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></th>
<th>US</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ID/Face Mounting range</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milling diameter range (to center of spindle)</td>
<td>78.9 - 177.2 inches</td>
<td>2004.1 - 4500.9 mm</td>
</tr>
<tr>
<td>max with 10 inch (254.0 mm) diameter mill</td>
<td>73.5 - 189.0 inches</td>
<td>1866.9 - 4800.6 mm</td>
</tr>
<tr>
<td>Single-point machining diameter range</td>
<td>199 inches</td>
<td>5054.6 mm</td>
</tr>
<tr>
<td>Swing diameter at minimum</td>
<td>69.5 - 189.0 inches</td>
<td>1765.3 - 4800.6 mm</td>
</tr>
<tr>
<td>Swing diameter at maximum</td>
<td>135.6 inches</td>
<td>3444.2 mm</td>
</tr>
<tr>
<td>Kingpin clearance diameter</td>
<td>197 inches</td>
<td>5003.8 mm</td>
</tr>
<tr>
<td>Radial tool slide travel</td>
<td>25 inches</td>
<td>635.0 mm</td>
</tr>
<tr>
<td>Axial tool head travel, milling</td>
<td>24 inches</td>
<td>609.6 mm</td>
</tr>
<tr>
<td>Axial tool head travel, single-point machining</td>
<td>8 inches</td>
<td>203.2 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>
</tbody>
</table>

### OD: Mounting range (center of mounting plate)

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milling diameter range to center of spindle</td>
<td>98.4 - 209.9 inches</td>
<td>2499.36 - 5331.46 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 feedback 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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Max RPM</th>
<th>Max depth of cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>47383</td>
<td>4 inch (101.6 mm) #50 Taper w/ Inserts</td>
<td>382</td>
<td>0.060 inches (1.524 mm)</td>
</tr>
<tr>
<td>47384</td>
<td>5 inch (127.0 mm) #50 Taper w/ Inserts</td>
<td>306</td>
<td>0.060 inches (1.524 mm)</td>
</tr>
<tr>
<td>47385</td>
<td>6 inch (152.4 mm) #50 Taper w/ Inserts</td>
<td>255</td>
<td>0.050 inches (1.270 mm)</td>
</tr>
<tr>
<td>47386</td>
<td>8 inch (203.2 mm) #50 Taper w/ Inserts</td>
<td>191</td>
<td>0.040 inches (1.016 mm)</td>
</tr>
<tr>
<td>56175</td>
<td>10 inch (254.0 mm) #50 Taper w/ Inserts</td>
<td>153</td>
<td>0.035 inches (0.889 mm)</td>
</tr>
<tr>
<td>47229</td>
<td>Carbide Inserts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>29066*</td>
<td>Bit Tool HSS ¾ x 5.0 RH Finish Single SC</td>
</tr>
<tr>
<td>29067*</td>
<td>Bit Tool HSS ¾ x 5.0 LH Finish Single SC</td>
</tr>
<tr>
<td>60033*</td>
<td>Holder Insert ¾ SQ Shank Left Hand w/ 10 Inserts Seco Trigon</td>
</tr>
<tr>
<td>60034*</td>
<td>Holder Insert ¾ SQ Shank Right Hand w/ 10 Inserts Seco Trigon</td>
</tr>
<tr>
<td>61820</td>
<td>10 Inserts Carbide WNMP 431-MF1 Seco Trigon</td>
</tr>
</tbody>
</table>

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

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Configure your CM6200 in 13 easy steps:

1. Select a Base Unit
2. Select a Milling Arm
3. Select a Counterweight
4. Select a Machining Configuration
5. Select a Rotary Table Drive Assembly
6. Select a Rotary Table Hydraulic Motor
7. Select a Hydraulic Power Unit
8. Select a Milling Head
9. Select Tooling
10. Select Milling Head Hydraulic Motor
11. Select a Milling Head Swivel Plate (Optional)
12. Select a Chuck / Mounting Assembly
13. 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 CATV milling head assy only)
- Tooling, Inch Tool Holder
  - CAT50, 4 in (101.6 mm) Face Mill w/ Inserts 103034
  - CAT50, 5 in (127.0 mm) Face Mill w/ Inserts 103035
  - CAT50, 6 in (145.4 mm) Face Mill w/ Inserts 103036
  - CAT50, 8 in (203.2 mm) Face Mill w/ Inserts 103038
  - CAT50, 10 in (254.0 mm) Face Mill w/ Inserts 103040
  - Carbide Inserts 47229

