



THERMAL DYNAMICS

AUTOMATION

Ultra-Cut™ 300

High Precision Plasma Cutting System

- High Precision Cutting
- MaximumLife® Parts
- Excellent Cut Quality
- Increased Productivity

Now with SpeedLok™ Technology



Automated Plasma Cutting System

Automated Plasma Cutting

Ultra-Cut™ 300

High Precision Plasma Cutting System

Quality

- Excellent Dross-free Cuts Using Oxygen (O₂) Plasma on Mild Steel up to 1/4" (35 mm).
- Unmatched Cut Quality on Non-ferrous Materials to 1/4" (35 mm) with Ar-H₂/N₂ or up to 1" Using our Unique Water Mist Secondary (WMS™) System

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
- Best Parts Life in the 300 Amp Class
- Reduced Downtime During Parts Changes with the Revolutionary SpeedLok™ Cartridge Design of the XT™-300 Torch

Technology

- Microprocessor Controlled to Produce the Best Cut Quality on Every Cut
- Fiber Optic Communication Means less HF Interference
- Precision Torch Design for the Best Cut Quality in its Class
- Cuts at an Average of 3 Times Faster than Oxyfuel

Reliability

- Advanced Testing in Lab and Field Trials Ensures Ongoing Performance and Reliability

XT Torch Technology for Maximum Performance



Ultra-Cut™ 300 Power Supply



GCM-2010 Digitally Controlled Gas Console

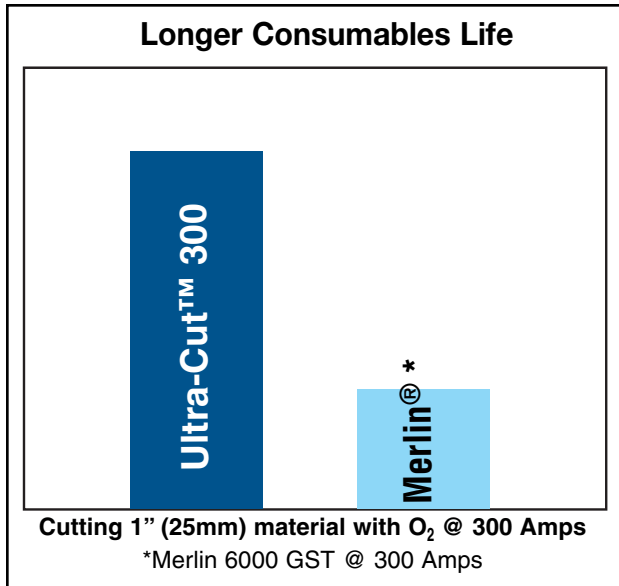


RAS-1000 Remote Arc Starter

Torch & Leads



XT™-300 High Density Torch Technology



Thermal Dynamics' patent pending **XT** Torch Technology delivers Productivity, Precision and Performance.

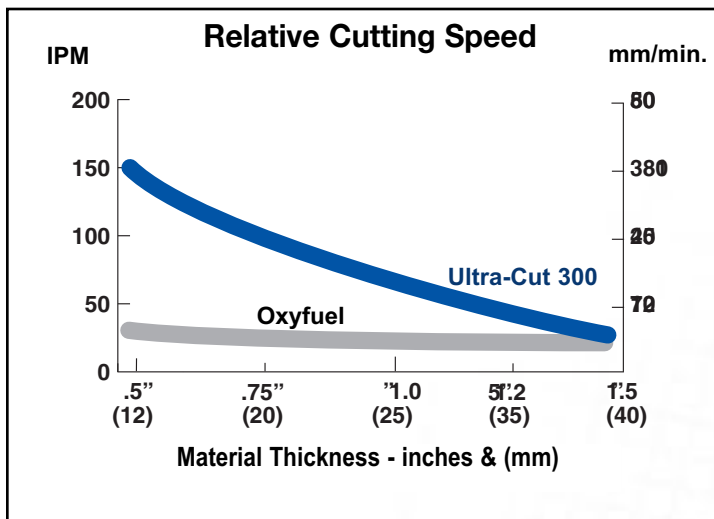
- One of the Highest Arc Density Plasma Arcs in the Industry
- Keyless Consumable Cartridge for Rapid Process Changes
- Precision Construction Ensuring Accurate Re-Centering of Consumable Cartridge After Parts Change
- Rapid Engagement *SpeedLok™* Retaining Collar
- Spring Loaded Leak-Less Coolant Tube Design



XT Torch Technology is designed for cutting and marking from gauge (.5mm) to 1¼" (35 mm). XT-300 cuts ferrous and non-ferrous metals with excellent quality.

