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› ANDELI CUT-50DS Plasma Cutting Machine User Manual

ANDELI CUT-50DS

ANDELI CUT-50DS Plasma Cutting Machine User Manual

Model: CUT-50DS

1. INTRODUCTION

This manual provides essential information for the safe and effective operation, setup, and maintenance of your ANDELI CUT-50DS Plasma Cutting Machine. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent injury or damage.



Image: The ANDELI CUT-50DS plasma cutting machine, showcasing its compact design, control panel, and included accessories such as the cutting torch, ground clamp, and air hose.

2. SAFETY INSTRUCTIONS

Operating a plasma cutting machine involves significant risks. Adhere to all safety precautions to prevent electric shock, burns, fire, and other hazards.

- Always wear appropriate personal protective equipment (PPE), including a welding helmet with proper shade, flame-resistant clothing, gloves, and safety shoes.
- Ensure the work area is well-ventilated to disperse fumes and gases produced during cutting.
- Connect the machine to a properly grounded power supply.
- Do not operate the machine in damp or wet conditions.
- Keep flammable materials away from the cutting area.
- Ensure the air compressor is clean and dry, and the air pressure is set correctly.

- Never touch live electrical parts or hot metal.
- Disconnect power before performing any maintenance or changing consumables.

3. PRODUCT FEATURES

The ANDELI CUT-50DS Plasma Cutting Machine is designed for efficient and precise metal cutting, incorporating several advanced features:

- **Dual Voltage Capability:** Operates on both 110V and 220V power supplies, offering versatility for various work environments.
- **High-Frequency (HF) Pilot Arc:** Enables non-contact cutting, improving arc starting and extending consumable life.
- **Maximum Cutting Thickness:** Capable of cutting iron up to 30mm (approximately 1.18 inches) with a clean cut up to 12mm and maximum severance up to 16mm at 220V, 50A, 60PSI.
- **2T/4T Function:** Provides options for continuous cutting (4T) or button-activated cutting (2T), enhancing operational flexibility.
- **Physical Protection:** Features a durable screen shield to protect the control panel from sparks, spatter, scratches, and impacts.

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HF Pilot Arc Plasma Cutter



Image: The ANDELI CUT-50DS plasma cutter in operation, highlighting its High-Frequency (HF) Pilot Arc capability, which allows for non-contact arc initiation.

NON-TOUCH PILOT ARC

SAVE ON CUTTING NOZZLES/TIPS

Cutting Thickness

220V, 50A 16MM @ 60PSI



Image: Close-up of the cutting torch demonstrating the non-touch pilot arc feature, showing the arc initiating without direct contact with the workpiece, which helps save cutting nozzles and tips.

EXCELLENT CUTTING PERFORMANCE

Powerful 3/4" thickness cutting capability
Smooth cutting without hanging residue

