

# Hypertherm®

## powermax 65®

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

Capacity	Thickness	Cut speed
	Handheld cut	
Recommended	3/4" (19 mm)	20 ipm (500 mm/min)
	1" (25 mm)	10 ipm (250 mm/min)
Severance	1-1/4" (32 mm)	5 ipm (125 mm/min)
Pierce	5/8" (16 mm)*	
* Pierce rating for handheld use or with automatic torch height control		
Metal removal rate		Groove profile
Gouge capacity		
10.7 lbs. (4.8 kg) per hour		.14" (3.5 mm) D x .26" (6.6 mm) W

### Key power supply advantages

- Smart Sense™ technology automatically adjusts the gas pressure according to cutting mode and torch lead length for optimal performance.
- Boost Conditioner™ circuit (on CSA models) improves performance on low-line voltage, motor generators, and fluctuating input power.
- FastConnect™ torches, CNC interface, and four work lead styles increase versatility for handheld and mechanized use.
- Simplified control panel with LCD screen for easy operation.

### Key torch advantages

- 15° and 75° Duramax™ series hand torches enable operators to easily select the right tool for the job. The handle is more heat resistant and performs at least five times longer in high impact tests than previous torches.
- Standard and short-barreled Duramax series machine torches allow a wide variety of mechanized applications with X-Y tables, track systems, pipe and robotic cutting systems.
- Conical Flow™ nozzle increases arc energy density for superior cut quality with little dross.
- Patent pending shield reduces dross buildup and enables smoother drag cutting for a better cut.



**Duramax torch styles**

H65 75° hand torch



H65s 15° hand torch

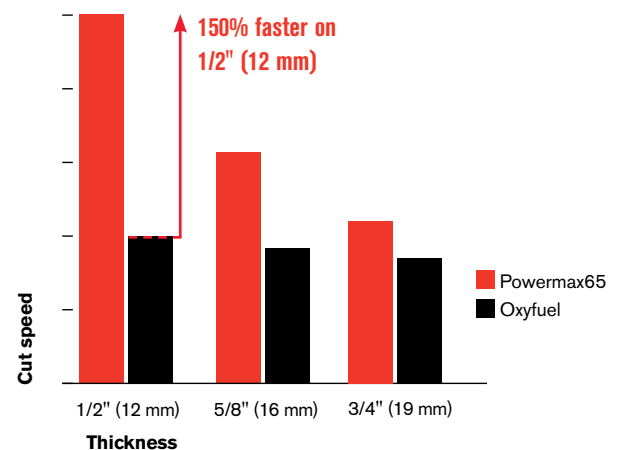


M65 full-length machine torch



M65m mini-machine torch

### 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 @ 9 kW</b>	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
<b>Output current</b>	20 – 65 A
<b>Rated output voltage</b>	139 VDC
<b>Duty cycle @ 40° C (104° F)</b>	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
<b>Open circuit voltage (OCV)</b>	CSA 295 VDC CE 270 VDC
<b>Dimensions with handles</b>	19.7" (500 mm) D; 9.2" (234 mm) W; 17.9" (455 mm) H
<b>Weight with 25' (7.6 m) torch</b>	CSA 64 lbs (29 kg) CE 57 lbs (26 kg)
<b>Gas supply</b>	Clean, dry, oil-free air or nitrogen
<b>Recommended gas inlet flow rate / pressure</b>	Cutting: 400 scfh, 6.7 scfm (189 l/min) @ 85 psi (5.6 bar) Gouging: 450 scfh, 7.5 scfm (212 l/min) @ 70 psi (4.8 bar)
<b>Input power cable length</b>	10' (3 m)
<b>Power supply type</b>	Inverter – IGBT

## Engine-driven generator operation

Engine drive rating (kW)	System output (amps)	Performance (arc stretch)
15	65	Full
12	65	Limited
12	40	Full
8	40	Limited
8	30	Full

## Cut chart

Material	Thickness		Current (amps)	Maximum cut speed <sup>1</sup>	
	(inches)	(mm)		(ipm)	(mm/min)
Mild steel	10 GA	3	45	205	5000
	¼	6	65	145	3900
	½	12	65	50	1430
	¾	19	65	24	610
	1	25	65	13	350
Stainless steel	10 GA	3	45	168	4200
	¼	6	65	120	3800
	½	12	65	40	1150
	¾	19	65	19	490
Aluminum	¼	6	65	190	5500
	½	12	65	60	1660
	¾	19	65	30	770

<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.

## 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	
	H65 torch 25' (7.6 m)	H65 torch 50' (15 m)	H65 torch 25' (7.6 m)	H65 torch 50' (15 m)	M65 torch 25' (7.6 m)	M65 torch 50' (15 m)
200 – 600 V CSA <sup>2</sup>	083270	083271	083275	083276	083277	083278
400 V CE <sup>3</sup>	083279	083280	083284	083285	083286	083287

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

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

## Custom configurations (select power supply, 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	083234	083266	083267
400 V CE	083235	083268	083269

### Component options

Cable length	Torches				Work cables				Control cables		
	H65	H65s	M65	M65m	Hand clamp	C-style clamp	Magnet	Ring terminal	Remote pendant	CNC spade plug <sup>4</sup>	CNC spade plug <sup>5</sup>
15' (4.5 m)			083254	083259							
25' (7.6 m)	083247	083251	083255	083260	223125	223194	223197	223200	128650	228350	023206
35' (11 m)			083256	083261							
50' (15 m)	083248	083252	083257	083262	223126	223195	223198	223201	128651	228351	023279
75' (23 m)	083249	083253	083258	083263	223127	223196	223199	223202	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				
Mechanized	Machine	45	220941	220817	220854 or 220953 (Ohmic)	220842	220857
		65	220819				
Unshielded	Machine	45	220941	220955	220854	220842	220857
		65	220819				
FineCut®	Hand	45	220930	220931	220854 or 220953 (Ohmic)	220842	220947
	Machine	45		220948			220857
Gouging	Hand		220797	220798	220854	220842	220857
	Machine						



This system meets the RoHS directive restricting the use of lead, mercury, cadmium and other hazardous compounds.



**Engineered and assembled in the USA**

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

**ISO 9001:2008**

# Hypertherm®

## Cut with confidence™

Hypertherm, Powermax, Duramax, Smart Sense, Boost Conditioner, FineCut, FastConnect and Conical Flow are trademarks of Hypertherm, Inc. and may be registered in the United States and/or other countries.

For more information, contact your authorized Hypertherm dealer or visit [www.hypertherm.com](http://www.hypertherm.com).