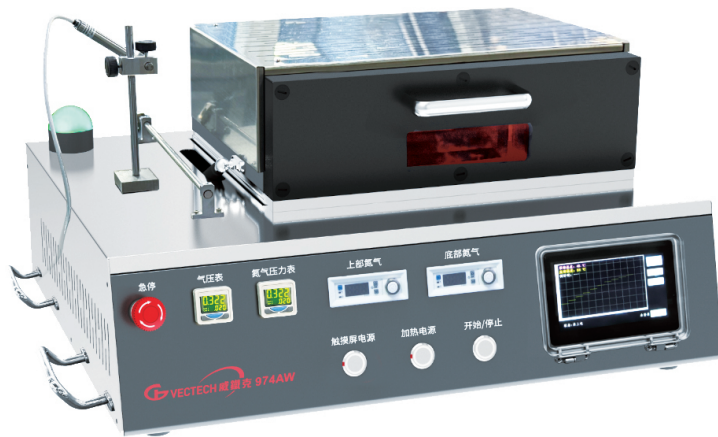


# VECTECH 974AW

## BGA REBALL REFLOW STATION(alarm type) Instruction Manual



**Thank you for purchasing our products. Please keep the instruction manual properly for future reference.**

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# 1. Safety Instruction



## CAUTION

- During the installation and use of this product, all electrical safety regulations of the country and regions must be strictly observed.
- The power supply must be disconnected when disassembling the product. Do not operate with power on.
- If the product does not work properly, please contact the supplier or our company, and do not disassemble or change the product in any way. We are not responsible for any problems caused by unauthorized maintenance or modification.



## WARNING

- Don't touch the heater and shell during operation to prevent high temperature scald.
- Don't use inflammable and explosive objects or solvents in the working area.
- When the device is not in use for a long time, please unplug the power cord.

# 2. Overview

This equipment adopts infrared heating method and closed-loop temperature control principle to simulate the temperature curve of the reflux furnace to heat BGA chip or PCB, and can be connected with nitrogen protection to meet the application scenarios of higher requirements of soldering.

