

ESAB 1-3000-1

ESAB Thermal Dynamics Cutmaster 30+ Plasma Cutter Instruction Manual

Model: 1-3000-1

1. INTRODUCTION

This manual provides essential instructions for the safe and effective operation, setup, and maintenance of your ESAB Thermal Dynamics Cutmaster 30+ Plasma Cutter. Please read this manual thoroughly before using the equipment to ensure proper usage and to prevent injury or damage.

2. SAFETY INFORMATION

Plasma cutting involves high temperatures, electrical currents, and compressed air. Always wear appropriate personal protective equipment (PPE), including welding helmets with proper shade, flame-resistant gloves, and protective clothing. Ensure proper ventilation to avoid inhaling fumes. Disconnect power before performing any maintenance or changing consumables. Refer to local safety regulations and standards for additional guidelines.

3. PRODUCT OVERVIEW

The ESAB Thermal Dynamics Cutmaster 30+ is a portable and durable plasma cutter designed for efficient metal cutting. Its robust construction and advanced features ensure reliable performance in various industrial environments.

- **Portable and Durable:** Features three handles and lightweight, industrial all-weather housing for easy transport and resilience.
- **Intuitive Display:** Equipped with a bright 4.3-inch TFT LCD display and a glove-friendly adjustment knob for simplified operation and precise control.
- **Dual Input Power:** Supports 110-240 V, 1 ph power with automatic voltage detection, which automatically sets the maximum output amperage.
- **Advanced Torch:** Comes with an industrial SL60 1Torch featuring 2T/4T function, a safety trigger lock, and a double-tap trigger to conserve bottled air.

- **Versatile Cutting Modes:** Allows switching between normal and grate cutting modes for different applications.
- **Consumable Life Extension:** Features automatic air pressure detection and a post-cut air purge system to significantly extend consumable life.
- **Duty Cycle:** Offers a 40% duty cycle at 30 A and 100% at 20 A.
- **Black Series Consumables:** Includes Cutmaster Black Series consumables, engineered for up to 60% longer life.
- **Torch Compatibility:** Compatible with all 1Torch ATC torch connections.



Figure 1: The ESAB Thermal Dynamics Cutmaster 30+ Plasma Cutter, showcasing its compact and robust design.



Figure 2: An operator utilizing the Cutmaster 30+ Plasma Cutter in a workshop setting, demonstrating its practical application.



Figure 3: Close-up view of the SL60 1Torch along with the Cutmaster Black Series consumables, highlighting the components for cutting.



Figure 4: An informational graphic illustrating the efficiency and ease-of-use features, including cutting capacity, duty cycle, voltage, screen size, weight, trigger functions, IP rating, and warranty.



Figure 5: A graphic focusing on the display and cutting control features, such as the 4.3-inch TFT LCD screen, automatic air pressure recognition, 2T/4T trigger, adjustment knob, and cutting modes.



Figure 6: A graphic highlighting the power and portability aspects of the unit, including its lightweight design (24 lbs), pierce and cut capabilities (3/8 inch), and maximum cut thickness (5/8 inch).

4. SETUP

4.1. Unpacking and Contents Verification

Carefully unpack the plasma cutter and all accessories. Verify that all components listed below are present and undamaged:

- Thermal Dynamics® Cutmaster® 30+ Plasma Cutter
- SL60 1Torch
- Cutmaster Black Series consumables
- Power cord
- Work clamp

4.2. Power Connection

Connect the unit to a suitable 110-240 V, 1 ph power supply. The Cutmaster 30+ features automatic voltage detection, which will adjust the internal settings to match the input voltage and set the maximum output amperage accordingly.

4.3. Air Supply Connection

Connect a clean, dry compressed air source to the plasma cutter's air inlet. The unit incorporates automatic air pressure detection, optimizing performance based on the available air supply.

4.4. Torch Connection

Securely connect the SL60 1Torch to the ATC torch connection port on the front panel of the plasma cutter. Ensure the connection is tight to prevent air leaks or electrical issues.

5. OPERATING INSTRUCTIONS

5.1. Power On and Settings Adjustment

1. Turn on the plasma cutter using the main power switch. The 4.3-inch TFT LCD display will illuminate.
2. Use the glove-friendly adjustment knob to set the desired amperage for your cutting application. The display provides clear feedback on current settings.

5.2. Selecting Cutting Mode

Switch between **Normal** and **Grate** cutting modes as required for your specific material and cutting environment. Normal mode is typically used for solid materials, while Grate mode is suitable for cutting expanded metal or grates.

