HEAVY DUTY BASE MACHINE
FOR FOUNDATION WORK
BM 500
Max. Lifting Capacity: 50 Metric Tons at 3.8 Meters
Max. Boom Length: 51.8 Meters

Specifications

• A mega-powered crane equipped with precision control capability.
• Engine Speed Sensing (ESS) System makes efficient 100% use of engine power for steady, effortless operation.
• Powerful engine and strong line pull make light work of heavy-duty tasks such as diaphragm wall construction.
• Precise, full hydraulic control gives crane performance ideal for construction tasks demanding high precision.
• Powerful winch first layer maximum line pull of 17 tons, and wide, large-diameter drum with maximum rope capacity of 32 m at first layer.
• Maximum line speed of 100 m/min for main and auxiliary winches.

General Dimensions

Unit: mm
Specifications

Upper machinery

Power plant
Model: Mitsubishi 6D16-TE1
Type: Water-cooled, direct fuel injection, with turbocharger
No. of cylinder: 4
Bore and stroke: 118 mm x 115 mm
Displacement: 7.545 liters
Rated power: 180 PS (132.4 kW) at 2,150 rpm (JIS D1005)
Max. torque: 70 kg-m at 1,600 rpm (JIS D1005)
Cooling system: Liquid, recirculating bypass
Starter: 24 V, 5.0 kW
Generator: 24 V, 80 A
Cycles: 4
Radiator: Plate fin type core, thermostatically controlled
Air cleaner: Dry type with replaceable paper element
Fuel tank capacity: 350 liters
Batteries: Two 12V, 150 A-hr capacity batteries, series connected
Fuel consumption (at 1,500 rpm): 163 g/PS-h
Filtration: Suction strainer return filter and drain filter
Electrical system: All wiring corded for easy servicing, individual fused branch circuits.

Load hoist system
Tandem drums powered by two hydraulic axial piston motors, through planetary reducers.
Clutches: Internally expanding band clutches. 711 mm dia. x 102 mm wide
Brakes: Brake valves and externally contracting, spring set, hydraulically released band brakes, with positive and negative actuation. 900 mm dia. x 120 mm. Safety pawls (external ratchet) for锁定 drums. Both positive and negative brake systems are available. Air cooling fins on brake drum.
Drums: (front and rear): 462 mm P.C.D. x 522 mm wide drums, each grooved for 22 mm wire rope. Rope capacity of 175 m working length and 278 m storage length.
Line speed: Single line on the first drum layer
Hoisting: 100/70/50/35 m/min
Lowering: 100/70/50/35 m/min

Swing system
Swing unit: Powered by hydraulic axial motor driving spur gears through a planetary reducer, the swing system provides 360° rotation.
Swing speed: 3.7 rpm
Swing brake: A spring-set, hydraulically released multiple-disc brake mounted on swing motor.
Swing circle: Single-row ball bearing with an internal cut swing gear.
Swing lock: Two-position pin-in-hole lock (manually engaged)

Operator’s cab
Totally enclosed, full-vision cab fitted with safety glass and a sliding front window. A fully adjustable, high-backed seat with a head rest and arm rests permits operators to set ideal working position. An air conditioner, FM/AM radio, signal horn, cigarette lighter, windshield wipers, washers, and floor mat are standard features.

Controls
In front of the operator are foot pedals for front and rear drum brakes. At the operator’s right are console-mounted adjustable short levers for front and rear drum control, boom hoist control lever and positive/negative brake select switches for front and rear drum brakes. Beside the operator’s seat on the right are two short levers for propel control. At the operator’s left are: a console-mounted swing lever, an optional third drum control lever, and front and rear drum pawl control switches; switches for ignition, engine stop, a down speed adjusting knobs for front drum, rear drum and boom hoist drum. Creep speed control switch for hoist is on the hoist lever. A swing brake switch and a signal horn button are on the swing lever.

Lights: Two front flood lights and one cab inside light
Check & Safety Monitor
Gauges: Fuel, water temperature for engine, hour meter, optional tacho meter
Warning lamps: Engine oil pressure, hydraulic oil pressure, water temperature, battery charge, air cleaner and engine oil filter
Safety devices: Function lock lever, hook over-hoist alarm and shut-off switch, boom over-hoist limit switch, boom angle indicator, signal horn, boom hoist and front and rear drum locks, swing lock, free-fall warning lamps, free-fall interlock brakes, travel locking lever, boom back stops, hook safety latch and optional load moment limiter (overload protection device) are provided.

