

Hypertherm

MAX100D

HEAVY-DUTY, DUAL-GAS PLASMA CUTTING AND GOUGING SYSTEM

**For Cutting Gauge
To 1 ¼ Inch (32 mm) Metals**



Heavy-Duty, Dual-Gas Plasma Cutting and Gouging System

**For Cutting Gauge to 1-1/4 Inch (32
mm) Metal**

In 1987, Hypertherm introduced the MAX100 plasma cutting system. Immediately, it set the standard among 100-amp air plasma systems for high performance, low cost operation. Hypertherm has followed up on this success with the MAX100D dual gas system, which delivers high performance air/air cutting on mild steel, and multiple gas selections for optimum cutting and gouging on stainless steel and aluminum.

The MAX100D Builds on Proven Hypertherm Technology

- **100-amp, 15 kw power output.** MAX100D provides superior cutting power, delivering up to 1 1/4-inch (32 mm) thick capacity on most metals.
- **Chopper-design power supply.** The advanced transistorized power supply maintains constant current output regardless of variations in input voltages or torch-to-work distances. Clean, square cuts are delivered throughout the cutting range.



- **80% duty cycle.** Rated at 15 kw output, 80% duty cycle assures high productivity in high-usage applications.
 - **Shielded torch front-end technology.** This Hypertherm patent* practically eliminates the possibility of double arcing, a major cause of nozzle failure. In mechanized applications, this means superior piercing capability; in hand-held applications, it means you can cut with the torch directly in contact with the workpiece.
 - **Durable torch design.** The impact-resistant molded torch handle stands up to the rigors of industrial use. There are no fragile (and expensive!) ceramic parts to worry about.
 - **Superior cut quality.** The MAX100D exceeds DIN2310, Category 1 cut quality specifications on mild steel, stainless steel and aluminum.
 - **Superior parts life.** Superior power supply and torch design deliver long consumable parts life to minimize operating cost
- * Patents pending world wide

Max 100D from Hypertherm the tradition of innovation continues



The MAX 100D Delivers Superior Performance in Cutting Stainless Steel

- **Dual-gas capabilities.** With numerous plasma/shield gas combinations, including Air/Air, N₂/Air, N₂/CO₂, Ar-H₂/Air, Ar-H₂/N₂, Ar-H₂-N₂/CO₂ and Ar-H₂-N₂/N₂, MAX100D enables you to achieve optimal results on all metals, including mild steel, stainless steel and aluminum.
- **Plasma gas mixer (optional).** This Hypertherm advance, which is available as an option, provides a patented* plasma gas blend of Ar-H₂/ N₂ that delivers dross-free cuts on thin stainless steel below 1/4-inch (6mm) thicknesses. Above 1/8" (3mm), cut edge surface is remarkably smooth and an excellent metallic

sheen is achieved.

- **Unique plasma gas console.** An integrated plasma gas console, located on the top of the power supply, complies with all international safety and regulatory requirements.

... And Advances the State of the Plasma Gouging

- **Superior metal removal rate.** The MAX100D was designed with gouging in mind: using Ar-H₂ it removes an impressive 15 lb (6.8 kg) of mild steel per hour.
- **Superior gouge quality.** The advanced torch and parts design provides smooth and symmetric gouges; the slag thrown up during gouging is easily removed.
- **Application selection -cutting or gouging.** With a simple flip of a switch you can change the power supply setting from cutting to gouging. In the gouging mode, pilot arc current is increased, ensuring easy establishment of the gouging arc.
- **Gouging torch.** For hand gouging applications, a torch with an extended head is available to help keep the heat away from the torch handle - and the operator. This torch may be used for cutting as well.
- **Gouging heat shield.** A gouging shield attaches easily to the torch head to deflect the heat generated during gouging. The operator doesn't need cumbersome insulating gloves.
- **Durable front-end shield* and spray-coated retaining cap.** Unlike some competitive systems, which use fragile ceramic torch front-end shields, the MAX100D uses a durable copper gouging shield to protect the nozzle from double arcing. In addition, a zirconia spray-coated retaining cap



helps protect the torch head from the heat associated with gouging. Parts life is extended and the use of ceramics is avoided.

No competitive system on the market today gives you the unique combination of features of the MAX100D. And, Hypertherm backs up its commitment to quality with a superior warranty package: two-year coverage on the power supply and one-year protection on the torch.



* Patents pending worldwide

MAX100D System Components

- Power Supply
- Torch and Torch Assembly
- Consumable Pans Kit
- Work Cable and Clamp
- Heat Shield
- Plasma Gas Mixer-Optional
- THC-2 (Torch Height Control -Optional)



Machine Torch



Hand Torch



Heat Shield



Gas Mixer

Specifications:

Model Number:	MAX100D
Input Voltage:	208 V, 3Ø, 60 Hz 220/380/415 V, 3Ø, 50 Hz 240/480 V, 3Ø 60 Hz 575 V, 3Ø, 60 Hz
Input Current: @ 15 kw Output:	55 A, 280 V 54/30/28 A, 220/380/415 V 50/25 A, 240/480 V 20 A, 575 V
Output Voltage:	90-150 V DC
Output Current:	30 to 100 A
Duty Cycle:	80% at 15 kw output
Maximum OCV:	280 V DC

Dimensions:	31 3/4" (806 mm) Depth 43" (1092 mm) Height 26 1/2" (673 mm) Width
Weight:	435 lbs. (197 kg)
Gas Supply:	
Plasma Gas:	Air, N ₂ , Ar-H ₂ , Ar-H ₂ -N ₂
Plasma Flow:*	124 scfh (58 l/min)
Plasma Pressure:*	125 psig (8.5 bar)
Shield Gas:	Air, CO ₂ , N ₂
Shield Flow:*	440 scfh (208 l/min)
Shield Pressure:*	125 psig (8.5 bar)

*Maximum flows and pressures are shown, but will vary according to cutting or gouging requirements.

Operating Data**

Material	Thickness		Current (amps)	Approximate Travel Speed	
	(inches)	(mm)		(ipm)	(mm/min)
Mild Steel (Air plasma/ Air shield)	20 GA.	1	60	300	7620
	14 GA.	2	60	240	6096
	1/4	6	100	120	3048
	3/8	9	100	80	2032
	1/2	12	100	45	1143
	5/8	15	100	30	762
	3/4	19	100	17	432
	1 1 1/4	25 32	100 100	11 6	279 152
Stainless (N ₂ plasma/ Air shield)	20 GA.	1	60	300	7620
	14 GA.	2	60	240	6069
	1/4	6	100	55	1397
	3/8	9	100	40	1016
	1/2	12	100	30	762
Cut speeds for thicker plate available in operating manual.					
Aluminum (Air plasma/ Air shield)	18 GA.	1.2	60	300	7620
	14 GA.	2	60	200	5080
	1/4	6	100	95	2413
	3/8	9	100	70	1778
	1/2	12	100	55	1397
	5/8 3/4	15 20	100 100	45 33	1143 838
Cut speeds for thicker plate available in operating manual.					

Gouging Performance:**

Material	Plasma Gas/Shield Gas Combination	Metal Removal Rate
Mild Steel	Air/Air	8 lb (3.6 kg) per hour
Mild Steel	ArH ₂ /Air	15 lb (6.8 kg) per hour

**Other gas combinations are available for specific applications.

Hypertherm and MAX are registered trademarks of Hypertherm, Inc.