

PRODUCT REVIEW



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## CNC Single Spindle Modules

### BridgeMax™ Series Combination VTL/VMC



The versatile and affordable BridgeMax™ is a series of bridge-type CNC vertical machining centers. The BridgeMax™ is available as a three axis machining center or as a combination vertical turning lathe/vertical machining center. The turning option allows you to perform full CNC turning operations as well as high-precision vertical and horizontal milling, boring, contouring, drilling, tapping and threading operations on five sides. In addition, the rotary table enables you to position the workpiece to machine any face.

Spindle options include a standard 6,000 RPM 50 CAT taper spindle, 10,000 RPM 50 CAT taper spindle, 12,000 RPM 40 CAT taper spindle, 24,000 RPM HSK A-63 spindle and a universal combination vertical/horizontal spindle.

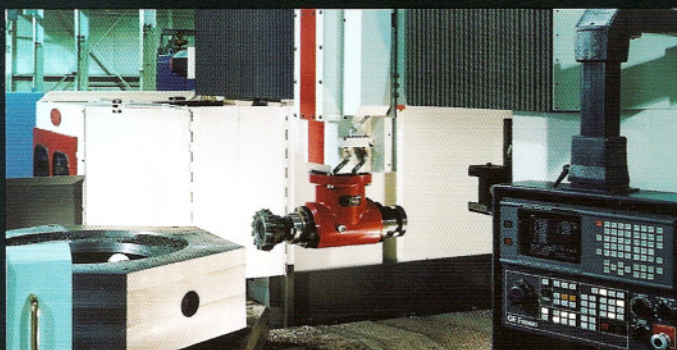
Standard table sizes range from 48" x 48" to 48" x 96" and load capacities range from 10,000 lbs. to 24,000 lbs. Custom sizes are also available.

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Masco-designed stationary turning tools and standard rotating tools can be stored and retrieved from the 30 or 50 tool capacity automatic tool changer.



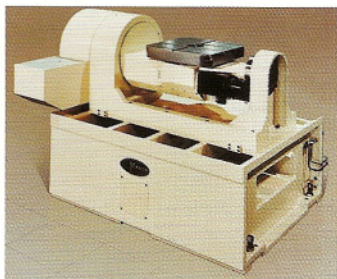
A right-angle machining head is available for performing horizontal cutting operations. GE Fanuc controls are standard. Other available controls include Allen-Bradley and Indramat.

## CNC Single Spindle Modules

### 3500 Series HMC



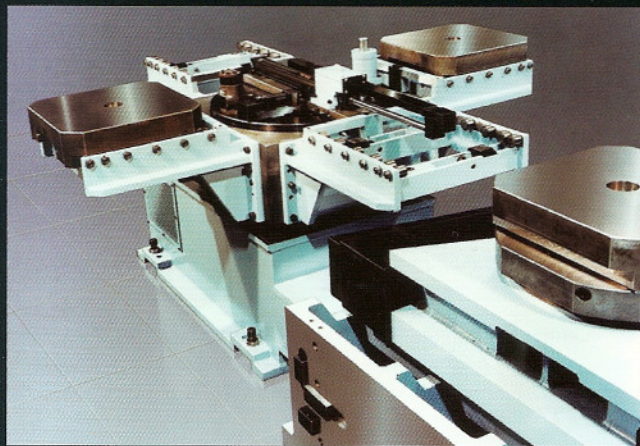
Heavy duty, 35 HP, traveling column four axis horizontal machining center module with fiber optic controls and combination ABS straight shank and 50 CAT taper spindle nose.



A- and B- axis modules are available on all of our machines and cells.



Tee-slotted index table modules or automatic pallet receiver modules are available with a one degree increment index or CNC contouring capability.



Four position pallet load/unload module.

