



THERMAL DYNAMICS

A U T O M A T I O N

Auto-Cut[®] 100

Automated Plasma Cutting System

- **MaximumLife[®] Parts**
- **Increased Productivity**
- **XT[™]-301 Torch**
- **Water Mist Secondary (WMS[®])**

**With SpeedLok[™]
Technology**



Automated Plasma Cutting Systems

Automated Plasma Cutting

Auto-Cut[®] 100

Automated Plasma Cutting System

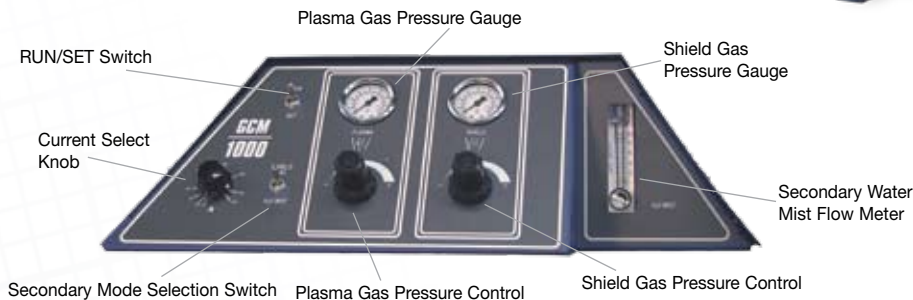
Precision – Performance – Productivity

The **Thermal Dynamics[®] Auto-Cut 100** delivers premium cut performance on both mild steel and non-ferrous materials. The power supply is designed for reliable, low cost operation. Features like the XT[™]-301 consumable parts cartridge and the Machine Status Message Center make the Auto-Cut 100 easy to operate.

XT-301 consumable parts are available for cutting metals from gauge thickness to 1" (25mm) plate. The Auto-Cut 100 with patented XT-301 torch is normally operated using economical air plasma and air shield gas for cutting mild steel and most nonferrous metals, resulting in high quality surface finishes and dross-free cuts. For even better cut quality on mild steel, Auto-Cut 100 offers O₂ plasma cutting capability. For lowest cost non-ferrous cutting and unmatched cut quality, use our unique Water Mist Secondary (WMS[®]) process with Nitrogen plasma and water shield. If heavy non-ferrous cutting is required, switch to Ar-H₂ (H35) and Nitrogen shield for premium non-ferrous performance up to 5/8" (15mm).

Full Featured Gas Control - GCM 1000

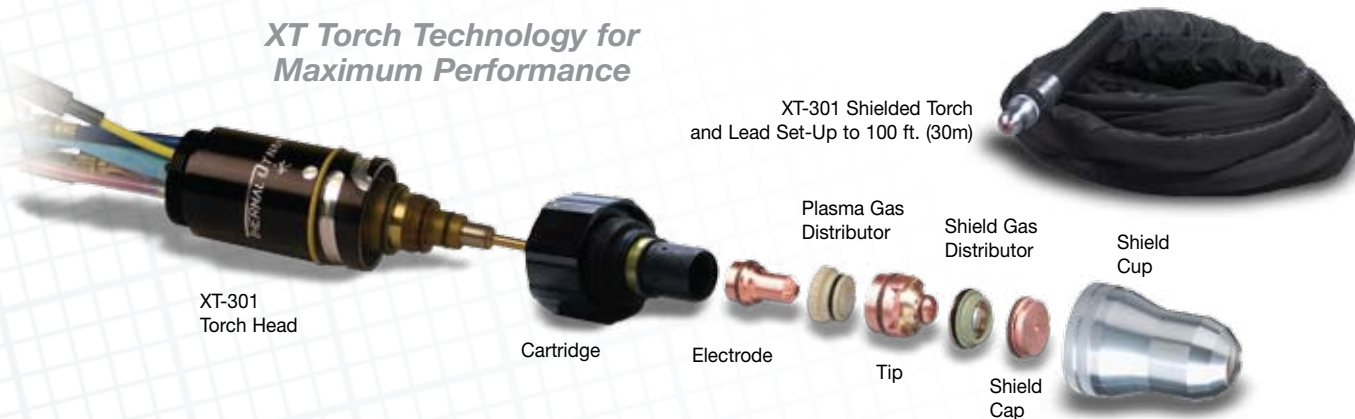
Both plasma and secondary pressures and flows are precisely controlled at the power supply with individual single stage regulators. Changing from the secondary gas to water mist secondary is simple with the front panel mounted selector switch.



