

Hypertherm®

CNC systems

For the shape cutting industry



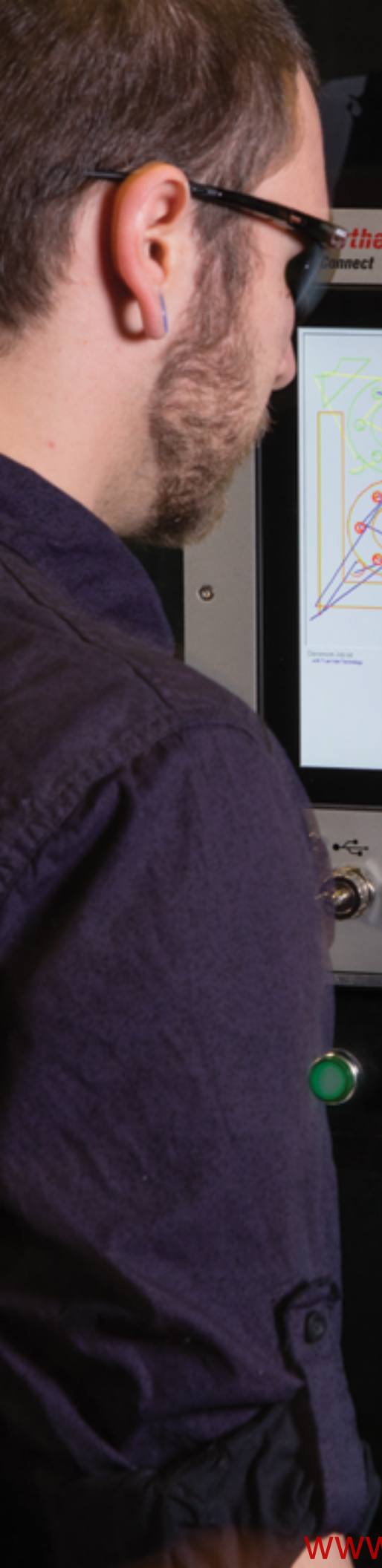
Easy, reliable, performance

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therm
Connect

Current Speed - ipm

5.0

11.773 in

11.875 in

Position

Transverse	14.233 in
Rot	14.352 in
Dual-Gravity	14.352 in

Planes

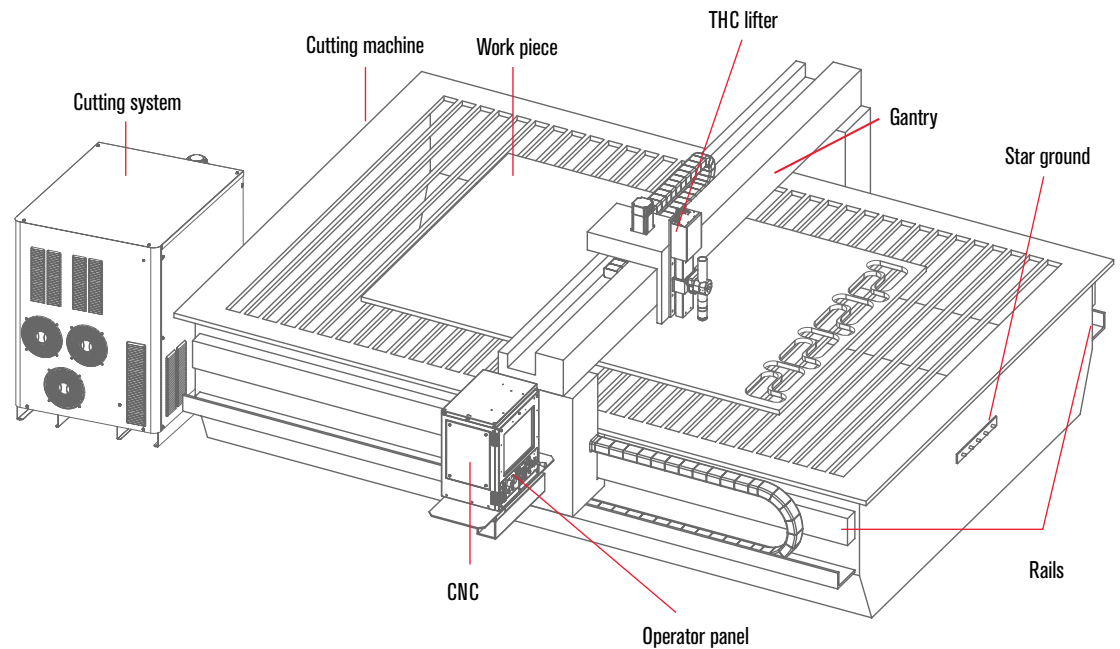
Clamp	0.000 in
Clamp	0.000 in
Clamp	0.000 in

Buttons: Increase Air Solenoid, Decrease Air Solenoid, Stop, Start, Home, Emergency Stop

Computerized Numeric Control (CNC) overview

Computerized Numeric Controls play a critical role in the overall success of 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?

