

Thank you for purchasing this product. Please read the manual carefully before operating and keep this manual for future reference.

Precision Soldering Station, Hot Air Rework Station, DC Power Supply 3-in-1 Multi Station

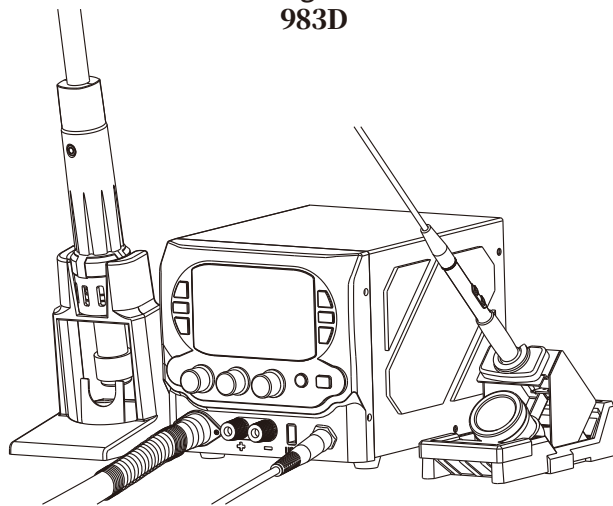
OPERATION INSTRUCTION

English
983D



Select the corresponding logo
according to the nameplate.

● This product should not be thrown in the garbage. In accordance with the European directive 2012/19/EU, electronic equipment at the end of their life must be collected & returned to an authorized recycling facility.
● Dieses Produkt darf nicht in den Müll geworfen werden. Gemäß der europäischen Richtlinie 2012/19/EU müssen elektronische Geräte am Ende ihrer Lebensdauer gesammelt und an eine autorisierte Recyclinganlage zurückgegeben werden.
● Ce produit ne doit pas être jeté à la poubelle. Conformément à la directive européenne 2012/19/UE, les équipements électroniques en fin de vie doivent être collectés et renvoyés à une installation de recyclage autorisée.
● Questo prodotto non deve essere gettato nella spazzatura. In conformità alla direttiva europea 2012/19/UE, gli apparecchi elettronici giunti a fine vita devono essere raccolti e restituiti a un impianto di riciclaggio autorizzato.
● Este producto no debe ser arrojado a la basura. De acuerdo con la directiva europea 2012/19/UE, los equipos electrónicos al final de su vida útil deben ser recolectados y devueltos a una instalación de reciclaje autorizada.



Statement: The company reserves the right to improve & upgrade products, product specifications and design are subject to change without notice.

IMPORTANT SAFEGUARDS

When using electrical appliances, basic safety precautions should always be followed including the following:

CAUTION!!! WARNING!!!

Read instruction manual before using.

