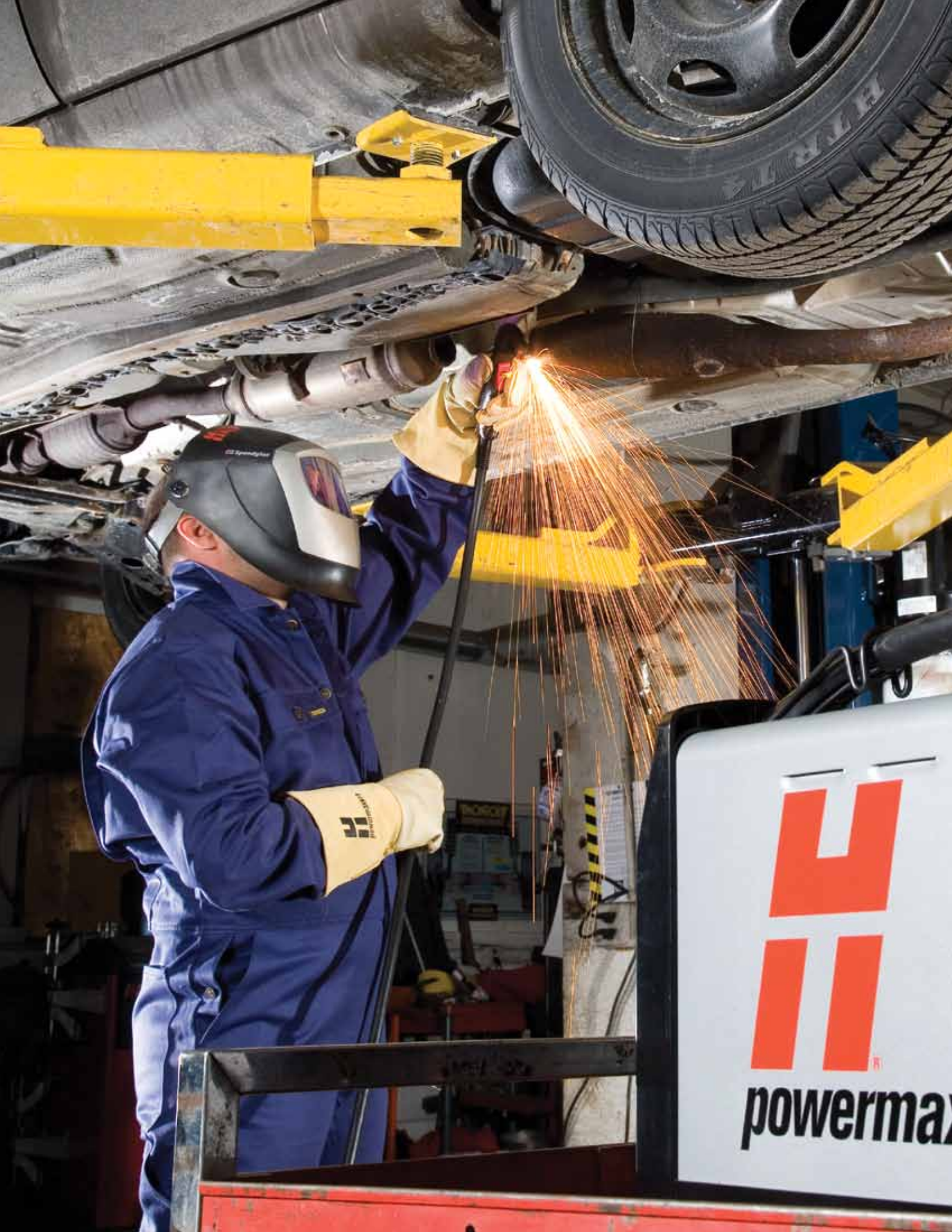


# Hypertherm®

## Powermax® Selection Guide



HANDHELD AND MECHANIZED PLASMA SYSTEMS FOR CUTTING AND GOUGING METAL





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**CELL 29**  
780760 PAC 105  
T308  
ELECTRODES

**CELL 30**  
780760 PAC 105  
T308  
ELECTRODES

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## Hypertherm: Company overview

For over 40 years, Hypertherm has been designing and manufacturing the world's finest thermal cutting equipment. Hypertherm systems are trusted for performance and reliability that result in increased productivity and profitability for our customers. With an intense focus on technology innovation, Hypertherm has established our position as the industry leader while delivering the tools our customers need to achieve their best results.

**“Hypertherm products are reliable, consistent, and easily outperform anything else in their class.”**

A North American Hypertherm distributor

**Work like an owner. Think like a customer.**

Each Hypertherm associate owns shares in the company. Share ownership is a powerful motivator, with clear benefits for Hypertherm customers: every product we design is built with the highest quality – just as you would expect from an owner.

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.







