# GREAT TOOL ROOM CNC

From the moment you power up your MILL*PWR* system, you'll know it was built with convenience in mind. From the exceptional clarity of a large, full-color LCD display screen to the added advantage of full 3-D contouring capabilities, essential functions are only a key stroke away. Let MILL*PWR* maximize your productivity and increase your profitability.
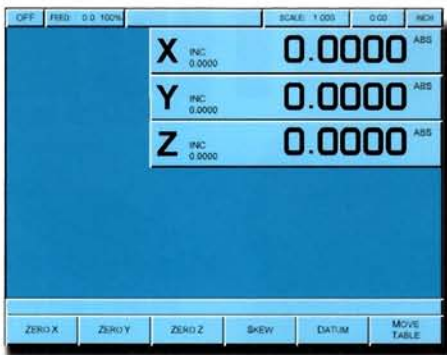
## Increased Productivity
### MILL MORE EFFICIENTLY AND EFFECTIVELY

- **Bolthole Calculations**
  Calculate bolthole patterns instantly.
  - Full & Partial Circles
  - Linear Row/Column
  - Rectangular Frame
  - Rectangular Array

- **Tool Offsets**
  Enter the tool's diameter and length, and MILL*PWR* will automatically compensate for the tool's dimensions while machining. This allows you to program the part instead of the tool path.

- **Tool Library**
  Create a list of frequently used tools to save time while programming a part.

- **DXF File Input**
  Reduce programming time by loading part geometry from a CAD file.

- **3-D Contouring**
  Ability to import and run G-code files from CAD/CAM programs.

- **Multiple Scale Coupling**
  Couple the movement of two parallel axes (i.e. the quill and knee) and never lose track of your Z-axis part zero again.

- **Merge**
  Merge one program with another to significantly reduce programming time.

- **Mirror/Repeat/Rotate**
  Easily manipulate part programs to save time and reduce program steps.

- **Contour**
  Create a continuous contour and add finishing passes with approach and departure moves to avoid tool marks.

- **Centerline**
  Reduce setup time and math errors - let MILL*PWR* calculate the centerline between two or more points.

- **Custom Pocket**
  Program a continuous closed contour that has an irregular shape for multiple passes.

- **Island/bosses**
  Create raised features on any part.

- **Chamfer Capability**
  Program chamfers quickly - without calculating endpoints.

- **Ellipse**
  Easily programmed by height and widths.

- **Spiral**
  Program spirals with various sizes and sweep angles.

- **Comment Step**
  Add text message into any program.

- **Jog Control**
  Move quickly from one location to another - using one axis at a time or any two axes simultaneously.

- **Table Limits**
  Easily programmable to suit your job requirements.

- **Remote Stop/Go Switch**
  Start and stop movement with a hand-held switch.

## Ease of Use
### CONVENIENT, USER-FRIENDLY AND MULTI-FACETED.
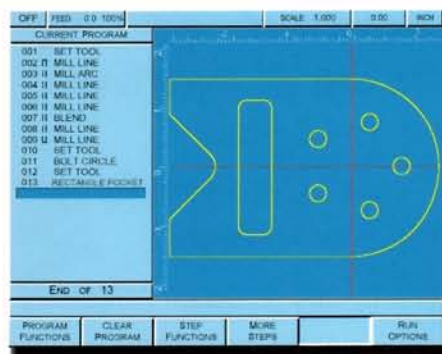
- **Display**
  Vivid, color, 10" flat panel, LCD display to view immediate graphic feedback.

- **Keypad**
  3-D, Tactile-feel, Color to locate specific functions, adjust feed rates on the fly and start and stop quickly and easily.

- **Menu-prompted Conversational programming**
  Easily create part programs, edit, reverse, change, delete and copy/move steps - follow the menu prompts and let MILL*PWR* do the rest.

- **Hard Key Milling Functions**
  Select routine milling functions (lines, arcs, rectangles, circles, etc.) with the press of a button.

- **Info Button**
  Built in help screens for content specific jobs.

### Built-In Calculator
Perform standard, trig, and geometry calculations and transfer them directly into part programs. Calculate RPM values simply by entering the tool diameter and the surface speed that you want to operate at.

### Single-Step Milling Functions
Quickly perform simple functions such as facing, framing (circular or rectangular), drilling (positions, hole patterns) and grooves without having to program.

### Reference Tables
Look up drill/tap sizes and surface speeds in seconds.

### Part Program Storage
Large internal part program storage capacity for convenient access anytime. Part programs can also be saved on a floppy disk or through remote storage on a computer.

