

Hypertherm®

CNC systems

For the shape cutting industry



Easy, reliable, performance



Contents

- 3 Computerized Numeric Control (CNC) overview
- 3 Why Hypertherm numeric control?
- 5 A history of performance and innovation
- 5 Innovation for optimal cutting performance
- 6 Technology benefits
- 9 Proven reliability and on-board diagnostics maximize uptime
- 9 Remote Help™
- 11 World class manufacturing
- 12 EDGE® Pro CNC
- 12 MicroEDGE® Pro CNC
- 13 EDGE® Pro Ti CNC
- 14 CNC features and specifications
- 15 Hypertherm's CNC products support Built for Business™ Integrated Cutting Solutions
- 17 Designed for bevel cutting
- 18 Hypertherm THC family
- 19 Commitment, community and environment
- 21 Hypertherm: company overview

Hypertherm

EDGE Pro



Control panel with various buttons and knobs:

- USB
- ON/OFF
- START (Green)
- STOP (Red)
- PROGRAM SPEED (Knob)
- STATION 1 (Green light)
- STATION 2 (Grey light)
- PROGRAM (Switch: OFF, ON)
- RAISE (Button)
- LOWER (Button)
- JOG SPEED (Knob)
- MANUAL FUNCTIONS (Knob)
- PATH BACK (Button)
- PATH FORWARD (Button)

Secondary control panel with emergency stop and plasma controls:

- Power On (Green)
- Motion (Green)
- EMERGENCY STOP (Yellow/Red)
- Plasma Start (Blue)
- Plasma Stop (Red)
- Exhaust Fan OFF (Knob)
- Auto (Knob)

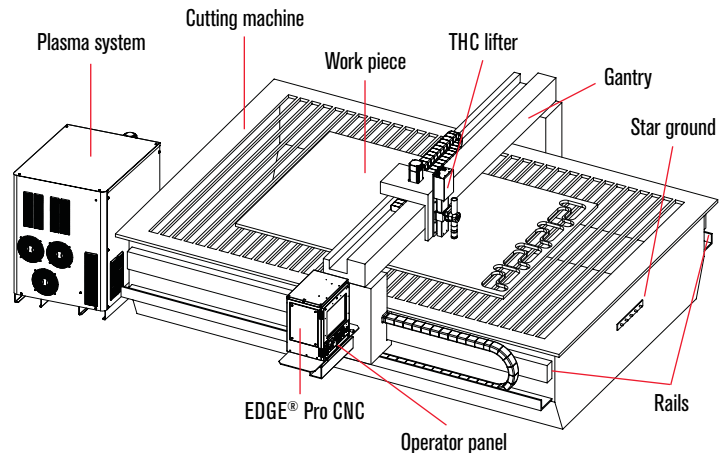
Hypertherm

- START
- MOTION
- AVC

Computerized Numeric Control (CNC) overview

Computerized Numeric Controls play a critical role in the overall success of a cutting machine operation. Ideally a CNC should provide the user with:

- Easy operation
- Consistent reliable performance
- Increased productivity
- Flexible system configuration
- Accurate motion and process timing
- Simplified system diagnostics
- Advanced cut process control
- Integrated communications to system and tools



Why Hypertherm numeric control?

Confidence is what you get when you partner with a company driven to do one thing better than anyone else. For Hypertherm, that one thing is cutting, and we've been focused on it for more than 40 years. Every one of our Associates: from our engineers and researchers to our manufacturing and service teams, are 100 percent focused on developing, building, and selling products that improve cutting. And not just any products; the most reliable, most consistent, highest performance products on the market.

The Hypertherm family of CNC products embody these requirements and combine the hardware functionality with Phoenix™ CNC software, a proprietary interface that delivers ease of use and consistent performance for cutting applications. The result is a system that enhances the operator experience and keeps the cutting machines operating around the clock. Manufacturers worldwide rely on Hypertherm CNCs to achieve their productivity and business needs.



A history of performance and innovation

Customers who select CNCs and Torch Height Controls (THC) from Hypertherm are the benefactors of more than 40 years of experience in the cutting industry.

Combining the technical and market knowledge developed over its history, Hypertherm products are designed with the needs of the customer in mind to perform reliably throughout the life of the cutting machine.