## Understanding plasma technology

### Powermax systems cut metals quickly, cleanly and precisely.

Plasma is created by applying electrical energy to a gas, which increases its temperature significantly. Powermax systems use plasma's intense heat to melt the metal and a high-pressure gas – air or nitrogen – to blow the molten metal away, leaving an edge with good quality that minimizes the need for secondary operations. Powermax systems are also effective for gouging metal.

### Cut or gouge mild steel, stainless steel, aluminum and more.

A Powermax plasma system is a versatile tool. Whether in a shop, factory, at home, or in the field, Powermax systems cut and gouge a wide variety of metal types, thicknesses and forms. Most models are available with a handheld or machine torch for added versatility.



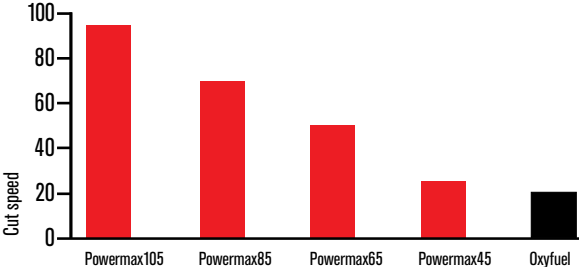
### Operating a Powermax system requires:

- A handheld or machine torch with consumables.
- AC power source (fixed or generator).
- Compressed air – shop air, portable air compressor or bottled air. Nitrogen may also be used.
- Safety equipment, including shaded glasses or face shield, gloves, protective clothing and proper ventilation.

# Why choose Powermax over oxyfuel

Cutting with a Powermax system does not require flammable gases for pre-heating; provides faster cutting speeds on metals up to 32 mm (1-1/4 inches) thick; and delivers better cut quality for fewer secondary operations. Powermax systems are easily used with templates, will cut stacked, painted or rusted metal, and any electrically conductive metal type such as stainless steel and aluminum.

Cut speed comparison on 12 mm (1/2") mild steel







## Powermax advantages

**Productivity** – Fast cut speeds, superior cut quality, little or no secondary operations and no pre-heating help you to do more in less time.

**Ease of use** – High portability, simple controls and good arc visibility make Powermax systems easy to operate. Any operator can quickly become skilled with a Powermax system.

**Versatility** – From the shop to the field, cutting or gouging stainless, mild steel or aluminum, you can leverage a Powermax system for many jobs.

**Low operating cost** – High productivity and long consumable life minimize operating costs.

**Reliability** – Smart design, plus intense testing during both product development and manufacturing, delivers industry-leading reliability.

**Confidence** – Hypertherm's singular focus on plasma, plus the proven performance and reliability of our global installed base, gives you confidence that you are buying the best.

Our products are engineered to go well beyond environmental regulatory requirements. We chose to meet the EU RoHS directive for restricting the use of hazardous materials, such as lead and cadmium, in our Powermax products. We are also working to make our Powermax systems more efficient so they cut thicker and faster yet use less energy.



An example of this is the Powermax65 compared to an earlier predecessor, the MAX100. Both have the same cut capacities, yet the Powermax65 is much smaller, lighter and uses less power.



	MAX100	Powermax65	Difference
Cut Capacity	1.25" (32 mm) at 5 ipm (125 mm/min)	1.25" (32 mm) at 5 ipm (125 mm/min)	SAME
Output	100 A	65 A	35% less
Size	.59 m <sup>3</sup> (21 <sup>3</sup> )	.059 m <sup>3</sup> (1.9 <sup>3</sup> )	90% smaller
Weight	420 lbs (190 kg)	64 lbs (29 kg)	85% lighter

# Powermax product line

**High-performance industrial products for every cutting and gouging need.**

Hypertherm's Powermax line of products consists of five systems that will help you get your cutting and gouging jobs done faster, easier, more reliably and at lower cost.

For part numbers refer to product brochures or visit [www.hypertherm.com/powermax/](http://www.hypertherm.com/powermax/).

## Capacity ratings

There is no industry standard for rating plasma systems, so it is important to take care when comparing products from different manufacturers.

### Handheld cut capacity

Recommended - The thickness of mild steel on which the system delivers good cut quality and speeds at or greater than 20" (500 mm) per minute. Eighty percent or more of cutting should be at the recommended thickness.

Severance - The thickness of mild steel that can be reasonably severed at a minimum of 5 ipm (125 mm) but with poor cut quality. Cutting the severance thickness should be infrequent.

### Mechanized pierce capacity

The thickness of mild steel that may be pierced using an automated torch height control with good cut quality and without excessive wear on the consumable parts. If edge starting, the cut capacity is the same as handheld capacity.

## powermax30<sup>®</sup>



Don't let the small size fool you. The Powermax30 does the work of systems twice its size and weight. It efficiently cuts 1/4" (6 mm) metal. Includes a shoulder strap for increased portability.

