

## Linear and Gantry Milling in one machine, for X-Axis travel of up to 84 inches (2133.6 mm) and Y-Axis travel of up to 34 inches (863.6 mm).

The Climax LM5200 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. Innovative configuration options allow setup for both Linear AND Gantry Milling in one machine.
3. Powerful, precise machining.
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.

### Flexible Configuration & Operation

- The innovative new design of these Climax Milling Machines allow them 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.



### Powerful, Precise Machining

- Features heavy duty spindle design and a choice of Hydraulic Power Units - a 10 Hp (7.5 kW) HPU allows use of cutter heads of up to 6 inches (152.4 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.
- 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.

### 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:

	Bed		Ram	
	Travel	Length	Travel	Length
LM5200 Model	36 inches (914.4 mm)	48 inches (1219.2 mm)	16 inches (406.4 mm)	26 inches (660.4 mm)
	60 inches (1524.0 mm)	72 inches (1828.8 mm)	34 inches (863.6 mm)	44 inches (1117.6 mm)
	84 inches (2133.6 mm)	96 inches (2438.4 mm)		

US

Metric

## Spindle Assembly (Z-Axis):

Milling Head Spindle with #40 Taper

Spindle Drive

Axial Tool Head Travel

Milling Head Gearbox Ratio

Tool Head Position

Gearbox Position Adjustment

NMTB or CATV or optional HSK

Hydraulic, Optional Electric with HSK

4 inches 101.6 mm

1 : 1 1 : 1

in 90° increments  
(infinite 360° position w/ optional swivel plate)

180° in 90° increments (3 positions)

## Electric Feed

Drive Power

Gearbox Reduction

Feed Rate

Power Input Requirements

Modified Baldor GP3303 1/2 HP DC gear motor

20 : 1

0.5 - 24 in/min 12.7 - 609.6 mm/min

0.37 kW @ 120V or 230V

## Overall Dimensions

Bed (overall length)

Ram (overall width)

Height without hand wheel  
with hand wheel

Bed Length + 2.5 in.

Ram Length + 2.5 in.

18.75 inches  
22.0 inches

Bed Length + 63.5 mm

Ram Length + 63.5 mm

476.3 mm  
558.8 mm

## TEST DATA

All test cuts performed with a 10Hp (7.5 KW) HPU and a 7.3 cu. in. (119.6 cu. cm) hydraulic motor in A-36 steel

Orientation	Cutter Diameter	Inserts	Depth of Cut	Width of Cut	Feed Rate
Horizontal Overhang	6 inches (152.4 mm)	7	0.020 inches (0.508 mm)	6 inches (152.4 mm)	14 in/min (355.6 mm/min)
Horizontal Overhang	6 inches (152.4 mm)	7	0.020 inches (0.508 mm)	3 inches (76.2 mm)	14 in/min (355.6 mm/min)
Horizontal Gantry	6 inches (152.4 mm)	7	0.020 inches (0.508 mm)	3 inches (76.2 mm)	12 in/min (304.8 mm/min)
Horizontal Gantry	6 inches (152.4 mm)	7	0.055 inches (1.397 mm)	3 inches (76.2 mm)	1 in/min (25.4 mm/min)
Vertical	4 inches (101.6 mm)	6	0.020 inches (0.508 mm)	3 inches (76.2 mm)	15 in/min (381 mm/min)
Drilling	1.5 inch (38.1 mm) superdrill	n/a	2 inches (50.8 mm)	n/a	Spindle RPM: 250
Boring	2.5 inch (63.5 mm) Criterion Boring Head	n/a	2 inches (50.8 mm)	n/a	Spindle RPM: 425

Flatness (Machine setup & flatness measurements performed with a Hamar laser)					
Configuration	Cutter Diameter	Inserts	Material	Area	Total Flatness
Linear Milling	6 inches (152.4 mm)	7	A-36 Steel Plate	6.0 x 36.0 inches (152.4 x 914.4 mm)	0.0018 inches (0.046 mm)
Gantry Milling	6 inches (152.4 mm)	7	A-36 Steel Plate	6.0 x 36.0 inches (152.4 x 914.4 mm)	0.0015 inches (0.038 mm)

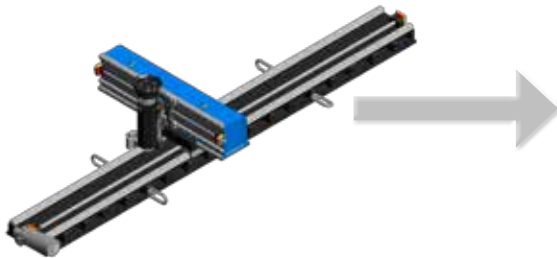
All dimensions should be considered reference. Contact your Climax Representative for precision dimensions. Specifications are subject to change without notice. There are no systems or components on this machine that are capable of producing hazardous EMC, UV or other radiation hazards. The machine does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

# TOOL CONFIGURATIONS

## 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.

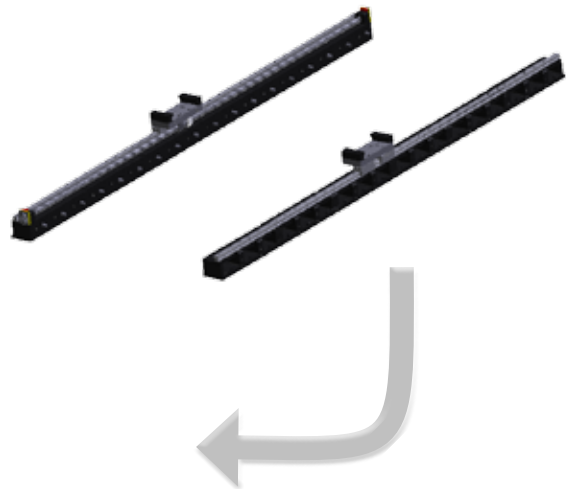
1 Linear Mill set up for overhead milling.



