



Why choose Powermax®



Why choose Powermax over other cutting or gouging systems

More productive

Our consumable technology delivers faster speeds and better cut quality to help you do more in less time.

Easier to use

High portability, simple controls and a stable plasma arc make Powermax systems easy to operate for beginners and experts.

More versatile

With the widest array of torches and speciality consumables, Powermax systems can be configured to address a wide range of applications from extended reach cutting to precision gouging and more.

Lower operating cost

Faster speeds and longer consumable life lower your cost of cutting and gouging metal.

More reliable

Smart design and intense testing during product development and manufacturing keep you up and running.

Confidence

Hypertherm's focus on plasma by our associate-owners, and the proven performance of our global installed base of systems give you confidence that you are buying the best.

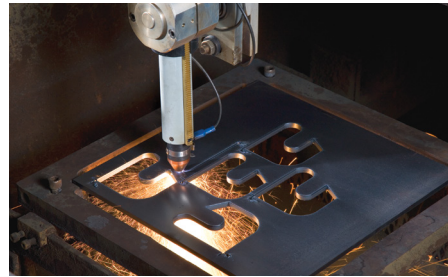
Genuine Hypertherm consumables

Hypertherm designs and manufactures an extensive array of innovative consumable technologies for Powermax® systems. This versatility of application capabilities is what distinguishes Powermax from other plasma systems.



Drag cutting

For consistent torch motion and improved cut edge quality



Mechanized cutting

For a variety of automated cutting applications with machine torches



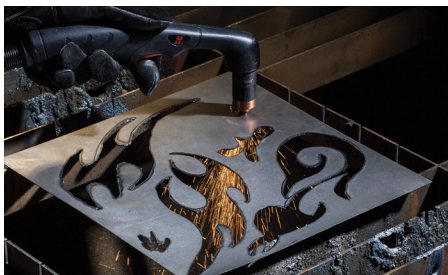
Gouging

Max removal, max control or precision gouging options to achieve the optimal gouge profile



FlushCut™

FlushCut consumables feature an angled nozzle bore design for cutting close to base material



FineCut®

For intricate and fine feature cutting with minimal dross



Marking

Marking consumables for the Powermax45 XP



HyAccess™










For cutting or gouging in hard to reach or confined spaces

To determine which Powermax systems are compatible with the specific applications being referred to above see the table on page 3.

Powermax®

Product line overview



		Powermax30 XP	Powermax30 AIR	Powermax45 XP	Powermax65	Powermax85	Powermax105	Powermax125
Cut capacity	Recommended	3/8"	5/16"	5/8"	3/4"	1"	1-1/4"	1-1/2"
	Severance	5/8"	5/8"	1-1/8"	1-1/4"	1-1/2"	2"	2-1/4"
	Output range	15-30	15-30	10-45	20-65	25-85	30-105	30-125
	Input phase	Single	Single	Single or three	Single and three	Single and three	Three	Three
Application capabilities	 Mechanized cutting			•	•	•	•	•
	 Drag cutting	•	•	•	•	•	•	•
	 FineCut®	•		•	•	•	•	•
	 Marking ABCD 1234			•				
	 Precision gouging			•				
	 Max control gouging			•	•	•	•	•
	 Max removal gouging				•	•	•	•
	 HyAccess™	•		•	•	•	•	
	 FlushCut™			•	•*	•*	•*	•

*Using the 45 A FlushCut consumables above 45 amps on the Powermax65/85/105 will cause premature consumable damage.

Powermax30® XP

Professional-grade plasma system for handheld cutting 3/8" metal.



Capacity	Thickness	Cut speed
	Cutting	
Recommended	3/8"	20 ipm
	1/2"	10 ipm
Severance	5/8"	5 ipm

Specifications

Input voltages	120-240 V, 1-PH, 50/60 Hz
Input current @ 3.8 kW	120-240 V, 1-PH, 25.5-18.8 A
Output current	15-30 A
Rated output voltage	125 VDC
Duty cycle @ 104° F	35%, 240 V 20%, 120 V
Open circuit voltage (OCV)	256 VDC
Dimensions with handles	14.0" D; 5.5" W; 11.5" H
Weight with 15' torch	21.4 lbs.
Gas supply	Clean, dry, oil-free air or nitrogen
Recommended gas inlet flow rate/pressure	4 scfm @ 80 psi
Input power cable length	10'
Power supply type	Inverter - IGBT
Engine drive requirement	5.5 kW for full 30 A output
Certifications	CSA-certified for use in the Americas and Asia, except China.
Warranty	Power supply: 3-year Torch: 1-year