Capacity	Thickness	Cut speed
Recommended	1/4" (6 mm)	at 20 ipm (500 mm/min)
	3/8" (10 mm)	at 10 ipm (250 mm/min)
Severance	1/2" (12 mm)	at 5 ipm (125 mm/min)



T30v hand torch

## powermax45<sup>®</sup>



Our best selling system, the Powermax45 is the most versatile and portable 1/2" (12 mm) machine on the market, with a broad set of application capabilities that make it a truly multi-purpose tool. The Powermax45 cuts or gouges faster, easier and better than any other product in its class.

Capacity	Thickness	Cut speed
Recommended	1/2" (12 mm)	at 20 ipm (500 mm/min)
	3/4" (20 mm)	at 10 ipm (250 mm/min)
Severance	1" (25 mm)	at 5 ipm (125 mm/min)
Pierce	1/2" (12 mm)*	

\* Pierce rating for handheld use or with automatic torch height control



T45v hand torch



T45m machine torch



▶ Watch a Powermax system demonstration  
[www.hypertherm.com/powermax/videos/](http://www.hypertherm.com/powermax/videos/)



With the most torch options in the industry and the latest technological innovations, the Powermax65, Powermax85 and the new Powermax105 help you do more than ever before. Seven Duramax torch styles provide greater versatility for hand, portable automation, X-Y table and robotic cutting and gouging. Smart Sense™ technology automatically adjusts gas pressure according to cutting mode and torch lead length for optimum cutting. In the Powermax105, it also detects consumable end-of-life, automatically turning off power to the torch to prevent potential damage to other parts or the work piece.

## powermax65®

Capacity	Thickness	Cut speed
Recommended	3/4" (20 mm) 1" (25 mm)	at 20 ipm (500 mm/min) at 10 ipm (250 mm/min)
Severance	1-1/4" (32 mm)	at 5 ipm (125 mm/min)
Pierce	5/8" (16 mm)*	

\* Pierce rating for handheld use or with automatic torch height control

## powermax85®

Capacity	Thickness	Cut speed
Recommended	1" (25 mm) 1-1/4" (32 mm)	at 20 ipm (500 mm/min) at 10 ipm (250 mm/min)
Severance	1-1/2" (38 mm)	at 5 ipm (125 mm/min)
Pierce	3/4" (20 mm)*	

\* Pierce rating for handheld use or with automatic torch height control

## powermax105®

Capacity	Thickness	Cut speed
Recommended	1-1/4" (32 mm) 1-1/2" (38 mm)	at 20 ipm (500 mm/min) at 10 ipm (250 mm/min)
Severance	2" (50 mm)	at 5 ipm (125 mm/min)
Pierce	7/8" (22 mm)*	

\* Pierce rating for handheld use or with automatic torch height control



# System specifications

To choose the Powermax system that will best suit your long term needs, please consider the following questions.

## What thickness of metal will you be cutting?

Powermax plasma can cut from sheet metal to 44 mm (1-3/4"). Choose the Powermax system with the recommended capacity for the thickness of metal you expect to cut 80% of the time or more.

## Will the cutting or gouging be done by a handheld torch or with an automated machine?

For automated cutting, select a machine-torch compatible Powermax system with interface options for automation equipment like a CNC table, robot and track cutters.

## What electrical service do you use?

Knowing the incoming line voltage, phase and breaker size where the system will be used ensures your electrical service can support the Powermax system you choose.

## Will the plasma system be powered by an engine-drive generator?

Each Powermax system requires a minimum kilowatt output to deliver full performance. Refer to page 16 for more operating information using generators.

## What is your compressed gas source?

Powermax systems require compressed air or nitrogen for operation. The gas must be dry and free of contaminants. An optional filter is available to ensure clean and dry gas. Refer to gas flow rate and pressure requirements in the chart to the right.

For more information, refer to product brochures or visit [www.hypertherm.com/powermax/](http://www.hypertherm.com/powermax/).

For higher amperage systems that can be used with either handheld or machine torches visit [www.hypertherm/products/](http://www.hypertherm/products/).

		Powermax30
Handheld cut capacity	Recommended	6 mm (1/4")
		10 mm (3/8")
		12 mm (1/2")
Mechanized pierce capacity	Severance	Not applicable
Gouge capacity	Metal removed per hour depth x width <sup>2</sup>	Not applicable
		Not applicable
Output current		15 - 30 A
Input voltage	CSA	120 - 230 V, 1-PH 50/60 Hz
	CE	120 - 230 V, 1-PH 50/60 Hz
Rated output voltage		83 VDC
Input current	CSA	120 - 230 V, 1-PH: 26 - 13.5 A
	CE	120 - 230 V, 1-PH: 26 - 13.5 A
Duty cycle at full output <sup>3</sup>	CSA	50%, 230 V 35%, 120 V
	CE	50%, 230 V 35%, 120 V
Dimensions with handle	depth x width x height	356 x 168 x 305 mm (14.0 x 6.6 x 12.0")
Weight with torch	CSA	9 kg (20 lbs)
	CE	10 kg (21 lbs)
Gas supply		Air or N <sub>2</sub>
Recommended gas inlet flow rate/pressure		113 l/min (240 scfh, 4 scfm) @ 5.5 bar (80 psi)
Torch lead lengths	Handheld	4.5 m (15')
	Mechanized	Not applicable



