

# Hypertherm® powermax105®

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

Capacity	Thickness	Cut speed
	Handheld cut	
Recommended	32 mm	500 mm/min
	38 mm	250 mm/min
Severance	50 mm	125 mm/min
Pierce	22 mm*	
* Pierce rating for handheld use or with automatic torch height control		
Metal removal rate	Groove profile	
Gouge capacity		
9,8 kg per hour	6,4 mm D x 7,4 mm W	

### Maximum productivity

- Fast cut speeds: three times 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

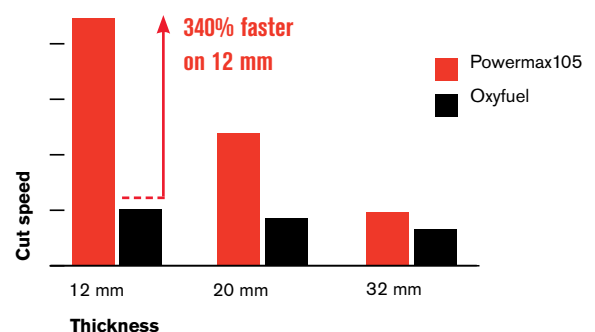
- Long consumable life for lower cost and more uptime.
- Exclusive electrode end-of-life detection protects the torch and workpiece from damage by automatically stopping power when the electrode is overused.
- High power efficiency lowers energy consumption.



### Duramax torch styles



### Relative cut performance on mild steel



## Specifications

<b>Input voltages</b>	CSA 200 – 600 V, 3-PH, 50/60 Hz CE 230 – 400 V, 3-PH, 50/60 Hz CE 400 V, 3-PH, 50/60 Hz CCC 380 V, 3-PH, 50/60 Hz
<b>Input current @ 16.8 kW</b>	CSA 200/208/240/480/600 V, 3-PH 58/56/49/25/22 A CE 230/400 V, 3-PH, 50/29 A CE 400 V, 3-PH, 28 A CCC 380 V, 3-PH, 30 A
<b>Output current</b>	30 – 105 A
<b>Rated output voltage</b>	160 VDC
<b>Duty cycle @ 40° C</b>	CSA 200-600 V 70% @ 105 A, 240 V, 3-PH 80% @ 105 A, 480-600 V, 3-PH 100% @ 94 A, 480-600 V, 3-PH 100% @ 88 A, 240 V, 3-PH CE 230-400 V 70% @ 105 A, 230 V, 3-PH 80% @ 105 A, 400 V, 3-PH 100% @ 94 A, 400 V, 3-PH 100% @ 88 A, 230 V, 3-PH CE 400 V 80% @ 105 A, 400 V, 3-PH 100% @ 94 A, 400 V, 3-PH CCC 380 V 80% @ 105A, 380 V, 3-PH 100% @ 94 A, 380 V, 3-PH
<b>Open circuit voltage (OCV)</b>	CSA (200 – 600 V) 300 VDC, CE (230 – 400 V) 288 VDC, CE (400 V) 292 VDC, CCC (380 V) 280
<b>Dimensions with handles</b>	592 mm D; 274 mm W; 508 mm H
<b>Weight with 7,6 m torch</b>	CSA 45 kg CE 45 kg (230 – 400 V) CE 41 kg (400 V) CCC 41 kg
<b>Gas supply</b>	Clean, dry, oil-free air or nitrogen
<b>Recommended gas inlet flow rate / pressure</b>	Cutting: 217 l/min @ 5,9 bar Gouging: 227 l/min @ 4,8 bar
<b>Input power cable length</b>	3 m
<b>Power supply type</b>	Inverter – IGBT

## Engine-driven generator operation

Engine drive rating (kW)	System output (amps)	Performance (arc stretch)
30	105	Full
22,5	105	Limited
22,5	85	Full
15	85	Limited
15	65	Limited

## Maximum cut speed

Material	Current (amps)	Metric unit	
		Thickness (mm)	Maximum cut speed <sup>1</sup> (mm/min)
Mild steel	45	3	6150
	105	6	6360
	105	12	2580
	105	20	1180
	105	25	780
Stainless steel	105	32	500
	105	6	7500
	105	12	2330
Aluminum	105	20	990
	105	25	660
	105	6	8330
	105	12	3070
	105	20	1470
	105	25	970

<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	
	75° hand torch		75° hand torch		180° full-length machine torch	
	7,6 m	15,2 m	7,6 m	15,2 m	7,6 m	15,2 m
200 – 600 V CSA <sup>2</sup>	059374	059375	059376	059377	059378	059379
230 – 400 V CE <sup>3</sup>	059394	059395	059396	059397	059398	059399
400 V CE <sup>3</sup>	059414	059415	059416	059417	059418	059419
380 V CCC <sup>4</sup>	059434	059435	059436	059437	059438	059439

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

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

<sup>4</sup> For use in China.

## Custom configurations (select power supply, torch consumable kit, 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	059370	059371	059372
230 – 400 V CE	059390	059391	059392
400 V CE	059410	059411	059412
380 V CCC	059430	059431	059432, 059433 <sup>5</sup>

<sup>5</sup> Does not include a power cord.

### Starter consumable kit options

	Handheld	Mechanized	Mechanized with ohmic retaining cap
Kit	228849	228848	228969

### Component options

Cable length	Torches						Work cables			Control cables			
	Hand		Machine		Robotic		Hand clamp	C-style clamp	Ring terminal	Remote pendant	CNC spade plug <sup>6</sup>	CNC spade plug <sup>7</sup>	
	75°	15°	180°	Mini 180°	45°	90°							180°
4,5 m			059476	059481									
7,6 m	059473	059470	059477	059482	059464	059465	059466	223254	223287	223284	128650	228350	023206
10,7 m			059478	059483									
15,2 m	059474	059471	059479	059484				223255	223288	223285	128651	228351	023279
22,8 m	059475	059472	059480					223256	223289	223286	128652		

<sup>6</sup> For use with automation equipment that requires divided arc voltage.

<sup>7</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				
		85	220816				
		105	220990	220992			
Mechanized	Machine	45	220941	220817 or 220955 <sup>8</sup>	220854 or 220953 <sup>9</sup>	220842	220857
		65	220819				
		85	220816	220993 or 220955 <sup>8</sup>			220994
		105	220990				
FineCut®	Hand	45	220930	220931	220854 or 220953 (Ohmic)	220842	220947
	Machine	45		220948			220994
Gouging	Hand		220991	220798	220854	220842	220994
	Machine						

<sup>8</sup> Deflector for unshielded cutting.

<sup>9</sup> Ohmic retaining cap.

# Hypertherm®

## Cut with confidence®

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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.

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

ISO 9001:2008