

WEDGE WELDER

TOP QUALITY

Infinite Zone specializes in supplying comprehensive solutions for geomembrane and HDPE liner installation projects:



IZ-960

1MM TO 3MM

We view every client relationship as a long-term partnership. Your success is our success, which is why we're committed to providing ongoing support long after the initial sale.



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CITY BAY BUSINESS CENTER
ABU HAIL - DEIRA DUBAI

TECHNICAL DATA SHEET

IZ-960

GEOMEMBRANE WELDING MACHINE



Material thickness

- 1mm thick to 3mm thick

Colorway



IZ-960

- | | |
|-----------------------|--|
| • Model | : iZ-960 |
| • Voltage | : 220V |
| • Frequency | : 50/60 Hz |
| • Power | : 1750W |
| • Welding Speed | : 1 - 8m/min |
| • Heating Temperature | : 0 - 550 °C |
| • Material Thickness | : 1.0 mm-3.0 mm (single film thickness) |
| • Overlap width | : 14 cm |
| • Weld seam width | : 12mm * 2+18mm cavities |
| • Weld strength | : >85% base material (tensile strength in shear direction) |
| • Overall weight | : 20 Kg |
| • Digital display | : Yes |
| • Certificate | : CE |
| • Warranty | : 1 Year |

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**PLEASE READ THE MANUAL CAREFULLY BEFORE
USING THIS DEVICE AND KEEP IT SAFE FOR
FUTURE REFERENCE.**

**ONLY CORRECT OPERATION AND USE CAN ENSURE
LONG-TERM EFFICIENT AND FAULT FREE
OPERATION OF THE EQUIPMENT!**

The Bortte series geomembrane welding machine adopts an advanced hot wedge structure and is designed specifically for geomembrane materials with a thickness of 1-3mm.

Fast heating speed and precise temperature control. Suitable for HDPE LDPE.PP.PVC.PP and other hot melt welding film materials! Widely used in landfill, sewage treatment, water conservancy engineering, anti-seepage engineering, aquaculture, chemical mining and other places!

Matters needing attention

Follow the instructions and disconnect the power supply of the equipment before opening the hood and touching exposed electrical components or connectors. Avoid electric shock!

Equipment can generate high temperatures and heat. When constructing or placing equipment that has not yet been cooled, please stay away from flammable and explosive gas objects. To avoid fire!

When heating the equipment, do not come into contact with the heating unit and heat sink of the equipment. Avoid burns!

The power supply voltage used must be consistent with the rated voltage of the equipment and reliably grounded to avoid damaging the equipment. The use of wire cross-sectional area should exceed the rated power range of the equipment!

For the personal safety of operators and the reliable operation of equipment, we strongly recommend connecting the equipment to a regulated power supply with a leakage protection device!

The equipment must be operated under the supervision of professional personnel, and children and other non compliant personnel are prohibited from operating the equipment. Avoid welding defects or other unexpected events that may occur during the operation of the equipment due to external factors or personal reasons, and take timely measures!

It is strictly prohibited to carry out construction in direct contact with rainwater or muddy areas. The use and storage of equipment should pay attention to waterproofing and moisture prevention!

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General safety instructions

The iZ-960 is a high-voltage device that must be disconnected from the power supply during maintenance and upkeep. Do not drag the welding machine with the power cord of the device. When welding, it is important to keep the power cord free from stress and avoid tearing the wires. Avoid touching hot welding wedges with hands or other parts of the human body.

It is prohibited to operate equipment near flammable and explosive materials. After putting the equipment back into the packaging box, let it cool for at least 5-10 minutes.

Proper use

For more product information, please refer to the technical specifications. The iZ-960 is produced using advanced technology and complies with contemporary regulations. However, improper use can threaten the personal safety of operators and others, or damage the equipment.

The appointed operator must read and familiarize themselves with this manual before starting work. For safety reasons, please do not modify this equipment without authorization. The voltage must be measured by professionals

Maintenance and repair

After welding, please clean the sand and debris on the drive wheel and hot wedge in a timely manner; And carefully observe whether there are any loose screws; And component detachment; And add oil to the parts that need lubrication! The device has not been used for a long time or is damp. Please turn on and preheat for 30 minutes before use!

