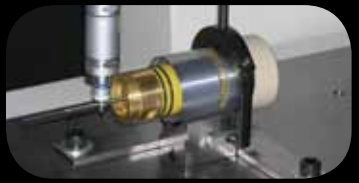
Mechanized plasma solutions

Optimize quality, productivity and operating cost

Hypertherm®



The world leader in thermal cutting technology

Since 1968, Hypertherm has had a single goal: cut the cost of cutting metal. The company's one and only focus is thermal cutting technology. Its single-minded mission is to provide customers throughout the world with the best plasma 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.

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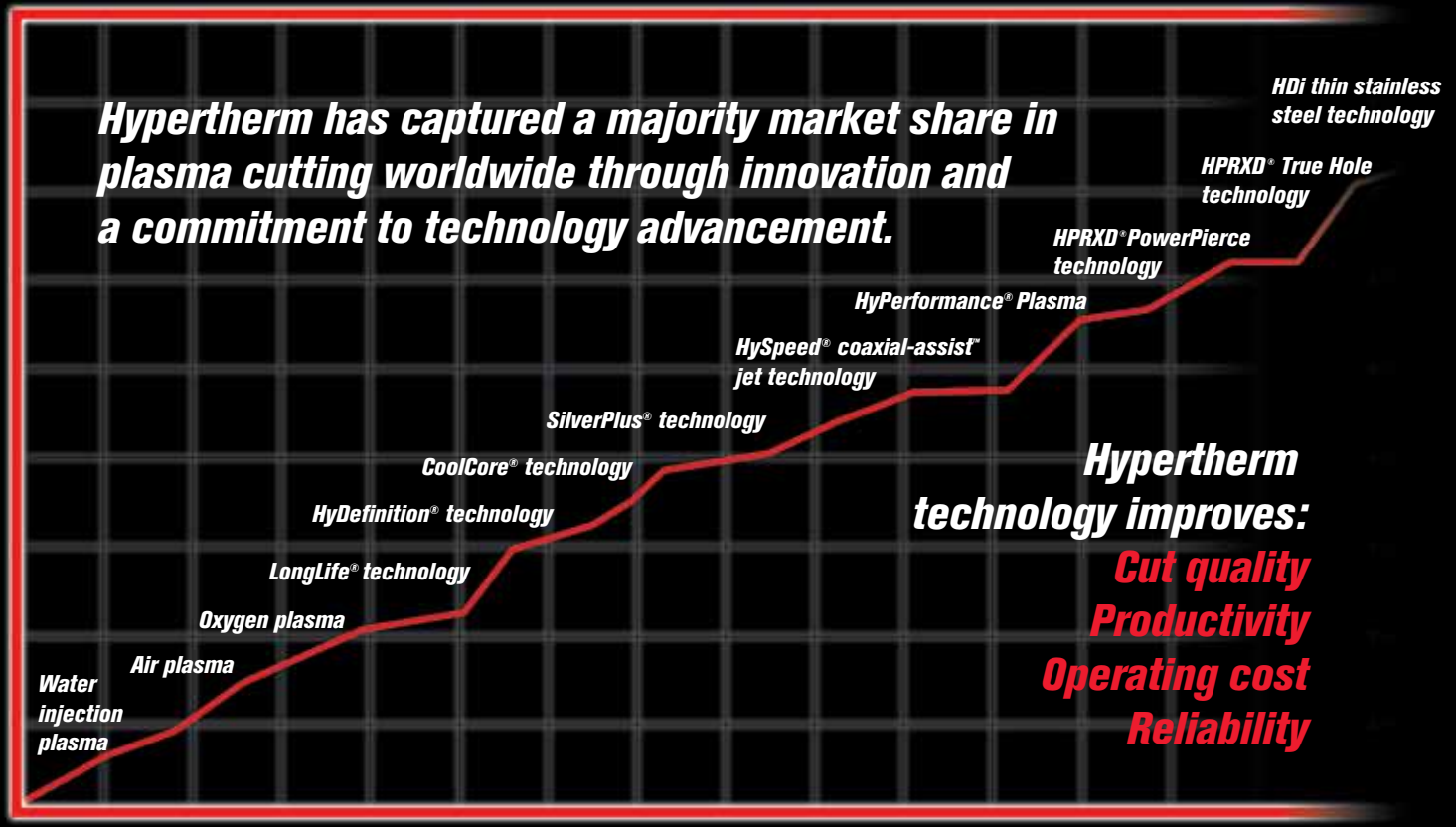
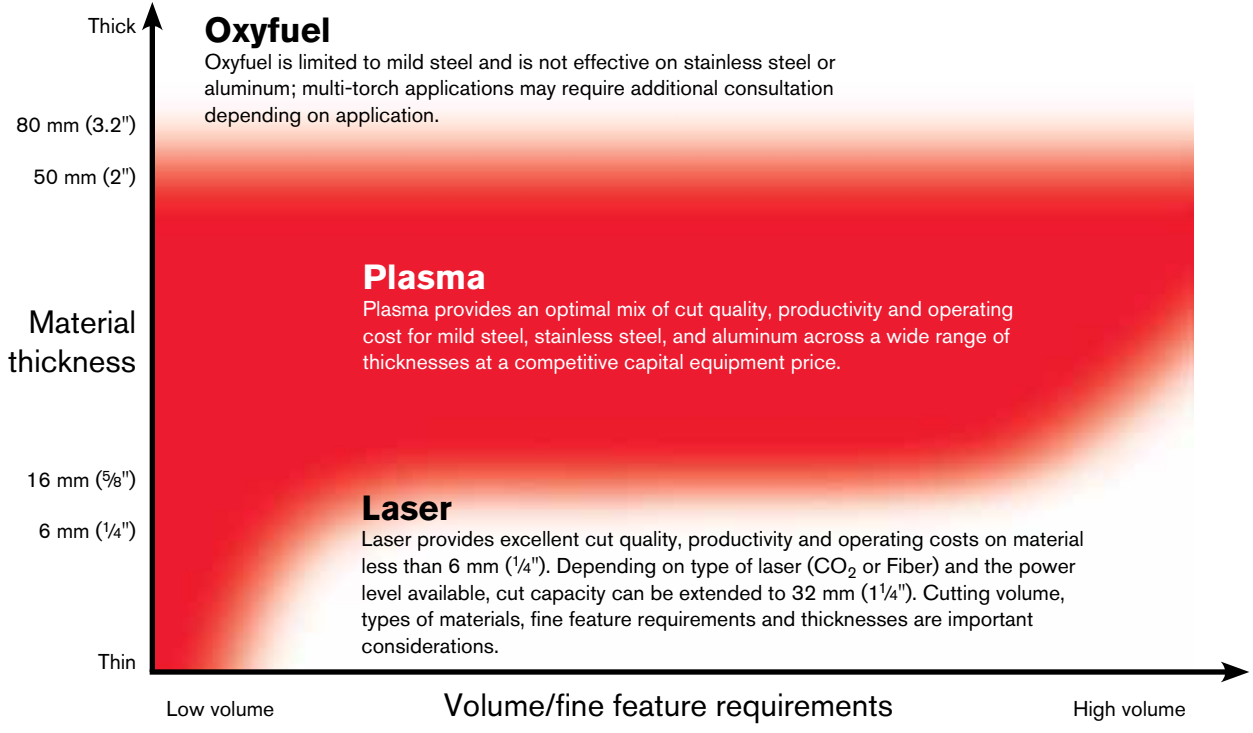
The world leader in plasma cutting technology



Comparison of plasma, oxyfuel and laser



- Areas of technology overlap indicated by shading, including both thickness and volume.
- Additional consideration is recommended to best determine appropriate technology, as more than one technology may be appropriate in areas of overlap.

