

## GZ GUOZHI CUT-55NHF

# GZ GUOZHI CNC Plasma Cutter CUT-55NHF User Manual

Model: CUT-55NHF | Brand: GZ GUOZHI

## 1. INTRODUCTION

This user manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your GZ GUOZHI CUT-55NHF CNC Plasma Cutter. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent injury or damage.

The GZ GUOZHI CUT-55NHF is a 55 Amp Non-HF Non-Touch Pilot Arc plasma cutter, enabled for THC (Torch Height Control), and features dual voltage compatibility (110V/220V). It is designed for precise and efficient cutting of various metal materials.

## 2. SAFETY INFORMATION

**WARNING: Plasma cutting involves high voltage, high temperatures, and intense light. Always follow safety precautions to prevent serious injury or death.**

- Always wear appropriate personal protective equipment (PPE), including a welding helmet with proper shade, flame-resistant clothing, welding gloves, and safety shoes.
- Ensure the work area is well-ventilated to disperse fumes and gases produced during cutting.
- Keep flammable materials away from the cutting area.
- Ensure proper grounding of the equipment.
- Do not operate the machine in wet conditions or near water.
- Disconnect power before performing any maintenance or adjustments.
- Only qualified personnel should operate and maintain this equipment.

## 3. PACKAGE CONTENTS

Upon unpacking, verify that all items listed below are included and undamaged. If any items are missing or

damaged, contact your supplier immediately.



Image: GZ GUOZHI CUT-55NHF Plasma Cutter with all included accessories laid out.

- 1 x GZ GUOZHI CUT-55NHF Plasma Cutter Machine
- 1 x NS65 13-Foot Plasma Cutter Gun
- 1 x Earth Clamp (500A)
- 1 x 220V-100V Adapter
- Gun Accessories (electrodes, nozzles, shield cups, swirl rings)
- 1 x User Manual (this document)

## 4. PRODUCT FEATURES AND COMPONENTS

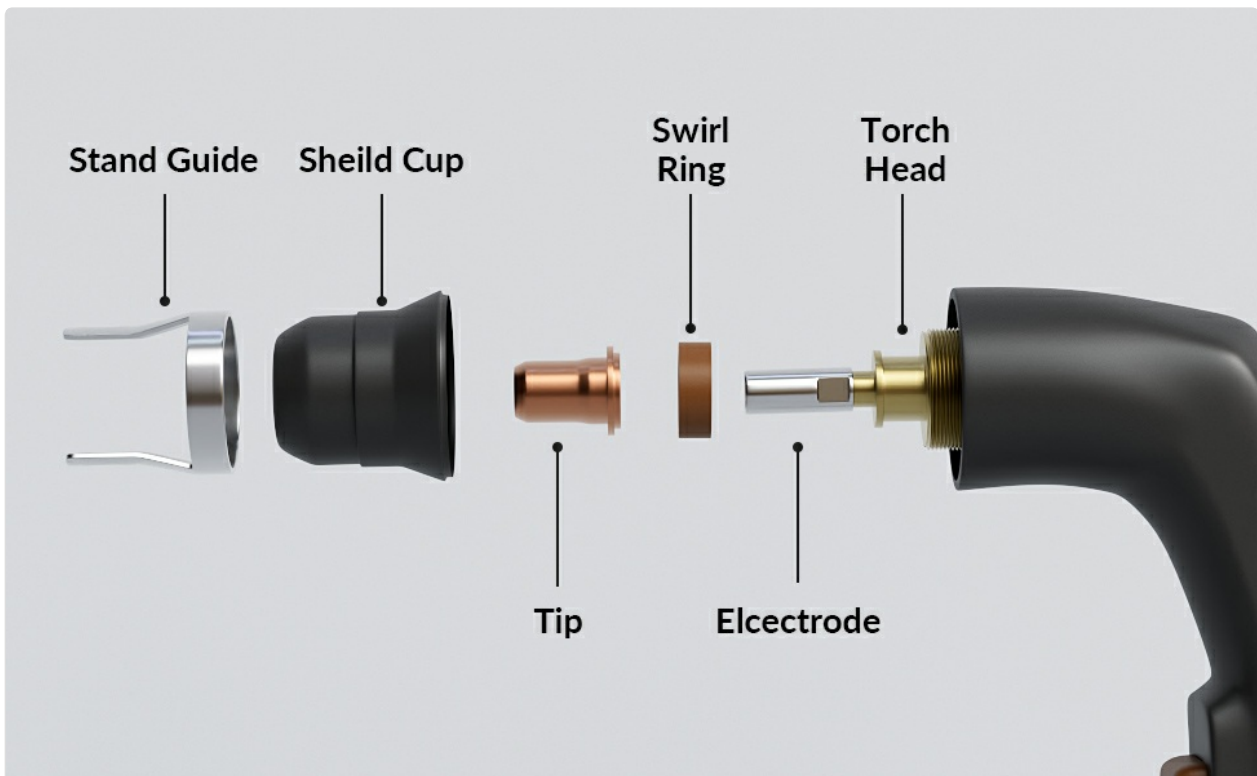
The CUT-55NHF plasma cutter incorporates advanced technology for superior performance and user safety.

