

RETRO SYSTEMS

Mini **HORNET**

CNC Plasma & Oxy-fuel Profile Cutting



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MINI HORNET

The **MINI HORNET** is the most full featured medium duty CNC profile cutting machine available today. The **MINI HORNET** delivers 60" x 120" (1.52m x 3.04m) precision CNC profile production plasma cutting to 1" (25mm) and oxy-fuel cutting to 2" (50mm). Powerful (3) axis AC Servo drives, the easy-to-use Hypertherm **MicroEDGE™** CNC control, Premium components and Rigid steel construction ensure consistent highly accurate profile cut parts.

The **MINI HORNET** is the right choice whether you're a job shop, maintenance shop, ornamental iron shop or even a technical school. If you're looking for your first CNC cutting machine or need to increase your cutting production - the **MINI HORNET** - is right for you.

PLASMA & OXY-FUEL CUTTING

The **MINI HORNET** may be configured with (2) cutting processes - (1) conventional plasma torch and (1) oxy-fuel torch. Hypertherm® Powermax™ systems are an excellent choice when medium duty conventional plasma cutting is required. If extended consumable life and oxygen plasma cutting are needed, the Hypertherm® HySpeed™ HSD130 (130A) plasma system is recommended. **Performance**

HEAVY DUTY BEAM AND FRAME DESIGN

Reinforced steel box beam and Dual Hardened Vee Ways ensure ultra smooth motion of the cross axis tool carriage. The machine frame end trucks ride on Triple Machined Tongue & Grooved steel rails attached to support brackets on the sides of the integrated air table frame. A full width heat shield under the gantry bridge is standard on all Retro Systems machines. **Performance**

POWERFUL (3) AXIS AC SERVO DRIVE SYSTEM

Machine motion is powered by two 600 Watt (.8 hp) AC servo motors directly coupled to precision 5 arc minute planetary gearboxes to attain 1,000 IPM (25.4m/min) Contouring speeds and 1,400 IPM (35.5m/min) Rapid Traverse speeds. The plasma lifter is driven by a third 250 watt (.33 hp) AC servo motor to attain vertical positioning speed of 600 IPM. **Productivity**

INTEGRATED DOWN DRAFT AIR TABLE

The **MINI HORNET** machine frame includes an integrated air table that is normally connected to a cartridge style dust collector. Select either the standard single zone or the optional four zone design. The four zone design improves air system efficiency by directing exhaust air flow through the zone where the torch is cutting. The CNC control signals the appropriate damper door to open based on machine position along the rails. Removable heavy steel cover plates protect moving parts from slag and heat. **Performance**

HYPERTHERM® AUTOMATION CNC CONTROLS

Retro Systems exclusively uses Hypertherm® CNC controls from the world leader in plasma cutting automation. Windows® XP open architecture design, hardened industrial enclosures and user-friendly easy-to-learn **Phoenix®** software make Hypertherm® controls the best in the business. With unparalleled ease of use, the Phoenix screens prompt the operator to select material type, material thickness, cutting amperage and gas selection from the CUT CHART screen. Process Parameter tables within the **Phoenix** software set and control all plasma cutting process, torch height control and motion control variables to deliver **Total System Integration. Performance**

NESTING, CNC FILE CREATION AND LOADING FILES

The Phoenix CNC control software includes an onboard DXF file import function as well as basic nesting capability. Retro Systems also offers a full range of powerful CAM software to nest your CAD drawings and prepare CNC machine code files. Our CAM software may be used on a computer in your office, at the **MINI HORNET** or both. CNC files prepared in your office may be downloaded directly to the CNC control across your network or hand carried to the CNC control on a USB memory stick or floppy diskette. **Productivity**

FAST & EASY INSTALLATION

Unutilized design means set up is complete in just a few hours. A few components are bolted on, a few cables connected and you're ready to start cutting parts.