5.3. Torch Operation

- **2T/4T Function:** Select the appropriate trigger mode based on your preference. In **2T (Two-Touch)** mode, the arc starts when the trigger is pressed and stops when released. In **4T (Four-Touch)** mode, the arc starts with a brief press and release, and stops with another brief press and release, allowing for longer cuts without continuously holding the trigger.
- **Safety Trigger Lock:** Always engage the safety trigger lock when the torch is not in use to prevent accidental arc initiation.
- **Double-Tap Trigger:** Utilize the double-tap feature on the torch trigger to conserve bottled air during operation, optimizing air usage.

5.4. Initiating a Cut

Ensure the work clamp is securely attached to the workpiece to establish a good electrical connection. Position the torch at the starting point of your cut, ensure proper standoff distance, and initiate the arc using the torch trigger.

5.5. Post-Cut Air Purge

After completing a cut, the system automatically performs a post-cut air purge. This feature cools and cleans the torch consumables, significantly extending their operational life.

6. MAINTENANCE

6.1. Consumable Replacement

Regularly inspect the Cutmaster Black Series consumables (electrode, nozzle, shield cup) for wear. Replace worn consumables promptly to maintain optimal cutting performance and extend the overall life of the torch. Refer to the torch manual for specific replacement procedures.

6.2. Air System Maintenance

Ensure that the compressed air supply is consistently clean and dry. Moisture and contaminants in the air can

negatively impact cutting performance and damage internal components of the plasma cutter. Periodically check and drain any moisture traps in your air supply system.

6.3. General Cleaning

Keep the plasma cutter unit and the torch clean from dust, metal particles, and debris. Use a dry, clean cloth for external cleaning. **Always disconnect the unit from the power supply before performing any cleaning or maintenance.**

7. TROUBLESHOOTING

This section provides solutions to common operational issues. For problems not listed here, or if issues persist, contact ESAB customer support.

- **No Arc:** Verify the power supply connection, check the air pressure, inspect torch consumables for wear, and ensure the work clamp has a good connection to the workpiece.
- **Poor Cut Quality:** Examine consumables for excessive wear, confirm that the correct amperage settings are selected for the material thickness, and ensure adequate air pressure.
- **Unit Not Powering On:** Check the power cord connection to both the unit and the wall outlet. Verify that the circuit breaker has not tripped.

For advanced diagnostics or repairs, it is recommended to contact an authorized ESAB service center.

8. SPECIFICATIONS

Feature	Specification
Manufacturer	ESAB
Brand	ESAB
Model	1-3000-1
Item Weight	28.5 pounds
Product Dimensions	23.4 x 22.35 x 11.15 inches
Item Model Number	1-3000-1
Manufacturer Part Number	1-3000-1
Input Voltage	110-240 V, 1 ph
Duty Cycle	40% @ 30 A, 100% @ 20 A
Display	4.3 in. TFT LCD
Torch Type	SL60 1Torch

9. WARRANTY AND SUPPORT

The ESAB Thermal Dynamics Cutmaster 30+ Plasma Cutter is backed by an industry-leading warranty:




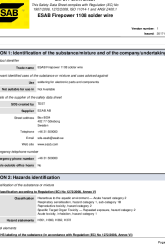
- **Power Supply:** 3-year warranty
- **Torch and Leads:** 1-year warranty



For technical assistance, warranty claims, or to locate an authorized service center, please visit the official ESAB website or contact their customer support directly.

ESAB Support Website: <https://www.esab.com/us/en/support>

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Related Documents - 1-3000-1

