

# Plasma Arc Cutting

MANUAL SYSTEMS, TORCHES & ACCESSORIES





The NEW Portable Drag-Gun Plus **Now Facaturing Condensation Removal** 

(see page 5)





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Cover Photo: Auto Body Repair using the new Drag-Gun Plus

# Introduction

### Plasma Gas - What is it?

Plasma gas is gas heated to an extremely high temperature and ionized so that it becomes electrically conductive. The plasma arc cutting and gouging processes use plasma to transfer an electrical arc to the work piece. The metal to be cut or removed is melted by the heat of the arc and then blown away. A plasma arc creates a very clean, dross free cut with minimal heat input, usually requiring very little rework or cleanup.

### **Advantages of Plasma Cutting**

Plasma are cutting is an excellent choice for most cutting applications but it is particularly well suited for applications where speed and excellent cut quality are important. Because of the intense heat of the plasma arc – around 40,000° F (22,000° C) compared to 5,700° F (3150° C), with gases used with Oxy-Fuel torches – the cut is very clean with little or no dross.

The plasma arc also cuts ferrous and non-ferrous metals much faster than an Oxy-Fuel torch or abrasive saws, with low or no heat affected zone, especially on thinner metals. A clean cut with little or no dross means less time and money is required to finish the work piece. Parts are virtually weld-ready.

With plasma cutting, less preparation work is required. A plasma arc is hot enough to burn through most surface coatings such as paint and rust and still provide excellent cutting results.

For applications where difficult shapes are being handled or cut, such as ventilation ductwork (HVAC), tanks or vessels, plasma cutting offers considerable advantage since no fixturing is required. All you need is a place on the metal to attach the work clamp. And with plasma cutting, there is also minimal heat input and distortion of the metal as there is with jigsaws or cutting shears.

### Thermal Dynamics® Plasma Terminology

- Genuine Cut at Thermal Dynamics, our standard cut is called a
   'Genuine Cut'. A 'Genuine Cut' is an excellent, smooth cut surface with
   little or no dross, requiring little or no rework or grinding. It is achieved
   when cutting at 10" (254mm) and above per minute.
- Dross Buildup molten material which is not blown out of the cut area and solidifies on the bottom of the plate.
- Drag Cutting with drag cutting you actually drag the tip of the torch along the work piece to cut the metal. This works particularly well on metal 3/16" (4.7mm) thick or less. This is often the easiest way to cut and minimize heat input and kerf width.
- Standoff Cutting suitable where material thickness is 3/16" (5mm) or
  greater, the torch tip is held a distance of 1/8" (3mm) to 3/8" (10mm)
  from the work piece to achieve the desired cut. Special devices such as
  standoff guides and cutting guides can help make cutting easier. Cutting
  quides are particularly useful for cutting thinner metals.
- Gouging plasma gouging produces a very smooth, clean surface which
  is often weld-ready. Plasma gouging can also be successfully used to
  separate two welds with less noise and less smoke than traditional
  gouging methods.

# Plasma Cutting Systems, Torches & Access ories

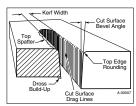


 Piercing – piercing with plasma produces a quick hole through the plate and is recommended on thickness up to 50% of the cutting system's rating.

• Front End Parts Visibility – no matter if you are drag cutting or standoff cutting, it is important to be able to see your work while

you are cutting. Thermal Dynamics® is known in the plasma cutting business for designing torches with excellent visibility.

 Consumables Parts – generally refers to the torch tip and torch electrode.
 These parts must withstand the intense heat of the plasma arc and must be replaced periodically.



### **Selecting a Thermal Dynamics Plasma Cutting System**

These basic questions will help you decide which system best fits your needs:

- How thick is the metal you want to cut?
   We offer a wide range of systems that can handle metal thickness from gauge to 1½". For production applications you'll want to refer to our literature for automated plasma cutting systems.
- What cut quality do you require?
   The cut quality you require will be an important factor in deciding which system is right for you. Cut quality is based on a number of factors material type, thickness, and gas source. These factors need to be weighed to determine the best system for your needs.
- What type of metal are you cutting?

  Plasma can be used for cutting mild steel, stainless, and aluminum as well as most other metals, with excellent results.
- What is your primary input power?
   This refers to power at the wall or power source. Each plasma system will have a required input current (single or three phase) rated at maximum output based on your input voltage.
- Gas Supply

Thermal Dynamics manual cutting systems require either air or nitrogen as a gas source — either from a high pressure gas cylinder or most often an air compressor. An air compressor draws on shop air so it is very important to control the air quality and keep it free from contaminants. We recommend purchasing an optional filtering accessory for your plasma system to ensure your system performs at its best.

