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# HOT AIR SELECTIVE SYSTEM

## Instruction Manual



## NOTE

To prevent accidents, be sure to observe the following precautions:

1. Use the unit only in the described manner as the manual.
2. The air outlet and its surrounding area maybe very hot. Please take great care and not to be burned.
3. After work, the handle must be placed on the holder and never place the handle on the workbench or other places. The unit can be turned off only after it cools below 100°C(sleeping mode) automatically.
4. Please keep the air outlet clear and not be blocked.
5. Do not place the sharp object besides or on the tube.
6. Keep the air outlet at least 2mm from the object.
7. Select the appropriate nozzle according to demands. Differences in temperature may exist when different nozzle is used.
8. Turn off the power switch if not using in a period of time. Disconnect the power cord when not in use for a long time.
9. Handle with care not to shock the unit sharply.
10. A periodically maintenance of the unit is necessary.
11. Don't operate the unit with wet hand or when the power cord is damp to avoid short circuit or electric shock.
12. Never use this unit in flammable gases or near other flammable materials. After using, don't put it near the flammable gases or materials.
13. Some areas such as behind walls, ceilings, floors, and other panels may contain flammable materials which may not be found. The ignition of these materials could result in property damage and injury to persons. When working in these locations, move the handle back and forth and not pause at one point for protecting the flammable materials from ignition and other things from damage.
14. Children can't recognize the danger of the electrical appliance and keep the unit out of reach from children.

## 1. Characteristic

1. There are "CH1", "CH2" and "CH3" three regular channels and each channel's parameters including temperature, time and airflow can be set by "CH0" channel.
2. There is lock-function to make only one channel in work state and the menu setting with password protection.
3. Real time operation and there are two methods of work controlling to select: single control (by magnetic switch) or double control (by pedal switch and magnetic switch).
4. With automatically sleeping function and it can set parameters in the sleeping state.
5. Closed loop sensor, temperature can be controlled by zero voltage triggering mode. Large power and rapid heating. Temperature can be conveniently adjusted and the temperature is accurate and stable, and not affected by airflow.
6. It is with a brushless whirlpool motor and the airflow is adjustable with a wide range but no level. It is a multipurpose unit.
7. Automatic cooling system can prolong the heating element's life and protect the handle.

## 2. Usage

1. It is suitable to the desoldering of the SMD components, such as SOIC, CHIP, QFP, PLCC, BGA and so on.
  2. It is suitable to hot shrink, drying, remove lacquer and mucosity, thaw, preheating, disinfect and so on.
  3. It is suitable to the situation with different range airflow, softer or heavier.
- It is suitable to the hot air lead free desoldering.

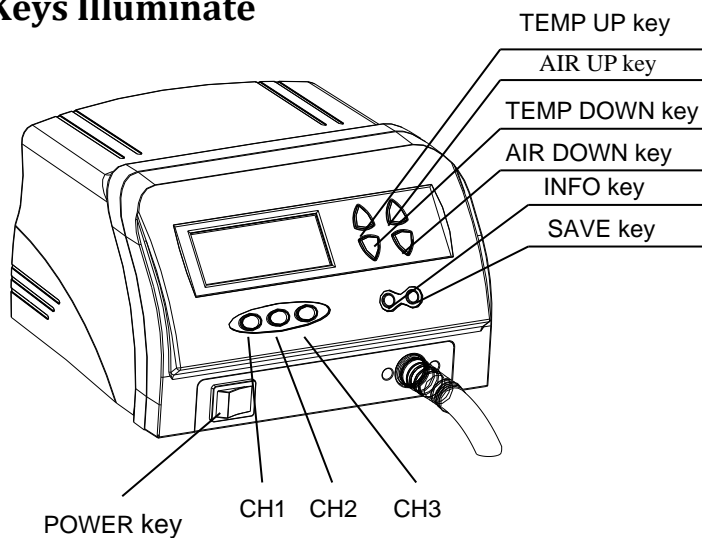
## 3. Specifications

Power	1300W
Voltage	200V~240V 50HZ/60HZ
Temperature range	100°C~500°C
Work time	1~999seconds “---” means the system will work continually.
Airflow range	6~200
Maximal airflow	200L/min
Size (L*D*H)	250*230*150mm
Weight	3.8kg

