Portable, On-Site Machining Solutions for Large Flange Machining

Quality Machine Design Provides Rigid, Power-Packed Performance
- Extraordinarily rigid design ensures consistent, high-quality machining
- Large diameter pre-loaded precision bearing and linear guideways for the most rigid machining platform.
- Radial and axial travel uses precision ball screws.
- Milling head with #50 taper spindle easily handles face mill up to 10 inches (254.0 mm) in diameter.
- Adjustable counterweight provides precise balance in vertical applications.
- Center machine clearance designed to fit over 24 inch (609.6 mm) diameter kingpin.

Flexible and Versatile
- Can be configured for milling or single-point machining.
- Single point option allows user to cut chamfers and seal ring grooves, and machine phonographic finishes.
- Hydraulic drive or servo drive with touchscreen pendant and angular control options available.
- Spindle has 8 inches (203.2 mm) of travel and is also capable of drilling.
- Multiple mounting options including ID/OD or face-mounted configurations.
- Swivel plate option allows milling head to rotate 360°.
- Infinitely adjustable arm position for limited swing clearance applications.

Rapid Setup & Operation
- Tubular rigid chucking system with leveling feet allow machine to be leveled after mounting in the flange for simple & speedy setup.
- Modular design allows many of the machine components to be removed to facilitate easier setup and storage.
- Servo control with touchscreen pendant allows a wide range of speed adjustments from rapid advance for setup to slow machining speeds for precise control during machining.
- Servo angular control system with touchscreen pendant provides precision control of cutter placement and positioning.

Applications include:
- Heavy construction and mining
- Crane pedestals
- Wind tower fabrication
## SPECIFICATIONS

### Machine Performance Ranges

<table>
<thead>
<tr>
<th>ID/Face Mount Mounting range</th>
<th>US</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milling diameter range (to center of spindle) max with 10 inch (254.0 mm) diameter mill</td>
<td>78.9 - 177.2 inches</td>
<td>2004.1 - 4500.9 mm</td>
</tr>
<tr>
<td>Single-point machining diameter range</td>
<td>69.5 - 189.0 inches</td>
<td>1765.3 - 4800.6 mm</td>
</tr>
<tr>
<td>Swing diameter at minimum</td>
<td>135.6 inches</td>
<td>3444.2 mm</td>
</tr>
<tr>
<td>Swing diameter at maximum</td>
<td>197 inches</td>
<td>5003.8 mm</td>
</tr>
<tr>
<td>Kingpin clearance diameter</td>
<td>25 inches</td>
<td>635.0 mm</td>
</tr>
<tr>
<td>Radial tool slide travel</td>
<td>24 inches</td>
<td>609.6 mm</td>
</tr>
<tr>
<td>Axial tool head travel, milling</td>
<td>8 inches</td>
<td>203.2 mm</td>
</tr>
<tr>
<td>Axial tool head travel, single-point machining</td>
<td>4 inches</td>
<td>101.6 mm</td>
</tr>
<tr>
<td>Depth required inside bore for ID chuck (± 0.25 inches (± 6.4 mm) is travel of leveling foot)</td>
<td>12.31 ± 0.25 inches</td>
<td>312.7 ± 6.4 mm</td>
</tr>
<tr>
<td>OD: Mounting range (center of mounting plate)</td>
<td>98.4 - 209.9 inches</td>
<td>2499.36 - 5331.46 mm</td>
</tr>
<tr>
<td>Milling diameter range to center of spindle</td>
<td>69.5 - 184 inches</td>
<td>1765.3 - 4673.6 mm</td>
</tr>
<tr>
<td>Single-point machining diameter range</td>
<td>69.5 - 199.0 inches</td>
<td>1765.3 - 5054.6 mm</td>
</tr>
<tr>
<td>Depth required inside bore for chuck</td>
<td>0 inches</td>
<td>0 mm</td>
</tr>
</tbody>
</table>

### Rotational Drive System

**Drive Type**
- Milling: Electric Servo Rotation - Hydraulic Spindle
- Single-point: Hydraulic Rotation
- Single-point machining: Air actuated feedbox engaged by machine rotation and infinitely adjustable remotely. Requires air supply of 90 psi @ 1 ft³/min (620 kPa @ 0.028 m³/min)

**Mains Electric power, input requirements:**
- 25 HP (19 kW) for milling / 10 HPU (7.5 kW) for single-point: 230V, 380V, 415V, 460V, or 575V

**Speed Range:**
- Milling w/ reducer: Servo: 0.001 - 1.5 RPM
- Feed Rate, single-point machining (air feed): 0.002 - 0.035 in/rev 0.051 - 0.889 mm/rev