After more than four decades, over 100 patents, and tens of thousands of machine installations, Hypertherm innovations continue to improve cut quality, extend consumable life, enhance productivity, and reduce operating costs.

Innovation for optimal cutting performance

CNC systems from Hypertherm are delivered worldwide with cutting expertise built in, providing consistent product performance with easy-to-use software that empowers the operator to make the optimal cut, every time.

Hypertherm CNCs are designed to provide reliable support for a wide variety of applications. During product development, our CNCs are life-tested beyond the limits of the normal operating conditions for shock, temperature, moisture, and metallic dust to ensure they will survive the harshest cutting environments.

Whether your application calls for plasma, oxyfuel, waterjet, tube/pipe, bevel or laser cutting, repeatability 24/7 is the standard. With thousands of CNCs installed on cutting machines worldwide each year, global customers turn to Hypertherm for easy, reliable and customizable performance.

To further empower operators, Phoenix CNC software is supported in multiple languages with one touch access to supporting documentation including manuals, cutting optimization tips, consumable change instructions and diagnostic tools.



With patented True Hole® technology



Without patented True Hole® technology

Technology benefits

Ease of use: Phoenix™ software

Phoenix software is the core operational interface and is common across the entire Hypertherm family of CNC systems. The software is designed specifically for the X-Y and bevel cutting market and is available in fifteen languages for easy operation.

Key benefits include:

- Integrated communications to cutting tools and THC systems for automated and expert control of the cutting process
- Built-in cut charts for automatically setting process parameters for mild steel, stainless, and aluminum to enable consistently optimized cutting performance
- Wizards and diagnostic support tools that enable easy setup, use and rapid troubleshooting
- Built-in help and cutting optimization tips for improving machine performance and process outcomes at the touch of a button

Ease of use: CutPro® wizard

The patented CutPro wizard is an intuitive step-by-step process that guides the operator through the most frequently required job setup steps. In field trials, new operators began cutting high-quality parts in less than 5 minutes without training, drastically reducing the “hire to cut” time. This means that multiple operators across multiple shifts can quickly produce consistent results, making it so you have your best operator on every shift.

As easy as 1, 2, 3, cut!



Select program



Select process



Align part/plate



Cut





Easy performance: Real-time monitoring

Watch Windows™ enable on-screen, real-time monitoring of key process and performance information while cutting. Examples of variables that can be monitored include:

- Estimated processing time for the part or nest
- Machine motion commands and feedback for quality of motion detail
- Status of system errors, inputs and outputs
- Cutting parameters such as speed, arc voltage, kerf width, gas flows, etc.

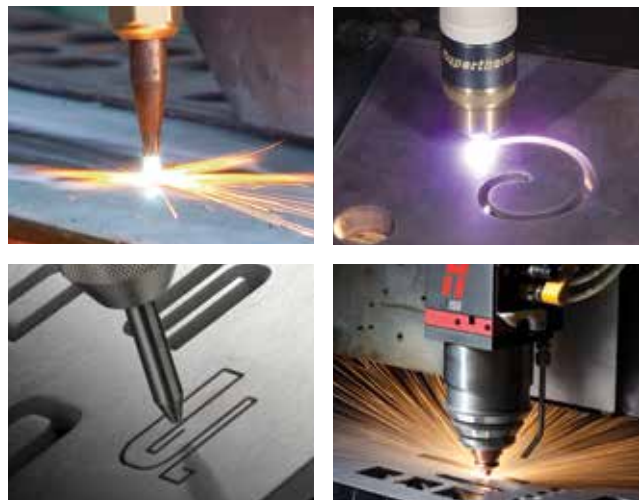
These windows are always visible and accessible during the cutting operation providing the operator the ability to monitor the machine performance at any time.

Easy performance: Built in expertise

Hypertherm CNCs simplify setup by providing factory default cut charts and consumable information. This takes the guesswork out of process setup for the operator.

Through years of cutting experience, Hypertherm engineers have learned the critical parameters to achieve superior quality performance on every part. Using a feature called Hypertherm PPS (Part Program Support), the communication of these parameters can be embedded in the part program to achieve superior cuts every time.

PPS capability includes changing processes automatically (i.e., marking to cutting), using custom parameters for process settings, and adapting the speed of the cutting torch to specific part requirements. PPS also enables Hypertherm's patented True Hole® technology for true "bolt hole" quality cut optimization without operator intervention.