Powermax45	Powermax65	Powermax85	Powermax105
12 mm (1/2")	20 mm (3/4")	25 mm (1")	32 mm (1-1/4")
20 mm (3/4")	25 mm (1")	32 mm (1-1/4")	38 mm (1-1/2")
25 mm (1")	32 mm (1-1/4")	38 mm (1-1/2")	50 mm (2")
12 mm (1/2") <sup>1</sup>	16 mm (5/8") <sup>1</sup>	20 mm (3/4") <sup>1</sup>	22 mm (7/8") <sup>1</sup>
2.8 kg (6.2 lbs)	4.8 kg (10.7 lbs)	8.8 kg (19.5 lbs)	9.8 kg (21.7 lbs)
3.3 mm (.13") x 5.5 mm (.22")	3.5 mm (.14") x 6.6 mm (.26")	5.8 mm (.23") x 7.1 mm (.28")	6.4 mm (.25") x 7.4 mm (.29")
20 - 45 A	20 - 65 A	25 - 85 A	30 - 105 A
CSA 200 - 240 V, 1-PH, 50-60 Hz CE 230 V, 1-PH, 50-60 Hz CE 400 V, 3-PH, 50-60 Hz	CSA 200 - 480 V, 1-PH, 50-60 Hz 200 - 600 V, 3-PH, 50-60 Hz CE 400 V, 3-PH, 50-60 Hz	CSA 200 - 480 V, 1-PH, 50-60 Hz 200 - 600 V, 3-PH, 50-60 Hz CE 400 V, 3-PH, 50-60 Hz	CSA 200 - 600 V, 3-PH, 50/60 Hz CE 230 - 400 V, 3-PH, 50/60 Hz CE 400 V, 3-PH, 50/60 Hz CCC 380 V, 3-PH, 50/60 Hz
132 VDC	139 VDC	143 VDC	160 VDC
CSA 200/230 V, 1-PH, 34/28 A CE 230 V, 1-PH, 30 A 380/400 V, 3-PH, 10.5/10 A	CSA 200/208/240/480 V, 1-PH 52/50/44/22 A 200/208/240/480/600 V, 3-PH 32/31/27/13/13 A CE 380/400 V, 3-PH 15.5/15 A	CSA 200/208/240/480 V, 1-PH 70/68/58/29 A 200/208/240/480/600 V, 3-PH 42/40/35/18/17 A CE 380/400 V, 3-PH 20.5/19.5 A	CSA 200/208/240/480/600 V, 3-PH 58/56/49/25/22 A CE 230/400 V, 3-PH 50/29 A CE 400 V, 3-PH, 28 A CCC 380 V, 3-PH 30 A
CSA 50% @ 45 A, 200 - 240 V, 1-PH 60% @ 41 A, 200 - 240 V, 1-PH 100% @ 32 A, 200 - 240 V, 1-PH CE 50% @ 45 A, 230 V, 1-PH 60% @ 41 A, 230 V, 1-PH 100% @ 32 A, 230 V, 1-PH CE 50% @ 45 A, 380/400 V, 3-PH 60% @ 41 A, 380/400 V, 3-PH 100% @ 32 A, 380/400 V, 3-PH	CSA 50% @ 65 A, 230 - 600 V, 1/3-PH 40% @ 65 A 200 - 208 V, 1/3-PH 100% @ 46 A, 230 - 600 V, 1/3-PH CE 50% @ 65 A 380/400 V, 3-PH 100% @ 46 A 380/400 V, 3-PH	CSA 60% @ 85 A, 230 - 600 V, 3-PH 60% @ 85 A, 480 V, 1-PH 50% @ 85 A, 240 V, 1-PH 50% @ 85 A 200 - 208 V, 3-PH 40% @ 85 A 200 - 208 V, 1-PH 100% @ 66 A, 230 - 600 V, 1/3-PH CE 60% @ 85 A 380/400 V, 3-PH 100% @ 66 A 380/400 V, 3-PH	CSA 200 - 600 V, 50% @ 105 A, 200 V, 3-PH 54% @ 105 A, 208 V, 3-PH 70% @ 105 A, 240 V, 3-PH 100% @ 105 A, 480 - 600 V, 3-PH 100% @ 94 A, 480 - 600 V, 3-PH 100% @ 88 A, 240 V, 3-PH 100% @ 77 A, 208 V, 3-PH 100% @ 74 A, 200 V, 3-PH CE 230 - 400 V, 70% @ 105 A, 230 V, 3-PH 80% @ 105 A, 400 V, 3-PH 100% @ 94 A, 400 V, 3-PH 100% @ 88 A, 230 V, 3-PH CE 400 V, 80% @ 105 A, 400 V, 3-PH 100% @ 94 A, 400 V, 3-PH CCC 380 V, 80% @ 105A, 380 V, 3-PH 100% @ 94 A, 380 V, 3-PH
426 x 172 x 348 mm (16.75 x 6.75 x 13.7")	500 x 234 x 455 mm (19.7 x 9.2 x 17.9")	500 x 234 x 455 mm (19.7 x 9.2 x 17.9")	592 x 274 x 508 mm 23.3 x 10.8 x 20.0"
CSA 17 kg (37 lbs) CE 16 kg (35 lbs)	CSA 29 kg (64 lbs) CE 26 kg (57 lbs)	CSA 32 kg (71 lbs) CE 28 kg (62 lbs)	CSA 45 kg (100 lbs) CE 45 kg (100 lbs) (230-400 V) CE 41 kg (91 lbs) (400 V) CCC 41 kg (91 lbs)
Air or N <sub>2</sub>	Air or N <sub>2</sub>	Air or N <sub>2</sub>	Air or N <sub>2</sub>
Cutting: 170 l/min (360 scfh, 6 scfm) @ 5.5 bar (80 psi) Gouging: 170 l/min (360 scfh, 6 scfm) @ 4.1 bar (60 psi)	Cutting: 189 l/min (400 scfh, 6.7 scfm) @ 5.6 bar (85 psi) Gouging: 212 l/min (450 scfh, 7.5 scfm) @ 4.8 bar (70 psi)	Cutting: 189 l/min (400 scfh, 6.7 scfm) @ 5.6 bar (85 psi) Gouging: 212 l/min (450 scfh, 7.5 scfm) @ 4.8 bar (70 psi)	Cutting: 217 l/min (460 scfh, 7.7 scfm) @ 5.9 bar (85 psi) Gouging: 227 l/min (480 scfh, 8.0 scfm) @ 4.8 bar (70 psi)
6.1 m, 15.2 m, 22.8 m (20', 50', 75')	3 m, 7.6 m, 15.2 m, 22.8 m (10', 25', 50', 75')	3 m, 7.6 m, 15.2 m, 22.8 m (10', 25', 50', 75')	7.6 m, 15.2 m, 22.8 m (25', 50', 75')
4.5 m, 7.6 m, 10.7 m, 15.2 m, 22.8 m (15', 25', 35', 50', 75')	4.5 m, 7.6 m, 10.7 m, 15.2 m, 22.8 m (15', 25', 35', 50', 75')	4.5 m, 7.6 m, 10.7 m, 15.2 m, 22.8 m (15', 25', 35', 50', 75')	7.6 m, 10.7 m, 15.2 m, 22.8 m (25', 35', 50', 75')

