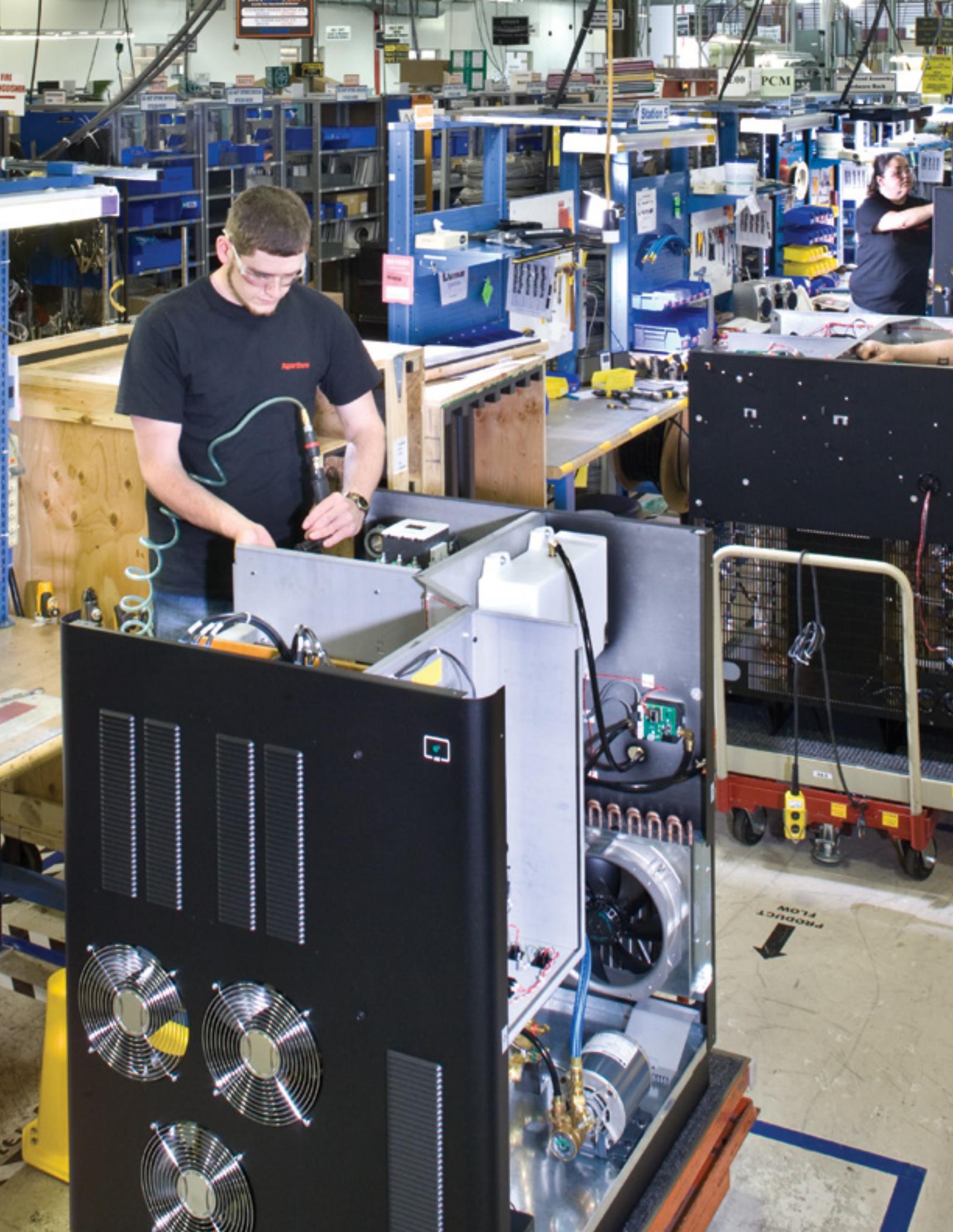


**Hypertherm**<sup>®</sup>

## HyPerformance<sup>®</sup> plasma family brochure

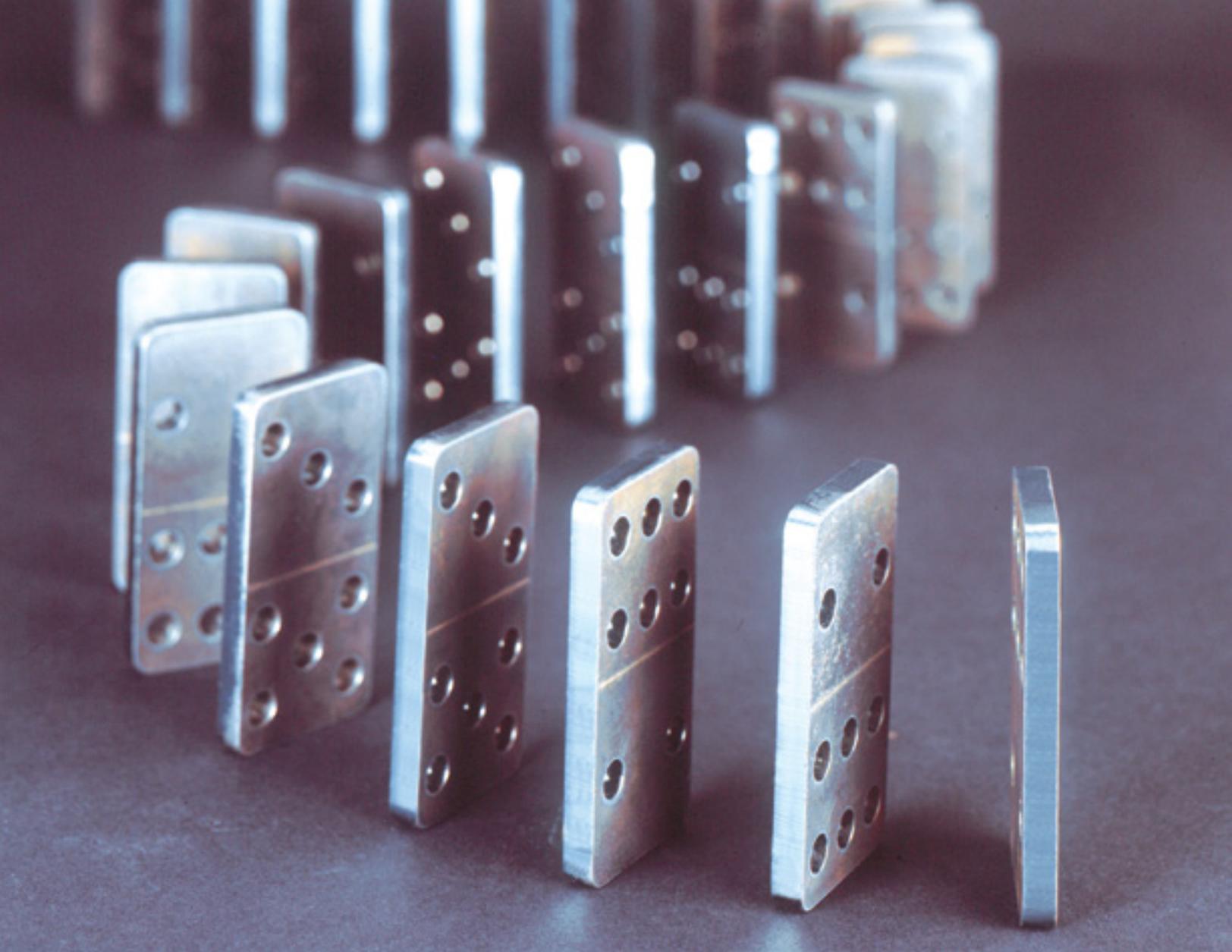
Featuring HyDefinition<sup>®</sup>, PowerPierce<sup>®</sup> and HDi<sup>®</sup> technologies





# Contents

- 4 Maximized productivity
- 5 Superior cut quality and consistency
- 7 Minimized operating cost
- 9 Unmatched reliability
- 10 Unmatched versatility
- 13 Hypertherm technology delivers more consistent cut quality for longer periods of time at half the operating cost.
- 15 HyPerformance® plasma product line
- 16 Operating data and system comparison
- 19 50 years of Shaping Possibility

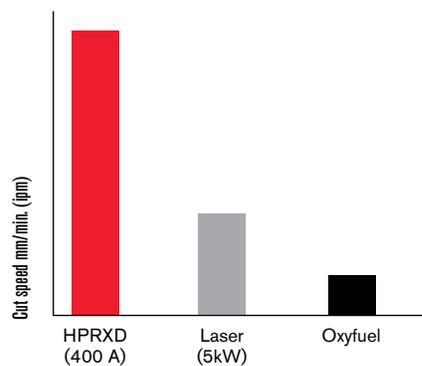


## Maximized productivity

HyPerformance® plasma combines fast cutting speeds, rapid process cycling, quick changeovers and high up time to maximize productivity.