 <p>CUTMASTER® A120 AUTOMATED PLASMA CUTTING SYSTEM</p> <p>Operating Manual</p> <p>esab.eu</p>	<p>ESAB CUTMASTER® A120 Automated Plasma Cutting System Operating Manual</p> <p>Comprehensive operating manual for the ESAB CUTMASTER® A120 Automated Plasma Cutting System. Covers safety precautions, system and torch introductions, installation, operation, service, and parts lists for efficient and safe use.</p>
 <p>ESAB Cutmaster 100, ESAB Cutmaster 120</p> <p>Spare parts list</p> <p>esab.eu</p>	<p>ESAB Cutmaster 100 & 120 Spare Parts List</p> <p>Comprehensive spare parts list for ESAB Cutmaster 100 and ESAB Cutmaster 120 plasma cutting machines, including part numbers, denominations, and detailed descriptions of components.</p>
 <p>LAF 1001 / LAF 1001M</p> <p>Instruction manual</p> <p>esab.eu</p>	<p>ESAB LAF 1001 / LAF 1001M Instruction Manual - Welding Power Source Guide</p> <p>Comprehensive instruction manual for the ESAB LAF 1001 and LAF 1001M remote-controlled 3-phase welding power sources, covering installation, operation, maintenance, and safety for mechanised arc welding applications.</p>
 <p>ESAB Firepower 1108 Solder Wire Safety Data Sheet (SDS)</p> <p>SECTION 1: Identification of the substance/mixture and of the company/institution SECTION 2: Hazard identification SECTION 3: Composition/information on ingredients SECTION 4: First aid measures SECTION 5: Fire-fighting measures SECTION 6: Accidental release measures SECTION 7: Handling and storage SECTION 8: Exposure controls/personal protection SECTION 9: Physical and chemical properties SECTION 10: Stability and reactivity SECTION 11: Toxicological information SECTION 12: Ecological information SECTION 13: Disposal considerations SECTION 14: Transport information SECTION 15: Regulatory information SECTION 16: Other information</p>	<p>ESAB Firepower 1108 Solder Wire Safety Data Sheet (SDS)</p> <p>Comprehensive Safety Data Sheet (SDS) for ESAB Firepower 1108 solder wire, detailing hazard identification, composition, first aid, handling, storage, exposure controls, and regulatory information.</p>

	<p>ESAB Mechtrac 1730/2100/2500/3000 Spare Parts List and Original Instructions</p> <p>Comprehensive spare parts list and original instructions for ESAB Mechtrac gantry welding systems, including models 1730, 2100, 2500, and 3000. Details ordering numbers, denominations, and notes for various components such as drive kits, emergency stop boxes, bobbin holders, and rails.</p>
	<p>ESAB EPR-X1.1 Powered Air-Purifying Respirator Instruction Manual</p> <p>Instruction manual and spare parts list for the ESAB EPR-X1.1 Powered Air-Purifying Respirator (PAPR), detailing safety, installation, operation, maintenance, and troubleshooting for welding applications.</p>

Documents - ESAB – 1-3000-1



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[Thermal Dynamics Cutmaster 30+ Plasma Cutting System Operating Manual](#)

Official operating manual for the Thermal Dynamics Cutmaster 30+ Plasma Cutting System, detailing installation, operation, safety, and maintenance. Features ESAB brand technology for contractors and fabricators.

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by ESAB GROUP



**CUTMASTER® 30+
PLASMA SKÄRNINGSSYSTEM**

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REBEL EMP 200i AC/DC Welder	\$310
REBEL EMP 210i AC/DC Welder	\$200
EMP 210 or EM 210 Welder	\$125
CUTMASTER 40 Plasma Cutter	\$130
CUTMASTER 30+ Plasma Cutter	\$60

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REBEL EMP 210i AC/DC Welder	\$200
EMP 210 or EM 210 Welder	\$125
CUTMASTER 40 Plasma Cutter	\$130
CUTMASTER 30+ Plasma Cutter	\$60

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Cutmaster® 30+
The total portable plasma cutting package



**THERMAL
DYNAMICS**



Cutmaster 30+ is the perfect combination of power and portability for hand held plasma cutting machine. Plus, more more, so we've added a user-friendly 4.3 in. TFT LCD screen and upgraded features that give you even more control and flexibility to master any cut up to 10 mm (3/8 in.). Together with the SL60 1Torch, it all adds up to the total plasma cutting package.

Recommended power and cut capacity: 10 mm (3/8 in.)

Maximum edge cut capacity: 16 mm (5/8 in.)

- Portable and durable with three handles and lightweight, industrial all-weather housing
- Bright 4.3 in. TFT LCD display with glow-friendly adjustment knobs simplifies use and provides greater control and flexibility
- Dual input (120/240 V, 1 ph) power with automatic voltage detection for easy setup and storage
- Comes with industrial SL60 1Torch featuring 274T function, cutting higher hot, and double-impulse to conserve hotbed air
- Built-in sensor control and gate cutting modes
- Automatic air pressure detection and post-cut air purge to extend consumable life
- 40% duty cycle @ 30 A (120V)
- 100% @ 20 A (120V)
- Cutmaster Black Series consumables included for up to 80% longer life
- Industry leading 5-year warranty on power supply and 1-year warranty on torch and leads

Visit enab.com for more information.

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