<sup>1</sup> Pierce rating for handheld use or with automatic torch height control.

<sup>2</sup> Dependent on speed, torch angle and standoff.

<sup>3</sup> Hypertherm's duty cycle ratings are established at 40° C (104° F), according to international standards, and are determined at actual cutting arc voltage levels.

Competitive systems are often rated at room temperature 20° C (70° F) and at theoretical output voltages, which allows duty cycle ratings to be significantly overstated.

## Available technologies and features

Model	Power supply								Torch					Work cable			Miscellaneous			
	Drag-cutting capability	Gouging mode	Pilot arc controller	Contact start	Boost Conditioner circuit <sup>4</sup>	Auto-voltage <sup>4</sup>	FastConnect design	Basic machine interface	Advanced automation interface	75° hand torch	15° hand torch	Full-length machine torch	Mini machine torch	Robotic torches	Hand clamp	C-style clamp	Ring terminal	Remote pendant	Carry strap	Wheel gear
Powermax30	●		●	●	●	●			●					●				●		
Powermax45	●	●	●	●	●	●	●	●	●		●			●	●			●	●	
Powermax65	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Powermax85	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Powermax105	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

<sup>4</sup> On CSA models and some CE models. Refer to input voltages in the table above or product brochures for specifics.

## Powermax technology benefits

**Hypertherm's proprietary designs deliver fast cutting speeds, long consumable life, and superior cut quality for high productivity and low operating costs.**

**Smart Sense™** technology automatically adjusts gas pressure according to cutting mode and torch lead length for optimum cutting. Powermax65/85/105 only.

**Clean side / dirty side** design isolates circuit board components to limit metallic dust build-up and improve reliability in industrial environments.

**Powercool™** design cools internal components more effectively for greater system reliability and improved uptime.

**Contact-start** technology eliminates high-frequency interference that can damage nearby electronic equipment.

**Conical Flow™** nozzle technology increases arc density for superior cut quality with little dross. Powermax45/65/85/105 only.