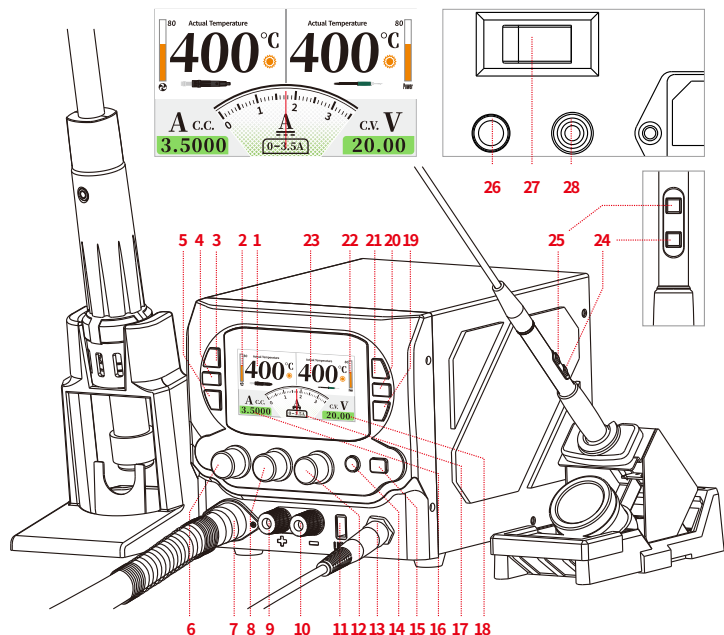
1. To provide continued protection against risk of electric shock, connect to properly grounded outlets only.
2. Do not immerse in water.
3. Hot Surface. Avoid Contact.
4. Shock Hazard. To provide continued protection against electric shock disconnect from the power supply when not in use.
5. Heat gun, soldering iron, desoldering iron must be placed on its stand when not in use.
6. HOUSEHOLD AND INDOOR USE ONLY.
7. To prevent electric shock, unplug before replace the fuse and other service.
8. Replace only with same type and rating of fuse.
9. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
10. Children should be supervised to ensure that they do not play with the appliance.
11. The soldering iron and desoldering iron is only to be used with the power supply unit provided with the appliance.
12. If the SUPPLY CORD is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
13. Any servicing should be performed by an authorized service representative AND that the product has no user serviceable parts.
14. To reduce the risk of fire or electric shock, do not expose this product to rain or moisture. Store indoors. Read instruction manual before using.
15. 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.
16. Hidden areas such as behind walls, ceilings, floors, soffit boards and other panels may contain flammable materials that could be ignited by the heat gun when working in these locations. The ignition of these materials may not be readily apparent and could result in property damage and injury to persons. When working in these locations, keep the heat gun moving in a back-and-forth motion. Lingering or pausing in one spot could ignite the panel or the material behind it.
17. WARNING: Extreme care should be taken when stripping paint. The peelings, residue and vapors of paint may contain lead, which is poisonous. Any pre-1977 paint may contain lead and paint applied to homes prior to 1950 is likely to contain lead. Once deposited on surfaces, hand to mouth contact can result in the ingestion of lead. Exposure to even low levels of lead can cause irreversible brain and nervous system damage; young and unborn children are particularly vulnerable.
18. Before beginning any paint removal process you should determine whether the paint you are removing contains lead. This can be done by your local health department or by a professional who uses a paint analyzer to check the lead content of the paint to be removed.
19. LEAD-BASED PAINT SHOULD ONLY BE REMOVED BY A PROFESSIONAL AND SHOULD NOT BE REMOVED USING A HEAT GUN.

20. Persons removing paint should follow these guidelines:

- 1) Move the work piece outdoors. If this is not possible, keep the work area well ventilated. Open the windows and put an exhaust fan in one of them. Be sure the fan is moving the air from inside to outside.
- 2) Remove or cover any carpets, rugs, furniture, clothing, cooking utensils and air ducts.
- 3) Place drop cloths in the work area to catch any paint chips or peelings. Wear protective clothing such as extra work shirts, overalls and hats.
- 4) Work in one room at a time. Furnishings should be removed or placed in the center of the room and covered. Work areas should be sealed off from the rest of the dwelling by sealing doorways with drop cloths.
- 5) Children, pregnant or potentially pregnant women and nursing mothers should not be present in the work area until the work is done and all clean up is complete.
- 6) Wear a dust respirator mask or a dual filter (dust and fume) respirator mask which has been approved by the Occupational Safety and Health Administration (OSHA), the National Institute of Safety and Health (NIOSH), or the United States Bureau of Mines. These masks and replaceable filters are readily available at major hardware stores. Be sure the mask fits. Beards and facial hair may keep masks from sealing properly. Change filters often.
- DISPOSABLE PAPER MASKS ARE NOT ADEQUATE.
- 7) Use caution when operating the heat gun. Keep the heat gun moving as excessive heat will generate fumes which can be inhaled by the operator.
- 8) Keep food and drink out of the work area. Wash hands, arms and face and rinse mouth before eating or drinking. Do not smoke or chew gum or tobacco in the work area.
- 9) Clean up all removed paint and dust by wet mopping the floors. Use a wet cloth to clean all walls, sills and any other surface where paint or dust is clinging. DO NOT SWEEP, DRY DUST OR VACUUM. Use a high phosphate detergent or trisodium phosphate (TSP) to wash and mop areas.
- 10) At the end of each work session put the paint chips and debris in a double plastic bag, close it with tape or twist ties and dispose of properly.
- 11) Remove protective clothing and work shoes in the work area to avoid carrying dust into the rest of the dwelling. Wash work clothes separately. Wipe shoes off with a wet rag that is then washed with the work clothes. Wash hair and body thoroughly with soap and water.
21. To ensure personal safety, please turn off the power switch after work is completed; When not in use for an extended period, please unplug the power cord!!!
22. Do not install nozzle when the hot air gun is turned on, the heat pipe and the nozzle must be cooling. Then installed the other nozzle.
23. The soldering iron should only be used for soldering. Do not hit the soldering iron against the work surface to remove flux residues (Can be cleaned by the cleaning device of the product), as doing so may seriously damage the soldering iron.
24. Soldering produces fumes, ensure there is adequate ventilation.
25. After used, remember that cooling the unit, the handle should be placed on the handle holder.
26. Longer detachable power-supply cords are available and may be used if care is exercised in their use.
27. If a long detachable power-supply cord is used: 1) The marked electrical rating of the detachable power-supply cord or extension cord should be at least as great as the electrical rating of the appliance; 2) The extension cord should be a grounding type 3-wire cord; 3) The longer cord should be arranged so that it will not drape over the countertop or tabletop where it can be tripped over, snagged, or pulled on unintentionally (especially by children).
28. A short power-supply cord (or short detachable power-supply cord) is provided to reduce the risks resulting from becoming entangled in or tripping over a longer cord.
29. If the bottom of the brass wool tip cleaner contains solid-state rosin, the below warning applies: This product contains rosin (colophony), and the substance may cause an allergic skin reaction. When using the tip cleaner (rosin-inside), DO NOT inhale the fume generated or consume the solid-state rosin. DO NOT allow your skin and eyes to get in direct contact with the rosin.

