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› [ARCCAPTAIN](#) /

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ARCCAPTAIN Plasma Cutter CUT 50 Instruction Manual

Model: CUT50 | Brand: ARCCAPTAIN

[Large LED Display] 50Amps Cutter Machine with 110/220V Dual Voltage DC Inverter IGBT 1/2 Inch Clean Cut Post Flow and 2T/4T, for Beginners DIY

1. IMPORTANT SAFETY INFORMATION

Always read and understand all safety warnings and instructions before operating the ARCCAPTAIN Plasma Cutter. Failure to follow these warnings may result in electric shock, fire, serious injury, or death.

- **Electric Shock:** Welding and plasma cutting can be hazardous. Do not touch live electrical parts. Wear dry insulating gloves and protective clothing.
- **Fumes and Gases:** Keep your head out of the fumes. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone.
- **Arc Rays:** Wear a welding helmet with a proper shade number to protect your eyes and face. Wear safety glasses with side shields under your helmet.
- **Fire and Explosion:** Remove all flammables from the cutting area. Have a fire extinguisher nearby.
- **Noise:** Wear ear protection.
- **Hot Parts:** Allow hot parts to cool before handling.
- **Compressed Air:** Ensure compressed air supply is clean, dry, and within specified pressure limits.

This product has passed 300+ authoritative laboratory tests, including vibration, drop, waterproof, metal dust, prolonged load, conducted interference, high-low temperature, water spray, and transportation simulation tests, ensuring reliable quality and safety.



Image: The ARCCAPTAIN Plasma Cutter undergoing rigorous testing, including vibration, drop, waterproof, and metal dust tests, highlighting its robust construction and adherence to safety standards.

2. SETUP GUIDE

The ARCCAPTAIN CUT 50 Plasma Cutter features a plug-and-play design with a built-in air regulator for quick setup.

2.1 Unboxing and Components

- 1x ARCCAPTAIN Plasma Cutter (CUT50)
- 1x 16FT Cutting Torch (PT31)
- 1x 10FT Earth Clamp
- 1x 10FT Air Hose
- 1x 220V to 110V Power Adapter
- 1x Interface Protective Cover
- 1x Electrode
- 1x Nozzle
- 2x Hose Clamps
- 1x User Manual
- 1x Shoulder Strap



Image: The ARCCAPTAIN Plasma Cutter with all its accessories laid out, including the cutting torch, earth clamp, air hose, power adapter, and consumables.

2.2 Connecting the Torch and Earth Clamp

1. **Torch Assembly:** Ensure the electrode, nozzle, and protective cover are correctly assembled on the PT31 cutting torch.
2. **Torch Connection:** Insert the torch connector into the designated port on the front panel of the plasma cutter and twist to secure.
3. **Earth Clamp Connection:** Connect the earth clamp cable to the corresponding port on the front panel.



Image: Detailed view of the PT31 cutting torch components: interface protective cover, hose clamp, electrode, and nozzle.

CUT55 PRO



Image: The torch connector and earth clamp being securely attached to the front panel of the ARCCAPTAIN Plasma Cutter.

2.3 Air Supply Connection

The CUT 50 has a built-in air regulator. Connect the provided air hose to the air inlet on the back of the unit. Ensure the air hose is inserted into the deepest point and secured with a hose clamp. The unit requires compressed air (compressor sold separately) with a recommended flow rate of 150L/min (5.3CFM) and air pressure of 0.4mpa-0.6mpa (57.5psi).

PRE-INSTALLED AIR REGULATOR

No installation required



NOTE: Requires compressed air (compressor sold separately)

Image: A close-up of the pre-installed air regulator on the ARCCAPTAIN Plasma Cutter, showing the air inlet and pressure gauge.

2.4 Power Connection

The plasma cutter supports dual voltage (110V/220V). Use the appropriate power cord or the included 220V to 110V adapter. **IMPORTANT:** Do not switch voltages until the screen turns off and the fan stops.

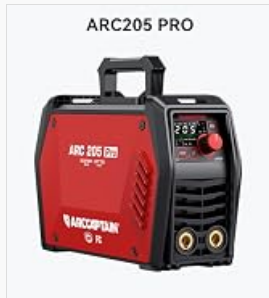


Image: The 110V/220V power adapter and air hose, essential for connecting the plasma cutter to power and air supply.

2.5 Video Guide: Installation & Setup

For a visual guide on setting up your ARCCAPTAIN Plasma Cutter, watch the official installation video:

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Video: Official ARCCAPTAIN "Installation & Setup Guide for CUT50 Plasma Cutter" demonstrating the unboxing, component assembly, and initial setup steps.

3. OPERATING INSTRUCTIONS

The ARCCAPTAIN CUT 50 Plasma Cutter is designed for efficient and precise cutting of various metals.

3.1 Panel Introduction



Image: An annotated diagram showing the control knob, LED display, 2T/4T mode adjust, current/post gas settings, earth clamp, torch switch, cutting torch, air filter, cooling fan, power cable, and power switch.

3.2 Adjusting Settings

The large LED display makes it easy to adjust and view real-time data without removing your safety helmet.

- **Current Adjustment:** Use the control knob to set the desired amperage (20-35A at 110V, 20-50A at 220V).
- **Post-Flow Cooling:** Customize post-flow cooling time (5-15s) to extend the service life of consumables. A recommended cooling time is 4-8 seconds.
- **2T/4T Modes:** Switch between 2T (trigger-on/off) and 4T (latch-on/off) modes for seamless operation. 4T mode is ideal for extended use as it frees your fingers.

