Multi-functional Desoldering Tool
5-in-1 & ESD-Safe

OPERATION INSTRUCTION

English

948D IV

Made in China

Statement: The company reserves the right to improve & upgrade products, product specifications and design are subject to change without notice. Thank you for purchasing this product. Please read the manual carefully before operating and keep this manual for future reference.

● 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.

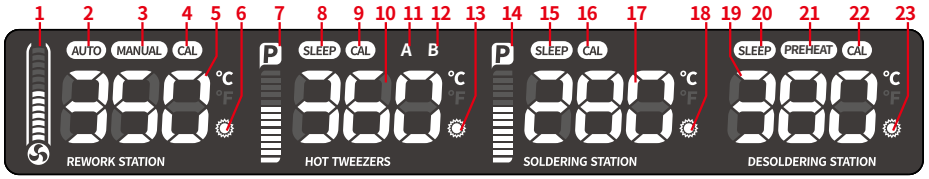
I. APPLICATIONS

1. *Integrated with high-power hot air rework station, hot tweezer soldering station, micro soldering station, desoldering station and suction pen, this station is suitable for desoldering and soldering applications of various through-hole and SMD components such as SOIC, CHIP, QFP, PLCC, BGA packages and more. The product is also suitable to be used on small components on the mobile phone circuit boards, in-line sockets, transformer, LCD screens, IC chips, in-line pins and more.*

2. *The unit's applications include heat shrinking, drying, paint removal, glue removal, defrosting, pre-heating, glue soldering, and more.*

II. REFERENCE GRAPHS

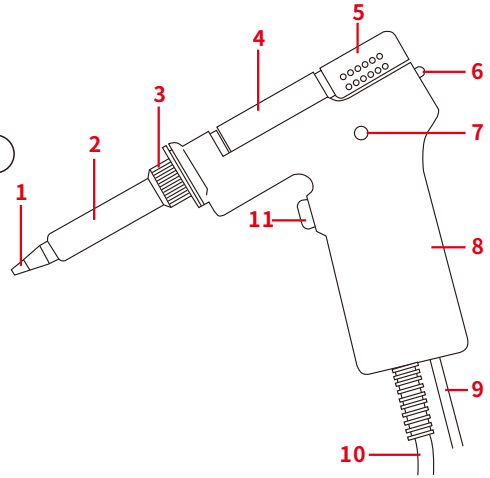
Display Guide



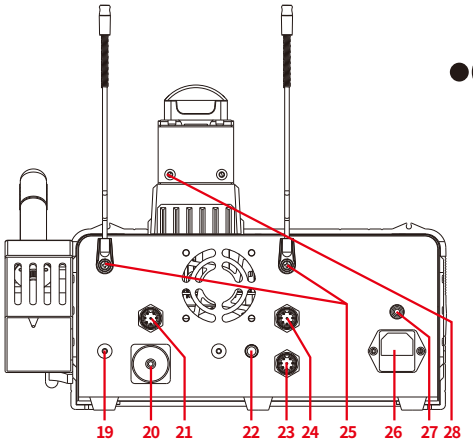
1. *Simulated Air Volume*
2. *Auto Mode Indicator (Hot Air Rework Station)*
3. *Manual Mode Indicator (Hot Air Rework Station)*
4. *Temperature Calibration Indicator (Hot Air Rework Station)*
5. *Temperature (Hot Air Rework Station)*
6. *Operation Indicator (Hot Air Rework Station)*
7. *Simulated Power (Hot Tweezer Soldering Station)*
8. *Sleep Mode Indicator (Hot Tweezer Soldering Station)*
9. *Temperature Calibration Indicator (Hot Tweezer Soldering Station)*
10. *Temperature (Hot Tweezer Soldering Station)*
11. *Heating Element A (Hot Tweezer Soldering Station)*
12. *Heating Element B (Hot Tweezer Soldering Station)*
13. *Operation Indicator (Hot Tweezer Soldering Station)*
14. *Simulated Power (Precision Soldering Station)*
15. *Sleep Mode Indicator (Precision Soldering Station)*
16. *Temperature Calibration Indicator (Precision Soldering Station)*
17. *Temperature (Precision Soldering Station)*
18. *Operation Indicator (Precision Soldering Station)*
19. *Temperature (Desoldering Station)*
20. *Sleep Mode Indicator (Desoldering Station)*
21. *Pre-heating Indicator (Desoldering Station)*
22. *Temperature Calibration Indicator (Desoldering Station)*
23. *Operation Indicator (Desoldering Gun)*

Note: The operation indicator light will be ON constantly when heating, blink when the temperature is stabilized, OFF when cooling.

