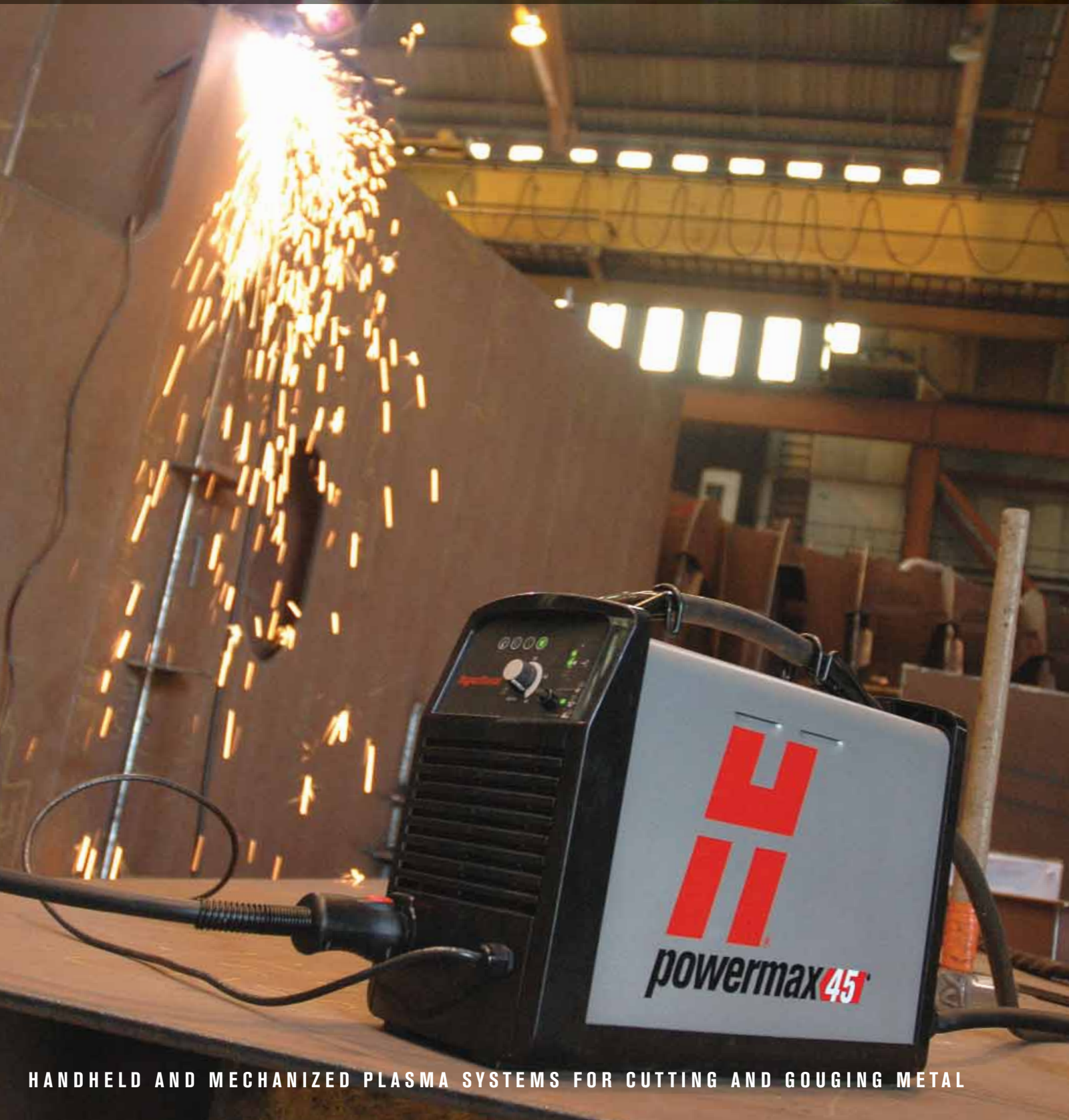