**Patent pending shield** reduces dross buildup and enables smoother drag cutting for a better cut. Duramax torches only.

**Spring Start™** technology in the electrode increases torch reliability by eliminating moving parts in the torch. Duramax torches only.

**CopperPlus™** electrode technology delivers 2 times longer consumable life over standard consumables and is designed for use on all Duramax torches when cutting metal 12 mm (1/2") and under. Sold separately.

Note: Technologies vary by product. Refer to product brochures.





**CNC interface** options enable easy integration with automation equipment.

### Power board technology

**Boost Conditioner™** circuit compensates for variations in incoming power, providing consistent cut performance and improved operation on generators. CSA and select CE models only.

**Continuous pilot arc mode** allows you to cut across grating without stopping.

**Auto-voltage™** enables operation on a variety of voltages with no rewiring. CSA and select CE models only.

### Control board technology

Patented use of **Digital Signal Processing (DSP)** provides higher power efficiency and requires fewer component parts for increased reliability.

**Dual-threshold™** pilot circuit extends consumable life.

**Mode selector** to switch easily between plate cutting, expanded metal cutting and gouging. Powermax45/65/85/105 only.

**Easy-to-use controls** with an LCD screen. LCD on Powermax65/85/105 only.

**FastConnect™** provides simple push-button torch connection to the power supply. Powermax45/65/85/105 only.

Removable **work leads** with three connection styles to suit a variety of application needs. Powermax65/85/105 only.





Robotic 3-dimensional cutting



Track cutting and gouging





## Automate cutting and gouging with Powermax

**Industrial duty cycles, low operating costs and Hypertherm reliability make Powermax systems ideal for many mechanized applications.**

Powermax systems are used on X-Y cutting tables, 3-dimensional robots, track cutting systems and pipe cutting and beveling machines. When hand cutting is required, FastConnect technology enables easy switching between handheld and machine torches.

### Using a Powermax plasma system in a mechanized application

The equipment required to run a Powermax system in a mechanized application varies. For example:

- To automate long, straight cuts, a mechanized torch, a remote on/off pendant and track cutter may be all that is needed.
- An entry-level X-Y table application requires a mechanized torch, control cable, and a computer numeric control (CNC) along with the table and lifter.
- For optimum performance on an X-Y table, a programmable torch height control and nesting software would also be used.

### Importance of torch height control

A key element in any thermal cutting application is the distance from the torch to the work piece. Proper cut height improves cut angularity and cut speed while reducing dross. Torch height controls (THC) can be:

**Manual** – Height set by the operator.

**Automatic** – THC senses the plate and maintains a set distance.

**Programmable** – CNC sets different stand-offs for piercing and cutting.

### Mechanized communications

Mechanized Powermax systems include a standard machine interface through a CPC port, which provides access to start, transfer, and divided voltage signals.

For increased control of the power supply through a CNC, the Powermax65, Powermax85, and Powermax105 are available with an optional RS-485 serial interface port (ModBus ASCII protocol).



Pipe and bevel cutting

# Operating with a generator

Powermax systems can be powered by motor generators at sites where fixed power is unavailable, and portable compressors or bottled air may be used as the gas source. High power efficiency and advanced power supply technology that compensate for low-line voltage ensure high-performance cutting and gouging no matter where the job.

	Engine drive rating (kW)	System output (A)	Performance (arc stretch)
<b>Powermax30</b>	5.5	30	Full
	4	25	Limited
<b>Powermax45</b>	8	45	Full
	6	45	Limited
	6	30	Full
<b>Powermax65</b>	15	65	Full
	12	65	Limited
	12	40	Full
	8	40	Limited
	8	30	Full
<b>Powermax85</b>	20	85	Full
	15	70	Limited
	15	60	Full
	12	60	Limited
	12	40	Full
	8	40	Limited
	8	30	Full
<b>Powermax105</b>	30	105	Full
	22.5	105	Limited
	22.5	85	Full
	15	85	Limited
	15	65	Limited





## Hypertherm Certified™ reliability

### Reliable by design

Quality and reliability are critical when selecting a plasma cutting system.

Powermax systems are tested under strict protocols which ensures the highest levels of performance and reliability. You can be confident that Hypertherm Powermax systems will perform reliably under the toughest conditions.

### Hypertherm conducts:

- Extensive live-arc testing.
- Severe environmental testing, including Highly Accelerated Life Testing (HALT).
- Aggressive mechanical testing.
- Complete diagnostic testing and burn-in of each system.

### Reliability is designed into Powermax systems through features like:

- Patented Digital Signal Processing (DSP) technology, which utilizes software instead of hardware to perform key internal functions.
- Spring Start technology in the electrode, which eliminates moving parts in the torch.
- Powercool technology, which cools key components efficiently and effectively for superior system reliability.



Powermax systems are backed by a full 3-year power supply warranty and a 1-year torch warranty.



