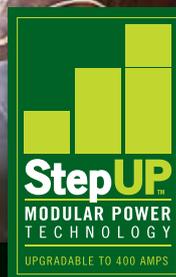


# THERMAL DYNAMICS®

## THE NEXT GENERATION OF HIGH PRECISION PLASMA CUTTING

Thermal Dynamics® introduces  
**ULTRA-CUT® XT 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 50 mm thick. And because of its expansion capabilities, you never have to worry about choosing the right system.



*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. 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

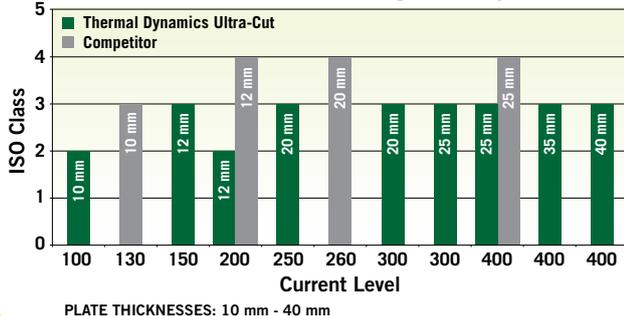
The Ultra-Cut XT range offers superior cut quality, which means that parts can go directly from the cutting table to welding, painting or assembly without expensive secondary operations.

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

Note: Lower ISO Class = Higher Quality



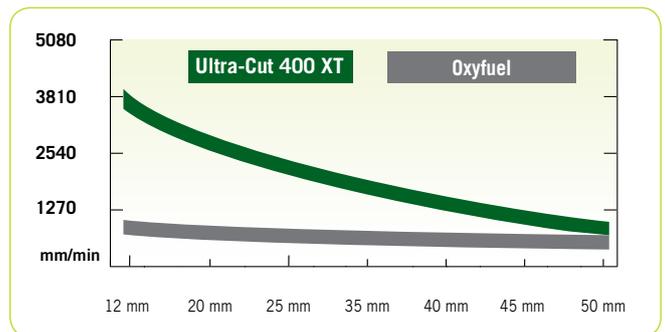
- ISO 9013:2002 (E). Class 3 (depending on cut thickness angles below 3 degrees) or better cut angles for true High Precision cuts.
- Minimal heat affected zone (HAZ) to improve welding quality.
- 3DPro technology sets the new standard in robotic cutting thin gauge material.

## Higher Productivity Delivers Greater Profits

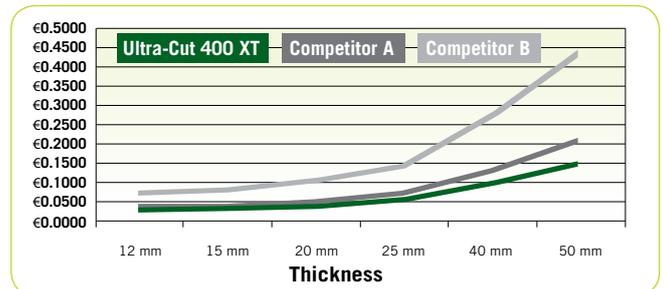
Ultra-Cut XT high precision systems deliver superior cut quality, at superior cutting speeds.

- Outstanding parts life to reduce down time and lower overall cost.
- 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



# We Bring Intelligence to the Table.™

## Reduces Your Energy Costs

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

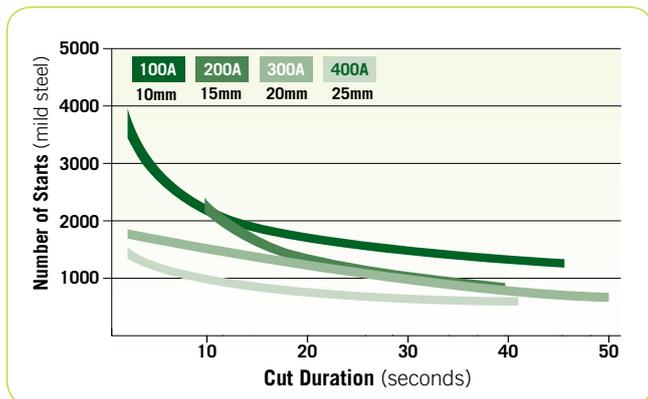
From superior technology for cutting heavy metal to better plasma marking, Thermal Dynamics® offers intelligent high precision solutions for automated plasma cutting applications. The XT Series provides access for these powerful cutting resources.

## HeavyCut™ Technology

When cutting parts thicker than 20 mm, rely on HeavyCut Technology to provide the best cut quality, parts life and precision with XTremeLife™ consumables HeavyCut 300A and 400A electrodes with multiple Hafnium inserts increases parts life at high current applications.