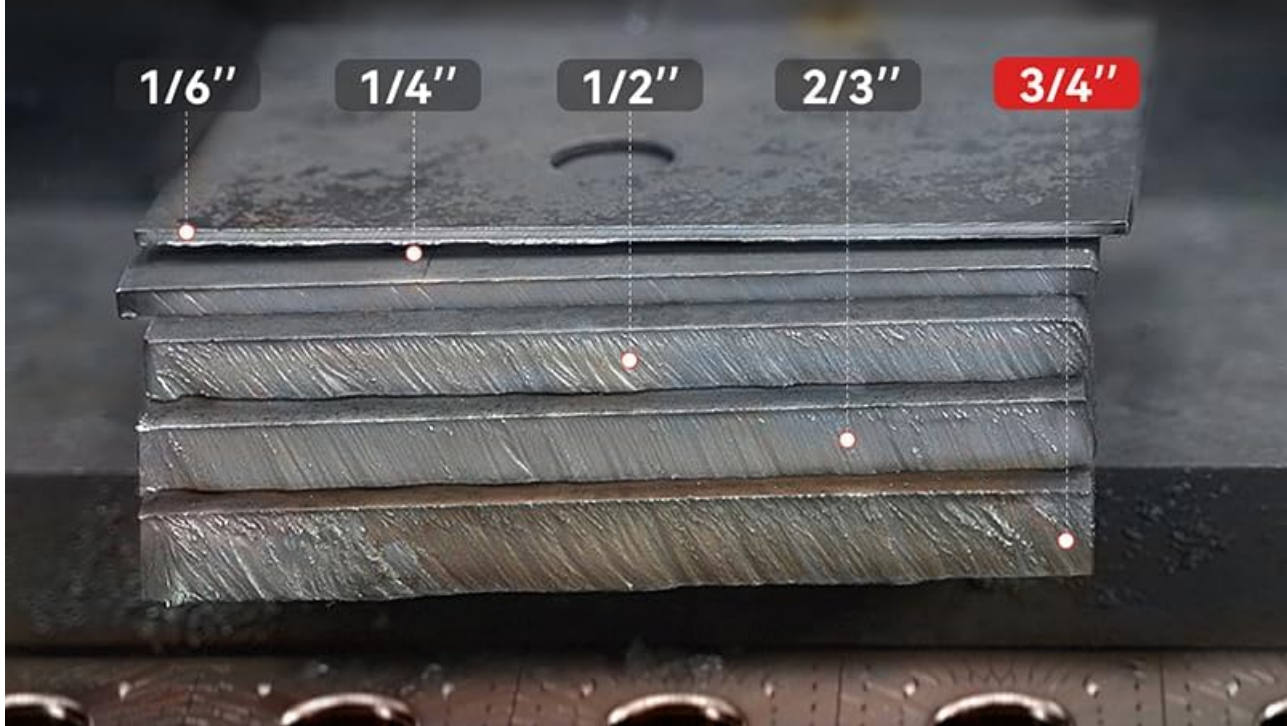


Image: A visual representation of various metal thicknesses (1/6", 1/4", 1/2", 2/3", 3/4") that the plasma cutter can handle, highlighting its excellent cutting performance.

2T/4T FUNCTION

Continuous Cutting Button-Activated Cutting



Image: Diagram illustrating the 2T/4T function, showing how the torch button can be used for either momentary (2T) or continuous (4T) cutting operations.

PHYSICAL PROTECTION ENSURES DURABILITY

Screen shields against sparks, spatter, scratches, and impacts from tools or debris.



Image: A view of the transparent protective screen over the control panel, designed to shield the display and controls from sparks, spatter, and physical impacts, ensuring durability.

4. COMPONENTS AND PANEL INTRODUCTION

Familiarize yourself with the main components and control panel of the CUT-50DS machine:

PANEL INTRODUCTION



1 GAS-ELECTRIC CONNECTOR	6 POWER CABLE
2 PILOT ARC	7 POWER SWITCH
3 TORCH SWITCH	8 RATING PLATE
4 EARTH CLAMP CONNECTOR	9 COOLING FAN
5 AIR COMPRESSOR FILTER	10 AIR PRESSURE ADJUSTMENT BUTTON

Image: Detailed diagram showing the front and rear panels of the CUT-50DS, with numbered labels indicating key components.

1. **Gas-Electric Connector:** Connection point for the cutting torch.
2. **Pilot Arc Indicator:** Light indicating pilot arc status.
3. **Torch Switch:** Connector for the torch trigger cable.
4. **Earth Clamp Connector:** Connection point for the ground clamp.
5. **Air Compressor Filter:** Filters incoming compressed air.
6. **Power Cable:** Main power input cable.
7. **Power Switch:** Turns the machine on/off.
8. **Rating Plate:** Contains machine specifications and serial number.
9. **Cooling Fan:** Provides cooling for internal components.
10. **Air Pressure Adjustment Button:** Knob to regulate air pressure.

5. SETUP

Follow these steps to set up your plasma cutting machine:

1. **Placement:** Place the machine on a stable, level surface, ensuring adequate ventilation around the unit.

2. **Power Connection:** Connect the power cable to a suitable 110V or 220V grounded power outlet, matching the machine's voltage setting.
3. **Air Compressor Connection:** Connect a clean, dry air compressor to the air inlet on the machine. Ensure the air filter is properly installed.
4. **Torch Connection:** Connect the plasma cutting torch to the Gas-Electric Connector (1) and the Torch Switch connector (3) on the front panel.
5. **Ground Clamp Connection:** Attach the earth clamp cable to the Earth Clamp Connector (4) on the front panel. Securely attach the ground clamp to the workpiece or work table, ensuring good electrical contact.
6. **Air Pressure Adjustment:** Turn on the air compressor and adjust the air pressure using the Air Pressure Adjustment Button (10) to the recommended PSI for your cutting application (e.g., 60 PSI for 16mm cutting).