SAVE THESE INSTRUCTIONS

I. CONTROL PANEL



1. Temperature (Hot Air Rework Station)
2. Simulated Air Volume
3. Temperature Increase Button (Hot Air Rework Station)
4. Power Button (Hot Air Rework Station)
5. Temperature Decrease Button (Hot Air Rework Station)
6. Air Volume Adjustment Knob/Function Knob
7. Receptacle (Hot Air Gun)
8. Current Adjustment Knob
9. Output Terminal (Positive +)
10. Output Terminal (Negative -)
11. 5V USB Port
12. Voltage adjustment knob
13. Receptacle (Soldering Iron)
14. Output ON/OFF Button
15. Power Button (DC Power Supply)
16. Current Display
17. Current Meter
18. Voltage Display
19. Temperature Decrease Button (Soldering Station)
20. Power Button (Soldering Station)
21. Temperature Increase Button (Soldering Station)
22. Simulated Power Value (Soldering Iron)
23. Temperature (Soldering Station)
24. Temperature Decrease Button (Soldering Station)
25. Temperature Increase Button (Soldering Station)
26. Receptacle (Soldering Iron Holder)
27. Master Power Switch
28. ESD-safe Receptacle

II. SPECIFICATIONS

Model number	983D
Rated voltage range	220V~240V
Rated frequency	50Hz
Rated power	1300W
Control unit dimensions	L222 * W170 * H148mm ±5mm
Operating ambient temperature	0~40°C/32°F~104°F
Display	LCD
Precision Soldering Station	
Temperature range	90°C~450°C/194°F~842°F
Tip to ground resistance	<2 Ohms
Hot Air Rework Station	
Air Delivery	Compressor Motor
Air Volume	≤150L/min
Temperature range	100°C~500°C/212°F~932°F
DC Power Supply	
Output voltage	0-20V
Output current	0-3.5A
Output power	70W
Accuracy (Voltage)	<0.1%+0.03V
Accuracy (Current)	<0.2%+0.5mA
Load regulation	<0.8%+10mV
Ripple	Vrms<0.3%(10Hz-1MHz)

III. APPLICATIONS

1. This unit is suitable for de-soldering and soldering operations on various surface-mount components and through-hole components, such as SOP, DIP, SOIC, etc.
2. Suitable for heat shrinking, drying, paint removal, adhesive removal, defrosting, preheating, sterilizing purposes.
3. This DC Linear power supply's voltage regulation is highly stable with great load capacity and low ripple. This power supply comes with a complete set of functions including short circuit protection, overcurrent protection and over-heat protection functions. Suitable for scientific research, product development, test labs, schools, assembly lines, and electronic repairs.

IV. OPERATION

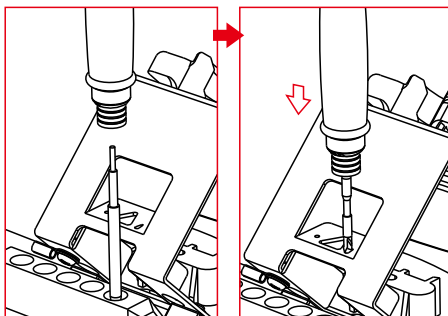
Precision Soldering Station

WARNING: When replacing the heating element (heated) during the operation, **DO NOT** touch the heating element or the soldering iron holder to avoid potential burn injuries.