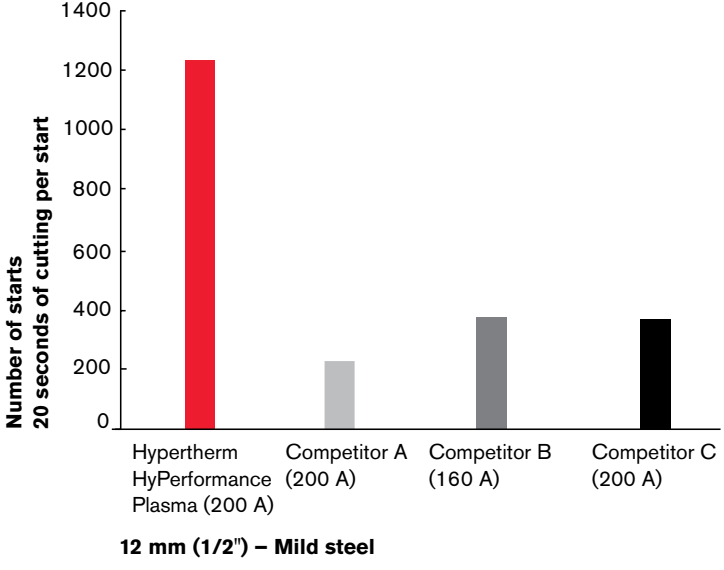
Plasma provides the optimal mix of cut quality, productivity and operating cost

	Oxyfuel	Plasma	Laser (CO_2)
Cut quality	▪ Good angularity ▪ Large heat-affected zone ▪ Dross levels require rework ▪ Not effective on stainless steel or aluminum	▪ Excellent angularity ▪ Small heat-affected zone ▪ Virtually dross-free ▪ Good to excellent fine-feature cutting	▪ Excellent angularity ▪ Small heat-affected zone ▪ Virtually dross-free ▪ Good to excellent fine-feature cutting with narrowest kerf
Productivity	▪ Slow cutting speeds ▪ Pre-heat time increases pierce times	▪ Very fast cutting speeds for all thicknesses ▪ Very fast pierce times ▪ Quick-disconnect torches maximize productivity	▪ Very fast cutting speeds on thin material (less than 6 mm – 1/4"); and slower on thicker material. ▪ Longer pierce times on thick material
Operating cost	▪ Poor productivity and required rework drive cost per part higher than plasma.	▪ Long consumable life, good productivity and excellent cut quality drive the cost per part lower than other technologies.	▪ High costs per part due to power requirements, gas consumption, high maintenance costs and relatively low cut speeds on thick material.
Maintenance	▪ Simple maintenance requirements can often be performed by in-house maintenance groups.	▪ Mechanical systems require simple to moderate maintenance, with most components serviceable by in-house maintenance groups.	▪ Expensive and complex maintenance tasks require specialized technicians.

The Hypertherm advantage

Cut quality and consumable life

Hypertherm plasma provides more consistent cut quality and longer consumable life than other plasma manufacturers.



12 mm (1/2") – Mild steel

Parts cut by Hypertherm plasma remain consistent from the first cut to the last.