Maintenance and upkeep must be carried out by professional personnel. Before disassembling and assembling the welding machine, please consult the welding machine manufacturer. After maintenance, please ensure that all screws are tightly installed and install all shields and machine covers. The equipment can only be repaired by the Bote after-sales service center. The service center will provide correct and reliable repair services within 24 hours, Must use genuine spare parts from Bote and repair according to the circuit diagram and spare parts list.

Power requirements

The iZ-960 welding machine with a rated voltage of 220V can operate normally between 208-240V. Attention: The above voltage range refers to the actual connected voltage of the welding machine, or the voltage at the welding machine end of the power extension line. measure Voltage method: Connect the welding machine extension wire to the power supply, start the welding machine, and turn on the heating and driving switches. When the welding machine is heating normally, slightly pull out the welding machine plug to expose the socket connector of the wire. Measure the voltage of the socket connector using a voltmeter.

Recommended specifications for generators

If connecting the mains power to the welding machine, please contact the manufacturer to provide specifications for the wires and plugs. The on-site generator must maintain a power of over 3500W. Recommend using a 5000W or higher power generator to maximize the performance of the welding machine and achieve better temperature control. The higher the power of the generator, the more stable the performance of the welding machine. Please pay attention to the length and size of the wires, as the coordination between the wires and the generator will determine the working voltage of the welding machine. Wire: Regardless of the length, it is recommended to use a grounding wire with a cross-sectional area of 3x1.5 square meters.

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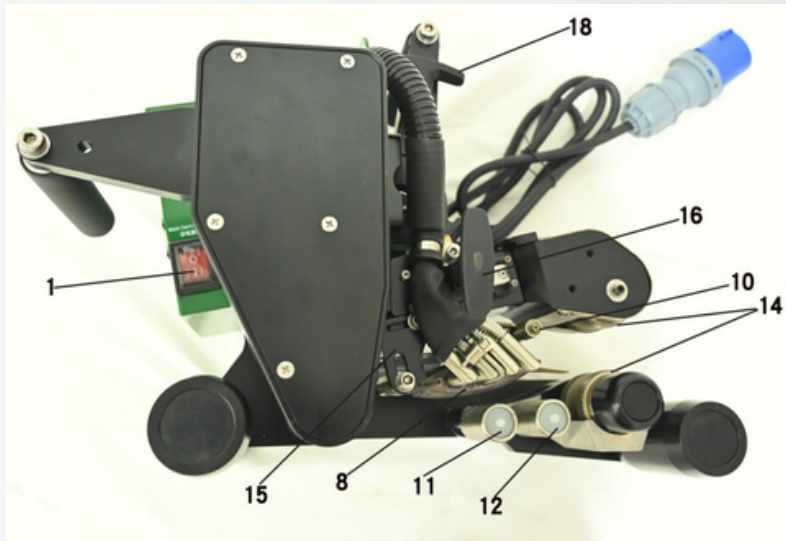
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SCHEMATIC DIAGRAM



1. Power switch
2. Motor switch
3. Heating switch
4. Temperature display screen
5. Speed display screen
6. Temperature adjustment button
7. Speed adjustment button
8. Hot stamping
9. Pressure adjustment nut

10. Upper guide wheel
11. Front lower guide wheel
12. Rear lower guide wheel
13. Lower chain cover
14. Upper and lower drive wheels
15. Hot wedge adjustment support
16. Hot wedge sliding handle
17. Pressure handle
18. Pressure locking handle

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DATA AND SPECIFICATION

Technical data and specifications are subject to change without prior notice!