## Longer Parts Life with XTremeLife™ Consumables



## Diameter PRO™ Technology

Diameter PRO is a software based intelligent solution that allows the Thermal Dynamics iCNC XT controller to optimise hole quality for holes with 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 and aluminium from 3 mm to 25 mm.

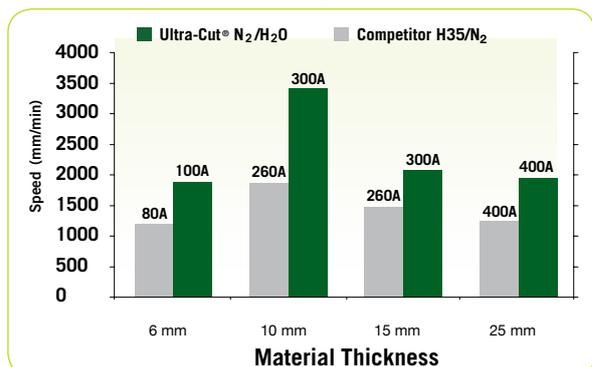


## Water Mist Secondary (WMS) optimizes non-ferrous metal cutting

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. The reducing atmosphere decreases oxidation on the cut face surface. WMS is recommended for materials up to 40 mm thick.

- The fastest process for cutting non-ferrous metals with significantly higher cut speeds than H35 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 1 mm to 40 mm.
- Oxide-free cut face surface.
- Wide parameter window.

## 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.

*\*When expanding by 200 or more amps, simply connect the required additional external cooler to the system, switch to the correct consumables and you’re ready to cut.*

### 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 Automatic Gas Control

Good gas flow control enhances cut quality and extends consumables life. Digital flow control with the automatic gas control — when integrated 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 automatic gas console 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:

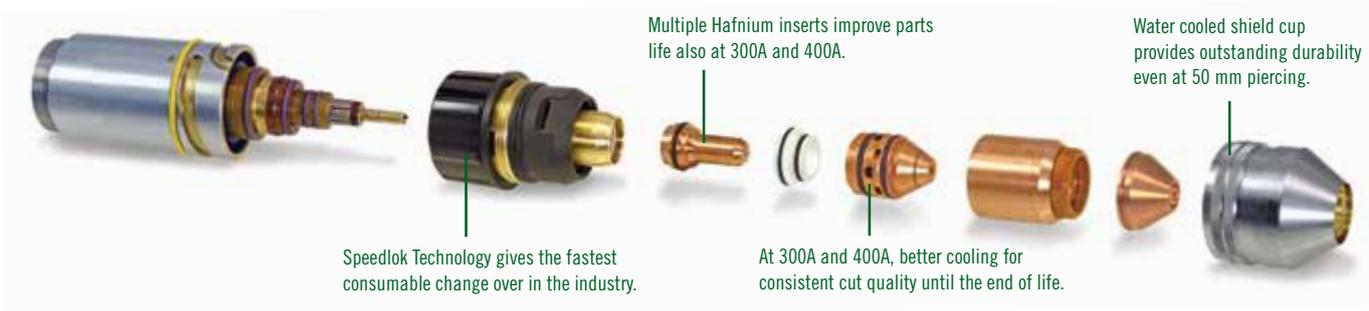
- Indicate part numbers
- Drill or hole points
- Weld locations
- Lot numbers
- Bend or cut lines



## 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.

## 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 time 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. Choices for plasma gas include - Air, N<sub>2</sub>, O<sub>2</sub>, Ar-H<sub>2</sub> and Ar for marking. 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.

#### Designed for Demanding Production

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

#### XTR High Precision Torch for Robotic and Bevel Cutting

The XTR robotic torch is designed with built-in torch leads that offer the ultimate in reduced weight, flexibility, visibility and robustness. This reduction of the overall diameter, weight, and minimum bend radius make this torch extremely durable in repeated articulated motions. Consumable parts and torch body are engineered to precisely lock into place for absolute alignment and to remain perfectly positioned cut after cut. Specially engineered precision consumable parts for bevel cutting are suitable for cutting at angles up to 45 degrees.



#### 3DPro Technology

3DPro Technology delivers all the tools necessary to bring high precision plasma cutting to robotic applications. Robotic drag shield caps and low amperage consumables (from 15 Amps) result in laser like cutting quality on thin materials. A graduated scale on the torch body provides a visual indicator to help position the clamping device consistently. Each torch includes a Teach/Position tool that provides a visual positioning aid when the robot is in teach mode. The SpeedLok consumables cartridge reduces down-time to seconds, improving productivity.

