



# THERMAL DYNAMICS®

AUTOMATION

## CUTMASTER®

### Automation Series



- Superior Quality
- Economical
- Flexibility
- Increased Productivity
- Easy To Use

FOUR YEAR **4** WARRANTY

4 Year Power Supply  
1 Year Torch

### Automated Plasma Cutting Systems

# Automated Plasma Cutting

## **CUTMASTER®** Automation Series

Introducing the next generation of innovative CUTMASTER Automation Series Automated Plasma Cutting Systems from Thermal Dynamics®.

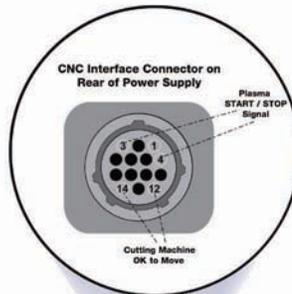
The new Automation Series includes the SL100® SV 1Torch® with Advanced Torch Connector (ATC®) Quick Disconnect as standard equipment in lengths of 25 ft. (7.6m), 35 ft. (10.7m) and 50 ft. (15.2m) (Longer torch leads up to 100 ft. (30.5m) available). Our 1Torch start technology eliminates the electronic interference that can occur with other designs. 1Torch provides quick, reliable starts and a strong pilot arc to pierce heavy plate. It can even cut expanded metal quickly and easily.

CUTMASTER Automation Series Automation Systems include a CNC interface accessible from a CPC connector on the rear of the power supply. The CPC interface includes Start/Stop, and OK to MOVE. Full arc voltage is available inside the power supply.

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

## **FEATURES**

- Power Switch
- Mode Selection
- Current Control
- Pressure Control



- Start / Stop Input
- "OK To Move" Output
- Standard 25'(7.6m), 35'(10.7m) or 50'(15.2m) CNC Cable
- Optional Divided Arc Voltage Board
- Easy Access to Arc Voltage Via Separate Knock out hole and Ring Terminals Inside



- Status Display LED's
- Pressure / Error Display LED's
- ATC Torch Connector



- Multi Voltage Input Power Selection
- Standard Keyhole Mounting Feet



### ATC® Quick Disconnect

- Torch Detection Allows Fast Change Over A Hand or Mechanized Torch



# Automated Plasma Cutting

## CUTMASTER® A40

**1/4" (6mm)  
PRODUCTION  
CUT**

**65%  
DUTY CYCLE**

**Air  
PLASMA**

**60A  
MAXIMUM  
OUTPUT**

### Specifications

(subject to change without notice)

<b>Rated Output</b>	40A
<b>Output Range (A)</b>	20 - 60 Amps, Adjustable
<b>Production Piercing and Cutting Capacity</b>	1/4" (6mm)
<b>Maximum Piercing and Cutting Capacity</b>	1/2" (12mm)
<b>Maximum Edge Start</b>	1" (25mm)
<b>Input Volts</b>	208-230/460V, 1/3ph, 50/60 Hz, 400V, 3 ph, 50/60 Hz, 600V, 3 ph, 60 Hz
<b>Input Amps @ Max Output</b>	1 ph, 208V-47 Amps 3 ph, 208V-26 Amps 1 ph, 230V-45 Amps 3 ph, 230V-24 Amps 3 ph, 460V-31 Amps 3 ph, 460V-16 Amps
<b>Kilowatt Output</b>	6.3 kW
<b>Duty Cycle</b>	<b>65% @ 40 Amps</b>
<b>MAX OCV</b>	260 VDC
<b>Gas Type</b>	Air @75 psi (5.2 bar) @6.7cfm (189 lpm) Start Cartridge
<b>Pilot</b>	Start Cartridge
<b>Weight</b>	43 lbs. (18.5kg) - Unit, Power Cable, Torch and Leads
<b>Dimensions</b>	H 13.5" (343mm) x W 9.75" (248mm) x L 21" (533mm)
<b>Work Cable</b>	20' (6.1m)
<b>Control</b>	CNC rear panel connector, Start/Stop and OK to move
<b>Input Power Cable</b>	10' (3m) with plug (208/230V) 6' (2m) without plug (400V)
<b>Warranty</b>	Four Years Power Supply & One Year Torch
<b>Certifications</b>	IP-23C, CSA, NTRL/C, CE, CCC
<b>Torch Configuration</b>	
<b>Torch</b>	SL100®SV w/ATC®, 180° Automation