Gantry
Folding type, fitted with sheave frame for boom hoist reeving, lowers toward rear onto cab roof. Hydraulic lift is standard. Full up, full down positions with linkage.
Counterweight
Three-piece stack
Total weight .............................................................. 17,000 kg

Tools
Tool set and accessories for routine machine maintenance are provided.

Lower machinery
Carbody: Steel-welded carbody with axles.
Crawler: Side frames can be hydraulically extended for wide-track operation or retracted for transportation. Extension cylinders operated with a valve in the upper control system. Crawler belt tension adjusted with hydraulic jack and maintained by shims between idler block and frame.
Crawler drive: Independent hydraulic propel drive is built into each side frame, each with a hydraulic motor propelling a driving tumbler through a planetary gear box.
Crawler brakes: Brake valves and spring-set, hydraulically released multiple-disc 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 tracks in opposite directions).
Track rollers: 9 lower rollers and 2 upper rollers are fitted to each side frame, sealed and maintenance-free.
Shoes:
Number ................................................................. 59 each side
Standard flat shoe width .................................... 760 mm
Max. travel speed:
High range ......................................................... 2.2 km/h
Low range .......................................................... 1.4 km/h
Max. gradeability: 40%

Crane attachment

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

<table>
<thead>
<tr>
<th>Max. lifting capacity</th>
<th>50,000 kg</th>
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<tr>
<td>Basic boom length</td>
<td>9.1m (30°)</td>
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<tr>
<td>Max. boom length</td>
<td>51.8m (170°)</td>
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</table>

Jib (optional):
Welded lattice construction using tubular, high-tensile steel cords with pin connections between sections.

<table>
<thead>
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<th>Max. lifting capacity</th>
<th>Fixed jib</th>
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<tr>
<td>Max. jib length</td>
<td>15.2 m (50°)</td>
</tr>
<tr>
<td>Max. total length</td>
<td>42.7 m (140°) + 15.2 m (50°)</td>
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</table>

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

<table>
<thead>
<tr>
<th>Lifting capacity</th>
<th>50t</th>
<th>32t</th>
<th>19t</th>
<th>6.6t ball hook</th>
<th>6.6t Light wt</th>
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</thead>
<tbody>
<tr>
<td>No. of sheaves</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>650</td>
<td>500</td>
<td>400</td>
<td>160</td>
<td>60</td>
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</tbody>
</table>

Diameter of wire ropes
Standard:
Hook hoist ...................................................... 22 mm
Aux. hoist ...................................................... 22 mm
Boom hoist (12-part line) ................................. 16 mm
Boom pendants (2-part line) ............................... 30 mm
Optional:
Jib hook hoist .................................................. 22 mm
Jib back stay pendants (2-part line) .................... 20 mm

Boom hoist reeving: 12 parts of 16 mm dia. wire rope
Boom backstops: recommended for all boom lengths

Line pull
(for crane, diaphragm wall bucket)

<table>
<thead>
<tr>
<th>Max. permissible</th>
<th>Max. available</th>
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<tr>
<td>Front</td>
<td>6,600 kg</td>
</tr>
<tr>
<td>Rear</td>
<td>6,600 kg</td>
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</tbody>
</table>

Weight
Operating weight:
Approx. 52,600 kg (including 9.1 m (30 ft) boom and 50-ton hook block)
Ground pressure: 0.68 kg/cm² with 760 mm shoes
Lifting Capacities

Notes:
1. Operating radius is the horizontal distance from the centerline of rotation to a vertical line through the centerline of gravity of the load.
2. Rated loads included in the charts are the maximum allowable freely suspended loads at a given boom length, boom angle and radius, and have been determined for the machine standing level on firm supporting surface under ideal operating conditions. The user must limit or de-rate loads to allow for adverse conditions (such as soft or uneven ground, out-of-level conditions, winds, side loads, pendulum action, jerking or sudden stopping of loads, inexperience of personnel, multiple machine lifts, and traveling with a load).
3. Capacities do not exceed 75% of minimum tipping loads. Some of the rated crane loads are based on the structural strength, and overload could damage the boom, jib and frame, etc. without tipping.
4. Areas on rated crane load table where no rating are shown, operation is not intended or approved.
5. The loads can be lifted actually is obtained by deducting weight of hook block, slings and all other load handling accessories from the rated crane load.
6. For arrangements of the boom, jib and guy lines and reeving of the boom hoist rope, strictly observe the instruction of the operator's manual.
7. Gantry must be in fully raised position for all operations.
8. Hook block capacity and weight (metric ton).