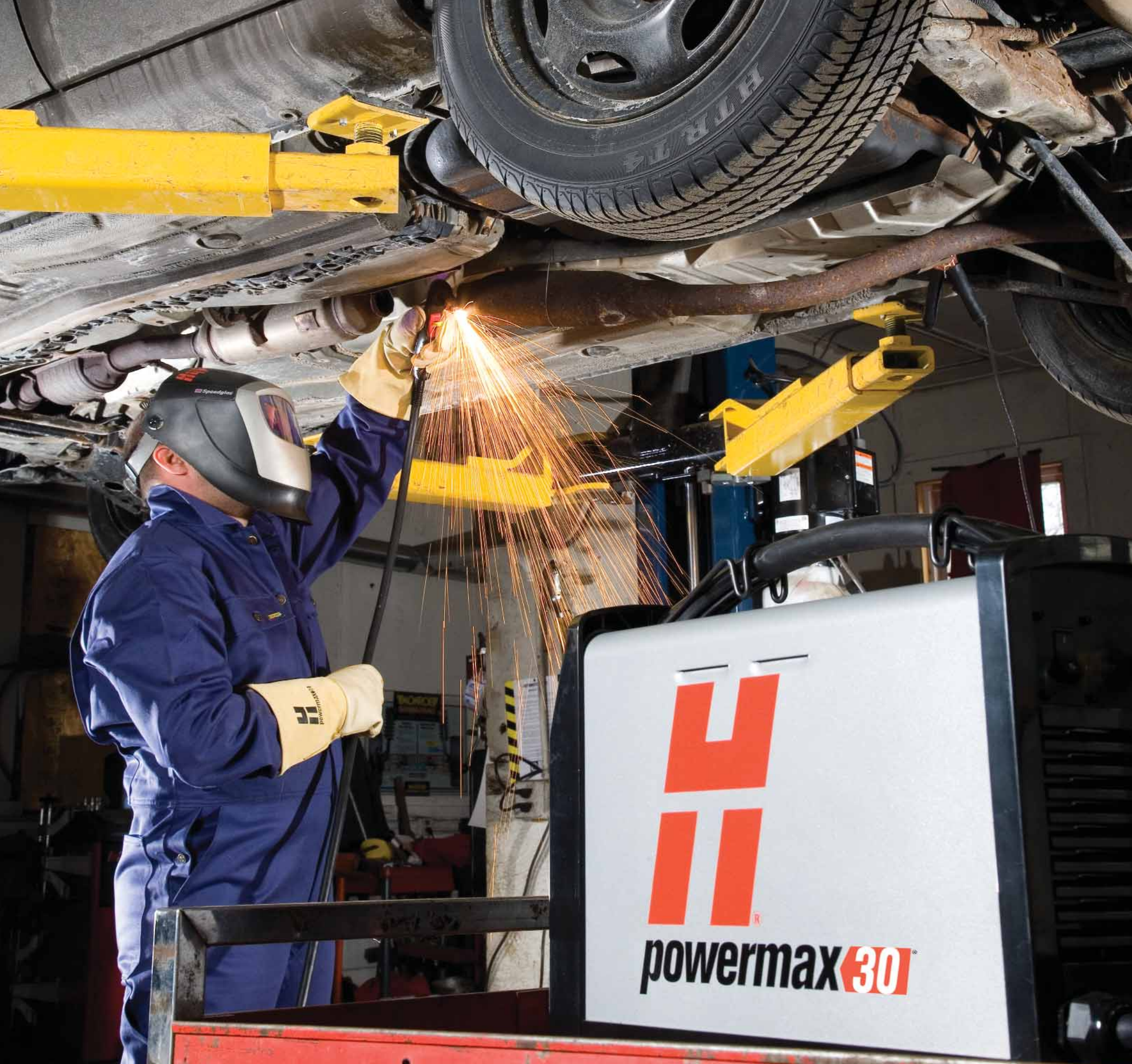