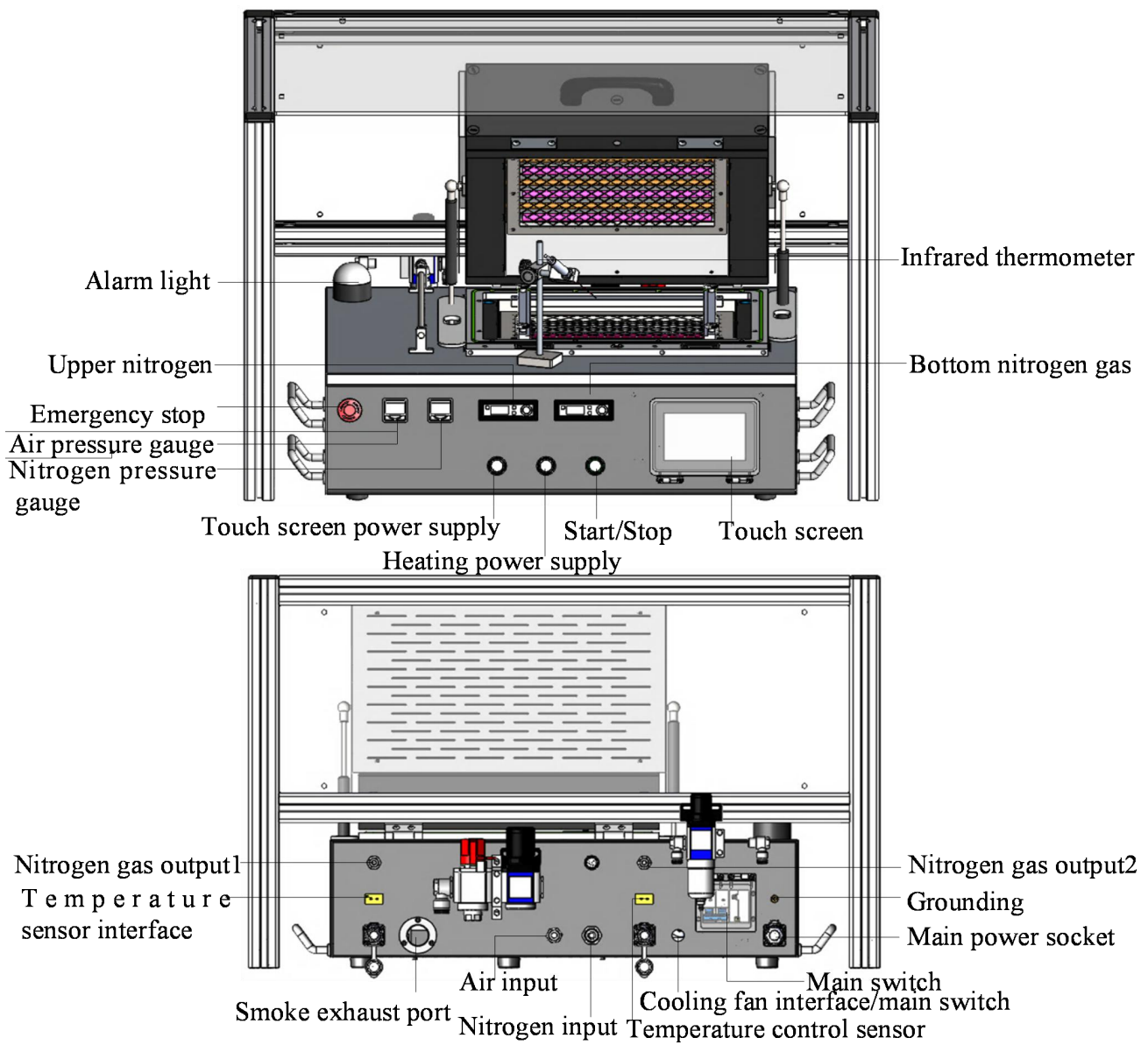
# 3. Product Feature

- The bottom is heated by dark infrared heating plate, and the top is heated by high infrared heating tube. The temperature is more uniform and stable with closed-loop temperature control.
- Touch screen setting, to achieve more convenient human-computer interaction, make the control more simple and intelligent.
- The temperature curve of the simulated reflux furnace is controlled by the program, and the chamber is automatically locked to eliminate external influencing factors and ensure welding process requirements.
- The whole process of nitrogen protection makes the welding process more reliable.

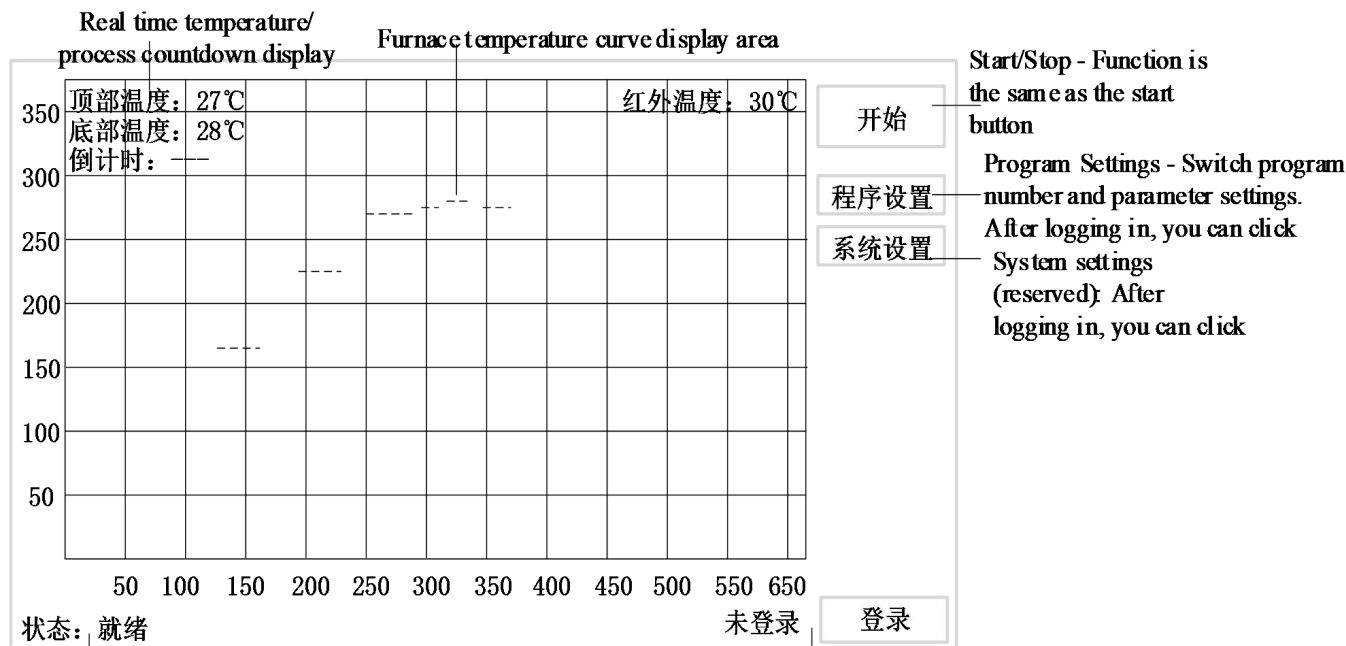
# 4. Product Specifications

aggregate capacity :	2700W
supply voltage :	AC 220V
temperature range :	Room temperature ~ 350°C
Size of heating area:	280mm×250mm
Number of process groups:	10 sets
Dimensions(L×W×H)	624 (W)×500(D)×308(H) mm
Weight	About 33.5kg

## 5. Part Descriptions



# 6. Function Descriptions of the Main Interface



Work status display: Emergency stop/Not powered on/Ready/Nitrogen filling/Heating/Cooling/Fault

Account login and status display: not logged in: can only Start the process Operator: can switch programs Process engineer: can modify program parameters Equipment administrator: can perform system settings Administrator: Can perform device debugging

## 7. Operation

### 1. User login

Click "Login" on the main interface to enter the login interface. You can select the user type to log in, and the initial password is empty.

