

**THERMAL  
DYNAMICS**

**AUTOMATED PLASMA  
CUTTING SYSTEMS**

Thermal Dynamics®  
**NEW A40i/A60i  
SERIES SYSTEMS**



The new A-Series is the easiest solution to install on any cutting machine

- Easy access to all connections
- Smallest foot print and weight in its class
- Ideal to install on the gantry
- Proven torch SL100SV torch design
- Marking capabilities
- Full featured CNC interface



***We Bring Intelligence to the Table.™***

# AUTOMATED PLASMA CUTTING

*With all the advantages of 1Torch® and proven Thermal Dynamics reliability, the automated new A-Series delivers the best in productivity, precision and performance.*

- **Powerful duty cycle**

80% Duty Cycle to handle all-day production cutting in the toughest environments.

- **Proven 1Torch technology**

The A-Series systems include the SL100® SV 1Torch start technology eliminating the electronic interference that can occur with other designs. The 1Torch provides quick, reliable starts and a strong pilot arc to pierce heavy plate. With auto-pilot restart, it can also cut expanded metal quickly and easily.

- **Power factor correction (PFC)**

Lower your overall current draw and power consumption with the built-in PFC technology which results in lower cutting cost.

- **Durable LED display**

The system's large, high-visibility display allows for easy viewing of all machine settings from a distance. The intuitive, easy-to-use display instantly provides the necessary feedback for keeping your settings and cut quality optimised.

- **Gas optimiser**

This unique technology precisely regulates air pressure, ensuring premium cut quality and performance. When you set amperage and select torch type, torch lead length, and mode of operation, you are visually prompted to adjust gas pressure accordingly while still having the flexibility to tweak that setting to your liking.

- **Consumables end-of-life indicator**

A40i/A60i end-of-life indicator monitors the remaining life of the consumable parts and alerts you when it is time to replace, maintaining optimal performance and cut quality.

- **Smallest footprint and weight in its class**

Easy to install on gantry without losing dynamics of the cutting machine. No long torch leads packages necessary .

- **Easy installation**

No need to open the machine to have access to input power cord, work cable or raw arc voltage. All connections to your CNC are right at your fingertips.

- **Marking capabilities**

Ideal for marking plates with part identifications numbers or welding lines. Argon or air can be used depending on the application.

- **Ohmic sensing through the tip**

No need for ohmic clips and wires. Especially on thinner material, exposed tips can be used for better cut quality.

- **Full featured CNC interface**

No need anymore for separate voltage divider board for ohmic sensing. Thermal Dynamics iCNC Performance or similar OEM CNC can be connected directly.

- **Dedicated valve-in-torch design**

Valve-in-torch design reduces cycle time between parts and increases productivity.

- **Automated torch status detection**

Software automatically detects the torch that is attached and switches between automation and manual modes.

- **Dedicated automation software for better performance**

Dedicated automation software improves cycle time and performance in many applications.

- **Work cable options for various demand**

The SL100 SV 1Torch comes with standard ATC® Quick Disconnect in lengths of 7.6m, 10.7m and 15.2m. Longer torch leads up to 30.5m available.



## Features

### Front Panel Controls

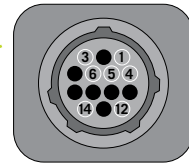
- Large Numeric Display for Cutting current and status messages
- Mode selection
- Current control
- Consumables end of life indicator
- Gas pressure indicator
- Torch type and lead length indicator

### ATC Quick Disconnect

- Torch detection allows fast change from an automation torch to a hand torch



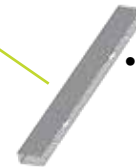
- Dinse style Quick Disconnect work cable



### CNC Interface Connector on Rear of Power Supply

- 3, 4 Plasma Start/Stop Signal
- 5, 6 Divided Arc voltage
- 10, 11, 13 Plate contact for Ohmic sensing
- 12, 14 Ok-to-Move

- Standard Keyhole Mounting Feet



## Superior Cutting Performance

### SureLok® Electrode Technology

The innovative, patented, self-locking electrode mechanism eliminates the need for an installation tool and ensures precise electrode and tip alignment. Both the electrode and tip are stationary, which results in a highly defined arc and precise cuts. SureLok alignment also means longer tip and electrode life and reduced operating costs.



### Total Gas Management™

The SL100 SV 1Torch eliminates the need for a separate plasma gas distributor. Each tip includes plasma gas ports uniquely tuned to optimise cutting performance at its rated current. Select from 20, 30, 40, 60 Amp tips to optimise your cutting. The result is Total Gas Management. Precision gas control, longer consumable parts life and better cut performance.



### Start Cartridge

High Frequency has been completely eliminated from the plasma system. A patented component called the "Start Cartridge" sits between the tip and electrode. The Start Cartridge is in contact with the tip while the torch is inactive. When a start signal is given, air forces the cartridge to break contact with the tip and the pilot arc is started. This unique design allows the pilot arc to start without moving either the tip or electrode, resulting in better parts life, cut performance and reliability. The start cartridge is the only moving part in the SL100 SV 1torch.