Cutting with 120 V input power

Use FineCut® nozzle and deflector for cutting at 120 V input power. When operating at the maximum recommended output of 25 A, the cut capacities are:

- 1/4" at 19 ipm
- 3/8" at 8 ipm
- 1/2" at 3 ipm

Torch consumable stack-up



Consumable type	Torch type	Amperage	Shield/Deflector	Retaining cap	Nozzle	Electrode	Swirl ring
Standard	Hand	30	420116	420114	420118	420120	420211
FineCut®	Hand	30	420115	420114	420117	420120	420211
HyAccess™	Hand	30		420148	420144 (cutting) 420147 (gouging)	420137	220670

*compared to Powermax30

Powermax30[®] AIR

Professional-grade plasma system with internal air compressor for high portability and easy metal cutting.



Specifications

Input voltages	120-240 V, 1-PH, 50/60 Hz
Input current @ 2.5 kW	120-240 V, 1-PH, 29-15 A
Output current	15-30 A
Rated output voltage	83 VDC
Duty cycle @ 104° F	35%, 240 V 20%, 120 V
Open circuit voltage (OCV)	256 VDC
Dimensions with handles	16.5" D; 7.7" W; 13.1" H
Weight with 15' torch	29.8 lbs.
Input power cable length	10'
Power supply type	Inverter - IGBT
Engine drive requirement	5.5 kW for full 30 A output
Certifications	CSA-certified for use in the Americas and Asia, except China
Warranty	Power supply: 3-year Torch: 1-year

Capacity	Thickness	Cut speed
	Cutting	
Recommended	5/16"	20 ipm
	3/8"	10 ipm
Severance	5/8"	5 ipm

Torch consumable stack-up



Consumable type	Torch type	Amperage	Shield/Deflector	Retaining cap	Nozzle	Electrode	Swirl ring
Standard	Hand	30	420399	420135	420134	420132	420133

Powermax45[®] XP

Professional-grade plasma system for cutting 5/8" thick metal, gouging, and marking.



Specifications

Input voltages (± 10%)	200-240 V, 1-PH, 50-60 Hz 480 V, 3-PH, 50-60 Hz
Input current @ 6.5 kW	200-240 V, 1-PH, 39/32 A 480 V, 3-PH, 9.4 A
Output current	10-45 A
Rated output voltage	145 VDC
Duty cycle @ 104° F	50% @ 45 A, 200-240 V, 1-PH 60% @ 41 A, 200-240 V, 1-PH 100% @ 32 A, 200-240 V, 1-PH 50% @ 45 A, 480 V, 3-PH 60% @ 41 A, 480 V, 3-PH 100% @ 32 A, 480 V, 3-PH
Open circuit voltage (OCV)	275 VDC
Dimensions with handles	17.4" D; 6.8" W; 14.1" H
Weight with 20' torch	31 lbs.
Gas supply	Cutting: air (clean, dry and oil-free), nitrogen, F5 Gouging: air (clean, dry and oil-free), nitrogen, F5 Marking: air (clean, dry and oil-free), argon
Recommended gas inlet flow rate/pressure	400 scfh @ 90 psi
Input power cable length	10'
Power supply type	Inverter - IGBT
Engine drive requirement	10 kW for full 45 A output
Electrical efficiency	88%
Recyclability	100%
Certifications	CSA-certified for use in the Americas and Asia, except China
Warranty	Power supply: 3-year Torch: 1-year



Capacity	Thickness	Cut speed
Cutting		
Recommended	5/8"	20 ipm
	7/8"	10 ipm
Severance (hand cutting) Pierce*	1-1/8"	5 ipm
	1/2"	

* Pierce rating for handheld use or with automatic torch height control

Capacity	Metal removal rate	Groove profile*
Gouging		
Typical gouge	7.5 lbs. per hour	.12" D x .26" W

* Actual groove profile varies with torch angle, arc stretch and technique

Torch consumable stack-up

Nozzles and electrodes are available in various quantities. Contact your distributor for more information.



