# Specifications

## Mainframe Components

### Air Compressor with Unloader Package

- **Oil-Flooded Screw Compressor and Constant Volume Oil Pump** for Optimized Cooling
  - **Standard**
    - 85 m³/min (3,000 ft³/min) free air, 4.5 bar (65 psi)
  - **Optional**
    - 108 m³/min (3,800 ft³/min) free air, 4.5 bar (65 psi)

### Leveling Jacks (4)

- **Automatic Leveling System**
  - **Jack Size – Rear**
    - 229 mm (9 in) diameter × 1676 mm (66 in) stroke
  - **Jack Size – Front**
    - 229 mm (9 in) diameter × 1676 mm (66 in) stroke

- (2) positioned outside mast at rear and (2) positioned outside frame at front

### Lubrication

- **Automatic PLC Centralized**
  - Standard

## Lower Works

### Undercarriage

Cat 390 Excavator style undercarriage helps minimize downtime and reduce customers’ owning and operating costs.

- All rollers and idlers are “sealed for life” which means they do not require periodic lubrication like the former model
- Double grouser track shoes provide more traction and allow the drill to be more aggressive in positioning
- 32% more drawbar pull, increasing the steering performance of the machine
- 56% more gradeability than previous version

### Crawler Mounting

- **Heavy-duty with Excavator-style Sprocket Drive Links**
- **Fixed Rear and Pivotable Front**
  - Overall Length: 6.72 m (22 ft 6 in)
  - Overall Width – Standard: 6.08 m (19 ft 11 in)
  - Shoe Widths – Standard: 750 mm (29.53 in)
  - Ground Bearing Pressure: 140 kPa (20.3 psi)
  - Optional Wide Shoes: 900 mm (35.43 in)
  - Ground Bearing Pressure: 120 kPa (17.4 psi)
  - Total Effective Bearing Area: 12 m² (130 ft²)
  - Propellor Speeds: 1.77 km/h (1.1 mph)
  - Propellor Speeds: 0.48 km/h (0.3 mph)
  - Operating Propellor Grade: 25%*
  - Gradeability: 42%

*Stability limitations apply.

### General

- **Cab (option)**
  - FOPS to SAE J231
- **Operating Temperature Range**
  - –40° C to –40° F
  - +50° C to +122° F

## Rated Capacity

<table>
<thead>
<tr>
<th>Hole Diameter</th>
<th>Hole Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 406 mm</td>
<td>Up to 16 in</td>
</tr>
<tr>
<td>Depth Single-pass</td>
<td>19.81 m, 65 ft</td>
</tr>
<tr>
<td>Depth Multi-pass</td>
<td>Up to 39.6 m, Up to 130 ft</td>
</tr>
<tr>
<td>Depth Single-pass</td>
<td>21.3 m, 70 ft</td>
</tr>
<tr>
<td>Depth Multi-pass</td>
<td>Up to 42.7 m, Up to 140 ft</td>
</tr>
<tr>
<td>Bit Load</td>
<td>54 341 kg, 120,000 lb</td>
</tr>
<tr>
<td></td>
<td>or 64 000 kg, or 141,000 lb</td>
</tr>
</tbody>
</table>