### Ordering Information

Product Description	208-230V, 1ph	460V, 1/3 ph	Other
Cutmaster A40 with SL100®SV 180° Machine Torch, 25ft. (7.6m) Lead*	1-5134-1	1-5134-2	1-5134-V
Cutmaster A40 with SL100SV 180° Machine Torch, 35ft. (10.7m) Lead*	1-5136-1	1-5136-2	1-5136-V
Cutmaster A40 with SL100SV 180° Machine Torch, 50ft. (15.2m) Lead*	1-5135-1	1-5135-2	1-5135-V

\*Systems include Power Supply, Automation Torch with 1 3/8" (35mm) Diameter Non-Metallic Mounting Tube / 32 Pitch Rack (Detachable), Pinch Block Assembly, V (Voltage): 3 = 400V 3ph, 4 = 400V 3ph CE, 5 = 600V CNC Interface Cable, Spare Parts Kit, Input Power Cable (selected systems), Work Cable and Clamp

# CUTMASTER® A60

**3/8" (10mm)  
PRODUCTION  
CUT**

**65%  
DUTY CYCLE**

**Air  
PLASMA**

**80A  
MAXIMUM  
OUTPUT**

### Specifications

(subject to change without notice)

<b>Rated Output</b>	60A
<b>Output Range (A)</b>	20 - 80 Amps, Adjustable
<b>Production Piercing and Cutting Capacity</b>	3/8" (10mm)
<b>Maximum Piercing and Cutting Capacity</b>	5/8" (15mm)
<b>Maximum Edge Start</b>	1" (25mm)
<b>Input Volts</b>	208-230/460V, 1/3ph, 50/60 Hz, 400V, 3 ph, 50/60 Hz, 600V, 3 ph, 60 Hz
<b>Input Amps @ Max Output</b>	1 ph, 208V-75 Amps 3 ph, 208V-40 Amps 1 ph, 230V-72 Amps 3 ph, 230V-39 Amps 3 ph, 460V-44 Amps 3 ph, 460V-21 Amps
<b>Kilowatt Output</b>	9 kW
<b>Duty Cycle</b>	<b>65% @ 60 Amps</b>
<b>MAX OCV</b>	260 VDC
<b>Gas Type</b>	Air @75 psi (5.2 bar) @6.7cfm (189 lpm) Start Cartridge
<b>Pilot</b>	Start Cartridge
<b>Weight</b>	43 lbs. (18.5kg) - Unit, Power Cable, Torch and Leads)
<b>Dimensions</b>	H 13.5" (343mm) x W 9.75" (248mm) x L 21" (533mm)
<b>Work Cable</b>	20' (6.1m)
<b>Control</b>	CNC rear panel connector, Start/Stop and OK to move
<b>Input Power Cable</b>	10' (3m) with plug (208/230V) 6' (2m) without plug (400V)
<b>Warranty</b>	Four Years Power Supply & One Year Torch
<b>Certifications</b>	IP-23C, CSA, NTRL/C, CE, CCC
<b>Torch Configuration</b>	
<b>Torch</b>	SL100®SV w/ATC®, 180° Automation



### Ordering Information

Product Description	208-230V, 1ph	460V, 1/3 ph	Other
Cutmaster A60 with SL100®SV 180° Machine Torch, 25ft. (7.6m) Lead*	1-1134-1	1-1134-2	1-1134-V
Cutmaster A60 with SL100SV 180° Machine Torch, 35ft. (10.7m) Lead*	1-1136-1	1-1136-2	1-1136-V
Cutmaster A60 with SL100SV 180° Machine Torch, 50ft. (15.2m) Lead*	1-1135-1	1-1135-2	1-1135-V

\*Systems include Power Supply, Automation Torch with 1 3/8" (35mm) Diameter Non-Metallic Mounting Tube / 32 Pitch Rack (Detachable), Pinch Block Assembly, V (Voltage): 3 = 400V 3ph, 4 = 400V 3ph CE, 5 = 600V CNC Interface Cable, Spare Parts Kit, Input Power Cable (selected systems), Work Cable and Clamp

# Automated Plasma Cutting

## CUTMASTER® A80

**1/2" (12mm)**  
PRODUCTION  
CUT

**80%**  
DUTY CYCLE

**Air**  
PLASMA

**100A**  
MAXIMUM  
OUTPUT

### Specifications

(subject to change without notice)