Set the welding machine according to the thickness of the material

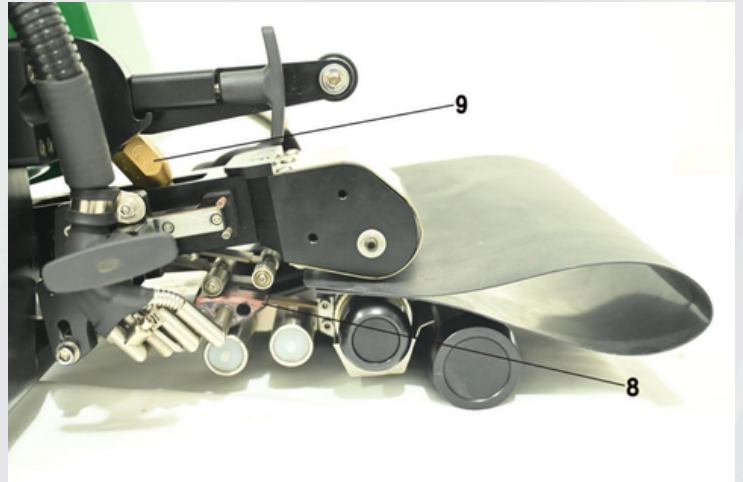
The iZ-960 adopts a spring type upper guide wheel and a "suspended" hot wedge, which can be used for welding HDPE film materials of 1.5-2.5mm. Please remember: the thicker the material, especially the rough facial mask material, the greater the pressure should be. Warning! Adjustments must be made in a cooled state.

Please follow the following steps to set up:

Pressure adjustment:

Adjust position:

The pressure adjustment component is the pressure adjustment nut (9) located between the pressure rod and the upper pressure arm. It is necessary to set the correct pressure to achieve high-quality welding results. At the same time, it is also important for the driving wheels to provide sufficient traction, which can prevent the



welding machine from burning through the film material. When the driving wheel loses traction and rotates over the film material, this situation occurs: the welding machine stays in place, burns through the film material on both sides of the hot wedge, and in severe cases, it will be pulled into the driving wheel.

Attention: Pressure regulation for welding thin materials

This type of material requires less pressure. Excessive pressure can cause material to fracture from the edge of the weld due to shear effects.

1. Confirm that the hot wedge (8) is in the standby position. Otherwise, use the handle to pull the welding wedge back and move it back to the standby position.
2. Rotate the pressure adjustment nut (9) clockwise for several turns, lift the pressure arm and prepare to start adjusting.
3. Take a section of material to be welded and place one end (layer of material) between the driving wheels, about 3cm. Press down on the pressure rod to the correct position and fasten the locking pin for positioning. At this point, the material can move in the middle of the pressure wheel without resistance.
4. Turn the nut (9) counterclockwise until the driving wheel comes into contact with the material and cannot be turned by hand. This is the zeroing step for adjusting pressure.

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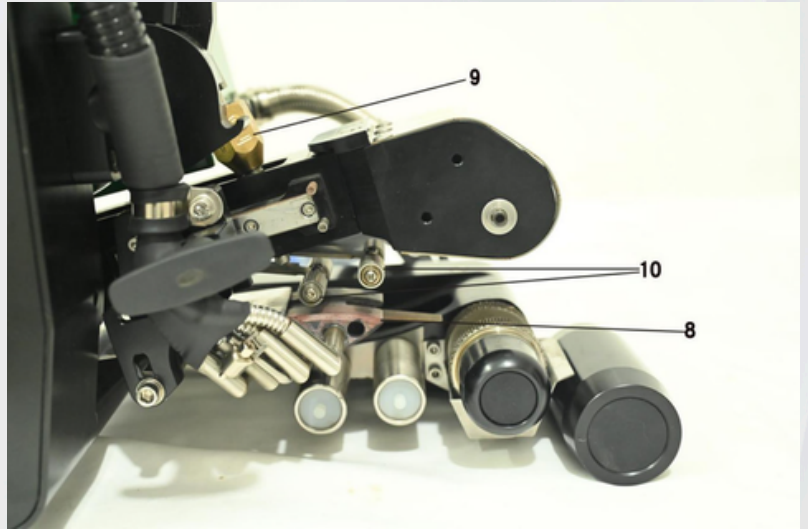
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5. Lift the pressure arm and disengage the drive wheel. Rotate counterclockwise one more full turn.

6. Place the material to be welded between the drive wheels again (fold the material in half and place it again, with two layers of material thickness) until the locking pin pops into the hole. Drag the membrane material to confirm if the pressure is sufficient. If the material can be dragged or directly extracted from the drive wheel, it is necessary to loosen the drive wheel and turn the adjusting nut counterclockwise by one-third of a turn.

