

Presenting ...

The Masco BridgeMax<sup>®</sup> Series

Rigid. Accurate. Versatile.



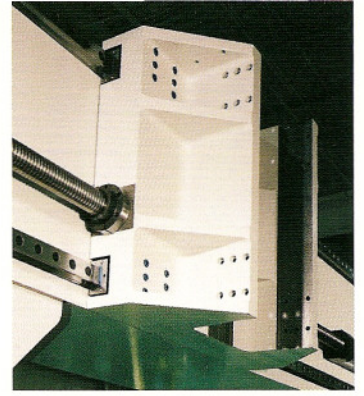
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# Masco BridgeMax<sup>®</sup> All-In-One Flexibility to Machine Large, Complex Parts

Perfect for plates, molds, rings, wing spars, airframe components, motor housings, turbines, large generators, compressors and more ...



## Rigid Design

The Masco BridgeMax<sup>®</sup> Vertical Machining Center is built for optimum performance and accuracy in machining large, complex parts ...

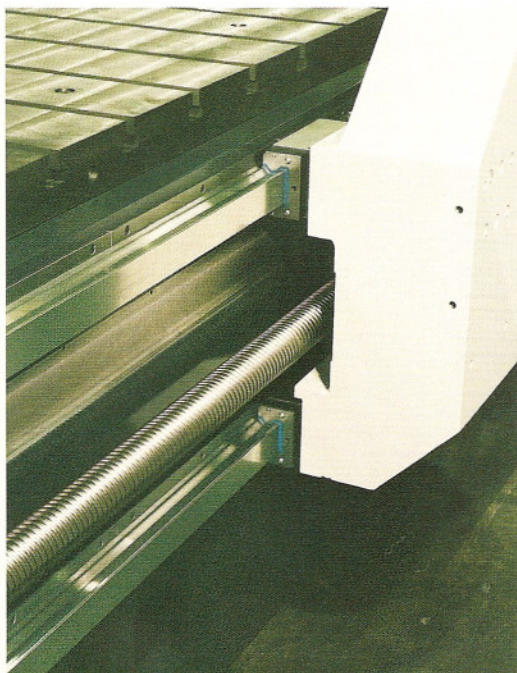
- Heavily ribbed, stress relieved, fabricated base and bridge
- Bridge design is FEA optimized for maximum stiffness
- Dual guideways on traveling bridge design maintain stiffness
  - Large diameter ball screws on all axes
  - Heavy cast iron ram saddle

## Built-in Accuracy

The Masco BridgeMax<sup>®</sup> Machining Center is designed to provide the best machining accuracies available on large, complex parts ...

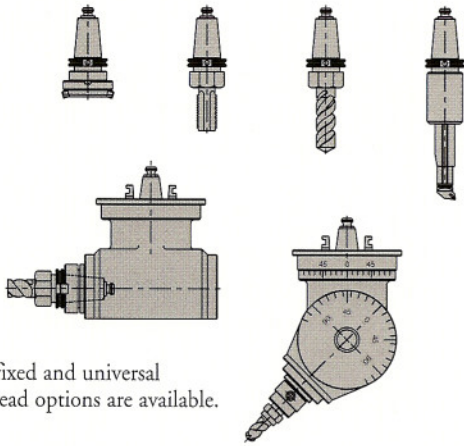
- Precision, pre-loaded roller ways on all axes
- Large diameter ball screws on all axes
- Linear scales on all axes
- Closed-loop feedback
- State-of-the-art control capability

All work together to provide machining accuracies (and turning, with the VTL configuration) to 0.0002" for every 39" (.005 mm/m) across the entire part.

