Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

VEVOR CT-416

VEVOR CT-416 3-in-1 Plasma Cutter Welder Combo Instruction Manual

Model: CT-416

1. Introduction

This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your VEVOR CT-416 3-in-1 Plasma Cutter Welder Combo. This versatile machine integrates plasma cutting, TIG welding, and MMA (Stick) welding functions, offering a comprehensive solution for various metalworking tasks. Please read this manual thoroughly before operating the equipment.

2. Safety Information

WARNING: Welding and plasma cutting can be hazardous. Always follow safety precautions to prevent injury or death.

- **Personal Protective Equipment (PPE):** Always wear a welding helmet with appropriate shade, flame-resistant clothing, welding gloves, and safety shoes. Protect bystanders with welding screens.
- **Electrical Safety:** Ensure the machine is properly grounded. Do not operate in wet conditions. Inspect cables for damage before each use. Use the correct voltage (110V or 220V) and ensure the power supply can handle the machine's requirements.
- **Fume Hazards:** Ensure adequate ventilation to avoid inhaling welding fumes. Use a fume extractor if necessary.
- **Fire and Explosion:** Keep flammable materials away from the work area. Have a fire extinguisher readily available. Do not weld or cut on containers that have held flammable substances.
- **Arc Rays:** Arc rays can burn eyes and skin. Never look at the welding arc or plasma arc without proper eye protection.
- **Hot Parts:** Welding and cutting equipment and materials become extremely hot. Allow them to cool before handling.
- **Compressed Gas Cylinders:** Handle gas cylinders with care. Secure them properly to prevent tipping.
- **Non-Suitable Materials:** This machine is **NOT suitable for welding aluminum**.

3. Product Overview

The VEVOR CT-416 is a versatile 3-in-1 machine designed for plasma cutting, TIG welding, and MMA (Stick) welding. It features dual voltage capability (110V/220V) and advanced controls for precise operation.



Image: Front view of the VEVOR CT-416 3-in-1 Plasma Cutter Welder Combo.



Image: The VEVOR CT-416 machine demonstrating its three primary functions: plasma cutting, TIG welding, and MMA welding.

Key Features:

- **3-in-1 Functionality:** Plasma cutting (CUT), TIG welding, and MMA (Stick) welding.
- **Dual Voltage:** Operates on both 110V and 220V power supplies.
- **Non-Touch Pilot Arc:** For efficient cutting through rough or rusty surfaces without direct contact.
- **Digital Display:** Clear LED display for easy parameter adjustment and monitoring.
- **Advanced Controls:** Supports 2T/4T modes and PA/PT controls for enhanced flexibility and precision.

- **Safety Protections:** Built-in overheat, overload, and anti-static protection.



Image: The VEVOR CT-416 machine highlighting its multiple protection features.

4. Included Components

Verify that all components listed below are included in your package.



Image: All included accessories laid out next to the VEVOR CT-416 machine.

- 1 x 110V–220V Adapter
- 1 x 2.5m + 0.4m Air Hose for Cutting
- 1 x 2m Air Hose for TIG Function
- 1 x 2m Electrode Holder (for MMA)
- 1 x 2m Grounding Clamp
- 1 x 3m TIG Welding Torch WP-17
- 1 x 4m Plasma Cutting Torch AG-60
- 1 x Air Pressure Regulator
- 1 x Steel Wire Brush
- 1 x Welding Mask (basic)
- 2 x Gas Connectors
- 6 x Hose Clamps

5. Setup Instructions

5.1 Power Connection

1. Ensure the machine's power switch is OFF.
2. Connect the appropriate power cord (110V or 220V) to the machine. Use the provided adapter for 110V if necessary.
3. Plug the power cord into a suitable, grounded electrical outlet.

5.2 Air Compressor Connection (for Plasma Cutting & TIG)

1. Attach the air pressure regulator to the machine's air inlet.
2. Connect the air hose from your air compressor to the air pressure regulator.
3. Ensure all connections are secure and leak-free.
4. Adjust the air pressure regulator to the recommended cutting air pressure: 58-87 PSI (0.4-0.6 MPa).

5.3 Torch and Clamp Connections

1. **Grounding Clamp:** Connect the grounding clamp cable to the designated terminal on the machine. Secure the clamp to the workpiece or work table, ensuring good electrical contact.
2. **Plasma Cutting Torch (AG-60):** Connect the plasma torch to the "CUT" output terminal. Connect the air hose for cutting to the torch.
3. **TIG Welding Torch (WP-17):** Connect the TIG torch to the appropriate TIG terminal. Connect the air hose for TIG function to the torch.
4. **MMA Electrode Holder:** Connect the electrode holder cable to the positive (+) terminal for most electrodes, or negative (-) depending on electrode type and desired polarity.

6. Operating Instructions

Always wear appropriate PPE before operating the machine.



Image: The digital display and control knobs on the VEVOR CT-416, showing current settings.