Torch Lead Length
 Our plasma systems are usually offered in either 20' (6.1m) or 50' (15.2m) lead lengths. (Our 1Torch® RPT® Torch is offered with Lead Extensions in 15'/4.6m, 25'/7.6m, and 50'/15.2m lengths.) How far away from your power source do you intend to operate your plasma cutter?

Price

Price is always an important consideration. How much money do you want to spend? Thermal Dynamics is committed to providing customers with quality product at the best value possible. We back our systems and torches with excellent warranties and the best customer and technical service in the industry.

# The Drag-Gun® Series

Feature:
Built-In
Air Compressors

Designed for complete portability and ease of use, the Drag-Gun and Drag-Gun Plus systems come with a built-in air compressors. Excellent machines for a wide range of cutting applications including expanded metal, HVAC spiral ducting, metal studs, construction and home shop use.

NEW

**Condensation Removal** 

Feature Available

### Drag-Gun

(Brochure #63-2209)

- 1/8" (3.2mm) Genuine Cut Capacity
- 12 Amps Fixed Output
- Input Power 1ph 120V or 220V
- Duty Cycle 30% @ 12A
- · Built-In Air Compressor
- PCH-10 Torch
- Applications Expanded Metal, HVAC Spiral Ducting, Metal Studs and Any Other Light Industrial Construction



# Drag-Gun Plus

(Brochure #63-2519)

- 1/2" (12mm) Genuine Cut Capacity
- 15-35 Amps, Continuously Variable
- Input Power 1ph 220/230V ±10%, 50/60 Hz., leff: 18 Amps
- Duty Cycle 35% @ 35A
- · Built-In Air Compressor
- New Condensation Removal Feature
- SureLok® PCH-42ER Torch
- Applications Expanded Metal, HVAC
   Spiral Ducting, Metal Studs, General Duty Construction,
   Auto Body, Roofing and any General Duty Portable Applications

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# IHERMAL DYNAMICS Professional

# The CUTMASTER® 1Series™

This family of products builds on the solid reputation earned by the CUTMASTER line as reliable, rugged systems with excellent cut characteristics. In fact, CUTMASTERs provide the best cut quality in the marketplace on thin gauge metal, especially stainless steel.

Our CUTMASTER 1Series offers excellent value and a great introduction into the plasma cutting market. If you are looking for a value-packed cutting system, the CUTMASTER is an excellent choice.

The 1Series includes the universal 1Torch® with built-in ATC® (Advanced Technology Connector), Spare Parts Kit, Input Power Cable, and Operating Manual. Optional accessories include Torch Leads Extensions in 15 ft. (4.6m), 25 ft. (7.6m) and 50 ft. (15.2m) lengths and a new power supply wheel kit. An automation interface kit is available to convert CUTMASTER 51-151 to mechanized systems or systems can be ordered as fully automated models.

All CUTMASTER 1Series Systems come with a 3-year (Power Supply) / 1-year (Torch) Parts and Labor Warranty.

### **CUTMASTER 38**

(Brochure #63-2203)

- 3/8" (10mm) Genuine Cut Capacity 5/8" (16mm) Severance Capacity
- 20-30 Amps, Adjustable
- Input Power 1ph 120-230V (Auto Voltage Selection)
- Duty Cycle 35% @ 30A
- 1Torch SL60<sup>®</sup> with Built-in ATC Quick Disconnect (Optional Lead Extensions Available)



- · Auto Pilot Restart for Cutting Expanded Metal
- Applications Auto Body Repair, HVAC, Metal Stud Construction, Home Shop, Metal Building & Roofing Construction, Plumbing, Marine Repair and Rental Fleets

### CUTMASTER 51

(Brochure #63-2315)

- . 1/2" (13mm) Genuine Cut Capacity 3/4" (20mm) Severance Capacity
- 20-40 Amps. Adjustable
- Input Power 1ph 208/230V, 3ph 400V, 3ph 400V CE, 3ph 415V, 1/3ph 460V (Dedicated Voltage Design)
- Duty Cycle 40% @ 40A
- . 1Torch SL60 with Built-in ATC Quick Disconnect (Optional Lead Extensions Available)
- . Non HF (High Frequency) Start
- Auto Pilot Restart for Cutting Expanded Metal
- · Applications Construction, Maintenance/Repair, Fabrication

### **CUTMASTER® 81**

(Brochure #63-2316)

- 7/8" (22mm) Genuine Cut Capacity 1¼" (32mm) Severance Capacity
- · 20-60 Amps, Adjustable
- Input Power 1ph 208/230V, 3ph 400V, 3ph 400V CE, 3ph 415V, 1/3ph 460V, 3ph 600V (Dedicated Voltage Design)
- Duty Cycle 50% @ 60A, 100% @ 45A
- 1Torch® SL60® Torch with Built-in ATC® Quick Disconnect (Optional Lead Extensions