Productivity

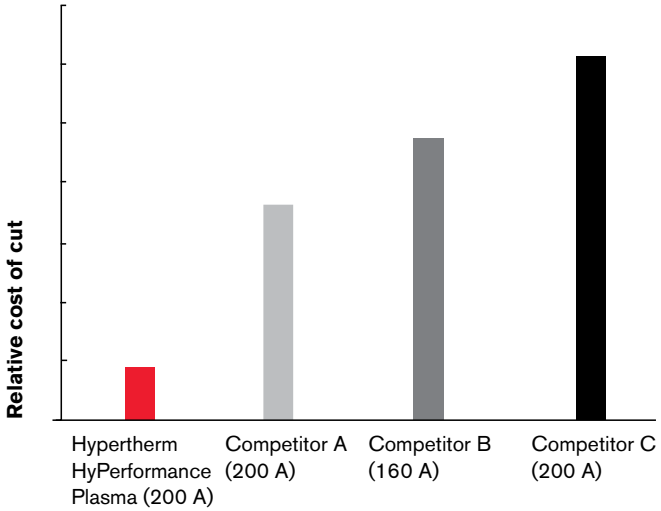
- Hypertherm plasma technology consistently delivers the optimal mix of cut speed and cut quality to minimize secondary operations and maximize productivity.
- Simple user interface, rapid set-up and quick-disconnect torch improve productivity.
- Hypertherm plasma cuts, bevels and marks a variety of metals, thick and thin.

Reliability

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

Operating cost

Hypertherm's faster cut speeds and significantly longer consumable life provide for operating costs that are less than half the competition.



12 mm (1/2") – Mild steel

Plasma capabilities chart

	Air Plasma	LongLife Air and Oxygen Plasma	HyPerformance Plasma
System	Powermax45® Powermax65® Powermax85® Powermax105®	MAXPRO200®	HPR130XD® HPR260XD® HPR400XD® HPR800XD®
Cut quality	Good Some secondary operations and dross.	Better Some secondary operations with virtually no dross.	Best Minimal to no secondary operations with virtually no dross. True Hole enabled for best hole quality.
Mild steel weldability	Fair to good mild steel welding. Good (Air/Air)	Good mild steel welding. Good (Air/Air) to best (O_2/Air)	Good mild steel welding. Best (O_2/Air)
Productivity	Good	Better	Best
Operating cost	Good	Better	Best
Consumable life	Good	Better	Best
Process flexibility	Good	Better	Best
Application ranges	Light- to medium-duty cutting. Light- to medium-duty mechanized and handheld cutting and gouging.	Light- to heavy-duty cutting. Light- to heavy-duty mechanized and handheld cutting and gouging.	Precision cutting, light- to heavy-duty cutting. Precision, light- to heavy-duty mechanized cutting. PowerPierce technology for extreme mechanized piercing capability.
Price	Low	Medium	High

Technology benefits

Technology benefits of Hypertherm plasma:	Powermax* Air Plasma	MAXPRO200* LongLife Air and Oxygen	HPRXD HyPerformance Plasma
▪ Patented PowerPierce technology for extreme piercing capability. ▪ Optimal gas mixing for mid-range stainless steel. ▪ HDi thin stainless technology. ▪ Patent pending True Hole™ enabled for best hole quality. ▪ HyPerformance bevel capability. ▪ Thickest capability. ▪ Remote (CNC) gas switching capability. ▪ More process options for optimizing cut quality. ▪ Mark, cut and bevel with same consumables ▪ HyDefinition technology – Hypertherm's best cut quality. ▪ Can be used on the largest machine frames. ▪ Highest cut speeds. ▪ Lowest operating cost.			■
▪ 100% duty cycle. ▪ Quick-disconnect torch. ▪ Thicker cutting capability. ▪ Significantly longer consumable life. ▪ Oxygen and multi-gas capability for improved cut quality, faster cut speeds, and improved weldability. ▪ Lower operating costs.		■	
▪ Serial communications enable full control from the CNC. ▪ Bevel capability up to 45°. ▪ Automatic gas technology minimizes operator intervention. ▪ Built and tested to withstand the harshest conditions. ▪ Good weldability. ▪ Fast cut speeds per recommended thickness. ▪ Good cut quality. ▪ Low operating cost.	■		

**Powermax and MAXPRO200 support handheld and mechanized cutting and gouging.*

Air plasma: Powermax

Powermax

Entry-level single gas (air or nitrogen) cutting systems, great for duct cutting, pipe cut-off, beveling and robotic 3-D cutting.