Reference: Desoldering Gun

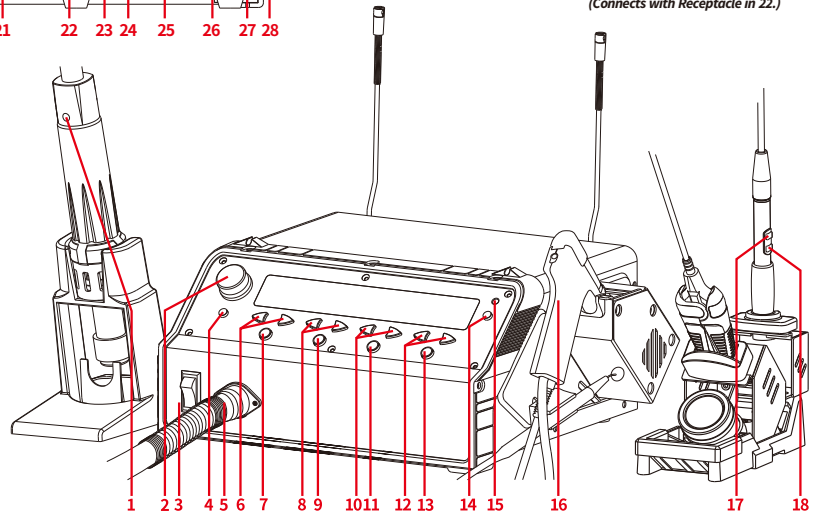


1. *Desoldering Nozzle (Consumable)*
2. *Steel Enclosure*
3. *Fastener*
4. *Filter Chamber (The spring inside is consumable)*
5. *Chamber Release*
6. *Release Button*
7. *Indicator*
8. *Casing (Desoldering Gun)*
9. *Vacuum Tube*
10. *Cord (Desoldering Gun)*
11. *Desoldering Trigger*



Product Reference

1. *Cool/Hot Air Mode Button/ Stand-by Button (Press to switch between cool and hot air; press and hold to enter stand-by mode)*
2. *Air Adjustment Knob/ Function Knob*
3. *Master Power Switch*
4. *Manual/Auto Mode Button (Hot Air Rework Station)*
5. *Receptacle (Hot Air Gun)*
6. *Temperature Increase/Decrease Button (Hot Air Rework Station)*
7. *Power Button (Hot Air Rework Station)*
8. *Temperature Increase/Decrease Button (Hot Tweezer Soldering Station)*
9. *Power Button (Hot Tweezer Soldering Station)*
10. *Temperature Increase/Decrease Button (Precision Soldering Station)*
11. *Power Button (Precision Soldering Station)*
12. *Temperature Increase/Decrease Button (Desoldering Station)*
13. *Power Button (Desoldering Station)*
14. *Power Button (Suction Pen)*
15. *Operation Indicator (Suction Pen)*
16. *Desoldering Gun*
17. *Temperature Increase Button (Soldering Iron)*
18. *Temperature Decrease Button (Soldering Iron)*
19. *Receptacle (Soldering Iron Holder)*
20. *Receptacle (Hot Tweezer)*
21. *Receptacle (Precision Soldering Iron)*
22. *Cable Guide*
23. *Receptacle (Power Cord)*
24. *Receptacle (ESD-Safe Cord)*
25. *Temperature Decrease Button (Soldering Iron)*
26. *Temperature Increase Button (Soldering Iron)*
27. *Cool/Hot Air Mode Button/ Stand-by Button (Press to switch between cool and hot air; press and hold to enter stand-by mode)*
28. *Receptacle (Connects with Receptacle in 22.)*



III. OPERATION

1. Before Use

WARNING:
Please replace the hot air nozzle and heating element when the handpiece is completely cooled to avoid burn injuries. The handpiece MUST be placed onto the holder and turn OFF the power button after use. Turn OFF the station's master power switch, and DISCONNECT the power cord if the station is not in use for an extended period.

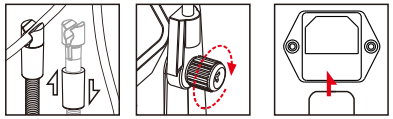
CAUTION: Upon the first use of the soldering iron tip, when the iron is just hot enough to melt solder, coat the soldering iron tip and desoldering nozzle with a layer of solder (the use of rosin core solder is recommended), then set the temperature to your desired temperature. This can prevent the soldering iron tips and desoldering nozzle from oxidization.