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 EMC, UV or other radiation hazards. The machine does not use lasers nor does it create hazardous materials such as gasses or dust.

# TOOL CONFIGURATIONS

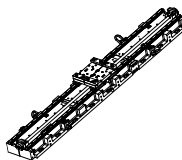
Configure your LM5200 in 13 steps:

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

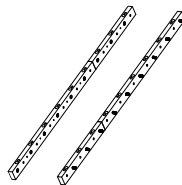
## 1 Base Unit

Base Unit, 36 Inch (914.4 mm) Travel, Bed Length 48 Inch (1219.2 mm)	<b>66324</b>
Base Unit, 60 Inch (1524.0 mm) Travel, Bed Length 72 Inch (1828.8 mm)	<b>64201</b>
Base Unit, 84 Inch (2133.6 mm) Travel, Bed Length 96 Inch (2438.4 mm)	<b>66325</b>



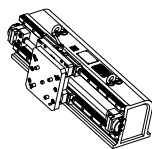
## 2 Gantry Kit

Gantry Kit For 36 Inch (914.4 mm) Travel, Bed Length 48 Inch (1219.2 mm)	<b>64978</b>
Gantry Kit For 60 Inch (1524.0 mm) Travel, Bed Length 72 Inch (1828.8 mm)	<b>64624</b>
Gantry Kit For 84 Inch (2133.6 mm) Travel, Bed Length 96 Inch (2438.4 mm)	<b>64979</b>



## 3 RAM Assembly

RAM Assembly 16 Inch (406.4 mm) Travel, Length 26 Inch (660.4 mm)	<b>64395</b>
RAM Assembly 34 Inch (863.6 mm) Travel, Length 44 Inch (1117.6 mm)	<b>64420</b>
RAM Assembly 16 Inch (406.4 mm) Travel, Length 26 Inch (660.4 mm) & RAM Assembly 34 Inch (863.6 mm) Travel, Length 44 Inch (1117.6 mm)	<b>67652</b>

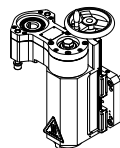


## 4 Shipping Container

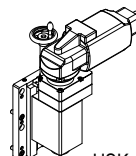
Wooden Crate for 36 In (914.4 mm) Travel Bed	<b>65237</b>
Metal Container for 36 In (914.4 mm) Travel Bed	<b>65397</b>
Wooden Crate for 60 In (1524.0 mm) Travel Bed	<b>65239</b>
Metal Container for 60 In (1524.0 mm) Travel Bed	<b>65398</b>
Wooden Crate for 84 In (2133.6 mm) Travel Bed	<b>65240</b>
Metal Container for 84 In (2133.6 mm) Travel Bed	<b>65399</b>

## 5 Milling Head Assembly

Inch #40 Taper NMTB	<b>62399</b>
Inch #40 Taper CATV	<b>62732</b>
Metric #40 Taper NMTB	<b>62654</b>
Metric #40 Taper CATV	<b>62733</b>
Hydraulic #40 HSK	<b>65262</b>
120V Electric #40 HSK (Motor Included)	<b>64667</b>
230V Electric #40 HSK (Motor Included)	<b>66342</b>



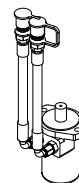
40 Taper



HSK

## 6 Tooling (for inch milling head assy only)

40 Taper	
#40, 4 Inch (101.6 mm) Face Mill with Inserts	<b>47380</b>
#40, 5 Inch (127.0 mm) Face Mill with Inserts	<b>47381</b>
#40, 6 Inch (145.4 mm) Face Mill with Inserts	<b>47382</b>
Carbide Inserts	<b>47229</b>
HSK 40A Hydraulic, 120V and 230V	
#40A, 3 Inch (76.2 mm) HSK Face Mill w/ Inserts	<b>64984</b>
Collet Holder ER-32 #40A HSK Taper, 0.08 - 0.81 Inch (2.0 - 20.6 mm)	<b>64985</b>
Carbide Inserts	<b>47229</b>
Collet Tooling	
HSK 40A Hydraulic, 120V and 230V	
Collet Inch ER-32, 3/4 Inch	<b>64986</b>
Collet Metric ER-32, 20 mm	<b>66344</b>
Collet Set Inch ER-32, 1/8 - 13/16, 1/16 Increments	<b>66345</b>
Collet Set Metric ER-32, 3 - 20 mm, 1mm Increments	<b>66346</b>
Cutter Fly 2-1/2 Inch Diameter Head x 3/4 Inch Shank	<b>20713</b>
Cutter Fly 2-1/4 Inch (57.15 mm) Dia. Head x 20 mm Shank	<b>31625</b>



## 7 Spindle Hyd. Motors Assembly

Milling Head Assembly	Motor Displacement		Speed		Part Number
	in <sup>3</sup>	cm <sup>3</sup>	Min RPM @ 1 gpm (3.79 l/min)	Max RPM @ 10 gpm (37.9 l/min)	
40 Taper	3.6	59.0	85	591	62627
	5.7	93.4	34	353	62628
	7.3	119.6	29	275	62629
	8.8	144.2	21	221	62630
			@ 1 gpm (3.79 l/min)	@ 5.5 gpm (20.8 l/min)	
HSK 40A	1.21	19.8	175	1009	65094
	1.93	31.6	99	606	65095
	3.00	49.2	72	369	65096