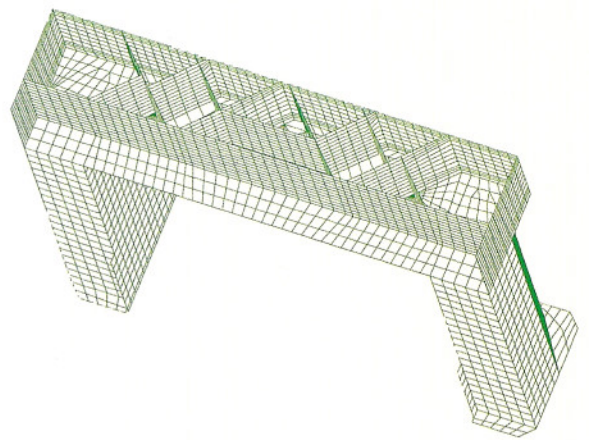


The traveling bridge design features two rails on each side of the machine bed for maximum stiffness and accuracy.

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A variety of fixed and universal right-angle head options are available.



## All Sides and Top, One Set-Up

The built-in flexibility and versatility of the Masco BridgeMax® Vertical Machining Centers result in more accurate parts time after time.

Why? Because with available configurations and options, the Masco BridgeMax® can machine *all sides and the top* of a workpiece, including turning, in a single set-up.

Because all operations are done on one machine, you won't lose your programmed reference points since there is no need to move the workpiece to another machine.

## Control Options

The Masco BridgeMax® Vertical Machining Center offers you a choice of state-of-the-art CNC controls ...

- GE Fanuc provides reliable performance, with available open architecture format for Microsoft Windows® interface.
- Indramat offers a PC-based control using the Windows® NT operating system and features an active-matrix flat panel color display.



Each control offers maximum precision and flexibility.

## High Speed Spindle

With the Masco BridgeMax® Vertical Machining Center, you have your choice of work spindles ...

- 4,500 RPM, 50 taper
- 10,000 RPM, 50 taper, integral motor
- 12,000 RPM, 40 taper, integral motor
- 24,000 RPM, HSK A-63, integral motor



The rigid design and smooth performance provide reliable, accurate cutting through all materials and workpiece configurations.

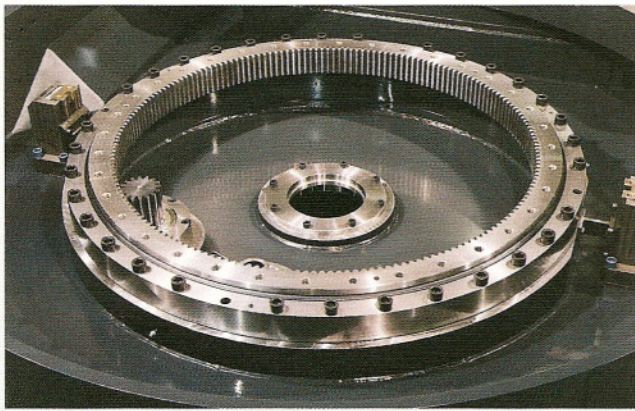
## Right-Angle Head Options

To handle horizontal machining operations, several right-angle heads are offered.

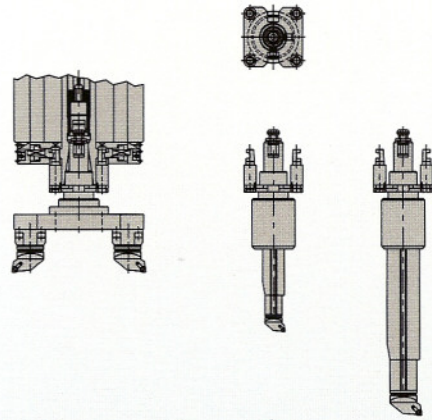


With this option, the Masco BridgeMax® becomes a fully capable horizontal machining center, holding all machine performance tolerances to your specifications.

Simply choose the configuration that suits your application's requirements.



Large cross roller bearing for highest precision and load-bearing. Masco dual wedge lock for rigid table clamping.



## Maximum Versatility in One Machine

With the Masco BridgeMax® VTL/VMC you get ...

- Outstanding rigidity and precision
- Machining all features of complex workpieces in one set-up including linear and rotary contouring
- Vertical turning
- One-time set-up for improved accuracy and throughput
- Capabilities tailored to your specific requirements

## Masco BridgeMax® A Natural VTL

The built-in rigidity and accuracy of the Masco BridgeMax® Vertical Machining Center are the same characteristics that make it an outstanding Vertical Turning Lathe.

