

# THERMAL DYNAMICS

## THE NEXT GENERATION OF HIGH PRECISION PLASMA CUTTING

*Thermal Dynamics® introduces*

## ULTRA-CUT® XT INTEGRATED SYSTEMS



Our next generation of high precision plasma cutters works the way you do – intelligently. Ultra-Cut XT systems give you the flexibility to increase cutting power and the assurance of superior quality, higher productivity and lower cutting costs. Ultra-Cut XT systems are available in 100-400 Amp outputs for cutting plate up to 2" (50 mm) thick. And because its Modular Power Technology allows adding 100 Amp modules, the system grows with your business.



*We Bring Intelligence to the Table.™*

Thermal Dynamics® introduces

# ULTRA-CUT® XT SYSTEMS

*The new Ultra-Cut XT technology provides the next generation of higher productivity, increased flexibility and confidence in high precision plasma cutting. Their performance will meet or beat anyone on mild steel, and they are superior on non-ferrous metals. With the ability to grow with your business, you can expand from one system to the next higher in minutes. The Ultra-Cut XT systems utilize StepUp™ modular power technology, allowing units to be easily upgraded - ensuring you'll always have the right amount of power today - and tomorrow.*



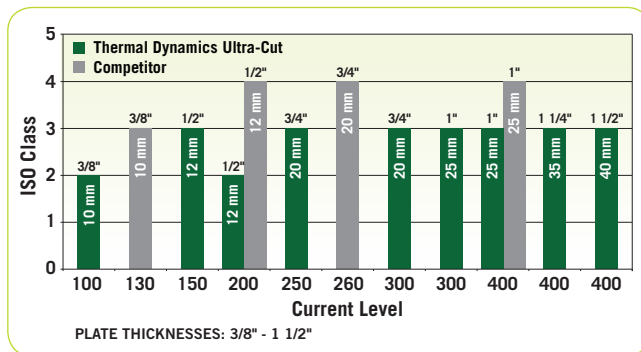
## Superior Cut Quality Means Greater Efficiency

The Ultra-Cut XT systems' superior cut quality means that parts can go directly from the cutting table to welding, painting or assembly without expensive secondary operations.

Ultra-Cut XT high precision plasma systems cut with:

- Excellent dross-free cuts using oxygen (O<sub>2</sub>) plasma on mild steel.
- Unmatched cut quality on non-ferrous metals using unique Water Mist Secondary (WMS®) process.

### Ultra-Cut Cut Bevel Comparison



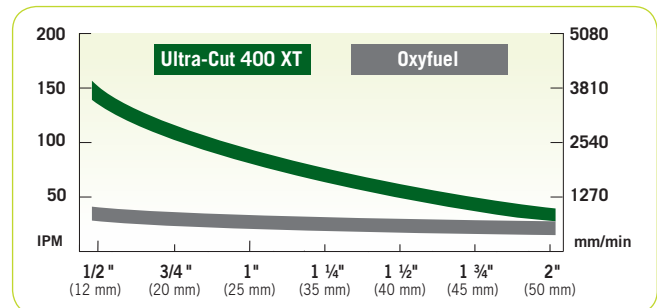
- ISO 9013:2002 (E). Class 3 (depending on cut thickness angles below 3 deg) or better cut angles for true High Precision cuts.
- Minimal heat affected zone (HAZ) to improve welding quality.
- 3DPro technology sets the new standard in robotic cutting thin gauge material.

## Higher Productivity Delivers Greater Profits

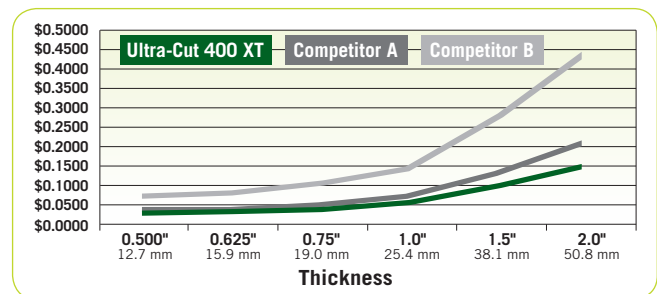
Ultra-Cut XT high precision systems deliver superior cut quality, at superior cutting speeds.

- Outstanding parts life to reduce down time and lower the overall cost of ownership.
- Highest kW output for maximized duty cycle and cut speed.
- Reduced downtime during parts changes with the Speedlok cartridge design.
- Lower current draw to reduce cutting cost.
- Shorter switching time between marking and cutting process for higher daily throughput.
- Highest cut speed in its class on stainless steel – up to 3 times faster than similar cutting systems.