<table>
<thead>
<tr>
<th>Capacity of hook</th>
<th>50 ton</th>
<th>32 ton</th>
<th>19 ton</th>
<th>6.6 ton (ballhook)</th>
<th>6.6 ton (swivelhook)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (metric ton)</td>
<td>0.65</td>
<td>0.5</td>
<td>0.4</td>
<td>0.16</td>
<td>0.06</td>
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</table>

9. Max. hoisting load

<table>
<thead>
<tr>
<th>No. of parts of line</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Max. load (metric ton)</td>
<td>6.6</td>
<td>13.2</td>
<td>19.8</td>
<td>26.4</td>
<td>33.0</td>
</tr>
<tr>
<td>No. of parts of line</td>
<td>6</td>
<td>7</td>
<td>8</td>
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<tr>
<td>Max. load (metric ton)</td>
<td>39.6</td>
<td>46.2</td>
<td>50.0</td>
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</table>

10. When lifting over boom point with jib or auxiliary sheave, rated loads for the boom must be deducted as shown below.

<table>
<thead>
<tr>
<th>Jib length (m ft)</th>
<th>6.1 (20)</th>
<th>9.1 (30)</th>
<th>12.2 (40)</th>
<th>15.2 (50)</th>
<th>Aux. sheave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deduct (metric ton)</td>
<td>1.1</td>
<td>1.4</td>
<td>1.6</td>
<td>1.9</td>
<td>0.46</td>
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</table>

11. The total loads that can be lifted over a jib is limited by rated jib loads. The total load that can be lifted over an auxiliary sheave is limited by rated aux. sheave load. Weight of hooks, hook blocks, slings and other lifting devices are a part of the total load. Their total weight must be subtracted from the rated load to obtain the weight that can be lifted.

12. Boom lengths for jib mounting are 30.5 m (100') to 42.7 m (150').

13. An aux. sheave cannot be used on 51.8m (170') boom length.


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Working Ranges

Fixed Jib Working Range
### Boom Lifting Capacities

#### BM 500

**Unit: metric ton**

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<thead>
<tr>
<th>Operating radius (m)</th>
<th>9.1 (30)</th>
<th>12.2 (40)</th>
<th>15.2 (50)</th>
<th>18.3 (60)</th>
<th>21.3 (70)</th>
<th>24.4 (80)</th>
<th>27.4 (90)</th>
<th>30.5 (100)</th>
<th>33.5 (110)</th>
<th>36.6 (120)</th>
<th>39.6 (130)</th>
<th>42.7 (140)</th>
<th>45.7 (150)</th>
<th>48.8 (160)</th>
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Note: Ratings shown in [ ] are determined by the strength of the boom or other structural components.

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### Boom Arrangement

#### Arrangement A: 3.0m + 6.1m + 9.1m Insert Boom

<table>
<thead>
<tr>
<th>Boom length (m)</th>
<th>Boom arrangement</th>
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<tbody>
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</tr>
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<tr>
<td>27.4</td>
<td>Base-B-B-B-Tip, Base-A-A-B-B-B-Tip</td>
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<tr>
<td>30.5 (100)</td>
<td>Base-B-C-C-Tip, Base-A-B-B-B-Tip, Base-A-A-C-Tip</td>
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<tr>
<td></td>
<td>Base-B-C-C-Tip, Base-A-B-B-B-Tip, Base-A-A-C-Tip</td>
</tr>
</tbody>
</table>

Base = 5.1m (17), Tip = 5.0m (13)
Inserts: A = 3.0m (10), B = 6.1m (20), C = 9.1m (30)

#### Arrangement B: 3.0m + 6.1m Insert Boom

<table>
<thead>
<tr>
<th>Boom length (m)</th>
<th>Boom arrangement</th>
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<tbody>
<tr>
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<td>18.3</td>
<td>Base-A-B-Tip</td>
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<td>21.3</td>
<td>Base-B-B-Tip, Base-A-A-B-Tip</td>
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<td>24.4</td>
<td>Base-A-B-B-Tip</td>
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<tr>
<td>27.4</td>
<td>Base-B-B-B-Tip, Base-A-A-B-B-B-Tip</td>
</tr>
</tbody>
</table>

