

Hypertherm® powermax 85®

Handheld or mechanized plasma system for cutting and gouging metal

| Capacity | Thickness | Cut speed |
|---|--------------------|---------------------|
| | Handheld cut | |
| Recommended | 25 mm | 500 mm/min |
| | 32 mm | 250 mm/min |
| Severance | 38 mm | 125 mm/min |
| Pierce | 19 mm* | |
| * Pierce rating for handheld use or with automatic torch height control | | |
| | Metal removal rate | Groove profile |
| | Gouge capacity | |
| | 8,8 kg per hour | 5,8 mm D x 7,1 mm W |



Maximum productivity

- Fast cut speeds: 250% faster than oxyfuel on 12 mm 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.

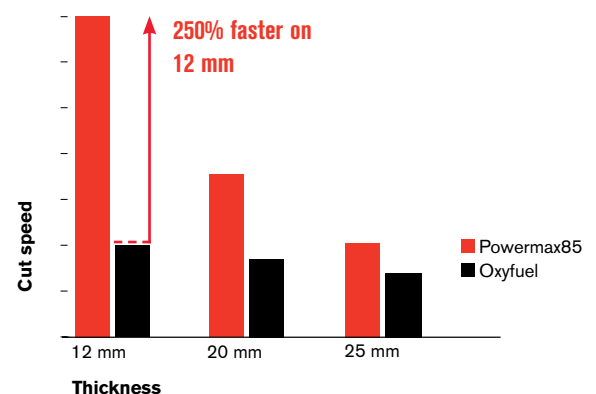
Low operating cost

- 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

| | |
|---|---|
| Input voltages | 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 |
| Input current @ 12,2 kW | 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 |
| Output current | 25 – 85 A |
| Rated output voltage | 143 VDC |
| Duty cycle @ 40° C | 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 |
| Open circuit voltage (OCV) | CSA 305 VDC CE 270 VDC |
| Dimensions with handles | 500 mm D; 234 mm W; 455 mm H |
| Weight with 7,6 m torch | CSA 32 kg CE 28 kg |
| Gas supply | Clean, dry, oil-free air or nitrogen |
| Recommended gas inlet flow rate / pressure | Cutting: 189 l/min @ 5,6 bar Gouging: 212 l/min @ 4,8 bar |
| Input power cable length | 3 m |
| Power supply type | 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 (mm) | Current (amps) | Maximum cut speed ¹ (mm/min) |
|-----------------|----------------|----------------|---|
| Mild steel | 3 | 45 | 5000 |
| | 6 | 85 | 5330 |
| | 12 | 85 | 2000 |
| | 19 | 85 | 920 |
| | 25 | 85 | 560 |
| Stainless steel | 6 | 85 | 5850 |
| | 12 | 85 | 1750 |
| | 19 | 85 | 770 |
| Aluminum | 6 | 85 | 6200 |
| | 12 | 85 | 2400 |
| | 19 | 85 | 1170 |
| | 25 | 85 | 670 |

¹ 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 | |
| | 75° hand torch | 15,2 m | 75° hand torch | 15,2 m | 75° and 15° hand torch | 180° full-length machine torch | 15,2 m |
| 200 – 600 V CSA ² | 087108 | 087109 | 087113 | 087114 | 087110 | 087115 | 087116 |
| 400 V CE ³ | 087117 | 087118 | 087122 | 087123 | 087119 | 087124 | 087125 |

² For use in the Americas and Asia, except China.

³ 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 ⁴ | CNC spade plug ⁵ | |
| | 75° | 15° | 180° | Mini 180° | 45° | 90° | | | | | | | 180° |
| 4,5 m | | | 059476 | 059481 | | | | | | | | | |
| 7,6 m | 059473 | 059470 | 059477 | 059482 | 059464 | 059465 | 059466 | 223035 | 223203 | 223209 | 128650 | 228350 | 023206 |
| 10,7 m | | | 059478 | 059483 | | | | | | | | | |
| 15,2 m | 059474 | 059471 | 059479 | 059484 | | | | 223034 | 223204 | 223210 | 128651 | 228351 | 023279 |
| 22,8 m | 059475 | 059472 | 059480 | | | | | 223033 | 223205 | 223211 | 128652 | | |

⁴ For use with automation equipment that requires divided arc voltage.

⁵ 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 | 220857 |
| | Machine | | | | | | |

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

ISO 9001:2008

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