

**AOYUE<sup>®</sup>**

Pronunciation: /aw u/

**SP2000+**

**Environment Friendly  
Solder Pot**

**INSTRUCTION MANUAL**

Thank you for purchasing Aoyue SP2000+ Solder Pot system.  
It is important to read the manual before using the equipment.  
Please keep manual in accessible place for future reference.



This manual is designed to familiarize and instruct the operator with the proper usage and maintenance of the equipment. The "Care and Safety Precautions" section explains the hazards of using any type of soldering or reworking device. Please read carefully and observe the guidelines in order to maximize usage and minimize the risk of injury or accidents .

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# Product Description

The Aoyue SP2000+ solder pot is a highly durable general purpose industrial solder pot specially made for lead-free applications.

Dangerous fumes generated during the dip soldering are quickly filtered significantly reducing byproducts of the soldering process. Its non-metallic crucible further reduces residue and unwanted oxidation.

A microprocessor controlled heater ensures precise temperature regulation and protects against damage to components due to overheated solder.

These patented unique, innovative environment friendly design with bright digital display tactile push button provides precision, safety, and ease of use to match all soldering requirements.

## Features:

- Microprocessor-controlled equipment ESD safe equipment.
- Digital display of actual and set temperature.
- Digital tactile touch type controls for precision and ease of use.
- Low residue crucible ensures a pure solder.
- The crucible is made of highly durable ceramic which can withstand temperatures of over 400°C.
- Integrated smoke absorber fan with filter pad to efficiently and effectively absorb and filter harmful fumes.
- Suitable for lead-free and standard processes.

## Specifications /Package Inclusions

MAIN STATION	
Power Input :	available in 110V / 220V
Station Dimensions:	265(w) x 180(d) x 220 (h) mm
Weight:	3.8 Kg
Power Consumption:	600W
Temperature Range:	100 °C - 350 °C
Solder Capacity:	3Kg
Heating Element:	Ceramic Heater

Specifications are subject to change without prior notice.

- 1 unit SP2000+ Station
- 1 pc. Ceramic Crucible
- 1 pc. Skimmer
- 1 pc. Metal Tongs
- 1 pc. Sponge Platform
- 1 pc. Aluminum Platform Sponge
- 1 pc. Power Cord
- 1 pc. Instruction Manual

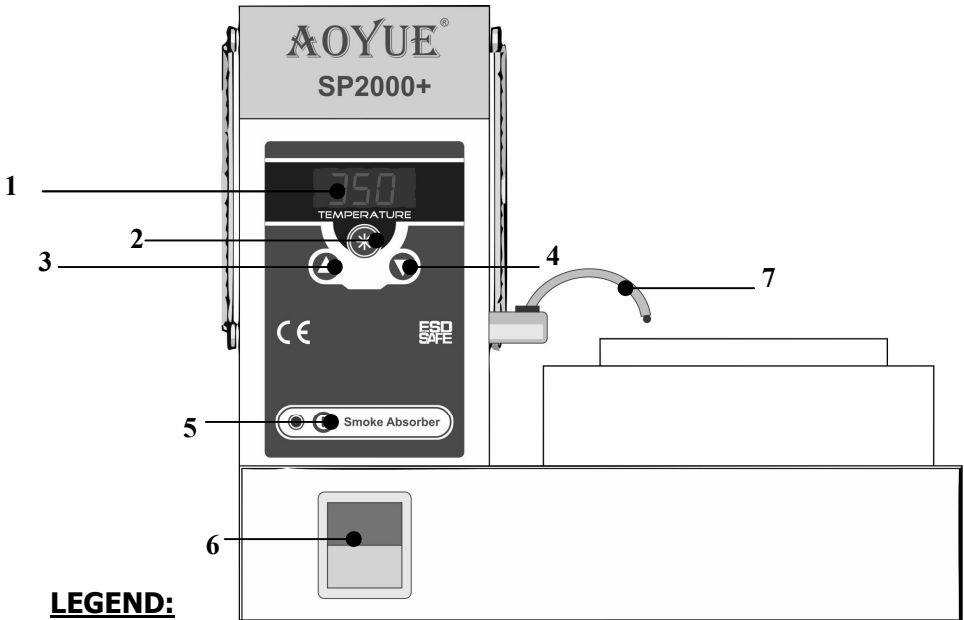
# Safety Precautions



**CAUTION: Improper usage can cause serious injury to personnel and/or damage to equipment. For your own safety, please observe the ff. precautions.**

