HITBOX HBM145

HITBOX HBM145 Multi-Process Welder User Manual

Model: HBM145 | Brand: HITBOX

1. Product Overview

The HITBOX HBM145 is a versatile 4-in-1 multi-process inverter welder designed for various welding applications. It supports Gasless MIG, Lift TIG, MMA (Stick), and Spool Gun welding modes, offering flexibility for both beginners and experienced users. The machine features synergic control for simplified operation and robust safety mechanisms.

Key Features:

- **Multi-Process Capability:** Supports Gasless MIG, Lift TIG, MMA, and Spool Gun welding.
- **High Output:** Up to 145 Amp output, suitable for welding mild steel up to 0.315 inches (8mm) thick.
- **Synergic Control:** Automatic voltage matching with wire feeding speed for ease of use.
- **Dual Voltage:** Operates on both 110V and 220V power supplies.
- **Advanced Safety:** Equipped with IGBT technology for automatic voltage fluctuation compensation, overcurrent protection, overload protection, and overheating protection.
- **Portable Design:** Compact and lightweight for easy transport and storage.

2. Important Safety Information

Always prioritize safety when operating welding equipment. Failure to follow safety guidelines can result in serious injury or death.

General Safety Precautions:

- **Electric Shock:** Welding current can cause fatal electric shock. Ensure proper grounding. Do not touch live electrical parts. Wear dry welding gloves and protective clothing.
- **Fumes and Gases:** Welding fumes and gases can be hazardous to your health. Work in a well-ventilated area. Use a fume extractor if necessary.
- **Arc Rays:** Arc rays can burn eyes and skin. Wear a welding helmet with appropriate shade filter, safety glasses, and protective clothing.
- **Fire and Explosion:** Welding sparks and hot metal can cause fires or explosions. Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Hot Parts:** Welded materials and equipment can remain hot for a long time. Allow them to cool before handling.
- **Pacemakers:** Magnetic fields from high currents can affect pacemakers. Consult your doctor before welding.

Image: Internal components of the HBM145 welder highlighting its integrated safety features including overvoltage, overcurrent, overheating, and overload protection.

3. Product Components and Accessories

The HITBOX HBM145 welder comes with essential accessories to get you started. Please inspect all items upon unpacking.

*Image: The HITBOX HBM145 welder displayed with its standard accessories. These include the 14AK MIG Gun (7.9 ft), Electrode Holder (4.9 ft), Earth Clamp (4.9 ft), Flux Core Wire (1 lbs, .030"), 110/220V Adapter Plug, Hammer, Nozzle, Welding Rods (2.0mm*5), Conductive Nozzles (0.8mm*3, 1.0mm*2), and the User Manual.*

Included Items:

1. 14AK MIG Gun (7.9 ft)
2. Electrode Holder (4.9 ft)
3. Earth Clamp (4.9 ft)
4. Flux Core Wire (1 lbs, .030")
5. 110/220V Adapter Plug
6. Hammer
7. Nozzle
8. Welding Rods (2.0mm*5)
9. Conductive Nozzles (0.8mm*3, 1.0mm*2)
10. User Manual

Note: Lift TIG torch and Spool Gun are not included and must be purchased separately if those welding processes are desired.

4. Setup Instructions

4.1 Power Connection

- The HBM145 supports both 110V and 220V power inputs. Use the provided adapter plug for the appropriate voltage.
- Ensure the power source is stable and capable of supplying the required current (up to 145A).
- Connect the power cable securely to the welder and a grounded electrical outlet.

4.2 Wire Feeding System (MIG/Flux Core)

The welder features a reliable wire feed system for consistent performance.

Image: The wire feeding mechanism of the HBM145, demonstrating how to load a 2 lbs spool of .030" or .039" welding wire for consistent feeding.

1. Open the wire feed compartment.
2. Place the wire spool onto the spindle, ensuring it rotates freely. The HBM145 is suitable for 2 LBS .030" & .039" flux core wire.
3. Thread the wire through the guide tube and feed roller.
4. Close the pressure arm on the feed roller to apply appropriate tension.
5. Feed the wire through the MIG gun liner until it emerges from the nozzle.

