The Climax LM6200 Linear/Gantry Milling Machine revolutionizes both the capabilities and functionality of portable mills. Four main features make this one of the best milling machines on the market today:

1. Extremely rigid, modular bed design.
2. Powerful, precise machining.
3. Innovative configuration options allow setup for both Linear AND Gantry Milling in one machine.
4. Reduced Friction Rail Technology.

Rigid, Modular Design
- Unique modular bed design allows shorter bed sections to be combined to fit the length of the work area without losing rigidity.
- Unique bed length section design provides superior rigidity across the entire bed length.
- Connection plates and fasteners optimized to provide the ultimate in rigidity, even when bed is extended by 2 or 3 times the original length.

Powerful, Precise Machining
- Features heavy duty spindle design and a choice of Hydraulic Power Units - a 25 Hp (18.6 kW) HPU allows use of cutter heads of up to 10 inches (254.0 mm) in diameter.
- Milling can be done in any axis, with a milling head that can rotate 360° with an optional swivel plate for optimal spindle flexibility. An optional Z-axis slide assembly can be used for side milling and to increase the stroke needed for drilling or extended milling operations.
- Fast, aggressive milling in horizontal, vertical, or inverted applications.
- Provides reliable, precise milling to meet tight machining tolerances in both linear and gantry mill configurations.

Flexible Configuration & Operation
- Innovative design allows machine to be configured for traditional linear milling, or simply split the rails lengthwise to configure for gantry milling!!
- Electric feeds can be mounted on the X, Y or Z axis.
- Machining capabilities include milling, drilling and even boring.

Reduced Friction Rail Technology
- Reduced friction rail system allows extremely smooth, continuous, and non stick-slip travel.
- Precisely machined and aligned rails with advanced lubrication make machining applications smooth and efficient.
- Low friction system reduces maintenance costs and extends product life.
- Precision ball screws in X, Y and Z-axis assemblies allow precise location of milling head.
**SPECIFICATIONS**

**Operating Ranges:**

<table>
<thead>
<tr>
<th></th>
<th>Travel</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM6200 Model</td>
<td>32 inches (812.8 mm)</td>
<td>48 inches (1219.2 mm)</td>
</tr>
<tr>
<td></td>
<td>56 inches (1422.4 mm)</td>
<td>72 inches (1828.8 mm)</td>
</tr>
<tr>
<td></td>
<td>80 inches (2032.0 mm)</td>
<td>96 inches (2438.4 mm)</td>
</tr>
<tr>
<td></td>
<td>104 inches (2641.6 mm)</td>
<td>120 inches (3048.0 mm)</td>
</tr>
<tr>
<td></td>
<td>128 inches (3251.2 mm)</td>
<td>144 inches (3667.6 mm)</td>
</tr>
<tr>
<td></td>
<td>152 inches (3860.8 mm)</td>
<td>168 inches (4267.2 mm)</td>
</tr>
<tr>
<td></td>
<td>176 inches (4470.4 mm)</td>
<td>192 inches (4876.8 mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Travel</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26 inches (660.4 mm)</td>
<td>36 inches (914.4 mm)</td>
</tr>
<tr>
<td></td>
<td>38 inches (965.2 mm)</td>
<td>48 inches (1219.2 mm)</td>
</tr>
<tr>
<td></td>
<td>72 inches (1828.8 mm)</td>
<td>82 inches (2082.8 mm)</td>
</tr>
<tr>
<td></td>
<td>106 inches (2692.4 mm)</td>
<td>116 inches (2946.4 mm)</td>
</tr>
</tbody>
</table>

**Spindle Assembly:**

- **Milling Head Spindle with #50 Taper**
- **Spindle Drive**: Hydraulic
- **Axial Tool Head Travel**: 8 inches
- **Milling Head Gearbox Ratio**: 1 : 1
- **Tool Head Position**: In 90° increments
- **Gearbox Position Adjustment**: 180° in 90° increments (3 positions)

**Electric Feed**

- **Drive Power**: Modified Baldor GP3303 1/2 HP DC gear motor
- **Gearbox Reduction**: 20 : 1
- **Feed Rate**: 0.5 - 24 in/min
- **Power Input Requirements**: 0.37 kW @ 120V or 230V