### Feed Rate Override
Adjust the feed rate without exiting the milling function or program.

### Engrave
For engraving alphanumeric characters vertically, horizontally, diagonally or along an arc.

### Blend
Insert a radius between two lines, two arcs, or a line and an arc.

### Spindle Control Message
Displays a message to prompt operator to turn spindle on/off and set forward/reverse.

## Versatility
### MILL AND PROGRAM SIMULTANEOUSLY

### 2- or 3-axes Control/3-axes Readout
Significantly improves efficiency, productivity and profitability; may be used automatically or manually.

### Disconnect Capability
Switch between 2-axis and 3-axis machining on the fly. The Z-axis servo drive unit quickly disconnects from the quill.

### AMI
Control coolant pumps, oilers, misters and rotary index heads.

### Teach Position
Use a tool, electronic edge finder or indicator to create a program from an existing part.

## Built Shop Tough
Every MILL*PWR* system includes components that have been tested and manufactured to withstand the harshest machine shop elements.

- Ground hardened ball screws
- Heavy duty DC servo motors
- Sturdy operator features
- Die-cast metal enclosures
- Conformal coated reading heads
- Sealed keypad
- Recessed interlocking lipseals
- Vinyl coated cables

## Flexibility/Reduced Setup Time
### ELIMINATE REPETITIVE AND TEDIOUS SETUPS

### Immediate Part-View Graphics
MILL*PWR* shows you the program as you create it. Seeing the program as it develops makes it easy to correct trouble spots before you machine.

### Position-Trac™/Find Home
Easily, quickly and accurately reestablish workpiece zero after power loss or next morning start-up.

### Skew Feature
MILL*PWR* compensates for the angle offset and helps reduce set up time if parts are clamped to table.

### Explode
"Explode" a program step into several, more detailed steps for easier editing.

### Edit Capabilities
Edit program steps in groups or one at a time.

### Job Clock
Keep track of run times, monitor throughput-even estimate how long a job will take.

## ACCURACY and Workpiece Quality
### THE REAL SOLUTION!

### ACU-RITE PRECISION GLASS SCALES

Depend on precision glass scales for:

- Better Accuracy
- Repeatability
- High Resolution (2um/.0001")
- Fast Slew Speeds (40 inches per second)
- Closed Loop Feedback
- Elimination of Backlash Compensation
- Advanced Technology (Position-Trac™)
- Proven Reliability
- Certified Calibration

# MILLPWR®  —  ACER® E-MILL®

## 2-axes or 3-axes Control/ 3-axes Readout System

**BALDOR SUPER E Motor with Fan Cooling System that Dissipates Heat Efficiently**

**U.S. Electronics**

**Extra Oilers to Lubricate the High-Low Moving Device and to Oil the Quill**
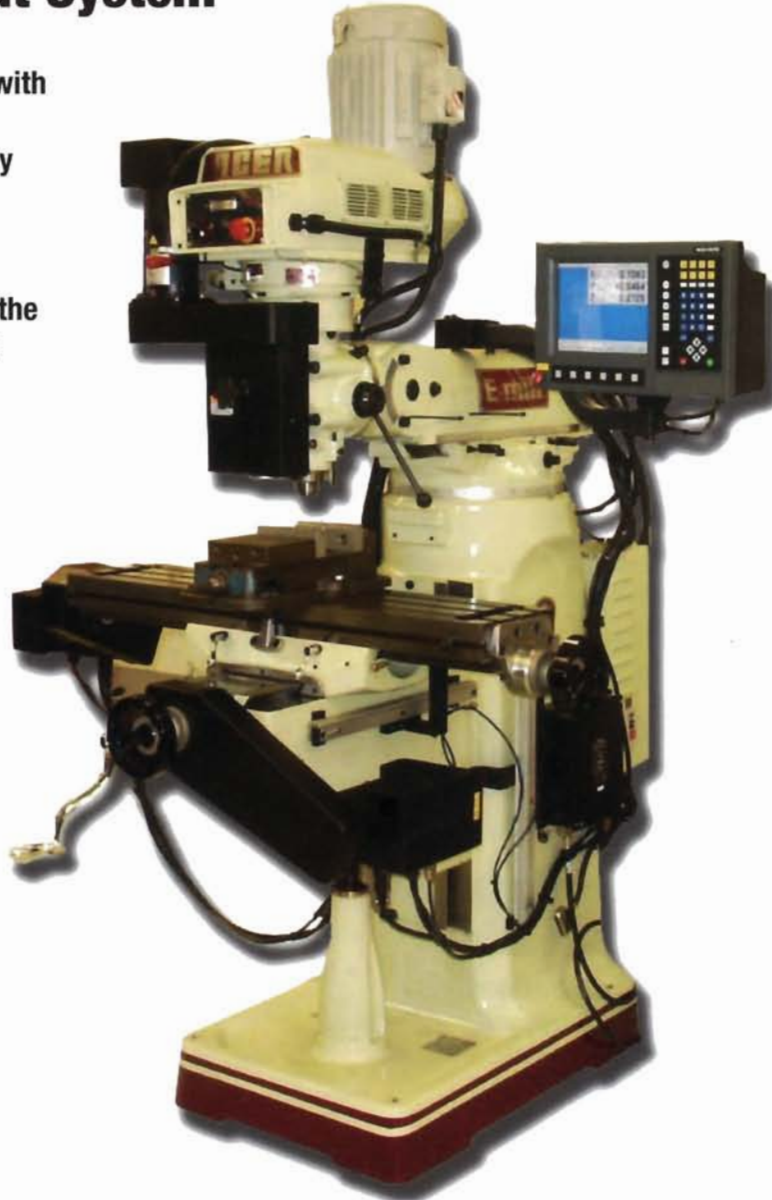
**One Piece Quill Pinion & Shaft**