Attention: After setting the pressure correctly, pressing the pressure rod may be a bit laborious but still feels smooth. Reiterating, sufficient traction Force is essential to avoid burning materials. Please remember: the thicker the material, especially the rough facial mask material, the greater the pressure should be.



Set the upper guide wheel:

Upper guide wheel position: The upper guide wheel (10) is located above the hot wedge and installed at the bottom of the pressure arm. Changing the number of shrapnel will change the tightness of the guide wheel.

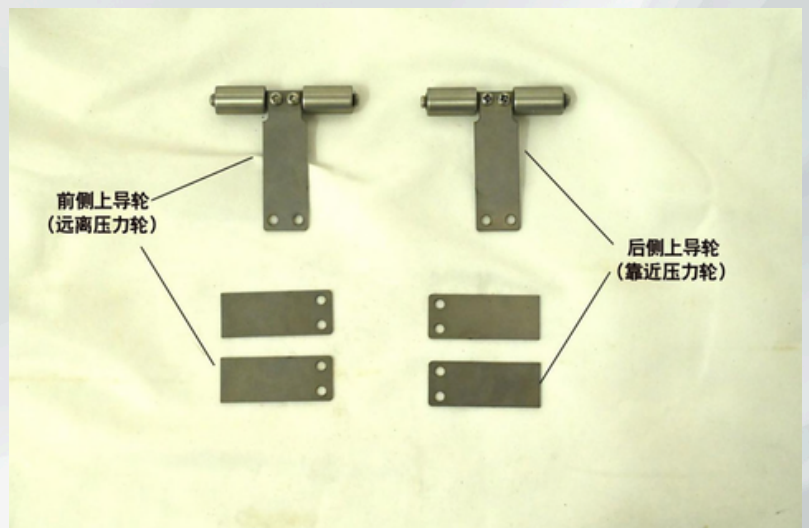
Attention: The iZ-960 factory configuration is shown in the figure below, suitable for welding HDPE film materials of 1.5-2.5mm. Unless it is necessary to replace the upper guide wheel, please ignore the following steps.

Dismantling the upper guide wheel:

Loosen the screws on the fixed shaft of the baffle and remove the baffle.

Loosen the two screws that secure the upper guide wheel to the pressure arm and remove the guide wheel from the welding machine.

During the process, it is necessary to adjust the position of the hot wedge back and forth.



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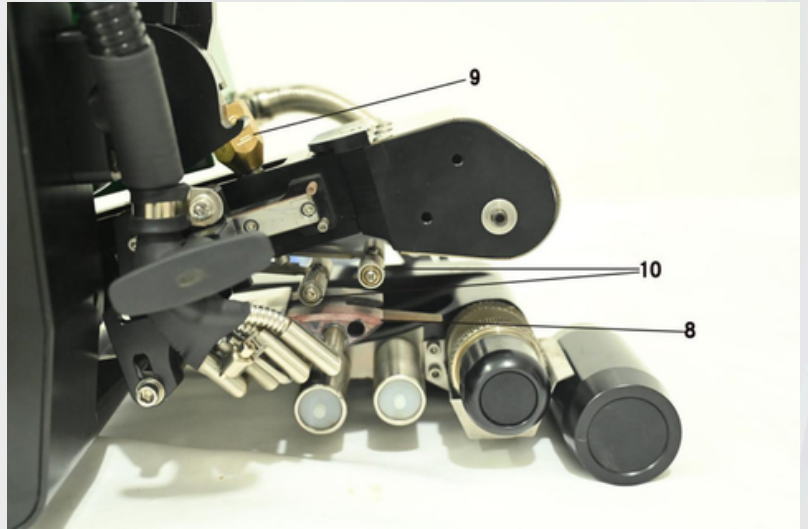
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Set the lower guide wheel:

Location: The lower guide wheel (11) (12) is located below the hot wedge and is directly installed on the bracket.

A 4mm hex wrench, a 6mm hex wrench, and a 13mm open end wrench are required for adjustment.

