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› VECTOR WELDING ARC 160D Inverter Welder User Manual

VECTOR WELDING ARC 160D

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Model: ARC 160D

1. INTRODUCTION

Thank you for choosing the VECTOR WELDING ARC 160D Inverter Welder. This manual provides essential information for the safe and efficient operation, maintenance, and troubleshooting of your new welding machine. Please read this manual thoroughly before use and keep it for future reference.



Image 1.1: The VECTOR WELDING ARC 160D Inverter Welder in operation.

Safety Precautions

Always prioritize safety when operating welding equipment. Wear appropriate personal protective equipment (PPE) including a welding helmet, gloves, and protective clothing. Ensure adequate ventilation to avoid inhaling welding fumes. Disconnect power before performing any maintenance or adjustments.

2. WHAT'S IN THE BOX

Upon unpacking your VECTOR WELDING ARC 160D, please verify that all components are present and undamaged:

- 1 x ARC 160D Inverter Welder
- 1 x Ground Clamp with 2-meter Cable
- 1 x Electrode Holder with 2-meter Cable
- 1 x User Manual (this document)



Image 2.1: Contents of the ARC 160D package.

3. PRODUCT OVERVIEW

The ARC 160D is a portable MMA/ARC inverter welder featuring IGBT technology, an LED display, Hot Start, Arc Force, and Anti-Stick functions for stable and efficient welding.

3.1. Machine Panel Introduction

INTRODUCTION DU PAN-NEAU DE LA MACHINE

1. Affichage numérique LED haute définition.
2. Bouton d'ajustement actuel.
3. Bouton de sélection du diamètre de l'électrode.
4. Borne de sortie positive : connecter la pince de terre.
5. Borne de sortie négative : connecter le porte-électrode.
6. Câble d'alimentation d'entrée.
7. Interrupteur d'alimentation.
8. Ventilateur de refroidissement.



Image 3.1: Front and rear view of the ARC 160D machine panel.

1. Digital HD LED Display
2. Current Adjustment Knob
3. Electrode Diameter Selection Button
4. Positive Output Terminal (connect ground clamp)
5. Negative Output Terminal (connect electrode holder)
6. Input Power Cable
7. Power Switch
8. Cooling Fan

3.2. LED Display Panel Introduction



INTRODUCTION AU PAN-NEAU D'AFFICHAGE LEDDISPLAY

1. Indication de la tension d'entrée.
2. Indication du ventilateur de refroidissement.
3. Surchauffe et indication de défaut.
4. Sélection du diamètre de l'électrode.
5. Indication actuelle.
6. Indication du courant d'arc thermique.
7. Indication d'arc thermique.
8. Courant de poussée.

Image 3.2: Detailed view of the ARC 160D LED display.

1. Input Voltage Indication
2. Cooling Fan Indication
3. Overheat and Fault Indication
4. Electrode Diameter Selection
5. Current Indication
6. Thermal Arc Current Indication

- 7. Arc Current Indication
- 8. Thrust Current (Arc Force)

4. SETUP

Before operating the welder, ensure a safe and stable setup environment.

4.1. Power Connection

- Ensure the power switch (7) is in the OFF position.
- Connect the input power cable (6) to a suitable power outlet. The welder operates on DC power.
- Verify that the power supply matches the welder's requirements.

4.2. Cable Connections

- Connect the ground clamp cable to the positive output terminal (4). Securely attach the ground clamp to the workpiece or welding table.
- Connect the electrode holder cable to the negative output terminal (5). Insert the welding electrode into the electrode holder.
- Ensure all connections are tight and secure to prevent arcing and ensure proper current flow.

5. OPERATING INSTRUCTIONS

Follow these steps for safe and effective welding with your ARC 160D.

5.1. Power On and Initial Settings

- Turn on the power switch (7). The LED display (1) will illuminate.
- Use the electrode diameter selection button (3) to choose the appropriate electrode size for your task.
- Adjust the welding current using the current adjustment knob (2). The recommended current range for the selected electrode diameter will be displayed.

5.2. Welding Process

- **Hot Start:** The integrated Hot Start function provides an initial boost of current to facilitate easy arc ignition, especially with difficult-to-start electrodes.
- **Arc Force:** The adjustable Arc Force (Thrust Current, 8) helps maintain a stable arc and prevents the electrode from sticking by temporarily increasing the current when the arc length shortens. This reduces spatter and improves weld quality.
- **Anti-Stick:** If the electrode does stick to the workpiece, the Anti-Stick function automatically reduces the current to prevent overheating and allow for easy removal of the electrode.
- Maintain a consistent arc length and travel speed for optimal weld penetration and bead appearance.

5.3. Cooling and Overload Protection

- The multi-channel cooling system and cooling fan (8) work to dissipate heat efficiently, ensuring prolonged operation.
- In case of overload or overheating, the Overheat and Fault Indication (3) on the LED display will activate, and the machine

will temporarily shut down to prevent damage. Allow the machine to cool down before resuming operation.



Image 5.1: Key features of the ARC 160D welder.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your welder.

6.1. Cleaning

- Periodically clean the exterior of the machine with a dry, soft cloth.
- Use compressed air to gently clear dust and debris from the cooling vents (8) and internal components. Ensure the machine is unplugged before cleaning.
- Do not use liquid cleaners or solvents.

6.2. Cable and Connection Inspection

- Regularly inspect all cables (power, ground, electrode) for cuts, fraying, or damage. Replace damaged cables immediately.
- Check the terminals for corrosion or loose connections. Clean and tighten as necessary.

6.3. Storage

- Store the welder in a dry, dust-free environment when not in use.
- Protect the machine from extreme temperatures and humidity.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your ARC 160D welder.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Welder does not power on.	No power supply; Power switch off; Faulty cable.	Check power outlet; Ensure power switch is ON; Inspect and replace power cable if damaged.
Arc is difficult to strike.	Incorrect current setting; Damp electrode; Poor ground connection.	Adjust current; Use dry electrodes; Ensure good ground contact.
Electrode sticks frequently.	Low current setting; Incorrect arc length; Anti-Stick not functioning.	Increase current; Maintain proper arc length; If Anti-Stick fails, contact support.
Welder overheats and shuts down.	Prolonged use at high current; Blocked cooling vents; High ambient temperature.	Allow machine to cool; Clear cooling vents; Operate in a cooler environment.
Excessive spatter.	High current; Incorrect arc length; Insufficient Arc Force.	Reduce current; Adjust arc length; Increase Arc Force setting.

If the problem persists after attempting these solutions, please contact VECTOR WELDING customer support.

8. SPECIFICATIONS

Technical specifications for the VECTOR WELDING ARC 160D Inverter Welder.

Feature	Specification
Model Number	A1601D
Welding Type	MMA/ARC
Input Power Type	DC
Adjustable Current Range	10-160A
Technology	IGBT Inverter, MCU Control
Special Features	Hot Start, Arc Force, Anti-Stick, LED Display
Protection Class	IP23 (against dust and splashing water)
Dimensions (Package)	29 x 27 x 23 cm
Weight	3 kg

9. WARRANTY AND SUPPORT

9.1. Warranty Information

The VECTOR WELDING ARC 160D Inverter Welder is covered by a **5-year warranty** from the date of purchase. This warranty covers manufacturing defects and ensures the quality and durability of your product. Please retain your proof of purchase for warranty claims.

9.2. Customer Support

For any questions, technical assistance, or warranty claims, please contact VECTOR WELDING customer service. We offer lifetime customer service to ensure your satisfaction.

Contact information can typically be found on our official website or through your purchase platform.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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