Hypertherm®

Powermax® Selection Guide



HANDHELD AND MECHANIZED PLASMA SYSTEMS FOR CUTTING AND GOUGING METAL



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For the latest product information and complete specifications, go to www.hypertherm.com.

Hypertherm

CELEBRATING
40 YEARS



Hypertherm: Company overview

For over 40 years, Hypertherm has been designing and manufacturing the world's finest thermal cutting equipment. Hypertherm systems are trusted for performance and reliability that result in increased productivity and profitability for our customers. With an intense focus on technology innovation, Hypertherm has established our position as the industry leader while delivering the tools our customers need to achieve their best results.

“Hypertherm products are reliable, consistent, and easily outperform anything else in their class.”

A North American Hypertherm distributor

Work like an owner. Think like a customer.

Each Hypertherm associate owns shares in the company. Share ownership is a powerful motivator, with clear benefits for Hypertherm customers: every product we design is built with the highest quality – just as you would expect from an owner.





Understanding plasma technology

Powermax systems cut metals quickly, cleanly and precisely.

Plasma is created by applying electrical energy to a gas, which increases its temperature significantly. Powermax systems use plasma's intense heat to melt the metal and a high-pressure gas – air or nitrogen – to blow the molten metal away, leaving an edge with good quality that minimizes the need for secondary operations. Powermax systems are also effective for gouging metal.

Operating a Powermax system requires:

- A handheld or machine torch.
- AC power source (fixed or generator).
- Compressed air – shop air, portable air compressor or bottled air. Nitrogen may also be used.
- Safety equipment, including shaded glasses or face shield, gloves, protective clothing and proper ventilation.



Powermax advantages

Productivity – Fast cut speeds, superior cut quality, little or no secondary operations and no pre-heating help you to do more in less time.

Easy to use – No flammable gases, high portability, simple controls and good arc visibility make Powermax systems easy to operate. Any operator can quickly become skilled with a Powermax plasma system.

Versatility – From the shop to the field, cutting or gouging stainless, mild steel or aluminum, you can leverage a Powermax system for many jobs.

Low operating cost – High productivity and long consumable life minimize operating costs.

Reliability – Smart design, plus intense testing during both product development and manufacturing, delivers industry-leading reliability.

Confidence – Hypertherm's singular focus on plasma, plus the proven performance and reliability of our global installed base, gives you confidence that you are buying the best.

Cut or gouge mild steel, stainless steel, aluminum and more.

A Powermax plasma system is a versatile tool. Whether in a shop, factory, at home, or in the field, Powermax systems cut and gouge a wide variety of metal types, thicknesses and forms. Most models are available with a handheld or machine torch for added versatility.



Mild steel



Stainless and aluminum

Why choose Powermax over oxyfuel

Powermax plasma provides the optimal mix of cut quality, productivity and low operating cost. And with added ease-of-use features, safety advantages and superior versatility, Powermax is superior to oxyfuel for many applications.

Versatility – Plasma cuts all electrically conductive metals.

Productivity and performance – Cutting with a Powermax system involves no preheating; provides faster cutting speeds up to 1 1/4 inches (32 mm); and delivers better cut quality for fewer secondary operations. Powermax plasma systems are easily used with templates and for stacked metal cutting.

Cut quality – Powermax systems generally produce less dross and have a smaller heat-affected zone, reducing the amount of secondary operations required.

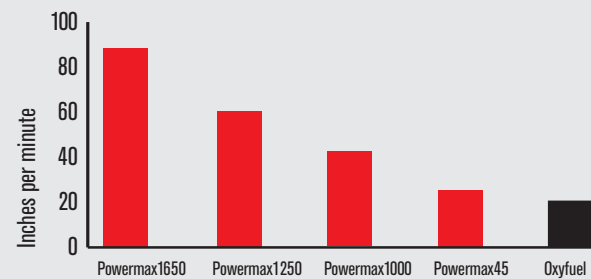
Lower operating costs – Greater productivity plus no cylinder rentals or gas delivery costs make Powermax cheaper to operate.

Easy to use – Powermax operators have no gas mixture to regulate and do not need to hold a standoff when cutting.

Safety – Powermax air plasma uses no flammable or explosive gases.