- · Auto Pilot Restart for Cutting Expanded Metal
- Applications Heavy Fabrication, Manufacturing, Contractors



(Brochure #63-2317)

- 1" (25mm) Genuine Cut Capacity 1½" (38mm) Severance Capacity
- 20-80 Amps, Adjustable
- Input Power 1ph 208/230V, 3ph 400V, 3ph 400V CE, 3ph 415V, 1/3ph 460V, 3ph 600V (Dedicated Voltage Design)
- Duty Cycle 40% @ 80A, 100% @ 45A
- 1Torch SL100<sup>®</sup> with Built-in ATC Quick Disconnect (Optional Lead Extensions Available)
- Non HF (High Frequency) Start
- · Auto Pilot Restart for Cutting Expanded Metal
- Applications Heavy Fabrication, Manufacturing

### *CUTMASTER 151*

(Brochure #63-2504)

- 11/4" (32mm) Genuine Cut Capacity 1¾" (45mm) Severance Capacity
- 25-100 Amps, Adjustable
- Input Power 1ph 208/230V ±10% 1ph 208/230V ±10% CE, 3ph 400V ±10%, 3ph 400V ±10% CE, 3ph 415V ±10%, 1/3ph 460V ±10%, 3ph 600V ±10% (Dedicated Voltage Design)
- Duty Cycle 104°F (40°C) 40% @ 100A @ 120VDC. 100% @ 50A @ 98VDC 68°F (20°C) 75% @ 100A @ 120VDC
- 1Torch SL100 with Built-in ATC Quick Disconnect (Optional Lead Extensions Available)
- Auto Pilot Restart for Cutting Expanded Metal
- Applications Heavy Fabrication, Manufacturing





# THERMAL DYNAMICS Professional

## The PakMaster® XL PLUS Series

The XL PLUS Series is designed for the user who wants a little more from a cutting system. This series features the universal 1Torch® with ATC® Quick Disconnect as standard. (Systems can also be ordered with the SureLok® Torch upon request. See brochure #63-9901.) It also offers multi-voltage selection, Smart Start™ auto pilot restart, tip saver circuitry for consumable parts protection and a latch feature which acts as a trigger lock to prevent hand fatigue during long cutting sessions. Standard are the built-in Leads Wrap and parts storage, Spare Parts Kit, Work Cable & Clamp, and Operating Manual. Optional Transformer (600VAC) available.

### PakMaster 50XL PLUS

(Brochure #63-2424)

- 1/2" (12.7mm) Genuine Cut Capacity 3/4" (19.1mm) Severance Capacity
- 15-40 Amps, Adjustable
- Input Power 1/3ph 208-460V (Multi-Voltage Capable)
- Duty Cycle 100% @ 40A
- Auto Pilot Restart for Cutting Expanded Metal
- 1Torch SL60® Plasma Cutting Torch
- · Trigger Latch Preventing Hand Fatigue
- Applications Construction, Maintenance/Repair, General Fabrication

### PakMaster 75XL PLUS

(Brochure #63-2424)

- 3/4" (19.1mm) Genuine Cut Capacity 1" (25.4mm) Severance Capacity
- 15-60 Amps, Adjustable
- Input Power 1/3ph 208-460V (Multi-Voltage Capable)
- Duty Cycle 65% @ 60A, 100% @ 55A
- · Auto Pilot Restart for Cutting Expanded Metal
- . 1Torch SL60 Plasma Cutting Torch
- Trigger Latch Preventing Hand Fatigue
- · Applications Construction, Maintenance/Repair, General Fabrication

### PakMaster 100XL PLUS

(Brochure #63-2424)

- 1" (25.4mm) Genuine Cut Capacity 1¼" (31.8mm) Severance Capacity
- 15-80 Amps, Adjustable
- Input Power 1/3ph 208-460V (Multi-Voltage Capable)
- Duty Cycle 40% @ 80A, 100% @ 60A
- · Auto Pilot Restart for Cutting Expanded Metal
- 1Torch SL100® Plasma Cutting Torch
- Trigger Latch Preventing Hand Fatigue
- Applications Construction, Maintenance/Repair, General Fabrication



Vstems

# The PakMaster® 150XL System

The Thermal Dynamics® PakMaster 150XL System has a liquid-cooled torch for 6-8 times longer parts life as compared to similar gas-cooled systems. This system provides high performance, low cost operation and dual gas capability. With MaximumLife® parts, energy efficient inverter technology and a 60% duty cycle, the PakMaster 150XL keeps you cutting all day long.

The PakMaster 150XL has multi-voltage selection, Smart Start™ auto pilot restart, tip saver circuitry for consumable parts protection and a latch feature which acts as a trigger lock and is designed to prevent hand fatigue during long cutting sessions.