Rated Output	80A
Output Range (A)	20 - 100 Amps, Adjustable
Production Piercing and Cutting Capacity	1/2" (12mm)
Maximum Piercing and Cutting Capacity	3/4" (20mm)
Maximum Edge Start	1 1/4" (30mm)
Input Volts	208-230/460V, 1/3ph, 50/60 Hz, 400V, 3 ph, 50/60 Hz, 600V, 3 ph, 60 Hz
Input Amps @ Max Output	1 ph, 208V-90 Amps 3 ph, 208V-52 Amps 1 ph, 230V-85 Amps 3 ph, 230V-45 Amps 3 ph, 460V-57 Amps 3 ph, 460V-27 Amps
Kilowatt Output	12 kW
Duty Cycle	<b>80% @ 80 Amps</b>
MAX OCV	260 VDC
Gas Type	Air @75 psi (5.2 bar) @6.7cfm (189 lpm) Start Cartridge
Pilot	Start Cartridge
Weight	63 lbs. (28.6kg) - Unit, Power Cable, Torch and Leads
Dimensions	H 13.5" (343mm) x W 9.75" (248mm) x L 26" (660mm)
Work Cable	20' (6.1m)
Control	CNC rear panel connector, Start/Stop and OK to move
Input Power Cable	10' (3m) with plug (208/230V) 6' (2m) without plug (400V)
Warranty	Four Years Power Supply & One Year Torch
Certifications	IP-23C, CSA, NTRL/C, CE, CCC
Torch Configuration	
Torch	SL100®SV w/ATC®, 180° Automation



### Ordering Information

Product Description	208-230V, 1ph	460V, 1/3 ph	Other
Cutmaster A80 with SL100®SV 180° Machine Torch, 25ft. (7.6m) Lead*	1-1334-1	1-1334-2	1-1334-V
Cutmaster A80 with SL100SV 180° Machine Torch, 35ft. (10.7m) Lead*	1-1336-1	1-1336-2	1-1336-V
Cutmaster A80 with SL100SV 180° Machine Torch, 50ft. (15.2m) Lead*	1-1335-1	1-1335-2	1-1335-V

\*Systems include Power Supply, Automation Torch with 1 3/8" (35mm) Diameter Non-Metallic Mounting Tube / 32 Pitch Rack (Detachable), Pinch Block Assembly, V (Voltage): 3 = 400V 3ph, 4 = 400V 3ph CE, 5 = 600V CNC Interface Cable, Spare Parts Kit, Input Power Cable (selected systems), Work Cable and Clamp

# CUTMASTER® A120

<b>5/8" (15mm)</b> PRODUCTION CUT	<b>80%</b> DUTY CYCLE
<b>Air</b> PLASMA	<b>120A</b> MAXIMUM OUTPUT

### Specifications

(subject to change without notice)

<b>Rated Output</b>	120A
<b>Output Range (A)</b>	20 - 120 Amps, Adjustable
<b>Production Piercing and Cutting Capacity</b>	5/8" (15mm)
<b>Maximum Piercing and Cutting Capacity</b>	3/4" (20mm)
<b>Maximum Edge Start</b>	1½" (40mm)
<b>Input Volts</b>	208-230/460V, 1/3ph, 50/60 Hz, 400V, 3 ph, 50/60 Hz, 600V, 3 ph, 60 Hz
<b>Input Amps @ Max Output</b>	1 ph, 208V-130 Amps 3 ph, 208V-72 Amps 1 ph, 230V-125 Amps 3 ph, 230V-65 Amps 1 ph, 460V-80 Amps 3 ph, 460V-35 Amps
<b>Kilowatt Output</b>	15.4 kW
<b>Duty Cycle</b>	<b>80% @ 120 Amps</b>
<b>MAX OCV</b>	260 VDC
<b>Gas Type</b>	Air @80 psi (5.5 bar) @6.7cfm (189 lpm) Start Cartridge
<b>Pilot</b>	Start Cartridge
<b>Weight</b>	63 lbs. (28.3kg) - Unit, Power Cable, Torch and Leads
<b>Dimensions</b>	H 13.5" (343mm) x W 9.75" (248mm) x L 26" (660mm)
<b>Work Cable</b>	20' (6.1m)
<b>Control</b>	CNC rear panel connector, Start/Stop and OK to move
<b>Input Power Cable</b>	10' (3m) with plug (208/230V) 6' (2m) without plug (400V)
<b>Warranty</b>	Four Years Power Supply & One Year Torch
<b>Certifications</b>	IP-23C, CSA, NTRL/C, CE, CCC
<b>Torch Configuration</b>	
<b>Torch</b>	SL100®SV w/ATC®, 180° Automation