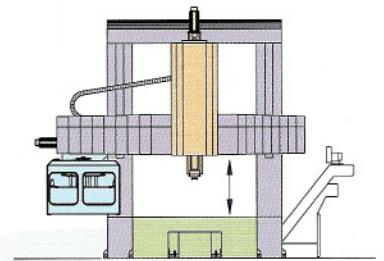
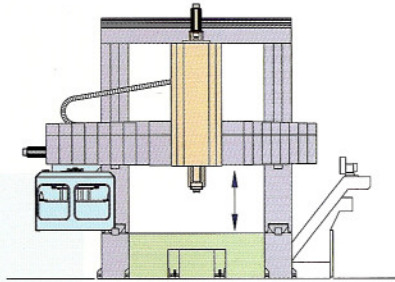
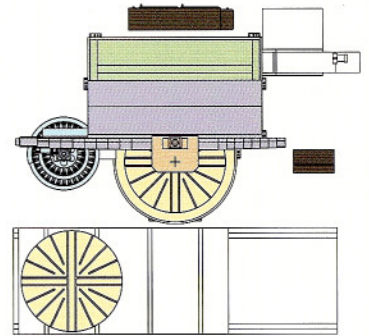
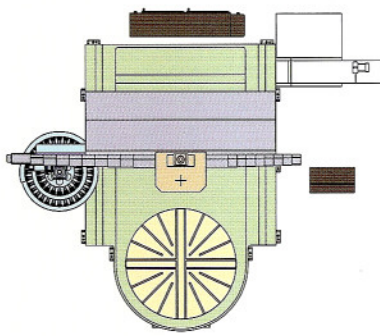
With the addition of a precise, programmable worktable, that's what the Masco BridgeMax® VTL is. This configuration is offered as a VTL/VMC or VTL without live tools.

With the Masco BridgeMax® VTL, you have a choice of five worktable diameters from 48" to 96" (1219 to 2438 mm). Power ranges from 35 to 100 HP, and maximum RPM from 100 to 400 RPM, depending on table size and load.

The Masco BridgeMax® is a versatile three-way performer that provides the productivity of three machines—Vertical Machining Center, Vertical Lathe, and Horizontal Machining Center—all in one machine. You produce better parts, in less time, using a smaller share of your valuable floor space.

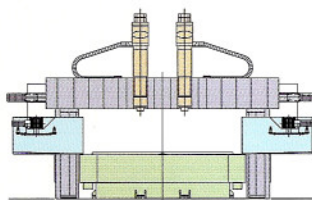
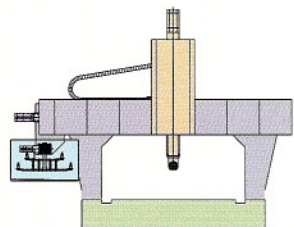
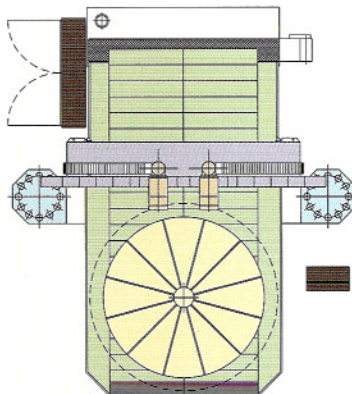
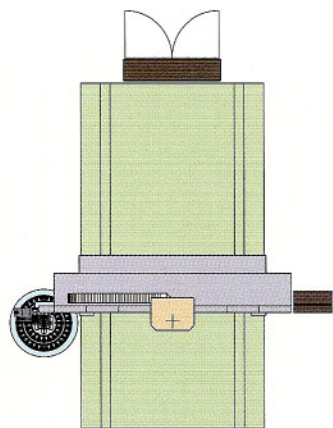


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# Masco BridgeMax<sup>®</sup> Vertical Machining Centers Made Your Way

You can select from a variety of bridge, bed, table, spindle and tool changer configurations to get the exact machine you need.