System comes complete with Spare Parts Kit and Box, Work Cable and Clamp, Torch Coolant, Wheels and Handle. Transformer for 600V operation also available.

### PakMaster 150XL

(Brochure #63-2202)

- 1½" (38.1mm) Genuine Cut Capacity 1¾" (44.5mm) Severance Capacity
- 30-120 Amps, Adjustable
- Input Power 3ph 208-230/460V, 3ph 380/415V CE (Multi-Voltage Capable)
- Duty Cycle 60% @ 120A, 100% @ 100A
- Auto Pilot Restart for Cutting Expanded Metal
- · PCH/M-120 Liquid-Cooled Torch
- Trigger Latch Preventing Hand Fatigue
- Applications General Fabrication of Carbon Steel, Stainless Steel & Aluminum; Over the Road Transport Trailers; Railroad Maintenance; Vessel Manufacturing; Pipe Beveling & Fabrication; Petroleum Refineries; Foundries; Chemical Plants; Mining Operations; Ship Building



NOTES:		

# IHERMAL DYNAMICS Professional

### 1Torch® RPT® Torches

Ches Compatible with Lincoln Pro-Cut's 55 Pro-Cut's 80

1Torch - the most innovative, reliable, high performance replacement torch available today.

No other torch performs so well with so many major brands of power supplies, often with cutting results better than the original manufacturer's torch:

- easily attached to virtually all manufacturers' systems with superlative performance
- includes the SureLok electrode locking system permitting quick, precise changes of consumables
- out-of-the-box ready for all modes of operation including Drag Shield Cutting, Standoff Cutting and Drag Tip Cutting
- no moving consumable parts
- standard set of consumables for all power supplies

All you need is the 1Torch RPT torch and the appropriate Adapter Kit. Each torch comes complete with easy-to-install instructions.

### **ATC® Quick Disconnect Option**

If you need additional flexibility, the 1Torch RPT torch is also available with ATC (Advanced Torch Connector). This quick disconnect enables you to



change out a damaged torch, convert from a hand to machine torch, or put on a different sized torch in a matter of seconds. And no tools are required to complete the task. You can also customize the length of your leads by adding on ATC Lead Extensions in 15 ft. (4.6m), 25 ft. (7.6m) or 50 ft. (15.2m) lengths.

### 1Torch \$L60®/\$L55 TM (Lincoln Pro-Cut 55 Compatible)

(Brochure #63-2217 / 63-2530 for SL55)

- · Light / Medium Duty Torch
- 30-60 Amp Capacity
- SL55 Compatible with Lincoln Pro-Cut 55 (60 Amps)
- Available in 75° Torch Head Configuration
- Standard Connection or ATC Quick Disconnect Available (not for SL55)

### 1Torch \$L100\&/\$L80\text{TM} (Lincoln Pro-Cut 80 Compatible)

(Brochure #63-2217 / 63-2530 for SL80)

- Medium / Heavy Duty Torch
- · 40-100 Amp Capacity
- SL80 Compatible with Lincoln Pro-Cut 80 (85 Amps)
- Available in 75° or 180° (not for SL80)
   Torch Head Configurations
- Standard Connection or ATC Quick Disconnect Available (not for SL80)



Lincoln and Pro-Cut are registered trademarks of Lincoln Electric Co. and are in no way affiliated with Thermal Dynamics or Thermadyne Industries. Inc

# **Torch Adapter Kits**

The model of the plasma cutting system must be known to determine the adapter kit required.