- HyPerformance plasma delivers HyDefinition® precision at unprecedented cutting speeds to deliver more parts per hour.
- Rapid cut-to-cut and cut-to-mark cycle times result in less downtime between cuts.
- Quick-disconnect torch, auto gas console option and intuitive user interface all reduce set-up time.
- Long consumable life and high system reliability maximize productive “arc-on” time.

HyPerformance plasma cutting is 2-5 times faster  
25 mm (1") mild steel



# Superior cut quality and consistency

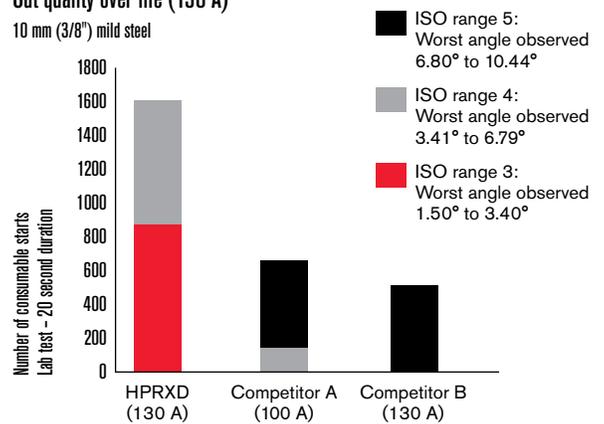
HyPerformance® plasma cuts fine-feature parts with superior quality and consistency, virtually eliminating the cost of secondary operations.

- HyDefinition® and LongLife®, deliver more consistent cut quality over a longer period of time than other systems available on the market.
- True Hole® technology, for HyPerformance plasma auto gas systems, produces hole quality on mild steel that is significantly better than what has been previously achievable using plasma.\*
- Hypertherm leads the way in stainless steel cutting, with new HDi® technology for thin stainless, optimized gas mixing for mid-range thicknesses and patented PowerPierce® technology combined with an innovative controlled pierce process for the thickest piercing and cutting capability available.
- Hypertherm consumables are manufactured with the highest quality standards to ensure consistent performance.

\*True Hole technology requires a HyPerformance plasma HPRXD auto gas system along with a True Hole enabled cutting table, nesting software, CNC, and torch height control. Consult with your table manufacturer for more details.

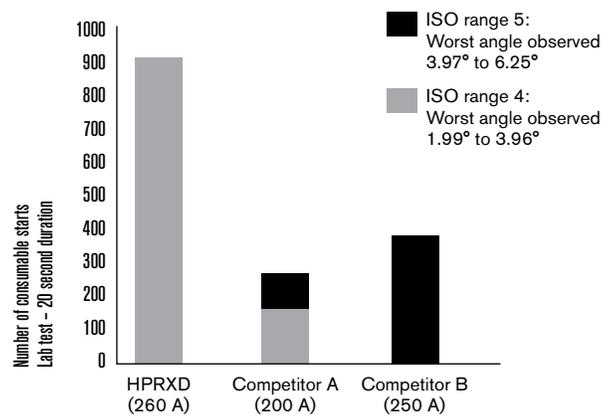
## Cut quality over life (130 A)

10 mm (3/8") mild steel



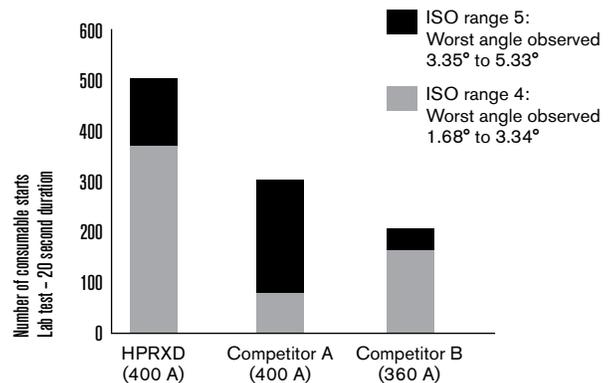
## Cut quality over life (260 A)

20 mm (3/4") mild steel



## Cut quality over life (400 A)

25 mm (1") mild steel





# Minimized operating cost

HyPerformance® plasma lowers your cost per part and improves profitability.

## More parts per hour

- HyPerformance plasma systems provide faster cut speeds to produce more parts per hour.
- Hypertherm's patented PowerPierce® technology makes it possible to cut thicker than ever before and replace slower-cutting technologies such as oxyfuel.
- HyPerformance plasma's superior quality and consistency maximize the number of parts produced per hour by minimizing time-consuming secondary operations.