## 4. Keys and LCD Illuminate

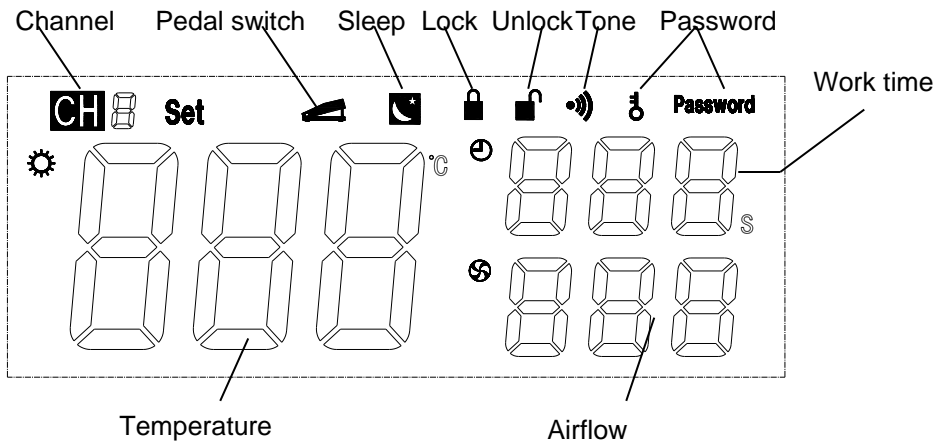
Please check the parts on the package before connecting the unit.







### 4.1 Keys Illuminate



POWER key:	Power supply switch
CH1 key:	Click to CH1 channel
CH2 key:	Click to CH2 channel
CH3 key:	Click to CH3 channel
TEMP ▲/▼key:	Set the temperature
AIR ▲/▼key:	Set the airflow
INFO key:	Press “INFO” key and TEMP “▲” or TEMP “▼”key to set time
SAVE key:	Click to CH0 channel , press “SAVE” key and CH1 or CH2 or CH3 key simultaneously to save the parameter values to channel CH1 or CH2 or CH3

## 4.2 LCD Illuminates



- CH**: It means the system is working in this channel
- Set**: When the LCD displays “set”, it means the system is in the menu setting state and the unit cannot work at this state
- : When LCD displays this mark, it means the pedal switch can control the system in work state or sleeping state after taking down the handle from the holder
- : It means the system is in the sleeping state
- : It means when the system in the work state, it only can work in the CH1 channel and parameters
- : It means when the system in work state and it can switch the work channels and setting parameters
- : When LCD displays this mark, it means the system will alarms when happening error and changing password successfully, besides, it will give sound when pressing keys
- Password**: When LCD displays this mark, it means the system is in the password inputting state
-  **Password**: When LCD displays this mark, it means the system is in the password changing state

## 5. Operation Instruction

Firstly, place the SMD rework unit on the workbench. And then connect well the power cord and other connection lines. Place the handle on the handle holder before switching on the power supply.

### 5.1 Temperature Setting

**Raise temperature:** Click “TEMP ▲” key and then the temperature will rise 1°C, and the LCD displays the current setting temperature. If pressing “TEMP ▲” not loosely at least one second, the setting temperature will rise rapidly. Loose the “TEMP ▲” key until up to the needed temperature

**Reduce temperature:** Click “TEMP ▼” key and then the temperature will drop 1°C, and the LCD displays the current setting temperature. If pressing “TEMP ▼” key not loosely at least one second, the setting temperature will drop rapidly. Loose the “TEMP ▼” key until down to the needed temperature

## 5.2 Airflow Setting

**Raise Airflow:** Click “AIR ▲” key and then the airflow grade will rise 1, and the LCD displays the current setting airflow grade. If pressing “AIR ▲” not loosely at least one second, the setting airflow grade will rise rapidly. Loose the “AIR ▲”key until up to the needed airflow grade

**Reduce Airflow:** Click “AIR ▼” key and then the airflow grade will drop 1, and the LCD displays the current setting airflow grade. If pressing “AIR ▼” not loosely at least one second, the setting airflow grade will drop rapidly. Loose the “AIR ▼”key until down to the needed airflow grade