Patent Pending XT Torch Technology

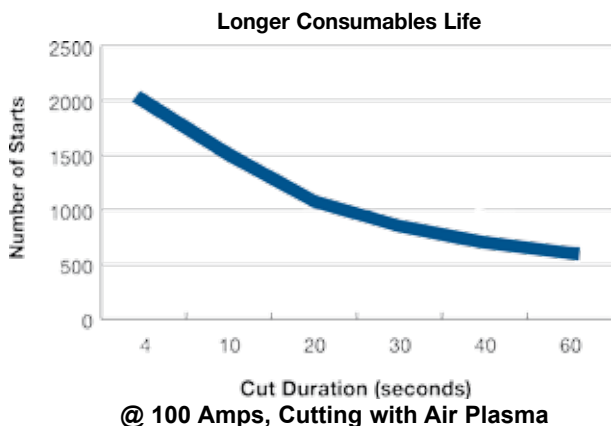
Thermal Dynamics' advanced XT Torch Technology brings plasma cutting to new levels of precision and productivity. Patent pending precision design and construction of the XT-301 torch and cartridge ensure exact relocation of the center-line of the cut after process changes. Rapid engagement threads on the retaining collar of our keyless cartridge mean easy installation and a quick return to production.

XT Torch Technology for Maximum Performance



XT™-301 Torch Technology

Thermal Dynamics' patent pending **XT** Torch Technology delivers productivity and performance you can measure.



- Keyless Consumable Cartridge for Rapid Process Changes
- Precision Construction Insuring Accurate Re-Centering of Consumable Cartridge After Parts Change
- Rapid Engagement Retaining Collar Threads
- Liquid Cooled Consumable Parts Electrical Connections
- Spring Loaded Leak-Less Coolant Tube Design

XT Torch Technology for cutting from gauge (0.5mm) to 1" (25mm). cuts both ferrous and non-ferrous materials with excellent quality.

- Small Heat Affected Zone
- Smooth Cutting Edge Surface
- Wide Dross-free Parameter Windows

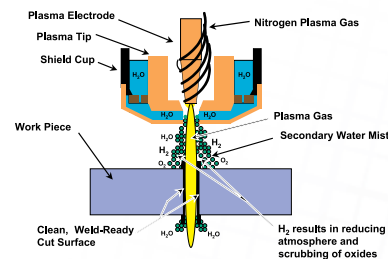
Water Mist Secondary (WMS®) Optimizes Non-Ferrous Cutting

WMS delivers excellent non-ferrous cut quality and low cost of operation by using N₂ as plasma gas and ordinary tap water as the secondary. A reducing atmosphere is produced in the cut by the release of hydrogen from the secondary water. This reducing atmosphere significantly reduces oxidation on the cut face surface. WMS is recommended up to 1/2" (12mm)

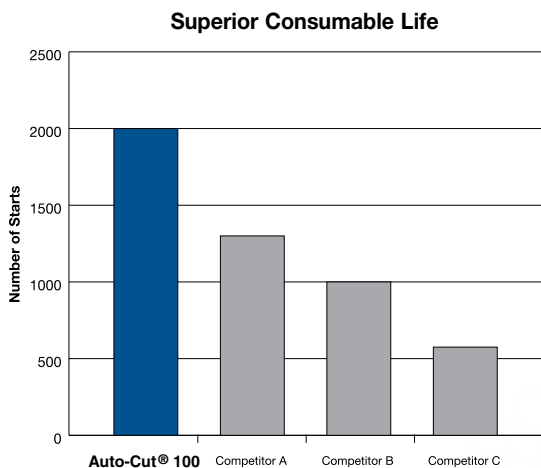
WMS Benefits

- Lowest Operating Costs
- Dross Free Cutting from Gauge to 1/2" (12mm)
- Oxide Free Cut Face Surface
- Wide Parameter Window
- Easy to Use