## Longer consumable life

- LongLife® and PowerPierce technologies significantly increase consumable life and reduce your cost per part.
- Hypertherm consumables are manufactured with the highest quality standards to ensure consistently longer life.

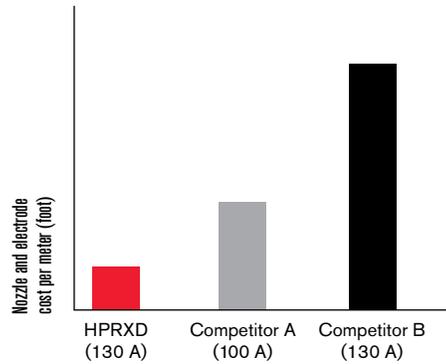
## Do more with less power

- Patented consumable designs enable industry-leading cutting speeds and robust production piercing using lower amperage levels.
- HyPerformance plasma enables extremely high cutting speeds per amp with less cutting current than other plasma solutions on the market.
- Hypertherm's power supplies are designed to be extremely efficient in their use of electricity, enabling lower electrical expense and a reduced impact on the environment.



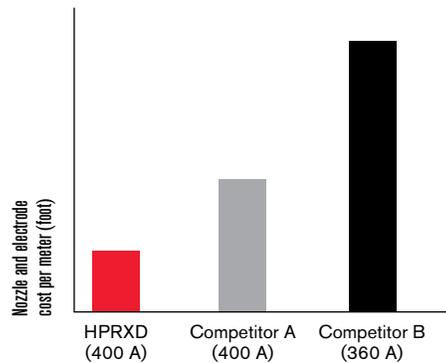
## Minimized operating cost

20 mm (3/4") mild steel



## Minimized operating cost

25 mm (1") mild steel





# Unmatched reliability

Hypertherm combines four decades of experience and world-class design, manufacturing and testing processes to build in reliability that you can trust.

## Reliable by design

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

## Robust manufacturing and test processes

- Best-in-class lean manufacturing processes reduce the opportunity for error ensuring every Hypertherm system meets our high quality standards.
- All Hypertherm systems go through extensive automated testing before they are shipped.
- Hypertherm's manufacturing and test teams are dedicated to delivering the highest quality plasma products on the market.

## Reliable operation

- Self diagnostics are performed automatically at start up and continually throughout the cutting process. This ensures the system is operating at full capability.



**“When designing new systems, we test them until they break. Then we find the problem, fix it, and test them again, always under the most severe operating conditions – conditions far tougher than anything the product is likely to see in the real world. It’s a 24-hour-a-day operation and it’s an integral part of our product development process.”**