Drag cutting



Mechanized



Gouging



FineCut

## Genuine Hypertherm consumables

**Genuine Hypertherm consumables are designed with the latest technologies to enhance cutting quality, consumable life and overall productivity.**

**Drag-cutting consumables** (shielded) – Drag-cutting technology allows the shield to touch the workpiece metal without damaging the nozzle and other consumables. The drag-cutting shield is designed to steady your hand to make smooth, consistent cuts even when freehand cutting.

**Mechanized consumables** (shielded or unshielded) – Shielded mechanized consumables protect the nozzle from the workpiece metal and may be used when a torch height controller is installed. Unshielded consumables expose the nozzle and are ideal for cutting in hard-to-reach areas and for the best arc visibility.

**Gouging consumables** – Gouging consumables are specifically designed for metal-removal applications. Plasma gouging is more efficient than grinding and produces less noise and fumes than carbon arc gouging.

**FineCut® consumables** – FineCut consumables deliver high-quality cuts on thin metal for a narrow kerf and virtually dross-free cutting. Secondary operations are eliminated when FineCut consumables are used to cut thin gauge metal (recommended for mild steel and stainless steel cutting).

**CopperPlus™ electrodes** – The CopperPlus electrode delivers 2 times longer consumable life over standard consumables and is designed for use on all Duramax torches when cutting metal 12 mm (1/2") and under.

**You can cut with confidence knowing that Hypertherm is dedicated to supporting your operation with high-quality parts for years to come.**



# Duramax™ retrofit torches

If you own a **Powermax600/800/900/1000/1250/1650** or a **Max42/43** system and are not ready to purchase a new Powermax system, you can sharpen your cutting edge by retrofitting with a Duramax series torch.

## Sharpen your cutting edge!

### Latest torch and consumable technologies

- Duramax RT torches use the same consumables as the newest Powermax systems, so upgrading your older system with a Duramax torch allows you to consolidate your consumable inventory across Powermax systems.

### Easy plug-and-play upgrade

- Duramax RT torches are available for many systems and include the torch connection specific to your system to make retrofitting simple.

### Up to 55% longer consumable life

- Conical flow nozzle and spring electrode give you up to 55% more consumable life for up to a 30% reduction in consumable costs.\*

### 5 times more durable

- Proprietary, fiber-reinforced torch handle is 5 times more impact resistant and 20% more heat resistant to withstand your toughest metal-cutting applications.\*

### More reliable arc-starting

- Spring Start electrode technology eliminates moving parts in the torch for more reliable arc-starting.\*

\*When compared with standard T60/T80/T100 torches and/or consumables for Powermax1000, Powermax1250 and Powermax1650 systems.

#### Part number Torch assemblies for Powermax600/800/900 and Max42/43

228916	Duramax HRT hand torch assembly with 7.6 m (25') leads
228917	Duramax HRT hand torch assembly with 15.2 m (50') leads
228918	Duramax HRT hand torch assembly with 7.6 m (25') leads**
228919	Duramax HRT hand torch assembly with 15.2 m (50') leads**
228920	Duramax MRT machine torch assembly with 7.6 m (25') leads
228921	Duramax MRT machine torch assembly with 15.2 m (50') leads
228922	Duramax MRT machine torch assembly with 7.6 m (25') leads**
228923	Duramax MRT machine torch assembly with 15.2 m (50') leads**

\*\*without quick disconnect for Powermax600 CE models

#### Part number Torch assemblies for Powermax1000/1250/1650

228788	Duramax HRT hand torch assembly with 7.6 m (25') leads
228789	Duramax HRT hand torch assembly with 15.2 m (50') leads
228807	Duramax HRTs hand torch assembly with 7.6 m (25') leads
228808	Duramax HRTs hand torch assembly with 15.2 m (50') leads
228790	Duramax MRT machine torch assembly with 7.6 m (25') leads
228791	Duramax MRT machine torch assembly with 15.2 m (50') leads



# Product accessories



## Plasma cutting guide

Facilitates consistent and accurate circles and lines. For optional use as a stand-off guide and in bevel cutting applications. The basic kit includes torch holder with 38 cm (15") arm, wheels and pivot pin. The deluxe kit includes torch holder with 28 cm (11") arm, wheels, pivot pin, base magnet with suction cups, and plastic carry case.

Part number	Description
127102	Basic kit
027668	Deluxe kit



## Air filtration kits

Ready-to-install kits with a 1-micron filter and an auto-drain moisture separator protects against contaminated air.

Part number	Description
128647	Filter only
228570	Filter plus cover for Powermax65/85
228624	Cover only for Powermax65/85
228890	Filter plus cover for Powermax105
101215	Cover only for Powermax105



## System dust cover

Made from a durable denier fabric with a polyurethane coating, a dust cover will protect your Powermax investment for years.