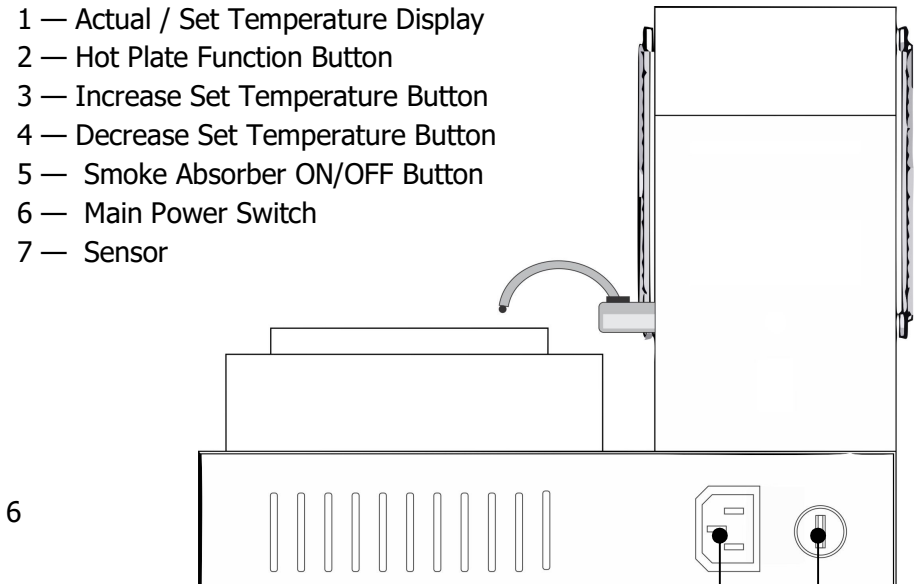
- Check each component after opening the package to make sure everything is in good condition. If there are any suspected damage, do not use the item and report the issue to your vendor.
- Turn OFF the main power switch and unplug the device when moving the device from one location to another.
- Do not strike or subject the main unit to physical shock. Use carefully to avoid injury and damage to any part.
- Handle with care.
  - Never drop or sharply jolt the unit.
  - Contains delicate parts that may break if the unit is dropped.
- Make sure the equipment is always grounded. Always connect power to a grounded receptacle.
- Temperature may reach as high as 350°C when switched ON.
  - Do not use the device near flammable gases, paper and other flammable materials.
  - Do not touch heated parts, which can cause severe burns.
  - Do not touch metallic parts near the tip.
- Disconnect the plug from the power source if the unit will not be used for a long period.
  - Turn off power during breaks, if possible.
- Use only genuine replacement parts.
  - Turn off power and let the unit cool before replacing parts.
- The unit may produce a small amount of smoke and unusual odor during initial usage. This is normal and should not yield any negative result when reworking.
- Soldering process produces smoke — use on well ventilated place.
- Do not alter the unit, specifically the internal circuitry, in any manner.

# Control Panel Guide



**LEGEND:**

- 1 — Actual / Set Temperature Display
- 2 — Hot Plate Function Button
- 3 — Increase Set Temperature Button
- 4 — Decrease Set Temperature Button
- 5 — Smoke Absorber ON/OFF Button
- 6 — Main Power Switch
- 7 — Sensor



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# Operating Guidelines

## **IMPORTANT REMINDERS:**

1. Make sure the equipment is placed on a flat stable surface.
2. Ensure all terminal connections are properly secured.

**IMPORTANT:** Please refer to the **CONTROL PANEL GUIDE** page for buttons and display panel directory.

## **A. Solder Pot**

1. Plug the device to the main power source using the power cord provided in the package.
2. Switch ON the device by activating the main power switch. The display panel ("1" from the control panel guide) will show "OFF". This indicates that the solder pot heating function is not activated.
3. If the system's solder pot heating function is deactivated and the actual temperature of the hot plate is above 70 degrees Celsius. The display will alternate between showing the actual temperature of the solder pot and the word "OFF". This is to indicate that the solder pot temperature is still at a relatively high temperature.
4. When the actual temperature falls below 70 degrees Celsius the display would continuously show the message "OFF". This indicates that the solder pot function is turned off, and the temperature of the solder pot has cooled to below 70 degrees Celsius.
5. To start the solder pot heating function press and hold the solder pot activation button. ("2" from the control panel guide)
6. The display would initially show the set temperature ("1" from the control panel guide). After a few seconds the display will switch to displaying the actual temperature.
8. Adjust the desired set temperature by pushing the increase or decrease set temperature buttons. ("3" and "4" of the control panel guide.)
9. Make sure that the smoke filtering function is turned off during initial heat up.

# Operating Guidelines

10. Put in Solder bars to melt. Once solder has melted ensure that the external sensor is able to come in contact with the melted solder for proper temperature feedback.
11. Dip soldering process may be done when the actual temperature displayed is equal to the desired set temperature. Or when solder has melted to the desired temperature.
12. To enable/disable the smoke absorbing function while soldering simply press and hold for 1 second the smoke absorber fan button. ("5" from the control panel guide).

## **IMPORTANT:**

If cpu cannot detect the appropriate feedback from the melted solder, system automatically enters into protection mode, turning off the heater and displaying the message "err". This indicates that the sensor has not been placed inside the solder pot with the solder. Turn off unit and ensure that sensor is able to come in contact with the melted solder .

## **B. For dip soldering printed circuit boards:**

- Insert all thru hole components into a printed circuit board. Use a tong to hold the PCB and briefly dip the underside of the PCB into flux and then the solder pot.
- Smoke generated from the process will then be quickly filtered thru the filter pad.
- When all the PCB are soldered. Turn off the smoke absorption switch and then switch off the main power.