Aaron Brandt, Vice President of Engineering, Hypertherm

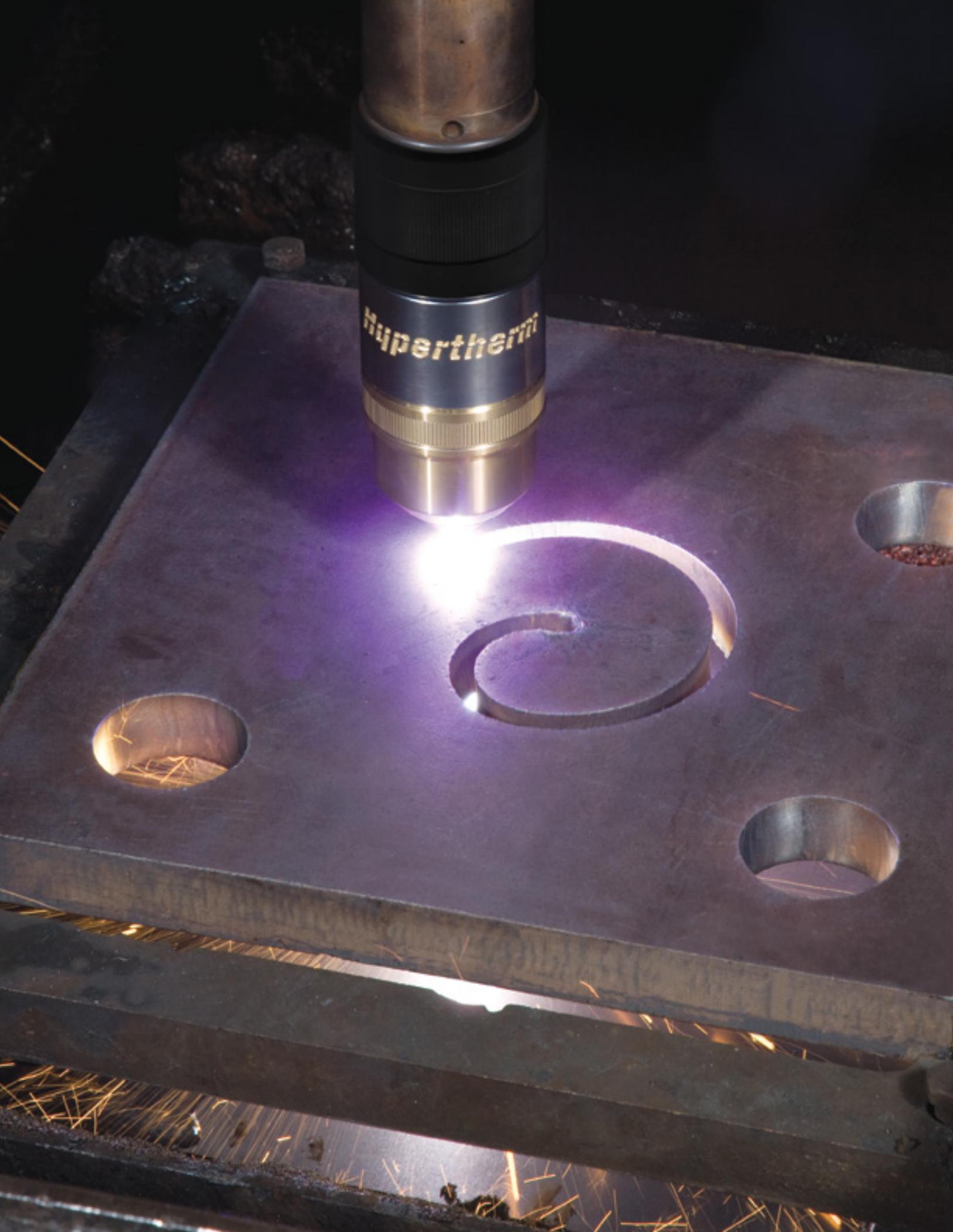
# Unmatched versatility

HyPerformance® plasma cuts, bevels, and marks a variety of metals, from thin to thick, making it the system that can do it all.

- HyPerformance plasma cuts carbon steel, stainless steel, aluminum, and other metals with HyDefinition® precision.
- Bevel cutting up to 45°.
- Mark, cut, and bevel with the same consumables.
- Customized factory-tested cut charts available for a variety of applications, including True Bevel™, True Hole®, fine feature, and underwater cutting.
- Full range of cutting thicknesses for mild steel from 0.5 mm (gauge) material to production piercing of 50 mm (2") with a maximum cutting thickness up to 80 mm (3.2").
- Stainless steel cutting range from 0.5 mm (gauge) material to production piercing of 75 mm (3") with a maximum pierce rating of 100 mm (4") and a maximum cutting thickness up to 160 mm (6-1/4").
- HDi® technology delivers HyDefinition cut quality on thin stainless from 3 to 6 mm (12 ga to 1/4").
- Optimized gas mixing delivers superior cut quality and consistency with excellent surface finish on mid-range stainless steel thicknesses.
- Components and capabilities have been specifically designed for use in X-Y, bevel and robotic cutting applications.
- Modular power supply and console design enables easy upgrades to increase system capabilities when requirements change.



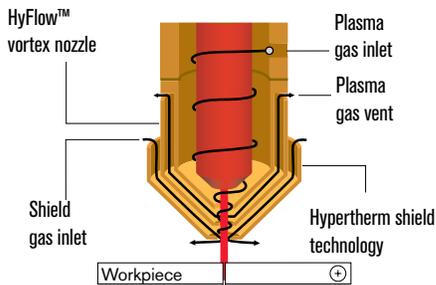




# Hypertherm technology delivers more consistent cut quality for longer periods of time at half the operating cost.

## HyDefinition®

- Vented nozzle technology aligns and focuses the plasma arc.
- HyDefinition technology enables powerful precision cutting for superior quality and consistency on mild steel.
- New HDi® technology now delivers HyDefinition quality to thin stainless steel cutting.



## LongLife®

- LongLife technology ramps current and gas flow up and down in a tightly controlled manner to reduce electrode and nozzle erosion.
- Reducing electrode and nozzle erosion enables more consistent cut quality over a longer period of time, while providing a significant reduction in operating cost.

