

# THERMAL DYNAMICS



AUTOMATION

## Auto-Cut™ 200

*Automated Plasma Cutting System*

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



**Automated Plasma Cutting System**

# Automated Plasma Cutting

## Auto-Cut™ 200

### Automated Plasma Cutting System

#### Precision – Performance – Productivity

The **Thermal Dynamics® Auto-Cut™ 200** 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 200 easy to operate.

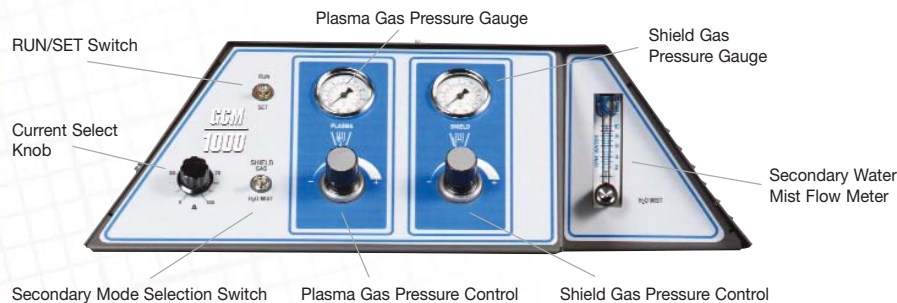
XT-301 consumable parts are available for cutting metals from gauge thickness to 1 inch plate. The Auto-Cut 200 and patented XT-301 torch is normally operated using economical air plasma and air shield gas for cutting mild steel and most non-ferrous metals, resulting in high quality surface finishes and dross-free cuts. For even better cut quality on mild steel, Auto-Cut 200 offers O<sub>2</sub> 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-H<sub>2</sub> (H35) and Nitrogen shield for premium non-ferrous performance up to 1" (25 mm).

#### 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.



Auto-Cut 200  
Power Supply



#### 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.

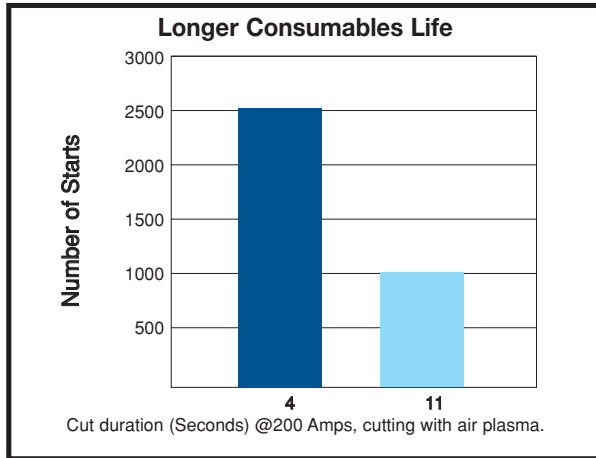
XT™- 301 Shielded Torch and  
Lead Set-Up to 100 ft. (30m)

#### XT™ Torch Technology for Maximum Performance



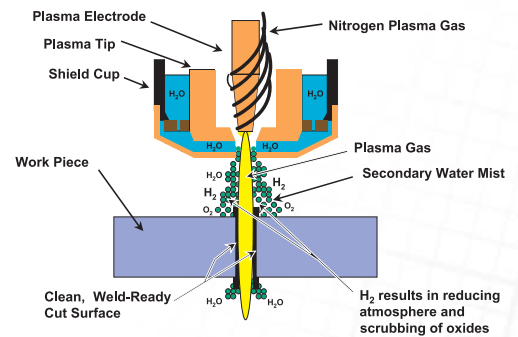
### XT™-301 Torch Technology

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

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



### 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 decreases oxidation on the cut face surface. WMS is recommended for materials up to 3/4" (20 mm) thick.

#### WMS Benefits

- Lowest Operating Costs
- Dross Free Cutting from Gauge to 3/4" (20 mm)
- Oxide Free Cut Face Surface
- Wide Parameter Window
- Easy to Use