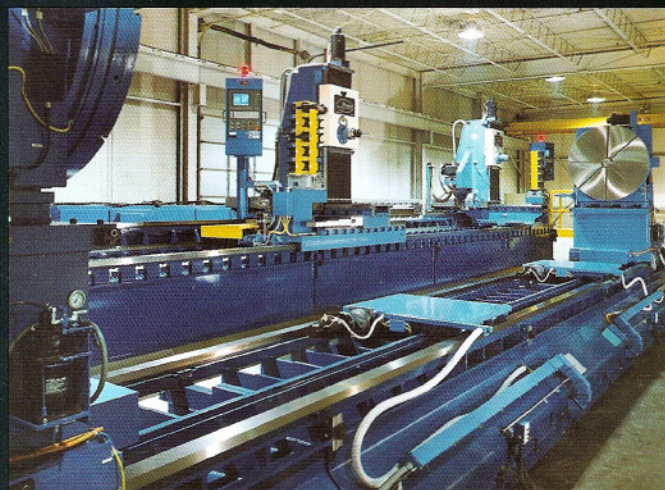
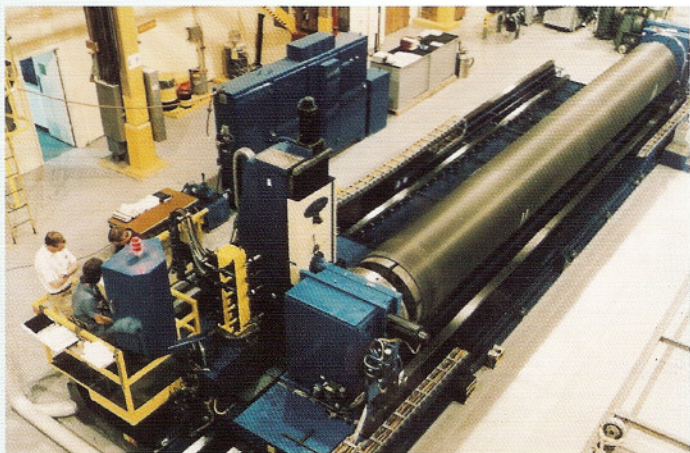
## CNC Custom Machining Centers

### *3500 Series HMC Module Applications*

To meet the unique need for precision machining of large parts, we have combined our deep understanding of machine tool building, sophisticated machining and advanced controls to meet the exacting specifications of the aerospace industry.

This Masco 3500 Series CNC Boring Machine was designed for workpieces measuring up to five feet in diameter, up to thirty-three feet in length and a weight of up to 4,000 pounds.

This system places one Masco 3500 Series three axis traveling column machining module parallel to the workpiece. Other equipment includes a rotating headstock with a synchronized rotating tailstock as well as an indexing "cube" type tool storage module.



This Masco 3500 Series CNC Boring Machine was designed for a workpiece measuring up to thirteen feet in diameter, up to thirty-five feet in length and a weight of up to 20,000 pounds.

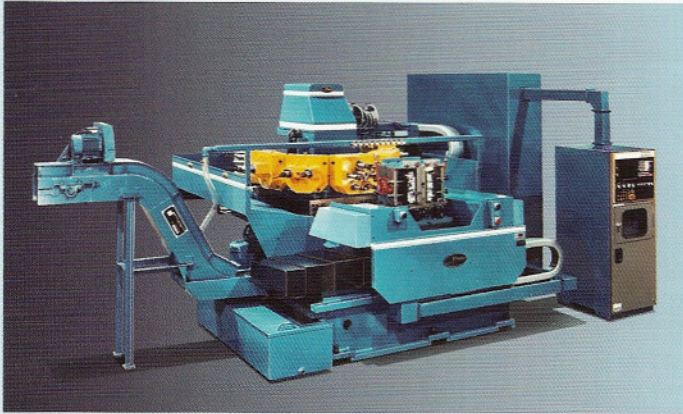
This system places two Masco 3500 Series three axis traveling column machining modules parallel to the workpiece. Other equipment includes a rotating headstock and synchronized rotating tailstock as well as two indexing "cube" type tool storage modules.

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# CNC Turret Modules

## Turret Machining Centers



Three axis CNC Turret Machining Center

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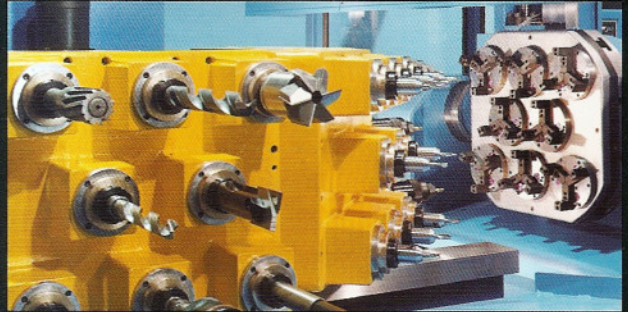
Four axis CNC Turret Machining Center

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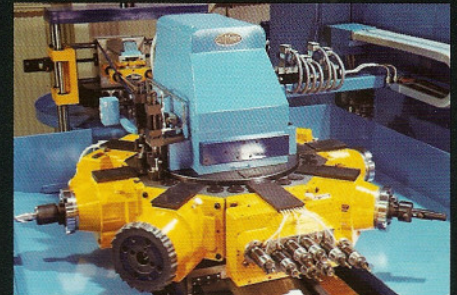


Five axis CNC Turret Machining Center



Five axis tooling package arranged to machine eight identical parts simultaneously. In this instance, the trunnion axis can be programmed to load and unload the eight air chucks in the horizontal plane and automatically rotate 90 degrees to present the workpieces to the machining spindles.