Consumable type	Torch type	Amperage	Shield/ Deflector	Retaining cap	Nozzle	Electrode	Swirl ring
Drag-cutting	Hand	45	220818	220854	220941	220842	220857
Mechanized	Machine	45	220817 or 220955 ¹	220854 or 220953 ²	220941	220842	220857
FineCut [®]	Hand	45	220931	220854 or 220953 ²	220930	220842	220947
	Machine		220955 or 220948 ²				
Max control gouging	Hand/Machine	26-45	420480	220854	420419	220842	220857
Precision gouging	Hand/Machine	10-25	420414	220854	420415	220842	220857
Marking	Hand/Machine	10-25	420542	220854 or 220953 ²	420415	220842	220857
FlushCut [™]	Hand/Machine	30-45	420540 ⁴	420536	420633 ³	420635	420634
HyAccess [™] cutting	Hand	15-45	N/A	420413	420410	420408	220857
HyAccess [™] gouging	Hand	15-45	N/A	420413	420412	420408	220857

¹ Deflector for unshielded cutting

² Ohmic retaining cap

³ Nozzle/shield assembly

⁴ Retaining ring

Powermax65®

Professional-grade plasma metal cutting and gouging system for handheld cutting 3/4" and mechanized piercing 5/8".



Capacity	Thickness	Cut speed
Cutting		
Recommended	3/4"	20 ipm
	1"	10 ipm
Severance (hand cutting)	1-1/4"	5 ipm
Pierce*	5/8"	

* Pierce rating for handheld use or with automatic torch height control

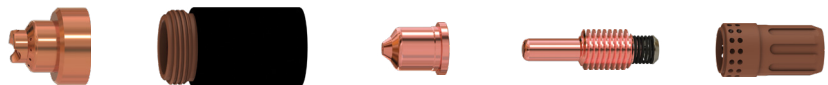
Capacity	Metal removal rate	Groove profile*
Gouging		
Typical gouge	10.7 lbs. per hour	.14" D x 26" W

* Actual groove profile varies with torch angle, arc stretch and technique

Specifications

Input voltages	200-480 V, 1-PH, 50/60 Hz 200-600 V, 3-PH, 50/60 Hz
Kilowatt output	9 kW
Input current @ 9 kW	200/208/240/480 V, 1-PH 52/50/44/22 A 200/208/240/480/600 V, 3-PH 32/31/27/13/13 A
Output current	20-65 A
Rated output voltage	139 VDC
Duty cycle @ 104° F	50% @ 65 A, 230-600 V, 1/3-PH 40% @ 65 A, 200-208 V, 1/3-PH 100% @ 46 A, 230-600 V, 1/3-PH
Open circuit voltage (OCV)	295 VDC
Dimensions with handles	19.7" D; 9.2" W; 17.9" H
Weight with 25' torch	64 lbs.
Gas supply	Clean, dry, oil-free air or nitrogen
Recommended gas inlet flow rate/pressure	Cutting: 400 scfh, 6.7 scfm @ 85 psi Gouging: 450 scfh, 7.5 scfm @ 70 psi
Input power cable length	10'
Power supply type	Inverter - IGBT
Engine drive requirement	15 kW for full 65 A output
Certifications	CSA-certified for use in the Americas and Asia, except China
Warranty	Power supply: 3-year Torch: 1-year

Torch consumable stack-up



Nozzles and electrodes are available in various quantities. Contact your distributor for more information.

Consumable type	Torch type	Amperage	Shield/ Deflector	Retaining cap	Nozzle	Electrode	Swirl ring
Drag-cutting	Hand	45 65	220818	220854	220941 220819	220842	220857
Mechanized	Machine	45 65	220817 or 220955 ¹	220854 or 220953 ²	220941 220819	220842	220857
FineCut®	Hand Machine	45	220931 220948	220854 or 220953 ²	220930	220842	220947
FlushCut	Hand/Machine	30-45 ³	420540 ⁴	420536	420633	420635	420634
Max control gouging	Hand/Machine	20-65	420480	220854	220797	220842	220857
Max removal gouging	Hand/Machine	20-65	220798	220854	220797	220842	220857

¹ Deflector for unshielded cutting

² Ohmic retaining cap

³ Using the 45 amp FlushCut consumables on the Powermax65 above 45 amps will cause premature consumable damage

⁴ Retaining ring

Powermax85®

Professional-grade plasma metal cutting and gouging system for handheld cutting 1" and mechanized piercing 3/4".