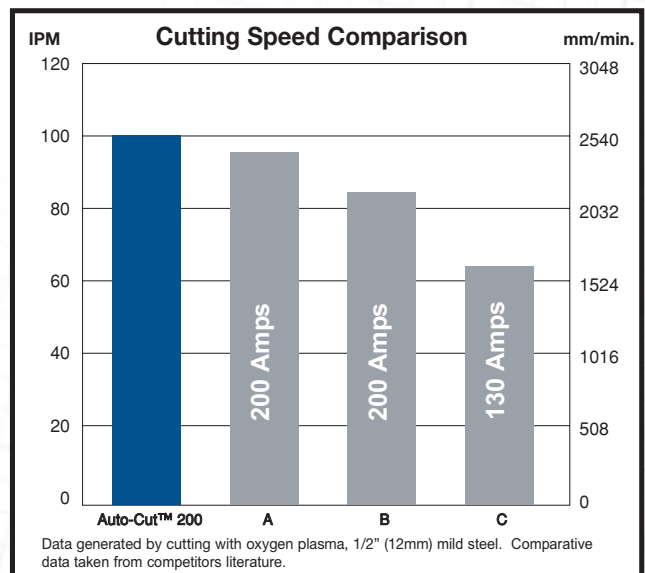
### Competitive Comparison

Thermal Dynamics' patented XT Torch Consumable Technology is ideal for cutting from gauge (1 mm) to 1 inch (25 mm). Excellent quality cuts will be achieved on both ferrous and non-ferrous materials at higher speeds.

- Small Heat Affected Zone and Smooth Cutting Edge Surface
- Narrow Kerf for Tighter Angles and Radiuses at High Speeds
- Wide Virtually Dross-free Parameter Windows
- Higher Arc Density for Faster Speeds Without Sacrificing Cut Quality



3/4" (20 mm) Mild Steel Cut Sample



## Auto-Cut™ 200

Automated Plasma Cutting System

### Specifications (subject to change without notice)

<b>Rated Output</b>	200 Amps
<b>Output Range (A)</b>	10 - 200 Amps
<b>Output (V)</b>	80 - 160 VDC
<b>Input Volts</b>	208-230/460V, 3 ph, 50-60 Hz, 400V, 3 ph, 50-60 Hz, 600V, 3 ph, 50-60 Hz
<b>Input Amps @ Rated Output</b>	130A @ 208V 125A @ 230V 77A @ 400V 75A @ 460V 58A @ 600V
<b>Duty Cycle (@ 104° F / 40° C)</b>	100% @ 200A @ 160V (32kW)
<b>MAX OCV</b>	380 VDC
<b>Plasma Gas</b>	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 120 psi (8.3 bar)
<b>Shield Gas</b>	Air, N <sub>2</sub> @ 120 psi (8.3 bar), H <sub>2</sub> O @ 10 GPH (0.6 liters/min.)
<b>Weight</b>	Power Supply – 487 lbs. (221kg) 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)
<b>Dimensions</b>	48.75" (1238 mm) H x 27.5" (700 mm) W x 38.5" (978 mm) D (Fully Assembled Power Supply)
<b>Warranty</b>	Two Years Power Supply & One Year Torch
<b>Certifications</b>	CE, CCC

#### AUTO-CUT™ 200 Automated Systems include:

- 200A Power Supply including GCM-1000
- XT™ - 301 Torch and leads
- Torch Parts Kit

#### 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 1" (25 mm)						
Maximum Piercing & Cutting Capacity 1.25" (32 mm)						
Conventional Plasma Capacity Edge Start 2" (50 mm)						
Material	Thickness inch	mm	Amperage	Plasma/Shield	Average Cut Speed inch/min. mm/min.	
<b>Mild Steel</b>						
	21 ga.	1	55	Air/Air	500	12700
	10 ga.	3			190	4826
	3/16	5			130	3302
	21 ga.	1	55	O <sub>2</sub> /Air	600	15240
	10 ga.	3			180	4572
	3/16	5			120	3048
	1/4	6	100	Air/Air	150	3810
	3/8	10			85	2159
	1/2	12			75	1905
	3/4	20			30	762
	1	25			20	508
	1/4	6	100	O <sub>2</sub> /Air	130	3302
	1/2	12			57	1448
	3/4	20			25	635
	1	25			10	254
	3/8	10	200	Air/Air	130	3302
	1/2	12			100	2540
	3/4	20			60	1524
	1	25			35	889
<b>Stainless Steel</b>						
	16 ga.	1.5	55	Air/Air	350	8890
	10 ga.	4			100	2540
	3/16	5			60	1524
	1/4	6	100	Air/Air	100	2540
	3/8	10			65	1651
	1/2	12			45	1143
	1/4	6	100	N <sub>2</sub> /H <sub>2</sub> O	60	1524
	3/8	10			50	1270
	1/2	12			35	889
	3/8	10	100	Ar-H <sub>2</sub> /N <sub>2</sub>	50	1270
	1/2	12			37	940
<b>Aluminum</b>						
	16 ga.	1.5	55	Air/Air	400	10160
	3/16	5			100	2540
	1/4	6	100	Air/Air	100	2540
	1/2	12			45	1143
	3/4	20			35	889
	1/4	6	100	N <sub>2</sub> /H <sub>2</sub> O	60	1524
	3/8	10			50	1270
	1/2	12			35	889
	3/8	10	100	N <sub>2</sub> /H <sub>2</sub> O	60	1524
	1/2	12			40	1016

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, published speeds, gas settings and current, accurate torch height control and with torch perpendicular to the workpiece.

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