Plasma vs. oxyfuel

Cut speed on 1/2" (12 mm) mild steel



Operating on a generator

Powermax systems can be powered by motor generators at sites where fixed power is unavailable, and portable compressors or bottled air may be used as the gas source. High power efficiency and advanced power supply technology that compensate for low-line voltage ensure high-performance cutting and gouging no matter where the job.

Powermax product line

High-performance industrial products for every cutting and gouging need.

Hypertherm's Powermax line of products consists of six systems that will help you get your cutting and gouging jobs done faster, easier, more reliably and at lower cost.

All six Powermax products may be ordered in hand-torch configurations.

Four systems – the Powermax45, 1000, 1250 and 1650 – are also available in machine-torch configurations for automated applications. Quick-disconnect designs allow for easy switching between handheld and machine torches.

Please turn to page 18 for additional system specifications.



Powermax190c

Handheld cut capacity

Recommended 1/8" (3 mm)
Maximum 3/16" (5 mm)
Severance 1/4" (6 mm)



Powermax30

Handheld cut capacity

Recommended 1/4" (6 mm)
Maximum 3/8" (10 mm)
Severance 1/2" (12 mm)



NEW!

Powermax45

Handheld cut capacity

Recommended 1/2" (12 mm)
Maximum 3/4" (19 mm)
Severance 1" (25 mm)

Mechanized pierce capacity

Maximum 3/8" (10 mm)



Powermax1000

Handheld cut capacity

Recommended 3/4" (19 mm)
Maximum 1" (25 mm)
Severance 1-1/4" (32 mm)

Mechanized pierce capacity

Maximum 1/2" (12 mm)



Powermax1250

Handheld cut capacity

Recommended 7/8" (22 mm)
Maximum 1-1/8" (29 mm)
Severance 1-1/2" (38 mm)

Mechanized pierce capacity

Maximum 5/8" (16 mm)



Powermax1650

Handheld cut capacity

Recommended 1-1/4" (32 mm)
Maximum 1-1/2" (38 mm)
Severance 1-3/4" (44 mm)

Mechanized pierce capacity

Maximum 3/4" (19 mm)

Capacity ratings

Cut capacity is frequently the most important factor in selecting a Powermax system. Powermax capacity ratings are a function of cut speed, material thickness and cut quality.

Handheld cutting

Recommended – The thickness of mild steel on which the system delivers good cut quality and speeds at or greater than 20" (500 mm) per minute. Eighty percent or more of cutting should be at the recommended thickness.

Maximum – The thickness of mild steel on which the system delivers good cut quality but at reduced speeds of 10" (250 mm) per minute. Twenty percent or less of cutting should be at the maximum thickness.

Severance – The thickness of mild steel that can be reasonably severed, but with poor cut quality and at slow speed. Cutting the severance thickness should be infrequent.

Mechanized cutting

Maximum – The thickness of mild steel that may be pierced with good cut quality and without excessive wear on the consumable parts. If edge starting, the cut capacity is the same as handheld capacity.

Note: For additional information on mechanized cutting speeds and thicknesses, refer to product operator manuals.

Model	Drag-cutting capability	Pilot arc controller	Contact start	Boost Conditioner circuit	Powercool design	Auto Voltage	CNC interface	Quick-disconnect torch	90° hand torch*	75° hand torch*	Machine torch capability	180° (straight) machine torch**	Remote start pendant**	Transfer cable**	Integrated air compressor	Gauging consumables	50:1 voltage divider	Carry strap	Wheel kit
Powermax190c	◆	◆	◆							◆				◆					
Powermax30	◆	◆	◆	◆	◆	◆				◆								●	
Powermax45	◆	◆	◆	◆	◆		◆	◆		◆	◆	◆	◆	●		◆	◆	◆	
Powermax1000	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆		●	●		●
Powermax1250	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆		●	●		●
Powermax1650	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆		◆	●		◆

Standard ◆

Optional ●

*75° or 90° torch is standard with hand-torch system configurations. Hand torches are available for optional purchase with machine-torch system configurations.