Capacity	Thickness	Cut speed
Cutting		
Recommended	1"	20 ipm
	1-1/4"	10 ipm
Severance (hand cutting)	1-1/2"	5 ipm
Pierce*	3/4"	

* Pierce rating for handheld use or with automatic torch height control

Capacity	Metal removal rate	Groove profile*
Gouging		
Typical gouge	19.5 lbs. per hour	.23" D x .28" W

* Actual groove profile varies with torch angle, arc stretch and technique

Specifications

Input voltages	200-480 V, 1-PH, 50/60 Hz 200-600 V, 3-PH, 50/60 Hz
Kilowatt output	12.2 kW
Input current @ 12.2 kW	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
Output current	25-85 A
Rated output voltage	143 VDC
Duty cycle @ 104° F	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
Open circuit voltage (OCV)	305 VDC
Dimensions with handles	19.7" D; 9.2" W; 17.9" H
Weight with 25' torch	71 lbs.
Gas supply	Clean, dry, oil-free air or nitrogen
Recommended gas inlet flow rate/pressure	Cutting: 400 scfh, 6.7 scfm @ 85 psi Gouging: 450 scfh, 7.5 scfm @ 70 psi
Input power cable length	10'
Power supply type	Inverter - IGBT
Engine drive requirement	20 kW for full 85 A output
Certifications	CSA-certified for use in the Americas and Asia, except China.
Warranty	Power supply: 3-year Torch: 1-year

Torch consumable stack-up



Consumable type	Torch type	Amperage	Shield/ Deflector	Retaining cap	Nozzle	Electrode	Swirl ring
Drag-cutting	Hand	45	220818	220854	220941	220842	220857
		65			220819		
		85			220816		
Mechanized	Machine	45	220817 or 220955 ¹	220854 or 220953 ²	220941	220842	220857
		65			220819		
		85			220816		
FineCut®	Hand	45	220931	220854 or 220953 ³	220930	220842	220947
	Machine		220948				
FlushCut	Hand/machine	30-45 ³	420540 ⁴	420536	420633	420635	420634
Max control gouging	Hand/machine	25-85	420480	220854	220797	220842	220857
Max removal gouging	Hand/machine	25-85	220798	220854	220797	220842	220857

¹ Deflector for unshielded cutting

² Ohmic retaining cap

³ Using the 45 amp FlushCut consumables on the Powermax85 above 45 amps will cause premature consumable damage

⁴ Retaining ring

Powermax105®

Professional-grade plasma metal cutting and gouging system for handheld cutting 1-1/4" and mechanized piercing 7/8".



Capacity	Thickness	Cut speed
Cutting		
Recommended	1-1/4"	20 ipm
	1-1/2"	10 ipm
Severance (hand cutting)	2"	5 ipm
Pierce*	7/8"	

* Pierce rating for handheld use or with automatic torch height control

Capacity	Metal removal rate	Groove profile*
Gouging		
Typical gouge	21.7 lbs. per hour	.25" D x .29" W

* Actual groove profile varies with torch angle, arc stretch and technique

Specifications

Input voltages	200-600 V, 3-PH, 50/60 Hz
Kilowatt output	16.8 kW
Input current @ 16.8 kW	200/208/240/480/600 V, 3-PH 58/56/49/25/22 A
Output current	30-105 A
Rated output voltage	160 VDC
Duty cycle @ 104° F	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
Open circuit voltage (OCV)	300 VDC
Dimensions with handles	23.3" D; 10.8" W; 20.0" H
Weight with 25' torch	100 lbs.
Gas supply	Clean, dry, oil-free air or nitrogen
Recommended gas inlet flow rate/pressure	Cutting: 460 scfh, 6.7 scfm @ 85 psi Gouging: 480 scfh, 8.0 scfm @ 70 psi
Input power cable length	10'
Power supply type	Inverter - IGBT
Engine drive requirement	30 kW for full 105 A output
Certifications	CSA-certified for use in the Americas and Asia, except China
Warranty	Power supply: 3-year Torch: 1-year

Torch consumable stack-up

Consumable type	Torch type	Amperage	Shield/ Deflector	Retaining cap	Nozzle	Electrode	Swirl ring
Drag-cutting	Hand	45	220818	220854	220941	220842	220994
		65			220819		
		85	220992		220816		
		105			220990		
Mechanized	Machine	45	220817 or 220955 ¹	220854 or 220953 ²	220941	220842	220994
		65			220819		
		85	220993 or 220955 ¹		220816		
		105			220990		
FineCut®	Hand Machine	45	220931 220948	220854 or 220953 ²	220930	220842	220947
FlushCut	Hand/machine	30–45 ³ 65–105 ³	420540 ⁵	420536	420633 420533	420635 220842 or 220777 ⁴	420634 420539
Max control gouging	Hand/machine	30–105	420480	220854	220797	220842	220994
Max removal gouging	Hand/machine	30–105	220798	220854	220991	220842	220994

¹ Deflector for unshielded cutting

² Ohmic retaining cap

³ Using the 45 amp FlushCut consumables on the Powermax105 above 45 amps will cause premature consumable damage.

⁴ For longer consumable life when cutting metal 1/2 inch and under, check out the CopperPlus electrode (part number 220777).