Base = 5.1m (17), Tip = 5.0m (13)
Inserts: A = 3.0m (10), B = 6.1m (20), C = 9.1m (30)
Jib rated loads in metric tons for 360° working area (Jib offset angle 10°/with 19-ton main hook)

<table>
<thead>
<tr>
<th>Boom length m(ft)</th>
<th>30.5 (100)</th>
<th>33.5 (110)</th>
<th>36.6 (120)</th>
<th>39.6 (130)</th>
<th>42.7 (140)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jib length m(ft)</td>
<td>6.1 (20)</td>
<td>9.1 (30)</td>
<td>12.2 (40)</td>
<td>15.2 (50)</td>
<td>18.2 (60)</td>
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<tr>
<td>Radius (m)</td>
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</table>

Note: Ratings shown in [ ] are determined by the strength of the boom or other structural components.

Jib rated loads in metric tons for 360° working area (Jib offset angle 30°/with 19-ton main hook)

<table>
<thead>
<tr>
<th>Boom length m(ft)</th>
<th>30.5 (100)</th>
<th>33.5 (110)</th>
<th>36.6 (120)</th>
<th>39.6 (130)</th>
<th>42.7 (140)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jib length m(ft)</td>
<td>6.1 (20)</td>
<td>9.1 (30)</td>
<td>12.2 (40)</td>
<td>15.2 (50)</td>
<td>18.2 (60)</td>
</tr>
<tr>
<td>Radius (m)</td>
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</table>

Note: Ratings inside shown in [ ] are determined by the strength of the boom or other structural components.

Jib Arrangement

<table>
<thead>
<tr>
<th>Jib length m(ft)</th>
<th>Jib arrangement</th>
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</thead>
<tbody>
<tr>
<td>6.1 (20)</td>
<td>Base-Tip</td>
</tr>
<tr>
<td>9.1 (30)</td>
<td>Base-A-Tip</td>
</tr>
<tr>
<td>12.2 (40)</td>
<td>Base-B-Tip</td>
</tr>
<tr>
<td>15.2 (50)</td>
<td>Base-A-B-Tip</td>
</tr>
</tbody>
</table>

Base =3.0m(10'), Tip=3.0m(10')
Inserts: A =3.0 m (10'), B =6.10 m (20')

Note:
1. Jib may be used with main boom lengths from 30.5 m (100') to 42.7 m (140').
2. An insert boom with lugs is required for jib attachment.
3. Actual hoistable loads using jib can be calculated by deducting the total weight of jib hook and slings and all other load handling accessories from jib ratings.
Clamshell ratings in metric tons for 360° working area

<table>
<thead>
<tr>
<th>Boom length (m)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9.1 (30)</td>
<td>12.2 (40)</td>
<td>15.2 (50)</td>
<td>18.3 (60)</td>
</tr>
<tr>
<td>Boom angle (°)</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
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<td>Operating radius (m)</td>
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<td>C</td>
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<tr>
<td>Boom height (m)</td>
<td>H</td>
<td>B</td>
<td>C</td>
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<td>Bucket capacity (m³)</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>D</td>
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<tr>
<td>Rated load (ton)</td>
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</tr>
</tbody>
</table>

Crawlers fully extended

Note:
1. Working radius is the horizontal distance between the center of rotation and the bucket's center of gravity.
2. Total weight of bucket and materials must not exceed rated load.
   Bucket capacity (m³) x specific gravity of material (ton/m³) = bucket weight (ton)/rated load
3. Rated load must not be exceeded, even when using bucket of different capacity for separate tasks.
4. Bucket unit weight must not exceed 3.1 tons. Bucket weight must also be decreased according to operating cycle and bucket lowering height.
5. Rated loads are determined by degree of stability. During simultaneous operations of boom and swing, rapid acceleration or deceleration must be avoided. Particular care is required with long boom lengths.
6. The 1.6 m³ bucket is for loading operations.