**Overall Dimensions**

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed (overall length)</td>
<td>Bed Length + 2.5 in.</td>
<td>Bed Length + 63.5 mm</td>
</tr>
<tr>
<td>Ram (overall width)</td>
<td>Ram Length + 2.5 in.</td>
<td>Ram Length + 63.5 mm</td>
</tr>
<tr>
<td>Height without hand wheel</td>
<td>24.0 inches</td>
<td>609.6 mm</td>
</tr>
<tr>
<td>with hand wheel</td>
<td>32.1 inches</td>
<td>815.3 mm</td>
</tr>
</tbody>
</table>

**TEST DATA**

All test cuts performed with a 25Hp (18.6 KW) HPU and a 18.7 cu in. (306.4 cu cm) hydraulic motor in A-36 steel.

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Cutter Diameter</th>
<th>Inserts</th>
<th>Depth of Cut</th>
<th>Width of Cut</th>
<th>Feed Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal Overhang 10 inches (254.0 mm)</td>
<td>10</td>
<td>0.020 inches (0.508 mm)</td>
<td>10 inches (254.0 mm)</td>
<td>14 in/min (355.6 mm/min)</td>
<td></td>
</tr>
<tr>
<td>Horizontal Overhang 10 inches (254.0 mm)</td>
<td>10</td>
<td>0.060 inches (1.524 mm)</td>
<td>10 inches (254.0 mm)</td>
<td>1 in/min (25.4 mm/min)</td>
<td></td>
</tr>
<tr>
<td>Vertical Overhang 10 inches (254.0 mm)</td>
<td>10</td>
<td>0.020 inches (0.508 mm)</td>
<td>5 inches (127.0 mm)</td>
<td>14 in/min (355.6 mm/min)</td>
<td></td>
</tr>
<tr>
<td>82 inch (2082.8 mm) Gantry 8 inches (203.2 mm)</td>
<td>8</td>
<td>0.050 inches (1.27 mm)</td>
<td>8 inches (203.2 mm)</td>
<td>1 in/min (25.4 mm/min)</td>
<td></td>
</tr>
<tr>
<td>82 inch (2082.8 mm) Gantry 8 inches (203.2 mm)</td>
<td>8</td>
<td>0.075 inches (1.91 mm)</td>
<td>4 inches (101.6 mm)</td>
<td>1 in/min (25.4 mm/min)</td>
<td></td>
</tr>
<tr>
<td>Drilling 1.5 inch (38.1 mm) superdrill</td>
<td>n/a</td>
<td>2 inches (50.8 mm)</td>
<td>n/a</td>
<td>Spindle RPM: 250</td>
<td></td>
</tr>
<tr>
<td>Boring 2.5 inch (63.5 mm) Criterion Boring Head</td>
<td>n/a</td>
<td>2 inches (50.8 mm)</td>
<td>n/a</td>
<td>Spindle RPM: 425</td>
<td></td>
</tr>
<tr>
<td>Side Milling w/ Z-Axis Slide 5 inches (127.0 mm)</td>
<td>6</td>
<td>0.100 inches (2.54 mm)</td>
<td>5 inches (127.0 mm)</td>
<td>10 in/min (254.0 mm/min)</td>
<td></td>
</tr>
<tr>
<td>Below the bed milling w/ Z-Axis Slide 5 inches (127.0 mm)</td>
<td>6</td>
<td>0.065 inches (1.65 mm)</td>
<td>5 inches (127.0 mm)</td>
<td>6 in/min (152.4 mm/min)</td>
<td></td>
</tr>
</tbody>
</table>

**Flatness (Machine setup & flatness measurements performed with a Hamar laser)**

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Cutter Diameter</th>
<th>Inserts</th>
<th>Material</th>
<th>Area</th>
<th>Total Flatness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear Milling</td>
<td>8 inches (203.2 mm)</td>
<td>8</td>
<td>A-36 Steel Plate</td>
<td>4.0 x 48.0 inches (101.6 x 1219.2 mm)</td>
<td>0.002 inches (0.051 mm)</td>
</tr>
<tr>
<td>Gantry Milling</td>
<td>8 inches (203.2 mm)</td>
<td>8</td>
<td>A-36 Steel Plate</td>
<td>8.0 x 48.0 inches (203.2 x 1219.2 mm)</td>
<td>0.002 inches (0.051 mm)</td>
</tr>
</tbody>
</table>

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.
Easy Conversion from Linear to Gantry Milling

The Climax LM5200 and LM6200 Milling Machines can be easily reconfigured to perform Linear or Gantry Milling. Below is a step by step overview of the conversion steps from traditional linear milling to gantry milling.

