

FEIFANKE MIG145

FEIFANKE MIG145 4-in-1 Welder Instruction Manual

Model: MIG145

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your FEIFANKE MIG145 4-in-1 Welder. The MIG145 is a versatile welding machine capable of Gasless MIG, MIG/MAG, MMA (Stick), and Lift TIG welding. It features a maximum output of 145A and is designed for welding stainless steel, carbon steel, and thicker steels using 0.8mm (0.030"), 0.9mm (0.035"), or 1.0mm (0.040") flux-cored wire and 0.8mm (0.030") solid wire. Please read this manual thoroughly before use and keep it for future reference.

2. SAFETY INSTRUCTIONS

WARNING: Welding can be dangerous. Always follow safety precautions to prevent injury or death.

- **Electric Shock Can Kill:** Ensure proper grounding. Do not touch live electrical parts. Wear dry welding gloves and protective clothing.
- **Fumes and Gases Can Be Hazardous:** Keep your head out of the fumes. Use adequate ventilation or exhaust at the arc.
- **Arc Rays Can Burn Eyes and Skin:** Wear a welding helmet with a proper shade filter. Wear protective clothing to protect skin.
- **Fire and Explosion Hazard:** Remove all flammables from the welding area. Have a fire extinguisher nearby.
- **Hot Parts Can Cause Severe Burns:** Allow equipment to cool before touching.
- **Integrated Safety Features:** The MIG145 includes built-in protection against overcurrent, overload, overvoltage, and overheating. The machine will automatically shut down or display an error message in such events.
- **IP21 Rating:** Provides protection against solid objects over 12.5mm and vertically falling water drops.
- **Smart Cooling System:** The intelligent fan cooling system helps reduce dust ingress and extends the lifespan of the welder.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- 1x FEIFANKE MIG145 Welder
- 1x 2M Earth Clamp
- 1x 2M Welding Holder Clamp
- 1x 3M 15AK Gas Torch
- 3x 0.8mm Conductive Nozzles
- 2x 1.0mm Conductive Nozzles
- 1x 0.8/1.0K Wire Feed Wheel
- 1x 0.8/1.0V Wire Feed Wheel
- 1x 0.5KG/1.0mm Flux-Cored Wire
- 1x 0.5KG/0.8mm Solid Wire
- 5x ϕ 2.0mm Electrodes
- 1x Slag Hammer
- 1x 2M Gas Hose
- 1x User Manual (Multi-language)



4.8KG/10.59LB



Image 3.1: The FEIFANKE MIG145 welder shown with all included accessories, such as the earth clamp, welding holder clamp, gas torch, various nozzles, wire feed wheels, flux-cored wire, solid wire, electrodes, slag hammer, and gas hose. The welder itself has dimensions of approximately 32cm (12.6in) length, 16cm (6.3in) width, and 22cm (8.66in) height, weighing 4.8kg (10.59lb).

4. PRODUCT FEATURES

The FEIFANKE MIG145 welder incorporates advanced technology for superior performance and user convenience:

- **4-in-1 Multi-Function:** Supports Gasless MIG, MIG/MAG, MMA (Stick), and Lift TIG welding modes, offering versatility for various welding tasks.

- **Synergic Control:** Utilizes the latest IGBT inverter technology and a Microcontroller (MCU) to automatically recommend current and wire feed speed based on selected wire diameter and material. Manual adjustments are also possible.
- **Digital Display:** Equipped with an LED digital screen that displays voltage, amperage, and other parameters in real-time, allowing for precise adjustments without removing your welding helmet.
- **Advanced Safety:** Features comprehensive protection against overcurrent, overload, overvoltage, and overheating. The IP21 rating and smart fan cooling system enhance durability and operational safety.
- **Portable and Lightweight:** Designed with a convenient handle for easy transport.
- **Enhanced MMA Welding:** Includes Hot Start for easier arc ignition, Arc Force for optimized performance, and Anti-Sticking to prevent electrode adhesion, improving weld quality and reducing spatter.

4 IN 1 - MULTI FUNCTION MIG WELDER



Image 4.1: Front view of the FEIFANKE MIG145 welder highlighting its 4-in-1 multi-function capabilities, including Gas MIG, Gasless MIG, MMA, and Lift TIG modes, indicated by icons on the control panel.

ADVANCED DIGITAL CONTROL AND SAFETY



Image 4.2: Illustration of the FEIFANKE MIG145's advanced digital control and safety features, including MCU Technology Control, Latest IGBT Inverters, Overcurrent Protection, Overvoltage Protection, and Overload Protection, all shielded by a protective barrier icon.

5. SETUP

5.1 General Connections

1. Connect the earth clamp securely to the workpiece. Ensure good electrical contact.
2. For MMA welding, connect the welding holder clamp to the positive (+) terminal and the earth clamp to the negative (-) terminal.

3. For MIG/MAG welding, connect the MIG torch to the appropriate connector and the earth clamp to the negative (-) terminal for flux-cored wire (DCEN) or positive (+) for solid wire with gas (DCEP).
4. For Lift TIG welding, connect the TIG torch (not included) to the negative (-) terminal and the earth clamp to the positive (+) terminal.
5. Ensure the power cable is connected to a suitable 230V power supply.

5.2 Welding Wire Installation Procedure (MIG/MAG)

Proper installation of the welding wire is crucial for consistent feeding and optimal welding performance. The machine is compatible with 2 LB rolls of 0.8mm (0.030"), 0.9mm (0.035"), or 1.0mm (0.040") flux-cored wire and 0.8mm (0.030") solid wire.



