

# Hypertherm®

## powermax1650® G3 SERIES™

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

#### Operating data

Cut capacity	Handheld	Mechanized pierce
Recommended	1¼" (32 mm)	
Maximum	1½" (38 mm)	¾" (19 mm)
Severance	1¾" (44 mm)	

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Gouge capacity	
Metal removed per hour: 24 lbs (10.8 kg)	
Depth x width: ⅜" (5 mm) x ⅛" (3 mm)	

#### Key advantages

- Auto-voltage™ automatically adapts to any incoming power from 200 V – 600 V, 3-phase.
- Coaxial-assist™ jet technology delivers fast cut speeds.
- Boost Conditioner™ compensates for input voltage variations, providing improved performance on low-line voltage, on motor generators and on fluctuating input power.
- Reliability-focused design improves uptime and maximizes return on investment.
- CNC interface and Easy Torch Removal (ETR™) provide increased versatility for handheld and mechanized usage.

#### Applications

- Hand cutting
- Gouging
- Mechanized cutting
  - X-Y tables
  - Track systems
  - Pipe systems
  - Robotic systems

#### Standard system components

- Power supply
- T100 hand torch or T100M machine torch
- Extra consumables for cutting and gouging
- Work cable with clamp, 15' (4.5 m)



T100 hand torch

T100M machine torch



## Specifications

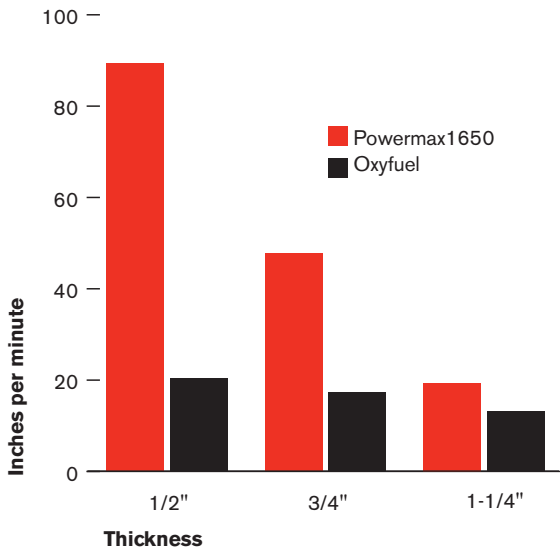
Input voltages	200 – 600 V, 3-PH, 50/60 Hz, CSA 230 – 400 V, 3-PH, 50/60 Hz, CE
Input current @ 16 kW output	200/208/230/240/400/480/600 V, 3-PH: 53/51/46/44/27/22/21 A
Rated output voltage	160 VDC
Output current	30 – 100 A
Duty cycle @ 40° C (104° F) @ 100 amps	60% @ 200 – 208 V 70% @ 230 – 240 V 80% @ 400 – 600 V
Output for 100% duty cycle @ 40° C (104° F)	80 A @ 200 – 208 V 85 A @ 230 – 240 V 90 A @ 400 – 600 V
Maximum OCV	300 VDC
Dimensions with handle	26.4" (671 mm) D; 16.8" (427 mm) W; 25.8" (655 mm) H
Weight with torch	135 lbs (61 kg)
Gas supply	Clean, dry, oil-free air or nitrogen
Flow rate	550 scfh; 9.2 cfm (260 l/min) at 90 psi (6.2 bar)
Flow pressure	75 psi (5.1 bar) flowing, 25' leads 80 psi (5.4 bar) flowing, 50' leads
Input power cable length	20' (6 m)
Work cable length	15' (4.5 m)
Warranty period	Full 3-year power supply warranty and a 1-year torch warranty.

## Engine-driven generator operation

Engine drive rating (kW)	System output (amps)	Performance (arc stretch)
30	100	Full
22.5	100	Limited
22.5	80	Full
15	80	Limited
15	60	Full

## Powermax1650 versus oxyfuel

Cut speed on mild steel



# Hypertherm®

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## Cut chart

Material	Thickness		Current (amps)	Maximum cut speed*	
	(inches)	(mm)		(ipm)	(mm/min.)
Mild steel	26 GA	0.5	30	638	16205
	10 GA	3.4	40	151	3835
	1/4	6.4	60	132	3353
	1/2	12.7	100	88	2235
	3/4	19.0	100	47	1194
	1	25.4	100	28	711
	1 1/4	31.8	100	19	482
Aluminum	1/32	0.8	30	610	15494
	1/8	3.2	40	204	5182
	1/4	6.4	60	145	3683
	1/2	12.7	100	108	2743
	3/4	19.0	100	57	1448
	1	25.4	100	33	838
	1 1/4	31.8	100	14	356
Stainless steel	26 GA	0.5	30	631	16027
	14 GA	1.9	40	221	5613
	1/4	6.4	60	110	2794
	1/2	12.7	100	79	2007
	3/4	19.0	100	39	991
	1	25.4	100	23	584
	1 1/4	31.8	100	14	356

\* 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

	System part numbers		
	With 25' (7.6 m) torch	With 50' (15 m) torch	With 75' (23 m) torch
<b>200 – 600 V, 3-PH, CSA<sup>1</sup></b>			
Handheld system	059275	059276	059301
Mechanized system	059279	059280	059303
<b>230 – 400 V, 3-PH, CE<sup>2</sup></b>			
Handheld system	059288	059289	059302
Mechanized system	059290	059291	059304

<sup>1</sup> For use in the Americas and Asia, except China.

<sup>2</sup> For use in countries that require CE, CCC or GOST marks.

Note: 35' (10.5 m) machine torch configurations without remote start pendant are available.



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

## 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 cutting

**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.

**Maximum** – The thickness of mild steel on which the system delivers good cut quality but at reduced speeds of 10" (250 mm) per minute. Twenty percent or less of cutting should be at the maximum thickness.

**Severance** – The thickness of mild steel that can be reasonably severed, but with poor cut quality and at slow speed. Cutting the severance thickness should be infrequent.

### Mechanized cutting

**Maximum** – The thickness of mild steel that may be pierced with good cut quality and without excessive wear on the consumable parts. If edge starting, the cut capacity is the same as handheld capacity.

Note: For additional information on mechanized cutting speeds and thicknesses, refer to product operator manuals.