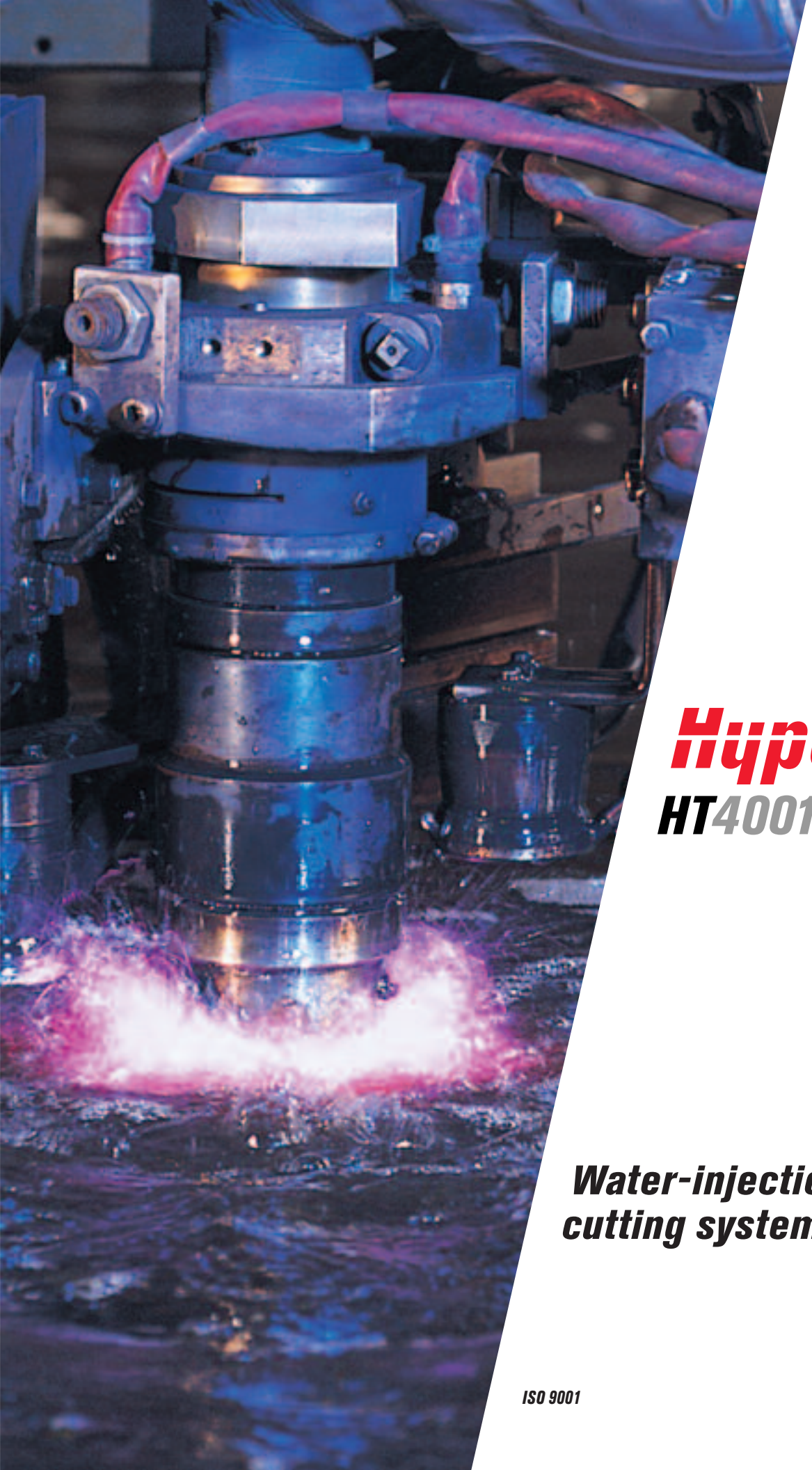


Hypertherm®

HT4001®

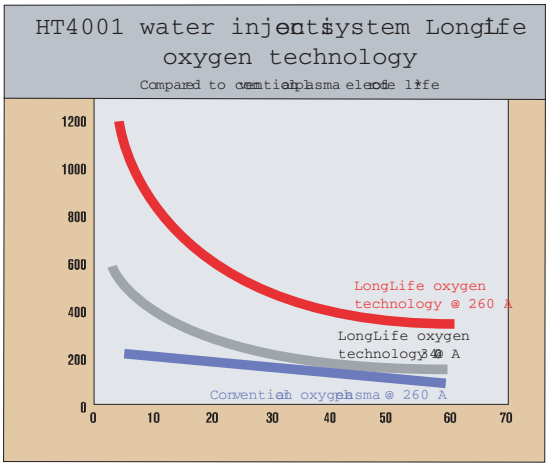
Water-injection plasma arc cutting system