*Stability limitations apply.
## Dimensions

### Optimal Working Ranges

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Range</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overall height with mast for 19.8 m (65 ft) single pass</td>
<td>31.29 m</td>
<td>102 ft 8 in</td>
</tr>
<tr>
<td>2</td>
<td>Height to top of handrails on operator cab</td>
<td>5.71 m</td>
<td>18 ft 9 in</td>
</tr>
<tr>
<td>3</td>
<td>Ground line to top of deck</td>
<td>2.00 m</td>
<td>6 ft 7 in</td>
</tr>
<tr>
<td>4</td>
<td>Ground line to bottom of rear jack pads</td>
<td>0.68 m</td>
<td>2 ft 3 in</td>
</tr>
<tr>
<td>5</td>
<td>Ground line to top of machinery house roof</td>
<td>4.67 m</td>
<td>15 ft 4 in</td>
</tr>
<tr>
<td>6</td>
<td>Overall width of machine</td>
<td>7.24 m</td>
<td>23 ft 9 in</td>
</tr>
<tr>
<td>7</td>
<td>Center line of machine to LH side</td>
<td>3.61 m</td>
<td>11 ft 10 in</td>
</tr>
<tr>
<td>8</td>
<td>Center line of machine to RH side</td>
<td>3.63 m</td>
<td>11 ft 11 in</td>
</tr>
<tr>
<td>9</td>
<td>Center line of machine to LH outside edge of 900 mm (35.43 in) tracks</td>
<td>3.17 m</td>
<td>10 ft 5 in</td>
</tr>
<tr>
<td>10</td>
<td>Center line of machine to RH outside edge of 900 mm (35.43 in) tracks</td>
<td>2.92 m</td>
<td>9 ft 7 in</td>
</tr>
<tr>
<td>11</td>
<td>Center line of machine to center line of LH rear leveling jack</td>
<td>2.29 m</td>
<td>7 ft 6 in</td>
</tr>
<tr>
<td>12</td>
<td>Center line of machine to center line of RH rear leveling jack</td>
<td>2.21 m</td>
<td>7 ft 3 in</td>
</tr>
<tr>
<td>13</td>
<td>Center line of hole to center line of equalizer jack</td>
<td>127 mm</td>
<td>5 in</td>
</tr>
<tr>
<td>14</td>
<td>Height to top of machinery house pressurizing unit</td>
<td>5.05 m</td>
<td>16 ft 7 in</td>
</tr>
<tr>
<td>15</td>
<td>Height to top of cable reel (optional)</td>
<td>3.07 m</td>
<td>10 ft 1 in</td>
</tr>
<tr>
<td>16</td>
<td>Ground line to bottom of front jack panels</td>
<td>0.63 m</td>
<td>2 ft 1 in</td>
</tr>
<tr>
<td>17</td>
<td>Diameter of jack pads</td>
<td>1.12 m</td>
<td>3 ft 8 in</td>
</tr>
<tr>
<td>18</td>
<td>Center line of hole to center line of rear jacks</td>
<td>400 mm</td>
<td>15.75 in</td>
</tr>
<tr>
<td>19</td>
<td>Center line of rear jacks to center line of front jacks</td>
<td>11.02 m</td>
<td>36 ft 2 in</td>
</tr>
<tr>
<td>20</td>
<td>Overall length of crawlers</td>
<td>6.72 m</td>
<td>22 ft 6 in</td>
</tr>
<tr>
<td>21</td>
<td>Center line of hole to rear of operator’s cab</td>
<td>3.10 m</td>
<td>10 ft 2 in</td>
</tr>
<tr>
<td>22</td>
<td>Center line of machine to center line of 900 mm (35.43 in) tracks</td>
<td>2.21 m</td>
<td>7 ft 3 in</td>
</tr>
<tr>
<td>23</td>
<td>Center line of machine to center line of 900 mm (35.43 in) tracks</td>
<td>3.17 m</td>
<td>10 ft 5 in</td>
</tr>
<tr>
<td>24</td>
<td>Overall length of machine</td>
<td>14.73 m</td>
<td>48 ft 4 in</td>
</tr>
<tr>
<td>25</td>
<td>Overall length of machine with optional cable reel</td>
<td>16.97 m</td>
<td>55 ft 8 in</td>
</tr>
<tr>
<td>26</td>
<td>Overall length of machine with mast for 19.8 m (65 ft) single pass drill depth – mast at rest</td>
<td>31.24 m</td>
<td>102 ft 6 in</td>
</tr>
<tr>
<td>27</td>
<td>Ground line to high point with mast for 19.8 m (65 ft) single pass drill depth – mast at rest</td>
<td>9.95 m</td>
<td>32 ft 8 in</td>
</tr>
</tbody>
</table>

### Weight

<table>
<thead>
<tr>
<th></th>
<th>Working Weight</th>
<th>kg</th>
<th>lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>172 365</td>
<td>380,000</td>
<td></td>
</tr>
</tbody>
</table>

*Type and number of options will affect machine weight.
### MD6640 Rotary Blasthole Drill

#### Bailing Velocities: 15.5° C (60° F) @ Sea Level

<table>
<thead>
<tr>
<th>Diameter cm</th>
<th>Hole Pipe cm</th>
<th>Nominal Compressor Rating – m³/min (icfm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in</td>
<td>84.9 (3,000) m/min</td>
</tr>
<tr>
<td>25.1</td>
<td>9.875</td>
<td>17.8</td>
</tr>
<tr>
<td>27.0</td>
<td>10.625</td>
<td>19.4</td>
</tr>
<tr>
<td>31.1</td>
<td>12.25</td>
<td>21.9</td>
</tr>
<tr>
<td>31.1</td>
<td>12.25</td>
<td>23.5</td>
</tr>
<tr>
<td>34.9</td>
<td>13.75</td>
<td>27.3</td>
</tr>
<tr>
<td>38.1</td>
<td>15</td>
<td>32.4</td>
</tr>
<tr>
<td>38.1</td>
<td>15</td>
<td>34.0</td>
</tr>
<tr>
<td>40.6</td>
<td>16</td>
<td>32.4</td>
</tr>
<tr>
<td>40.6</td>
<td>16</td>
<td>34.0</td>
</tr>
</tbody>
</table>