to determ	ine the a	dapter kit required.	
Manufacturer Power Supply Model	Cat No.	Manufacturer Power Supply Model	Cat No.
AIRCO®/BOC®		LINCOLN®	
PCS-43	7-3425	Pro-Cut® 40	7-3486
PCS-53, PCS-80, PCS-90	7-3435		30 for details
	. 0.00	Pro-Cut® 60	7-3431
CEBORA®			30 for details
50	7-3438	MARQUETTE®	
Pocket 25	7-3476	12/150, 12/200	7-3476
CENTURY®		,	7 0 17 0
82020*, 82050*, M2050*	7-3476	MATCO®	
82100	7-3430	2020*, 2050*	7-3476
DAIHEN®		MILLER®	
SC-60P	7-3432	Plazcut 60†/Zipcut	7-3432
MRAT-70	7-3432	Spectrum® 250D 500 750	7-3433
	1-3431	Spectrum® 700, 1000‡, 1250, PLUS	7-3430
DAYTON®		Spectrum® 3080* Spectrum® 650*, 701*, 2050* Spectrum® 300* Spectrum® 375*	7-3456
3W722A*, 5Z031B*	7-3476	Spectrum® 650*, 701*, 2050*	7-3457
ESAB® (yellow)		Spectrum® 300°	7-3476
PCM-SMi, 500i, 625i, PCS-43	7-3425	Spectrum® 375* Spectrum® 625*	7-3477 7-3478
PCS-53, 80, 90	7-3435	•	1-3410
ESP-100i	7-3426	MULTIQUIP MQ®	
PCM-750i, 875, 1000i, 1125	7-3429	PCX50SS	7-3437
Sidewinder 30, 55, 105	7-3434	NU-TECSYS®	
Powercut® 650	7-3464	Omnicut 375	7-3438
Powercut® 875, 1125	7-3465	PCA-30/60, 65	7-3441
Powercut® 1250, 1500	7-3462	отс	-
HARRIS®		Panasonic® D-5000, D-7000	7-3437
	7-3439		1-3431
System 50, 65, 100	7-3439	P-TRON®	
HOBART®		P-Tron 75, 100	7-3437
Smoothcut 30, 625	7-3425	POWCON®	
Smoothcut 50 (single gas), 100	7-3426	Starcut	7-3430
Smoothcut 50 (dual gas)	7-3428	SMITH®	
Smoothcut II 35A, 60A, 100A	7-3427	Powerpro 55, 75	7-3487
Fab Shop	7-3440	SPC-30, 20-50, 40-80	7-3442
Cybercut 2050*	7-3457		7 0442
HYPERTHERM®		SNAP-ON®	
Max® 40, HT® 40 (H/F Start), Max® 70,	7-3430	YA-3230, YA-3440	7-3430
Max® 80, Max® 100 w/ & w/o Q.D.		YA-2230*, YA-5550*, YA-5550A*	7-3476
Max® 42*, 43*, 40cs*,	7-3454	SOLAR®	
Max® 42*, 43*, 40cs*, powermax® 600*, 800*, 900* w/ Q.D.		SOL 2020* (118-009, 118-010),	7-3476
powermax <sup>®</sup> 1100*	7-3455	SOL 2050* (118-015,118-016)	
powermax® 1000*, 1250* Max® 40cs* (w/o Q.D.)	7-3461	SOL 2105, SOL 2106	7-3430
Max® 40cs* (w/o Q.D.)	7-3476	THERMAL DYNAMICS®	
powermax® 380*	7-3477	PAK® 3XR, 5XT, 5XR, 6XR, 7XR,	7-3446
powermax® 600* w/o Q.D.	7-3480	625XR, 750XR	
powermax® 800*, 900* w/o Q.D.	7-3481	PAK® 8XR, 10XR, 1000XR, 1250XR,	7-3434
powermax® 1650*	7-3483	PakMaster® 75, 100	
powermax® 350*	7-3484 7-3485	PakMaster® 50XL/XLP, 75XL/XLP,	7-3447
powermax® 190C*	7-3485	PakMaster® 100XL/XLP,	
L TEC® (green)		CUTMASTER® 50, 75, 80XL, 100	7 2442
PCM-31, SMi, 32i/34i, VPi,	7-3425	PakMaster® 25, 38XL, EconoPAK® 25, Drag-Gun® 38,	7-3443
PCM-500i, 625i, PCS-80i		PAK® 4Xi, 6Xi, 2XT, Dynapak® 110	
PCM-50A, 70, 80, 52i/54i, 82i/84i,	7-3426	PakMaster® 50	7-3445
ESP-100i, PCM-50, PCM-100 (Single Gas)		w/ Smart Torch (Q.D.)	, 0770
PCM-50, PCM-100 (Dual Gas)		EconoPAK® 50	7-3449
PCS-40	7-3430	EconoPAK® 100	7-3450
PCM-750i, 1000i	7-3435	PAK® 5	7-3444
PCM-101	7-3436	PAK® 10	7-3436
*Non-HF Systems.			

The Miller Jacob of machines with Serial Numbers beginning JE are not compatible with 1Torch® RPT® Torches. ‡The Miller Spectrum 1000 machines with Serial Numbers beginning LF are not compatible with 1Torch RPT Torches.

INNERLOGIC is a trademark of Innerlogic: None of the afore mentioned registered trademarks are in any way affili THERMAL DYNAMICS. PAK. CUTMASTER. PAKMASTER. ECONOPAK. DYNAPAK and DRAG-GUN are

U.S Customer Care: 800-752-7621



### 1Torch® Consumable Parts Application Guide

For SL60® / SL100® Manual Cutting and Gouging Operations.

### **Drag Tip Cutting**

The preferred method of cutting light gauge metal up to 3/16" (4.8mm) thickness. Produces the best cut quality, narrowest kerf width, fastest cutting speeds, with little to no distortion. For best results, use the Shield Cup with the torch tip in direct contact with the work (up to 40 amps).