## Patented consumable technology

**PowerPierce liquid cooled shield**  
Repels molten metal during piercing for pierce capability.

## CoolCore®

Ring-shaped hafnium provides additional electrode cooling for increased electrode life and reduced operating costs.

## Advanced axial swirl ring

## CoolFlow

## TrueFlow

Electrode/watertube alignment ensures even flow and balanced cooling that translates into longer, more consistent consumable life.

## HyDefinition

Vented nozzle technology aligns and focuses the plasma arc for powerful precision cutting, superior quality and consistency.

## True Hole®

- Patented True Hole\*\* cutting technology for mild steel is a specific combination of cutting parameters that is optimized for each material thickness and hole size.
- Taper is virtually eliminated and the ding is reduced and biased to the outside of the hole, down to a 1:1 diameter to thickness ratio.



12 mm (1/2") hole with True Hole technology

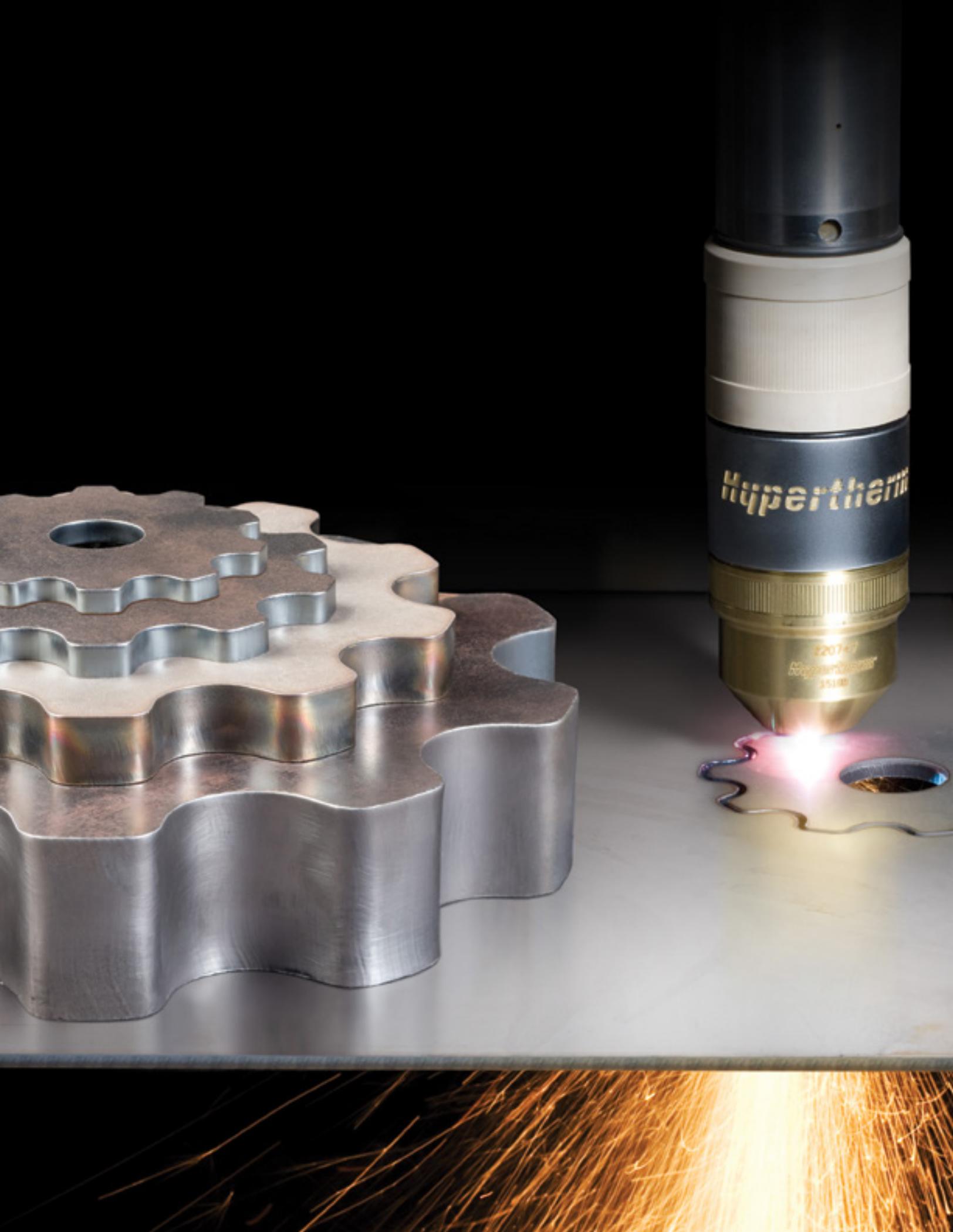


12 mm (1/2") hole without True Hole technology

## PowerPierce®

- Patented PowerPierce liquid cooled shield repels molten metal during piercing for maximum pierce capability of up to 50 mm (2") mild steel and 100 mm (4") stainless steel.
- Patented consumable designs deliver speed and thickness capabilities expected of higher amp systems.