Effect of N₂/H₂O Plasma on Non-Ferrous

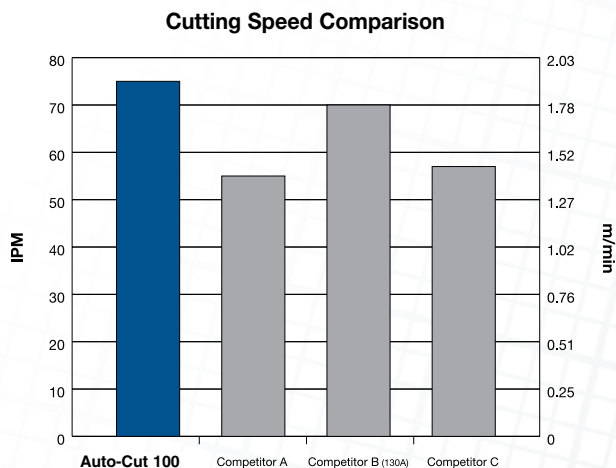


Competitive Comparison



Data generated by making 11 sec. cuts @ 100 Amps with air plasma, 3/8" (10mm) mild steel. Comparative data taken from competitors literature.

- Increased Life Through Patent Alignment Control
- Increased Cooling of Tip and Electrode



Data generated by making 11 sec. cuts @ 100 Amps with air plasma, 1/2" (12mm) mild steel. Comparative data taken from competitors literature.

- Higher Arc Density Equals Faster Speeds Without Sacrificing Cut Quality
- Smaller Tip Orifices Create a Narrow Kerf for Tighter Angles and Radiuses at Higher Speeds
- Patented Cutting Edge Consumable Technology

Auto-Cut[®] 100

Automated Plasma Cutting System

Specifications (subject to change without notice)

Rated Output	100 Amps
Output Range (A)	10 - 100 Amps
Output (V)	80 - 160V
Input Volts	208-230/460V, 3ph, 50-60 Hz, 400V, 3 ph, 50-60 Hz, 600V, 3 ph, 50-60 Hz
Input Amps @ Rated Output	67A @ 208V 64A @ 230V 36A @ 460V
Duty Cycle (@104°F / 40°C)	100% @ 100A @ 160V (16kW)
MAX OCV	380 VDC
Plasma Gas	Air, O ₂ , Ar-H ₂ , N ₂ @ 120 psi (8.3 bar)
Shield Gas	Air, N ₂ @ 120 psi (8.3bar), H ₂ O @ 10 GPH (0.6 l/min)
Weight	Power Supply - 397 lbs. (181kg) Torch Assy & Mounting Tube - 3 lbs. (1.3kg) Lead Set (15 ft./4.6m) - 12 lbs. (5.4kg) Torch Leads (per ft.) - 0.8 lb. (0.36kg)
Dimensions	H 48.75" (1238mm) x W 27.5" (700mm) x D 38.5" (978mm) (Fully Assembled Power Supply)
Warranty	Two Years Power Supply & One Year Torch
Certifications	CE, CCC, CSA

AUTO-CUT[™] 100 Automated Systems include:

- 100A Power Supply including GCM-1000
- XT-301 Torch and leads

Options & Accessories:

- Spare Parts Kit
- Wheel Kit

For complete ordering information contact Thermal Dynamics or your local Thermal Dynamics Automation Distributor.