**180° torch is standard with machine-torch system configurations. A machine torch is available for optional purchase with hand-torch system configurations (excludes Powermax190c and Powermax30).



Shielded



Unshielded



Gouging



FineCut

Genuine consumables for every application

Shielded consumables – For everyday cutting, Hypertherm’s drag-cutting technology makes it easy to follow a line or a template. The nozzle shield also extends nozzle life for lower operating costs.

Unshielded consumables (not available in countries that require CE certification) – Unshielded consumables are extended for improved access to hard-to-reach areas, excellent arc visibility and when extra clearance is needed during bevel cutting.

Gouging consumables – Plasma gouging can replace grinding or carbon arc gouging for many metal-removal applications. Plasma gouging produces less noise and fumes than carbon arc gouging and avoids risks of metallurgic problems from carbon contamination.

FineCut™ consumables – For high-quality cuts – low dross, narrow kerf and virtually no heat-affected zone – on thin metal. Available for the Powermax1000, 1250 and 1650.



Mechanized cutting opportunities

Industrial duty cycles, low operating costs and Hypertherm reliability make Powermax systems ideal for many mechanized applications. They are frequently used on X-Y cutting tables, 3-dimensional robots, track cutting systems and pipe cutting and beveling machines. When hand cutting is required, quick-disconnect technology allows for easy switching between handheld and machine torches.



X-Y cutting



Robotic 3-dimensional cutting



Track cutting and gouging



Pipe and bevel cutting

Powermax technology benefits

Hypertherm's proprietary designs deliver fast cutting speeds, long consumable life, and superior cut quality for high productivity and low operating costs.

Clean side / dirty side design isolates circuit board components to limit metallic dust build-up and improve reliability in industrial environments.

Powercool™ design cools internal components more effectively for greater system reliability and improved uptime.

Coaxial-assist™ jet boosts cutting speeds as much as 20% over conventional consumables designs.

Contact-start technology eliminates high-frequency interference that can damage nearby electronic equipment.

Conical Flow™ nozzle technology increases arc energy density for superior cut quality with little dross.

Patented nozzle shielding enables "drag cutting" directly along the surface of the workpiece – no standoff is needed.

HyLife® electrode extends consumable life and lowers operating cost.

Note: Technologies vary by product. Refer to product brochures.



CNC interface enables easy integration with automation equipment.

Power board technology

Boost Conditioner™ circuit compensates for variations in incoming power, providing consistent cut performance and improved operation on generators.

Continuous pilot arc mode allows you to cut across grating without stopping.

Auto-Voltage™ enables operation on a variety of voltages with no rewiring.

Control board technology

Patented use of **Digital Signal Processing (DSP)** provides higher power efficiency and requires fewer component parts for increased reliability.

Dual-threshold™ pilot circuit extends consumable life.

Easy-to-read control panels and easy-to-set adjustments.

Mode selector to switch easily between plate cutting, expanded metal cutting and gouging.

Most Powermax systems feature **quick-disconnect** torches for easy switching between handheld and mechanized cutting.



“We test these products until they break. Then we find the problem, fix it, and test them again, always under the most severe operating conditions – conditions far tougher than anything the product is likely to see in the real world. It’s a 24-hour-a-day operation and it’s an integral part of our product development process.”

Mike Kornprobst, Senior Engineering Manager,
Hypertherm Powermax Systems



Hypertherm Certified™ reliability

Reliable by design

Powermax systems are tested under strict protocols which ensures the highest levels of performance and reliability. You can be confident that Hypertherm Powermax systems will perform reliably under the toughest of conditions. Hypertherm conducts:

- Extensive live-arc testing
- Severe environmental testing, including Highly Accelerated Life Testing (HALT)
- Aggressive mechanical testing
- Complete diagnostic testing and burn-in of each system

Reliability is designed into every Powermax system through features like our patented Digital Signal Processing (DSP) technology, which utilizes software instead of hardware to perform key internal functions, eliminating parts and improving reliability; and Powercool™ technology, which cools key components efficiently and effectively for superior system reliability.

