

# Hypertherm® powermax 85®

**Handheld or mechanized plasma system for cutting and gouging metal**

Capacity	Thickness	Cut speed
	Handheld cut	
Recommended	1" (25 mm)	20 ipm (500 mm/min)
	1-1/4" (32 mm)	10 ipm (250 mm/min)
Severance	1-1/2" (38 mm)	5 ipm (125 mm/min)
Pierce	3/4" (19 mm)*	
* Pierce rating for handheld use or with automatic torch height control		
Metal removal rate	Groove profile	
Gouge capacity		
19.5 lbs. (8.8 kg) per hour	.23" (5.8 mm) D x .28" (7.1 mm) W	



### Maximum productivity

- Fast cut speeds: 250% faster than oxyfuel on 12 mm (1/2") mild steel.
- Superior cut and gouge quality means less time spent on grinding and edge preparation.

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

- Smart Sense™ technology automatically sets correct air pressure based on torch length and operating mode.
- Handheld, straight machine and robotic torches for greater versatility and ease-of-use.
- Wide voltage tolerance improves performance on motor generators and in low-line conditions.
- Improved shield reduces dross buildup and enables smoother drag cutting for a better cut.

### 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 – it keeps on going.

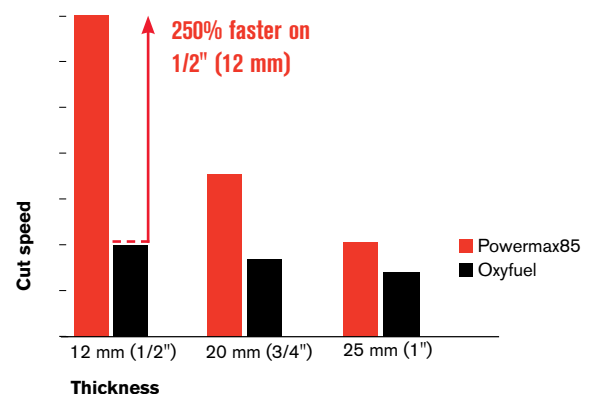
### Low operating cost

- Long consumable life for lower cost and more uptime.
- High power efficiency lowers energy consumption.

### Duramax torch styles



### Relative cut performance on mild steel



## Specifications

<b>Input voltages</b>	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
<b>Input current @ 12.2 kW</b>	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
<b>Output current</b>	25 – 85 A
<b>Rated output voltage</b>	143 VDC
<b>Duty cycle @ 40° C (104° F)</b>	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
<b>Open circuit voltage (OCV)</b>	CSA 305 VDC CE 270 VDC
<b>Dimensions with handles</b>	500 mm (19.7") D; 234 mm (9.2") W; 455 mm (17.9") H
<b>Weight with 7.6 m (25') torch</b>	CSA 32 kg (71 lbs) CE 28 kg (62 lbs)
<b>Gas supply</b>	Clean, dry, oil-free air or nitrogen
<b>Recommended gas inlet flow rate / pressure</b>	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)
<b>Input power cable length</b>	3 m (10')
<b>Power supply type</b>	Inverter – IGBT

## Engine-driven generator operation

Engine drive rating (kW)	System output (amps)	Performance (arc stretch)
20	85	Full
15	70	Limited
15	60	Full
12	60	Limited
12	40	Full
8	40	Limited
8	30	Full

## Cut chart

Material	Thickness		Current (amps)	Maximum cut speed <sup>1</sup>	
	(mm)	(inches)		(mm/min)	(ipm)
Mild steel	3	10 GA	45	5000	205
	6	¼	85	5330	200
	12	½	85	2000	70
	19	¾	85	920	36
	25	1	85	560	21
Stainless steel	32	1¼	85	350	14
	6	¼	85	5850	205
	12	½	85	1750	60
	19	¾	85	770	30
	25	1	85	475	18
Aluminum	6	¼	85	6200	215
	12	½	85	2400	85
	19	¾	85	1170	46
	25	1	85	670	25

<sup>1</sup> Maximum cut speeds are the results of Hypertherm's laboratory testing. For optimum cut performance, actual cutting speeds may vary based on different cutting applications. Refer to the operator manual for more details.

# Hypertherm®

## Cut with confidence®

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## Ordering information

Below are some of the most common system configurations which include a power supply, torch and work cable. Additional configurations are listed on our website.

Input voltages	Handheld systems					Mechanized systems	
	Standard power supply		Power supply with CPC port and selectable voltage ratio			Power supply with CPC port and selectable voltage ratio	
	75° hand torch		75° hand torch		75° and 15° hand torch	180° full-length machine torch	
	7.6 m (25')	15.2 m (50')	7.6 m (25')	15.2 m (50')	7.6 m (25')	15.2 m (50')	
200 – 600 V CSA <sup>2</sup>	087108	087109	087113	087114	087144	087115	087116
400 V CE <sup>3</sup>	087117	087118	087122	087123	087146	087124	087125

<sup>2</sup> For use in the Americas and Asia, except China.

<sup>3</sup> For use in countries that require CE or GOST marks.

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

### Power supply options

	Standard power supply	Power supply with CPC port and selectable voltage ratio	Power supply with CPC port, selectable voltage ratio and serial interface port (RS-485)
200 – 600 V CSA	087067	087104	087105
400 V CE	087068	087106	087107

### Starter consumable kit options

	Handheld	Mechanized	Mechanized with ohmic retaining cap
Kit	228966	228967	228968

### Component options

Cable length	Torches						Work cables			Control cables			
	Hand		Machine		Robotic		Hand clamp	C-style clamp	Ring terminal	Remote pendant	CNC spade plug <sup>4</sup>	CNC spade plug <sup>5</sup>	
	75°	15°	180°	Mini 180°	45°	90°							180°
4.5 m (15')			059476	059481									
7.6 m (25')	059473	059470	059477	059482	059464	059465	059466	223035	223203	223209	128650	228350	023206
10.7 m (35')			059478	059483									
15.2 m (50')	059474	059471	059479	059484				223034	223204	223210	128651	228351	023279
22.8 m (75')	059475	059472	059480					223033	223205	223211	128652		

<sup>4</sup> For use with automation equipment that requires divided arc voltage.

<sup>5</sup> For use when divided arc voltage is not required.

## 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	220818	220854	220842	220857
		65	220819				
		85	220816				
Mechanized	Machine	45	220941	220817	220854 or 220953 (Ohmic)	220842	220857
		65	220819				
		85	220816				
Unshielded	Machine	45	220941	220955	220854	220842	220857
		65	220819				
		85	220816				
FineCut®	Hand	45	220930	220931	220854 or 220953 (Ohmic)	220842	220947
	Machine	45		220948			220857
Gouging	Hand	220797	220798	220854	220842	220842	220857
	Machine						



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



**Engineered and assembled in the USA**

**ISO 9001:2008**

Power supplies have a 3-year warranty and torches have a 1-year warranty.