



深圳市励维科技有限公司

Shenzhen Liwei Technology Co., Ltd.

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LV-X5 Tin Furnace User Manual



Shenzhen Liwei Technology Co., Ltd.

Shenzhen Liwei Technology Co., Ltd. is an enterprise integrating research and development, production, sales, trade, and services. Located in the western part of Bao'an District, Shenzhen, the company benefits from convenient transportation, being near Shenzhen International Airport, coastal ports, and inland transportation hubs. These advantages position us to seize various opportunities in modern domestic and international trade.

Our core industry focuses on BGA rework systems and peripheral auxiliary equipment, offering professional SMT process solutions. We provide advanced production equipment, inspection devices, rework solutions, and excellent technical services to customers worldwide. Our main products include BGA hot air rework stations, BGA chip processing services, and electronic auxiliary materials.

Liwei values talent and continually recruits high-caliber professionals. With a strong team spirit, our employees have built a robust online sales platform and communication system, ensuring outstanding after-sales service. This has earned us an excellent reputation and recognition both domestically and internationally.

Adhering to the business philosophy of "Professionalism, Innovation, and Integrity," we have gained trust and support from a wide range of customers in the BGA rework system, auxiliary equipment, and consumables markets. Our products are patented in design, CE certified, and exported to Japan, South Korea, North Africa, Vietnam, Southeast Asia, the Middle East, and Europe and the Americas.

Since its establishment, Liwei has upheld the principles of "Professionalism, Integrity, Excellence, and Customer First," gaining widespread recognition from customers. As we continue to expand, we sincerely look forward to collaborating with you.

1. Precautions

Attention to the usage environment

- This equipment can only be used in factories with good environments. For use in other harsh environments, please contact the manufacturer.
- Do not place in direct sunlight, in damp air or in a location with severe vibration.
- Do not place it in an inclined or unstable position.
- To prevent other chain disasters caused by solder leakage, please use a steel workbench.
- To prevent other chain disasters caused by solder leakage, please use it in workshops with heat-resistant base plates or concrete base plates.
- To prevent the smell caused by the high-temperature melting of solder, the usage environment needs to be well-ventilated or equipped with exhaust devices.
- Please leave enough space around the equipment.

2. Solder selection

- Please use solder within its shelf life.
- It is recommended to use a combination solder of 0Sn60% and Pb40%. Or lead-free solder (Sn, Ag, Cu).
- Using inappropriate solder poses a risk of reducing the service life of the equipment and affecting the welding effect.
- Please do not mix different types of solder for use.
- Under what circumstances is it necessary to replace the solder?
 - * The solder has poor fluidity after high-temperature heating.
 - * Solder loses its luster after being heated at high temperatures.
 - * There is too much solder oxide.
 - * The solder has too many impurities after being used many times.

3. Operating conditions

- Operators must wear protective clothing, goggles and protective gloves.
- For the first use, please confirm whether the voltage of the device matches that of the connected socket and whether the socket is grounded.

- Please turn off the power when the device is not in use.
- When using extension cables, verify the cable cross-sectional area and current-carrying capacity.
- Do not block the heat dissipation and ventilation openings of the equipment.
- Please ensure that someone is on duty when the equipment is heating.
- When replacing the nozzle, please turn off the spray flow. The replaced nozzle should be placed in a safe place.
- For devices equipped with the optional laser locator, please do not look directly at the laser beam.

二、Introduction to Button Functions



三、Function Introduction

- 1) Temperature setting: It is used to set the temperature at which the equipment melts solder. For detailed operation instructions of the temperature controller, please refer to the attached temperature controller manual.
- 2) Jet regulation: Control the jet height.
- 3) Over-temperature alarm: When the PV value of the temperature controller is 20°C higher than the SV value, the alarm will be activated. The alarm will be lifted when the PV value recovers to +20°C lower than the SV value after the fault is manually eliminated.
- 4) Jet selection switch: The following three options are available

***Long Jet:** The jet is always running in this position. The jet height can be adjusted using the jet height adjustment knob.

***Closed Jet:** The jet is closed in this position. The jet height adjustment knob is ineffective in this mode.

***Externally Controlled Jet:** The jet is controlled by an externally controlled jet input signal in this position. The jet starts when the input signal is closed; otherwise, the jet is closed.

Attention! The contact points of the aviation head for the external control jet input signal are powered on 220V. Do not touch them when the machine is powered on. When the external control jet input signal connector is not in use, please cover it with a protective cover.

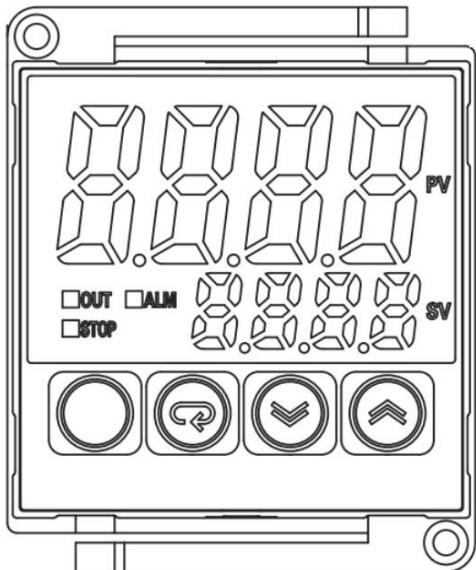
- 5) Power switch: The main power supply of the equipment. The switch is equipped with overload protection and leakage protection functions and needs to be inspected monthly.
- 6) Startup: When there is no preset automatic startup time, manually press this button to start the machine and it begins to heat up.
- 7) Stop: Press this button. The machine will enter sleep mode without turning off the main power supply and wait for the time controller to reach the preset value. Wake it up at a certain time or by pressing the start button. The machine does not heat up or spray water in the dormant state.
- 8) Time controller: It is used to preset the automatic wake-up time in sleep mode. For

detailed Settings, please refer to the time controller manual on the attached page.