Proven reliability and on-board diagnostics maximize uptime

During development Hypertherm systems endure rigorous reliability testing procedures that are equivalent to years of use in extreme operating environments. The equipment is subjected to a wide range of temperatures, humidity levels, vibration, electrical noise, dust and incoming voltage to ensure that the products are extremely robust.

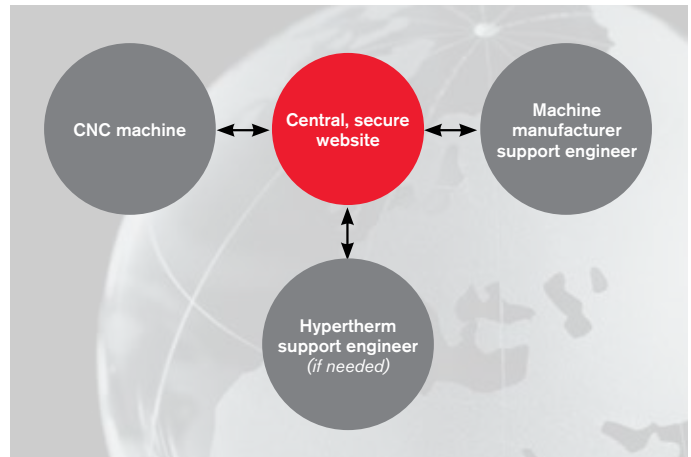
Hypertherm's preventative maintenance and troubleshooting tips are available on the CNC for all of our equipment (CNC, THC, and cutting systems). This makes vital system information easily accessible when you need it. Hypertherm CNCs can also perform CNC, THC, cutting system and other machine component diagnostics.

Remote Help™

Remote Help is an internet based tool that allows the machine manufacturer (and Hypertherm, if needed) to be virtually in your factory within minutes. CNC, plasma system and cutting machine diagnosis and repair can often be accomplished without an on-site visit. This means that cutting machines can be up and running quickly without costly travel and wait time.

Remote Help features include:

- Fast and secure connectivity
- Safe remote access to the CNC to view and modify setups
- Secure and rapid transfer of files
- Ability to support multiple remote attendees in the session
- Ability to conduct HyPerformance® Plasma, Powermax® plasma and HyIntensity™ Fiber Laser diagnostics at the CNC
- Useful for technical training



Remote Help communication structure



World class manufacturing

First time visitors to our US headquarters often comment on our manufacturing operations. Most can't believe how clean and well-organized our production facility is, or how carefully we assemble and test our products to ensure every engineering specification is met. At Hypertherm though, it is simply what happens when you follow LEAN and Six-sigma methodologies as passionately as we do. A team of Six-sigma black and green belts continuously work to drive improvements across our organization: looking for ways to optimize our manufacturing process, make our products better, and pass the savings on to you.

In recent years, Hypertherm has redesigned the CNC and THC products using the LEAN philosophy linked with world class production methodologies of Visual Factory and 5S. This approach combined with considerable focus on managing the quality of incoming materials, well documented design and assembly processes and extensive automated testing of the final product ensures long life and performance.

These methods have also extended to our development processes, and the following best practices have been implemented:

- Agile software project management
- Highly Accelerated Life Testing (HALT)
- Design for Manufacturing and Assembly (DFMA)
- Stage Gate product launch planning

Using these methods Hypertherm strives to consistently exceed customer expectations and enable customers to cut with confidence.



EDGE® Pro CNC

The EDGE Pro CNC is designed for installation to a diverse range of automated cutting applications. Like all Hypertherm CNCs, the EDGE Pro CNC is available in a variety of hardware configurations that deliver advanced capabilities in a turnkey CNC hardware set. Reasons customers choose the EDGE Pro CNC include:

- A full enclosure with a two-station operator's console
- Flexibility to support laser, plasma, waterjet and oxyfuel applications
- THC flexibility, including the ability to support bevel, tube/pipe and marking applications
- Substantial value in terms of productivity, ease of use, flexibility and even potential for increased functionality for retrofit installations

MicroEDGE® Pro CNC

The MicroEDGE Pro CNC is designed for flexibility for broad range of automated cutting applications. Like all Hypertherm CNCs, the MicroEDGE Pro CNC is available in a variety of hardware configurations that deliver advanced capabilities. Reasons customers choose the MicroEDGE Pro CNC include:

- A rugged design for the cutting environment, with the ability to be installed with a custom operator interface
- Flexibility to support laser, plasma, waterjet and oxyfuel applications
- THC flexibility, including the ability to support bevel, tube/pipe and marking applications
- The full capability of Phoenix in a compact design that enables machine design flexibility





EDGE® Pro Ti CNC

The EDGE Pro Ti CNC is designed for installation for small to mid-sized automated cutting machines. The EDGE Pro Ti CNC is available in a specific range of hardware configurations that deliver advanced capabilities. Reasons customers choose the EDGE Pro Ti CNC include:

- Built-in drive amplifiers provide 1000 watt total capability with a maximum of 500 watts per axis
- Optional motors, lifter mechanics, and multiple length cables are available
- A full enclosure with a two-station operator's console
- Flexibility to support plasma, waterjet, oxyfuel and marking applications
- Retrofit capability for existing CNCs, delivering substantial value in terms of productivity, ease of use, and reliability while often increasing functionality

CNC features and specifications

Hypertherm CNCs offer machine manufacturers incredible flexibility to support a wide range of machine designs and cutting applications. All CNCs utilize Phoenix software for consistent operational experience and are configurable to support customer needs.



	EDGE Pro		MicroEDGE Pro		EDGE Pro Ti
Drive amplifiers supported	Analog	Digital	Analog	Digital	Analog (internal)
Maximum axes	6	12	4	12	4
Bevel capable	Yes	Yes	No	Yes	No
Maximum inputs and outputs	48/48	512/512	24/24	512/512	12/12
Operator's console	2 Station	2 Station	Supplied by machine manufacturer		2 Station
Joystick /Speedpot	1 Joystick 2 Speedpot	1 Joystick 2 Speedpot	Supplied by machine manufacturer		1 Joystick 2 Speedpot
Communication Ports	Wireless Networking, LAN, Hypernet®, USB and RS-232/422 serial ports				
Field interface	HyPath™ Picopath	SERCOS II SERCOS III	Picopath HyPath	SERCOS II SERCOS III	EDGE Ti
Sensor™ THC interface	0-2	0-8	0-2	0-8	0-1
ArcGlide® THC interface	0-4 via Hypernet	0-4 via Hypernet	0-4 via Hypernet	0-4 via Hypernet	0-4 via Hypernet
Regulatory certification	C-Tick, cCSAus, CE, GOST-R and UkrSEPRO		C-Tick, cCSAus, CE, GOST-TR and UkrSEPRO		
Operating temperature	-10° C to 40° C ambient (14° F to 104° F ambient)				
Standard software features include	Part Program Support (PPS), Remote Help, Hypernet connectivity, networking, Autogas support, DXF import and simple shape nesting				

Hypertherm CNCs have a two year factory warranty

Please refer to the Hypertherm website www.hypertherm.com for more details, applications stories and videos.



Hypertherm's CNC products support Built for Business™ Integrated Cutting Solutions

The Hypertherm family of CNC products are all developed with the cutting process in mind. This helps to deliver the performance applications available in the Built for Business Integrated Cutting Solutions. These include:

- Built in Hypertherm expertise: process data, manuals, help support, specific process capabilities, cutting tips, and ease of use support for customers using the CutPro Wizard
- Improved Hole technology: Phoenix supports True Hole technology and advanced programming techniques from CAM software
- Rapid Part™ technology: Hypertherm CNC and torch height controls work together to increase productivity by optimizing time between cuts
- Consumable life optimization: Hypertherm torch height controls automatically adjust for consumable wear without operator input. This technology, which also applies to bevel cutting, reduces operating costs and improves part accuracy throughout the life of the consumables
- Remote Help: web based Remote Help allows cutting machine manufacturers and Hypertherm to access the equipment worldwide in a secure session to expedite machine diagnostics and repair
- True Bevel™ technology: Factory tested cutting parameters for the HPRXD® plasma system that are easily implemented with automated bevel heads, taking the guesswork out of the plasma bevel cutting process for mild steel

 **Built for Business™**
INTEGRATED CUTTING SOLUTIONS



Designed for bevel cutting

Phoenix software provides significant advanced application functionality including bevel cutting motion and process capability. The software is flexible enough to support the most recognized bevel mechanic styles in the industry, and includes practical support for customer needs.