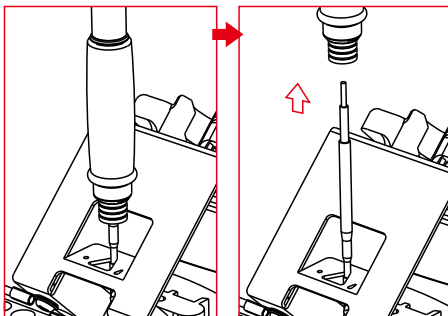
1. Installing and Changing Heating Element

Attach the heating element to the soldering iron and place the soldering iron tip into the hole. Once in place, apply pressure to secure the heating element (1-1). Slot the soldering iron tip into the V-shaped groove and lift the soldering iron to separate the heating element (1-2).

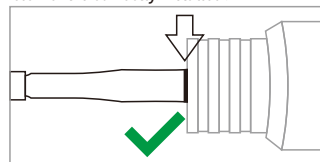
(1-1)



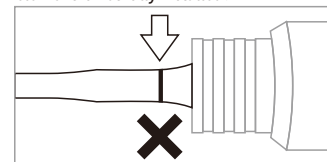
(1-2)



Correct position when the heating element is correctly installed:



Incorrect position when the heating element is not fully installed:



CAUTION: Upon the first use of the soldering iron, set the temperature to 250°C (482°F). When the iron is just hot enough to melt solder, coat the soldering iron tip with a layer of solder (the use of rosin core solder is recommended), then set the temperature to your desired temperature.

2. Connect the soldering iron and place the soldering iron into the soldering iron holder.
3. Connect the cord of soldering iron holder to the receptacle at the back of the station.
4. Turn ON the station's master power switch and press the soldering station's power button. Set the desired temperature and wait for a few seconds. The station is ready for use.
5. When the operation is complete, use a damped sponge or metal wool ball to clean the residues off the soldering iron tip. Tin the soldering iron tip with a new layer of solder again, then put the soldering iron back to the holder. Turn OFF power switch and DISCONNECT the power cord if the station is not in use for an extended period.

Hot Air Rework Station

1. Set the hot air rework station correctly, and place the hot air gun onto the holder.
2. Install the nozzle of the desired diameter (use of large diameter nozzles is recommended). Connect the hot air gun and then connect the station's power cord to an electrical outlet.
3. Turn ON the station's master power switch and press the hot air rework station's power button. Set the desired parameters and pick up the hot air gun. Wait for a while and the station is ready to work.

- Once the operation has been complete, the hot air gun must be returned to the holder. The hot air gun operation indicator light will turn OFF, and enter the heating element cooling mode. When the temperature is cooled below 100°C / 212°F, the hot air temperature will enter the stand-by mode. Turn OFF the station's master power switch and DISCONNECT the power plug when the station is not in use for an extended period.

DC Power Supply

- Connect the power supply's power cord to an electrical outlet.
- Turn ON the power supply's power switch and set the desired voltage value.
- Connect the load to the power supply based on the correct polarity. Press the output button once and the power supply will begin powering the load.
- When the operation is complete, press the output button once to stop the output. DISCONNECT the load, and turn OFF the power supply. DISCONNECT the power cord when the power supply is not in use for an extended period.

Functions

1. Menu

Press and hold the function knob for approximately 2 seconds to enter the menu interface. Seven options are available for configuration. Press the function knob to select. Turn the function knob to switch to another setting in the option or enter the option. Once done selection, press the function knob to confirm. Press and hold the function knob to exit the interface.

Sleep Temperature --- 90°C~450°C

Sleep Timer --- 0-10 Minutes

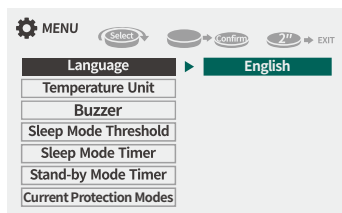
Stand-by Timer --- 1-10 Minutes

Over-current Protection Modes --- Current Protection Modes: Constant-Current Mode, Over-Current Protection (No-Resume), Over-Current Protection (Auto-Resumption)

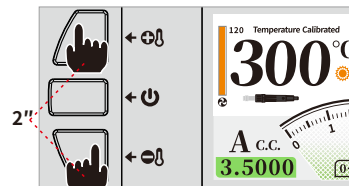
Constant Current Output Mode --- When the current reaches the set current, the power supply will output constant current, and the voltage changes with the load; when the current does not reach the set current, the power supply will output constant voltage, and the current changes with the load.