### Measures

**Machine height:**
- Milling or single-point configuration, ID (w/o hose tower, ± for leveling): 43.5 ± 0.25 inches 1104.9 ± 6.35 mm
- Milling or single-point configuration, OD: 42.5 inches 1079.5 mm

**Machine weight, total (approximate):**
- Milling or single-point configuration, ID: 10,000 lbs 4535.9 kg
- Milling or single-point configuration, OD: 12,000 lbs 5443.1 kg
- Servo touchscreen 25 Hp HPU: 1,200 lbs 544.3 kg

All dimensions should be considered reference. Contact your CLIMAX Representative for precision dimensions. Specifications are subject to change without notice. There are no systems or components on this machine that are capable of producing hazardous EMC, UV or other radiation hazards. The machine does not use lasers nor does it create hazardous materials such as gases or dust.
SPECIFICATIONS

Tooling Recommendations

Milling

47383  4 inch (101.6 mm) #50 Taper w/ Inserts  Max RPM :382  Max depth of cut:  0.060 inches (1.524 mm)
47384  5 inch (127.0 mm) #50 Taper w/ Inserts  Max RPM :306  Max depth of cut:  0.060 inches (1.524 mm)
47385  6 inch (152.4 mm) #50 Taper w/ Inserts  Max RPM :255  Max depth of cut:  0.050 inches (1.270 mm)
47386  8 inch (203.2 mm) #50 Taper w/ Inserts  Max RPM :191  Max depth of cut:  0.040 inches (1.016 mm)
56175  10 inch (254.0 mm) #50 Taper w/ Inserts  Max RPM: 153  Max depth of cut:  0.035 inches (0.889 mm)
47229  Carbide Inserts

*Maximum Material removal rate 12 in³/min (196.6 cm³/min). When using an aggressive feed rate, it is recommended that the spindle RPM be increased to reduce the chip load. Depth of cut may vary depending on rigidity of setup.

Single-point machining

29066*: Bit Tool HSS ¾ x 5.0 RH Finish Single SC
29067*: Bit Tool HSS ¾ x 5.0 LH Finish Single SC
60033*: Holder Insert ¼ SQ Shank Left Hand w/ 10 Inserts Seco Trigon
60034*: Holder Insert ¼ SQ Shank Right Hand w/ 10 Inserts Seco Trigon
61820: 10 Inserts Carbide WNMP 431-MF1 Seco Trigon

*Single point option comes standard with quantity one each of indicated part numbers.

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Configure your CM6200 in 13 easy steps:

- Select a Base Unit
- Select a Milling Arm
- Select a Counterweight
- Select a Machining Configuration
- Select a Rotary Table Drive Assembly
- Select a Rotary Table Hydraulic Motor
- Select a Hydraulic Power Unit
- Select a Milling Head
- Select Tooling
- Select Milling Head Hydraulic Motor
- Select a Milling Head Swivel Plate (Optional)
- Select a Chuck / Mounting Assembly
- Select a Shipping Container

To generate the correct part number for the machine you require, simply select the part number needed in each step, and contact your CLIMAX representative.

8 Milling Head

- Milling Head Assy Inch #50 Taper NMTB: 62282
- Milling Head Assy Inch #50 Taper CATV: 62734
- Milling Head Assy Metric #50 Taper NMTB: 62644
- Milling Head Assy Metric #50 Taper CATV: 62735

9 Tooling (for inch milling head assy only)

- Tooling, Inch Tool Holder:
  - #50, 4 in (101.6 mm) Face Mill w/ Inserts: 47383
  - #50, 5 in (127.0 mm) Face Mill w/ Inserts: 47384
  - #50, 6 in (145.4 mm) Face Mill w/ Inserts: 47385
  - #50, 8 in (203.2 mm) Face Mill w/ Inserts: 47386
  - Carbide Inserts: 47229

10 Milling Head Hydraulic Motors

<table>
<thead>
<tr>
<th>Motor Displacement</th>
<th>Max Spindle Speed</th>
<th>Hydraulic Motor PN</th>
</tr>
</thead>
<tbody>
<tr>
<td>in³</td>
<td>cu cm⁴</td>
<td>@ 50 Hz Mains Power</td>
</tr>
<tr>
<td>6.2</td>
<td>101.6</td>
<td>668</td>
</tr>
<tr>
<td>8.0</td>
<td>131.1</td>
<td>468</td>
</tr>
<tr>
<td>9.6</td>
<td>157.3</td>
<td>386</td>
</tr>
<tr>
<td>11.9</td>
<td>195.0</td>
<td>311</td>
</tr>
<tr>
<td>14.9</td>
<td>244.2</td>
<td>249</td>
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<tr>
<td>18.7</td>
<td>306.4</td>
<td>198</td>
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<tr>
<td>24.0</td>
<td>383.3</td>
<td>156</td>
</tr>
<tr>
<td>29.8</td>
<td>488.3</td>
<td>124</td>
</tr>
</tbody>
</table>