### Ordering Information

Product Description	208-230V, 1ph	460V, 1/3 ph	Other
Cutmaster A120 with SL100®SV 180° Machine Torch, 25ft. (7.6m) Lead*	1-1734-1	1-1734-2	1-1734-V
Cutmaster A120 with SL100SV 180° Machine Torch, 35ft. (10.7m) Lead*	1-1736-1	1-1736-2	1-1736-V
Cutmaster A120 with SL100SV 180° Machine Torch, 50ft. (15.2m) Lead*	1-1735-1	1-1735-2	1-1735-V

\*Systems include Power Supply, Automation Torch with 1 3/8" (35mm) Diameter Non-Metallic Mounting Tube / 32 Pitch Rack (Detachable), Pinch Block Assembly, V (Voltage): 3 = 400V 3ph, 4 = 400V 3ph CE, 5 = 600V CNC Interface Cable, Spare Parts Kit, Input Power Cable (selected systems), Work Cable and Clamp

# Automated Plasma Cutting

## **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® introduces a completely new tip technology which 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 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 CUTMASTER® Automation Series is perfect for the job.

At 120 Amp output, CUTMASTER A120 produces BEST CUT on 1/2" (12mm) mild steel plate at 70 IPM (1.86m/min). For those cutting intricate shapes, select low amperage tips for kerf widths less than .020" (0.5mm) wide.

Whether you cut plate, HVAC duct work or ornamental shapes, the CUTMASTER Automation 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. It is normally in contact with the tip, but when air forces the tip and cartridge apart, 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.

Unlike the competitions torch where the moving part is the torch head. If the moving part fails in the competitions torch you must replace the entire torch head. This is expensive, complicated, and timely. If our start cartridge fails it's economical, simple, and fast to replace. In less than a minute you're back in full production.

### **Choice of Tip Shielding**

Choose from two consumable styles:

- Extended Tip for cutting thin sheet at low power & narrow kerf



Extended Tip

- Shielded Tip for heavier plate piercing and cutting



Shielded Tip

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

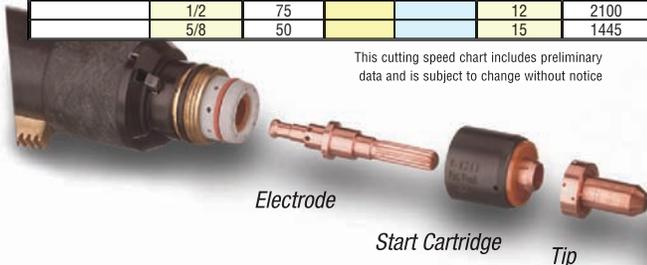
### CUTTING SPEED CHART

Material	Thickness Inch	Speed IPM	Amps	Plasma/ Shield	Thickness [mm]	Speed mm/min
<b>Mild Steel</b>						
16 ga.	180	20	Air/Air	1.5	4.57	
16 ga.	240	30	Air/Air	1.5	6.10	
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	
<b>Stainless Steel</b>						
16 ga.	180	20	Air/Air	1.5	4.57	
16 ga.	240	30	Air/Air	1.5	6.10	
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	
<b>Aluminum</b>						
16 ga.	180	20	Air/Air	1.5	4.57	
16 ga.	240	30	Air/Air	1.5	6.10	
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:** Speeds reflected in this cutting chart are representative of optimum quality and speed. The chart data comes directly from the operating manual. BEWARE of competition claims, as the data represented in their brochure does not come from their operating manuals. Cut speeds in the competitors brochure may be inflated by as much as 30-40% over the cut charts in their operating manuals.