Once Overcurrent Auto-Stop Protection --- When the current has reached the set current, the power supply will stop the output.

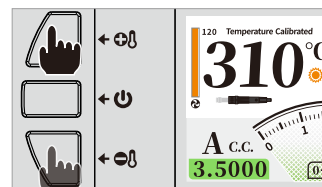
Continuous Overcurrent Auto-resumption Protection --- When the current has reached the set current, the power supply will stop outputting. Wait for a while and it will automatically resume outputting.



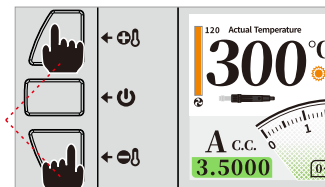
2. Digital Temperature Calibration



- When the temperature has stabilized, press and hold the temperature increase and decrease button for approximately 2 seconds.



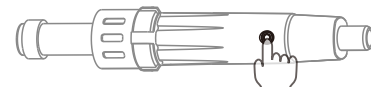
- Press the temperature increase or decrease button to enter the measured temperature.



- Once done entering, press the temperature increase and decrease button to confirm the entry.

3. Hot/Cool Air Mode and Standby/Operation Mode Configuration

Press the button on the hot air gun to switch between cool and hot air mode. Press and hold the button for approximately 2 seconds to switch between standby/operation mode.



V. Maintenance & Precautions

1. Keep the air outlet clear and free of any blockages.
2. Install the nozzles **ONLY** when the steel tube and nozzles are cooled. Install the nozzles appropriately, and **DO NOT** install the nozzles with brute force or pull the edge of the nozzle with pliers. **DO NOT** over-tighten the installation screws.
3. Select the appropriate nozzle size based on the operation requirement (temperatures may vary when using nozzles in different diameters). When using nozzles smaller than the standard nozzles, you **MUST** use the maximum air volume with a relatively lower temperature setting. Complete this operation in the shortest possible duration to prevent damaging the hot air gun.
4. Keep a minimum distance of 2mm between the object and the hot air gun's air outlet.
5. **DO NOT** allow the hot air to come in direct contact with facial parts, and beware of the danger of burn injuries. On first use, the hot air gun may generate white fumes that will dissipate shortly.

Note: The station's hot air gun and soldering iron handles use high-strength stainless steel tubes. The station goes through no less than 4 cycles of testing, inspection, and calibration procedures under standard operation conditions. The steel tube may exhibit light bronze color as a result of our quality control efforts. It is normal to have a slightly bronzed steel tube when using a brand-new station; Rest assured for regular usage.

6. If a layer of oxidization forms on the surface of the soldering iron tip, a misconception can be created that the tip cannot heat up properly to melt the solder and do the tinning. However, the actual temperatures of both the heating element and the tip are high. In such an instance, please do not increase the temperature value further but use a metal wool ball to remove the oxidization following the steps below:

A. Set the temperature to 300°C (572°F) .
B. Once the temperature stabilizes, gently rub the soldering iron tip inside the metal wool ball.
C. When the oxidization is partially removed, continue applying solder onto the soldering iron tip while rubbing it until the tip is completely coated with solder. If the tip is too severely oxidized beyond cleaning, replace it with a new one.

2. **DO NOT** use metal files to remove the oxidization on the soldering iron tip. If the soldering iron tip deforms or rusts, replace the soldering iron tip with a new tip.
3. **DO NOT** apply excessive force on the soldering iron tip when soldering. This will not improve the heat transfer and damage the soldering iron tip instead.
4. Clean the soldering iron tip after use and tin the tip with a new layer of solder to prevent oxidization.
5. **Residue Tray Cleaning**
Please clean the residue tray when the station is disconnected from the electrical outlet, fully cooled and when the residue tray is empty.

VI. TROUBLESHOOTING

The system will prompt error codes when faults are detected, and it will beep to alert the user until the power is **DISCONNECTED**. E.g., If the below error codes are prompted, users can troubleshoot when guided by the instructions below.

1. "Heating Element Disconnected" – This is an indication that the station's sensor module is faulty. To resolve this, you need to replace the heating element (the heating element and sensor modules).
2. "Overheat" – This is an indication that the heating element is faulty. To resolve this, you need to replace the heating element (the heating element and sensor modules).
3. "Blower Error" – This is an indication that the electric motor or the motor's power circuitry is faulty; Please check the motor and its power circuitry.