6. OPERATING INSTRUCTIONS

Once the machine is set up, follow these steps for operation:

1. **Power On:** Turn on the Power Switch (7) on the rear panel. The digital display on the front panel will illuminate.
2. **Select Mode (2T/4T):**
 - **2T (Two-Touch):** Press and hold the torch trigger to start the arc; release to stop. Suitable for short cuts.
 - **4T (Four-Touch):** Press and release the torch trigger to start the arc; press and release again to stop. Ideal for long, continuous cuts.
3. **Adjust Current:** Use the current adjustment knob on the front panel to set the appropriate cutting current (Amps) based on the material type and thickness.
4. **Position Torch:** Position the torch nozzle approximately 1/8 inch to 1/4 inch above the workpiece for non-contact cutting.
5. **Initiate Arc:** Press the torch trigger. The pilot arc will initiate, followed by the main cutting arc when brought close to the workpiece.
6. **Perform Cut:** Move the torch steadily along the desired cutting line. Maintain a consistent speed and standoff distance for optimal cut quality.
7. **Monitor Cut Quality:** Observe the cut. A good cut will have minimal dross and a clean kerf. Adjust speed, current, or air pressure as needed.
8. **Power Off:** After cutting, release the torch trigger (2T) or press and release again (4T) to stop the arc. Turn off the machine using the Power Switch (7).

WELDING THICKNESS DISPLAY



CLEAN CUTTING 12MM

MAX CUTTING 16MM

Image: A side-by-side comparison of metal edges, illustrating the difference between a clean cut (12mm) and a maximum severance cut (16mm), demonstrating the machine's capability.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your plasma cutter:

- **Consumables Inspection:** Regularly inspect and replace worn-out torch consumables (nozzle, electrode, shield cup, swirl ring). Worn consumables degrade cut quality.
- **Air Filter Maintenance:** Check and drain the water from the air compressor filter (5) regularly. Replace the filter element if it becomes clogged or dirty.
- **Cleaning:** Keep the machine clean. Use compressed air to blow out dust and metal particles from the cooling fan (9) and internal components. Ensure the machine is unplugged before cleaning.
- **Cable Inspection:** Periodically check all cables (power, torch, ground) for damage, fraying, or loose connections. Repair or replace as necessary.
- **Storage:** Store the machine in a dry, clean environment when not in use.

8. TROUBLESHOOTING

This section addresses common issues you might encounter:

Problem	Possible Cause	Solution
No arc initiation	No power; poor ground connection; worn consumables; insufficient air pressure.	Check power supply; ensure ground clamp is secure; replace torch consumables; adjust air pressure.
Poor cut quality (excessive dross, rough cut)	Incorrect cutting speed; wrong current setting; worn consumables; incorrect air pressure.	Adjust cutting speed; set appropriate current for material; replace consumables; verify air pressure.
Machine shuts down during operation	Overheating (thermal overload); low input voltage.	Allow machine to cool down; ensure proper ventilation; check power supply voltage.
Air flows but no arc	Torch not connected properly; faulty torch switch; internal fault.	Check torch connections; test torch switch; contact customer support if issue persists.

9. SPECIFICATIONS

Key technical specifications for the ANDELI CUT-50DS Plasma Cutting Machine:

- **Model:** CUT-50DS
- **Manufacturer:** ANDELI
- **Input Voltage:** 110V/220V Dual Voltage
- **Maximum Cutting Thickness (Iron):** 30mm (Severance), 16mm (Max Clean Cut @ 220V, 50A, 60PSI), 12mm (Clean Cut)
- **Technology:** HF Pilot Arc
- **Functions:** 2T/4T
- **ASIN:** B09YV1RWN5
- **Date First Available:** April 26, 2022

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact ANDELI customer service directly. Refer to the product packaging or the official ANDELI website for contact details.
You can visit the [ANDELI Store on Amazon](#) for more information and product updates.

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