



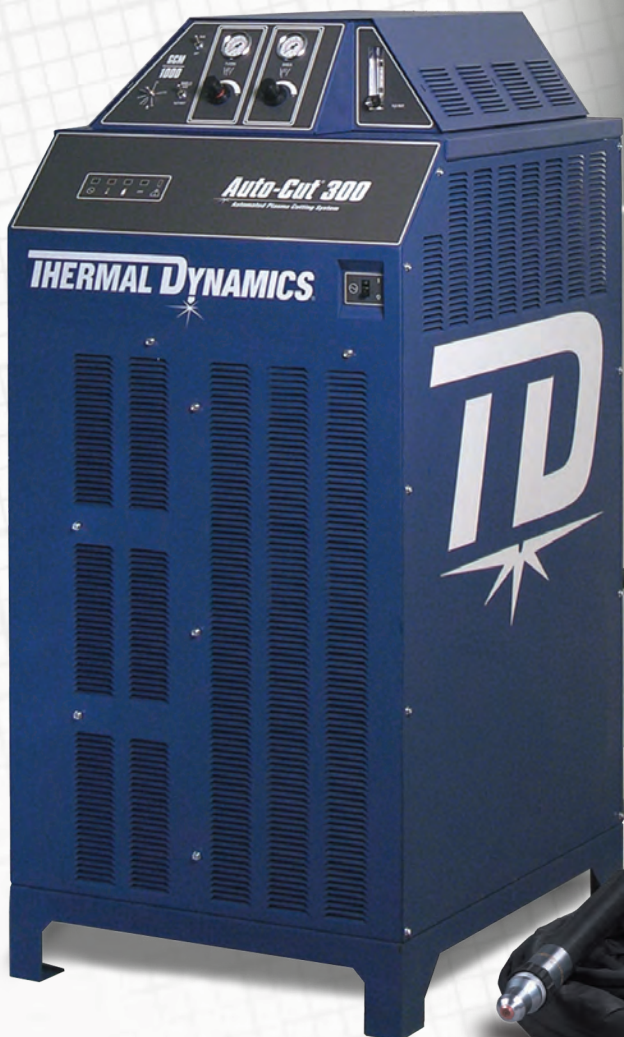
# **THERMAL DYNAMICS**

A U T O M A T I O N

## ***Auto-Cut<sup>®</sup> 300***

***Automated Plasma Cutting System***

- MaximumLife<sup>®</sup> Parts
- Increased Productivity
- XT<sup>™</sup>-301 Torch
- Water Mist Secondary (WMS<sup>®</sup>)



***Automated Plasma Cutting Systems***

# Automated Plasma Cutting

## Auto-Cut<sup>®</sup> 300

### Automated Plasma Cutting System

#### Quality

- Excellent cuts using air plasma.
- Unmatched cut quality on non-ferrous materials to 1" (25mm) using our unique Water Mist Secondary system (WMS<sup>®</sup>)

#### Ease of Use

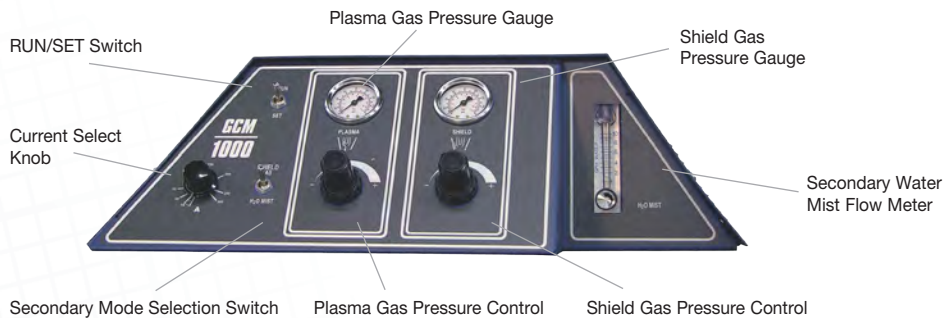
- Fast and easy installation.
- Simple set-up and user-friendly gas console.
- Quick-change, consumable design.
- Easy to identify and troubleshoot problems.

#### Productivity

- Highest cut speed in its class.
- Highest kW output in its class.
- Reduced downtime during parts changes due to the revolutionary SpeedLok<sup>™</sup> cartridge design of the XT<sup>™</sup>-301 torch.



Auto-Cut 300  
Power Supply

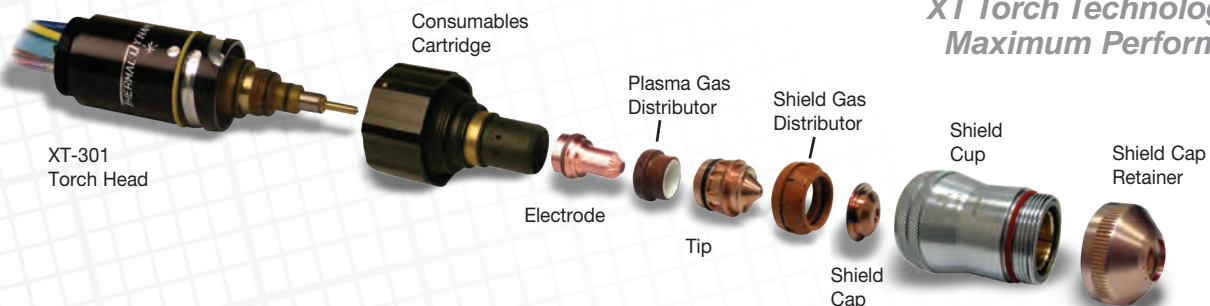


#### Technology

- Microprocessor controlled to produce the best cut quality every cut.
- Precision torch design for the best cut quality in its class.