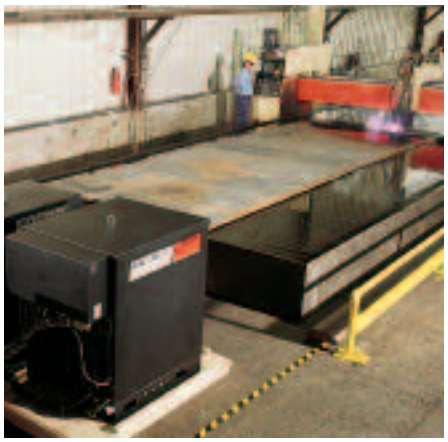
ISO 9001

HT4001

The HT4001 water-injection system provides superior cut quality, high productivity, extended parts life and expansion flexibility

The ideal combination of quality, productivity and flexibility





- ***340-amp oxygen capability pierces and cuts mild steel up to 1-1/4 inch (32 mm) at 90°, approximately 3/4-inch at 45° bevel***
- ***LongLife™ oxygen technology reduces costs***
- ***400-amp base system expandable to 760 amps***

Powerful flexible system

The Hypertherm HT4001 introduces 340-amp oxygen capability to provide clean, fast production cutting of mild steel up to 1-1/4 inch (32 mm) thick with no dross under most conditions. By using oxygen as the plasma gas, nitriding is virtually eliminated - and so is the need for expensive grinding operations.

The system also operates with nitrogen, delivering cuts on stainless steel or aluminum up to 2 inches (50 mm) thick. Patented LongLife oxygen parts technology greatly increases the life of parts through microprocessor control of power and flow parameters, keeping your costs down.

As an option, the HT4001 may be paralleled with a slave power supply for cutting aluminum or stainless steel up to 3 inches (75 mm) thick.

It's a powerful, flexible system designed for high volume production applications where reliability is vital.

Superior cut quality

- 340-amp oxygen capability delivers dross free cuts up to 1-1/4 inch (32 mm) thick at 90°, approximately 3/4-inch at 45° bevel.
- Oxygen plasma is the optimal choice for cutting mild steel. It eliminates dross across a wide cut range. You get faster cut speeds at lower power levels.
- Oxygen plasma improves weldability of the cut face because it virtually eliminates nitriding on mild steel. Cut edge surfaces are exceptionally smooth.
- Using nitrogen, the HT4001 delivers 400 amps of power to slice cleanly through 2 inches (50 mm) of stainless steel or aluminum.

Highest productivity

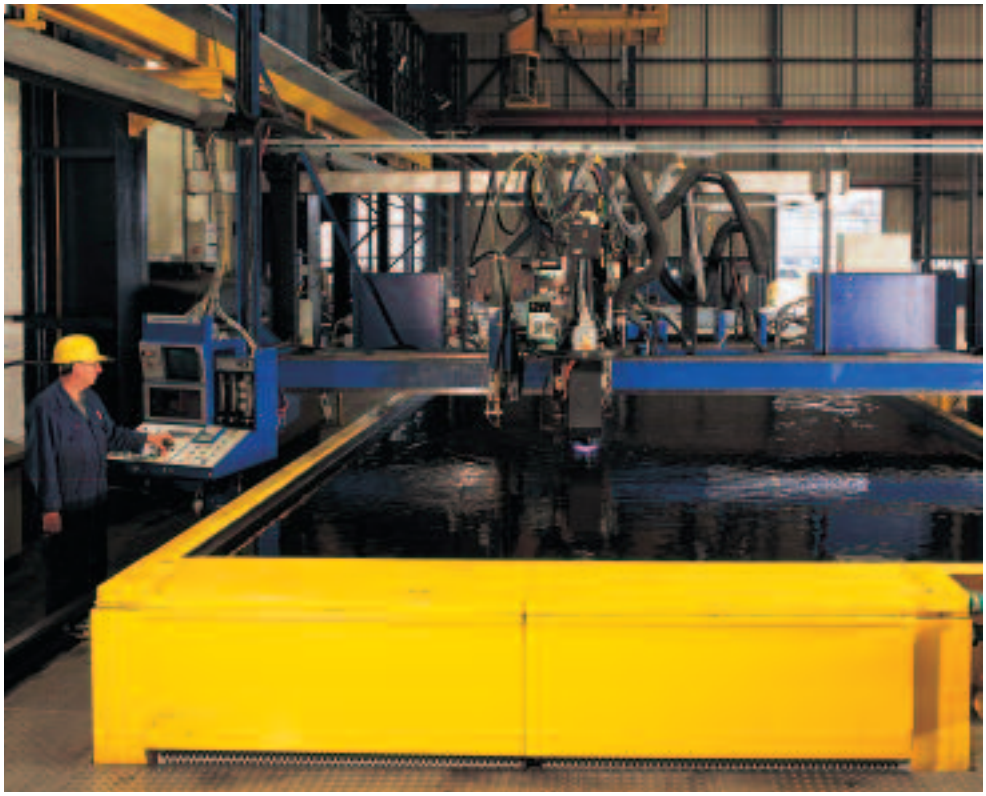
- The HT4001 is designed for 100% duty cycle at 80 kw output to give you maximum uptime.
- Longer parts life means less downtime for nozzle consumable replacement and more cutting time.
- Superior system reliability ensures that the HT4001 will be running when you need it.
- The HT4001 delivers excellent cut speed. For example, at 340 amps you'll cut 110 inches (2.8 m) of 1/2-inch (12 mm) mild steel per minute – with virtually no clean-up needed.