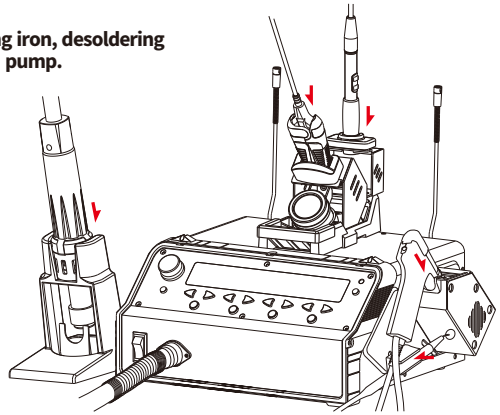
1.1 Place the suction pen, desoldering gun, hot air gun and soldering iron onto their respective holder.

1.2 Connect the hot air gun, hot tweezer, soldering iron, desoldering gun, vacuum pump and suction pen's vacuum pump.

1.3 Secure the cable guide and pull down the cable tie. Insert the cable to the slot of the cable guide and pull up the cable tie. The cable will be securely fastened.

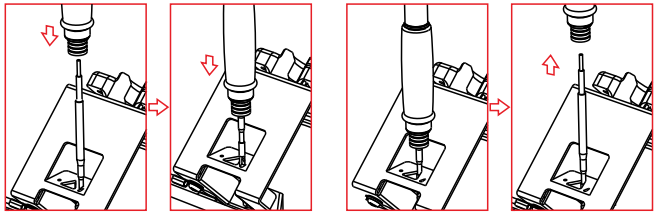
1.4 Connect the power cord to an electrical socket and turn ON the master power switch.

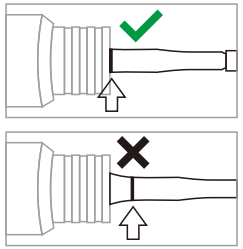




2. Installing and Changing Heating Element

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).

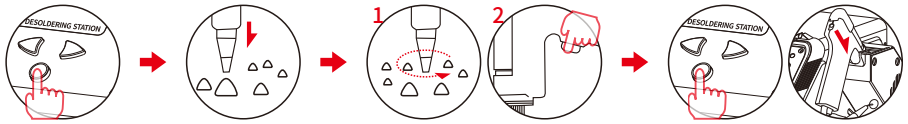




3. Basic Operations

Desoldering Station

Pht – "Pht" is an indication that the desoldering station is pre-heating. The vacuum pump will not be activated when this code is active.



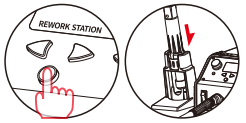
Press the desoldering station's power button. When the desoldering gun is pre-heating, the vacuum pump will not be activated; once the pre-heating is complete, the station is ready for use.

Hot Tweezer Soldering Station

Press the hot tweezer soldering station's power button. Once the temperature has stabilized, the station is ready for use.

Hot Air Rework Station

Press the hot air rework station's power button. Once the temperature has stabilized, the station is ready for use.



Precision Soldering Station

Press the Precision Soldering station's power button. Once the temperature has stabilized, the station is ready for use.

Suction Pen

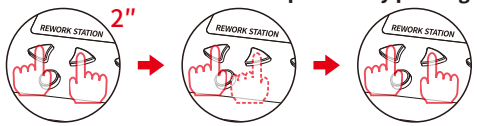
Press the suction pen's power button to lift the chip.

IV. FUNCTIONS

Temperature Calibration

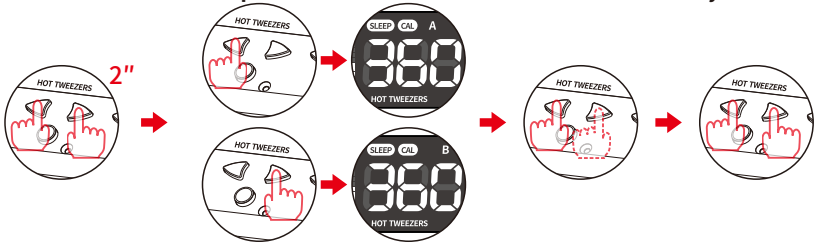
Hot Air Rework Station

When the temperature has stabilized, press and hold the hot air rework station's temperature increase and decrease button for approximately 2 seconds and then enter the measured temperature by pressing the hot air rework station's temperature increase or decrease button. Once done entering, press the hot air rework station's temperature increase and decrease button simultaneously to confirm.