### Choice of Tip Shielding

Choose from two consumable styles:

- Exposed Tip for cutting thin sheet at low power and narrow kerf.
- Shielded Tip for heavier plate piercing and cutting.



Exposed Tip

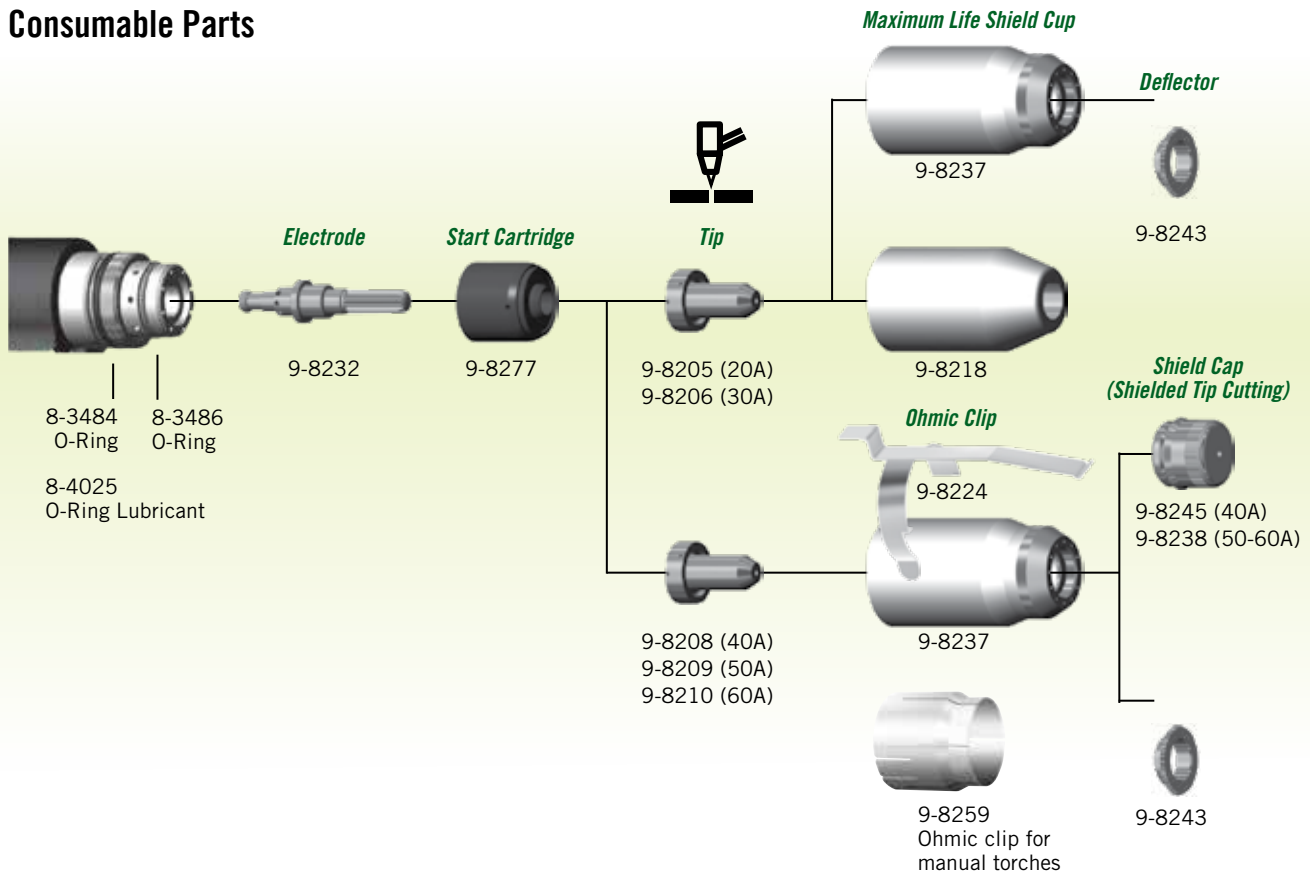
Shielded Tip

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## Product Selection

SPECIFICATIONS		A40i	A60i
Production Piercing & Cutting Capacity	Gauge (0.5 mm – 2 mm)	<input type="checkbox"/>	<input type="checkbox"/>
	6 mm	<input type="checkbox"/>	<input type="checkbox"/>
	10 mm		<input type="checkbox"/>
	12 mm		
	15 mm		
Applications	Sheet Metal – Ductwork, Artwork, Trailer Panels	<input type="checkbox"/>	<input type="checkbox"/>
	Light Fabrication – Kitchenware, Autobody Panels, Pipe		<input type="checkbox"/>
	Medium Fabrication – Industrial Components, Truck Frame & Body		<input type="checkbox"/>
Duty	High Production – 80% Duty Cycle	<input type="checkbox"/>	<input type="checkbox"/>