1. Linear Mill set up for overhead milling.
2. Separate main bed and RAM.
3. Split the bed & saddle pictured above into two separate rails for Gantry Milling as pictured below.
4. Reattach RAM to saddle and rails for a complete Gantry Mill.

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 EMF, UV or other radiation hazards. The machine does not use lasers nor does it create hazardous materials such as gases or dust.
Configure your LM6200 in 14 steps:

1. Select a Base Unit
2. Select a Gantry Kit
3. Select a RAM Assembly
4. Select a Shipping Container
5. Select a Riser Assembly
6. Milling Head Assembly
7. Select Tooling
8. Select a Spindle Hydraulic Motor
9. Z-Axis Slide Assembly
10. Select a Milling Head Swivel Assembly
11. Select a Hydraulic Power Unit (HPU)
12. Select Hoses and Pendant Cable Assemblies
13. Select a Stand Alone Feed Control
14. Select a Feed Assembly
15. Select a Z-Axis Feed Adapter

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

1. Base Unit
   - Base Unit, 32 Inch (812.8 mm) Travel, Bed Length 48 Inch (1219.2 mm)
     Part Number: 66279
   - Base Unit, 56 Inch (1422.4 mm) Travel, Bed Length 72 Inch (1828.8 mm)
     Part Number: 66280
   - Base Unit, 80 Inch (2032.0 mm) Travel, Bed Length 96 Inch (2438.4 mm)
     Part Number: 66281
   - Base Unit, 104 Inch (2641.6 mm) Travel, Bed Length 120 Inch (3048.0 mm)
     Part Number: 66282
   - Base Unit, 128 Inch (3251.2 mm) Travel, Bed Length 144 Inch (3657.6 mm)
     Part Number: 66283
   - Base Unit, 152 Inch (3860.8 mm) Travel, Bed Length 168 Inch (4267.2 mm)
     Part Number: 66284
   - Base Unit, 176 Inch (4470.4) Travel, Bed Length 192 Inch (4876.8 mm)
     Part Number: 66285

2. Gantry Kit
   - Gantry Kit For 32 Inch (812.8 mm) Travel, Bed Length 48 Inch (1219.2 mm)
     Part Number: 64973
   - Gantry Kit For 56 Inch (1422.4 mm) Travel, Bed Length 72 Inch (1828.8 mm)
     Part Number: 64974
   - Gantry Kit For 80 Inch (2032.0 mm) Travel, Bed Length 96 Inch (2438.4 mm)
     Part Number: 64975
   - Gantry Kit For 104 Inch (2641.6 mm) Travel, Bed Length 120 Inch (3048.0 mm)
     Part Number: 64976
   - Gantry Kit For 128 Inch (3251.2 mm) Travel, Bed Length 144 Inch (3657.6 mm)
     Part Number: 64977
   - Gantry Kit For 152 Inch (3860.8 mm) Travel, Bed Length 168 Inch (4267.2 mm)
     Part Number: 64978
   - Gantry Kit For 176 Inch (4470.4) Travel, Bed Length 192 Inch (4876.8 mm)
     Part Number: 64979

3. RAM Assembly
   - RAM Assembly 26 Inch (660.4 mm) Travel, Length 36 Inch (914.4 mm)
     Part Number: 72584
   - RAM Assembly 38 Inch (965.2 mm) Travel, Length 48 Inch (1219.2 mm)
     Part Number: 72585
   - RAM Assembly 72 Inch (1828.8 mm) Travel, Length 82 Inch (2082.8 mm)
     Part Number: 72586
   - RAM Assembly 106 Inch (2692.4 mm) Travel, Length 116 Inch (2946.4 mm)
     Part Number: 72587

