           |           |           | 3.2       | 3.1       | 3.0       | 2.9       | 2.7       | 2.6        | 2.5        | 30.0                                     |
| 32.0                            |            |            |           |             |           |           |           | 30.3m/3.2 | 2.8       | 2.7       | 2.5       | 2.4       | 2.2        | 2.1        | 32.0                                     |
| 34.0                            |            |            |           |             |           |           |           |           | 33.0m/2.5 | 2.3       | 2.2       | 2.0       | 1.9        | 1.7        | 34.0                                     |
| 36.0                            |            |            |           |             |           |           |           |           |           | 35.6m/2.1 | 1.9       | 1.7       | 1.6        | 1.5        | 36.0                                     |
| 38.0                            |            |            |           |             |           |           |           |           |           |           | 1.6       | 1.5       | 1.3        | 1.2        | 38.0                                     |
| 40.0                            |            |            |           |             |           |           |           |           |           |           | 38.2m/1.6 | 1.3       | 1.1        |            | 40.0                                     |
| 42.0                            |            |            |           |             |           |           |           |           |           |           |           | 40.9m/1.1 |            |            | 42.0                                     |
| 44.0                            |            |            |           |             |           |           |           |           |           |           |           |           |            |            | 44.0                                     |
| 46.0                            |            |            |           |             |           |           |           |           |           |           |           |           |            |            | 46.0                                     |
| 48.0                            |            |            |           |             |           |           |           |           |           |           |           |           |            |            | 48.0                                     |
| 50.0                            |            |            |           |             |           |           |           |           |           |           |           |           |            |            | 50.0                                     |
| 52.0                            |            |            |           |             |           |           |           |           |           |           |           |           |            |            | 52.0                                     |
| 54.0                            |            |            |           |             |           |           |           |           |           |           |           |           |            |            | 54.0                                     |
| Reeves                          | 7          | 6          | 5         | 4           | 4         | 3         | 3         | 3         | 2         | 2         | 2         | 2         | 2          | 2          | Reeves                                   |

Note:

Ratings according to EN13000.

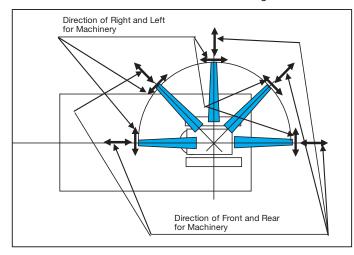
Ratings shown in \_\_\_\_\_ are determined by the strength of the boom or other structural components. Lifting capacities may vary depending on hook used or with/without auxiliary sheave.

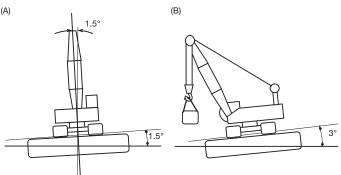
### SUPPLEMENTAL DATA FOR BARGE RATING CHART

- 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 macine

  Maximum inclination shall be within 3.0 Degrees





- · Working area shall be inshore and smooth water.
- Applicable regulations for structure japanese construction codes for mobil 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 16 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 1.1 (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)

•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)   | 108  | 216  | 324  | 431  | 539  |
| ĺ | Maximum Loads (t)    | 11.0 | 22.0 | 33.0 | 44.0 | 55.0 |

#### **Auxiliary hoist loads**

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

| Weight of hook block |      |      |      |           |  |  |  |  |  |
|----------------------|------|------|------|-----------|--|--|--|--|--|
| Hook Block           | 80 t | 50 t | 32 t | Ball Hook |  |  |  |  |  |
| Weight (t)           | 0.95 | 0.7  | 0.55 | 0.3       |  |  |  |  |  |