System specifications

Choose the Powermax system that meets your needs. Consider cut capacity, duty cycle, system portability, and other requirements, as well as your available input power.

For more information, refer to product brochures.



		powermax190c	powermax30	powermax45	powermax1000	powermax1250	powermax1650
Handheld cut capacity	Recommended	1/8" (3 mm)	1/4" (6 mm)	1/2" (12 mm)	3/4" (19 mm)	7/8" (22 mm)	1-1/4" (32 mm)
	Maximum	3/16" (5 mm)	3/8" (10 mm)	3/4" (19 mm)	1" (25 mm)	1-1/8" (29 mm)	1-1/2" (38 mm)
	Severance	1/4" (6 mm)	1/2" (12 mm)	1" (25 mm)	1-1/4" (32 mm)	1-1/2" (38 mm)	1-3/4" (44 mm)
Mechanized pierce capacity	Maximum	Not applicable	Not applicable	3/8" (10 mm)	1/2" (12 mm)	5/8" (16 mm)	3/4" (19 mm)
Gouge capacity	Metal removed per hour	Not applicable	Not applicable	6.2 lbs (2.8 kg)	11 lbs (4.9 kg)	15 lbs (6.8 kg)	24 lbs (10.8 kg)
	depth x width	Not applicable	Not applicable	1/8" (2.9 mm) x 1/4" (6.5 mm)	3/16" (5 mm) x 1/16" (2 mm)	3/16" (5 mm) x 1/8" (3 mm)	3/16" (5 mm) x 1/8" (3 mm)
Output current (amps)		12	15 – 30	20 – 45	20 – 60	25 – 80	30 – 100
Input voltage		120 V, 1-PH, 60 Hz, CSA CE units not available	120 – 230 V, 1-PH 50/60 Hz, CSA, CE	200 – 240 V, 1-PH, 50/60 Hz, CSA 230 V, 1-PH, 50/60 Hz, CE 400 V, 3-PH, 50/60 Hz, CE	200 – 600 V, 1/3-PH, 50/60 Hz, CSA 230 – 400 V, 3-PH, 50/60 Hz, CE	200 – 600 V, 1/3-PH, 50/60 Hz, CSA 230 – 400 V, 3-PH, 50/60 Hz, CE	200 – 600 V, 3-PH, 50/60 Hz, CSA 230 – 400 V, 3-PH, 50/60 Hz, CE
Input current		120 V 1-PH: 20/10 A	120 – 230 V 1-PH: 26 – 13.5 A	200 – 240 V 1-PH: 34 – 28 A 230 V, 1-PH: 30 A 400 V, 3-PH: 10A	200/208/230/240/480 V 1-PH: 50/48/44/42/22 A 3-PH: 30/29/26/24/15/12/11 A	200/208/230/240/480 V 1-PH: 70/70/60/58/31 A 3-PH: 41/40/37/34/21/17/17 A	200/208/230/240/ 400/480/600 V 3-PH: 53/51/46/44/27/22/21 A
Duty cycle at full output*		35%	50%, 230 V 35%, 115 V	50%, 132 V	50%, 230 – 600 V, 3-PH 50%, 230 – 480 V, 1-PH 40%, 200 – 208 V, 3-PH 40%, 200 – 208 V, 1-PH	60%, 230 – 600 V, 3-PH 60%, 480 V, 1-PH 50%, 200 – 208 V, 3-PH, 50%, 240 V, 1-PH 40%, 200 – 208 V, 1-PH	80%, 400 – 600 V, 3-PH 70%, 230 – 440 V, 3-PH 60%, 200 – 208 V, 3-PH
Dimensions	depth x width x height	15.8 x 8.5 x 12.0" (400 x 216 x 305 mm)	14.0 x 6.6 x 12.0" (356 x 168 x 305 mm)	16.8 x 13.7 x 6.8" (426 x 348 x 172 mm)	23.1 x 10.7 x 19.6" (586 x 271 x 498 mm)	23.1 x 10.7 x 19.6" (586 x 271 x 498 mm)	26.4 x 16.8 x 25.8" (671 x 427 x 655 mm)
Weight		46 lbs (20.9 kg)	20 lbs (9 kg)	37 lbs (16.8 kg)	83 lbs (37 kg)	96 lbs (44 kg)	135 lbs (61 kg)
Gas supply		Integrated air compressor	Air or N ₂	Air or N ₂	Air or N ₂	Air or N ₂	Air or N ₂
Flow rate and pressure		Not applicable	240 scfh (113 l/min) @ 80 psig (5.5 bar)	360 scfh (170 l/min) @ 90 psig (6.2 bar)	400 scfh (189 l/min) @ 70 psig (4.8 bar)	400 scfh (189 l/min) @ 70 psig (4.8 bar)	550 scfh (260 l/min) @ 75 psig (5.1 bar)
Torch lead lengths		20' (6.1 m) hand torch only	15' (4.5 m) hand torch only	20' (6.1 m), 25' (7.6 m), 35' (10.7 m), 50' (15.2 m)	25' (7.6 m), 50' (15.2 m), 75' (22.8 m)	25' (7.6 m), 50' (15.2 m), 75' (22.8 m)	25' (7.6 m), 50' (15.2 m), 75' (22.8 m)