***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.***

Thermal Dynamics® introduces

# ULTRA-CUT® XT SYSTEMS

## The XT™ System Technology

### Auto Gas Control

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.
- StepUP™ power upgrade. Inverter blocks can be easily added for higher cutting capacity.

### XT Torch

Fastest consumable changes with SpeedLok technology to reduce downtime.



### Manual Gas Control

Offers reliable performance with stable gas flow and pressure control.

### Electronic Arc Starter

For reduced High Frequency emission, to avoid electrical interference.

## System Capabilities

		Ultra-Cut 100 XT	Ultra-Cut 200 XT	Ultra-Cut 300 XT	Ultra-Cut 400 XT
MILD STEEL	Production Pierce	15 mm*	25 mm	40 mm	50 mm*
	Maximum Pierce	15 mm*	40 mm	45 mm	50 mm*
	Edge Start	20 mm	65 mm	75 mm	90 mm
STAINLESS STEEL	Production Pierce	15 mm*	25 mm	25 mm	50 mm*
	Maximum Pierce	15 mm*	25 mm	30 mm	50 mm*
	Edge Start	20 mm	50 mm	50 mm	100 mm
ALUMINIUM	Production Pierce	15 mm*	20 mm	25 mm	50 mm*
	Maximum Pierce	15 mm*	25 mm	30 mm	60 mm*
	Edge Start	20 mm	50 mm	50 mm	90 mm

\* With pierce retract function

# We Bring Intelligence to the Table.™



## 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>	400 V, 3 ph, 50-60 Hz	400 V, 3 ph, 50-60 Hz
<b>Input Amps (Amps, Volts)</b>	31 A @ 400 V	62 A @ 400 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> @ 8.3 bar and Ar for marking	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 8.3 bar and Ar for marking
<b>Shield Gas</b>	Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min	Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min
<b>Power Supply Weight</b>	186 kg	205 kg
<b>Dimensions</b>	1219 mm x 698 mm x 1031 mm	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>	400 V, 3 ph, 50-60 Hz	400 V, 3 ph, 50-60 Hz
<b>Input Amps (Amps, Volts)</b>	93 A @ 400 V	137 A @ 400 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> @ 8.3 bar and Ar for marking	Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 8.3 bar and Ar for marking
<b>Shield Gas</b>	Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min	Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min
<b>Power Supply Weight</b>	244 kg	252 kg
<b>Dimensions</b>	1219 mm x 698 mm x 1031 mm	1219 mm x 698 mm x 1031 mm
<b>Certifications</b>	CSA, CE, CCC	CSA, CE, CCC

\* Subject to change without notice

Thermal Dynamics® introduces

# ULTRA-CUT® XT SYSTEMS

Cutting Speed Chart For Ultra-Cut XT Systems

Material	Amps	Plasma /Shield	Thickness (mm)	Speed mm/min.
Mild Steel	30	O <sub>2</sub> /O <sub>2</sub>	3	910
	70	O <sub>2</sub> /Air	6	3100
	100	O <sub>2</sub> /Air	6	4030
			10	2300
	200	O <sub>2</sub> /Air	25	1250
			35	750
	300	O <sub>2</sub> /Air	20	2540
			25	1780
			35	900
	400	O <sub>2</sub> /Air	25	2100
			40	1330
		50	790	
Stainless Steel	30	N <sub>2</sub> /H <sub>2</sub> O	1.5	3100
	50	N <sub>2</sub> /H <sub>2</sub> O	2	4310
			5	1523
	70	N <sub>2</sub> /H <sub>2</sub> O	6	1495
	100	H35/N <sub>2</sub>	6	1880
			10	1350
	100	N <sub>2</sub> /H <sub>2</sub> O	6	1810
	200	N <sub>2</sub> /H <sub>2</sub> O	20	1100
			25	900
	300	N <sub>2</sub> /H <sub>2</sub> O	25	1030
			35	760
	300	H35/N <sub>2</sub>	25	920
			40	760
	400	N <sub>2</sub> /H <sub>2</sub> O	20	2286
			40	760
400	H35/N <sub>2</sub>	25	1170	
		50	440	
400	H35/H35	100	90	
Aluminium	50	Air/Air	3	1520
		N <sub>2</sub> /H <sub>2</sub> O	6	2760
	100		10	1700
		N <sub>2</sub> /H <sub>2</sub> O	20	2200
			25	1300
	300	N <sub>2</sub> /H <sub>2</sub> O	25	1560
			32	1000
		H35/N <sub>2</sub>	25	2190
	400	N <sub>2</sub> /H <sub>2</sub> O	20	2200
			40	1350
	400	H35/N <sub>2</sub>	25	2330
		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.



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