四、Technical parameters

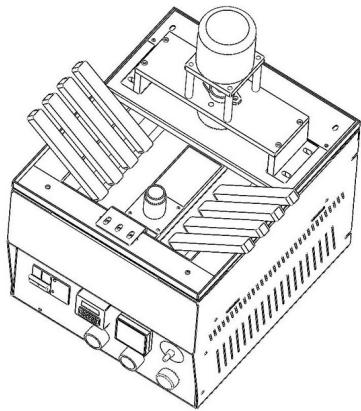
Input voltage	AV220V 50HZ
Power	≤2600W
Operating temperature	Solder bath made of SUS material, room temperature - 300°C
Motor	Ac motor 0-1200RPM
Comes with protection	Overload protection, leakage protection
Heat insulation measures	Double-layer insulation
Nozzle	Replaceable
Equipment external dimensions	390*400*575mm
Weight	25KG
Color	white

五、Temperature settings



- Close the power switch and press the start button
- Set the temperature: After clicking the setting key, the SV value will flash. Adjust the SV value to the target temperature by increasing or decreasing the value. Press the setting key again to stop the SV value from flashing, and the temperature setting is completed. If the OUT indicator light of the temperature controller is constantly on or flashing, it indicates that the equipment is heating.
- The above are the general setting methods for temperature controllers. For specific operations, please refer to the temperature controller manual in the attachment.
- The factory setting is that the jet can only start when the PV value is within $\pm 10^{\circ}\text{C}$ of the SV value. When the start condition is met, the ALM indicator light of the temperature controller will light up.
- The factory setting is to trigger an alarm when the PV value is 20°C higher than the SV value.
- Please set the SV value of the temperature controller according to the actual production needs to avoid damaging the products

六、Add solder



1. Remove the upper protective cover and the mouth guard.
2. Cover the heating tube with solder.
3. Set the temperature to 280°C.
4. When adding solder for the first time, please check if there is any water in the tank. If there is water, please wipe it dry first before adding solder to avoid solder explosion when the solder melts.
5. If conditions permit, when adding solder for the first time, some solder that has already been pre-melted in other equipment can be added. This can effectively improve the efficiency of adding solder for the first time.
6. When adding solder, protective clothing must be worn properly. Goggles, high-temperature gloves, etc.
7. Do not set the SV value of the temperature controller higher than the PV value when there is no solder in the tank to avoid dry burning.
8. The solder should be added to at least 80% of the solder bath to ensure the stability of the spray.
9. Please clean up in time when there is solder oxide in the tank.
10. After the solder is added, put the protective cover and the mouth guard back on, and then start the spray.

七、Turn on the jet

- Before starting the spray, please confirm that the solder has dissolved to a liquid state and that the solder volume reaches more than 80% of the tin bath.
- Before starting the spray, please confirm that the PV value of the temperature controller is within $\pm 10^{\circ}\text{C}$ of the SV value.
- To start the jet flow, the jet flow selection switch needs to be set to the long jet flow state or the external control jet flow state. When choosing the external control jet flow state, the external control input signal needs to be closed. Please note! The contact points of the aviation head for the external control jet input signal are powered on 220V. Do not touch them when the machine is powered on. When the external control jet input signal connector is not in use, please cover it with a protective cover.
- The adjustment of the jet adjustment knob should start from position 0 and be slowly adjusted to the appropriate state according to the jet state of the nozzle.
- When using a nozzle with a diameter less than 20, there is a risk of nozzle clogging. If all the above preparatory conditions are met and the motor starts normally, and no solder is sprayed out of the nozzle, it can be suspected that the nozzle is blocked.
- When the nozzle is clogged, please turn off the spray flow in time to avoid blowout. Lower the nozzle and immerse it in the solder. When the nozzle temperature is sufficient, reinstall it in the equipment and start the spray again. If the nozzle is clogged and cannot be removed, a hot air gun can be used to heat it up.

八、Replace the nozzle

- Tools to be prepared: a hex key, pliers.
- The nozzle should be replaced when the solder melts. When the solder cools down, it may stick to the nozzle and the base.
- First, loosen the nozzle screw with a hex key, and then remove the nozzle with pliers. ● Do not hold or strike the weak parts of the nozzle with pliers to avoid deformation of the nozzle.
- Please select the appropriate nozzle for use according to the actual production needs. ● For more nozzle sizes, please refer to the alternative accessories mentioned

above or contact our company.

九、Maintenance

- Regularly check whether the leakage circuit breaker is functioning properly.
- Regularly plug the power plug of the equipment into the power detection instrument to check whether the power of the equipment still meets the design value. If the power is insufficient than the design value. When the value low reaches 70%, the heating tube needs to be replaced.
- Regularly check the grounding condition of the equipment.
- Regularly clean the stains on the equipment protective cover.
- Regularly clean the solder oxide in the tin bath.
- Regularly check whether the high-temperature transmission belt is worn. The high-temperature belt is a consumable. Please contact our company in advance to purchase it. ● The high-temperature bearings and tin baths of the equipment need to be replaced after being used at high intensity for more than 20 months. The runner. The impeller also has the risk of aging after long-term use. If the using department has no technical personnel related to machinery, please contact our company. Our company provides maintenance and service.