EM69ATC
Multi Purpose Vertical CNC Machining Center
with Automatic Tool Changer
Automatic Tool Changer
The 24 Space Automatic Tool Changer for CAT40 Taper can handle up to a 5.9" (150mm) diameter tool weighing 15.5 lbs (7kgs).

Spindle
Super hard finish resists wear for years of operation. 0-8,000 RPM Spindle Rotation with quick change CAT40 Taper.

Linear Roller Slideways
All Axes of the EM machines are supported on low friction Linear Roller Bearing Slideways allowing fast acceleration and precise positioning for more production and precision parts.

Chip Auger
Automatically removes chips from enclosure and deposits chips into disposal cart.

Massive Frame
Massive frame boasts full enclosure with sight panels in front and on sides of enclosure to view work area.

Large T-Slot Table
Allows operator to clamp or fixture a wide range of jobs quickly and easily.

Coolant Tank
Complete coolant system for tool lubrication during machining. 30 gallon (120 liter) capacity.

Windows Operating System
Rottler uses Windows Touch Screen Technology through 32" (813mm) touch panel. The Windows software has many advantages such as a common user reduces operator learning curve.

Touch Screen Control
INDUSTRY EXCLUSIVE
Two Operating Systems!
1: Rottler System for simple, fast and easy programming of common jobs such as boring, surfacing and line boring. Anyone can learn in a few hours!
2: Rottler PATH System for advanced CNC programming for making parts, engraving names, and much more.

Electronic Hand Wheel
Offers operator infinite control of machine movement in all axes for quick and easy setup. Also controls variable feed rate during automatic cycles.

Brushless Servo Motors with BISS Encoders
The EM69ATC has the latest technology servo motors with BISS encoders offering 100 times finer resolution compared to previous models. These new Servo motors give maximum torque and performance throughout the RPM range for improved accuracy and increased productivity. BISS encoders eliminate any limit switches and do not require homing at start up saving time and increasing reliability.

Direct Drive Ball Screws
Direct drive precision ball screws for faster rapid feed rates and accurate positioning eliminating backlash problems relating to belt drive systems.

Automatic Lubrication
For years of trouble free life and reduced wear.
**FULLY PROGRAMMABLE CYCLES**

Simple CNC control, PC based with Windows operating system.

Dimensions input through touch screen:
- Bore Centers, Exact Depth, Speed, Feed, etc.
- Bores complete bank in Automatic Cycle.
- Lower Bore Relief, off center boring for Honing Clearance.
- Surfacing Multiple Pass programmable for roughing and finishing can remove any amount of material in one automatic cycle. Enter desired deck height of block and the machine will cut to that height. No more guess work!
- Lifter Bore Machining - bore housings and bushings to exact final size.
- Automatic line bore cycle completes all main bearing housings to within .0002”.
- Face main line thrust bearing faces square to crankshaft centerline.
- Machine a radius for stroker crank connecting rod and bolt clearance.
- Rottler PATH CNC program allows G code programming and file transfer with CAD/CAM programs.

**ROTTLER EXCLUSIVE TOUCH SCREEN PROGRAMMING**

**BLUEPRINT**
Type locations from blueprint into machine.

**INDICATE**
Older blocks that may not clean-up by blueprinting. Center bore and touch set button.

**VERTICAL STOPS**
Allows operator to set machine to begin/stop boring. Operator can also offset bore at bottom of cylinder to clearance main web for cylinder honing.

**PROBE**
Machine will probe all eight bores and set centers for boring. Once finished touch “Start Auto Cycle” to begin boring.

**ROTTLER PATH**
Rottler PATH software offers even more versatility, for machining parts, combustion chambers on cylinder heads, etc.
Crankshaft and Camshaft Centerline Fixture

All engine block machining should be done with reference to the Crankshaft or Camshaft Centerlines. It is not accurate to set up blocks on their pan rail or end faces! When any main line boring work is to be done, this should be completed before any other machine work is done to the block. The Rottler 4th Axis quick load/unload fixture utilizes precision locators to set up blocks accurately and quickly on their crankshaft centerline. Some customers like to set up on Camshaft Centerline for machining lifter bores and this can also be done on the Rottler 4th Axis Fixture.

Automatic 4th Axis Block Roll Over Fixture

Rottler’s Universal quick load/unload Automatic 4th Axis Block Roll Over Fixture and Software allows the computer to rotate the block or cylinder head during the automatic machining cycle. Large V blocks can be rotated 360 degrees to allow special machining jobs such as stroker clearing in the same setup as boring, surfacing and lifter bore machining. The tail stock is pneumatically operated allowing easy and fast loading and unloading of heavy blocks.

Cylinder Head Surfacing

Leveling Table

Rottler’s patented dual axis leveling table and universal quick clamping system for surfacing/milling heads, blocks and manifolds with CBN and PCD tooling. The Rottler Dual Axis Leveling Table allows clamping of the head to be completed first, then the level adjusted in both directions simply by rotating the two hand wheels. Combined with Rottler’s Dual Axis Level, any job can be clamped and leveled in seconds! This process results in minimal stock removal when surfacing.

