

# Hypertherm®

## Powermax85®

Professional-grade plasma metal cutting and gouging system for handheld cutting 1" and mechanized piercing 3/4".



Capacity	Thickness	Cut speed
Cutting		
Recommended	1"	20 ipm
	1-1/4"	10 ipm
Severance (hand cutting)	1-1/2"	5 ipm
Pierce*	3/4"	

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

Capacity	Metal removal rate	Groove profile
Gouging		
Typical gouge	19.5 lbs per hour	.23" D x .28" W

### Maximum productivity

- Finish jobs faster with cut speeds two and a half times greater than oxyfuel on 1/2" mild steel.
- Spend less time on grinding and edge preparation due to superior cut and gouge quality.

### Easy-to-use for cutting and gouging

- No need to change the air pressure. Smart Sense™ technology ensures that it is always correctly set.
- Drag cut at full output with a patented shield that reduces dross buildup for smoother cutting.
- Tackle different jobs with multiple, easy-to-use torch styles.

### Low operating costs

- Reduce costs with long consumable life and more uptime.
- High power efficiency lowers energy consumption.

### Built and tested to withstand the harshest conditions

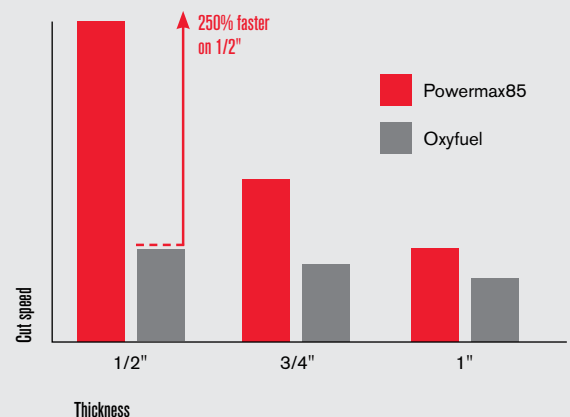
- Duramax™ torches are designed for high-impact and heat resistance.
- SpringStart™ technology ensures consistent starting and a more reliable torch.
- Low maintenance for maximum uptime.

### Duramax standard torch styles

(for more torch options, see [www.hypertherm.com](http://www.hypertherm.com))



### Relative cut performance on mild steel



## Specifications

Input voltages	200–480 V, 1-PH, 50/60 Hz 200–600 V, 3-PH, 50/60 Hz
Input current @ 12.2 kW	200/208/240/480, 1-PH 70/68/58/29 A 200/208/240/480/600 V, 3-PH 42/40/35/18/17 A
Output current	25–85 A
Rated output voltage	143 VDC
Duty cycle @ 104° F (40° C)	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
Open circuit voltage (OCV)	305 VDC
Dimensions with handles	19.7" D; 9.2" W; 17.9" H
Weight w/25' torch	71 lbs
Gas supply	Clean, dry, oil-free air or nitrogen
Recommended gas inlet flow rate/pressure	Cutting: 400 scfh, 6.7 scfm @ 85 psi Gouging: 450 scfh, 7.5 scfm @ 70 psi
Input power cable length	10'
Power supply type	Inverter – IGBT
Engine drive requirement	20 kW for full 85 A output
Certifications	CSA-certified for use in the Americas and Asia, except China
Warranty	Power supplies have a 3-year warranty and torches a 1-year warranty



## Ordering information

Below are the standard system configurations, which include a power supply, torch and work cable.

	75° hand torch		75° and 15° hand torch		180° full-length machine torch						180° full-length machine torch and 75° hand torch
	25'	50'	25'	50'	25'		50'				25'
Power supplies		With Eliminator filter and cover	without remote pendant		with remote pendant	without remote pendant	with I/O cables (no pendant)	with remote pendant	without remote pendant	with I/O cables (no pendant)	with remote pendant
Standard power supply	087108	087111	087109								
Power supply with CPC port and voltage divider	087113		087114	087144	087145	087115	087132		087116	087137	087135
Power supply with CPC port, voltage divider, and serial port								087138		087140	



**Custom configurations** (select power supply, torch, consumable kit, work cable, and other components)

**Power supply options**

	Standard power supply	Power supply with CPC port and voltage divider	Power supply with CPC port, voltage divider, and serial port
200–600 V CSA	087067	087104	087105

**Starter kit consumable options**

	Handheld	Mechanized	Mechanized with ohmic retaining cap
Kit	228966	228967	228968

**Torch options**

Cable length	Hand torches		Machine torches		Robotic torches		
	75°	15°	180°	Mini 180°	45°	90°	180°
15'			059476	059481			
25'	059473	059470	059477	059482	059464	059465	059466
35'			059478	059483			
50'	059474	059471	059479	059484			
75'	059475	059472	059480				

**Cable options**

Cable length	Work cables			Control cables					
	Hand clamp	C-style clamp	Ring terminal	Remote pendant	CNC, spade connector, divided voltage	CNC, spade connector, no divided voltage	CNC, D-sub connector, divided voltage	RS-485 Serial comm, unterminated	RS-485 Serial comm, D-sub
25'	223035	223203	223209	128650	228350	023206	223048	223236	223239
50'	223034	223204	223210	128651	228351	023279	123896	223237	223240
75'	223033	223205	223211	128652					

**Torch consumable parts**

Nozzles and electrodes are available in various quantities. Contact your distributor for more information.

Consumable type	Torch type	Amperage	Nozzle	Shield/ Deflector	Retaining cap	Electrode	Swirl ring
Drag-cutting	Hand	45	220941	220817	220854	220842	220857
		65	220819				
		85	220816				
Mechanized	Machine	45	220941	220817 or 220955 <sup>1</sup>	220854 or 220953 <sup>2</sup>	220842	220857
		65	220819				
		85	220816				
FineCut®	Hand	45	220930	220931	220854 or 220953 <sup>2</sup>	220842	220947
	Machine			220948			220857
Gouging	Hand	25–85	220797	220798	220854	220842	220857
	Machine						

<sup>1</sup> Deflector for unshielded cutting

<sup>2</sup> Ohmic retaining cap

**Recommended Hypertherm genuine accessories**

- Hypertherm plasma cutting gloves, 127169
- Powermax65/85 wheel kit, 229370
- System storage dust cover, 127301
- Eliminer filter and cover, 228570
- Replacement filter element for Eliminer, 011092
- Torch lead cover, black, 024877



Wheel kit



Leather torch sheathing



Gloves



Air filtration kit



**Engineered and  
assembled in the USA**

**ISO 9001:2008**

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



Hypertherm, Powermax, Smart Sense, Duramax and SpringStart are trademarks of Hypertherm Inc. and may be registered in the United States and/or other countries. All other trademarks are the properties of their respective owners.

© 10/2013 Hypertherm Inc. Revision 4  
860320

**Hypertherm®**  
**Cut with confidence®**