Dragline

Dragline ratings in metric tons for 360° working area

<table>
<thead>
<tr>
<th>Boom length (m)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12.2 (40)</td>
<td>15.2 (50)</td>
<td>18.3 (60)</td>
<td>18.3 (60)</td>
</tr>
<tr>
<td>Boom angle (°)</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
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<td>Dumping radius (m)</td>
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<td>C</td>
<td>D</td>
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<td>6.6</td>
<td>6.6</td>
<td>6.6</td>
<td>6.6</td>
</tr>
</tbody>
</table>

Crawlers fully extended

Note:
1. Dimension G may vary considerably depending on digging conditions and the skill of the operator.
2. Dimension H may vary depending on digging material.
3. Above ratings are for combined weights of bucket, accessories, and material.
4. Maximum boom length recommended for digging operation is 18.3m (60').
5. A 10.5-ton counterweight should be attached for digging operation.
6. Maximum allowable bucket weight is 2.1 tons.
7. Maximum allowable digging bucket size:
   - Heavy-duty type: 1.5 m³
   - Light-duty type: 2.0 m³

Dimensions
Luffing Tower Attachment

Luffing tower attachment

Luffing tower:
Welded lattice construction using tubular, high-tensile steel cords with pin connections.

<table>
<thead>
<tr>
<th>Max. lifting capacity</th>
<th>12 tons at 10 m</th>
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</thead>
<tbody>
<tr>
<td>Basic tower length</td>
<td>21.0 m (69')</td>
</tr>
<tr>
<td>Lower tower length*</td>
<td>5.1 m (17')</td>
</tr>
<tr>
<td>Tower cap length</td>
<td>0.6 m (2')</td>
</tr>
<tr>
<td>Max. luffing tower length</td>
<td>39.3 m (129')</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Basic jib length</th>
<th>16.8 m (55')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. luffing jib length</td>
<td>29.0 m (95')</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Lifting capacity</th>
<th>19 tons</th>
<th>6.6 tons (ball hook)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of sheave</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>400</td>
<td>160</td>
</tr>
</tbody>
</table>

Diameter of wire ropes

| Hook hoist                | 22 mm  |
| Jib. hoist (9-part line)  | 22 mm  |
| Tower hoist (12-part line)| 16 mm  |
| Tower guy line (2-part line) | 30 mm |
| Upper jib guy line (2-part line) | 28 mm |
| Lower jib guy line (2-part line) | 28 mm |

Weight

Operating weight:
Approx. 56,400 kg
(including 21.0 m (69 ft) tower, 16.8 m (55 ft) jib, and 19 ton hook block)

Ground pressure: 0.73 kg/cm² with 760 mm shoes
Notes:

1. Operating radius is the horizontal distance from the centerline of rotation to a vertical line through the centerline of gravity of the load.

2. Rated loads included in the charts are the maximum allowable freely suspended loads at a given tower length, tower and jib angle and load radius, and have been determined for the machine standing level on firm supporting surface under ideal operating conditions. The user must limit or de-rate rated loads to allow for adverse conditions (such as soft or uneven ground, out-of-level conditions, wind, side loads, pendulum action, jerking or sudden stopping of loads, inexperience of personnel, multiple machine lifts, and traveling with a load).

3. Capacities do not exceed 75% of minimum tipping loads. Some of the rated crane loads are based on the structural strength, and overload could damage the tower, jib and frame, etc. without tipping.

4. Areas on rated crane load table where no rating are shown, operation is not intended or approved.

5. The load which can be lifted actually is obtained by deducting weight of hook block, slings and all other load handling accessories from the rated crane load.

6. For arrangements of the tower, jib and guy lines andreevings of the tower hoist rope and jib hoist rope, strictly observe the instruction of the operator's manual.

7. A pillow plate must be used in the front end of the crawlers when erecting or lowering 39.3 m (129') tower.

8. Hook block capacity and weight (metric ton)

<table>
<thead>
<tr>
<th>Lifting capacity</th>
<th>19 tons</th>
<th>6.6 tons (ball hook)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of sheave</td>
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<td>0</td>
</tr>
<tr>
<td>Weight (ton)</td>
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<td>0.16</td>
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</tbody>
</table>

9. Max. hoisting load

<table>
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<th>No. of parts of line</th>
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<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. load (metric ton)</td>
<td>6.6</td>
<td>12.0</td>
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</tbody>
</table>

10. For combinations of 19-ton hook with 16.8 m (55') jib, or 6.6-ton ball hook with 19.8 m jib, the jib tip weight (300 kg) must be attached to the upper tip of the jib.