### Standoff Cutting

The preferred method for cutting metal thicker than 3/16" (4.8mm) and at current levels above 40 amps. Provides maximum visibility and accessibility. Use the single-piece Shield Cup for 'standoff' cutting (with the torch tip 1/8" to 1/4" from the workpiece). Use the Shield Cup Body together with the Deflector for extended parts life and improved resistance to reflected heat. This combination provides cutting results similar to the single piece Shield Cup, as well as easy changeover to gouging or drag shield cutting.

### **Drag Shield Cutting**

This is an operator-friendly method of cutting between 50 to 100 amps while maintaining a constant standoff distance. For metal thicknesses greater than 3/16" (4.8mm) simply drag the Shield Cap in contact with the workpiece. Use the Shield Cup Body with the appropriate Drag Shield Cap matching the current level being used. This method is not recommended for cutting light-gauge sheetmetal.

### Gouaina

A simple method of metal removal by angling the torch to a lead angle of 35-45 degrees and using a gouging tip. While maintaining a constant standoff distance, this allows for only a partial penetration into the work, thus removing metal from the surface. The amount of current, travel speed, standoff distance, lead angle and tip size will determine the amount of material removed and the profile of the gouge. Can use the Shield Cup Body with either the Gouging Shield Cap or the Shield Deflector. Can also use the sincle piece Shield Cup.

# Drag Tip Cutting Standoff Cutting Drag Shield Cutting Gouging

Gouging Profiles									
	Output Range	Depth	Width	Profile					
Tip A	40 Amps (MAX)	Shallow	Narrow						
Tip B	50-100 Amps	Deep	Narrow						
Tip C	50-100 Amps	Moderate	Moderate						
Tip D	50-100 Amps	Shallow	Wide						

1TORCH, a trademark of Thermal Dynamics Corporation, is registered with the U.S. Patent and Trademark Office, and is 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.

### **1Torch Consumable Parts Selection Guide**

For SL60 / SL100 Manual Cutting and Gouging Operations. Various front-end parts are available for different applications. The electrode and start cartridge remain the same for all applications.

	T	(10)			<b>(</b>				0	6		
Current Range	Mode of Operation	Amps	Electrode	Start Cartridge	Tip	Shield Cup	Shield Cup Body	Drag Shield Cap	Deflector	Gouging Shield Cap		
20 - 40 Amps	Drag Tip / Standoff Cutting	20A 30A 40A 20A 30A 40A	9-8215	9-8213	9-8205 9-8206 9-8207 9-8205 9-8206 9-8207	9-8218 9-8218 9-8218	9-8237 9-8237 9-8237		9-8243 9-8243 9-8243			
	Standoff Cutting Gouging	40A 40A 40A TIP A			9-8208 9-8208 9-8225	9-8218	9-8237 9-8237		9-8243	9-8241		
50 - 60	Standoff Cutting	50-55A 60A 50-55A 60A			9-8209 9-8210 9-8209 9-8210	9-8218 9-8218	9-8237 9-8237		9-8243 9-8243			
Amps	Drag Shield Cutting Gouging	50-55A 60A 40-60A TIP B 40-60A TIP C 40-60A TIP D	9-8215	9-8213	9-8209 9-8210 9-8226 9-8227 9-8228		9-8237 9-8237 9-8237 9-8237 9-8237	9-8235 9-8235		9-8241 9-8241 9-8241		
70 - 100 Amps	Standoff Cutting	70A	80A 90-100A 70A 80A	0.0045	9-8215	9-8213	9-8231 9-8211 9-8212 9-8231 9-8211 9-8212	9-8218 9-8218 9-8218	9-8237 9-8237 9-8237		9-8243 9-8243 9-8243	
	Drag Shield Cutting			3 02 13	9-8231 9-8211 9-8212		9-8237 9-8237 9-8237	9-8236 9-8236 9-8236	3 0270			
	Gouging	40-100A TIP B 40-100A TIP C 40-100A TIP D			9-8226 9-8227 9-8228		9-8237 9-8237 9-8237			9-8241 9-8241 9-8241		

# Plasma Cutting Systems, Torches & Access ories



### **Accessories**

Thermal Dynamics® offers accessories to help improve cutting performance.

### TORCH CUTTING GUIDES / GUIDE KITS

### **Cutting Guide Kit** (Deluxe)

Cat. No. 7-8910

Cuts circles from 2.125" (54mm) to 41.5" (1054mm) with proper cutting attachments.

This kit includes easy add-on attachments to fit most Thermal Dynamics torches for precise straight line, circle cutting and beveling. Includes Carrying Case, Radius/Roller Kit (7-7501), Circle Cutting Guide Kit (7-3291), Magnetic Pivot, Suction Pivot.



### Circle Cutting Guide Kit

Cat. No 7-3291

Cuts 2.125" (54mm) to 27.75" (705mm) circles (using magnetic attachment) when cutting or beveling is required. For use with most Thermal Dynamics torches. Guide shown with optional pivot (7-3148).



