THERMAL DYNAMICS®

AUTOMATED PLASMA CUTTING SYSTEMS

Thermal Dynamics®

A-SERIES SYSTEMS

The A-Series is the intelligent solution for economical and flexible plasma cutting with proven reliability and quality.

- **Best In Class Cutting Performance**
- **Easy To Use And Set-Up**
- **Superior Cut Quality Up To 120 Amps**
- **Lightweight And Compact Design**
- **Durable In Even The Toughest Environments**

We Bring Intelligence to the Table.™

Thermal Dynamics®

AUTOMATED PLASMA CUTTING

The Automated Plasma Cutting Systems are based on the proven Thermal Dynamics® platform. The A-Series offers standard features to meet the needs of many automated applications.

With all the advantages of 1Torch and proven Thermal Dynamic's reliability, the automated A-Series delivers the best in productivity, precision and performance.

- A powerful 80% Duty Cycle to handle all-day production cutting in the toughest environments.
- Light-weight, compact design and convenient mounting feet allow for easy mounting in any application.
- Valve-in-torch design reduces cycle time between parts and increases productivity.
- CNC Interface connection is located on the rear of the power supply offering "Start/Stop", "OK to MOVE" and divided arc voltage signals.
- Full arc voltage is available using an internal terminal connection.
- Software automatically detects the torch that is attached and switches between automation and manual modes.
- Dedicated automation software improves cycle time and performance in many applications.
- 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.
- The SL100 SV Torch comes with standard ATC Quick Disconnect in lengths of 25 ft (7.6 m), 35 ft (10.7 m) and 50 ft (15.2 m) Longer torch leads up to 100 ft (30.5 m) available.

Features

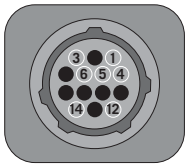
Front Panel Controls
- Mode selection
- Current control
- Pressure control
- Status display LED's
- Pressure/Status indicators
- Power switch on front

ATC® Quick Disconnect
- Torch detection allows fast change from an automation torch to a hand torch

- Multi voltage input power selection*

* US/Canada Models Only

③④ Plasma Start/Stop Signal
⑥⑤ Divided Arc Voltage
⑭⑫ Cutting Machine "OK To Move"



CNC Interface Connector on Rear of Power Supply
- Start / Stop input
- "OK To Move" output
- Standard 25' (7.6 m), 35' (10.7 m) or 50' (15.2 m) CNC cable
- Easy access to arc voltage for OEM height control

- Accessory Compartment

- 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 optimize cutting performance at its rated current. Select from 20, 30, 40, 60, 80, 100 or 120 Amp tips to optimize your cutting. The result is Total Gas Management. Precision gas control, longer consumable parts life and better cut performance.

Superior Quality at All Amperages

Whether you are fabricating thick plate or cutting ornamental shapes, the Automation Series is perfect for the job.

At 120 Amp output, the A120 produces the BEST CUT on 1/2" (12 mm) mild steel plate at 70 IPM (1.86 m/min). For those cutting intricate shapes, select low amperage tips for kerf widths less than 0.045" (1.14 mm) wide.

Whether you cut plate, HVAC duct work or ornamental shapes, the A-Series is right for you.

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 SL100SV torch.

Choice of Tip Shielding

Choose from two consumable styles:

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

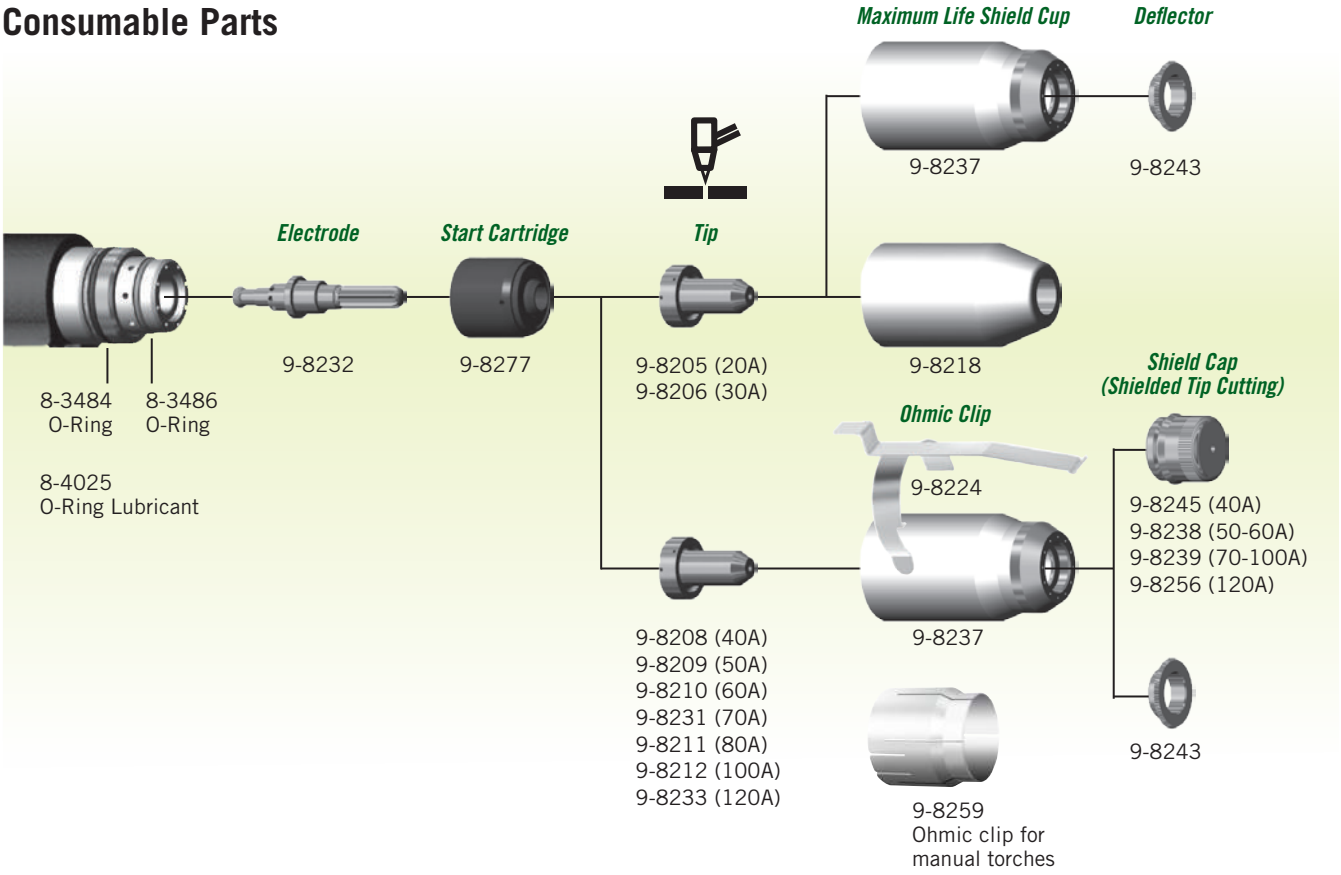
Note: Use the Ohmic Clip with the Shielded Tip design if ohmic plate sensing is required

Exposed Tip Shielded Tip

Product Selection

	SPECIFICATIONS	A40	A60	A80	A120
Production Piercing & Cutting Capacity	Gauge (0.5 mm – 2 mm)	✶	✶	✶	✶
	1/4" (6 mm)	✶	✶	✶	✶
	3/8" (10 mm)		✶	✶	✶
	1/2" (12 mm)			✶	✶
	5/8" (15 mm)				✶
Applications	**Sheet Metal** – Ductwork, Artwork, Trailer Panels	✶	✶	✶	✶
	Light Fabrication – Kitchenware, Autobody Panels, Pipe		✶	✶	✶
	Medium Fabrication – Industrial Components, Truck Frame & Body			✶	✶
	Heavy Fabrication – Heavy Equipment Components, Structure Components, Pipe				✶
Duty	**High Production** – 80% Duty Cycle	✶	✶	✶	✶

Consumable Parts



Accessories

CNC Cables

25 ft (7.6 m)	9-1008
35 ft (10.6 m)	9-1010
50 ft (15.2 m)	9-1011

1Torch® Automation Leads Packages

SL100® SV 180° - (Torch/Leads)

25 ft (7.6 m)	7-4001	75 ft (23 m)	7-4004
35 ft (10.6 m)	7-4002	100 ft (30.5 m)	7-4005
50 ft (15.2 m)	7-4003		

Hand Torches

SL60® - (Torch/Leads)

20 ft (6.1 m)	7-5204
50 ft (15.2 m)	7-5205

SL100 - (Torch/Leads)

20 ft (6.1 m)	7-5206
50 ft (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)

Two Stage Air Filter Kit
Cat. No. 9-9387
1st Stage Replacement Cartridge 9-1021
2nd Stage Replacement Cartridge 9-1022

Pinion Assembly
Cat. No. 7-2827 (1 3/8" (35 mm) Diameter)

Remote Pendant Control
Cat. No. 7-3460
20 ft (6.1 m) Remote Pendant Control for your mechanized application.