11. The 6.6 ton ball hook must not be used with 16.8 m (55') jib.

---

**Tower Arrangement**

**Arrangement A: 3.0 m + 6.1 m + 9.1 m insert tower**

<table>
<thead>
<tr>
<th>Tower length (m)</th>
<th>Tower arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.0 (69)</td>
<td>BaseA-A-C-Cap</td>
</tr>
<tr>
<td>24.1 (79)</td>
<td>Base-A-B-C-Cap</td>
</tr>
<tr>
<td>27.1 (89)</td>
<td>Base-A-C-C-Cap, Base-A-A-B-C-Cap</td>
</tr>
<tr>
<td>30.2 (99)</td>
<td>Base-A-B-C-C-Cap, Base-A-A-C-C-Cap</td>
</tr>
<tr>
<td>33.2 (109)</td>
<td>Base-A-A-B-B-C-Cap, Base-A-B-B-C-Cap</td>
</tr>
<tr>
<td>36.3 (119)</td>
<td>Base-A-A-B-C-C-Cap, Base-A-B-B-C-Cap</td>
</tr>
<tr>
<td>39.3 (129)</td>
<td>Base-A-A-B-B-C-C-Cap, Base-A-B-B-C-C-Cap</td>
</tr>
</tbody>
</table>

Base = 5.1m (17'), Cap = 0.6 m (2')
Inserts: A = 3.0 m (10'), B = 6.1 m (20'), C = 9.1 m (30')

**Arrangement B: 3.0 m + 6.1 m insert tower**

<table>
<thead>
<tr>
<th>Tower length (m)</th>
<th>Tower arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.0 (69)</td>
<td>BaseA-B-B-Cap</td>
</tr>
<tr>
<td>24.1 (79)</td>
<td>Base-A-A-B-B-Cap</td>
</tr>
<tr>
<td>30.2 (99)</td>
<td>Base-A-A-B-B-B-Cap</td>
</tr>
<tr>
<td>36.3 (119)</td>
<td>Base-A-B-B-B-Cap</td>
</tr>
</tbody>
</table>

Base = 5.1m (17'), Cap = 0.6 m (2')
Inserts: A = 3.0 m (10'), B = 6.1 m (20'), C = 9.1 m (30')

**Jib Arrangement**

<table>
<thead>
<tr>
<th>Jib length (m)</th>
<th>Jib arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.8 (55)</td>
<td>Base-A-B-Tip</td>
</tr>
<tr>
<td>19.8 (65)</td>
<td>Base-A-A-B-Tip, Base-B-B-Tip</td>
</tr>
<tr>
<td>22.9 (75)</td>
<td>Base-A-B-B-Tip</td>
</tr>
<tr>
<td>25.9 (85)</td>
<td>Base-B-B-B-Tip, Base-A-A-B-Tip</td>
</tr>
<tr>
<td>29.0 (95)</td>
<td>Base-A-B-B-B-Tip</td>
</tr>
</tbody>
</table>

Base = 3.1 m (10'), Tip = 4.6 m (15')
Inserts: A = 3.0 m (10'), B = 6.1 m (20')

**Tower and Jib Combinations and Allowable Tower Angle**

<table>
<thead>
<tr>
<th>Tower Length</th>
<th>16.8 m (55')</th>
<th>19.8 m (65')</th>
<th>22.9 m (75')</th>
<th>25.9 m (85')</th>
<th>29.0 m (95')</th>
<th>Pillow plate</th>
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</thead>
<tbody>
<tr>
<td>21.0 m (69)</td>
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<td>90° - 60°</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>24.1 m (79)</td>
<td>90° - 60°</td>
<td>90° - 60°</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>27.1 m (89)</td>
<td>90° - 60°</td>
<td>90° - 60°</td>
<td>90° - 60°</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>30.2 m (99)</td>
<td>90° - 60°</td>
<td>90° - 60°</td>
<td>90° - 60°</td>
<td>90° - 60°</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>33.2 m (109)</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
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<tr>
<td>36.3 m (119)</td>
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<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
</tr>
<tr>
<td>39.3 m (129)</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
<td>90° - 70°</td>
</tr>
</tbody>
</table>

19-ton hook: O O O O -
Ball hook: X O O O O
Luffing Tower Working Ranges

Tower Length: 21.0 m

Tower Length: 27.1 m

Tower Length: 30.2 m

Tower Length: 39.3 m

Tower Length: 33.2 m

Figure for 24.1 m tower is also provided. Please contact your nearest dealers.
# Luffing Tower Lifting Capacities