## **C. For tinning solder tips, stranded wires and pre-tinning small electrical parts:**

- Prepare the items to be tinned. Ensure items are clean and free from unwanted dirt or oil.
- Use tweezers or pliers to hold small components and briefly dip the tip of the components into flux then into the solder pot.
- Smoke generated from the process will then be quickly filtered thru the filter pad.
- When all the work is finished. Turn off the smoke absorption switch and then switch off the main power.



# Digital Calibration

## **D. Utilizing Digital Temperature Calibration**

By default, the system is properly calibrated but for some cases when a little adjustment of the solder pot temperature is required the following procedure can be done.

1. Turn on the solder pot heating function.
2. Set to appropriate temperature you want to calibrate. Place an external temperature meter in the melted solder.
3. The readings on the external temperature sensor should be more or less equal to the displayed temperature. If there are large discrepancy in the temperature reading we can re-calibrate the temperature setting.
4. First write down the set temperature of the solder pot and the actual temperature reading from the external temperature meter. For example: set temperature = **300**

external temperature = **330**

Calibration needed = **-30**

5. Turn off the solder pot heating Function. Simultaneously press and hold for 5 seconds the **solder pot heating function button** and the **increase temperature button** .
6. The Temperature Display ("1" from the control panel) . Will switch to "000" indicating it is now in digital calibration adjustment mode. The calibration range is from "-30" to "030" . The leading "-" sign signifies a negative calibration number while a leading "0" signifies a positive calibration number.
7. Use the Temperature Adjustment buttons ("3" and "4" from the control panel) to increase or decrease the calibration number. In our example the set temperature is 300 but the actual temperature is 350, There is need to decrease the temperature by 50 degrees. Press the down button until we reach "-30" .
8. Save the value by pressing and holding the **solder pot heating function button** ("2" from the control panel).

# Digital Calibration

## **Digital Temperature Calibration Example 1**

- The external temperature sensor displays 250 degrees.
- The set temperature and displayed actual temperature of the is 300 degrees.
- $300 - 280 = 20$ . An additional adjustment of 20 degrees is required. Upon entering calibration mode, the display shows "010", indicating a calibration number of 10 is already present.
- Therefore  $10+20= 30$ .
- We adjust from "010" to "030" by pressing the up adjustment button.
- Save and exit calibration mode.

## **Digital Temperature Calibration Example 2**

- The external temperature sensor displays 300 degrees.
- The set temperature and displayed actual temperature is 350 degrees.
- $300 - 320 = -20$ . An additional adjustment of -20 degrees is required. Upon entering calibration mode, the display shows "010", indicating a calibration number of 10 is already present.
- Therefore  $10-20= -10$ .
- We adjust from "010" to "-10" by pressing the down adjustment button.
- Save and exit calibration mode.

### **NOTES:**

- Calibration will only make the newly calibrated point the most accurate. Other temperature points may be a little off.



**WARNING:** Contents of the solder pot can still be very hot for several hours after usage, extreme caution should be followed when handling for storage or placement.

# Care and Maintenance

## **PROBLEM 1: THE UNIT HAS NO POWER**

1. Check if the unit is switched ON. Power switch located at the back.
2. Check the fuse. Replace with the same type if fuse is blown.
3. Check the power cord and make sure there are no disconnections.
4. Verify that the unit is properly connected to the power source.

## **PROBLEM 2: TEMPERATURE DISPLAY SHOWS "Err"**

**Description:** Digital display shows the message "Err" upon turning on the solder pot heating function.

### **SOLUTION:**

Sensor is damaged or loose .

## **PROBLEM 4: ACTUAL TEMPERATURE IS NOT RISING, DISPLAY SHOWS "Err"**

**Description:** Digital display shows the message "Err" after a few minutes of the actual temperature not rising .

### **SOLUTION:**

Sensor tip was did not come in contact with the molten solder. Adjust sensor armature such that sensor is dipped into the molten solder. The heating elements may have reached the end of its life.

## **PROBLEM 5: UNIT SHOWS UNCONVENTIONAL BEHAVIOR**

**Description:** Unit operates erratically.

**SOLUTION1:** Try to switch OFF the device and switch ON again. Unplug the system from the main power source and plug in again.

## **OTHER PROBLEMS NOT MENTIONED:**

Contact the vendor.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

The specific instructions related to the safe operation of this appliance (as given in 7.12 of this standard) shall be collated together in the front section of the user instructions.



The height of the characters, measured on the capital letters, shall be at least 3 mm.

These instructions shall also available in an alternative format, e.g. on a website.

A fire may result if the appliance is not used with care, therefore:

- be careful when using the appliance in places where there are combustible materials ;
- do not apply to the same place for a long time;
- do not use in presence of an explosive atmosphere;
- be aware that heat may be conducted to combustible materials that are out of sight;
- place the appliance on its stand after use and allow it to cool down before storage;
- do not leave the appliance unattended when it is switched on.

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Correct Disposal of this product	
 	This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

Manufacturer:

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<http://www.aoyue.co>