#### Assembling the counterweight

25.4 ton counterweight

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

Counterweights

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

| Barge Rating Chart Crane Boom Lifting Capacities  Counterweight: 25.4 t Unit: metric tons |            |            |           |           |           |           |           |           |           |                                 |
|---|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------------------------|
| Boom length Load (m) radius (m)   | 12.2       | 15.2       | 18.3      | 21.3      | 24.4      | 27.4      | 30.5      | 33.5      | 36.6      | Boom length (m) Load radius (m) |
| 4.0   | 4.2m/55.0  | 4.9m/43.7  |           |           |           |           |           |           |           | 4.0                             |
| 5.0   | 43.1       | 42.9       | 5.6m/38.0 |           |           |           |           |           |           | 5.0                             |
| 6.0   | 35.6       | 35.4       | 35.3      | 6.3m/33.4 | 6.9m/30.0 |           |           |           |           | 6.0                             |
| 7.0   | 30.3       | 30.1       | 30.0      | 29.8      | 29.7      | 7.6m/27.1 |           |           |           | 7.0                             |
| 8.0   | 25.7       | 25.8       | 25.7      | 25.6      | 25.5      | 25.4      | 8.3m/24.2 |           |           | 8.0                             |
| 9.0   | 21.7       | 22.3       | 22.1      | 22.0      | 21.9      | 21.8      | 21.7      | 21.6      | 9.7m/19.3 | 9.0                             |
| 10.0  | 18.6       | 19.4       | 19.4      | 19.3      | 19.2      | 19.1      | 19.0      | 18.9      | 18.8      | 10.0                            |
| 12.0  | 11.8m/13.2 | 15.0       | 15.2      | 15.1      | 15.0      | 14.9      | 14.8      | 14.7      | 14.6      | 12.0                            |
| 14.0  |            | 11.5       | 12.0      | 12.1      | 12.2      | 12.1      | 12.0      | 11.9      | 11.8      | 14.0                            |
| 16.0  |            | 14.5m/10.2 | 9.6       | 10.1      | 10.3      | 10.5      | 10.4      | 10.3      | 10.2      | 16.0                            |
| 18.0  |            |            | 17.1m/8.0 | 8.5       | 8.7       | 8.9       | 8.9       | 8.8       | 8.6       | 18.0                            |
| 20.0  |            |            |           | 19.8m/7.0 | 7.5       | 7.6       | 7.7       | 7.6       | 7.5       | 20.0                            |
| 22.0  |            |            |           |           | 6.2       | 6.7       | 6.8       | 6.8       | 6.7       | 22.0                            |
| 24.0  |            |            |           |           | 22.4m/5.9 | 5.5       | 5.8       | 5.8       | 5.8       | 24.0                            |
| 26.0  |            |            |           |           |           | 25.0m/5.1 | 4.9       | 5.1       | 5.1       | 26.0                            |
| 28.0  |            |            |           |           |           |           | 27.7m/4.3 | 4.3       | 4.3       | 28.0                            |
| 30.0  |            |            |           |           |           |           |           | 3.8       | 3.8       | 30.0                            |
| 32.0  |            |            |           |           |           |           |           | 30.3m/3.7 | 3.3       | 32.0                            |
| 34.0  |            |            |           |           |           |           |           |           | 33.0m/3.0 | 34.0                            |
| Reeves  | 5          | 4          | 4         | 4         | 3         | 3         | 3         | 2         | 2         | Reeves                          |

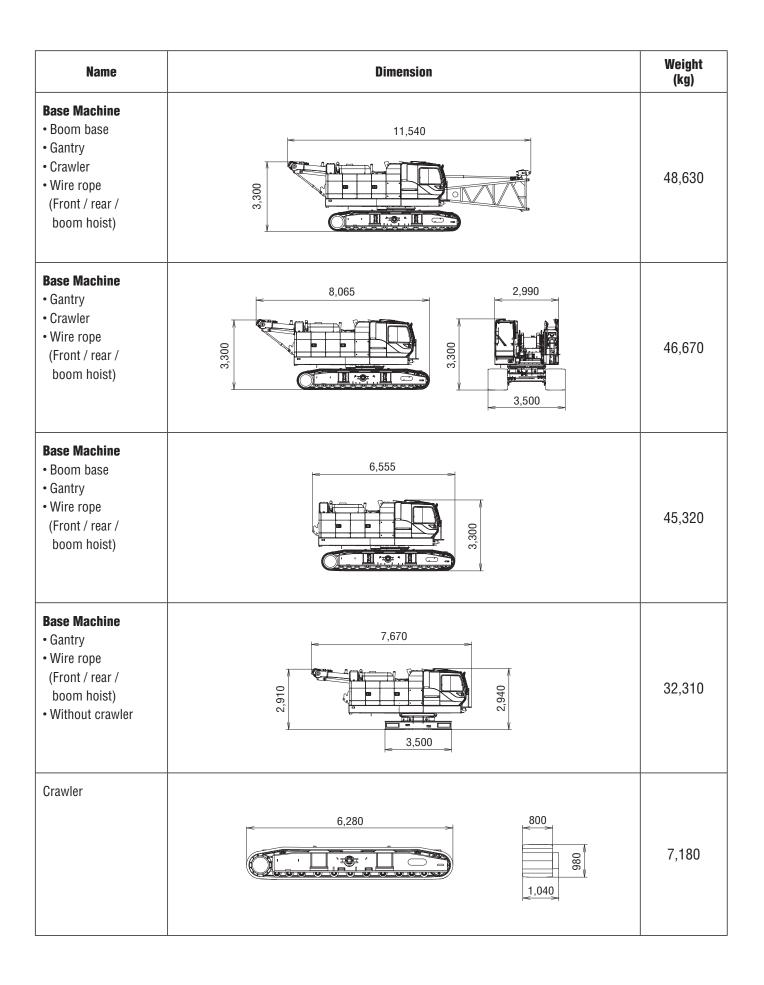
#### Note:

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 structual components.

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

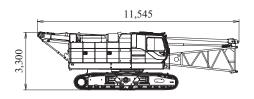
### **TRANSPORTATION PLAN**

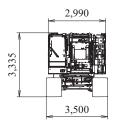


### **PARTS AND ATTACHMENTS**

#### **Base Machine**

Boom base, Gantry, Crawler Wire rope (Front/rear/boom hoist), Weight: 48,630 kg Width: 3,500 mm



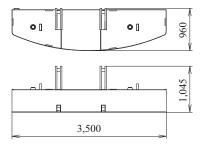


Crawler Weight: 7,180 kg

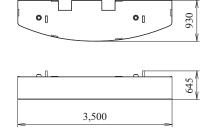




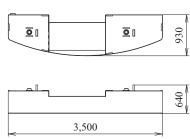
### **Counterweight No.1** Weight: 8,530 kg



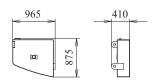
### **Counterweight No.2** Weight: 7,860 kg



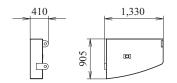
### **Counterweight No.3** Weight: 6,410 kg



### **Counterweight No.4 (L)** Weight: 1,000 kg

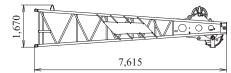


### **Counterweight No.5 (R)** Weight: 1,580 kg

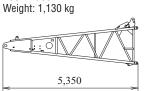


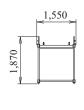
### **Boom Tip** Weight: 1,390 kg





**Boom Base** 





3.0 m **Boom Insert** 

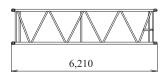
Weight: 310 kg





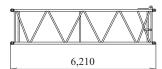
6.1 m Boom Insert

Weight: 522 kg





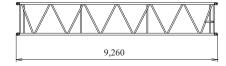
### 6.1 m **Boom Insert with Lug** Weight: 545 kg





#### 9.1 m **Boom Insert**

Weight: 745 kg



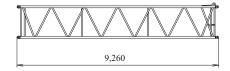


1,640

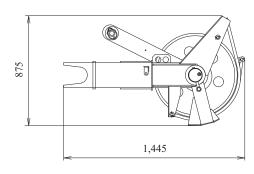
1,490

#### 9.1 m **Boom Insert with Lug**

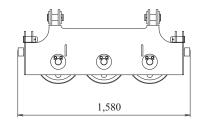
Weight: 765 kg

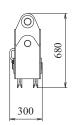


### **Auxiliary Sheave** Weight: 340 kg

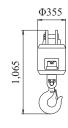


**Upper Spreader** Weight: 280 kg

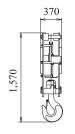


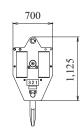


**Ball Hook** Weight: 300 kg

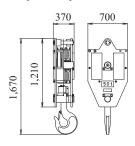




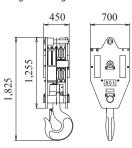




**50 t Hook** Weight: 500 kg



**80 t Hook** Weight: 650 kg



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