## Consumable Parts



# AUTOMATED PLASMA CUTTING



## New A-Series Unit Specifications\*

	A40i		A60i	
<b>Output Range</b>	10 - 40 Amps		10 - 60 Amps	
<b>Production Piercing and Cutting Capacity</b>	6 mm		10 mm	
<b>Maximum Piercing and Cutting Capacity</b>	12 mm		15 mm	
<b>Maximum Edge Start</b>	25 mm		25 mm	
<b>Input Volts</b>	380/400V, 3 ph, 50/60 Hz		380/400V, 3 ph, 50/60 Hz	
<b>Input Amps @ Max Output</b>	<b>Volts</b>	<b>3 Phase</b>	<b>Volts</b>	<b>3 Phase</b>
	380V	7.7	380V	12.9
	400V	7.4	400V	12.3
<b>Kilowatt Output</b>	4.8 kW		7.9 kW	
<b>Duty Cycle</b>	80% @ 40 Amps, 100% @ 30 Amps		80% @ 60 Amps, 100% @ 50 Amps	
<b>MAX OCV</b>	300 VDC		300 VDC	
<b>Gas Type</b>	Air/Argon (Marking) @ 5.2 bar @ 189 lpm		Air/Argon (Marking) @ 5.2 bar @ 189 lpm	
<b>Weight</b>	15.9 kg		15.9 kg	
<b>Dimensions</b>	H 359 mm x W 199 mm x L 536 mm		H 359 mm x W 199 mm x L 536 mm	
<b>Work Cable</b>	6.1 m		6.1 m	
<b>Control</b>	CNC rear panel connector: Start/Stop, OK to Move, Divided arc voltage, Plate contact. Raw Arc Voltage on separate terminal		CNC rear panel connector: Start/Stop, OK to Move, Divided arc voltage, Plate contact. Raw Arc Voltage on separate terminal	
<b>Input Power Cable</b>	3 m with plug (208/230V) 2 m without plug (400V), no cable for CCC version		3 m with plug (208/230V) 2 m without plug (400V), no cable for CCC version	
<b>Warranty</b>	3 Year Power Supply and 1 Year Torch		3 Year Power Supply and 1 Year Torch	
<b>Certifications</b>	IP-23C, CSA, NTRL/C, CE, CCC		IP-23C, CSA, NTRL/C, CE, CCC	
<b>Torch Configuration</b>				
<b>Torch</b>	SL100® SV w/ ATC®, 180° Automation			
<b>Ordering Information</b>	Please See Your Thermal Dynamics® Sales Representative for Specific System Configurations			
<b>SL100 SV - 7.6m lead</b>	1-5634-4		1-6634-4	
<b>SL100 SV - 10.7m lead</b>	1-5636-4		1-6636-4	
<b>SL100 SV - 15.2m lead</b>	1-5635-4		1-6635-4	

Systems include: power supply, automation torch with 35 mm diameter non-metallic mounting tube / 32 pitch rack (detachable), pinch block assembly, CNC interface cable, spare parts kit, input power cable (selected systems), work cable, and clamp.

\* Subject to change without notice

# AUTOMATED PLASMA CUTTING

## Accessories

### CNC Cables

7.6 m	9-1125
10.6 m	9-1126
15.2 m	9-1127

### ITorch® Automation Leads Packages

SL100 SV 180° - (Torch/Leads)			
7.6 m	7-4001	23 m	7-4004
10.6 m	7-4002	30.5 m	7-4005
15.2 m	7-4003		

### Hand Torches

SL60® - (Torch/Leads)	
6.1 m	7-5204
15.2 m	7-5205
SL100 - (Torch/Leads)	
6.1 m	7-5206
15.2 m	7-5208



### Single Stage Air Filter Kit

Cat. No. 7-7507 (Filter Body 9-7740, Hose 9-7742 (Filter Element 9-7741)



### Pinion Assembly

Cat. No. 7-2827 35 mm Diameter



### Remote Pendant Control

Cat. No. 7-3460  
6.1 m Remote Pendant Control for your mechanised application.



### Hand Pendant Extension

Cat. No. 7-7744 7.6 m

## Cutting Speed Chart For New A-Series Systems

Material	Amps	Plasma /Shield	Thickness (mm)	Speed mm/min.
Mild Steel	40	Air/Air	1	3990
			2	2920
			3	1810
	60	Air/Air	5	1345
			4	3650
			6	2145
			10	1180
Stainless Steel	40	Air/Air	2	1140
			3	980
			5	715
	60	Air/Air	4	2865
			6	1790
			10	725
			12	580
Aluminium	40	Air/Air	2	3500
			3	2350
			5	1740
	60	Air/Air	4	5230
			6	2640
			10	1085
			12	845

**NOTE:** This cutting speed chart includes preliminary data and is subject to change without notice. ITORCH, SL100SV and ATC, trademarks of Thermal Dynamics, are registered with the U.S. Patent and Trademark Office, and are the subject of trademark registrations and pending applications in numerous other countries. For information on trademark registrations of Thermal Dynamics, contact the local trademark offices in the countries of interest.