#### Reliability

- Advanced testing in lab and field trials ensures ongoing performance and reliability.



#### 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 1/4" (35mm). Cuts ferrous and non-ferrous materials with excellent quality.

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

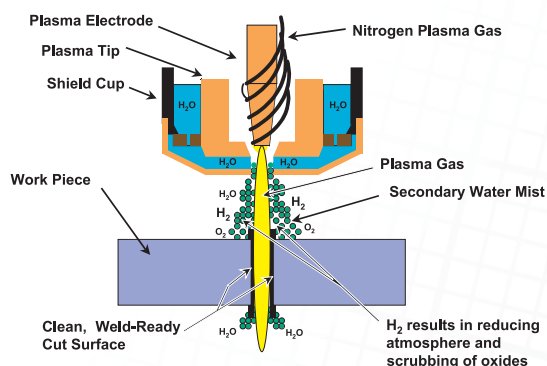
### Water Mist Secondary (WMS®) Optimizes Non-Ferrous Cutting

WMS delivers excellent non-ferrous cut quality and low cost of operation by using N<sub>2</sub> 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" (25mm).

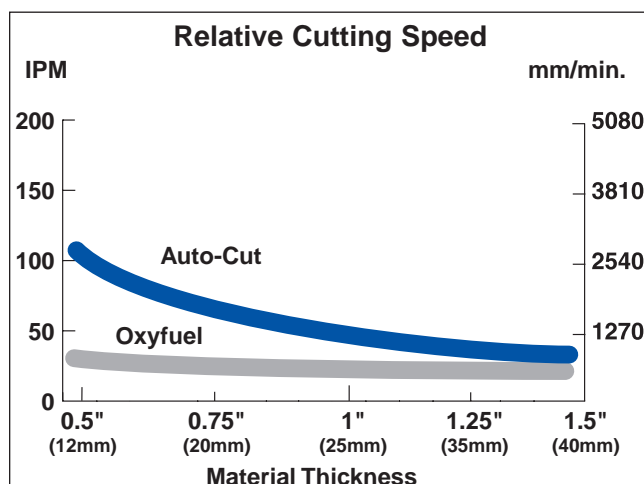
#### WMS Benefits

- Lowest Operating Costs
- Dross Free Cutting from Gauge to 1" (25mm)
- Oxide Free Cut Face Surface
- Wide Parameter Window
- Easy to Use

### Effect of N<sub>2</sub>/H<sub>2</sub>O Plasma on Non-Ferrous



### Competitive Comparison



### Advantages of the Auto-Cut 300

- Averages 3 Times Faster Cut Speeds
- Pierces 1" (25mm) in 0.7 Seconds
- One Auto-Cut 300 Replaces 3 Oxyfuel Torches that Require 3 separate Height Controls
- Less Material Waste
- Auto-Cut® 300 Also Cuts Stainless Steel and Aluminum
- 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 Consumable Technology

## Auto-Cut 300

Automated Plasma Cutting System

### Specifications (subject to change without notice)

Rated Output	300 Amps
Output Range (A)	10 - 300 Amps
Output (V)	80 - 180 VDC
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	188A @ 208V, 183A @ 230V, 190A @ 400V, 107A @ 460V, 79A @ 600V
Duty Cycle (@104°F / 40°C)	100% @ 300A @ 180V (54kW)
MAX OCV	380 VDC
Plasma Gas	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 120psi (8.3 bar)
Shield Gas	Air, N <sub>2</sub> @ 120 psi (8.3bar), H <sub>2</sub> O (WMS®)
Weight	Power Supply - 535 lbs. (243kg) Torch Assy & Mounting Tube - 3 lbs. (1.3kg) Lead Set (15ft/4.6m) - 12 lbs. (5.4kg) Torch Leads (per ft.) - 0.8 lb. (0.36kg)
Dimensions	H 60" (1524mm) 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™ 300 Automated Systems include:

- 300A 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)						
Maximum Piercing & Cutting Capacity (Mild Steel)						
Maximum Edge Start (Mild Steel)						
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
	1/4	150	100	Air/Air	6	4150
	1/2	75			12	1960
	3/4	30			20	720
	1	20			25	520
	3/8	130	200	Air/Air	10	3190
	1/2	100			12	2710
	3/4	60			20	1430
	1	35			25	920
	1/2	110	300	Air/Air	12	2790
	3/4	75			20	1960
	1	50			25	1300
	1-1/4	35			35	920
	1-1/2	20			38	510
	2	8			50	220
	2-3/4	4			70	100
Stainless Steel						
	16 ga.	350	55	Air/Air	1.5	9750
	10 ga.	100			4	2180
	3/16	60			5	1450
	1/4	100	100	Air/Air	6	3020
	3/8	65			10	1580
	1/2	45			12	1260
	1/4	60	100	N <sub>2</sub> /H <sub>2</sub> O	6	1750
	3/8	50			10	1210
	1/2	35			12	970
	3/4	50	200	Ar-H <sub>2</sub> /N <sub>2</sub>	20	940
	1	25			25	650
	3/4	100	300	Air/Air	20	3020
	1	60			25	1750
	1-1/4	40			35	1060
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 <sub>2</sub> /H <sub>2</sub> O	6	1640
	3/8	50			10	1210
	1/2	35			12	970
	3/4	70	200	Ar-H <sub>2</sub> /N <sub>2</sub>	20	1660
	1	40			25	1060
	3/4	90	300	Air/Air	20	1600
	1	70			25	1490
	1-1/4	45			35	1320

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 300. Please contact Thermal Dynamics for more information.

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