RELIABLE QUALITY

300+ world-class safety test



Vibration test



Drop test



Waterproof test



Metal dust test

Image: The large LED screen of the plasma cutter displaying voltage, current, and post-gas settings for easy monitoring and adjustment.

3.3 Cutting Performance

The CUT 50 offers powerful cutting ability with advanced IGBT technology.

- **Clean Cut:** Achieves professional 1/2" clean cuts on steel, aluminum, and copper.
- **Maximum Cut:** Up to 12mm (1/2") @ 35A 110V, 50PSI; 18mm (2/3") @ 50A 220V, 60 PSI.

POWERFUL CUT ABILITY

Unleashing precision and efficiency in every cut



Image: Visual comparison of clean cut (3/10" @110V, 1/2" @220V) and max cut (1/2" @110V, 2/3" @220V) on metal plates.

3.4 Cutting Parameter Chart

Recommended Cutting Parameters

Material	Thickness (inch)	Optimum Cut Speed (IPM)	Optimum Cut Speed (mm/min)
Mild Steel (110V, 35A, 55PSI)	0.02	295	7500
	0.04	270	6850
	0.06	217	5500
	0.08	177	4500
	0.10	115	2920
	0.12	63	1600
	0.06	274	6970

Material	Thickness (inch)	Optimum Cut Speed (IPM)	Optimum Cut Speed (mm/min)
Mild Steel (220V, 50A, 60PSI)	0.08	249	6335
	0.1	184	4640
	0.12	132	3360
	0.16	79	2015
	0.24	47	1200
Stainless Steel (110V, 35A, 55PSI)	0.02	260	6600
	0.04	234	5950
	0.06	181	4600
	0.08	142	3600
	0.10	80	2020
	0.12	28	700
Stainless Steel (220V, 50A, 60PSI)	0.06	194	6970
	0.08	150	6335
	0.1	114	4640
	0.12	94	3360
	0.16	75	2015
	0.24	39	1200
Aluminum (110V, 35A, 55PSI)	0.02	264	6700
	0.04	238	6050
	0.06	185	4700
	0.08	146	3700
	0.10	83	2120
	0.12	31	800
Aluminum (220V, 50A, 60PSI)	0.06	274	5050
	0.08	249	3900
	0.1	184	3000
	0.12	132	2500
	0.16	79	2000
	0.24	47	1000

Table: Recommended cutting parameters for various materials and thicknesses at different voltage and amperage settings.

3.5 Video Guide: Operation Demonstration

See the plasma cutter in action and learn how to adjust settings for optimal performance:

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Video: Official ARCCAPTAIN video demonstrating the plasma cutter's features, including the LED display, 2T/4T function, and cutting various materials.

4. MAINTENANCE

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

- **Consumables:** Regularly inspect and replace the torch electrode and nozzle as they wear out. The post-flow cooling feature helps extend their lifespan.
- **Air Filter:** Periodically check and clean the built-in air filter to ensure a clean and dry air supply, which is crucial for cut quality and consumable life.
- **General Cleaning:** Keep the unit clean and free from metal dust and debris. Use a dry cloth to wipe down surfaces.
- **Storage:** Store the plasma cutter in a dry, clean environment when not in use.

5. TROUBLESHOOTING

If you encounter issues with your ARCCAPTAIN Plasma Cutter, refer to the following common troubleshooting steps:

- **Error Codes:** The LED screen displays error codes if the plasma cutter cannot work, making it easy to identify problems. Consult the user manual for specific error code meanings.
- **No Arc/Weak Arc:**
 - Check power supply voltage and amperage settings.
 - Ensure earth clamp is securely connected to the workpiece and has good contact.
 - Verify air pressure is within the recommended range (0.4mpa-0.6mpa / 57.5psi).
 - Inspect torch consumables (electrode, nozzle) for wear and replace if necessary.
- **Poor Cut Quality:**
 - Adjust cutting speed according to the material thickness (refer to cutting parameter chart).
 - Check air pressure and ensure the air filter is clean and dry.
 - Replace worn torch consumables.
- **Overheating Protection:** The unit has over-heating protection. If it stops working due to overheating, allow it to cool down. The fan will continue to run until the unit is sufficiently cooled.

6. SPECIFICATIONS

Feature	Detail
Manufacturer	ARCCAPTAIN

Feature	Detail
Model Number	CUT50
Item Weight	13 pounds
Product Dimensions	13 x 6 x 8 inches
Country of Origin	China
Style	CUT 50 110V/220V
Material	Iron
Power Source	DC
Voltage	110/220 Volts (DC)
Amperage Capacity	50 Amps
Maximum Power	11000 Watts
Air Flow Capacity	150 LPM
Sound Level	60 dB
Hose Length	3 Feet
Special Features	Portable, Built-in regulator and gauge, Set up within 1 min, Easy to use, Powerful performance
Included Components	Filters
Date First Available	July 2, 2022

7. WARRANTY AND SUPPORT

For detailed warranty information and customer support, please refer to the official ARCCAPTAIN user manual or contact ARCCAPTAIN directly.

- **User Manual (PDF):** [Download User Manual](#)
- **Protection Plans:** Additional protection plans are available for purchase, including 3-Year and 4-Year plans.
- **Manufacturer Support:** Contact ARCCAPTAIN for any technical assistance or service inquiries.

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