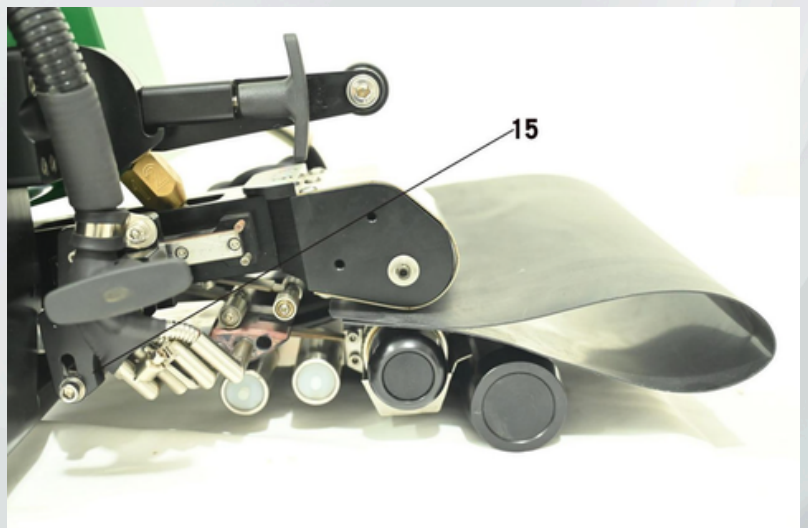


1. Lift the pressure arm and insert the material to be welded as shown in the diagram.

2. Fold the material in half and insert it into the welding machine, placing it on the upper and lower end faces of the hot wedge.

Insert sufficient length (covering the upper and lower end faces of the hot wedge): Ensure that the hot wedge is pushed forward to the welding position and the driving wheel is pressed down until the film fully contacts the two lower guide wheels.

(At this point, the tip of the hot wedge should be in the upper and lower center positions of the upper and lower drive wheels.)



3. Remove the screws, remove the lower chain cover (13), and expose the fixing screws of the front lower guide wheel (11).

4. Use an Allen wrench to loosen the fixing screw and rotate the front lower guide wheel downwards, away from the drive wheel. (Set to the appropriate position before fixing)

5. Use a 13mm open-ended wrench to loosen the fixing screw of the rear lower guide wheel (12). After loosening, the height of the hot wedge can be adjusted by raising or lowering the rear lower guide wheel. When reaching the appropriate position, tighten the fixing screws. Press the pressure arm and confirm that the screws are not loose.

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Attention:

The most important thing is the relative position between the hot wedge and the lower drive wheel (14). The distance between the tip of the hot wedge and the driving wheel is slightly greater than the thickness of the film material. Adjust the distance by adjusting the up and down of the rear lower guide wheel (12). When turning the lower guide wheels (11) and (12) counterclockwise at the same time, adjust the height of the lower guide wheel. At this point, the lower guide wheel will be very close to the lower drive wheel (14). Also, because the rear lower guide wheel lifts the hot wedge against the upper guide wheel shield, you will find that you can rotate the lower guide wheel. This is a normal phenomenon, and the magnitude of the rotational resistance is irrelevant.



Warning! If the position of the rear lower guide wheel (12) is set too high, it will cause insufficient clearance above the hot wedge and the upper film material will be clamped. Unable to pass through the welding machine. This will lead to a decrease in welding pressure and unstable welding.

If welding thin materials or working at high temperatures, the front lower guide wheel should be set more loosely or even detached from the material. This can reduce the contact time of the material (prevent material overheating) and avoid burning through the material as much as possible.

Set the front and rear positions of the hot wedge:

Set the travel limit position after the pressure arm is pressed down when the hot wedge is in the welding position. In other words, set the distance between the tip of the hot wedge and the driving wheel. If the tip is too close to the driving wheel, the driving wheel will clamp the hot wedge tip when pressing down, causing a decrease in welding pressure. In addition, after the welding is completed, the welding machine automatically drives out of the membrane material, and the pressure wheel will crush the hot wedge.

Power on

1. First confirm the voltage, wire specifications, and length, and then connect the welding machine power supply.
2. Turn on the power switch (1), and the two display screens on the control panel will display the set and actual values of temperature and speed, respectively.
3. Turn on the motor switch (2), it is recommended to keep the motor in the starting state when the welding machine is turned on. By doing so, it can avoid overheating at a certain position of the driving wheel and make welding smoother at the beginning.