4.3 Connecting Welding Cables

- **Earth Clamp:** Connect the earth clamp cable to the positive (+) terminal for flux core welding or negative (-) terminal for solid wire MIG (if using gas). Attach the clamp securely to the workpiece, ensuring good electrical contact.
- **MIG Torch:** Connect the MIG torch cable to the appropriate terminal (usually negative (-) for flux core, positive (+) for solid wire MIG).
- **Electrode Holder (MMA):** For MMA welding, connect the electrode holder to the positive (+) terminal and the earth clamp to the negative (-) terminal.
- **Lift TIG Torch (Optional):** If using a Lift TIG torch (purchased separately), connect it to the negative (-) terminal and the earth clamp to the positive (+) terminal.

Important Polarity Note: *For flux core welding, set the wire to negative polarity and the return clip (earth clamp) to positive polarity. This is the opposite of gas-shielded welding and helps minimize splatter.*

5. Operating the Welder

The HBM145 offers multiple welding processes. Familiarize yourself with the control panel and settings for each mode.

Image: The large LED digital display of the HBM145, illustrating the synergic control interface. It shows settings for flux core wire diameter (0.8mm and 1.0mm), current (145A), and features like Hot Start, Arc Force, and Antisticking.

5.1 Control Panel Overview

The large LED digital display provides clear feedback on welding parameters. Use the control knob and mode button to navigate and adjust settings.

- **Mode Button:** Cycles through welding processes (MIG, TIG, MMA).
- **Control Knob:** Adjusts amperage, wire feed speed, and other parameters depending on the selected mode.
- **Synergic Control:** In MIG mode, adjusting the wire feeding speed automatically matches the voltage for

optimal welding.

5.2 Welding Modes

Image: Visual representation of the four welding processes supported by the HBM145: Gasless MIG, MMA (Stick), Lift TIG (requires separate WP17V TIG Torch), and Spool Gun (requires extra purchase).

5.2.1 Gasless MIG Welding

- Select MIG mode on the control panel.
- Ensure correct polarity for flux core wire (negative wire, positive earth clamp).
- Select the appropriate wire size (e.g., 0.030" or 0.039").

- Adjust wire feed speed using the synergic control. The voltage will automatically adjust.
- Begin welding, maintaining a consistent travel speed and arc length.

5.2.2 MMA (Stick) Welding

- Select MMA mode.
- Connect the electrode holder to the positive (+) terminal and the earth clamp to the negative (-) terminal.
- Insert the welding electrode into the holder.
- Adjust the amperage according to the electrode type and material thickness.
- The machine features Hot Start for easier arc ignition and Anti-sticking to prevent electrodes from sticking.

5.2.3 Lift TIG Welding (Optional)

- Requires a separate Lift TIG torch (e.g., WP17V).
- Select TIG mode.
- Connect the TIG torch to the negative (-) terminal and the earth clamp to the positive (+) terminal.
- Adjust amperage.
- Initiate the arc by gently touching the tungsten electrode to the workpiece and lifting slightly.

5.2.4 Spool Gun Welding (Optional)

- Requires a separate spool gun.
- Connect the spool gun to the designated port on the welder.
- This mode is primarily for gasless welding and offers rapid wire feeding capabilities and improved arc stability.

6. Maintenance

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

General Maintenance:

- **Cleaning:** Periodically clean the welder's exterior with a dry cloth. Use compressed air to blow out dust from inside the machine, especially the cooling fan and vents. Ensure the power is disconnected before cleaning.
- **Cable Inspection:** Regularly inspect all welding cables, torch, and earth clamp for damage, cuts, or loose connections. Replace damaged components immediately.
- **Wire Feed System:** Clean the wire feed rollers and guide tubes to prevent wire jamming or inconsistent feeding. Check for wear on the feed rollers.
- **MIG Torch Nozzle/Tips:** Clean or replace MIG nozzles and contact tips as they wear out or become clogged with spatter.
- **Storage:** Store the welder in a dry, clean environment away from excessive dust and moisture.