4. Shipping Container
   - Wooden Crate for 32 Inch (812.8 mm) Travel Bed
     Part Number: 65078
   - Metal Container for 32 Inch (812.8 mm) Travel Bed
     Part Number: 65397
   - Wooden Crate for 56 Inch (1422.4 mm) Travel Bed
     Part Number: 65079
   - Metal Container for 56 Inch (1422.4 mm) Travel Bed
     Part Number: 65398
   - Wooden Crate for 80 Inch (2032.0 mm) Travel Bed
     Part Number: 65080
   - Metal Container for 80 Inch (2032.0 mm) Travel Bed
     Part Number: 65399
   - Wooden Crate for 104 Inch (2641.6 mm) Travel Bed
     Part Number: 65081
   - Metal Container for 104 Inch (2641.6 mm) Travel Bed
     Part Number: 65400
   - Wooden Crate for 128 Inch (3251.2 mm) Travel Bed
     Part Number: 65082
   - Metal Container for 128 Inch (3251.2 mm) Travel Bed
     Part Number: 65401
   - Wooden Crate for 152 Inch (3860.8 mm) Travel Bed
     Part Number: 65083
   - Metal Container for 152 Inch (3860.8 mm) Travel Bed
     Part Number: 65402
   - Wooden Crate for 176 Inch (4470.4) Travel Bed
     Part Number: 66293
   - Metal Container for 176 Inch (4470.4) Travel Bed
     Part Number: 66294

5. RAM Riser Assembly
   - Riser Assembly 1 Inch (25.4 mm)
     Part Number: 64720
   - Riser Assembly 3 Inch (76.2 mm)
     Part Number: 64721
   - Riser Assembly 5 Inch (127.0 mm)
     Part Number: 64722
   - Riser Assembly 7 Inch (177.8 mm)
     Part Number: 64723

6. Milling Head Assembly
   - Inch #50 Taper NMTB
     Part Number: 62280
   - Inch #50 Taper CATV
     Part Number: 62734
   - Metric #50 Taper NMTB
     Part Number: 62644
   - Metric #50 Taper CATV
     Part Number: 62735

7. Tooling (for inch NMTB milling head assy)
   - #50, 4 Inch (101.6 mm) Face Mill w/ Inserts
     Part Number: 47383
   - #50, 5 Inch (127.0 mm) Face Mill w/ Inserts
     Part Number: 47384
   - #50, 6 Inch (152.4 mm) Face Mill w/ Inserts
     Part Number: 47385
   - #50, 8 Inch (203.2 mm) Face Mill w/ Inserts
     Part Number: 47386
   - #50, 10 Inch (254.0 mm) Face Mill w/ Inserts
     Part Number: 56175
   - Carbide Inserts
     Part Number: 47229

8. Spindle Hydraulic Motors
<table>
<thead>
<tr>
<th>Hydraulic Motor Assemblies</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min Spindle RPM</td>
</tr>
<tr>
<td>in³</td>
<td>cm³</td>
</tr>
<tr>
<td>6.2</td>
<td>101.6</td>
</tr>
<tr>
<td>8.0</td>
<td>131.1</td>
</tr>
<tr>
<td>9.6</td>
<td>157.3</td>
</tr>
<tr>
<td>11.9</td>
<td>195.0</td>
</tr>
<tr>
<td>14.9</td>
<td>244.2</td>
</tr>
<tr>
<td>18.7</td>
<td>306.4</td>
</tr>
<tr>
<td>24.0</td>
<td>393.3</td>
</tr>
<tr>
<td>29.8</td>
<td>488.3</td>
</tr>
</tbody>
</table>

NOTE: Drawings are for reference only, are not to scale, and may not represent actual product.
9. **Z-Axis Slide Assembly**
   - 7 inch (177.8 mm) Travel
   - Part Number: 74100

10. **Milling Head Swivel Assy**
    - Milling Head Swivel Plate Assembly
    - Part Number: 63250

11. **Hydraulic Power Unit**
    - 25 HP
    - 200V-208V
      - Part Number: 65127
    - 230V
      - Part Number: 65118
    - 380V-415V
      - Part Number: 65128
    - 460V
      - Part Number: 65126
    - 575V
      - Part Number: 65129

12. **Pendant Cable & Hose Assemblies**
    - Hose and Cable Kit ½ x 20 ft (609.6 cm)
      - Part Number: 65157
    - Hose and Cable Kit ½ x 30 ft (914.4 cm)
      - Part Number: 65161
    - Hose and Cable Kit ½ x 50 ft (1524.0 cm)
      - Part Number: 65164
    - Hose and Cable Kit ½ x 100 ft (3048.0 cm)
      - Part Number: 65167

