

# Hypertherm®

## Powermax 105®

Professional-grade plasma metal cutting and gouging system for handheld cutting 32 mm and mechanized piercing 22 mm.



Capacity	Thickness	Cut speed
Recommended	Cutting	
	32 mm	500 mm/min
	38 mm	250 mm/min
Severance (hand cutting)	50 mm	125 mm/min
Pierce*	22 mm	
* Pierce rating for handheld use or with automatic torch height control		
Capacity	Metal removal rate	Groove profile
Typical gouge	Gouging	
	9,8 kg per hour	6,4 mm D x 7,4 mm W

### Maximum productivity

- Finish jobs faster with cut speeds three times greater than oxyfuel on 12 mm mild steel.
- Spend less time on grinding and edge preparation due to superior cut and gouge quality.

### Low operating costs

- Reduce costs with long consumable life and more uptime.
- Electrode end-of-life detection protects the torch and workpiece from damage by automatically stopping power when the electrode is overused.

### Easy-to-use for cutting and gouging

- No need to change the air pressure. Smart Sense™ technology ensures that it is always correctly set.
- Drag cut at full output with a patented shield that reduces dross buildup for smoother cutting.
- Tackle different jobs with multiple, easy-to-use torch styles.

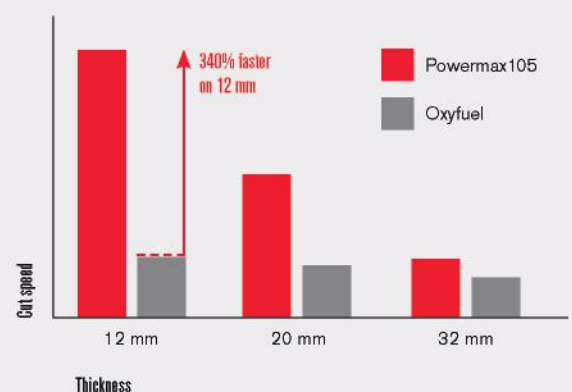
### Built and tested to withstand the harshest conditions

- 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.

### Duramax standard torch styles



### Relative cut performance on mild steel



## Specifications

Input voltages	230–400 V, 3-PH, 50/60 Hz 400 V, 3-PH, 50/60 Hz
Kilowatt output	16,8 kW
Input current @ 16,8 kW	230/400 V, 3-PH, 50/29 A
Output current	30–105 A
Rated output voltage	160 VDC
Duty cycle @ 40° C	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 400 V 80% @ 105 A, 400 V, 3-PH 100% @ 94 A, 400 V, 3-PH
Open circuit voltage (OCV)	230–400 V 288 VDC 400 V 292 VDC
Dimensions with handles	592 mm D; 274 mm W; 508 mm H
Weight w/7,6 m torch	45 kg (230–400 V) 41 kg (400 V)
Gas supply	Clean, dry, oil-free air or nitrogen
Recommended gas inlet flow rate/pressure	Cutting: 217 l/m @ 5,9 bar Gouging: 227 l/m @ 4,8 bar
Input power cable length	3 m
Power supply type	Inverter – IGBT
Engine drive requirement	30 kW for full 105 A output
Certifications	CE, C-Tick, CU/GOST, Ukr, and Serbian – for use in Europe, Australia, Belarus, Kazakhstan, Russia, Serbia, Ukraine, and other countries where accepted.
Warranty	Power supplies have a 3-year warranty and torches a 1-year warranty



## Ordering information

Below are the standard system configurations, which include a power supply, torch and work cable. Additional mechanized configurations are listed on our web site.

	Voltage configuration	75° hand torch		75° and 15° hand torch		180° full-length machine torch					180° full-length machine torch and 75° hand torch
		7,6 m	15,2 m	7,6 m	15,2 m	7,6 m		15,2 m			7,6 m
Power supplies				without remote pendant	with remote pendant	without remote pendant	with I/O cables (no pendant)	with remote pendant	without remote pendant	with I/O cables (no pendant)	with remote pendant
Standard power supply	230–400 V	059394	059395								
	400 V	059414	059415								
Power supply with CPC port and voltage divider	230–400 V	059396	059397	059402	059403	059398	059400		059399	059401	059404
	400 V	059416	059417	059422	059423	059418	059420		059419	059421	059424
Power supply with CPC port, voltage divider, and serial port	230–400 V							059406			059407
	400 V							059426			059427



**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 voltage divider	Power supply with CPC port, voltage divider, and serial port
230–400 V CE	059390	059391	059392
400 V CE	059410	059411	059412

**Starter kit consumable options**

	Handheld	Mechanized	Mechanized with ohmic retaining cap
Kit	228849	228848	228969

**Torch options**

Cable length	Hand torches		Machine torches		Robotic torches		
	75°	15°	180°	Mini 180°	45°	90°	180°
4,5 m			059476	059481			
7,6 m	059473	059470	059477	059482	059464	059465	059466
10,7 m			059478	059483			
15,2 m	059474	059471	059479	059484	059585	059586	059587
22,8 m	059475	059472	059480				

**Cable options**

Cable length	Work cables				Control cables				
	Hand clamp	C-style clamp	Ring terminal	Remote pendant	CNC, spade connector, divided voltage	CNC, spade connector, no divided voltage	CNC, D-sub connector, divided voltage	RS-485 Serial comm, unterminated	RS-485 Serial comm, D-sub
7,6 m	223254	223287	223284	128650	228350	023206	223048	223236	223239
15,2 m	223255	223288	223285	128651	228351	023279	123896	223237	223240
22,8 m	223256	223289	223286	128652					

**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	220994
		65	220819				
		85	220816				
		105	220990				
Mechanized	Machine	45	220941	220817 or 220955 <sup>1</sup>	220854 or 220953 <sup>2</sup>	220842	220994
		65	220819				
		85	220816				
		105	220990				
FineCut®	Hand	45	220930	220931	220854 or 220953 <sup>2</sup>	220842	220947
	Machine			220948			
Max control gouging	Hand/machine	30–105	220797	420480	220854	220842	220994
Max removal gouging	Hand/machine	30–105	220991	220798	220854	220842	220994

<sup>1</sup> Deflector for unshielded cutting

<sup>2</sup> Ohmic retaining cap



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