Hand Pendant Extension
Cat. No. 7-7744 25 ft (7.6 m)

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AUTOMATED PLASMA CUTTING

A-Series Unit Specifications*

	A40			A60			A80			A120		
Rated Output	40 Amps			60 Amps			80 Amps			120 Amps		
Output Range	20 - 40 Amps @ 80% DC, 60 Amps Max., Adjustable			20 - 60 Amps @ 80% DC, 80 Amps Max., Adjustable			30 - 80 Amps @ 80% DC, 100 Amps Max., Adjustable			30 - 120 Amps @ 80% DC, 120 Amps Max., Adjustable		
Production Piercing and Cutting Capacity	1/4" (6 mm)			3/8" (10 mm)			1/2" (12 mm)			5/8" (15 mm)		
Maximum Piercing and Cutting Capacity	1/2" (12 mm)			5/8" (15 mm)			3/4" (20 mm)			3/4" (20 mm)		
Maximum Edge Start	1" (25 mm)			1" (25 mm)			1¼" (30 mm)			1½" (40 mm)		
Input Volts	208-230/460V, 1/3 ph, 50/60 Hz 380/400V, 3 ph, 50/60 Hz 600V, 3 ph, 60 Hz			208-230/460V, 1/3 ph, 50/60 Hz 380/400V, 3 ph, 50/60 Hz 600V, 3 ph, 60 Hz			208-230/460V, 1/3 ph, 50/60 Hz 380/400V, 3 ph, 50/60 Hz 600V, 3 ph, 60 Hz			208-230/460V, 1/3 ph, 50/60 Hz 380/400V, 3 ph, 50/60 Hz 600V, 3 ph, 60 Hz		
Input Amps @ Max Output	**Volts**	**1 Phase**	**3 Phase**	**Volts**	**1 Phase**	**3 Phase**	**Volts**	**1 Phase**	**3 Phase**	**Volts**	**1 Phase**	**3 Phase**
	208V	47	26	208V	75	40	208V	99	46	208V	126	61
	230V	45	24	230V	72	39	230V	95	49	230V	118	56
	380V	–	16	380V	–	17	380V	–	29	380V	–	35
	400V	–	16	400V	–	17	400V	–	28	400V	–	36
	460V	31	16	460V	44	21	460V	59	29	460V	76	37
	600V	–	13	600V	–	16	600V	–	22	600V	–	28
Kilowatt Output	6.3 kW			9 kW			12 kW			15.4 kW		
Duty Cycle	80% @ 40 Amps 100% @ 30 Amps			80% @ 60 Amps 100% @ 50 Amps			80% @ 80 Amps 100% @ 70 Amps			80% @ 120 Amps 100% @ 100 Amps		
MAX OCV	260 VDC			260 VDC			260 VDC			260 VDC		
Gas Type	Air @ 75 psi (5.2 bar) @ 6.7cfm (189 lpm)			Air @ 75 psi (5.2 bar) @ 6.7cfm (189 lpm)			Air @ 75 psi (5.2 bar) @ 6.7cfm (189 lpm)			Air @ 80 psi (5.5 bar) @ 6.7cfm (189 lpm)		
Weight	43 lbs (19.5 kg) - Unit, Power Cable, (Torch and Leads)			43 lbs (19.5 kg) - Unit, Power Cable, (Torch and Leads)			63 lbs (28.6 kg) - Unit, Power Cable, (Torch and Leads)			63 lbs (28.6 kg) - Unit, Power Cable, (Torch and Leads)		
Dimensions	H 13.5" (343 mm) x W 9.75" (248 mm) x L 21.0" (533 mm)			H 13.5" (343 mm) x W 9.75" (248 mm) x L 21.0" (533 mm)			H 13.5" (343 mm) x W 9.75" (248 mm) x L 26.0" (660 mm)			H 13.5" (343 mm) x W 9.75" (248 mm) x L 26.0" (660 mm)		
Work Cable	20' (6.1 m)			20' (6.1 m)			20' (6.1 m)			20' (6.1 m)		
Control	CNC rear panel connector, Start/Stop and OK to Move			CNC rear panel connector, Start/Stop and OK to Move			CNC rear panel connector, Start/Stop and OK to Move			CNC rear panel connector, Start/Stop and OK to Move		
Input Power Cable	10' (3 m) with plug (208/230V) 6' (2 m) without plug (400V)			10' (3 m) with plug (208/230V) 6' (2 m) without plug (400V)			10' (3 m) with plug (208/230V) 6' (2 m) without plug (400V)			10' (3 m) with plug (208/230V) 6' (2 m) without plug (400V)		
Warranty	4 Year Power Supply (3 Year International) and 1 Year Torch - International			4 Year Power Supply (3 Year International) and 1 Year Torch - International			4 Year Power Supply (3 Year International) and 1 Year Torch - International			4 Year Power Supply (3 Year International) and 1 Year Torch - International		
Certifications	IP-23C, CSA, NTRL/C, CE, CCC			IP-23C, CSA, NTRL/C, CE, CCC			IP-23C, CSA, NTRL/C, CE, CCC			IP-23C, CSA, NTRL/C, CE, CCC		
Torch Configuration												
Torch	SL100® SV w/ ATC®, 180° Automation											
Ordering Information	**Please See Your Thermal Dynamics® Sales Representative for Specific System Configurations**											
SL100 SV - 25 ft lead	1-5134-V**			1-1134-V**			1-1334-V**			1-1734-V**		
SL100 SV - 35 ft lead	1-5136-V**			1-1136-V**			1-1336-V**			1-1736-V**		
SL100 SV - 50 ft lead	1-5135-V**			1-1135-V**			1-1335-V**			1-1735-V**		