Lower costs

- Hypertherm's patented LongLife parts technology greatly extends the life of consumables while using oxygen, yielding impressive cost savings.
- Superior cut quality means minimal clean-up. That reduces your labor costs and makes your operation more efficient.

Maximum flexibility

- Available power of 260 or 340 amps for oxygen cutting and up to 760 amps for nitrogen cutting.
- You can add a slave power supply at any time to provide output current up to 760 amps. This extends the cutting range of your HT4001 to 3-inch (75 mm) stainless steel or aluminum.



- Optional beveling consumables allow you to bevel cut at angles of up to 45° with a simple parts change. Maximum thickness depends upon bevel angle.
- The HT4001 may be mounted on a wide variety of X-Y cutting systems, punch presses or robots. It can cut material above, on, or under water. Use it with oxygen or nitrogen to give you the flexibility of maximum cut quality on any metal.
- A Remote High Frequency console lets you locate the power supply up to 200 feet (61 m) from the torch with minimal high frequency interference.
- Optional Torch Height Control and Initial Height Sensing systems provide the ability to automatically position the torch which ensures optimal operation.

HT4001 system components

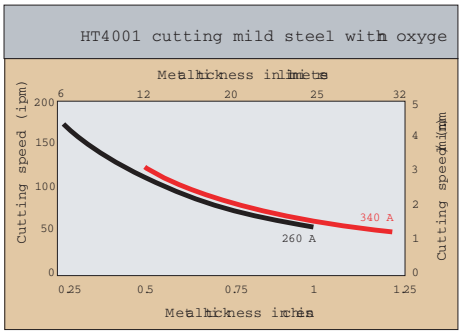
- HT4001 Power Supply
- PAC620 Water-Injection Torch Assembly
- Torch Leads
- Work Cable
- Gas Console
- Motor Valve Console
- Remote High Frequency (RHF) Console
- Leads and Cables
- Optional Initial Height Sensor and Torch Height Control
- Optional Remote Voltage Control
- Optional Water Muffler and Pump
- Optional Water Chiller
- Optional H-401 or H-601 Power Supply Slave

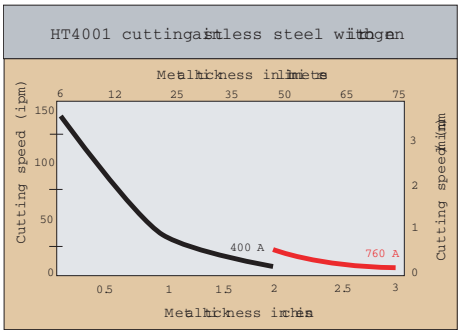
Power output ranges

- 260-Amp: For dross-free oxygen cutting of mild steel up to 1 inch (25 mm) thick with maximum parts life.
- 340-Amp: Highest power oxygen cutting of mild steel up to 1 1/4 inch (32 mm) thick with superior cut speed and quality.
- 400-Amp: Base system power output up to 400 amps for nitrogen cutting of stainless steel and aluminum up to 2 inches (50 mm) thick.
- 760-Amp: Power output with H-401 slave power supply up to 760 amps for nitrogen cutting of stainless steel and aluminum up to 3 inches (75 mm) thick.