登录

用户

作业员

▼

密码

退出

登录

7

8

9

4

5

6

1

2

3

0

←

→

ESC

Tab

Del

登录

用户

作业员

▼

密码

作业员  
工艺工程师  
设备管理员  
管理员

退出

登录

7

8

9

4

5

6

1

2

3

0

←

→

ESC

Tab

Del

After successful login, you can change the password. If you do not need to change it, you can directly exit. (Only 8-digit passwords are supported)

登录

用户

设备管理员

▼

新密码

OK

确认密码

退出

保存

7

8

9

4

5

6

1

2

3

0

←

→

ESC

Tab

Del

2. Program setting and parameter modification

Click "Program Settings" on the main interface to enter the program Settings interface. If the login user type is operator, you can only switch the program number, as shown in the figure below

程序设置

	充氮气	第1段	第2段	第3段	第4段	第5段	第6段	第7段
顶部温度	---	100	120	150	180	200	220	230
底部温度	---	100	120	150	180	200	220	230
时间	005	120	030	030	035	030	040	020

	第8段	第9段	第10段	冷却		
顶部温度	235	230	230	060	上限	10
底部温度	235	230	230	060	下限	10
时间	020	020	025	000		

退出

选择

▼

00

▲

另存为

▼

00

▲

保存

If the user type is process engineer, administrator, etc., you can modify the parameters. (Temperature unit: °C; Time unit: seconds)  
Nitrogen filling: only time setting;

The first paragraph to the tenth paragraph is the process of the temperature curve, which can be set as needed. When the time is set to 0, this paragraph will not be executed;

Cooling: If the time is set to 0, the temperature will be cooled to the top and bottom temperatures less than the set value, and the process will end. If the time is not set to 0, the cooling will be carried out according to the set time.

Upper limit / lower limit: at the end of each temperature segment, the deviation between the actual temperature and the set temperature is judged. If it exceeds, the alarm will stop the machine.

程序设置

	充氮气	第1段	第2段	第3段	第4段	第5段	第6段	第7段
顶部温度	—	100	120	150	180	200	220	230
底部温度	—	100	120	150	180	200	220	230
时间	005	120	030	030	035	030	040	020

	第8段	第9段	第10段	冷却
顶部温度	235	230	230	060
底部温度	235	230	230	060
时间	020	020	025	000

上限10

下限10

退出

选择▼00▲

另存为▼00▲

保存

3. Equipment debugging

After logging in as an administrator, click "Device debugging" on the main interface to enter the device debugging interface and test the device as required.

The calibration port is reserved. This device has been calibrated.

设备调试

急停按钮

释放

启动按钮

释放

上电按钮

释放

保护状态

正常

气压状态

正常

顶部流量

故障

底部流量

故障

门磁感应

打开

顶部温度

5 mV

底部温度

10 mV

保护温度

2 mV

红外温度

160 mV

冷端温度

28 °C

上电LED

●

打开

启动LED

●

打开

警示-红

●

打开

警示-绿

●

打开

警示-黄

●

打开

警示蜂鸣

●

打开

电磁锁

●

打开

风扇

●

打开

上电控制

●

打开

顶部加热

●

打开

底部加热

●

打开

上电磁阀

●

打开

下电磁阀

●

打开

离子棒

●

打开

强制保护

●

触发

复位保护

●

触发

退出

校准



#### 4. System debugging

After logging in as the device administrator, click "System Settings" on the main interface to enter the system Settings interface. This interface is reserved and there are no setting items at present.



## 8. Troubleshooting

When a fault state occurs, the value displayed later is the fault code, which is shown in hexadecimal, as shown in the following table

Position	explain
Bit15	The bottom of the bottom is an alarm
Bit14	The bottom of the top is below the lower limit alarm
Bit13	An upper limit alarm is triggered at the bottom
Bit12	An upper limit alarm is triggered at the top
Bit11--Bit8	The program segment for overtemperature alarm
Bit7	The door is opened in the process
Bit6	The top flow in the process is abnormal
Bit5	The bottom flow in the process is abnormal
Bit4	---
Bit3	The protection circuit feeds back the fault status
Bit2	Protect the temperature sensor from abnormal conditions
Bit1	The bottom temperature sensor is abnormal
Bit0	The top temperature sensor is abnormal

Fault code table

Example 1: If the fault code is C100, it is converted to binary, and Bit15, Bit14, and Bit8 are 1, indicating that the top and bottom temperatures are both below the lower limit alarm, and the alarm is generated in the first temperature segment.

Example 2: If the fault code is 0080, it is converted to binary, and Bit7 is 1, indicating that the door is opened in the process (the door magnetic sensor does not detect the signal).

Example 3: If the fault code is 000C, it is converted to binary, and Bit3 and Bit2 are 1, indicating that the temperature sensor is abnormal, usually exceeding the upper limit of the sensor temperature, and triggering hardware protection.