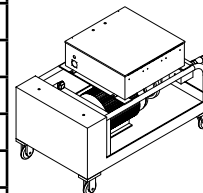
## 8 Milling Head Swivel Assembly

Milling Head Swivel Plate Assembly	<b>66217</b>
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## 9 Hydraulic Power Unit

HP	Voltage	Part Number
10 HP	200V-208V	65111
	230V	65109
	380V-415V	65112
	460V	65110
	575V	65114
5HP	200V-208V	66386
	230V	66387
	380V-415V	66389
	460V	66388
	575V	66390



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

# TOOL CONFIGURATIONS

## 10 Hose and Pendant Cable Assemblies

Hose and Cable Kit 1/2 x 20 ft (609.6 cm)	65145
Hose and Cable Kit 1/2 x 50 ft (1524.0 cm)	65151
Hose and Cable Kit 1/2 x 100 ft (3048.0 cm)	65154

## 11 Stand Alone Feed Control

(Stand Alone Control Panel & Pendant with Cables)

NOTE: Not needed if using a Climax Hydraulic Power Unit

Tooling	Voltage	Cable Length	Part Number
40 Taper	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
HSK	120V	20 ft (609.6 cm)	66425
		50 ft (1524.0 cm)	66426
		100 ft (3048.0 cm)	66427
	230V	20 ft (609.6 cm)	66428
		50 ft (1524.0 cm)	66429
		100 ft (3048.0 cm)	66430

## 12 Electric Feed Assembly

NOTE: 230V Feeds not for use with Climax Hydraulic Power Units

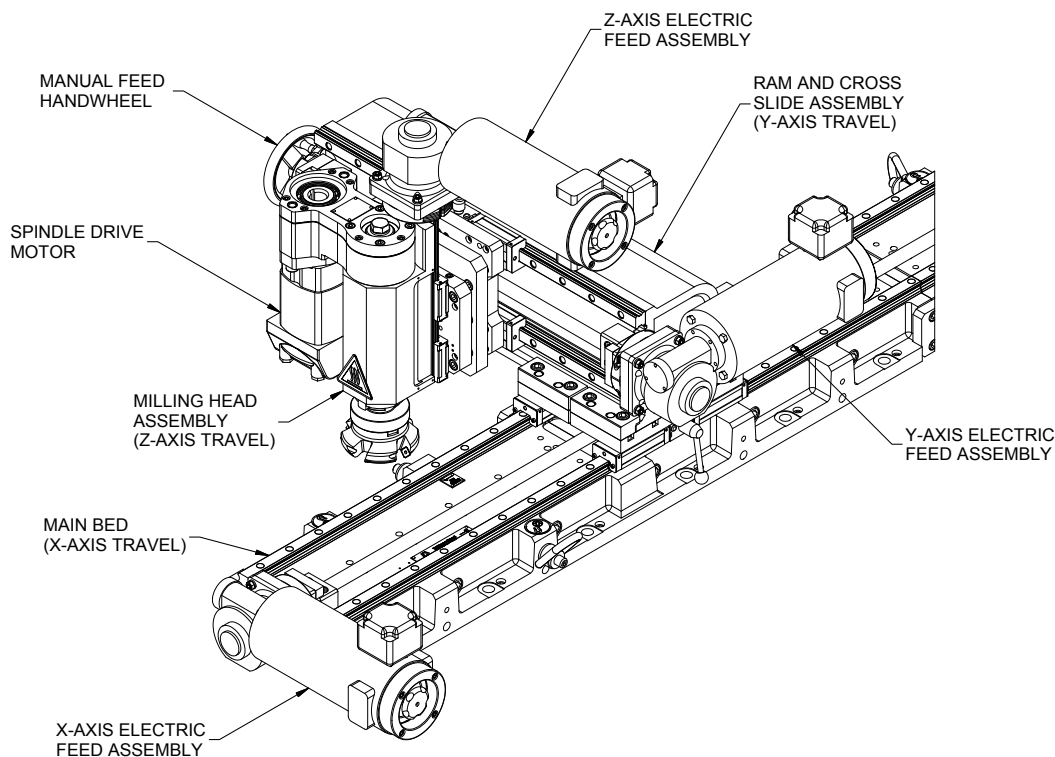
Voltage	Cable Length	Part Number
120V	20 ft (609.6 cm)	64684
	50 ft (1524.0 cm)	66310
	100 ft (3048.0 cm)	66311
230V	20 ft (609.6 cm)	64743
	50 ft (1524.0 cm)	66312
	100 ft (3048.0 cm)	66313