### 4.1 Key Features

- **Non-HF Pilot Arc Non-Touch Plasma Cutting:** Provides stable arc ignition without high frequency interference, enhancing safety and cutting quality.

- **Advanced Technology:** Operates effectively even at -20°C. Offers high cutting speed and smooth cutting sections, reducing post-cut finishing.
- **Dual Voltage Compatibility:** Automatic conversion between 115V and 230V, accommodating various power sources and voltage fluctuations. Current adjustable from 20A-55A.
- **Safety Functions:** Equipped with automatic drainage, over-heating, and over-current protection for enhanced reliability and user safety.
- **Built-in Air Filter and Pressure Regulator:** Simplifies setup and ensures clean, regulated air supply for optimal cutting performance.
- **THC (Torch Height Control) Enabled:** Compatible with external THC systems for automated cutting applications.

## 4.2 Front and Rear Panel Overview



*Image: Detailed view of the plasma cutter's control panel and rear connections.*

1. Protection/Work/Overheating Indicator
2. Air Regulator
3. Amperage Control Knob
4. Air pressure gauge
5. 2T/4T Mode Selector
6. Air-check/Cutting Mode Selector
7. Plasma Torch Connection
8. Earth Clamp Output Connection
9. Power Input Cable
10. ON/OFF Power Switch
11. Air Supply Connection
12. Air Filter
13. Cooling Fan
14. ARC Voltage Output (for THC)

### 4.3 Plasma Torch Components (NS65)



Image: Breakdown of the NS65 plasma torch showing its individual parts.

- Torch Head
- Electrode
- Tip
- Swirl Ring
- Shield Cup
- Stand Guide

## 5. SETUP INSTRUCTIONS

The CUT-55NHF is designed for quick and easy setup.

1. **Power Connection:** Connect the power input cable (9) to a suitable 115V or 230V power outlet. The machine automatically detects the voltage.
2. **Air Compressor Connection:** Connect your air compressor to the MNPT 1/4 inch industrial D-type coupler (11) on the rear panel. The built-in air filter (12) and pressure regulator (2) simplify this process, requiring no additional installation. Ensure a secure, leak-free connection.
3. **Plasma Torch Connection:** Connect the NS65 plasma cutter gun to the Plasma Torch Connection (7) on the front panel.
4. **Earth Clamp Connection:** Connect the Earth Clamp (500A) to the Output Connection (8) on the front panel. Securely attach the earth clamp to the workpiece or cutting table to ensure a good electrical connection.
5. **CNC Connection (Optional):** If using with a CNC cutting table, connect the ARC Voltage Output (14) and Signal Control (15) ports on the rear panel to your CNC system. Refer to your CNC system's manual for specific wiring details.

# Built-in Air Filter and Pressure Regulator

No complicated installation



Image: Quick connection for air supply, highlighting the built-in air filter and regulator.

# CNC CONNECTING



## ARC VOLTAGE OUTPUT

pin 1+ , pin 2- , ratio 1:1



## SIGNAL CONTROL

1/2 Start control signal input  
3/4 ARC starting signal output

Image: Rear panel connections for CNC integration, including ARC Voltage Output and Signal Control.

## 6. OPERATING INSTRUCTIONS

Familiarize yourself with the controls and settings before beginning any cutting operation.