Optimize performance

Genuine Hypertherm parts are designed to optimize performance for each torch, power supply and application. Using anything other than genuine Hypertherm parts poses a risk to your cutting system's reliability. Imperfect dimensioning may lead to expensive problems such as torch shorting, overheating and system failure. Using only Hypertherm consumables will safeguard your system, reduce rework costs and save time spent changing parts.





Genuine Hypertherm Consumables

The only way to ensure maximum performance

HT4001

Specifications

HT4001 without slave

Input Voltage Input Current	200/220 V, 3PH, 50-60 Hz @ 275/234 A 380/400/415 V, 3PH, 50-60 Hz @ 135/128/124 A 240/480 V, 3PH, 60 Hz @ 214/107 A 575/600 V, 3PH, 60 Hz @ 89/86 A
Output Voltage	80-200 VDC
Max Output Current	400 A
Maximum OCV	325 VDC
Duty Cycle	100% @ 104° F (40° C) @ 80 kw (The HT4001operates at 100% duty cycle throughout its cutting range.)
Dimensions	34" (863 mm) Width 51" (1295 mm) Height 48 11/16" (1236 mm) Depth
Weight	1800 lb (817 kg)
Gas Supply: Plasma gas types Oxygen inlet pressure Nitrogen inlet pressure	 Oxygen (99.5% pure), Nitrogen (99.995% pure) 120 psig (8.3 bar) 150 psig (10.3 bar)
Water Supply: Water to RHF Water to Chiller	 2.5 gpm (9.5 l/m) at 150 psig (10.3 bar) @ 70° F (21° C) Max. 0.5 gpm (1.9 l/m) at 35 psig (2.4 bar)

H-401 slave power supply

Input Voltage Input Current	200 V, 3PH, 50-60 Hz @ 360 A 380/415 V, 3PH, 50-60 Hz @ 180 A 230 V, 3PH, 60 Hz @ 310 A 460 V, 3PH, 60 Hz @ 155 A 575 V, 3PH, 60 Hz @ 125 A
Output Voltage	80-200 VDC
Max Output Current	760 A (in parallel with base HT4001)
Maximum OCV	400 VDC
Duty Cycle	100% @ 104° F (40° C) @ 152 kw (in parallel with base HT4001)
Dimensions	27-1/4" (690 mm) Width 43" (1090 mm) Height 46" (1170 mm) Depth
Weight	1905 lb (866 kg)

For additional information, call:
TOLL-FREE IN THE USA & CANADA: 1-800-643-0030

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Operating data

HT4001 without slave

Material	Current (Amps)	Thickness (Inches)	Cutting speed (ipm)	Thickness (mm)	Cutting speed (mm/min.)
Mild steel *O_2 plasma*	260	¼ ½ ¾ 1	170 100 70 50	8 12 20 25	3850 2730 1700 1300
	340	½ ¾ 1 1-¼	110 85 65 45	15 20 25 30	2570 2080 1680 1280
Stainless steel *N_2 plasma*	260	.035 .075 ⅛ ¼	450 300 200 150	.889 .191 3 6	11430 7620 3950 3810
	380	⅜	125	10	3170
	400	½ ¾ 1 1-½ 2	100 50 30 20 12	10 15 20 25 50	3070 2080 1200 790 310
Aluminum *N_2 plasma*	260	.035 .075 ⅛ ¼	540 360 240 180	.889 .191 3 6	13700 9140 6100 4730
	360	⅜	150	10	3810
	380	½	120	12	3050
	400	¾ 1 1-½ 2	60 35 30 15	10 15 20 25 50	3700 2500 1420 940 400

HT4001 with H-401 slave power supply

Material	Current (Amps)	Thickness (Inches)	Cutting speed (ipm)	Thickness (mm)	Cutting speed (mm/min.)
Mild steel *N_2 plasma*	480	½	110	12	2800
	500	¾	70	20	1780
	560	1	60	25	1520
	600	1-½ 2	30 20	15 20 25 35 50	2400 1750 1540 950 520
	700	2	25	50	635
	760	3	12	60 75	510 320
Stainless steel *N_2 plasma*	480	½	110	12	2800
	500	¾	70	20	1780
	560	1	60	25	1520
	600	1-½ 2	20 20	15 20 25 35 50	2400 1750 1540 950 520
	700	2	25	50	630
	760	3	12	60 75	510 320
Aluminum *N_2 plasma*	500	1	80	25	2030
	560	1-½	45	38	1150
	600	2	30	30 40 50	1710 1090 780
	700	2	30	50	760
	760	3	15	60 75	620 380

Note: Bevel speeds should be reduced by at least 5%.

Hypertherm®
The world leader in plasma cutting technology™
www.hypertherm.com

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