\*\* True Hole technology requires a HyPerformance plasma HPRXD auto gas system along with a True Hole enabled cutting table, nesting software, CNC, and torch height control. Consult with your table manufacturer for more details.



# HyPerformance plasma product line

HyPerformance plasma customers can choose the systems and combination of options that best suit their requirements today. Modules are designed to work interchangeably providing the flexibility to easily upgrade to meet future needs. HyPerformance plasma cuts fine-feature parts with superior quality and consistency, eliminating the cost of secondary operations.

## HyPerformance® plasma HPR130XD®

The HPR130XD delivers incomparable HyPerformance cut quality from very thin up to mid-range materials.

HPR130XD (30-130 amps)			
	Mild steel cut capacity	Stainless steel cut capacity	Aluminum cut capacity
Dross free*	16 mm (5/8")		
Production pierce	32 mm (1-1/4")	20 mm (3/4")	20 mm (3/4")
Maximum cutting capacity	38 mm (1-1/2")	25 mm (1")	25 mm (1")



## HyPerformance plasma HPR400XD

The HPR400XD delivers the ultimate in HyPerformance mild steel cutting as well as heavy-duty stainless and aluminum capability.

HPR400XD (30-400 amps)			
	Mild steel cut capacity	Stainless steel cut capacity	Aluminum cut capacity
Dross free*	38 mm (1-1/2")		
Production pierce	50 mm (2")	45 mm (1-3/4")	38 mm (1-1/2")
Maximum pierce**		75 mm (3")	
Maximum cutting capacity	80 mm (3.2")	80 mm (3.2")	80 mm (3.2")



## HyPerformance plasma HPR800XD

The HPR800XD delivers all the mild steel capability of the HPR400XD and adds the thickest stainless steel and aluminum cutting on the market today.

HPR800XD (30-800 amps)			
	Mild steel cut capacity	Stainless steel cut capacity	Aluminum cut capacity
Dross free*	38 mm (1-1/2")		
Production pierce	50 mm (2")	75 mm (3")	75 mm (3")
Maximum pierce**		100 mm (4")	
Maximum cutting capacity	80 mm (3.2")		
Severance		160 mm (6-1/4")	160 mm (6-1/4")



\* Feature and material type can influence dross free performance.

\*\* Maximum pierce requires controlled motion process. See technical documentation for details.