6.1 General Operation Steps

1. Ensure all connections are secure and correct for the desired function (CUT, TIG, or MMA).
2. Turn on the main power switch of the machine.
3. Select the desired function (CUT, TIG, or MMA) using the mode selection switch.
4. Adjust the current (Amperage) and other parameters (e.g., 2T/4T, PA/PT for TIG) using the control knobs and buttons on the digital display.

5. Perform a test run on scrap material to verify settings before working on your main project.

6.2 Plasma Cutting (CUT)

- Ensure the plasma torch and air hose are correctly connected.
- Set the air pressure regulator to 58-87 PSI (0.4-0.6 MPa).
- Select CUT mode.
- Adjust cutting current based on material type and thickness.
- The non-touch pilot arc allows cutting without direct contact with the workpiece. Maintain a small standoff distance.
- **Cutting Capacity:**
  - 110V: Clean cut up to 8 mm (0.3 inch), Max cut up to 10 mm (0.4 inch).
  - 220V: Clean cut up to 10 mm (0.4 inch), Max cut up to 15 mm (0.6 inch).





Image: A user operating the plasma cutting function on a metal workpiece.



Image: Visual representation of cutting thickness capabilities at 110V and 220V.



Image: Various metal materials such as low carbon steel, square tube, cast iron, stainless steel pipe, and metal sheet, indicating suitability for cutting.

6.3 TIG Welding

- Ensure the TIG torch and gas connections are correct.
- Connect a shielding gas cylinder (e.g., Argon) to the machine's gas inlet.
- Select TIG mode.
- Adjust welding current and other TIG-specific parameters (e.g., pre-flow, post-flow, slope settings).

- Utilize 2T/4T modes for torch trigger control:
  - **2T (Two-Touch):** Press and hold the trigger to start welding, release to stop.
  - **4T (Four-Touch):** Press and release to start, press and release again to stop. Useful for long welds.
- PA/PT controls offer additional precision for specific welding tasks.

6.4 MMA (Stick) Welding

- Connect the electrode holder and grounding clamp.
- Insert the appropriate welding electrode into the holder.
- Select MMA mode.
- Adjust welding current according to the electrode type and material thickness.
- Strike the arc by lightly touching the electrode to the workpiece and quickly lifting it slightly.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your VEVOR CT-416. Always disconnect power before performing any maintenance.

- **Cleaning:** Periodically clean the machine's exterior with a dry cloth. Use compressed air to blow out dust and debris from inside the machine, especially the cooling vents.
- **Torch and Cable Inspection:** Regularly inspect all torches, cables, and connections for wear, cuts, or damage. Replace damaged parts immediately.
- **Consumables:** Check and replace plasma torch consumables (electrodes, nozzles, swirl rings) and TIG torch consumables (collets, collet bodies, tungsten electrodes) as needed.
- **Air Filter:** If your air pressure regulator has a filter, clean or replace it regularly to ensure clean air supply.
- **Storage:** Store the machine in a clean, dry environment when not in use.

8. Troubleshooting

Refer to this section for common issues and their solutions. For problems not listed, contact VEVOR customer support.

Problem	Possible Cause	Solution
Machine does not power on.	No power supply; loose power cord; tripped circuit breaker.	Check power connection, wall outlet, and circuit breaker. Ensure power switch is ON.
No arc in CUT/TIG/MMA mode.	Poor ground connection; incorrect torch connection; wrong mode selected; worn consumables.	Ensure ground clamp has good contact. Verify torch connections. Select correct mode. Replace torch consumables.
Poor cutting quality (Plasma).	Incorrect air pressure; worn plasma consumables; too fast/slow travel speed; incorrect current setting.	Adjust air pressure to 58-87 PSI. Replace plasma consumables. Adjust travel speed and current.
Overheat indicator active.	Exceeded duty cycle; blocked cooling vents; high ambient temperature.	Allow machine to cool down. Ensure proper ventilation. Reduce duty cycle.

9. Specifications

Feature	Detail
Model Number	CT-416
Functions	Plasma Cutting (CUT), TIG Welding, MMA (Stick) Welding
Input Voltage	110V/220V Dual Voltage
Plasma Cutting Current	Max 50A (at 220V)
TIG Welding Current	Max 200A (at 220V)
MMA Welding Current	Max 200A (at 220V)
Clean Cut (110V)	Up to 8 mm (0.3 inch)
Max Cut (110V)	Up to 10 mm (0.4 inch)
Clean Cut (220V)	Up to 10 mm (0.4 inch)
Max Cut (220V)	Up to 15 mm (0.6 inch)
Cutting Air Pressure	58-87 PSI (0.4-0.6 MPa)
Dimensions	15.35 x 6.69 x 10.24 inches
Item Weight	25.8 pounds

10. Warranty and Support

For warranty information, technical support, or service inquiries, please contact VEVOR customer service. Keep your purchase receipt and model number (CT-416) handy when contacting support.
Manufacturer: VEVOR

© 2026 VEVOR. All rights reserved.

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.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

https://manuals.plus/asin/B0G38M6F1W

More documents and user manuals: **https://manuals.plus/**