### 6.1 Basic Operation

1. **Turn On:** Flip the ON/OFF Power Switch (10) to the 'ON' position. The digital display will illuminate.
2. **Set Air Pressure:** Adjust the Air Regulator (2) to the recommended pressure for your cutting application. Monitor the Air pressure gauge (4).
3. **Select Mode (2T/4T):** Use the 2T/4T Mode Selector (5) to choose between 2-Touch (manual trigger hold) or 4-Touch (trigger press to start, press again to stop) operation. The 'TEST' function can be used to check air flow without arc ignition.
4. **Adjust Amperage:** Use the Amperage Control Knob (3) to set the desired cutting current (20A-55A) based on the material type and thickness.
5. **Initiate Cut:** Position the plasma torch over the workpiece. Press the torch trigger to initiate the pilot arc and begin cutting. The Non-HF Pilot Arc allows for non-touch starting, extending consumable life.

## 6.2 Cutting Performance

The CUT-55NHF offers excellent cutting performance across various metal types, including stainless steel, alloy steel, mild steel, copper, and aluminum.



*Image: Visual representation of cutting capabilities for clean and severance cuts.*

**Maximum Cutting Thickness:** Up to 6/5 inches (1.2 inches).

**Ideal Clean Cutting Thickness:** Up to 1 inch.

Performance varies with voltage:



Image: Cutting thickness comparison between 110V and 220V operation.

- **110V:** Clean Cutting up to 2/5 inch, Max Severance Cutting up to 3/5 inch.
- **220V:** Clean Cutting up to 4/5 inch, Max Severance Cutting up to 7/5 inch.



Image: Non-touch pilot arc plasma cutting in progress, showing the arc and sparks.

## 7. MAINTENANCE

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

- **Air Filter Drainage:** The machine features an automatic drainage function for the air filter. Periodically

check the filter bowl and ensure it drains properly to prevent moisture buildup.

- **Consumable Inspection:** Regularly inspect the plasma torch consumables (electrode, tip, swirl ring, shield cup) for wear. Replace them when they show signs of degradation to maintain cut quality and prevent damage to the torch.
- **Cleaning:** Keep the machine and torch clean from dust, metal particles, and debris. Use compressed air to blow out internal components if necessary, ensuring the machine is unplugged.
- **Cable Inspection:** Check all cables and connections for damage, fraying, or loose connections before each use.
- **Cooling Fan:** Ensure the cooling fan (13) is free from obstructions to allow for proper airflow and prevent overheating.

## 8. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
No Arc / Arc not starting	No power supply Poor earth clamp connection Worn consumables Insufficient air pressure	Check power connection and circuit breaker. Ensure earth clamp is securely attached to clean metal. Replace electrode and tip. Adjust air pressure to recommended level.
Poor Cut Quality / Rough Cut	Incorrect amperage setting Worn consumables Improper cutting speed Contaminated air supply	Adjust amperage according to material thickness. Replace consumables. Adjust cutting speed. Check air filter and ensure it's draining properly.
Overheating Indicator On	Exceeded duty cycle Blocked cooling fan	Allow machine to cool down. Clear any obstructions from the cooling fan.

If the problem persists after attempting these solutions, please contact GZ GUOZHI customer support.

## 9. SPECIFICATIONS

Attribute	Value
Manufacturer	GZ GUOZHI
Part Number	CUT-55NHF
Item Weight	33.5 pounds
Package Dimensions	21 x 14.12 x 13 inches
Item Model Number	CUT-55NHF
Color	Cut-55nhf

Attribute	Value
Style	55A Non High Frequency
Batteries Included?	No
Batteries Required?	No
ASIN	B0BFKYQLY1
Date First Available	September 17, 2022

## 10. WARRANTY AND SUPPORT

GZ GUOZHI stands behind the quality of its products.



*Image: GZ GUOZHI 12-Month Warranty and Customer Service Information.*

Any machine purchased from the GZ GUOZHI store is covered by a **12-month warranty** (excluding accessories). If the machine is damaged by non-human factors within 12 months of purchase, please contact GZ GUOZHI customer support through the Amazon channel or email. The GZ GUOZHI after-sales team is committed to resolving your problem as soon as possible.

For support, please visit the official GZ GUOZHI store on Amazon or contact their customer service directly.

[Visit GZ GUOZHI Store](#)