Hypertherm's CNC (computer numerical control) and THC (torch height control) products combine advanced cutting capability with an intuitive graphical interface. Based on our proven Phoenix® platform, the systems support laser*, plasma, waterjet, and oxyfuel applications.

*Laser support only available on EDGE Pro systems.



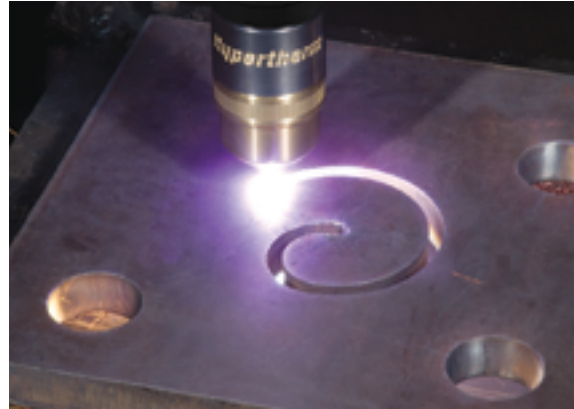
Innovation for optimal cutting performance

CNC systems from Hypertherm are delivered worldwide with built in cutting expertise, 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 required. 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.



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 seventeen 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





EDGE® Connect TC

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 the 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.



With patented True Hole® technology



Without patented True Hole® technology



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.

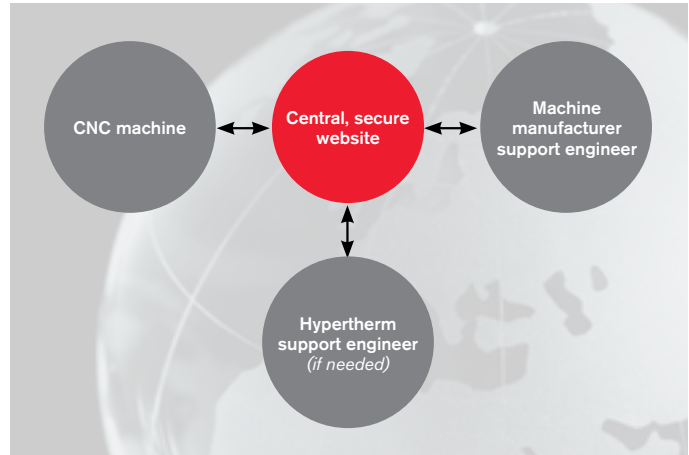
Hypertherm's preventative maintenance and troubleshooting tips are available on the CNC for all of our equipment (CNC, THC, and cutting systems). This makes vital system information easily accessible when you need it. Hypertherm CNCs can also perform CNC, THC, cutting system and other machine component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

Features enabled with Remote Help include:

- Fast and secure connectivity
- Safe remote access to the CNC to view and modify setups
- Secure and rapid transfer of files
- Multiple remote connectivity software suppliers are supported to accommodate regional preference
- 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 U.S. 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 belts and over 130 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 product development
- 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 Connect CNC

EDGE® Connect is the next generation of Hypertherm's industry leading automated control systems. It includes Hypertherm's embedded cutting expertise combined with OEM customizability. Like its predecessor, EDGE Pro, it delivers reliable performance for improved profitability.

Additionally, EDGE Connect offers new and improved hardware with EtherCAT system communications. New software features have been added to further increase productivity and leverage the benefits of SureCut technology available with Hypertherm cutting systems and CAM software.

New with EDGE Connect CNC:

- Superior cutting performance with Phoenix® and SureCut™ technology
- Optimized machine setup using EtherCAT communications
- Reduced costs and customization via Soft OpCon and PLC Connect
- Convenient operator programming with SureCut outcomes via ProNest® CNC
- Modular, simple and upgradable CNC point-of-use configuration design
- Improved industrial hardware

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.