DISTRIBUTED BY:

Cutting Speed Chart

This cutting speed chart includes preliminary data and is subject to change without notice

Torch Model		XT [™] -301				
Production Piercing & Cutting Capacity (Mild Steel)		5/8" (15mm)				
Maximum Piercing & Cutting Capacity (Mild Steel)		3/4" (20mm)				
Maximum Edge Start (Mild Steel)		1" (25mm)				
Material	Thickness Inch	Speed IPM	Amps	Plasma/Shield	Thickness mm	Speed mm/min.
Mild Steel						
	21 ga.	500	55	Air/Air	1	11500
	10 ga.	190			3	5460
	3/16	130			5	3180
	21 ga.	600	55	O ₂ /Air	1	14040
	10 ga.	180			3	5830
	3/16	120			5	2920
	1/4	150	100	Air/Air	6	4150
	3/8	85			10	2120
	1/2	75			12	1960
	3/4	30			20	720
	1	20			25	520
	1/4	130	100	O ₂ /Air	6	3610
	1/2	57			12	1580
	3/4	25			20	580
	1	10			25	280
Stainless Steel						
	16 ga.	350	55	Air/Air	1.5	9750
	10 ga.	100			4	2180
	3/16	60			5	14500
	1/4	40			6	1130
	3/8	65	100	Air/Air	10	1580
	1/2	45			12	1260
	1/4	60	100	N ₂ /H ₂ O	6	1750
	3/8	50			10	1210
	1/2	35			12	970
	3/8	50	100	Ar-H ₂ /N ₂	10	1220
	1/2	37			12	1010
Aluminum						
	16 ga.	400	55	Air/Air	2	8790
	3/16	100			5	2360
	1/4	100	100	Air/Air	6	2650
	1/2	45			12	1310
	3/4	35			20	890
	1/4	60	100	N ₂ /H ₂ O	6	1640
	3/8	50			10	1210
	1/2	35			12	970
	3/8	60	100	Ar-H ₂ /N ₂	10	1450
	1/2	40			12	1130

Note: Take care in comparison. The speeds noted above are best cut speeds. Often, competitors show maximum cutting speeds. Although much higher speeds can be achieved, edge quality and bevel angle may be compromised. The capabilities shown in this table were obtained by using new consumables, correct gas and current settings, accurate torch height control and with the torch perpendicular to the workpiece. The operating chart does not list all processes available for the Auto-Cut 100. Please contact Thermal Dynamics for more information.

U.S. Plasma Automation Customer Care: 866-279-2628 / FAX 800-535-0557 • Canada Customer Care: 905-827-4515 / FAX 800-588-1714
International Customer Care: 905-827-9777 / FAX 905-827-9797 • www.thermal-dynamics.com



WORLD HEADQUARTERS: 16052 Swingley Ridge Road, Suite 300 • St. Louis, Missouri 63017 U.S.A.

THE AMERICAS

Denton, TX USA
U.S. Customer Care
Ph: (1) 800-426-1888
Fax: (1) 800-535-0557

Miami, FL USA
Sales Office, Latin America
Ph: (1) 954-727-8371
Fax: (1) 954-727-8376

Oakville, Ontario, Canada
Canada Customer Care
Ph: (1) 905-827-4515
Fax: (1) 905-508-1714
International Customer Care
Ph: (1) 905-827-9777
Fax: (1) 905-827-9797

EUROPE

Chorley, United Kingdom
Customer Care
Ph: (44) 1257-261755
Fax: (44) 1257-224800

Milan, Italy
Customer Care
Ph: (39) 0236546801
Fax: (39) 0236546840

ASIA/PACIFIC

Cikarang, Indonesia
Customer Care
Ph: 62 21+ 8983-0011 / 0012
Fax: 62 21+ 893-6067

Osaka, Japan
Sales Office
Ph: 816-4809-8411
Fax: 816-4809-8412

Melbourne, Australia
Australia Customer Care
Ph: 1300-654-674
Fax: 613+ 9474-7391
International
Ph: 613+ 9474-7508
Fax: 613+ 9474-7488

Rawang, Malaysia
Customer Care
Ph: 603+ 6092-2988
Fax: 603+ 6092-1085

Shanghai, China
Sales Office
Ph: 86-21-64072626
Fax: 86-21-64483032

Singapore
Sales Office
Ph: 65+ 6832-8066
Fax: 65+ 6763-5812