

Hypertherm® powermax85®

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 |

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

H85 75° hand torch



H85s 15° hand torch

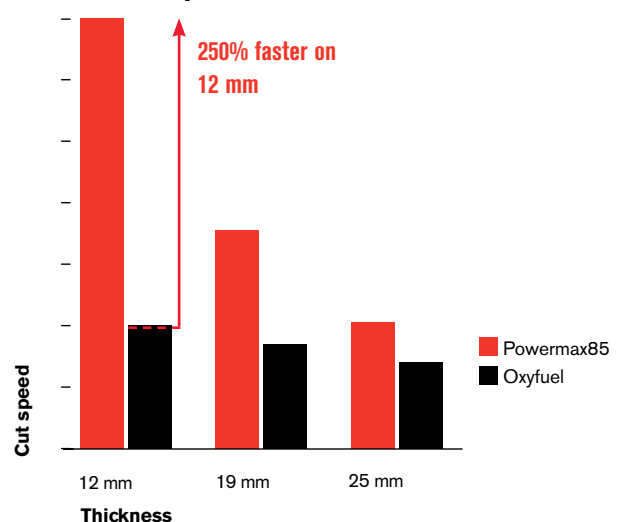


M85 full-length machine torch



M85m mini-machine torch

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 | 32 | 85 | 350 |
| | 6 | 85 | 5850 |
| | 12 | 85 | 1750 |
| Aluminum | 19 | 85 | 770 |
| | 25 | 85 | 475 |
| | 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 | |
| | H85 torch 7,6 m | H85 torch 15 m | H85 torch 7,6 m | H85 torch 15 m | M85 torch 7,6 m | M85 torch 15 m |
| 200 – 600 V CSA ² | 087108 | 087109 | 087113 | 087114 | 087115 | 087116 |
| 400 V CE ³ | 087117 | 087118 | 087122 | 087123 | 087124 | 087125 |

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

³ 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 | 087067 | 087104 | 087105 |
| 400 V CE | 087068 | 087106 | 087107 |

Component options

| Cable length | Torches | | | | Work cables | | | | Control cables | | |
|--------------|---------|--------|--------|--------|-------------|---------------|--------|---------------|----------------|-----------------------------|-----------------------------|
| | H85 | H85s | M85 | M85m | Hand clamp | C-style clamp | Magnet | Ring terminal | Remote pendant | CNC spade plug ⁴ | CNC spade plug ⁵ |
| 4,5 m | | | 087092 | 087097 | | | | | | | |
| 7,6 m | 087085 | 087089 | 087093 | 087098 | 223035 | 223203 | 223206 | 223209 | 128650 | 228350 | 023206 |
| 11 m | | | 087094 | 087099 | | | | | | | |
| 15 m | 087086 | 087090 | 087095 | 087100 | 223034 | 223204 | 223207 | 223210 | 128651 | 228351 | 023279 |
| 23 m | 087087 | 087091 | 087096 | 087101 | 223033 | 223205 | 223208 | 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 | 220842 | 220857 |
| | Machine | | | | | | |



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

ISO 9001:2008

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

Hypertherm®

Cut with confidence®

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