

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) | |

| Gouge capacity | |
|-------------------------|-----------------------|
| Metal removed per hour: | 24 lbs (10.8 kg) |
| Depth x width: | ¾" (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

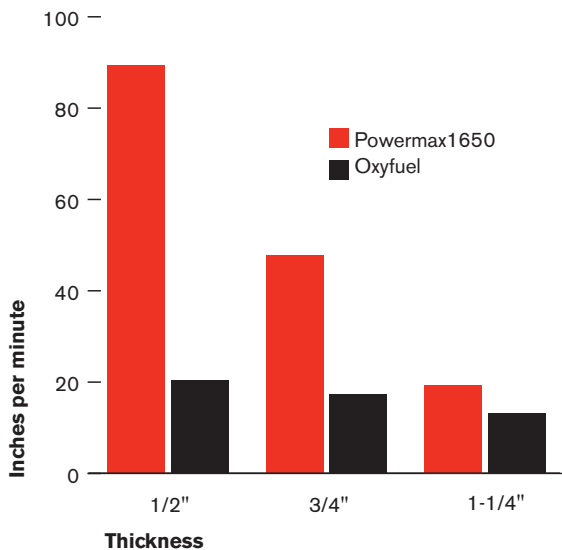
| | |
|---------------------------------------------|----------------------------------------------------------------------------|
| Input voltages | 200 – 600 V, 3-PH, 50/60 Hz, CSA 230 – 400 V, 3-PH, 50/60 Hz, CE |
| Input current @ 16 kW output | 200/208/230/240/400/480/600 V, 3-PH: 53/51/46/44/27/22/21 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 | 10' (3 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 |
| 200 – 600 V, 3-PH, CSA¹ | | | |
| Handheld system | 059275 | 059276 | 059301 |
| Mechanized system | 059279 | 059280 | 059303 |
| 230 – 400 V, 3-PH, CE² | | | |
| Handheld system | 059288 | 059289 | 059302 |
| Mechanized system | 059290 | 059291 | 059304 |

¹ For use in the Americas and Asia, except China.

² 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.