		Powermax45	Powermax65	Powermax85	Powermax105
Capacity Mild steel	Production (Pierce)*	12 mm (1/2")	16 mm (5/8")	20 mm (3/4")	22 mm (7/8")
	Severence	25 mm (1")	32 mm (1-1/4")	38 mm (1-1/2")	50 mm (2")
Stainless steel	Production (Pierce)*	10 mm (3/8")	12 mm (1/2")	16 mm (5/8")	20 mm (3/4")
Aluminum	Production (Pierce)*	10 mm (3/8")	12 mm (1/2")	16 mm (5/8")	20 mm (3/4")
Speed		12 mm (1/2") 510 mm/min (20 ipm)	12 mm (1/2") 850 mm/m (30 ipm)	12 mm (1/2") 1280 mm/m (45 ipm)	12 mm (1/2") 1690 mm/m (62 ipm)
Cut angle	ISO 9013 range**	5	5	5	5
Weldability		Preparation required	Preparation required	Preparation required	Preparation required
Process gases by material (Plasma/shield)	Mild steel	Air	Air	Air	Air
	Stainless steel	Air, N_2	Air, N_2	Air, N_2	Air, N_2
	Aluminum	Air, N_2	Air, N_2	Air, N_2	Air, N_2
Process amps (Cutting)		20 – 45	20 – 65	25 – 85	30 – 105

* Capacity for mechanized systems with automatic torch height control.

** ISO 9013 is a standard that defines cut quality of thermally cut parts. The lower the range (range 1 is the lowest), the smaller the angle on the cut face. Cut angle in range 4 is better than in range 5.

LongLife Air and Oxygen plasma: **MAXPRO200**

MAXPRO200

Engineered to deliver heavy-duty, high capacity mechanized and handheld cutting and gouging across a wide range of industrial applications.

		MAXPRO200
Capacity Mild steel	Dross free* (O_2/Air) Production pierce Severance	20 mm (3/4") 32 mm (1-1/4") 75 mm (3")
Stainless steel	Production pierce Severance	25 mm (1") 64 mm (2-1/2")
Aluminum	Production pierce Severance	32 mm (1-1/4") 75 mm (3")
Speed* (Mild steel)	Book specification at highest output current	12 mm (1/2") 3415 mm/m (130 ipm)
Cut angle	ISO 9013 range**	4
Weldability		Ready to weld
Process gases by material (Plasma/shield)	Mild steel	Air/Air, O_2/Air
	Stainless steel	Air/Air, N_2/N_2
	Aluminum	Air/Air, N_2/N_2
Process amps (Cutting)	Not all processes available for all materials	50 – 200 beveling (200)

* Feature and material type can influence dross free performance.

** ISO 9013 is a standard that defines cut quality of thermally cut parts. The lower the range (range 1 is the lowest), the smaller the angle on the cut face. Cut angle in range 4 is better than in range 5.

HyPerformance Plasma: HPR130XD, HPR260XD, HPR400XD and HPR800XD

HPR130XD, HPR260XD, HPR400XD and HPR800XD

HyPerformance Plasma systems deliver HyDefinition cut quality at half the operating costs. By incorporating Hypertherm's proven HyDefinition, LongLife, PowerPierce, HDi and True Hole technologies, HyPerformance Plasma boosts overall performance, productivity and profitability. The systems offer unmatched process flexibility to cut, bevel and mark metals up to 160 mm (6-1/4") thick.