**Unit: metric ton**

## Luffing tower rated loads in metric tons for 360° working area

<table>
<thead>
<tr>
<th>Operating radius (m)</th>
<th>21.0 m (69') Tower</th>
<th>24.1 m (79') Tower</th>
<th>Crawlers fully extended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.8 m (55') Jib</td>
<td>19.8 m (65') Jib</td>
<td>16.8 m (55') Jib</td>
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<tr>
<td></td>
<td>Tower angle</td>
<td>Tower angle</td>
<td>Tower angle</td>
</tr>
<tr>
<td></td>
<td>90° 75° 60°</td>
<td>90° 75° 60°</td>
<td>90° 75° 60°</td>
</tr>
<tr>
<td>8.5</td>
<td>12.0/6.5</td>
<td>12.0/6.5</td>
<td>12.0/6.5</td>
</tr>
<tr>
<td>7.0</td>
<td>12.0</td>
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<td>12.0</td>
<td>12.0</td>
</tr>
<tr>
<td>14.0</td>
<td>9.6, 6.9/15.9</td>
<td>9.4, 9.4</td>
<td>9.4, 9.2</td>
</tr>
<tr>
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<td>8.2, 6.9</td>
<td>8.1, 6.1/17.5</td>
<td>8.2, 6.3/16.7</td>
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<tr>
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<td>4.8/21.3</td>
<td>4.6, 4.5</td>
</tr>
<tr>
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<td>4.2/23.7, 3.5/24.4</td>
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<td>4.0, 3.0/25.9</td>
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</tbody>
</table>

Note: Ratings shown in [ ] are determined by the strength of the boom or other structural components.

## Luffing tower rated loads in metric tons for 360° working area

<table>
<thead>
<tr>
<th>Operating radius (m)</th>
<th>27.1 m (89') Tower</th>
<th>Crawlers fully extended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.8 m (55') Jib</td>
<td>19.8 m (65') Jib</td>
</tr>
<tr>
<td></td>
<td>Tower angle</td>
<td>Tower angle</td>
</tr>
<tr>
<td></td>
<td>90° 75° 60°</td>
<td>90° 75° 60°</td>
</tr>
<tr>
<td>6.5</td>
<td>12.0/6.5</td>
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</tr>
<tr>
<td>7.0</td>
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<td>12.0</td>
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<td>5.5/18.3, 5.2</td>
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</tbody>
</table>

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### Luffing tower rated loads in metric tons for 360° working area

#### Crawlers fully extended

<table>
<thead>
<tr>
<th>Operating radius (m)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Tower angle</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tower angle</td>
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<tr>
<td>90°</td>
<td>6.5</td>
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</tr>
<tr>
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</tr>
<tr>
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<td>12.0</td>
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<td>10.4</td>
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<td>9.3</td>
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<tr>
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<td>8.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75°</td>
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<td>5.3/5.6/6.0</td>
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<tr>
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<td>2.0/2.3/2.9/3.2</td>
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<td>1.3</td>
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<td>1.6/3.0</td>
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<td>4.2/1.6</td>
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<td>8.1</td>
<td>6.4/6.0/6.3</td>
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<td>4.6/19.1</td>
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<td>5.7/17.6</td>
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<td>8.1</td>
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<tr>
<td>75°</td>
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</tbody>
</table>

Note: Ratings shown in [ ] are determined by the strength of the boom or other structural components.

---

### Luffing tower rated loads in metric tons for 360° working area

#### Crawlers fully extended

<table>
<thead>
<tr>
<th>Operating radius (m)</th>
<th>16.8 m (55') Jib</th>
<th>19.8 m (65') Jib</th>
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<tbody>
<tr>
<td>Tower angle</td>
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</tr>
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<td>5.3/5.6/6.0</td>
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<tr>
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Note: Ratings shown in [ ] are determined by the strength of the boom or other structural components.
## Luffing tower rated loads in metric tons for 360° working area

### Crawlers fully extended

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<tr>
<th>Operating radius (m)</th>
<th>16.8 m (55') Jib</th>
<th>19.8 m (65') Jib</th>
<th>22.9 m (75') Jib</th>
<th>25.9 m (85') Jib</th>
<th>29.0 m (95') Jib</th>
<th>Operating radius (m)</th>
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Note: Ratings shown in [square brackets] are determined by the strength of the boom or other structural components.

## Luffing tower rated loads in metric tons for 360° working area

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