### Relative Cutting Speed



### HeavyCut Technology Cuts Cost By Length on Mild Steel



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## Now More Energy Efficient

Compared to previous systems, Ultra-Cut XT systems draw about 20% less current and have an average electrical efficiency of more than 92%. They meet European Union Level V Efficiency Standards, and they will help companies everywhere lower utility bills.

## Intelligent Solutions Set Us Apart

From superior technology for cutting heavy metal to better plasma marking, Thermal Dynamics® offers intelligent high precision solutions for automated plasma cutting applications. The XT Series provides access for these powerful cutting resources.

## HeavyCut™ Technology

When cutting parts thicker than 3/4" (20 mm), rely on HeavyCut Technology to provide the best cut quality, precision and parts life with XTremeLife™ Consumables. Heavy-Cut 300A and 400A electrodes with multiple Hafnium inserts increase parts life at high current applications.



## “Bolt Ready” Holes with Diameter PRO™

Diameter PRO produces the industry’s most precise holes optimized for a diameter-to-thickness ratio of 1:1 or greater.

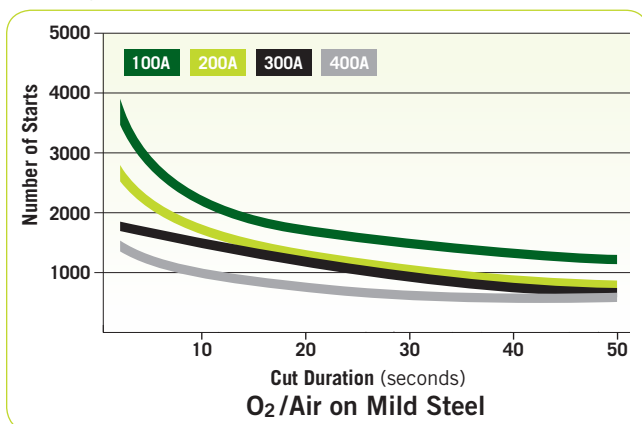
It is the ideal process for a precision hole or radius with minimal-to-no taper on mild steel from 10 gauge (3 mm) to 2" (50 mm), or 1" (25 mm) on aluminum.



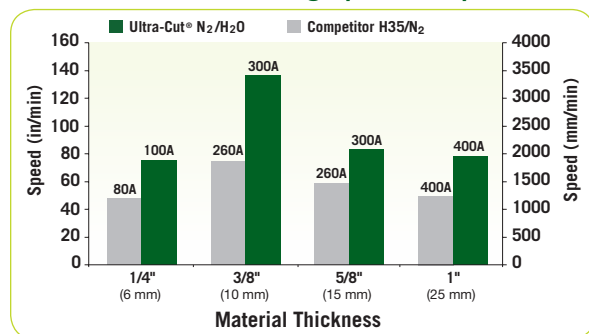
## Water Mist Secondary (WMS) optimizes non-ferrous metal cutting

- Excellent non-ferrous metal cut quality using N<sub>2</sub> as plasma gas and ordinary tap water as the secondary.
- Lowest operating cost.
- Dross-free cutting from gauge (1.0 mm) to 1 1/2" (40 mm).
- Oxide-free cut face surface.
- Wide parameter window.
- Higher cut speeds compared to H35 cutting.

## Longer Parts Life with XTremeLife™ Consumables



## Stainless Steel Cutting Speed Comparison



Thermal Dynamics® introduces

# ULTRA-CUT® XT SYSTEMS



*With StepUp™ Modular Power Technology, your system has the flexibility to grow with your business. You can start with an Ultra-Cut 100 XT, and when you are ready, expand to a 200, 300 or 400 Amp system. With the Ultra-Cut XT, you never have to worry about choosing the right system.*

## StepUp™ Modular Power Technology - Expand As Your Cutting Needs Grow

Thermal Dynamics designed the Ultra-Cut® XT with the flexibility to grow with your business. It features modular “inverter blocks” and a common cabinet for all amperages. To expand a 100A system into a 200A, 300A or 400A system, additional blocks can be easily installed.\* A field technician can install a new inverter block in less than 30 minutes.



The Thermal Dynamics intelligent approach means never “under-buying” again. With Ultra-Cut XT systems, you’ll always have the right amount of power today — and tomorrow.

*\*Any existing system can be upgraded up to 400A.*

### Easy-to-Service

The Ultra-Cut XT high precision system’s modular design is not only easier to upgrade, but also easier to maintain.

- The Amperage/Error display indicates the status of the XT system to accelerate trouble shooting.
- Common components in the XT system minimize inventory.