- Extremely Wide Dross-free Parameter Windows
- Square Cut Face with Minimal Top Rounding
- Bevel Less than 3 Degrees
- Sharp Edges and Narrow Turning Radius
- Small Heat Affected Zone
- Smooth Cutting Edge Surface

Comparison – Ultra-Cut 300 vs. Oxyfuel



Advantages of the Ultra-Cut 300

- Averages 3 Times Faster Cut Speeds
- Pierces 1¼" (35 mm) in 1 Second
- One Ultra-Cut 300 Replaces 3 Oxyfuel Torches that Require 3 Separate Height Controls
- Less Material Waste
- Ultra-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

Ultra-Cut™ 300

High Precision 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, 3 ph, 50-60 Hz, 400V, 3 ph, 50-60 Hz, 600V, 3 ph, 50-60 Hz
Input Amps @ Rated Output	208A @ 208V, 188A @ 230V, 109A @ 400V, 112A @ 460V, 81A @ 600V
Duty Cycle (@ 104° F / 40° C)	100% @ 300A @ 180V (54kW)
MAX OCV	380 VDC
Pre-Flow Gas	Air @ 120 psi (8.3 bar)
Plasma Gas	O ₂ , Ar-H ₂ , F5, N ₂ , Air @ 120 psi (8.3 bar)
Shield Gas	Air, O ₂ , N ₂ @ 120 psi (8.3 bar), H ₂ O @ 10 GPH (0.6 liters/min.)
Weight	Power Supply – 535 lbs. (243kg) 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) Torch Solenoid Assy – 3 lbs. (1.36kg)
Dimensions	53.1" (1298mm) H x 27.5" (700mm) W x 38.5" (978mm) D (Fully Assembled Power Supply)
Warranty	Two Years Power Supply & One Year Torch
Certifications	CE, CCC

ULTRA-CUT™ 300 Systems include:

- 300A Power Supply
- Remote Arc Starter (RAS-1000)
- Supply Leads to Remote Arc Starter
- Torch Leads
- Gas Console (GCM-2010)
- Torch Installation Starter Kit
- XT-300 High Precision Torch

Options & Accessories:

- Spare Parts Kit
- Wheel Kit

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

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Cutting Speed Chart

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

Torch Model	XT™-300					
Production Piercing & Cutting Capacity	1-1/4" (35mm)					
Maximum Piercing & Cutting Capacity	1-1/2" (40mm)					
Maximum Edge Start	3" (75 mm)					
Material	Thickness Inch	Speed IPM	Amps	Plasma/Shield	Thickness mm	Speed mm/min.
Mild Steel Precision						
	20 ga.	130	30	O ₂ /O ₂	1	3050
	10 ga.	30			3	910
	10 ga.	210	70	O ₂ /Air	3	6620
	1/4	120			6	3100
	3/16	190	100	O ₂ /Air	5	4670
	1/4	150			6	4030
	3/8	95			10	2300
	1/2	100	150	O ₂ /Air	12	2650
	5/8	75			15	2080
	3/4	50			20	1120
	7/8	30			22	800
	1/2	150	300	O ₂ /Air	12	3810
	3/4	100			20	2540
	1	70			25	1780
	1-1/4	50			35	900
	3	7			70	285
Mild Steel Conventional						
	1/4	150	100	Air/Air	6	4150
	3/8	85			10	2120
	1/2	100	200	Air/Air	12	2710
	3/4	60			20	1430
Stainless Steel						
	26 ga.	350	30	Air/Air	.6	8300
	20 ga.	300			1	7190
	16 ga.	110			1.5	3100
	14 ga.	180	50	Air/Air	2	4542
	10 ga.	120			3	3230
	3/16	70			5	1523
	10 ga.	120	70	Air/Air	3	3300
	3/16	100			5	2380
	1/4	55			6	1440
	3/8	40			10	960
	1/2	25			12	720
	1/4	72	100	Ar-H ₂ /N ₂	6	1880
	3/8	55			10	1350
	1/4	70	100	N ₂ /H ₂ O	6	1810
	1/2	50	150	Ar-H ₂ /N ₂	12	1330
	5/8	40			15	1090
	3/4	30			20	720
	1	20			25	520
	3/4	45	150	N ₂ /H ₂ O	20	1140
Aluminum						
	16 ga.	140	50	Air/Air	2	2990
	11 ga.	60			3	1520
	3/16	40			5	950
	1/4	100	100	N ₂ /H ₂ O	6	2760
	3/8	70			10	1700
	1/2	75	150	Ar-H ₂ /N ₂	12	2100
	5/8	40			15	1260
	3/4	35			20	850
	1	25			25	650
	3/4	40	150	N ₂ /H ₂ O	20	960

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 Ultra-Cut 300. Please contact Thermal Dynamics for more information.

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