Dual Axis Level

Displays both axes simultaneously allowing quick leveling, eliminating any need for shimming and resulting in minimum metal removal when surfacing heads. Leveling table can be set up on parallels allowing heads to be surfaced on EM69ATC without moving the 4th Axis Fixture.

CNC Lightening

Lightening parts such as blocks and main caps requires simultaneous movement of 4th axis for complete lightening programs. The EM69ATC is able to complete advanced block lightening for maximum weight reduction.

Main Cap Conversions and Line Boring

All operations for installation of splayed main caps including milling, drilling, tapping can be done in one automatic cycle with the 4th Axis Fixtured. After the studs and main caps are fitted, line boring is done with Rottler exclusive Right Angle Drive and Line Bore Pivot Table. No line honing is required.

Overhead Camshaft Fixture

Special Fixture allows overhead camshaft engine in-line and V blocks to be machined with the Rottler 4th Axis Automatic Roll Over Fixture.

Wireless Radio Probing

Computer controlled wireless probe automatically finds cylinder bore centers and at the same time measures bore diameters. The difference between the drawing blueprint and the probed dimensions can be displayed by touching one button. The deck (head gasket face) can be probed to check flatness and squareness to ensure accuracy and minimum metal removal when surfacing.

Upper and Lower Centering

With the use of a radio probe, the upper and lower areas of a cylinder bore can be probed to check concentricity and perpendicularity to ensure that the block is setup correctly before machining.
Flycutters and Milling Heads
Surfacing with the EM69ATC machine can be done during the same set up as boring. 10” (250mm) flycutter can be used with CBN/PCD inserts for high speed dry surfacing giving excellent surface finish results. The deck of a large block such as a V12 can be surfaced in less than 10 minutes. Multi Teeth Milling Heads can be used for milling welded and spray built up surfaces. Small diameter milling heads are ideal for facing main bearing housing contact surfaces in preparation for line boring to standard diameter. Special Surfacing Software allows very wide surfaces up to about 26” (660mm) to be surfaced. 

Boring Cutterheads
Rottler manufactures a complete range of CAT40 quick change boring cutterheads for boring and sleeving operations from .750” (19mm) to 5” (127mm). The air assisted CAT40 quick change retention system minimizes down time between tooling changes. Cutterheads can be changed in seconds!

Lifter Bore Tooling
Single point Lifter Tooling fixture for boring, facing and finishing lifter bores and bushings. Special tooling and software is available to install lifter bushes automatically.

Octagonal Cutting Inserts
New Octagonal 16 Cutting Corner Surfacing Inserts have increased corner radius to allow faster feed rates and finer surface finish.

PCD Tipped Insert for Boring Aluminum
PCD cutting corner allows aluminum to be bored at high speed without any coolant.
Line Bore Pivot Table

The Rottler Line Bore Pivot Table is a fast and easy system to set up blocks and heads for line boring. The table has five T-slots which allow setup of locating devices such as V-crades. The pivot table is preloaded which allows machining without clamping. This fixture is used for main and camshaft line boring. It can also be used for jobs such as roller bearing conversions, stroker crankshaft clearancing and machining registers for new main caps and four bolt conversions.

Rottler’s slim line extended right angle drive can line bore both main and camshaft tunnel in one set up for blocks such as Cummins 5.9.

Precision Line Boring with Right Angle Drive

Precision Line Boring with Rottler’s exclusive 90 degree right angle drive provides perfectly round bores and straight lines, no honing necessary! Hard steel main caps and aluminum blocks can be line bored to final size in one process – no honing necessary! Crankshaft to camshaft centerline is accurately controlled – honing can cause centerline to deviate away from the steel main caps.

CNC offers the real, tangible benefits of accuracy and repeatability, meaning your rebuilding machining operations will be precise, each and every time. But Rottler's CNC machines and our unique CAD/CAM software not only ensure your block and head machining operations are on the money, but give you the ability to create a whole new reality.

Can’t find the parts you need for that one-off project? Make them yourself! We find that more and more customers - after researching the real-world adequacy of top-of-the-line industrial CNC machines - have recognized the parts manufacturing capabilities built into Rottler’s state of the industry machines. Many of Rottler’s machines can easily be programmed to custom-create the parts you need, when you need them.

What are our customers making in their own shops?

• Custom Tools and Fittings · Carburetor Spacers
• Suspension Components · Connecting Rods
• Bushings · Custom Intake and Exhaust Manifolds
• Non-Standard Blocks and Cylinder Heads · Industrial Components

Rottler offers cutting edge internet support direct from your machine to the factory. Skype® and a webcam are installed for video conferencing and internet support. This feature gives you instant, direct contact with Rottler right on the machine without even making a phone call. The standard webcam comes pre-installed so that Rottler Technicians can see exactly what you are seeing, this saves a tremendous amount of time when trying to answer questions. Shop busy or too noisy for talking? The pre-installed Skype application gives you instant messaging capabilities with Rottler Technicians.
**SPECIFICATIONS**

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<th>METRIC</th>
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<td>Table Dimensions</td>
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Specifications and design subject to change without notice.

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