Eight position  
50 HP turret  
machining  
module

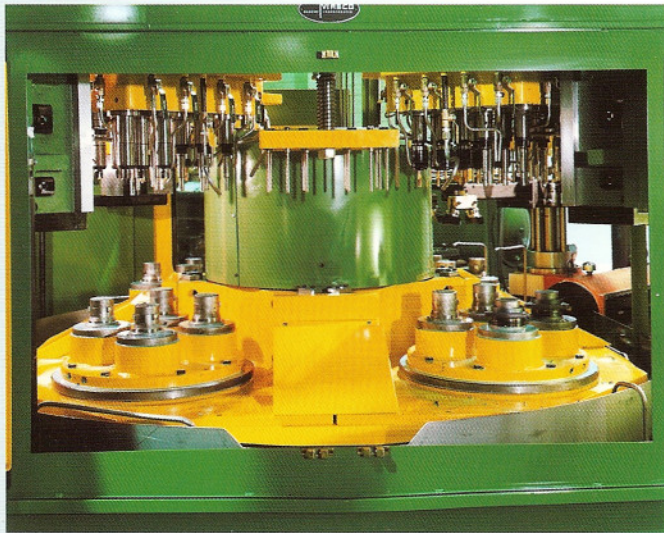


# Dial and FMS Systems

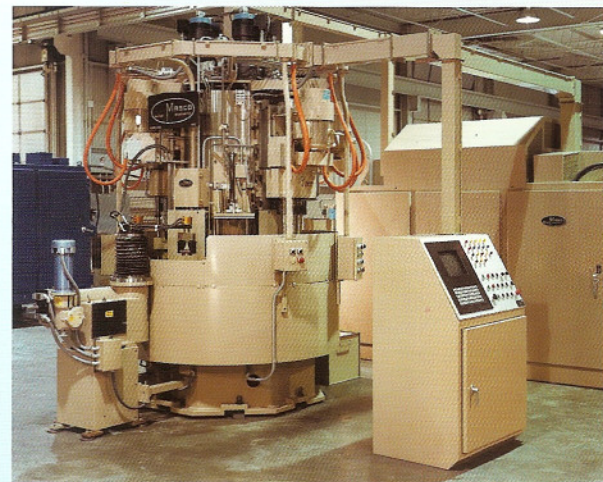
*Dial Index Machines*



The above machine is an automated ten station, center column, high precision dial machine. The machine is integrated with the customer's conveyor system and features automatic workpiece loading and unloading.



This four station high precision dial machine processes four parts at a time and includes automatic workpiece loading and unloading.



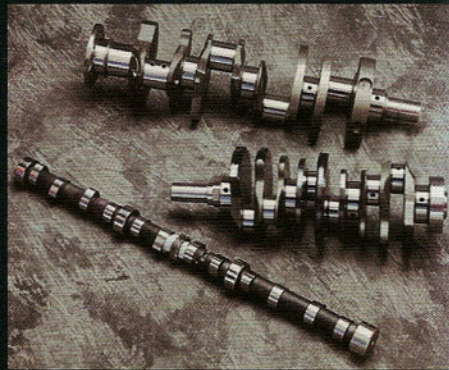
Below is an eight station, center column dial machine with automatic pick and place workpiece loading and unloading.

## Microfinishing Systems

### *The Workpieces*

Surface finish and part geometry tolerances are becoming tighter all the time. Our modular abrasive film microfinishing systems give you the ability to consistently achieve the most aggressive surface finish tolerances you are going to encounter.

We not only design our equipment to meet the most demanding part specifications, we also build it to handle the harsh shop floor environment, maximize reliability and maintainability, consider ergonomic and safety issues, be environmentally friendly, reduce unnecessary complexity and maximize value.



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This is a two station automated abrasive film microfinishing system for the flat lock-up surface (thrust face) on light truck torque converter covers. It features semi-finish and final-finish stations and a lift and carry part transfer system that is completely integrated with the customer's part handling system.