* Hypertherm's duty cycle ratings are established at 104° F (40° C), according to international standards, and are determined at actual cutting arc voltage levels. Competitive systems are often rated at room temperature 70° F (20° C) and at theoretical output voltages, which allows duty cycle ratings to be significantly overstated.

There is no industry standard for rating plasma systems, so it is important to take care when comparing products from different manufacturers.

Hypertherm tests Powermax and competitor products using a consistent protocol. Testing is done on various thicknesses of cold metal on a CNC-controlled X-Y table at the recommended standoff height.

Powermax systems are backed by a full 3-year power supply warranty and a 1-year torch warranty.



Accessories



Plasma cutting guide

Facilitates consistent and accurate circles and lines. For optional use as a stand-off guide and in bevel cutting applications.

Part number
027668 Deluxe kit
127102 Basic kit



Operator face shield

Multi-purpose face shield that provides face and eye protection for plasma cutting and gouging applications.

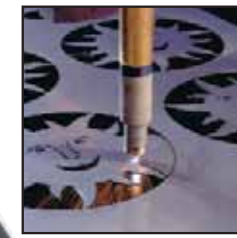
Part number
127103 (Shade 8)



Leather cutting gloves

Pigskin gloves with grain leather palm for excellent sense of touch. Foam back and reinforced thumb.

Part number
127169



FineCut consumables kit

FineCut consumables deliver high-quality cuts, low dross, narrow kerf, and virtually no heat-affected zone, on thin metal. Available for the Powermax1000, 1250 and 1650.

Part number
128888 Powermax1000/1250/1650
128889 Powermax1000/1250/1650 CE



System dust cover

Made from a durable denier fabric with a polyurethane coating, a dust cover will protect your Powermax investment for years.

Part number
127097 Powermax190c
127144 Powermax30
127219 Powermax45
127099 Powermax1000/1250
127100 Powermax1650



Gouging heat shield

Provides additional protection in gouging operations.

Part number
128658



Air filtration kit

A ready-to-install kit with a .85 micron filter to protect against contaminated air, as well as an auto-drain moisture separator.

Part number
128647

Wheel kit

A complete, pre-assembled kit for added mobility when the machine must be moved.

Part number
128646 Wheel kit Powermax1000/1250



Powermax consumable kits

A complete consumables set for handheld torches conveniently stored in a durable case, providing increased versatility at a lower cost than when purchased separately.

Part number
850480 Powermax30
850490 Powermax45
850430 Powermax1000
850440 Powermax1250
850450 Powermax1650



System carry case

Rugged polyurethane case with consumable compartment and custom foam inserts for the Powermax30 system and accessories.