## 5.3 Work Time Setting


**Raise Time:** Click “INFO” key and “TEMP ▲” key at the same time and then the work time will rise 1 second, and the LCD displays the current setting work time. If pressing “INFO” key and “TEMP ▲”key not loosely at least one second, the setting work time will rise rapidly. Loose the “INFO” key and “TEMP ▲”key until up to the needed time

**Reduce Time:** Click “INFO” key and “TEMP ▼” key at the same time and then the work time will drop 1 second, and the LCD displays the current setting work time. If pressing “INFO” key and “TEMP ▼”key not loosely at least one second, the setting work time will drop rapidly. Loose the “INFO” key and “TEMP ▼”key until down to the needed time. If pressing “INFO” key and “TEMP ▼”key not loosely until the LCD displays “---” at the time parameter, it means the system is not controlled by work time and will continually work until the system is forcible into the sleeping state



**⚠Note:** *Only in the unlocking state, the system can change the values of temperature, airflow and work time. The parameter values cannot be set when displaying “OFF” or in the lock state.*


## 5.4 Magnetism Switch Control

1. Press the “POWER” key and switch on the power supply to the SMD rework system
2. If the LCD does not display “”, it means the system is completely controlled by the magnetism switch. As when taking down the handle from the holder, the system comes into the working state. At the moment, the pedal switch has no effect
3. **When the handle is took down from the handle holder**, the system comes to work in the current work channel until the work time ends. At the moment, it can press any key (except “POWER” and “INFO” keys) to return work mode
4. If putting the handle on the handle holder, the system will come into the sleeping state at once
5. If the LCD displays “”, it means the system will sound “di-di” at the last 5 seconds during the working flow
6. **When working in the lock state**, the LCD displays “”. At the moment, the system only can work in the **CH1** channel, and cannot switch the channel and change parameter values

7. **When working in the unlock state**, the LCD displays “”. At the moment, whatever is in the work state or in the sleeping state, the system can switch channel and change parameter values, and work in the different channel “CH0” or “CH1” or “CH2” or “CH3” with different parameter values. The parameter values setting method is as following:
- A. Press “CH1” or “CH2” or “CH3” key to switch the current work channel. Press any key (except “POWER” or “INFO” or “CH1” or “CH2” or “CH3” key) to the “CH0” channel with current parameter values. For example, if pressing “CH0” key, the system will work at the “CH0” channel
  - B. The system can work at the different channel with different parameter values which including temperature, time and airflow. The setting methods are as followings:
    - Press TEMP “▲” or “▼” key to set the temperature and the temperature range is 100°C~500°C. The setting method refers to “5.1 temperature setting”
    - Press AIR “▲” or “▼” key to set the airflow and the airflow range is 6~200. The setting method refers to “5.2 airflow setting”
    - Press “INFO” and AIR “▲” or “▼” keys at the same time to set the work time and the time range is 1~999seconds. The setting method refers to “5.3 work time setting”
  - C. All the parameter settings work in the “CH0” channel. When setting the values of temperature or time or airflow, the “CH0” will be the current channel and the setting values will be saved into the “CH0” channel
  - D. If need to set the channel “CH1” or “CH2” or “CH3” with different parameter values, press “SAVE” key not loosely and then press “CH1” or “CH2” or “CH3” key about one seconds to save the parameter values in the “CH0” channel to the corresponding channel “CH1” or “CH2” or “CH3”


## 5.5 Pedal Switch Control

1. Press the POWER key and switch on the power supply to the SMD rework system
2. If the LCD displays “”, it means the system is controlled by the pedal switch when taking down the handle from the holder
3. Spring the pedal in the work state and then the system comes to the sleeping state
4. Spring the pedal switch not loosely in the sleeping state and then the system comes to the work state. The time parameter window will display “---”, it means the system will be in the work mode until losing the pedal switch
5. Spring the pedal switch and then loose in the sleeping state, the system comes to work in the current channel which the LCD displaying. Till the work time window displaying “OFF”, the system cools down to 100°C and then into sleeping state
6. When working in the lock state, the LCD displays “”. At the moment, the system only can work in the CH1 channel, and cannot switch the channel and change parameter values