## 13 Z-Axis Feed Adapter

Z-Axis Feed Adapter Kit - I Axis 40 Taper

64856

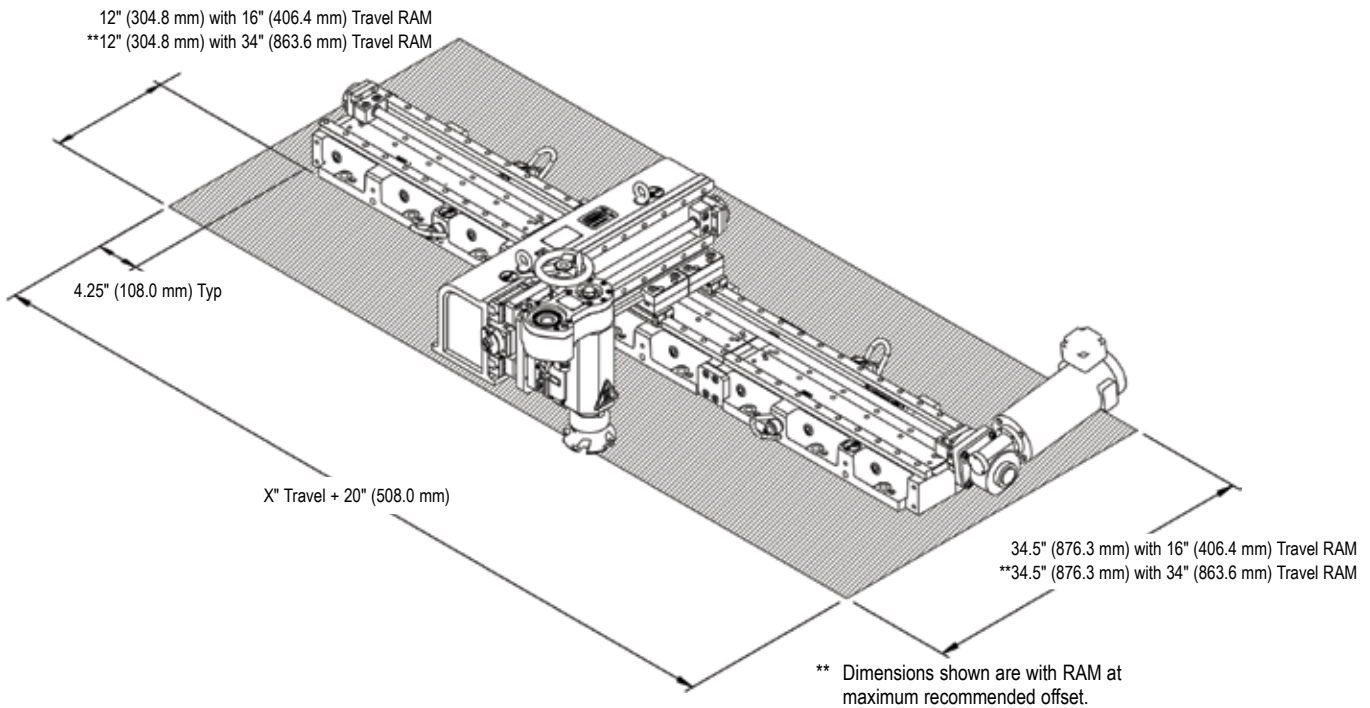
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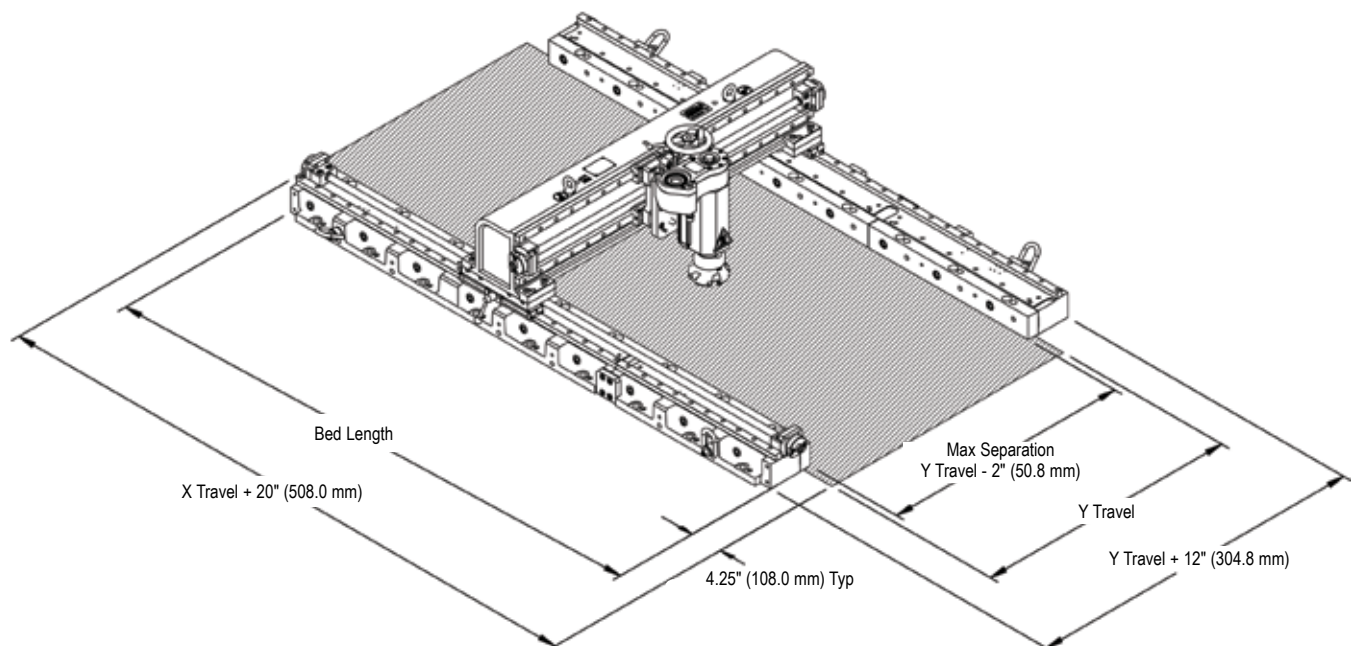


Dimensions in Inch (mm)