**Precision Ground Ways**

**Precision Ground & Hardened Ballscrews**

**Motor & Drive System**

**Precision Ground Guide Line to .0002"**

**Turcite-B Coated Saddle Ways**

**Grease Fitting for Lubricating Bull Gear**

**MILLPWR Operator Console**

**Hand Scraped Turret-Column Ways**

**X, Y & Knee Axes are Hardened & Ground to HRC 52 degree**

**MILLPWR Controller Cabinet**

**Hardened & Ground Table Top to HRC 52 degree**

**ACU-RITE Precision Glass Scale Linear Encoders**

**Licensed Meehanite Casting**

**Dish-in Coolant Base**

## Specifications

| | Item | E-mill 3VS | E-mill 3VK | E-mill 3VKH | E-mill 5VK | Bed-mill 1454 |
|---|---|---|---|---|---|---|
| table | Working Surface | 9" x 42"  9" x 49" | 10" x 50" | 10" x 50"  10" x 54" | 10" x 50"  10"x 54" | 14" x 54" |
| | Longitudinal Travel | 24"       28" | 28" | 27"       31" | 27"       31" | 40" |
| | Cross Travel | 11 1/2" | 14 1/2" | 15" | 15" | 24" |
| | Vertical Knee Travel | 16" | 16" | 19" | 19" | 28" |
| | Ram Travel | 12" | 20" | 20" | 20" | - |
| | T-slot#, size | 3, 5/8" | 3, 5/8" | 3, 5/8" | 3, 5/8" | 3, 5/8" |
| head | Main motor | 3HP | 3HP | 3HP | 5HP | 5HP |
| | Head moves rt. to left | 90 degrees | 90 degrees | 90 degrees | 90 degrees | 90 degrees |
| | Head tilts ft. to back | 45 degrees | 45 degrees | 45 degrees | - | - |
| spindle | Spindle speed | 60 - 4500 | 60 - 4500 | 60 - 4500 | 50 - 3750 | 50 - 3750 |
| | Spindle taper | R-8/N.T. 30 | R-8/N.T. 30 | R-8/N.T. 30 | N.S.T. #40 | N.S.T. #40 |
| | Power quill feeds | 0.0015", 0.003", 0.006" | 0.0015", 0.003", 0.006" | 0.0015", 0.003", 0.006" | 0.0015", 0.003", 0.006" | 0.0015", 0.003" |
| quill | Quill diameter(chromed) | 3-3/8" | 3-3/8" | 3-3/8" | 4" | 4" |
| | Quill travel | 4 1/4" | 4 1/4" | 4 1/4" | 4 1/4" | 5" |
| | Weight approximated | 2630 lbs. 2680 lbs. | 3300 lbs. | 3550 lbs.  3700 lbs. | 3750 lbs.  3900 lbs. | 7800 lbs. |
| | Floor space (LxWxH) | 87"x62"x90" | 96"x72"x92" | 96"x72"x96" | 96"x72"x96" | 100"x74"x110" |