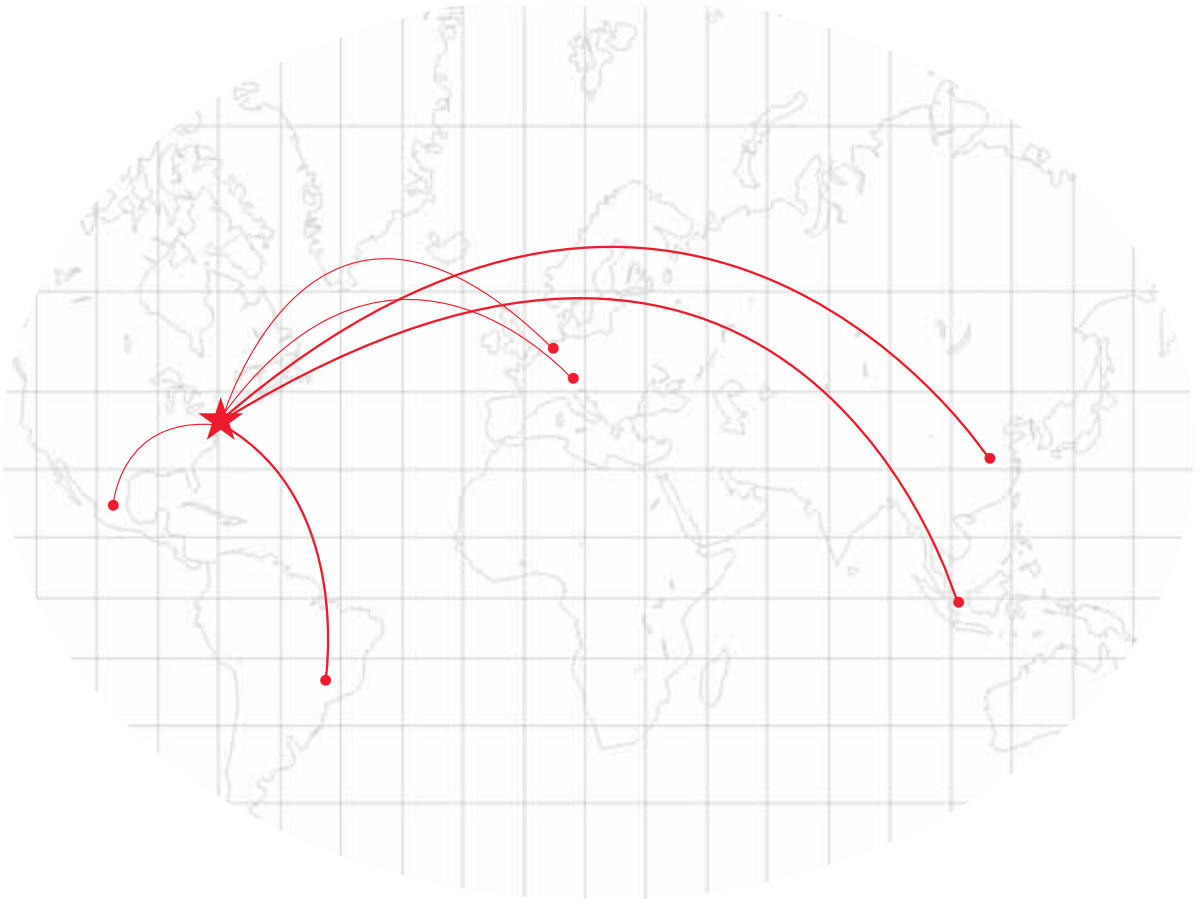
Part number
127170



Leather torch sheathing

Available in 25' (7.6m) sections, this option provides additional protection for torch leads against burn-through and abrasion.

Part number
024548



Hypertherm®

Hypertherm, Powermax, Auto-voltage, Boost Conditioner, Coaxial-assist, Conical Flow, Dual-threshold, FineCut, Hypertherm Certified, Powercool and HyLife are trademarks of Hypertherm, Inc. and may be registered in the United States and/or other countries. All other trademarks are the property of their respective owners.

For the authorized Hypertherm dealer nearest you, visit our website at www.hypertherm.com.



Powermax systems meet the RoHS directive restricting the use of lead, mercury, cadmium and other hazardous compounds. * Except Powermax190c.