## Milling Area Dimensions - LINEAR MILLING



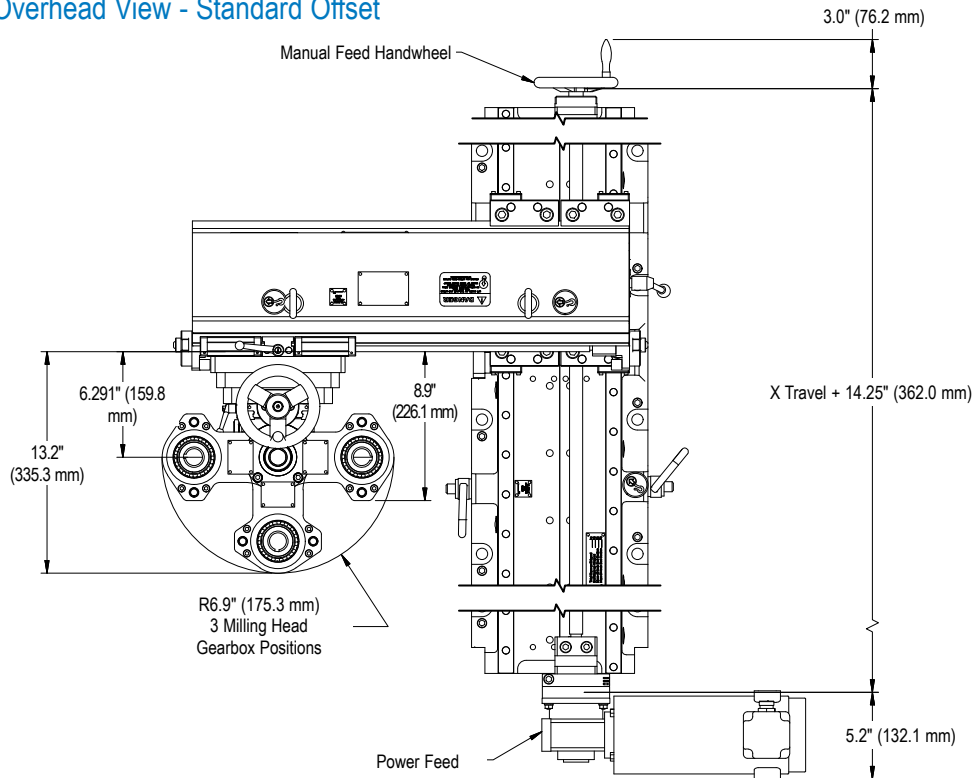
## Milling Area Dimensions - GANTRY MILLING



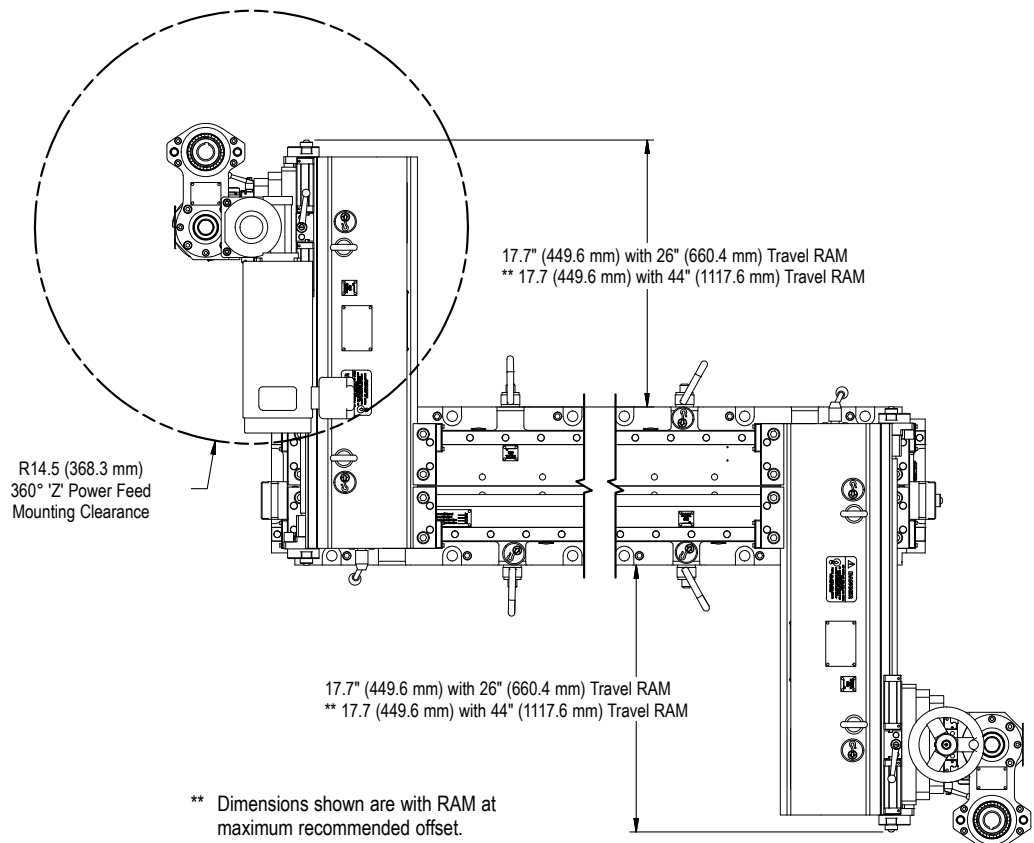
# OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