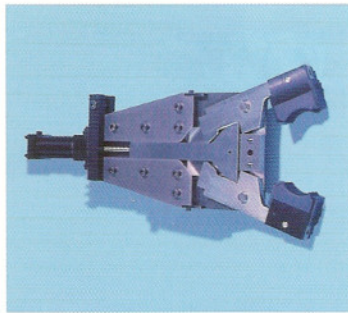
# Microfinishing Systems

Corporated *Microfinishing Components*

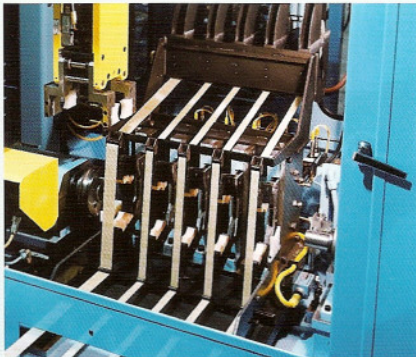
## Your products will last significantly longer

The Masco Microfinishing Process:

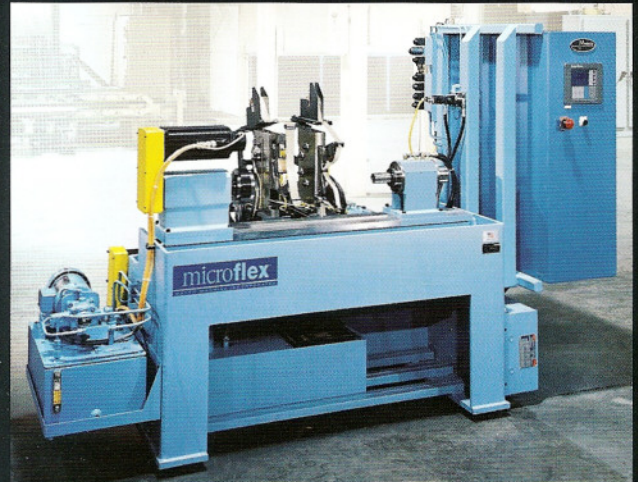
- Extends overall product life and reduces warranty costs attributed to part failure
- Reduces the level of friction between mating parts – parts run smoother which generates less damaging heat and wear
- Improves lubricant film effectiveness on microfinished parts
- Improves wear characteristics – parts last significantly longer
- Increases bearing load capacity and contributes to fewer bearing failures



Masco wedge-type microfinishing heads feature precise control of the cylinder to finishing shoe pressure.



Multiple microfinishing heads can be mounted on a slide saddle to process a number of individual surfaces at one time.



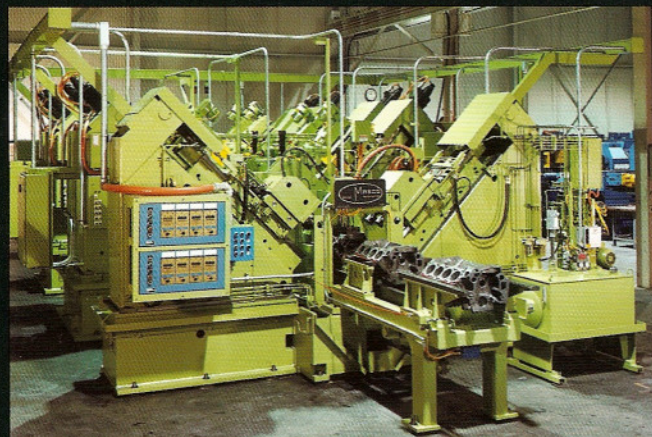
The Masco Microflex™ is a flexible and programmable microfinishing system ideal for low volume production, prototype work or touch-up. It can be programmed to microfinish a wide variety of shaft-type parts including crankshafts, camshafts and other cylindrical parts.

This vertical spindle machine is well suited for microfinishing small parts. Available configurations include manual or automatic part loading and unloading.



## Special Machines

Below is a linear palletized transfer system for automotive transmission components. It includes three turret modules, one single spindle unit, two probe stations and is convertible to handle a wide variety of parts.



The above in-line transfer system performs rough and finish boring operations on V8 cylinder bores. It also features automatic gage and cutter compensation.

## Statement of Quality

Quality must be much more than a statement or a motto. It must be a dynamic working philosophy which is exercised and established in reality. It is a solid foundation on which a company stakes its reputation. It is made possible through people with an attitude which looks to the bigger picture. Satisfying the customer is the beginning of quality; excelling beyond expectations is the essence of quality.

Masco Machine is committed to serving our customers as a competitive world leader to meet or exceed their stringent demands for the highest quality, reliable and maintainable machine tools. We do this by:

- working as partners with our customers and our suppliers
- continually improving and actively pursuing excellence in every facet of the business
- a passion to eliminate undue complexity and waste
- involvement of all of our employees through persistent teamwork and education
- effective use of statistical methods
- excelling beyond our internal and external customer expectations to ensure a dynamic, progressive posture within the world market.

*Our Mascommitment to Excellence!*