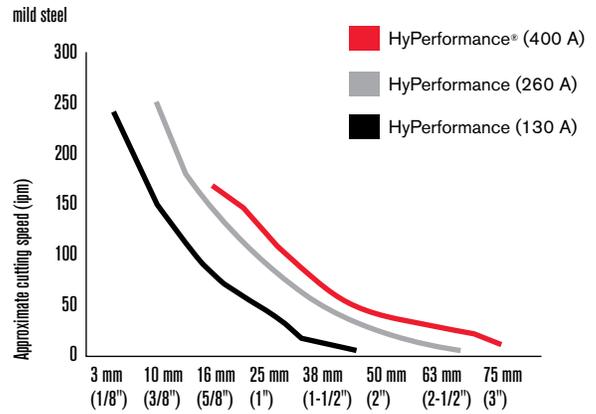
## Operating data

Material	Current (amps)	Thickness (mm)	Approximate cutting speed (mm/min.)	Thickness (inches)	Approximate cutting speed (ipm)
<b>Mild steel</b> O <sub>2</sub> plasma O <sub>2</sub> shield	30	0.5	5355	.018	215
		3	1160	.135	40
		6	665	1/4	25
O <sub>2</sub> plasma Air shield	80 <sup>†</sup>	3	6145	.135	180
		6	3045	1/4	110
		20	545	3/4	25
O <sub>2</sub> plasma Air shield	130 <sup>†</sup>	6	4035	1/4	150
		10	2680	3/8	110
		25	550	1	20
O <sub>2</sub> plasma Air shield	200	6	5248	1/4	200
		12	3061	1/2	115
		25	1167	1	45
		50	254	2	10
O <sub>2</sub> plasma Air shield	260 <sup>†</sup>	10	4440	3/8	180
		20	2170	3/4	90
		64	195	2-1/2	8
O <sub>2</sub> plasma Air shield	400 <sup>†</sup>	12	4430	1/2	170
		25	2210	1	85
		50	795	2	30
		80	180	3	10
<b>Stainless steel</b> F5 plasma N <sub>2</sub> shield	60	3	2770	0.105	120
		4	2250	0.135	95
		5	1955	3/16	80
		6	1635	1/4	60
H35 plasma N <sub>2</sub> shield	130 <sup>†</sup>	10	980	3/8	40
		12	820	1/2	30
		25	260	1	10
H35 plasma N <sub>2</sub> shield	260 <sup>†</sup>	12	1710	1/2	65
		20	1085	3/4	45
		25	785	1	30
		50	270	2	10
H35 and N <sub>2</sub> plasma N <sub>2</sub> shield	400 <sup>†</sup>	20	1810	3/8	75
		40	720	1-1/2	30
		80	190	3	10
H35 plasma N <sub>2</sub> shield	800 <sup>†</sup>	75	464	3	18
		125	155	5	6
		160	100	6-1/4	4
<b>Aluminum</b> Air plasma Air shield	45	1.5	4420	.048	220
		4	2575	.135	110
		6	1690	1/4	60
H35 plasma N <sub>2</sub> shield	130 <sup>†</sup>	12	1455	1/2	55
		20	940	3/4	40
		25	540	1	20
H35 plasma N <sub>2</sub> shield	260 <sup>†</sup>	12	5160	1/2	190
		20	2230	3/4	90
		50	390	2	14
H35 plasma N <sub>2</sub> shield	400 <sup>†</sup>	20	2420	3/4	100
		40	1190	1-1/2	50
		80	210	3	10
H35 plasma N <sub>2</sub> shield	800 <sup>†</sup>	75	907	3	35
		160	179	6-1/4	7

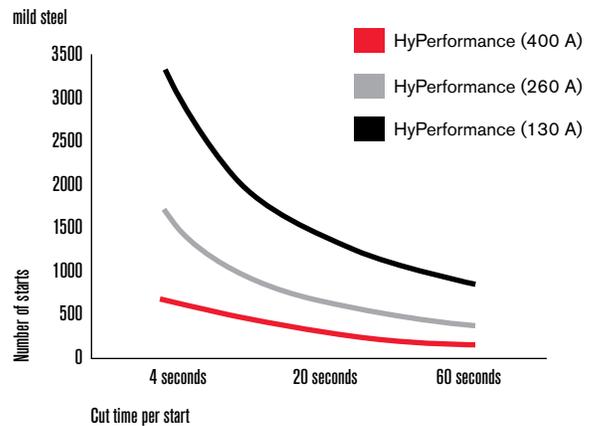
HDI®

## System comparisons

### Cutting speed



### Consumable life



### Auto gas console

- Allows full control of all plasma system settings from the CNC, simplifying operator training requirements.
- Automatically changes processes on the fly to enable rapid switching between cutting and marking.
- Automatically adjusts for variations in incoming gas pressure to produce the most consistent cutting performance.
- The auto gas console is required to enable True Hole® technology and optimized gas mixing for mid-range stainless cutting.



The operating data chart does not list all processes available for the HPR130XD®, HPR400XD, and HPR800XD. Please contact Hypertherm for more information.

<sup>†</sup>Consumables support up to 45° bevel capability.







# 50 years of Shaping Possibility

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

Fifty years ago, in a small two car garage, Hypertherm® began our journey with simple, powerful ideas about business and an invention that shaped the future of industrial cutting. The same ideals that fueled our inception all those years ago are still what drive us today: A passion for challenging what is achievable with the products we create, the culture we foster, and the experience we deliver to our customers. As we look to the horizon and the next 50 years, we are proud that our people, partners, and innovations will shape the future with solutions that make anything possible for industries around the world.

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, cutting stone in Italy, gouging out 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 are not just employees: we are 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.

## Worldwide presence and strength

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](http://www.hypertherm.com)

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Environmental stewardship is one of Hypertherm's core values, and it is critical to our success and our customers' success. We are striving to reduce the environmental impact of everything we do. For more information: [www.hypertherm.com/environment](http://www.hypertherm.com/environment).

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