## Overhead View - Standard Offset



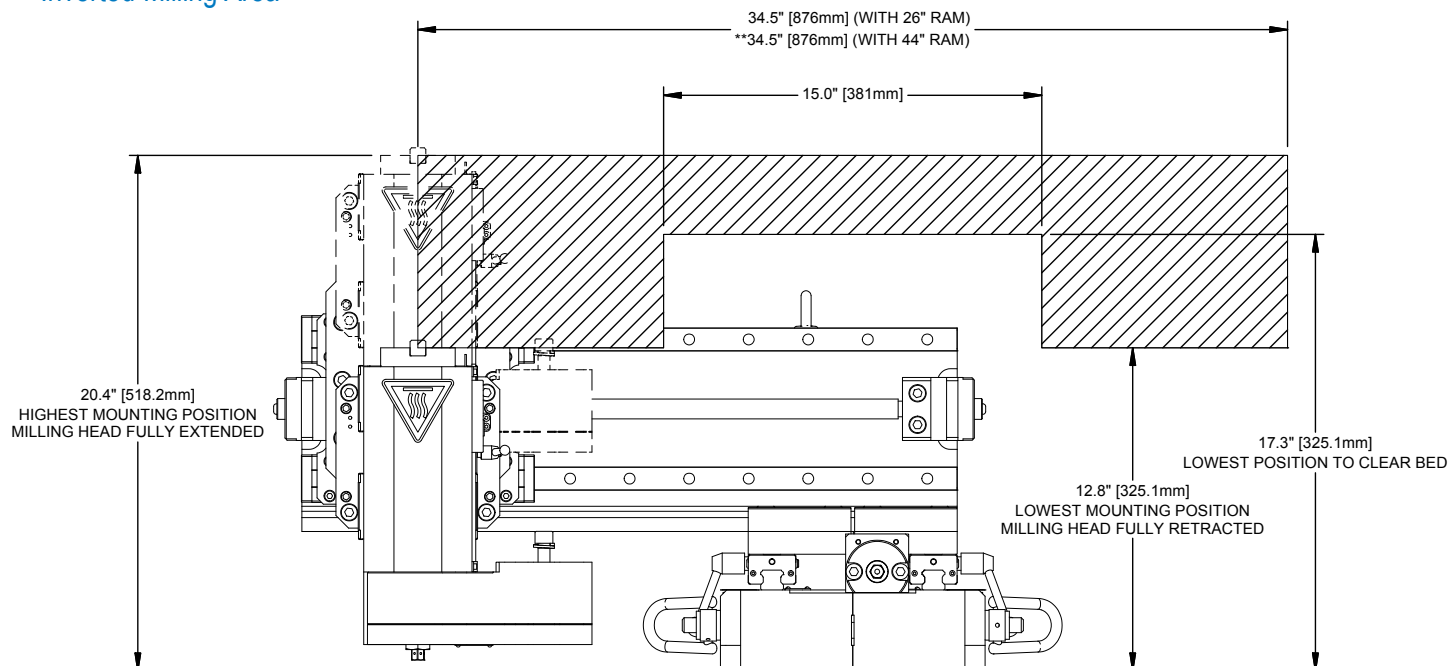
## Overhead View - RAM at Maximum Recommended Offset



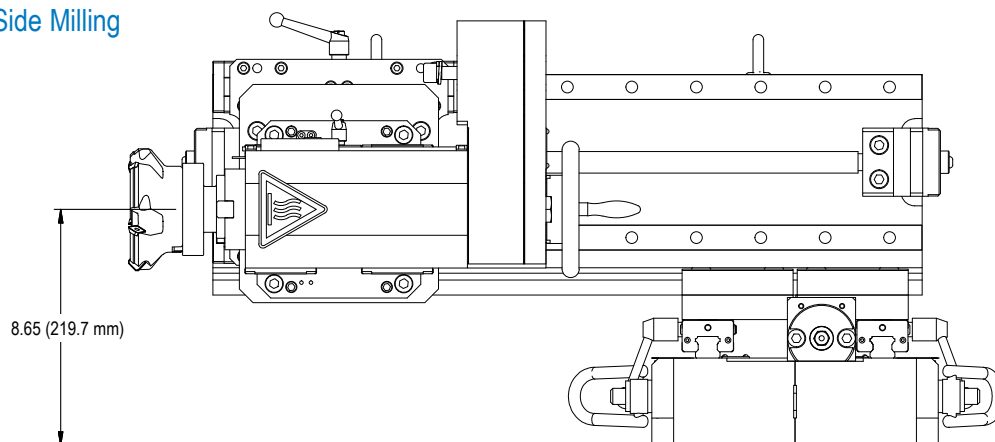
# OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

