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FEIFANKE FKC-550H

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Model: FKC-550H

1. INTRODUCTION

This manual provides essential information for the safe and effective operation, setup, and maintenance of your FEIFANKE FKC-550H 55A Pilot Arc Plasma Cutter. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent injury or damage.

The FKC-550H is a 55A plasma cutter featuring non-contact high-frequency pilot arc ignition, IGBT technology, and 2T/4T cutting modes. It is designed for cutting various conductive metals including steel, stainless steel, aluminum, copper, brass, and titanium, with a maximum cutting thickness of 20mm.

FKC550H

Pilot Arc Plasma Cutter

- 55 Amp Dual Voltage 220V
- High Frequency & Non-Touch
- Pilot Arc and Post Flow Time Adjustable
- 2T/4T Release Your Finger



Image 1.1: The FEIFANKE FKC-550H Plasma Cutter in operation, highlighting its pilot arc capability.

2. SAFETY INSTRUCTIONS

Always prioritize safety when operating plasma cutting equipment. Failure to follow these instructions can result in serious injury or death.

- **Electric Shock:** Plasma cutters use high voltage. Ensure the machine is properly grounded. Never operate in wet conditions. Wear dry gloves and protective clothing.
- **Fumes and Gases:** Cutting metals produces fumes and gases that can be hazardous. Operate in a well-ventilated area or use a fume extractor. Avoid breathing fumes.
- **Arc Rays:** The plasma arc emits intense ultraviolet (UV) and infrared (IR) rays that can burn eyes and skin.

Always wear a welding helmet with appropriate shade, protective clothing, and gloves.

- **Fire and Explosions:** Sparks and hot metal can cause fires. Keep flammable materials away from the cutting area. Have a fire extinguisher readily available.
- **Hot Parts:** The torch and workpiece will become extremely hot. Allow them to cool before handling.
- **Noise:** Plasma cutting can be noisy. Wear hearing protection.
- **Compressed Air:** Ensure your air compressor is properly maintained and delivers clean, dry air within the recommended pressure range.

3. PACKAGE CONTENTS

Upon unpacking, verify that all items listed below are present and undamaged. If any items are missing or damaged, contact your supplier immediately.

- 1 x FEIFANKE FKC-550H Plasma Cutter
- 1 x Ground Clamp
- 1 x AG60 Cutting Torch (5m)
- 1 x Air Filter Regulator
- 1 x Gas Hose (2m)
- 1 x Ceramic Nozzle
- 2 x Nozzles
- 2 x Electrodes



Image 3.1: Visual representation of the FK500H plasma cutter and its included accessories.

4. SETUP

Follow these steps to set up your plasma cutter before operation.

- 1. Connect Air Filter:** Attach the air filter regulator to the rear of the machine. Ensure a secure connection to prevent air leaks. Connect the gas hose from your air compressor to the air filter inlet. The recommended air pressure range is 35 to 50 PSI.

Air Filter

Remove water, oil and debris from the air supply for better cut quality



Image 4.1: The air filter assembly, designed to remove water, oil, and debris from the air supply for improved cut quality.

2. **Connect Ground Clamp:** Securely attach the ground clamp to the workpiece. Ensure good electrical contact for safe and effective cutting.
3. **Connect Cutting Torch:** Connect the AG60 cutting torch to the designated port on the front panel of the plasma cutter.
4. **Power Connection:** Connect the plasma cutter to a suitable power supply. The machine features automatic input voltage detection.

5. OPERATING INSTRUCTIONS

Familiarize yourself with the control panel and cutting modes before beginning any cutting operations.

5.1 Control Panel Overview

Clear LED Digital Display

- ① Airflow / Pressure Display
- ② Gas Test / Cutting Function
- ③ Current Display
- ④ Rotate to Adjust Current
Press to Set Post Flow Time
- ⑤ 2T/4T Mode



Image 5.1: Detailed view of the digital display and control interface.

- **Airflow / Pressure Display:** Shows the current air pressure in PSI.
- **Gas Test / Cutting Function:** Indicates whether the machine is in gas test mode or cutting mode.
- **Current Display:** Shows the current amperage setting.
- **Current Adjustment Knob:** Rotate to adjust the cutting current.
- **Post Flow Time Setting:** Press to set the post-flow time.
- **2T/4T Mode Selector:** Switch between 2T (semi-automatic) and 4T (automatic) cutting modes.