Image 5.1: Detailed diagram illustrating the steps for installing welding wire into the FEIFANKE MIG145 welder. Key components are numbered: 1. Welding Wire (0.8mm-1.0mm), 2. Spool Spindle, 3. Spool Plate, 4. Spring, 5. Washer, 6. Spool Knob, 7. Wire Orientation, 8. Feed Tensioner, 9. Idler Arm, 10. Wire Wheel.

1. Open the wire compartment cover.
2. Place the welding wire spool (1) onto the spool spindle (2), ensuring it sits correctly on the spool plate (3).
3. Secure the spool with the spring (4), washer (5), and spool knob (6). Ensure the spool can rotate freely but without excessive play.
4. Observe the wire orientation (7) and feed the wire through the guide tube towards the wire feed mechanism.
5. Lift the idler arm (9) of the wire feed mechanism.
6. Thread the welding wire through the correct groove on the wire wheel (10) that matches your wire diameter.
7. Lower the idler arm (9) and adjust the feed tensioner (8) to apply appropriate pressure to the wire. The tension should be firm enough to feed the wire consistently but not so tight as to deform it.
8. With the MIG torch pointed away from yourself and others, press the trigger to feed the wire through the torch liner until it emerges from the contact tip.

6. OPERATING MODES

The FEIFANKE MIG145 offers four primary welding modes:

6.1 MIG/MAG Welding (Gasless MIG / Solid Wire MIG)

This mode is ideal for general fabrication and repair. The machine supports both flux-cored wire (gasless) and solid wire with shielding gas (MIG/MAG).

- **Gasless MIG:** Uses flux-cored wire, which produces its own shielding gas as it burns. No external gas cylinder is required.
- **Solid Wire MIG/MAG:** Requires a shielding gas cylinder (e.g., Argon/CO2 mix for steel) and solid welding wire.

6.2 MMA (Manual Metal Arc) Welding

Also known as Stick welding, this mode uses coated electrodes. It is suitable for outdoor use and welding thicker materials.

6.3 Lift TIG Welding

This mode provides a cleaner, more precise weld, typically used for thinner materials and stainless steel. A TIG torch with a tungsten electrode (not included) is required. The arc is initiated by gently touching the tungsten to the workpiece and then lifting it slightly.

6.4 Synergic Control

The synergic function simplifies parameter setting. Once you select the wire diameter and material type, the machine automatically adjusts the recommended welding current and wire feed speed. You can fine-tune these settings based on your experience and specific welding requirements.

SYNERGISTIC MIG WELDER

Automatic Adjustment of Voltage and Wire Feed Speed According to Wire Diameter



Image 6.1: Close-up of the FEIFANKE MIG145 control panel, illustrating the digital display and control knobs for synergistic adjustment of voltage and wire feed speed. The display shows parameters for MMA, Lift TIG, FCAW (flux-cored arc welding) 0.8mm/0.9mm, and MIG 0.8mm modes, with indicators for O.C. (Over Current) and other warnings.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your welding machine.

- **Cleaning:** Periodically clean the internal components of the welder using dry compressed air to remove dust and metal particles. Ensure the machine is unplugged before cleaning.
- **Cable and Connection Inspection:** Regularly check all cables, connections, and torch components for wear, damage, or loose connections. Replace damaged parts immediately.

- **Wire Feed Mechanism:** Keep the wire feed rollers and liner clean. Ensure the correct wire feed roller groove is used for your wire diameter.
- **Contact Tips and Nozzles:** Replace worn contact tips and nozzles on the MIG torch as needed to maintain good arc stability and wire feeding.
- **Storage:** Store the welder in a dry, clean environment, away from excessive dust and moisture.

8. TROUBLESHOOTING

Refer to this section for common issues and their solutions.

Problem	Possible Cause	Solution
Welder does not power on	No power supply; Faulty power cable; Internal fault	Check power outlet and circuit breaker. Inspect power cable for damage. Contact customer support if issue persists.
No arc / Weak arc	Poor earth connection; Incorrect welding parameters; Worn contact tip/electrode; Incorrect wire feed tension (MIG)	Ensure earth clamp has good contact. Adjust current/voltage. Replace contact tip/electrode. Adjust wire feed tension.
Wire not feeding (MIG)	Wire tangled; Incorrect wire feed roller; Insufficient tension; Blocked liner/contact tip	Untangle wire. Ensure correct wire feed roller groove. Adjust tension. Clean or replace liner/contact tip.
Overheat/Overload indicator (O.C. LED) is on	Machine has overheated or is overloaded	Stop welding and allow the machine to cool down. Ensure proper ventilation. Reduce duty cycle or welding current.
Poor weld quality / Excessive spatter	Incorrect parameters; Dirty workpiece; Incorrect stick-out (MIG); Insufficient gas shielding (MIG/MAG)	Adjust voltage/current. Clean workpiece. Adjust wire stick-out. Check gas flow and connections (if using gas).

9. SPECIFICATIONS

Feature	Specification
Model Number	MIG145
Manufacturer	FEIFANKE
Dimensions (L x W x H)	10 x 10 x 5 cm (Product); 32 x 16 x 22 cm (Approximate machine dimensions from image)
Weight	8.8 kg (Product); 4.8 kg (Machine only from image)
Color	Orange
Material	Lacquered stainless steel, water-resistant
Power Type	DC
Voltage	230 Volts

Feature	Specification
Power	4000 Watts
Max Current	145 A
Welding Modes	Gasless MIG, MIG/MAG, MMA, Lift TIG
Compatible Wire	Flux-cored: 0.8mm, 0.9mm, 1.0mm; Solid: 0.8mm
Welding Thickness	1.0-4.8mm (Carbon Steel & Iron)
Protection Class	IP21

10. WARRANTY AND SUPPORT

For warranty information, technical support, or spare parts inquiries, please contact your retailer or the FEIFANKE customer service department. While specific spare parts availability information is not provided, our support team will assist you with any product-related concerns.