## Better Flow Control and Plasma Marking with the DFC-3000 Automatic Gas Control

Good gas flow control enhances cut quality and extends consumables life. Digital flow control with the DFC-3000 — when paired with the iCNC® XT controller — provides a better level of quality control. Together, they instantly set and control gas pressure, leading to faster cycle times and more productive cutting.

And for plasma marking with argon, the DFC-3000 and Ultra-Cut XT minimizes the purge cycle between marking and cutting, as well as the changeover time associated with manual controls. Change seamlessly between cutting and marking to:

- Indicate part numbers
- Drill or hole points
- Weld locations
- Lot numbers
- Bend or cut lines

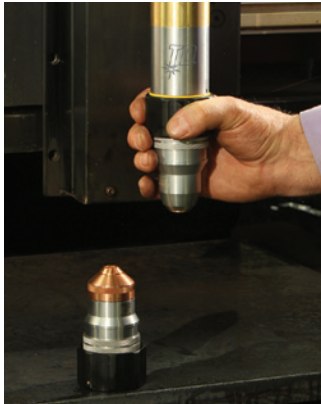
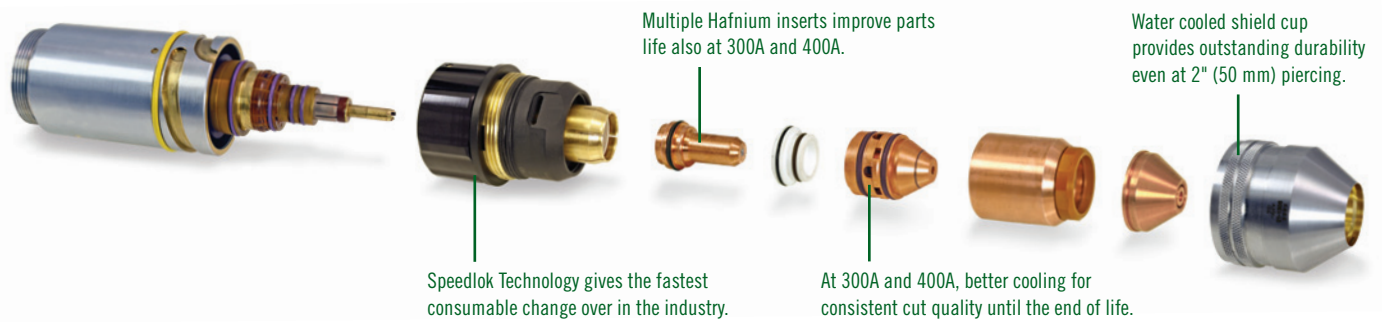


## Reliability – Performance You Can Rely On

Thermal Dynamics rigorously tests its plasma cutters to ensure flawless performance. Should your Ultra-Cut XT need service, our modular approach minimizes parts inventory and repair time. Even when one inverter block malfunctions, cutting is still possible with the remaining blocks.

# We Bring Intelligence to the Table.™

## XT™ Torch Technology – The New Standard for High Precision Plasma Cutting Systems



### No Tools Required

Unlike other torches, no tools are required to change either the torch consumables or major components in the torch head.

### 'Leakless' Torch Head Design

Coolant doesn't drip from the torch head when the consumables cartridge is removed from the torch head.

The design prevents air from entering the system and becoming trapped in the leads.

### Self-Centering Components

Consumable parts and torch body are precisely engineered to lock into place for absolute alignment and remain positioned cut after cut. Independently-aligned tip and electrode assures accurate re-centering of the consumable cartridge after each parts change. This guarantees best cut quality time and again.

### Superior Warranty

Thermal Dynamics' XT-Torch warranty covers components and service for a full 1-year period.

### Precision Cuts on All Metals

The XT-Torch dual gas technology provides one of the highest arc density plasma stream in the industry for precision cuts on mild steel, stainless steel, aluminum and other non-ferrous materials, and Ar for marking with the DFC 3000. Choices for plasma gas include - Air, N<sub>2</sub>, O<sub>2</sub>, Ar-H<sub>2</sub> and Ar for marking with the DFC 3000. Shield gas choices include - Air, N<sub>2</sub>, O<sub>2</sub>, or Ar-H<sub>2</sub> and H<sub>2</sub>O.

### Relaxed Cutting Parameters

With the XT-Torch the operating window permits wide travel speed variance, which means you'll get great cuts more often with less wasted material and time.

