

BAOSHISHAN ZQ-549B

BAOSHISHAN 500W Ultrasonic Plastic Welding Machine (Model ZQ-549B) User Manual

Comprehensive instructions for safe and effective use.

INTRODUCTION

This manual provides detailed instructions for the operation and maintenance of your BAOSHISHAN 500W Ultrasonic Plastic Welding Machine, Model ZQ-549B. Please read this manual thoroughly before operating the machine to ensure safe and efficient use.

The machine converts high-frequency electronic signals into high-frequency mechanical vibrations using a transducing system. These vibrations are then conducted to the plastic welding body, causing the plastic joint surface to rub rapidly at 28,000 cycles per second until melting occurs. This process results in plastic flow between the plastic body joints, completing the gluing process instantly.

SAFETY INFORMATION

- Always ensure the machine is properly grounded before use.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves, during operation.
- Do not touch the welding tip during or immediately after operation, as it will be hot.
- Ensure adequate ventilation in the work area.
- Keep the work area clean and free of flammable materials.
- Never operate the machine if any parts are damaged or missing.
- Keep children and unauthorized personnel away from the operating machine.
- If the welding time is too long, the plastic film will be melted. Adjust the timer appropriately.
- Always place a protective metal plate on the desktop before welding to prevent damage to the surface.

PRODUCT OVERVIEW

The BAOSHISHAN 500W Ultrasonic Plastic Welding Machine is designed for efficient and precise plastic welding. It is suitable for thermoplastic materials, non-woven fabrics, nylon cloth, and similar materials for fusion, riveting, and spot welding applications. It is commonly used in textile, clothing, shoes, leather, electronics, toys, automotive parts, and other plastic-related industries.

Key Features:

- High-quality imported ultrasonic transducer for strong power and good stability.
- Exquisite design with a compact volume, saving space.
- Low noise operation, contributing to an environmentally friendly working environment.
- Fast welding time, adjustable from 0.01 to 9.99 seconds.
- Strong and durable welds with excellent welding effect.
- Economical operation: no glue required, saving material and labor costs.
- Welding area: diameter 2mm - 8mm.
- Customizable welding head with diameters from 2mm-8mm, including mushroom head and special shapes.
- Supports fusion welding, riveting, spot welding, and boundary flower/dot applications.



Figure 1: BAOSHISHAN 500W Ultrasonic Plastic Welding Machine with handheld welding tool.

COMPONENTS AND CONTROLS

Front Panel:

product mix

FRONT



Ammeter

Amplitude sheet

Time display



1. Amplitude sheet: displays the ultrasonic amplitude, the amplitude sheet shows the minimum value when the machine doesn't weld

2. Ammeter: No-load current can not exceed 1A

Setting

Time adjustment(-)

Time adjustment(+)

Figure 2: Front panel with Ammeter, Amplitude sheet (V-meter), and Time display.

Ammeter: Displays the ultrasonic amplitude. The amplitude sheet shows the minimum value when the machine is not welding.

V-meter: Voltage meter. No-load current should not exceed 1A.

Timer Display: Shows the set welding time in seconds.

SET Button: Used to observe the V-table and test amplitude.

UP/DOWN Buttons: Used to adjust the timer settings.

Rear Panel:

product mix

BACK



Figure 3: Rear panel with Cooling fan, Power switch, Fuse, Power plug, Amplitude adjustment knob, and Output socket.

Cooling Fan: Ensures proper heat dissipation during operation.

Power Switch: Turns the machine on/off.

Fuse: Overcurrent protection.

Power Plug: Connects the machine to the power supply.

Amplitude Adjustment Knob: Used to fine-tune the ultrasonic amplitude.

Output Socket: Connects to the handheld welding tool.

Handheld Welding Tool:

Details



Figure 4: Handheld welding tool with Welding mold (tip), Vibration handle, Working switch, and Power wire.

Welding Mold (Tip): The part that contacts the material for welding. Customizable.

Vibration Handle: Ergonomic handle for comfortable use.

Working Switch: Activates the ultrasonic welding process.

Power Wire: Connects the handheld tool to the main unit's output socket.