## Inverted Milling Area



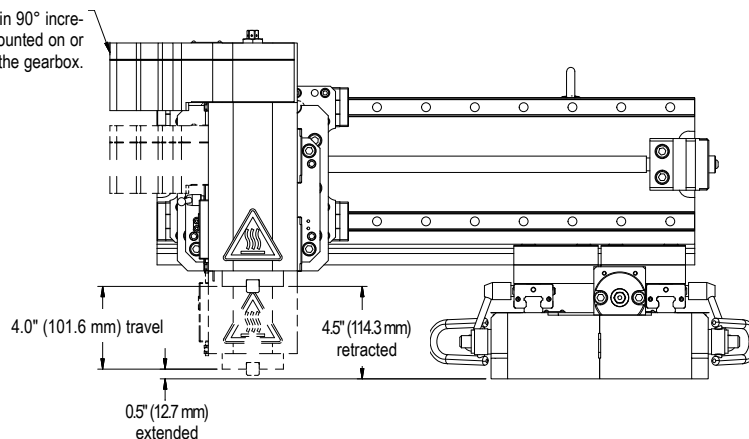
## Side Milling



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

## Spindle Travel

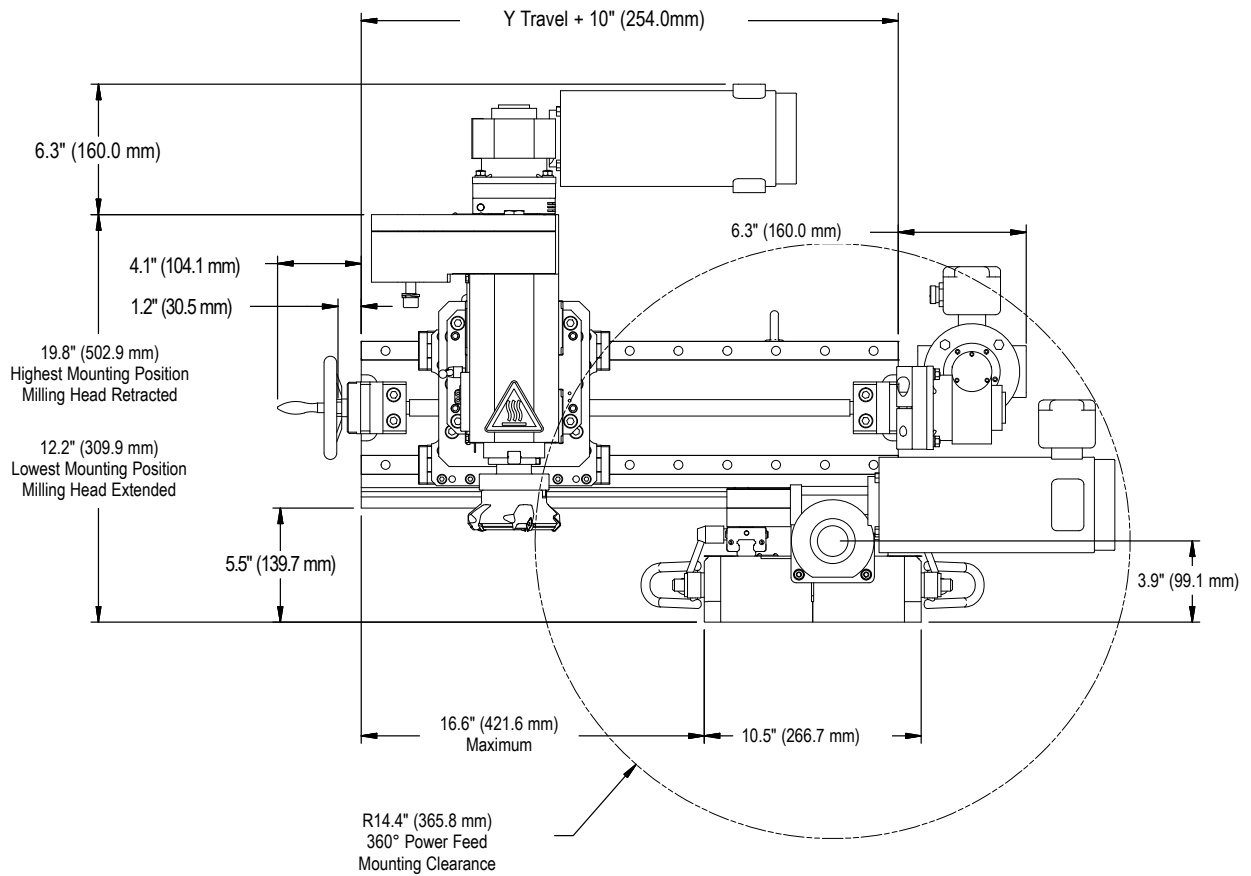
Gearbox can be rotated in 90° increments; motor may be mounted on or under the gearbox.