		HPR130XD	HPR260XD	HPR400XD	HPR800XD
Capacity Mild steel	Dross free* Production pierce Maximum cutting capacity	16 mm (5/8") 32 mm (1-1/4") 38 mm (1-1/2")	32 mm (1-1/4") 38 mm (1-1/2") 64 mm (2-1/2")	38 mm (1-1/2") 50 mm (2") 80 mm (3.2")	38 mm (1-1/2") 50 mm (2") 80 mm (3.2")
Stainless steel Aluminum	Production pierce Maximum cutting capacity Maximum pierce**	20 mm (3/4") 25 mm (1") —	32 mm (1-1/4") 50 mm (2") —	45 mm (1-3/4") 80 mm (3.2") 75 mm (3")	75 mm (3") 160 mm (6-1/4") 100 mm (4")
	Production pierce Maximum cutting capacity	20 mm (3/4") 25 mm (1")	25 mm (1") 50 mm (2")	45 mm (1-3/4") 80 mm (3.2")	75 mm (3") 160 mm (6-1/4")
Speed* (Mild steel)	Book specification at highest output current	12 mm (1/2") 2200 mm/m (80 ipm)	12 mm (1/2") 3850 mm/m (145 ipm)	12 mm (1/2") 4430 mm/m (170 ipm)	12 mm (1/2") 4430 mm/m (170 ipm)
Cut angle	ISO 9013 range***	2 – 4	2 – 4	2 – 4	2 – 5
Weldability		Ready to weld	Ready to weld	Ready to weld	Ready to weld
Process gases by material (Plasma/shield)	Mild steel	O_2/Air, O_2/O_2	O_2/Air, O_2/O_2	O_2/Air, O_2/O_2, Ar/Air	O_2/Air, O_2/O_2, Ar/Air
	Stainless steel	H35/N_2, N_2/N_2, H35-N_2/N_2, F5/N_2, Ar/Air, Ar/N_2	H35/N_2, N_2/N_2, H35-N_2/N_2, F5/N_2, Ar/Air, Ar/N_2	H35/N_2, N_2/N_2, H35-N_2/N_2, F5/N_2, Ar/Air, Ar/N_2	H35/N_2, N_2/N_2, H35-N_2/N_2, F5/N_2, Ar/Air, Ar/N_2
	Aluminum	H35/N_2, Air/Air, H35-N_2/N_2	H35/N_2, Air/Air, H35-N_2/N_2	H35/N_2, Air/Air, H35-N_2/N_2, Ar/Air, Ar/N_2	H35/N_2, Air/Air, H35-N_2/N_2, Ar/Air, Ar/N_2
Process amps (Cutting)	Not all processes available for all materials	30 – 130	30 – 260	30 – 400	30 – 800

* Feature and material type can influence dross free performance.

** Maximum pierce requires use of an autogas console and controlled motion process. See technical documentation for details.

*** ISO 9013 is a standard that defines cut quality of thermally cut parts. The lower the range (range 1 is the lowest), the smaller the angle on the cut face. Cut angle in range 4 is better than in range 5.

Consumables

Use genuine Hypertherm consumables to ensure optimal performance of your Hypertherm plasma cutting system. It is the only way to guarantee that you are using the latest performance-enhancing consumable technologies, machined to the highest quality standards and backed by the combined service resources of Hypertherm and its worldwide network of channel partners.

Technology

- Superior cut quality and reduced or eliminated secondary operations
- Faster cutting speeds and greater thickness capabilities
- Dramatically longer consumable life
- Lower operating cost and higher productivity

Quality

- ISO 9001:2000 registration ensures consistent manufacturing excellence
- Six-sigma manufacturing processes guarantee repeatable machining of critical-to-function dimensions for consistent consumable performance
- Manufactured with state-of-the-art, precision equipment that consistently maintains the high tolerances required by Hypertherm's high-performance consumable parts

Service

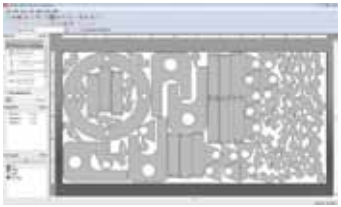
- Worldwide product support provided in conjunction with our network of channel partners
- Customized process/system application solutions
- Preventive maintenance, world-class service and operator training

Also available from Hypertherm to support your mechanized cutting needs

CNC controllers (2–12 axes)

Automated torch height controls

Drive packages



Nesting software

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Cut with confidence®

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