### Radius / Roller Cutting Guide Kit

Cat. No. 7-7501

This easy-to-use guide cut circles from 3" (76mm) up to 28.75" (730mm). Maintains a consistent height off the work piece whether you are using the circle cutting attachment for cutting circles or the roller quide feature to improve your straight-line cutting.

Both novices and experts will see noticeable improvement in quality, speed and parts life. Can be used with most Thermal Dynamics torches.



### Torch Guide / Circle Cutting Attachment Cat No. 7-7505

Cuts 3.5" (89mm) to 29" (737mm) circles. Designed for use with the PCH/M-120 Torch, this accessory can be used as either a Roller Guide or a Circle Cutting Guide.



### Straight Line Cutting Guide

Cat. No 7-8911

Introducing a new cutting guide accessory suitable for all hand torches, PCH-10 through PCH-102. This versatile, straight line cutter is for hand held systems and it cuts vertical, 90°, or bevel cuts. Its consistent standoff improves cut quality and maximizes overall performance. Produces more efficient straight line cuts. Lightweight, minimum set up time and no power required. Magnetic mounts ensure placement and ease of use. Optional suction plates available for non-magnetic applications (i.e. aluminum and stainless steel). The Cutting Guide Kit includes: 4 ft. (1.2m) standard rail Torch Holder and Busing Heavy Duty Magnets (2 ea.) Slide Assembly Wheels and Fasteners. Optional 4 ft. (1.2m) extensions (7-7971) available.



### TORCH CUTTING GUIDES (CONT.)

### Universal Standoff Cutting Guide

Cat. No. 9-8422

A great new standoff guide specifically designed to fit all shield cup designs for the PCH-62, PCH-102, SL60® and SL100® RPT® torches. Adjustable standoff height.



### CUTMASTER® 1Series™ Standoff Cutting Guides

Cat. No. 9-8251 (CUTMASTER 51)

Cat. No. 9-8281 (CUTMASTER 81, 101 & 151)

New standoff guides designed to fit the SL60 & SL100 torches specific to the CUTMASTER 1Series systems. The standoff is preset.



### MISCELLANEOUS TORCH ACCESSORIES

### Leather Leads Cover

15 ft. (4.6m)	9-1258
20 ft. (6.1m)	9-1260
25 ft. (7.6m)	9-1270
50 ft. (15.2m)	9-1280

These leads covers are suitable for both 1Torch® and SureLok® leads. Snaps make it easy to install. For wider torches, consider snapping two covers together widthwise.



### Torch Protector

Cat No. 9-8135 for 70° Torch. Cat No. 9-8136 for 90° Torch

For use with the PCH-120 Torch, this rugged protector easily snaps onto the torch providing excellent protection against damage caused by excessive heat or metal sparks. Great accessory for your gouging project.



### Trigger Guard Kits

SureLok Torches (PCH-62 & PCH-102) Cat No. 9-8418 - Short Trigger Guard, Cat No. 9-8419 - Long Trigger Guard

1Torch (SL60 & SL100)

Cat No. 9-8420 - Short Trigger Guard, Cat No. 9-8421 - Long Trigger Guard

These guards offer additional protection from accidental activation or damage to the torch switch.



### 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)

### **ATC® Lead Extensions**

15 ft. (4.6m) 25 ft. (7.6m) 7-7545 50 ft. (15.2m) 7-7552

Available for any system using 1Torch with ATC Quick Disconnect. Leads Extensions enable you to customize your lead length to suit the cutting job.



# Plasma Cutting Systems, Torches & Access ories



### SPARE PARTS KITS

### Optional VIP Consumable Spare Parts Kits

Various Cat. Nos.

Although a Spare Parts Kit is provided with each CUTMASTER® and PakMaster® Cutting System, Thermal Dynamics® also offers Value Incentive Packages (VIP) which are an excellent value and provide an ample supply of genuine consumable parts. Each VIP Kit offers a good selection of tips, electrodes, o-rings, and shield cups. Reduce the risk of shutting your business down or not being able to finish a job. Most VIP Kits will save you 30% or more.



### AIR FILTER/AIR FILTER KITS

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 Filters

Cat. No. 7-7502

For PakMaster 150XL Systems

Cat. No. 7-7500

For CUTMASTER and PakMaster Systems

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.



First Stage Element Cat. No. 9-1021

Second Stage Element Cat. No. 9-1022

### **TORCH COOLANT**

### Extra Cool™ Coolant

Cat. No. 7-3580

Resists freezing down to +10°F (-12°C)

### Ultra Cool™ Coolant

Cat. No. 7-3581

Resists freezing down to -27°F (-33°C)

### Extreme Cool™ Coolant

Cat. No. 7-3582

Resists freezing down to -65°F (-51°C)

### De-I Cool™ Coolant

Cat. No. 7-3583

De-ionized water mixture for use where freezing protection is not required.