- Less critical standoff height
- Wider 'Operating Window' for dross-free cutting

***The Ultra-Cut XT is the latest addition to Thermal Dynamics integrated automated plasma system solution. The next generation Ultra-Cut XT combines high precision cutting with exceptional cost-performance benefits to deliver a more profitable plasma cutting operation.***

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# ULTRA-CUT® XT SYSTEMS

## The XT™ System Technology

### Auto Gas Control DFC 3000

Digital Flow Control for optimized and easy set up for frequent changes between materials and thicknesses. A must for marking with Argon and fast switching between cutting and marking.

- Microprocessor controlled for optimized cut quality and parts life.
- Power upgrade. Inverter blocks can be easily added for higher cutting capacity.

### XT Torch

Fastest consumable changes with Speedlok technology.



### Manual Gas Control

GCM2010 for stable gas flow and pressure control.

### New Arc Starter

For reduced HF emission.

## System Capabilities

		Ultra-Cut® 100 XT	Ultra-Cut 200 XT	Ultra-Cut 300 XT	Ultra-Cut 400 XT
MILD STEEL	Production Pierce	1/2" (12 mm)	1" (25 mm)	1 1/2" (40 mm)	2" (50 mm)
	Maximum Pierce	5/8" (15 mm)	1-1/2" (40 mm)	1-3/4" (45 mm)	2" (50 mm)
	Edge Start	3/4" (20 mm)	2-1/2" (65 mm)	3" (75 mm)	3-1/2" (90 mm)
STAINLESS STEEL	Production Pierce	1/2" (12 mm)	1" (25 mm)	1" (25 mm)	2" (50 mm)
	Maximum Pierce	5/8" (15 mm)	1" (25 mm)	1-1/4" (30 mm)	2" (50 mm)
	Edge Start	3/4" (20 mm)	2" (50 mm)	2" (50 mm)	4" (100 mm)
ALUMINUM	Production Pierce	1/2" (12 mm)	7/8" (20 mm)	1" (25 mm)	2" (50 mm)
	Maximum Pierce	5/8" (15 mm)	1" (25 mm)	1-1/4" (30 mm)	2-1/4" (60 mm)
	Edge Start	3/4" (20 mm)	2" (50 mm)	2" (50 mm)	3-1/2" (90 mm)

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### Unit Specifications\*

	Ultra-Cut® 100 XT	Ultra-Cut 200 XT
<b>Rated Output (Amps)</b>	100 A	200 A
<b>Output Range (Amps)</b>	5-100 A	5-200 A
<b>Output (Volts)</b>	180 V	180 V
<b>Input Volts (Volts, Phase, Hertz)</b>	380 V, 3 ph, 50-60 Hz, 400 V, 3 ph, 50-60 Hz, 480 V, 3 ph, 50-60 Hz	380 V, 3 ph, 50-60 Hz, 400 V, 3 ph, 50-60 Hz, 480 V, 3 ph, 50-60 Hz
<b>Input Amps (Amps, Volts)</b>	33 A @ 380 V 31 A @ 400 V 26 A @ 480 V	65 A @ 380 V 62 A @ 400 V 52 A @ 480 V
<b>Duty Cycle (@ 104°F / 40° C)</b>	100% (20 kW)	100% (40 kW)
<b>Max OCV</b>	425 V	425 V
<b>Plasma Gas</b>	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 120 psi (8.3 bar) and Ar for marking with DFC 3000	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 120 psi (8.3 bar) and Ar for marking with DFC 3000
<b>Shield Gas</b>	Air, N <sub>2</sub> , O <sub>2</sub> @ 120 psi (8.3 bar), H <sub>2</sub> O @ 10 GPH (0.6 l/min)	Air, N <sub>2</sub> , O <sub>2</sub> @ 120 psi (8.3 bar), H <sub>2</sub> O @ 10 GPH (0.6 l/min)
<b>Power Supply Weight</b>	410 lbs (186 kg)	451 lbs (205 kg)
<b>Dimensions</b>	48.0" x 27.5" x 40.6" (1219 mm x 698 mm x 1031 mm)	48.0" x 27.5" x 40.6" (1219 mm x 698 mm x 1031 mm)
<b>Certifications</b>	CSA, CE, CCC	CSA, CE, CCC