Part number	Description
127144	Powermax30
127219	Powermax45
127301	Powermax65/85
127360	Powermax105



## Consumable kits for Powermax systems

Powermax All-in-one kits provide you with a sampling of all of the consumables available for your Powermax system. Experience the versatility of your system.

Part numbers for all-in-one kits	
850480	Powermax30 (handheld kit)
850490	Powermax45 (handheld kit)
850910	Powermax65 (handheld kit)
850900	Powermax65 (mechanized kit)
850890	Powermax85 (handheld kit)
850880	Powermax85 (mechanized kit)
850992	Powermax105 (handheld kit)
850985	Powermax105 (mechanized kit)

Part numbers for FineCut kits	
850930	Powermax65/85/105 (handheld kit)
850920	Powermax65/85/105 (mechanized kit)



## Leather torch sheathing

Available in 7.6 m (25') sections, this option provides additional protection for torch leads against burn-through and abrasion.

Part number	Description
024548	Brown leather
024877	Black leather with Hypertherm logos



## System carry case

Rugged polyurethane case with consumable compartment and custom foam inserts for the Powermax30 system and accessories.

Part number
127170



## Wheel kit

A complete, pre-assembled kit for added mobility when the machine must be moved.

Part number	Description
229370	Powermax65/85
229467	Powermax105

# Optional external cables



## Work cables

Three connection styles to meet a variety of operator needs.

### Part numbers for Powermax65

223125	Hand clamp 7.6 m (25')
223126	Hand clamp 15.2 m (50')
223127	Hand clamp 22.8 m (75')
223194	C-style clamp 7.6 m (25')
223195	C-style clamp 15.2 m (50')
223196	C-style clamp 22.8 m (75')
223200	Ring terminal 7.6 m (25')
223201	Ring terminal 15.2 m (50')
223202	Ring terminal 22.8 m (75')

### Part numbers for Powermax85

223035	Hand clamp 7.6 m (25')
223034	Hand clamp 15.2 m (50')
223033	Hand clamp 22.8 m (75')
223203	C-style clamp 7.6 m (25')
223204	C-style clamp 15.2 m (50')
223205	C-style clamp 22.8 m (75')
223209	Ring terminal 7.6 m (25')
223210	Ring terminal 15.2 m (50')
223211	Ring terminal 22.8 m (75')

### Part numbers for Powermax105

223254	Hand clamp 7.6 m (25')
223255	Hand clamp 15.2 m (50')
223256	Hand clamp 22.8 m (75')
223287	C-style clamp 7.6 m (25')
223288	C-style clamp 15.2 m (50')
223289	C-style clamp 22.8 m (75')
223284	Ring terminal 7.6 m (25')
223285	Ring terminal 15.2 m (50')
223286	Ring terminal 22.8 m (75')



## Remote pendants

Switches for remotely turning on and off a machine torch. Designed to attach to the CPC port on Powermax45, 65, 85 and 105 models.

### Part number Description

128650	7.6 m (25')
128651	15.2 m (50')
128652	22.8 m (75')

## Machine interface cables

Cables for providing a serial connection between the power supply and the CNC controllers. Designed to attach to the serial interface port on Powermax65, 85 and 105 models.

### Part number Description

223236	RS-485 to unterminated, 7.6 m (25')
223237	RS-485 to unterminated, 15.2 m (50')
223239	RS-485 to 9-pin D-sub connector, 7.6 m (25')
223240	RS-485 to 9-pin D-sub connector, 15.2 m (50')

Serial interface port (RS-485)      CPC port



## Mechanized communication kits

Upgrade kits for the Powermax65, 85 and 105 systems for mechanized applications.

Cables for connecting power supplies to CNC controllers. Designed to attach to the CPC port on Powermax45, 65, 85 and 105 models.

### Part number Description

023206	14-pin CPC to spade connector, 7.6 m (25')
023279	14-pin CPC to spade connector, 15.2 m (50')
228350	14-pin CPC to spade connector, 7.6 m (25'), for use with divided arc voltage
228351	14-pin CPC to spade connector, 15.2 m (50'), for use with divided arc voltage
123896	14-pin CPC to D-sub connector, 15.2 m (50'), for use with divided arc voltage

### Part number Description

228697	CPC port with selectable voltage ratio board
228539	Upgrade kit: Serial interface port (RS-485)

# Personal protective equipment



## Operator face shield

Multi-purpose face shield that provides face and eye protection for plasma cutting and gouging applications.

### Part number Description

127103	Face shield, shade 8 lens
127239	Face shield, shade 6 lens
127105	Replacement lens, shade 8
127243	Replacement lens, shade 6



## Leather cutting gloves

Pigskin gloves with grain leather palm for excellent sense of touch. Foam back and reinforced thumb.

### Part number

127169



## Gouging heat shield

Provides additional protection in gouging operations. For use on T45v and T60/80/100 torches.

### Part number

128658



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