### SL 100®SV Automation Torch

- Valve In Torch Design
- Patented 1 Torch Consumable
- ATC Quick Disconnect



Electrode

Start Cartridge

Tip

Maximum Life Shield Cup

Deflector

Maximum Life Shield Cup

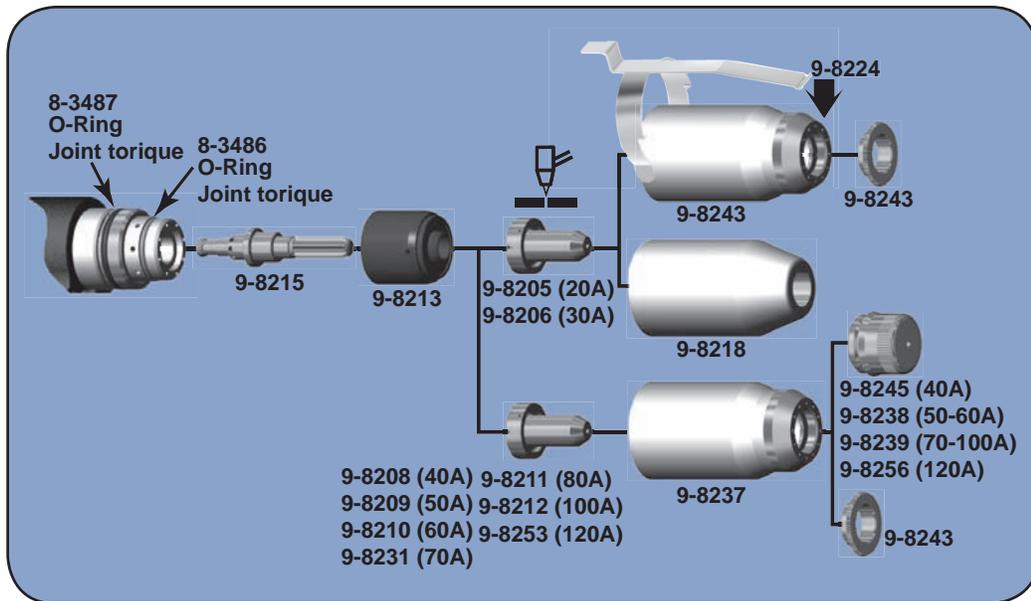
Ohmic Clip

Shield Cap (Shielded Tip Cutting)

1TORCH, SL100SV and ATC, trademarks of Thermal Dynamics Corporation, 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 Corporation, contact the local trademark offices in the countries of interest.

# Automated Plasma Cutting

## CONSUMABLES



## ACCESSORIES

### Automation Interface Kit

Cat. No. 9-8311 - For CUTMASTER and Automation Series (A40, A60, A80, and A120). This kit adds a divided low volt output for height controls that can use 50:1 arc voltage. Also used with the Thermal Dynamics® SC-11 height control.

### CNC Interface Cable

25 ft. (7.6m)	9-8312	100 ft. (30.5m)	9-8316
50 ft. (15.2m)	9-8313	125 ft. (38.0m)	9-8317
75 ft. (22.8m)	9-8315		

### Pinion Assembly

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



### 1Torch Leads Packages

#### Mechanized

#### SL100®

180°	5 ft. (1.5m) Torch/Leads	7-5213
	10 ft. (3.0m) Torch/Leads	7-5214
	25 ft. (7.6m) Torch/Leads	7-5215
	50 ft. (15.2m) Torch/Leads	7-5216

#### Hand

SL60	20 ft. (6.1m) Torch/Leads	7-5204
	50 ft. (15.2m) Torch/Leads	7-5205
SL100	20 ft. (6.1m) Torch/Leads	7-5206
	50 ft. (15.2m) Torch/Leads	7-5208

For improved consumable parts life and overall performance, Thermal Dynamics recommends Air Filter Kits be used on all plasma cutting systems.

### Single Stage Air Filter Kit

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

For use with shop compressed air systems, this in-line filter will not allow moisture or water to pass through the filter element even if it becomes completely saturated. This hi-tech filter element actually blocks the absorption of water to increase performance and improve consumable parts life.



### Two Stage Air Filter Kit

Cat. No. 9-9387

The Two Stage Air Filter will remove moisture and contaminants from the air stream when using compressed air. The filter is capable of filtering to at least 5 microns. The filter assembly is pre-assembled at the factory and need only be installed on the power supply.



### Remote Pendant Control

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

### Hand Pendant Extension

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





performance  
technology  
reliability  
innovation  
service®

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