Significant advantages for bevel include:

- Arc voltage sampling for part size consistency using the integrated Sensor™ THC
- Bevel cutting tips that deliver operator guidance for common bevel cutting needs

In addition, with True Bevel™ technology new job setup is quick and accurate. Taken together these tools facilitate bevel setup and consistent productivity for solid return on investment.



Hypertherm THC family

Hypertherm offers several THCs for custom adaptation to the cutting machine providing a broad range of flexibility and process performance.

Oxyfuel

The Sensor OHC provides advanced automated capacitive height control for single or multi-torch oxyfuel applications.

Air plasma

The Sensor PHC offers independent operation with Hypertherm or other CNC products.

Sensor Ti THC (installed with the EDGE Pro Ti) delivers advanced support using electronics installed in the CNC.

High definition

The Sensor THC (a configurable option for Hypertherm CNCs) delivers customization capability for diverse applications including plasma bevel cutting, custom lifter installations, and Hypertherm fiber laser capacitive height control.

The ArcGlide® THC is a complete height control solution for high reliability I-cutting applications. It can be configured either integrated with Hypertherm CNCs or as a standalone THC with CNCs from other manufacturers.

The ArcGlide THC, Sensor THC and Sensor Ti all are capable of Rapid Part technology and consumable life optimization. The ArcGlide THC and Sensor THC are also capable of True Hole technology.





Commitment, community and environment

Through the Hypertherm Owners' Philanthropic Endeavors (HOPE) Foundation, we partner with organizations and engage in activities that strengthen and create sustainable, positive change. To date, Hypertherm has donated thousands of volunteer hours and millions of dollars to the communities in which we live and work. By giving Hypertherm associates paid time off to do community service work, we build stronger communities.

Our environmental standards go well beyond regulatory requirements. The European Union's Restriction of Hazardous Substances (RoHS) directive became a catalyst to make all of our products more environmentally friendly. We are also reducing the number of parts in our systems and working to make our power supplies and controllers more efficient so they cut thicker and faster yet use less energy. By making consumables that last twice as long as competitive products, we are using less raw material such as copper, silver, and hafnium.



Hypertherm: company overview

Since 1968, Hypertherm has had a single goal: cut the cost of cutting metal. The company's one and only focus is cutting technology. Its single-minded mission is to provide customers throughout the world with the best cutting equipment and service in the industry. That's why Hypertherm holds more major plasma cutting patents, and has more customers worldwide than any other brand. In head-to-head tests, Hypertherm systems consistently outperform the competition in the key areas of cut quality, productivity and operating cost. Hypertherm has evolved into a thriving global entity that serves a continually expanding customer base.

Hypertherm control solutions for cutting applications improve machine performance and support the mission and vision established so many years ago. This offers the opportunity to simplify your cutting operations to improve productivity and profitability.

Worldwide presence and strength

Hypertherm is a key partner for your fabrication needs and has built a global organization focused on providing cutting performance solutions.

Key elements of the Hypertherm formula include:

- Dedicated associates concentrating on cutting technology
- Regional sales, customer service and technical service for local support
- Broad application experience and proven results
- Complete product line solutions for your cutting needs
- Commitment to the idea that product selection, design, support and services are driven by customer input

One of Hypertherm's long-standing core values is a focus on minimizing our impact on the environment. Doing so is critical to our, and our customers', success. We are always striving to become better environmental stewards; it is a process we care deeply about.





For a location near you, visit:
www.hypertherm.com

Hypertherm, Phoenix, EDGE, True Hole, CutPro, Watch Windows, Remote Help, HyPerformance, Powermax, HyIntensity, Hypernet, Sensor, ArcGlide, HyPath, Built for Business, Rapid Part, HPR, True Bevel and Greener Cuts are trademarks of Hypertherm Inc. and may be registered in the United States and/or other countries. All other trademarks are the property of their respective owners.

Environmental stewardship is a core value of Hypertherm. Our products are engineered to meet and exceed global environmental regulations including the RoHS directive.

© 7/2013 Hypertherm Inc. Revision 4
893320



Hypertherm[®]
Cut with confidence[®]