Minimum speed is 10% of the maximum speed

11 Milling Head Swivel Plate (Optional)

- Milling Head Swivel Plate Assembly: 63250

12 Chuck / Mounting Assembly

- ID Mount Assembly: 62038
- OD Mount Assembly: 62039
- ID/OD Mount Assembly: 62040
- Face Mount Assembly: 63106

13 Shipping Containers

- Wood Crate Set (main machine and ID chuck): 63243
- Wood Crate Set (main machine and ID/OD chuck): 63244
- Wood Crate (main machine): 63281
- Steel Container (main machine and ID/OD chuck): 56427

NOTE: Drawings are for reference only, are not to scale, and may not represent actual product.
Optional Hydraulic Power Unit

Single Pumps For Single Point Only (includes 50 ft (15.2 m) pendant cable and hydraulic hose assemblies)

<table>
<thead>
<tr>
<th>60 SERIES QD</th>
<th>ISO 16028 QD CE</th>
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<tbody>
<tr>
<td><strong>Motor Option</strong></td>
<td><strong>Motor Option</strong></td>
</tr>
<tr>
<td>HP1000 230V, 10 HP</td>
<td>HP1000 230V, 10 HP</td>
</tr>
<tr>
<td>HP1000 380-415V, 10 HP</td>
<td>HP1000 380-415V, 10 HP</td>
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<tr>
<td>HP1000 460V, 10 HP</td>
<td>HP1000 460V, 10 HP</td>
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<tr>
<td>HP1000 575V, 10 HP</td>
<td>HP1000 575V, 10 HP</td>
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<tr>
<td><strong>Part Number</strong></td>
<td><strong>Part Number</strong></td>
</tr>
<tr>
<td>93724</td>
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<tr>
<td>93725</td>
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<td>93770</td>
<td>94032</td>
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<tr>
<td>93774</td>
<td>93745</td>
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</tbody>
</table>

OD Mount Milling Configuration (ID Mount Configuration Shown on Page 3)
Dimensions in Inch (mm)

- **Minimum Milling Diameter** (Center of Mill): 73.5 in (1867 mm)
- **Maximum Milling Diameter** (Center of Mill): 189.0 in (4800 mm)
- **Minimum Chucking Diameter**: 177.2 in (4500 mm)
- **Maximum Chucking Diameter**: 200.25 in (5087 mm)
- **Minimum Swing Clearance**: 6.19 in (157 ± 6 mm)
- **Maximum Swing Clearance** without Hose Tower: 20.25 in (514 mm)
- **Maximum Rotating Height**: 135.6 in (3444 mm)
- **Minimum Bore Depth**: 12.10 in (307 ± 6 mm)
- **Maximum Clearance with Tool Head Fully Retracted**: 30.85 ± 0.25 in (784 ± 6 mm)

**Note:** ± 0.25 tolerance is based on travel of leveling foot.
A Fast Seven-Step Process

This model is so fast and easy to set up that an experienced operator can usually mount the machine into the flange bore, center and level it, and start cutting in less than an hour.

1. Measure the bore diameter. This will be used to determine the leg length.
2. Select the appropriate leg length and foot.
3. Set machine into flange using setup fingers.
4. Extend feet into flange. Indicate, level and tighten leveling feet and stationary feet.
5. Level and tighten Legs.
6. Install tooling and connect to power.
7. You are ready to begin machining!
CLIMAX has been teaching the fundamentals and finer points of portable machine tool operation for more than 50 years. Whether it's a regularly scheduled course at one of our seven Global Training Centers or a custom curriculum conducted with your team, at your facility, your technicians will benefit from courses developed by the most experienced and respected professionals in the business.

Regularly scheduled courses in basic and advanced tool operation are available. A vast majority of every program is devoted to hands-on activities, skills development, and OEM Certification covering the following subject matters: operator safety, tool component review, setup and mounting, standard and advanced operational techniques, overview of cutting tools and recommended usage, and maintenance procedures.

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- Gonzales, Louisiana
- Wadsworth, Ohio
- Manchester, United Kingdom
- Düren, Germany
- Dubai, United Arab Emirates

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