13. **Stand Alone Feed Control**
    - (Stand Alone Control Panel & Pendant with Cables)
    - NOTE: Not needed if using a Climax Hydraulic Power Unit

14. **Electric Feed Assembly**
    - NOTE: 230V Feeds not for use with Climax Hydraulic Power Units
    - **Voltage** | **Cable Length** | **Part Number**
    |----------------|----------------|
    | 120V           | 20 ft (609.6 cm) | 53398 |
    |                | 50 ft (1524.0 cm) | 53399 |
    |                | 100 ft (3048.0 cm) | 53400 |
    | 230V           | 20 ft (609.6 cm) | 53401 |
    |                | 50 ft (1524.0 cm) | 53402 |
    |                | 100 ft (3048.0 cm) | 53403 |

15. **Z-Axis Power Feed Adapter**
    - Z-Axis Feed Adapter Kit - I Axis 40 Taper
    - Part Number: 64856

**NOTE:** Drawings are for reference only, are not to scale, and may not represent actual product.
OPERATIONAL DIMENSIONS

Milling Area Dimensions - LINEAR MILLING

Dimensions in Inch (mm)

** RAM AT MAXIMUM RECOMMENDED OFFSET
DIMENSIONS TO CENTER OF THE TOOL

Milling Area Dimensions - GANTRY MILLING
Inverted Milling Area

Dimensions in Inch (mm)

Spindle Travel

Gearbox can be rotated in 90° increments; motor may also be mounted on the underside of the gearbox

** Without riser assembly. 5" (127.0 mm) required to clear bed assembly.
** Dimensions shown are with RAM at max recommended offset.
OPERATIONAL DIMENSIONS

End View

Dimensions in Inch (mm)

"Y" Travel + 10" (254.0 mm)

6.3" (160.0 mm)

3.8" (96.5 mm)

0.9" (22.9 mm)

35.1" (891.5 mm)
Mill Head Retracted

27.1" (688.3 mm)
Mill Head Extended

7.8" (198.1 mm)

33" (838.2 mm)
Maximum

6.3" (160.0 mm)

5.2" (132.1 mm)

14.4" (365.8 mm)
360° Power Feed
Mounting Clearance

14.4" (365.8 mm)
without Riser

Example of side milling. (No vertical movement in this configuration.)

Milling (With Z-Axis Assembly in Lowest Position)

11.7" (297.2 mm)
(with 5" Face Mill)

6.2" (157.5 mm)

11.7" (297.2 mm)

6.2" (157.5 mm)
OPERATIONAL DIMENSIONS

Machining Ranges (Tool Center Travel) Using Z-Axis Slide Assembly

Dimensions in Inch (mm)

Middle Position

Lower Position

Upper Position
OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

Overhead View - Standard Offset

Overhead View - RAM at Maximum Recommended Offset

** Dimensions shown are with RAM at maximum recommended offset.
OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

Standard Mounting Pattern

- 4.0" [101.6mm]
- 15.5" [393.7mm]
- 8.0" [203.2mm] TYP
- 1.0" [25.4mm] TYP

Gantry Mounting Pattern

- 4.0" [101.6mm]
- 9.25" [234.95mm]
- 7.90" [200.66mm]
- 4.37" [110.998mm]
- 7.90" [200.66mm]
- 3.63" [92.2mm]
- 8.0" [203.2mm] TYP
- 4.00" [101.6mm]
- 9.25" [234.95mm]
- 8.00" [203.2mm] TYP
- 1.00" [25.4mm] TYP

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Training at the Global Learning Center

Climax has been teaching the fundamentals and fine points of portable machine tool operation for practically as long as we’ve been inventing and building the tools.

At the Climax Global Learning Center situated in our corporate headquarters near Portland, Oregon, we provide training for machine tool operators on portable machine tool safety, and machine setup and operation. Trainees also receive technical tips and tools to improve operational efficiencies, with the vast majority of every program devoted to hands-on activities and skill development.

The Climax instructional team includes specialists in shipbuilding, power generation, civil engineering, bridge re-building, petrochemical and other industries.

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