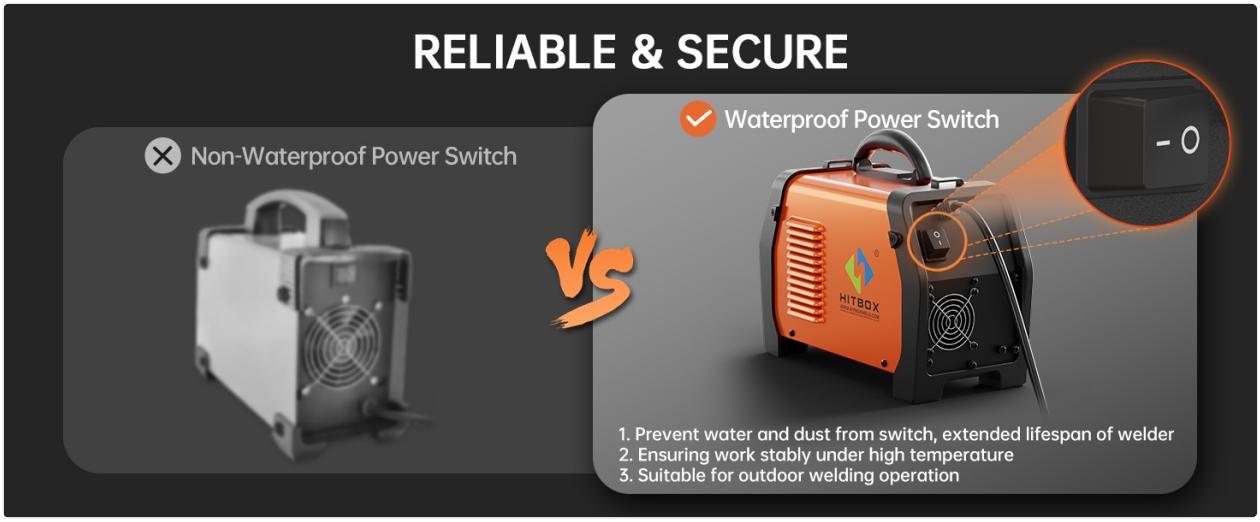

Image: The HBM145 features a waterproof power switch, designed to prevent water and dust ingress, extend welder lifespan, ensure stable operation in high temperatures, and make it suitable for outdoor welding.

7. Troubleshooting

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
Welder does not power on	No power supply; Faulty power cable; Power switch off	Check power outlet and circuit breaker; Inspect power cable; Ensure power switch is ON.
No arc/Weak arc	Poor earth clamp connection; Incorrect polarity; Insufficient amperage; Damaged torch/electrode holder	Ensure earth clamp has good contact; Verify polarity settings; Increase amperage; Inspect and replace damaged components.
Inconsistent wire feed (MIG)	Wire tangled; Clogged liner; Worn feed rollers; Incorrect tension	Untangle wire spool; Clean or replace liner; Replace feed rollers; Adjust feed roller tension.
Excessive spatter (MIG)	Incorrect voltage/wire speed; Incorrect polarity (for flux core); Dirty workpiece	Adjust synergic control settings; Ensure correct polarity for flux core; Clean workpiece thoroughly.
Overheat protection activated	Exceeded duty cycle; Blocked ventilation	Allow welder to cool down; Ensure clear airflow around the machine.

8. Technical Specifications

Detailed specifications for the HITBOX HBM145 Mig Welder.

Feature	Specification
Model Number	MIG Welder 145A (HBM145)

Feature	Specification
Manufacturer	HITBOX
Input Voltage	110V/220V AC
Output Current	Up to 145 Amps
Welding Processes	Gasless MIG, Lift TIG, MMA (Stick), Spool Gun
Max Weld Thickness	0.315 inches (8mm) mild steel
Compatible Wire	2 LBS .030" & .039" flux core wire
Item Weight	17.26 pounds
Package Dimensions	16 x 14 x 9 inches
Safety Features	IGBT, Overcurrent Protection, Overload Protection, Overheating Protection, Automatic Voltage Fluctuation Compensation
Included Components	MIG Welder, MIG Gun, Electrode Holder, Earth Clamp, Flux Core Wire, 110/220V Adapter Plug, Hammer, Nozzle, Welding Rods, Conductive Nozzles, User Manual

Image: The HBM145 welder demonstrating its ultra-portable and lightweight design, with dimensions of 13.7" x 9.6" x 6.4" and a weight of 9.63 lbs, making it easy to carry.

9. Warranty and Support

Warranty Information:

HITBOX provides a **5-year warranty** on this welding product. This warranty covers manufacturing defects and ensures reliable operation under normal use conditions.

Customer Support:

For any quality problems, technical assistance, or inquiries regarding your HITBOX HBM145 welder, please contact HITBOX customer service. We are committed to arranging an immediate replacement or a 100% refund for eligible issues.
Please refer to the contact information provided in your product packaging or visit the official HITBOX website for support details.