SETUP INSTRUCTIONS

1. **Unpacking:** Carefully remove all components from the packaging. Inspect for any damage.
2. **Placement:** Place the main unit on a stable, level surface. Ensure there is adequate space around the cooling fan for ventilation.
3. **Connect Power Cord:** Plug the power cord into the main unit's power plug socket and then into a suitable electrical outlet (110V/220V, as per your model).
4. **Connect Handheld Tool:** Connect the power wire of the handheld welding tool to the output socket on the rear panel of the main unit.
5. **Power On:** Turn on the power switch located on the rear panel. The timer display should illuminate.
6. **Initial V-Table Check:** Before welding, ensure the welding tip is not touching any items. Press the **SET** button on the front panel to observe the V-meter. The pointer should not exceed one large grid.

mark. If it does, proceed to the Amplitude Adjustment section.

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Video 1: BAOSHISHAN Ultrasonic Plastic Spot Welder - Demonstrates initial setup and basic operation steps.

OPERATING INSTRUCTIONS

1. Adjusting Welding Time:

- Use the **UP** and **DOWN** keys on the front panel to adjust the desired welding time. The timer can be set from 0.01 to 9.99 seconds.
- Start with a shorter welding time and gradually increase if necessary to avoid melting the plastic.

2. Preparing for Welding:

- Place a protective metal plate on your workbench to prevent damage from the welding process.
- Position the plastic materials to be welded on the metal plate.

3. Performing a Weld:

- Hold the handheld welding tool firmly.
- Gently press the welding tip onto the desired welding point on the plastic material.
- Press the **Working Switch** on the handle to initiate the ultrasonic welding. Hold it for the set duration.
- Release the **Working Switch** and lift the tool.
- Inspect the weld. If the plastic is melted or damaged, reduce the welding time. If the weld is not strong enough, slightly increase the welding time.

Product parameters



Frequency	28KHZ
Voltage	110V or 220V
Power	500W
Appearance size	310 x 255 x 115mm
Weight	9.5KG
Spot welding diameter	1-8mm
Spot welding diameter	1-5mm

Figure 5: Demonstrating the spot welding process on plastic film.

Your browser does not support the video tag.

Video 2: Operation Video - Shows the process of adjusting welding time and performing welds.

MAINTENANCE

1. Cleaning:

- Regularly clean the exterior of the machine with a soft, dry cloth.
- Ensure the cooling fan on the rear panel is free from dust and debris to maintain optimal performance.

2. Checking Welding Tip Wear:

- After a period of use, the welding tip may wear out. This can affect welding performance.
- To check for wear, ensure the welding tip is not touching any items. Press the **SET** button on the front panel to observe the V-meter.
- If the pointer on the V-meter has significantly exceeded the safe value (more than one large grid mark), the welding tip may be worn and require adjustment or replacement.

3. Amplitude Adjustment (if V-meter reading is too high):

- If the V-meter pointer indicates an unsafe value (exceeding one large grid mark) when the tip is not welding, you need to adjust the amplitude.
- Locate the **Amplitude Adjustment Knob** on the rear panel (often labeled "Please do not rotate this brass knob!" in some diagrams, but it's the adjustment for amplitude).
- Slowly rotate this knob either clockwise or counter-clockwise. While rotating, periodically press the **SET** button on the front panel to check the V-meter reading.
- Continue adjusting until the V-meter reading is stable and within the safe operating range (pointer turns less than 50, or within one large grid mark). Lock the fixing screw of the copper column once adjusted.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Poor weld quality / Plastic melting	Welding time too long, excessive amplitude.	Reduce welding time using UP/DOWN buttons. Check and adjust amplitude if necessary (see Maintenance).
Weak weld / No fusion	Welding time too short, insufficient amplitude, worn welding tip.	Increase welding time. Check and adjust amplitude. Inspect welding tip for wear and replace if needed.
Machine not powering on	No power supply, power switch off, blown fuse.	Check power connection. Ensure power switch is ON. Inspect and replace fuse if blown.
V-meter reading too high (unloaded)	Worn welding tip, incorrect amplitude adjustment.	Perform amplitude adjustment (see Maintenance). Consider replacing the welding tip if adjustment does not resolve the issue.

TECHNICAL SPECIFICATIONS

Parameter	Value
Model Number	ZQ-549B
Frequency	28KHZ
Voltage	110V/220V (as per model variant)
Power	500W
Appearance Size	310mm x 255mm x 115mm
Weight	9.5KG
Spot Weld Size (diameter)	1-8mm
Material	Stainless Steel

Note: Welding head is customizable. Please specify material and desired welding head when ordering.

WARRANTY AND SUPPORT

All products are checked and packaged in good condition before shipping. For any questions or support needs, please contact BAOSHISHAN customer service. We are committed to providing a satisfactory solution.

Please refer to your purchase documentation for specific warranty terms and conditions.