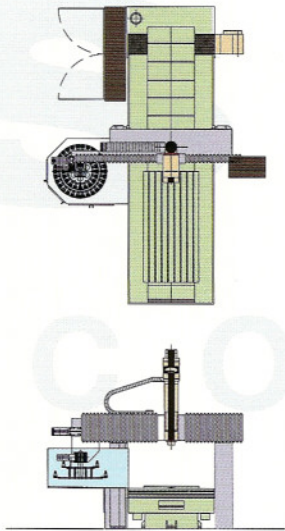
- Rigid bridge design can be extended to 108" (2743 mm) wide
- Traveling bridge configuration available
- Elevating bridge option available
- The bed can be extended to 240" (6096 mm) long
- VTL worktables come in five sizes—from 48" (1219 mm) to 96" (2438 mm) diameter
- Machines can be configured with two work spindles
- Choice of automatic tool changers—12 to 60 tool capacity
- Choice of controls: GE Fanuc or Indramat

With these selections, there are hundreds of ways to configure your Masco BridgeMax<sup>®</sup> Vertical Machining Center. Here are some ideas ...

# Specifications (standard)

X-Y-Z axis rapid traverse	800 in./min.	20 m/min.
X-Y axis thrust	4,000 lbs.	18,000 N
Z-axis thrust	5,700 lbs.	25,000 N
Load capacity on table	will vary with size of machine	
Spindle motor	40-60 HP	30 to 45 kW
X-Y-Z accuracies	to $\pm .00019 / 39$ in.	to $\pm .005$ mm/m
X-Y-Z repeatability	to $\pm .000098$ in.	to $\pm .0025$ mm
Programmable spindle speed (standard) - 1 RPM increments	50 - 4,500 RPM	
Spindle nose (standard)	50 CAT taper	
Spindle drive and servos (standard)	GE Fanuc	

## Options



- 10,000 RPM, 50 taper, 40 HP (30kW)
- 12,000 RPM, 40 taper, 20 HP (15kW)
- 24,000 RPM, HSK A-63 spindle nose, 53 HP (40kW)
- Variety of right-angle heads
- Programmable 4:1 gear reduction on 4,500 RPM spindle
- 12 to 60 tool capacity automatic tool changers
- 3, 4 or 5 axes
- Flood coolant, through-the-spindle coolant, high-pressure coolant
- Magnetic or drag-type chip conveyor
- Pallet system modules
- Variety of table sizes and shapes
- Renishaw probe with software for checking part geometry and monitoring reference points
- GE Fanuc or Indramat controls
- Infinite VTL table positioning including rotary encoder
- VTL table speed 100 RPM to 400 RPM (depending on table size and load)
- VTL table power 35 HP to 100 HP
- Variety of VTL table chucks and jaws

### Round tables (VTL/VMC combination or just VTL):

- 48" diameter
- 60" diameter
- 72" diameter
- 84" diameter
- 96" diameter

Note: Specifications and options subject to change without notice.

## Table Sizes

### 3 axis, fixed column machines

Y	X	48	60	72	84	96	108	132	144
48		•	•	•	•	•	•	•	•
60			•	•	•	•	•	•	•
72				•	•	•	•	•	•

### Traveling Bridge Machines

Y	X	96	108	120	132	144	156	168	180	192	204	216	228	240
48		•	•	•	•	•	•	•	•	•	•	•	•	•
60		•	•	•	•	•	•	•	•	•	•	•	•	•
72		•	•	•	•	•	•	•	•	•	•	•	•	•
84		•	•	•	•	•	•	•	•	•	•	•	•	•
96		•	•	•	•	•	•	•	•	•	•	•	•	•



### Masco Machine Inc.

5405 Avion Park Drive • Cleveland, OH 44143-1918 USA

Phone: (440) 461-1440 • Fax: (440) 461-7941

E-Mail: [masco@mascomachine.com](mailto:masco@mascomachine.com)

Web site: [www.mascomachine.com](http://www.mascomachine.com)