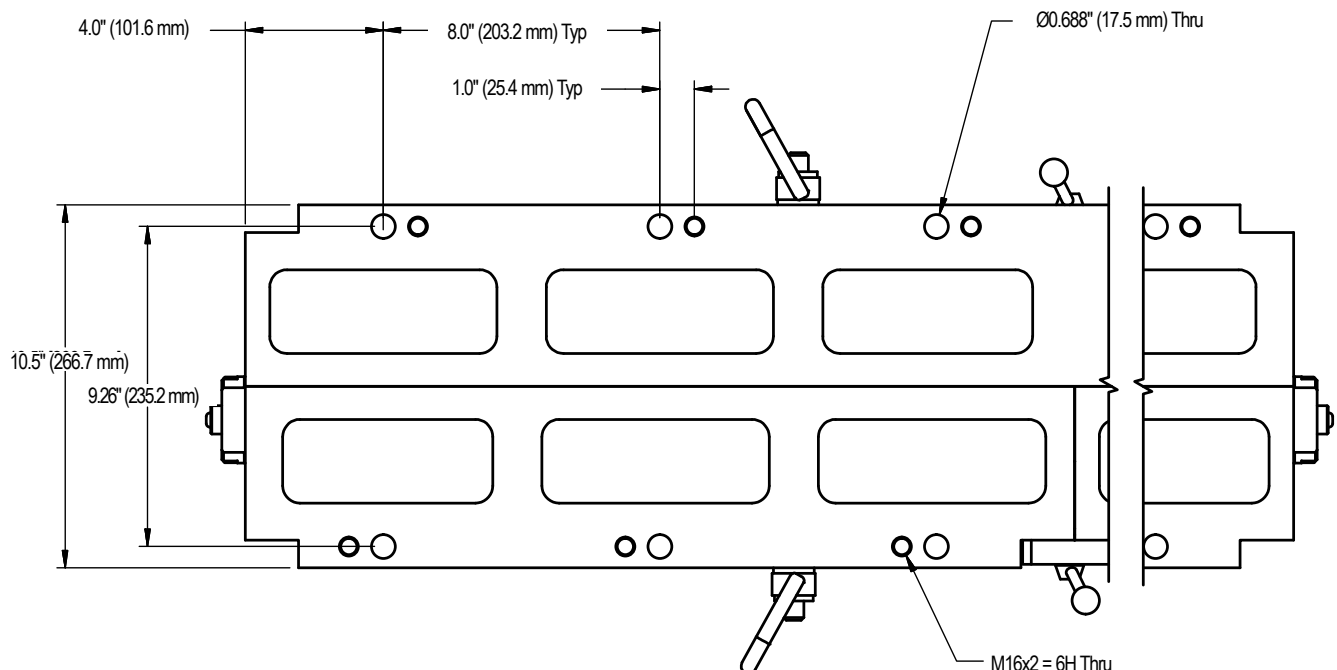


# OPERATIONAL DIMENSIONS

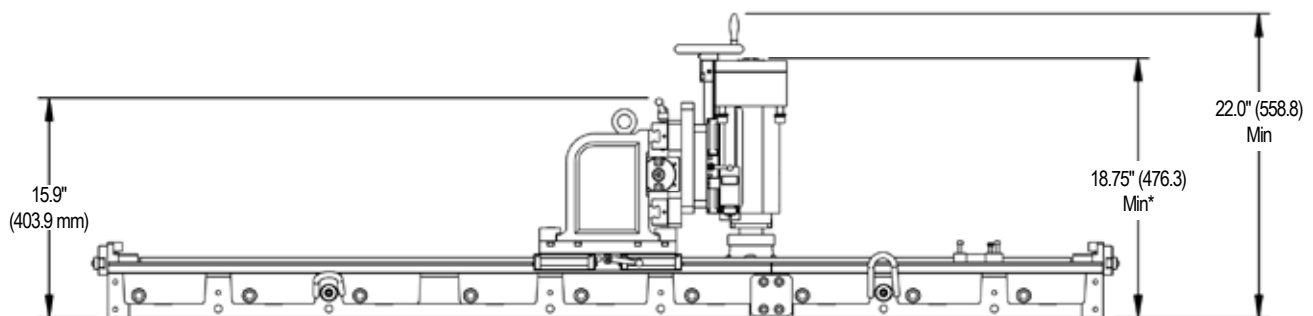
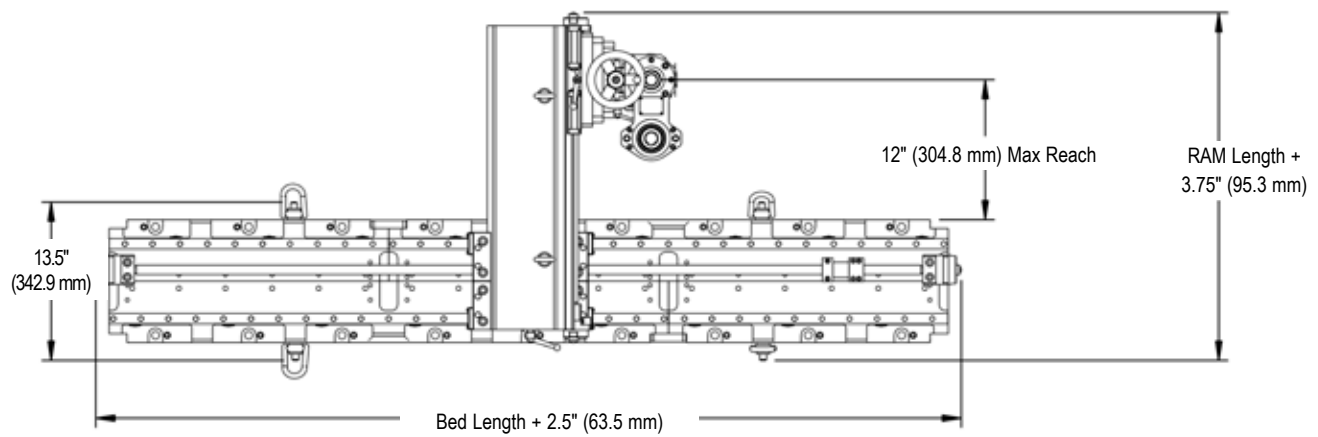
## End View



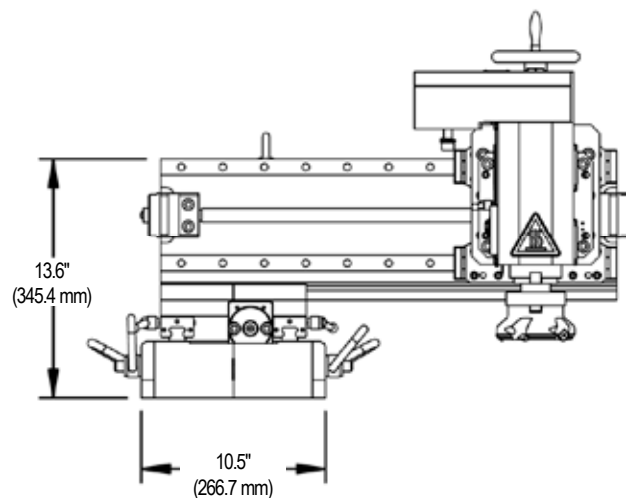
## Bottom View



# OPERATIONAL DIMENSIONS



\* Minimum dimension to allow milling head with cutter to clear mounting surface



# 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.

Whether it's a regularly scheduled course at the Global Learning Center, or custom curriculum conducted at your facility, your machinists will benefit from courses developed by some of the most respected authorities in the business.

Call us today to register for a regularly scheduled class, or talk to us about how we can customize a training program for your specialized application.



# CLIMAX GLOBAL LOCATIONS



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Need some refresher courses in setting up and operating your Climax machine tool?

### Special Projects

Climax has been solving complicated on-site machining and welding problems for our customers since 1964.

### Rentals

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