	Ultra-Cut 300 XT	Ultra-Cut 400 XT
<b>Rated Output (Amps)</b>	300 A	400 A
<b>Output Range (Amps)</b>	5-300 A	5-400 A
<b>Output (Volts)</b>	180 V	200 V
<b>Input Volts (Volts, Phase, Hertz)</b>	380 V, 3 ph, 50-60 Hz, 400 V, 3 ph, 50-60 Hz, 480 V, 3 ph, 50-60 Hz	380 V, 3 ph, 50-60 Hz, 400 V, 3 ph, 50-60 Hz, 480 V, 3 ph, 50-60 Hz
<b>Input Amps (Amps, Volts)</b>	97 A @ 380 V 93 A @ 400 V 77 A @ 480 V	144 A @ 380 V 137 A @ 400 V 114 A @ 480 V
<b>Duty Cycle (@ 104°F / 40° C)</b>	100% (60 kW)	100% (80 kW)
<b>Max OCV</b>	425 V	425 V
<b>Plasma Gas</b>	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 120 psi (8.3 bar) and Ar for marking with DFC 3000	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 120 psi (8.3 bar) and Ar for marking with DFC 3000
<b>Shield Gas</b>	Air, N <sub>2</sub> , O <sub>2</sub> @ 120 psi (8.3 bar), H <sub>2</sub> O @ 10 GPH (0.6 l/min)	Air, N <sub>2</sub> , O <sub>2</sub> , Ar-H <sub>2</sub> @ 120 psi (8.3 bar), H <sub>2</sub> O @ 10 GPH (0.6 l/min)
<b>Power Supply Weight</b>	537 lbs (244 kg)	555 lbs (252 kg)
<b>Dimensions</b>	48.0" x 27.5" x 40.6" (1219 mm x 698 mm x 1031 mm)	48.0" x 27.5" x 40.6" (1219 mm x 698 mm x 1031 mm)
<b>Certifications</b>	CSA, CE, CCC	CSA, CE, CCC

\* Subject to change without notice

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# ULTRA-CUT® XT SYSTEMS

Cutting Speed Chart For Ultra-Cut® XT Systems

Material	Thickness (in)	Speed (IPM)	Amps	Plasma /Shield	Thickness (mm)	Speed mm/min.
Mild Steel	10 ga.	50	30	O <sub>2</sub> /O <sub>2</sub>	3	1340
	1/4	100	70	O <sub>2</sub> /Air	6	2710
	1/4	145	100	O <sub>2</sub> /Air	6	3940
	3/8	90			10	2170
	1/2	60			12	1690
	3/4	65	200	O <sub>2</sub> /Air	20	1590
	1	48			25	1250
	3/4	100	300	O <sub>2</sub> /Air	20	2430
	1	70			25	1830
	1 1/4	50			35	1080
	1	80	400	O <sub>2</sub> /Air	25	2100
	1 1/2	45			40	1110
	2	30			50	790
Stainless Steel	16 ga.	205	30	N <sub>2</sub> /H <sub>2</sub> O	1.5	5500
	14 ga.	170	50	N <sub>2</sub> /H <sub>2</sub> O	2	4310
	3/16	50			4	2410
	1/4	50	70	N <sub>2</sub> /H <sub>2</sub> O	6	1490
	1/4	95	100	N <sub>2</sub> /H <sub>2</sub> O	6	2670
	1/2	50			12	1350
	3/4	50	200	N <sub>2</sub> /H <sub>2</sub> O	20	1190
	1	35			25	910
	1	40	300	N <sub>2</sub> /H <sub>2</sub> O	25	1030
	1 1/4	30			35	720
	1	35	300	H35/N <sub>2</sub>	25	920
	1 1/2	25			40	600
	3/4	90	400	N <sub>2</sub> /H <sub>2</sub> O	20	2286
	1 1/2	30			40	760
	1	45	400	H35/N <sub>2</sub>	25	1170
2	17			50	440	
4	3.5	400	H35/H35	100	90	
Aluminum	0.052	150	30	N <sub>2</sub> /H <sub>2</sub> O	1.5	3210
	1/4	70	70	N <sub>2</sub> /H <sub>2</sub> O	6	2060
	3/8	70	100	N <sub>2</sub> /H <sub>2</sub> O	10	1660
	1/2	40			12	1180
	3/4	90	200	N <sub>2</sub> /H <sub>2</sub> O	20	2170
	1	50			25	1350
	1	60	300	N <sub>2</sub> /H <sub>2</sub> O	25	1560
	1 1/4	40			35	760
	1	85		H35/N <sub>2</sub>	25	2190
	3/4	90	400	N <sub>2</sub> /H <sub>2</sub> O	20	2170
	1 1/2	55			40	1280
	1	90	400	H35/N <sub>2</sub>	25	2330
	2	30			50	810

Note: The cutting speed chart includes preliminary data and is subject to change without notice. Take care in comparison. The speeds noted above are best cut quality 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 XT systems. Please contact Thermal Dynamics® for more information.