MicroEDGE™ CNC CONTROL CONSOLE

- Industrial Control Enclosure
- Phoenix Control Software
- 15" (380mm) LCD Touch Screen
- Flush Mounted Industrial Keyboard
- E-Stop, Plasma ON/OFF, Plasma UP/DOWN
- Oxy-fuel operator controls (optional)
- Dust Collector ON/OFF (optional)



HEAVY DUTY DESIGN

- Integrated Down Draft Air Table
- 3/16" Steel Construction

TOOL CARRIAGE

- (1) Plasma torch lifter station (included)
- Pneumatic Plasma Torch Collision Mount
- (1) Oxy-fuel torch lifter station (not pictured, optional)



HEAVY DUTY DESIGN

- AC Servo Motors
- Planetary Gear Heads
- Enclosed Power Track for Cables
- Large Sheet Metal Rear Deck
- Machined Motor Mounts
- Triple Machined Tongue & Grooved Rail



PLASMA SETUP SCREEN

Selection of Material Type, Thickness and Process Amperage from the CUT CHART SCREEN sets and controls the CUTTING SPEED, PIERCE HEIGHT, PIERCE TIME, CUT HEIGHT and CUTTING VOLTAGE during each cut to produce repeatable profile parts.



CONSUMABLES SCREEN

Displays part numbers and images for the correct plasma consumables based on the selections made in the CUT CHART SCREEN. It even tracks consumable parts life.



SHAPE LIBRARY SCREEN

Create customized parts based on the 68 shapes in the library or download CNC files using a USB Memory stick or over your office network using the standard RJ45 network connection.



DXF IMPORT & NESTING

Custom parts drawn in CAD may be imported directly into the MicroEDGE™ CNC control with a built-in On-Screen DXF file to NC converter. But that's not all... MicroEDGE™ even includes a Basic nesting program.

CUTTING AREA, RAILS AND CABLE CARRIERS:

- 60" x 120" (1.52m x 3.04m) Effective Cutting Area
- All Steel Frame Construction
- Triple Machined "T" Style Main Rail
- Enclosed Flexible Cable Carriers for All Cables and Hoses
- Steel Support Trays for Cables and Supply Hoses

INTEGRATED DOWN DRAFT AIR TABLE:

- 3/16" (5mm) Steel Construction
- 11ga Slats on 2" Centers - **INCLUDED**
- Single Zone Table with Center Air Tube - **STANDARD**
- Center Slotted Exhaust Tube
- 10" (254mm) Diameter Exhaust Connection on Rear of Table
- Four Zone Table with Damper Doors for each Zone - **OPTIONAL**
- (4) 30" (762mm) x 60" (1,524mm) Zones with Air Cylinder Actuated Doors
- CNC Opens/Closes Damper Doors Based on Machine Position on Rails
- 8" (200mm) Diameter Exhaust Connection on Rear of Table

THREE AXIS AC SERVO DRIVE PACKAGE:

- (2) 600 Watt (.8 hp) AC Servo Drives - Main Rail, Cross Axis
- (1) 250 Watt AC Servo Drive - Z axis (Plasma Torch Lifter)
- 1,400 IPM (35.5m/min) Rapid Traverse Speed / 1,000 IPM (25.4m/min) Contouring
- 5 Arc Minute Planetary Gear heads directly coupled to motors
- 2.5" Pinion Gears (64mm)

CNC CONTROL & OPERATOR CONTROL CONSOLE:

- 15" (380mm) LCD Touch-Screen Monitor
- Sealed Washable Industrial keyboard (optical sensing design)
- E-STOP button
- Oxy-fuel Operator Control Panel - **OPTIONAL**
- Dust Collector Start/Stop Buttons - **OPTIONAL**
- Hypertherm® CNC Control with Phoenix® CNC Profile Cutting Software
 - MicroSoft® Windows® XP® - Embedded Version
 - (3) Axis control
 - Intel 2.4 GHz or greater, 512 Megabytes RAM
 - 60.0 Gigabyte Hard Drive or greater
 - PS2 Keyboard & Mouse Ports
 - On-board RJ-45 10/100 Base-T Ethernet port
 - (5) 2.0 USB, (1) RJ-45 Network, (2) Serial-9 Pin
 - Machine side Opto-Isolation: grounding
 - 115 VAC Single Phase Input Power
 - Integrated SENSOR Torch Height Control Interface

HYPERTHERM® PHOENIX CNC CONTROL SOFTWARE:

- Conversion of DXF Format CAD Files into Machine Code - **INCLUDED**
- Basic On-Screen Nesting - **INCLUDED**
- Shape library with 68 Customizable Shapes
- Shape Wizard Enables On-Screen Machine Code Editing
- Integrated SENSOR Torch Height Control Interface
- Dynamic Kerf Compensation
- "One Button" Homing
- Return to Previously Interrupted Cutting Job
- Move to Exact Pierce Point in Nest
- Move forward or backward on path
- (10) Customizable Watch Windows for Speed, Position, Consumable Life, Process Data, and Status Messages

SENSOR PLASMA TORCH HEIGHT CONTROL:

- On-Screen Interface through TOUCH Screen
- Pierce height, Pierce time, Cutting height, Cutting voltage, Retract height after cut
- Pierce Height Sensing using Ohmic or Position Error Stall Detection
- Maintains Torch to Plate Height During Cut Via Voltage Regulation
- 8" (200mm) Lifter Stroke Travel for Torch Positioning
- 50-210 VDC Arc Voltage Range in 1 volt increments
- 600 IPM (15.2m/min) Vertical Positioning Speed
- Pneumatic Plasma Torch Collision Mount with input to CNC control which stops plasma cutting and motion

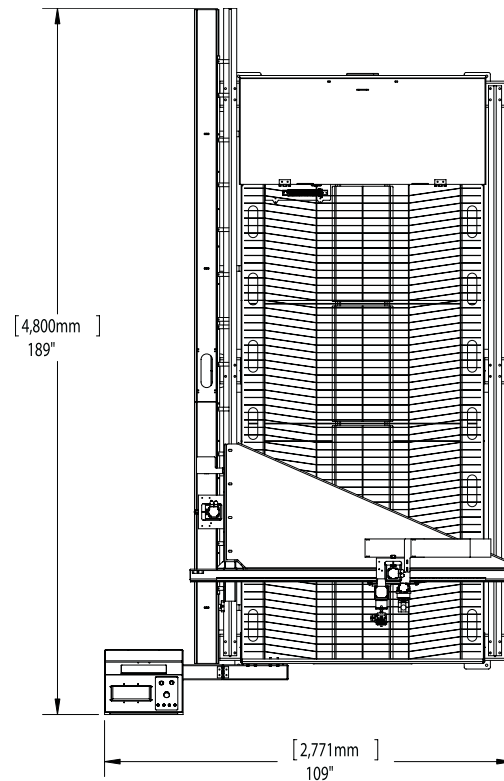
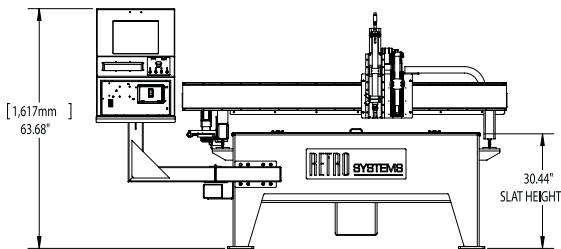
OPTIONS:

- (1) Plasma Systems with 40A to 150 Amp Output
- (1) Motorized Oxy-fuel Torch Station with Gas Manifold
- (4) Zone Air Table with Damper Doors

Precision Productivity Performance



CNC Plasma & Oxy-fuel Profile Cutting



MACHINE SPECIFICATIONS

Positioning accuracy	+/- .010" (.25mm)
Repeatability	+/- .001" (.025mm)
Effective cutting width	64.6" (1,641mm) plasma cutting, 61" (1,549mm) oxy-fuel cutting
Effective cutting length	127" (3,225mm)
Overall machine height	64" (1,625mm)
Overall machine length	192" (4,876mm) including CNC control
Overall machine width	113" (2,870mm) including CNC control
Maximum contouring speed	1,000 IPM (25.4m/min)
Maximum traverse speed	1,400 IPM (35.5m/min)
Maximum cutting tools	(1) plasma and (1) oxy-fuel station on tool carriage
Maximum amperage (plasma system)	150 A
Recommended plasma systems	Hypertherm® Powermax series™, HSD130™
Maximum production plasma cutting capacity	1" (25mm)
Maximum production oxy-fuel cutting capacity	2" (50mm)
Maximum table capacity (full sheet)	1-1/4" x 60" x 120" (32mm x 1.5m x 3.1m)
Input power for cutting machine	115 VAC single phase, 20A dedicated circuit

RETRO SYSTEMS

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