	NEW					
	EDGE® Connect	EDGE® Pro		MicroEDGE® Pro		EDGE® Pro Ti
Drive amplifiers supported	Digital	Analog	Digital	Analog	Digital	Analog (internal)
Maximum axes	12	6	12	4	12	4
Bevel capable	Yes	Yes	Yes	No	Yes	No
Maximum inputs and outputs	512/512	48/48	512/512	24/24	512/512	12/12
Station operator's console - software	All EDGE® Connect CNCs or OEM custom		N/A			
Station operator's console - hardware	EDGE® Connect TC - all enabled stations	2 station		OEM supplied		2 station
Communication ports	Wireless networking, LAN, and USB		Wireless networking, LAN, Hypernet®, USB and RS-232/422 serial ports			
Field interface	EtherCAT®	HyPath™ Picopath	SERCOS II SERCOS III	HyPath™ Picopath	SERCOS II SERCOS III	EDGE® Ti (with optional Sensor Ti lifter and motors)
HPRXD® interface	EtherCAT®	Hypernet® (with ArcGlide® THC) or RS-422 serial with discrete I/O				
Sensor™ THC interface	0-8	0-2	0-8	0-2	0-8	0-1
ArcGlide® THC interface	Discrete	0-4 via Hypernet®				
Operating temperature	-10° C to 40° C ambient (14° F to 104° F ambient)					
Standard software features include	Part Program Support (PPS), Remote Help™, connectivity, networking, autogas support, DXF import and simple shape nesting					
On CNC nesting	ProNest® CNC (single part, pattern array) Optional: ProNest CNC (multi-part, True shape nesting)	Manual nesting and Hypernest® CNC automatic nesting				
PLC	PLC Connect LT - Standard PLC Connect - Optional upgrade	N/A				
LCD touchscreen display	482 mm (19") PCAP or OEM	381 mm (15") SAW		OEM/Option		381 mm (15") SAW

Hypertherm CNCs have a two year factory warranty.

Laser systems supported only on EDGEPro family CNCs.

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



Hypertherm's CNC products support SureCut™ technology—Maximizing performance through embedded expertise

The Hypertherm® family of CNC products are all developed with the cutting process in mind. This helps to deliver the performance applications available in SureCut™ embedded expertise.

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.



SureCut™

Maximizing performance through
embedded expertise



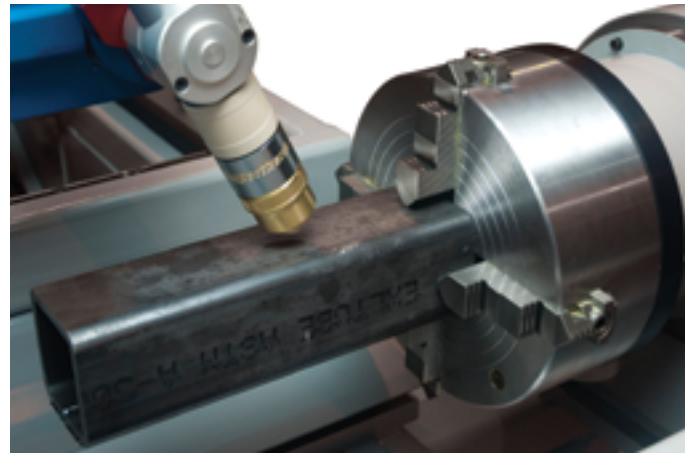
Designed for bevel cutting

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.

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 with Hypernet® or as a standalone THC with CNCs from other manufacturers.

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

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.



Sensor THC mechanics

Sensor Ti

Sensor PHC

ArcGlide THC



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.



50 years of Shaping Possibility

With the right tools and a relentless focus on innovation, partnership and community, we believe anything is possible.

At Hypertherm®, we give shape to our customers' vision with the world's leading industrial cutting solutions. Every day we help individuals and companies around the world envision better, smarter and more efficient ways to produce the products that shape our world. So whether you're cutting precision parts in North America, constructing a pipeline in Norway, fabricating agricultural machinery in Brazil, gougingout welds in the mines of South Africa, or building a skyscraper in China, you can count on Hypertherm to help you not just cut parts but achieve your vision.

100% employee ownership matters

At Hypertherm, we aren't just employees: we're all owners. Ownership is a powerful motivator that ensures our customers are our top priority. As owners, we make sure every product is built to the highest quality and that our service is second to none. And we build long-term relationships that deliver value for us, our partners and our customers.

Shaping what's possible the world over

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

Key elements of the Hypertherm formula include:

- Dedicated Associates focused on customer-centered product design and support
- Local sales and service
- Broad application experience and proven results
- Sustainable and ethical business practices benefit our customers and communities

**HELPING YOU
SHAPE THE WORLD.**



PLASMA | LASER | WATERJET | AUTOMATION | SOFTWARE | CONSUMABLES

For location nearest you, visit:
www.hypertherm.com

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

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