5.2 Pilot Arc Ignition

The FKC-550H features a non-contact high-frequency pilot arc ignition. This allows cutting on surfaces with dirt, rust,

or coatings without needing the torch head to touch the metal plate, reducing electrode wear.

5.3 2T/4T Cutting Modes

Select the appropriate cutting mode based on your application to reduce finger fatigue during extended cutting operations.

- **2T (Two-Touch) Mode:** Press and hold the torch trigger to cut. Release the trigger to stop cutting. This is suitable for short cuts.
- **4T (Four-Touch) Mode:** Press and release the torch trigger to start cutting. Press and release the trigger again to stop cutting. This mode is ideal for long cuts as it does not require continuous trigger holding.



Image 5.2: Illustration of the 2T and 4T torch trigger operation for different cutting scenarios.

5.4 Post Flow Time Adjustment

The post-flow function allows gas to continue flowing after the arc stops, cooling the torch and extending the lifespan of consumables. The post-flow time is adjustable from 5 to 20 seconds. A cooling time of 5 to 8 seconds is generally recommended.



Image 5.3: The plasma cutter demonstrating the post-flow function, where gas continues to flow after cutting to cool the torch and workpiece.

5.5 Cutting Thickness

The FK550H is capable of cutting various thicknesses of metal. For optimal results, adjust the current and travel speed according to the material and thickness.

- **Clean Cut:** Up to 10mm (3/8 inch) for precise, smooth cuts.
- **Maximum Cut:** Up to 20mm (1/2 inch) for severance cuts.



Image 5.4: The plasma cutter's display indicating clean cut and maximum cut thickness capabilities.

6. MAINTENANCE

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

- **Air Filter:** Periodically check and clean the air filter to ensure it effectively removes moisture, oil, and debris from the compressed air. A clogged filter can negatively impact cut quality and machine performance.
- **Consumables:** Regularly inspect the torch nozzles and electrodes. Replace them when they show signs of

wear or damage to maintain cut quality and prevent torch damage.

- **General Cleaning:** Keep the machine clean and free from dust and metal particles. Use compressed air to blow out internal components if necessary, ensuring the machine is unplugged first.

7. TROUBLESHOOTING

If you encounter issues with your plasma cutter, refer to the following common problems and solutions. The digital display may show error codes in case of a malfunction.

Problem	Possible Cause	Solution
No arc ignition	No power, poor ground connection, worn consumables, insufficient air pressure.	Check power supply, ensure ground clamp is secure, replace nozzle/electrode, verify air pressure.
Poor cut quality	Worn consumables, incorrect current/speed, contaminated air, incorrect standoff distance.	Replace consumables, adjust settings, check air filter, maintain proper torch height.
Machine overheats (Error code displayed)	Exceeding duty cycle, blocked ventilation.	Allow machine to cool down, ensure proper ventilation around the unit.
Air pressure issues	Air filter clogged, compressor malfunction, air leak.	Clean/replace air filter, check compressor, inspect hose connections for leaks.

8. SPECIFICATIONS

Key technical specifications for the FEIFANKE FKC-550H Plasma Cutter.

- **Model Number:** FKC-550H
- **Manufacturer:** FEIFANKE
- **Cutting Current:** 55 Amps
- **Ignition:** Non-contact High-Frequency Pilot Arc
- **Technology:** IGBT
- **Cutting Modes:** 2T/4T
- **Max Cutting Thickness:** 20 mm (1/2 inch)
- **Clean Cut Thickness:** 10 mm (3/8 inch)
- **Power Type:** AC/DC (Automatic input voltage detection)
- **Recommended Air Pressure:** 35-50 PSI
- **Post Flow Time:** Adjustable 5-20 seconds
- **Material:** Lacquered waterproof stainless steel
- **Color:** Orange
- **Package Dimensions:** 38.4 x 30.5 x 20.9 cm
- **Item Weight:** 7.62 kg

9. WARRANTY AND SUPPORT

For warranty information, technical support, or to inquire about spare parts, please contact FEIFANKE customer service through your point of purchase or the official FEIFANKE website. Please have your model number (FKC-550H) and purchase date available when contacting support.