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Set the hot stamping temperature:

After turning on, the temperature display screen on the panel displays the set value ST and the actual value CT.

After setting the desired temperature by long pressing or tapping the "+/-" button with the "thermometer" symbol on the panel, turn on the heating switch (3), and the welding machine will start heating rapidly.

Set welding speed:

After turning on, the speed display screen on the panel displays the set speed SV and actual speed CV. Set the desired speed by long pressing or tapping the "+/-" button on the "W alk" sign on the panel.

This machine has a parameter memory function, which means that the welding machine will automatically use the last set parameters on the next startup without the need to reset the parameters.

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COMMON FAULTS AND TROUBLESHOOTING

IZ-960

Phenomenon	Reason	Exclusion method
Screen not lit or screen dim	Power failure or low voltage	Check the power supply voltage and power cord
	The power fuse is broken	Replace the 10A fuse
	Power switch faulty	Replace the power switch
The motor does not rotate	Motor fuse broken	Replace the 1.5A fuse
	Motor switch faulty	Replace the motor switch
	Motor failure	Replacing the motor
	The motor drive board is damaged	Replacing the driver board
	The degree button is broken/ the button lead is open circuit	Replace speed button/check leads

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COMMON FAULTS AND TROUBLESHOOTING

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Phenomenon	Reason	Exclusion method
The motor cannot adjust speed or overspeed	The motor drive board is damaged	Replacing the driver board
The buzzer makes abnormal noises, and the motor speed control interface displays fault codes	001: Excessive motor load or stuck rotor	Adjusting the tightness of the structure
	003: Loose Hall connection wire	Tighten or replace the Hall connector wire
	003: Motor damaged or motor connection wire open circuit	Replace the motor or check the motor connection wires
Hot wedge not heated	Electric heating tube faulty	Replace the hot wedge knife assembly/ electric heating tube
	The heating drive board is damaged	Replacing the driver board
Hot wedge braised red wine	Thermocouple malfunction	Replacing thermocouples
	The heating drive board is damaged	Replacing the driver board
The buzzer makes abnormal noises, The temperature control interface displays fault codes	002: Continuous for more than 10 seconds, the temperature exceeds the abnormal temperature by 600 °C	Check if the thermocouple and temperature control board are damaged
	003: The temperature will remain the same for 20 consecutive seconds	Check the connection of the electric heating tube
	005: Thermocouple open circuit	Check thermocouple connections
The screen displays "CT: 016° CST: Pause"	Temperature paused heating	Press and hold both heating buttons simultaneously to start heating
Display mosaic garbled characters on the screen	Damaged display screen or display board	Replace the main control board of the display screen

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COMMON FAULTS AND TROUBLESHOOTING

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Name and content of harmful substances in the product						
Component Name	Harmful substances					
	lead (Pb)	mercury (Hg)	Cadmium (cd)	Hexavalent chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Plastic shell	○	○	○	○	○	○
Metal casing/screws/bearings/clamps	○	○	○	×	○	○
Motor components	○	○	○	○	○	○
Control components (switches PCB, Thermocouples, etc)	×	○	○	×	○	○
Power cord/connecting cable	×	○	○	○	○	○
Heating core	×	○	×	×	○	○
This table is prepared in accordance with the provisions of SJ/T11364. ○ : Indicates that the content of the hazardous substance in all homogeneous materials of the component is below the limit requirements specified in GB/T26572. × : Indicates that the content of the hazardous substance in at least one homogeneous material of the component exceeds the limit requirements specified in GB/T26572.						

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QUALITY ASSURANCE

The warranty period for our company's products (motors, circuit boards) is one year from the date of sale to consumers. Our company will be responsible for faults caused by material or manufacturing defects. We will make our own decision to repair or replace defective components to meet warranty requirements.

The warranty does not include vulnerable parts (such as hot wedges, bearings, chains, rollers, appearance parts, etc.); Excluding defects or damages caused by improper handling or maintenance; It also does not include abnormal use and unauthorized modification; Damage caused by falling or being crushed is not covered by the warranty!



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