10 Milling Head Hydraulic Motors

<table>
<thead>
<tr>
<th>Motor Displacement</th>
<th>Max Spindle Speed @ 50 Hz Mains Power</th>
<th>Hydraulic Motor PN</th>
</tr>
</thead>
<tbody>
<tr>
<td>in³ cm³</td>
<td>@ 60 Hz Mains Power</td>
<td></td>
</tr>
<tr>
<td>6.2 101.6</td>
<td>668 805</td>
<td>63164 69497</td>
</tr>
<tr>
<td>8.0 131.1</td>
<td>468 564</td>
<td>53459 69498</td>
</tr>
<tr>
<td>9.6 157.3</td>
<td>396 465</td>
<td>53458 69499</td>
</tr>
<tr>
<td>11.9 195.0</td>
<td>311 375</td>
<td>46950 69500</td>
</tr>
<tr>
<td>14.9 244.2</td>
<td>249 300</td>
<td>46375 69501</td>
</tr>
<tr>
<td>18.7 306.4</td>
<td>198 239</td>
<td>46549 69502</td>
</tr>
<tr>
<td>24.0 388.3</td>
<td>156 188</td>
<td>46550 69503</td>
</tr>
<tr>
<td>29.8 488.3</td>
<td>124 149</td>
<td>48968 69504</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 chuck) 91206
- Steel Container (main machine and ID/OD chuck) 91207

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>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP1000 230V, 10 HP</td>
<td>93724</td>
</tr>
<tr>
<td>HP1000 380-415V, 10 HP</td>
<td>93725</td>
</tr>
<tr>
<td>HP1000 460V, 10 HP</td>
<td>93770</td>
</tr>
<tr>
<td>HP1000 575V, 10 HP</td>
<td>93774</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISO 16028 QD CE</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP1000 230V, 10 HP</td>
<td>94023</td>
</tr>
<tr>
<td>HP1000 380-415V, 10 HP</td>
<td>94027</td>
</tr>
<tr>
<td>HP1000 460V, 10 HP</td>
<td>94032</td>
</tr>
<tr>
<td>HP1000 575V, 10 HP</td>
<td>93745</td>
</tr>
</tbody>
</table>

OD Mount Milling Configuration (ID Mount Configuration Shown on Page 3)
OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

- **Minimum Milling Depth**: \(30.85 \pm 0.25\) in [784 ± 6 mm]
- **Maximum Milling Height (Center of Mill)**: \(200.25\) in [5087 mm]
- **Minimum Milling Diameter (Center of Mill)**: \(189.0\) in [4800 mm]
- **Maximum Milling Diameter (Center of Mill)**: \(344.4\) in [8750 mm]
- **Minimum Chucking Diameter**: \(177.2\) in [4500 mm]
- **Maximum Chucking Diameter**: \(200.25\) in [5087 mm]
- **Minimum Swing Clearance**: \(12.10 \pm 0.25\) in [307 ± 6 mm]
- **Maximum Swing Clearance**: \(67.5\) in [1714.5 mm]
- **Maximum Clearance with Tool Head Fully Retracted**: \(157\) in [400 mm]
- **Minimum Bore Depth**: \(15.7\) in [399 mm]

**NOTE**: ± .25 tolerance is based on travel of leveling foot.
OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

Ø199.0 [5055 mm] MAXIMUM MACHINING DIAMETER

67.5 [1714.5 mm] CHUCK MOUNTING FACE TO FACE

Ø69.5 [1765 mm] MINIMUM MACHINING DIAMETER

42.4 [1077 mm] MAXIMUM MACHINING DIAMETER

145.5 [3696 mm] MIN

210.4 [5344 mm] MAX

5.0 [127 mm] 10.0 [254 mm] 4.6 [117 mm] CLEARANCE W/ TOOLHEAD FULLY RETRACTED

1.9 [48.3 mm]
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!
Backed by Over 50 Years of Experience

CLIMAX pioneered the concept of portable machine tools in 1964. Since that time, CLIMAX has grown to become the world’s largest provider of innovative on-site machining solutions.

Professional, Experienced Instructors

All training programs are taught by experienced OEM CLIMAX trainers. Your instructor will provide valuable information on operator safety, tool set-up, mounting, and operation that will help you complete your on-site machining tasks quickly and to the highest quality standards.

Typical Courses Include:

- Operator safety
- Tool component review and setup
- Standard operational techniques
- Overview of cutting tools and recommend usage
- Maintenance procedures
- A certificate of achievement - is-sued to each student immediately following course completion

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- Cleveland, Ohio
- Manchester, United Kingdom
- Düren, Germany
- Dubai, United Arab Emirates
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