⁵ Retaining ring

Powermax125®

Professional-grade plasma metal cutting and gouging system for handheld cutting (1-1/2") and mechanized piercing 1".



Capacity	Thickness	Cut speed
Cutting		
Recommended	1-1/2"	18 ipm
	1-3/4"	10 ipm
Severance (hand cutting)	2-1/4"	5 ipm
Pierce*	1"	

* Pierce rating for handheld use or with automatic torch height control

Capacity	Metal removal rate	Groove profile*
Gouging		

Typical gouge 27.6 lbs. per hour 0.17-0.31" D x 0.24-0.39" W

* Actual groove profile varies with torch angle, arc stretch, and technique

Specifications

Input voltages	480/600 V, 3-PH, 50/60 Hz
Kilowatt output	21.9 kW
Input current @ 21.9 kW	480/600 V, 31/24 A
Output current	30-125 A
Rated output voltage	175 VDC
Duty cycle @ 104° F	100% @ 125 A, 480/600 V, 3-PH
Open circuit voltage (OCV)	320 VDC
Dimensions with handles	23.3" D; 10.8" W; 20.0" H
Weight with 25' torch	480 V 105.7 lbs. 600 V 104.7 lbs.
Gas supply	Clean, dry, oil-free air or nitrogen
Recommended gas inlet flow rate/pressure	Cutting: 550 scfh @ 85 psi Gouging: 450 scfh @ 60 psi
Input power cable length	10'
Power supply type	Inverter - IGBT
Engine drive requirement	40 kW for full 125 A output
Certifications	CSA-certified for use in the Americas and Asia, except China.
Warranty	Power supply: 3-year Torch: 1-year

Torch consumable stack-up



Consumable type	Torch type	Amperage	Shield/ Deflector	Retaining cap	Nozzle	Electrode	Swirl ring
Drag-cutting	Hand	45	420172	220977	420158	220971	220997
		65	420172		420169		
		125	420000		220975		
Mechanized	Machine	45	420168	220977 or 420156 ¹	420158	220971	220997
		65	420168		420169		
		125/105	220976		220975		
FineCut®	Hand	45	420152	220977 or 420156 ¹	420151	220971	420159
	Machine						220997
Hyamp FlushCut	Hand/machine	85-125	420485 ²	420490	420489	420553	420484
Max removal gouging	Hand/machine	30-125	420112	220977	420001	220971	220997
Max control gouging	Hand/machine	30-125	420519	220977	420001	220971	220997

¹ Ohmic retaining cap

² Retaining ring

Torch applications for Powermax systems

Powermax® torch product line overview

Hypertherm® offers an extensive array of torch options for the Powermax line of plasma systems.

Color code	Torch series	System compatibility	Torch style(s)					
			Hand torch	Straight hand torches	Straight machine torches	Short machine torches	Robotic torches	Long torches
	Air T30 (designed for)	Powermax30 AIR	15 ft. lead					
	Duramax® LT (designed for)	Powermax30 XP	15 ft. lead					
	Duramax® Lock (designed for)	Powermax45 XP	20 ft. lead 50 ft. lead	20 ft. lead 50 ft. lead	25 ft. lead 35 ft. lead 50 ft. lead			
	Duramax® (designed for)	Powermax65 Powermax85 Powermax105	25 ft. lead 50 ft. lead 75 ft. lead	25 ft. lead 50 ft. lead 75 ft. lead	15 ft. lead 25 ft. lead 35 ft. lead 50 ft. lead 75 ft. lead	15 ft. lead 25 ft. lead 35 ft. lead 50 ft. lead	25 ft. lead	
	Duramax® (compatible)	Powermax45 XP						
	Duramax® Hyamp™ (designed for)	Powermax125	25 ft. lead 50 ft. lead 75 ft. lead	25 ft. lead 50 ft. lead 75 ft. lead	15 ft. lead 25 ft. lead 35 ft. lead 50 ft. lead 75 ft. lead	15 ft. lead 25 ft. lead 35 ft. lead 50 ft. lead	25 ft. lead	2 ft. option 4 ft. option 6 ft. option 25 ft. lead 50 ft. lead
	Duramax® Hyamp™ (compatible)	Powermax45 XP Powermax65 Powermax85 Powermax105						

Match the color code to the consumable packaging to select the correct consumables by torch series.



HELPING YOU SHAPE THE WORLD.



PLASMA | LASER | WATERJET | AUTOMATION | SOFTWARE | CONSUMABLES

For more information, visit:
www.hypertherm.com

Engineered and assembled in the USA
ISO 9001:2008

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