Systems include: power supply, automation torch with 1 3/8" (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

**V (Voltage): 1 = 208/230V, 2 = 480V, 3 = 400V, 4 = 400V CE, 5 = 600V

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AUTOMATED PLASMA CUTTING

Cutting Speed Chart For A-Series Systems

Material	Thickness (Inch)	Speed (IPM)	Amps	Plasma /Shield	Thickness (mm)	Speed mm/min.
Mild Steel	20 ga.	160	40	Air/Air	1	3990
	16 ga.	140			2	2920
	3/16	55			3	1810
	1/4	40			5	1345
	3/16	100	60	Air/Air	4	3650
	1/4	80			6	2145
	3/8	50			10	1180
	1/2	26			12	795
	1/4	100	80	Air/Air	6	2745
	3/8	42			10	1060
	1/2	40			12	1025
	5/8	18			15	610
	3/8	75	100	Air/Air	10	1790
	1/2	45			12	1310
	3/4	20			20	490
	3/8	85	120	Air/Air	10	2100
	1/2	70			12	1860
	5/8	45			15	1320
	3/4	30			20	720
Stainless Steel	16 ga.	50	40	Air/Air	2	1140
	3/16	30			3	980
	1/4	18			5	715
	3/16	90	60	Air/Air	4	2865
	1/4	65			6	1790
	3/8	30			10	725
	1/2	21			12	580
	1/4	100	80	Air/Air	6	2765
	3/8	45			10	1070
	1/2	26			12	765
	3/8	65	100	Air/Air	10	1575
	1/2	45			12	1255
	5/8	20			15	685
	3/8	100	120	Air/Air	10	2390
	1/2	60			12	1750
	5/8	40			15	1160
Aluminum	16 ga.	170	40	Air/Air	2	3500
	3/16	75			3	2350
	1/4	30			5	1740
	3/16	170	60	Air/Air	4	5230
	1/4	85			6	2640
	3/8	45			10	1085
	1/2	30			12	845
	1/4	110	80	Air/Air	6	3190
	3/8	55			10	1330
	1/2	38			12	1060
	5/8	26			15	745
	3/8	65	100	Air/Air	10	1575
	1/2	45			12	1255
	3/4	20			20	470
	3/8	110	120	Air/Air	10	2660
	1/2	75			12	2100
	5/8	50			15	1445

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