### PORTABLE GEAR

### Multi-Purpose Cart

Cat. No. 7-8888

Designed for most portable manual cutting systems such as the PakMaster® or CUTMASTER®, or any other similar sized systems.

This rugged steel cart has easy rolling 8" (203mm) diameter wheels along with 3" (76mm) front mounted casters. This cart also serves as an excellent showroom display stand.



### Wheel Kits

Cat. No. 9-8510 (not shown) For CUTMASTER 51 Systems

Cat. No. 9-8331 For CUTMASTER 81, 101 and 151 Systems



### MISCELLANEOUS ACCESSORIES

### Dust Covers

Cat. No. 9-7070 (for CUTMASTER 38 Systems)

Cat. No. 9-7071 (for PakMaster 50XL & 50XL PLUS and CUTMASTER 51 Systems)

Cat. No. 9-7072 (for PakMaster 75/100XL & 75/100XL PLUS and CUTMASTER 81, 101 & 151 Systems)



### Leads Wrap

Cat. No. 9-7865

For use with the Drag-Gun®, this convenient accessory allows storage and safeguarding of your leads.



### Tool Boxes

Cat. No. 8-3141 - Small, Cat. No. 9-4173 - Large

Plastic boxes with handy compartments for storage of your torch consumables. Small (8.375" x 4.25" x 1.75" / 213mm x 108mm x 44mm), Large (17.5" x 7.75" x 3" / 445mm x 197mm x 76mm)



### **Welding Gloves**

Cat. No. 9-1250



### **AUTOMATION ACCESSORIES**

### **Automation Interface Kit**

Cat. No. 9-8310 - For CUTMASTER 51, 81, 101 and 151

**CNC Interface Cable** 25 ft. (7.6m) 9-8312 50 ft. (15.2m) 9-8313

### Pinion Assembly

Cat. No. 7-2827

# THERMAL DYNAMICS Professional

# **Sales**

At Thermal Dynamics®, we work hard to provide the product information, product demonstrations, technical expertise, and service your business expects. Thermal Dynamics' District Business Managers work closely with welding distributors across the country to provide product information, demos and training. When you need product information or want to order our products, contact your local Thermal Dynamics Authorized Distributor. For a list of distributors in your area, call our Customer Care Center at 1-800-PLASMA1 (1-800-752-7621) or visit us on the web.

# **Literature Requests**

Product literature, operating manuals, and service manuals are all available through our distributorships or on our web site. You can also order directly through our Copy Center at 1-800-PLASMA1 (1-800-752-7621).

# **Technical & Application Product Services**

Our Technical Service specialists are some of the most valued and experienced in the industry. The can provide assistance with both troubleshooting day-to-day technical issues and provide cutting process expertise. Contact Technical Service at 1-800-PLASMA2 (1-800-752-7622).

In addition, we have Technical Training Field Managers available to conduct sales and service training schools. Contact your Thermadyne District Business Manager or call our Customer Care Center to arrange for training.

# **Service & Repair**

Thermal Dynamics products either meet or exceed industry standards, and our torches and power supplies are backed with excellent warranties. With each system or torch, we include an Operating or Instruction Manual which includes basic troubleshooting procedures and parts replacement procedures. Service Manuals are also available by request to service technicians familiar with high voltage high power electronic equipment. Service Manuals cover complex troubleshooting procedures and include schematics.

Your local Distributor may also provide on-site service for the products they sell. Additionally, we have a network of authorized independent service centers across the country where you can take your equipment for service. For the service center nearest you, contact Thermal Dynamics' Customer Care Center at 1-800-PLASMA1 (1-800-752-7621).

# How to Contact Us

Main Phone Number: 1-603-298-5711

Customer Care Center: 1-800-PLASMA1 (1-800-752-7621)

FAX 1-800-221-4401 (or 1-603-298-5720)

8:00am - 5:30pm EST, Monday - Friday

**Automation Customer** 

Care Center: 1-866-279-2628

FAX 1-316-941-4491

International Customer

Care Center: 1-905-827-9777

FAX 1-905-827-9797

Technical & Application

Product Services: 1-800-PLASMA2 (1-800-752-7622)

8:00am - 5:30pm EST, Monday - Friday

Copy Center: 1-800-752-7621

E-Mail: tdctech@thermadyne.com

Website: www.thermal-dynamics.com or www.thermadyne.com

### Thermadyne Industries, Inc.

West Lebanon Operations Center 82 Benning St. West Lebanon, NH 03784

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1TORCH, ATC, RPT, SL60 and SL100, 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.

Form No. 63-2205 (4/2/07)

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with Added Condensation Removal Feature