7. When working in the unlock state, the LCD displays “”. At the moment, whatever is in the work state or in the sleeping state, the system can switch channel and change parameter values, and work in the different channel “CH0” or “CH1” or “CH2” or “CH3” with different parameter values. The setting method refers to “5.4 magnetic switch control”


 **Note:**

**When the time parameter window displaying “---”, it means the system will be in the work state and without work time limited.**


- **Base on the system can fulfill the soldering or de-soldering, using as low temperature as possible and as big airflow as possible for prolonging the heater’s life and protecting the element.**
- **It must switch off the power supply if not using in a period of time.**
- **When the unit can be controlled by the pedal switch, it must do set “” in the menu setting.**

## 6. Sleeping

### 6.1 How into the Sleeping State

1. When the work time counting down finishes, the system will come automatically to the sleeping state
2. Put the handle on the handle holder, the system will come automatically to the sleeping state
3. If the system is controlled by pedal switch, when springing the pedal switch in the work state, the system will come to the sleeping state
4. During the system from work state to sleeping state, the time parameter window will display “OFF”. and then when the temperature cooling down to 100°C, the unit comes into the sleeping state. In the sleeping state, the LCD will display “” and “---”


### 6.2 Resume

1. When the handle is putting on the handle, it cannot be resumed from sleeping
2. If the unit is in sleeping when the handle on the holder, take down the handle from the holder. At the time, it will work at once if it is controlled by the magnetic switch. Or else, it will work after click the pedal switch
3. **If the handle is not on the holder in sleeping:** If the unit controlled by the magnetic switch, click any keys except “POWER” and “INFO” keys to work. Or else, click the pedal to. In work state,  will not display

## 7. Calibration

Methods of recalibrating the temperature are as followings:




1. In work state, set the calibration temperature 300°C
2. When the temperature is stable, test the outlet temperature of the handle with thermometer and write down it

3. **Into the calibration mode:** Press TEMP “▲”, “▼”, “INFO” 和 “SAVE” four keys at the same time, the system will enter into the temperature calibrating mode and the LCD will display “ ---”
4. And then the hundreds digit twinkle, press “▲” or “▼” key to input the temperature testing by the thermometer. Inputting method refers to “5.1 temperature setting”
5. In the work mode, when the temperature is stable (300°C), test the outlet temperature again with the thermometer. If the temperature still has some departure, you can repeat calibration according with the above steps



**Note:** \* Suggest using 191 or 192 thermometer to measure the temperature.

## 8. Menu Setting

The system has menu-setting function. For into the menu-setting mode, it must input right password. The initial password is “000”.

1. In the menu-setting mode, the handle does not work. And it can set channel, locking or unlocking, magnetic switch controlling or with pedal switch controlling, with key tone or not and so on
2. The operation steps of menu-setting are as followings:
  - A. **Into the menu setting mode:** Turn off the power switch. Press “INFO” key and “SAVE” key at the same time not loosely, and then press “POWER” key to turn on the power supply
  - B. Press any operation keys in five seconds when the LCD displaying  , and then the LCD will display **Password** and  , or else, the system will turn back to work state. The hundred of  will flash, what means in the password-inputting mode and it must input the right password. The initial password of system is 000
  - C. **Password inputting method:** Press AIR “▲” or “▼” key to change the hundreds digital and then press “SAVE” key to tens digital set. Ten digital and one digital setting method is the same as the hundred digital setting. The setting method refers to “5.1 temperature setting”. There are three times to input the password, only when the inputting password is right, the system runs into the menu setting process. Or else, if the inputting passwords are all error in the three times, the system will exit the password setting mode and come into the work state
  - D. If the system runs into the menu setting, the LCD will display “**Set**”
3. **Press “INFO” key and “CH1” key** simultaneously, which can set the system with key tone or not
4. **Press “INFO” key and “CH2” key** simultaneously, which can set the system controlled by the magnetic switch or by magnetic switch and pedal switch
5. **Press “INFO” key and “CH3” key** simultaneously, which can set the system in locking mode or unlocking mode
6. **Change the password:** in the menu setting mode, press “CH1” key and “CH2” key simultaneously, the system will run into the password setting mode. The method of the password setting is as following:



- A. When in the password setting mode, the LCD will display “ Password” and “”, the left hundred will flash
- B. Press **AIR** “▲” or “▼” key to change the hundred digital and then press “SAVE” key to ten digital set. Tens digital and one digital setting method is the same as the hundreds digital setting. The setting method refers to “5.1 temperature setting”. After finishing the first time password inputting, press “SAVE” key to the secondary password input
- C. If the secondary inputting password is not same with the first inputting password, the password setting is not successful and it will exit the password setting and return to the menu setting
- D. If the secondary inputting password is same with the first inputting password, the password setting is successful. The new password will flash three times and the system will sound “di-di-di” and then return to the menu setting

7. After finishing menu setting, press “SAVE” key to the work state.

## 9. Error Messages

The system will give error information when there is something wrong with it and alarms continually till cutting off the power supply. If the “LCD” display error marks as following, please solve them as the troubleshooting.

**S-E** **Sensor error:** If there is some malfunction in the sensor or in the sensor circuit, the temperature parameter of LCD will display “**S-E**” and the power supply to the handle will be cut off

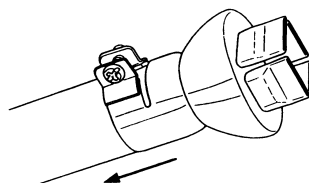
**H-E** **Heater error:** If there is some thing wrong with the heating element, the temperature parameter of LCD will display “**H-E**” and the power supply to the handle will be cut off

**ERROR** **Motor error:** If there is some malfunction in the motor or in the motor circuit, the airflow parameter of LCD will display “**ERROR**” and the power supply to the motor will be cut off

## 10. Parts Assemble and Disassemble

### 10.1 Nozzles assemble and disassemble

1. Select the nozzle that matches the size of the IC. Attach the nozzle when both the pipe and the nozzle are cool
2. Loosen the screw on the nozzle
3. Attach the suited nozzle as shown in the drawing
4. Fasten the screw properly



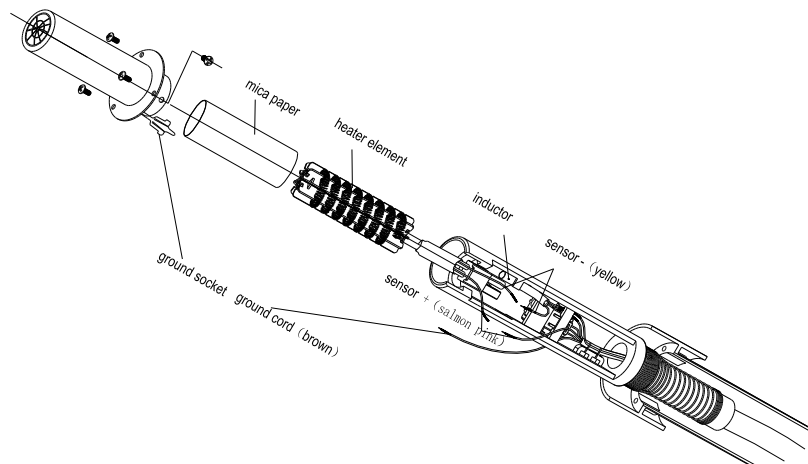
## 10.2 Replacing Heating Element

1. Replace the heating element after the handle has cooled down
2. Screw down the fixation screws in handle and then take off the handle house
3. As shown in the diagram, move back the spring in the handle module and take out the steel tube
4. Cut off the strap, disconnect the sensor cord and the connector, ground cord and ground socket. And then take out the steel tube and the broke heater element
5. Wrap the mica on the new heater element and insert into the steel tube. It is better to right insert into the steel tube and cut off the unwanted mica

### **⚠ Note:**

***The sensor cords of heater element putting on the red and yellow hot shrinking tubes are on the opposite part of the ground cord.***

6. Reassemble the handle according to the opposite order of disassembling. The heater part of the heater element must be insert into the end. The sensor cord has polarity and it must connect with the same color.



**⚠ Note:** Avoid invalidate the ground cord when replacing the heater element.