Recommended Bailing Velocity Range: 1524-3658 m/min (5,000-12,000 ft/min)

### Mast Components

**Mast**
- Standard mast for drill pipe and one pipe rack: 19.81 m (65 ft)
- Optional mast: 21.33 m (70 ft)
- Computer analyzed, HD tubular lattice construction with back braces
- Raising and Lowering: (2) 228.6 mm (9 in) diameter hydraulic cylinders
- Angle Hole Drilling: 25° off vertical in 5° increments*

**Hoist/Pulldown**
- Chainless rack and pinion system driven by head-mounted excavator grade DC motor
- Bit Loading: Up to 63,975 kg (141,000 lb)
- Feed Rate: Up to 7.62 m/min (25 ft/min)
- Hoist Rate: Up to 22.86 m/min (75 ft/min)
- Lowering Rate: Up to 22.86 m/min (75 ft/min)
- Electronic Depth Indicator: Standard
- Auxiliary Winch – Standard Capacity: 5443 kg (12,000 lb)

**Pipe Racks**
- Single Rack: 0.31 m (13.375 in) OD
- pipe at least 25 mm (1 in) wall thickness
- Optional Rack Configurations and Maximum Drill Pipe Diameter:
  - 2 Pipe Racks: Maximum diameter may vary

**Rotary Drive**
- Rotary Drive – DC motor: 145 kW (195 hp) @ 475V
- Bit Maximum Speed: 125 rpm
- Cat® Shock Coupling: Standard

*With optional angle hole equipment.

### Electrical

#### Equipment
- Static DC Variable Output

#### Power Requirements
- Voltage: 3 Phase, 50 or 60 Hz, 4,160V to 7,200V**

#### Main Electrical Systems
- Air Compressor/AC Induction Motor
  - Dual Shaft – Standard: 448 kW (600 hp) @ 4,160V available for 85 m³/min (3,000 ft³/min) compressor
  - Optional: 597 kW (800 hp) available for 108 m³/min (3,800 ft³/min) compressors
- Hoist/Pulldown – DC Motor: 97 kW (130 hp) @ 475V
- Main Hydraulic Oil Pumps: Driven from main air compressor motor
- Machinery House Pressurization – @ 529 m³/min (18,700 ft³/min) with 2.2 kW (3 hp) bleed fan
- Operator Cab Pressurization with Heater and Air Conditioner: Standard
- Hydraulic Oil Cooler Fan: 4 kW (5 hp)
- Drive Transformer: 3 Phase, 425 kVA dry-type
- Transformer, Auxiliary: 3 Phase, 250 kVA dry-type
- Lighting: 120/240V
- Windshield Wipers – Upper and Lower Front: Standard

**For alternate power configurations consult Caterpillar.
**COMPONENTS**

- Bit Viewing Hatch – Hydraulic Operated (not shown)
- Hydraulic Breakout Wrench (optional) (not shown)
- Dust Collector – Dry (optional)
- Leveling Jack (4)
- Dust Control, Water Injection – 3785 L (1,000 gal) (optional) (not shown)
- Hydraulic Oil Cooler and Guard
- Transformers
- Compressor Oil Cooler
- Heated and Insulated Cooler Compartment (optional)
- Cable Reel (optional) (not shown)
- Boarding Stairs
- Main Air Compressor Package
- Main Drive Motor

**OPTIONS**

- 18.3 m (60 ft) or 21.3 m (70 ft) Masts
- Angle Hole Drilling
- Automatic Fire Suppression System Interface
- Cold Weather Options
- Dry Dust and Water Injection Dust Control Systems
- Dust Curtains
- Remote Propel
- Front Tow Bar/Rear Tow Hooks

- Hydraulic Pumps and Gearcase
- Pipe Racks – 1 Standard (2 optional)
- Operator’s Cab
- Hydraulic Oil Reservoir
- Electro/Hydraulic Valves
- Air Compressor Motor Control Center (MCC)
- High Voltage Compressor Start Cabinet
- Low Voltage Cabinet
- Programmable Controller Cabinet (PLC)
- Rotary Drive Control Cabinet
- Hoist/Pulldown Drive Control Cabinet
- Auto-Lube Reservoir

- GPS Interface
- Hydraulic Breakout Wrench (controlled from operator’s control console)
- Hydraulic Drive Cable Reels
- Optional 108 m³/min (3,800 ft³/min) Compressor
- Programmed Drill Control
- Quick-Fill System for Oils and Lubricants

Additional options to meet customer’s needs.