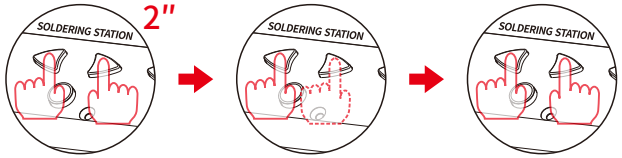
Hot Tweezer Soldering Station

When the temperature has stabilized, press and hold the hot tweezer station's temperature increase and decrease button for approximately 2 seconds and then press the temperature decrease button to select Heating Element A or temperature increase button to select Heating Element B. Press the hot tweezer station's temperature increase or decrease button to enter the measured temperature. Once done entering, press the hot tweezer station's temperature increase and decrease button simultaneously to confirm.



Precision Soldering Station

When the temperature has stabilized, press and hold the Precision Soldering station's temperature increase and decrease button for approximately 2 seconds and then enter the measured temperature by pressing the Precision Soldering station's temperature increase or decrease button. Once done entering, press the temperature increase and decrease button simultaneously to confirm.



Desoldering Station

When the temperature has stabilized, press the desoldering station's temperature increase and decrease button for approximately 2 seconds and then enter the measured temperature by pressing the desoldering station's temperature increase or decrease button. Once done entering, press the station's temperature increase and decrease button simultaneously to confirm.

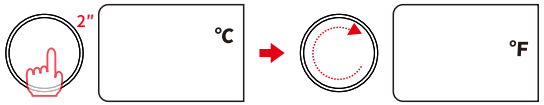
Menu

Menu Options Sequence

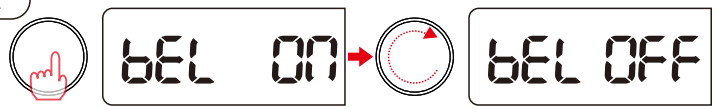
°C/°F Conversion→Buzzer Prompt
→ Stand-by Timer (Hot Tweezer Soldering Station)
→ Stand-by Timer (Precision Soldering Station)
→ Sleep Mode Timer (Desoldering Station)
→ Stand-by Timer (Desoldering Station)

When the station(s) has entered stand-by mode, press their respective power button to restart the station. When in sleep mode, press the desoldering gun's trigger to wake the desoldering station. When in sleep mode, pick up the respective handpiece(s) to wake the hot tweezer soldering station or precision soldering station.

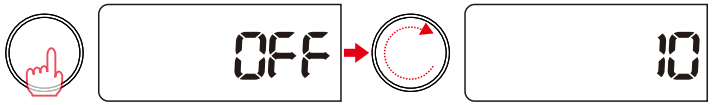
°C/°F Conversion



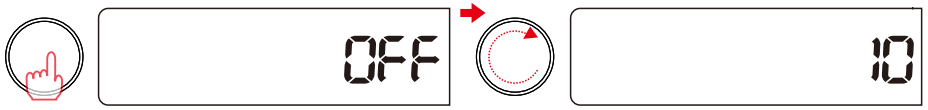
Buzzer Prompt



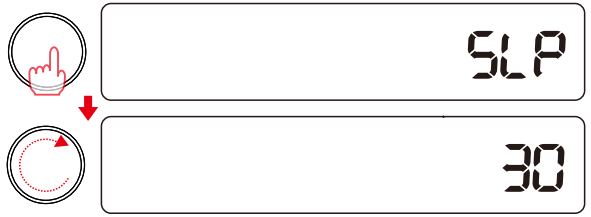
Stand-by Timer for Hot Tweezer Soldering Station (1-10 Minutes)



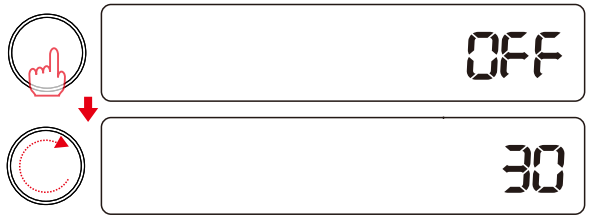
Stand-by Timer for Precision Soldering Station (1-10 Minutes)



Sleep Mode Timer for Desoldering Station (10-30 Minutes)



Stand-by Timer for Desoldering Station (10-30 Minutes)



Exit

V. Maintenance & Precautions

Soldering Station

1. 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. But the actual temperatures of both the heating element and 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 only not improve the heat transfer but damage the soldering iron tip instead.

4. When placing the soldering iron back in the holder to idle after a high-temperature operation, adjust the temperature to 250°C (482°F) or below for idling. Failure to do so and leaving the soldering iron tip to idle on a high-temperature setting will cause the accelerated aging of the heating element and shor ten the lifespan of the heating element and soldering iron tip.

5. After every operation, clean the soldering iron tip, then tin the tip with a new layer of solder to prevent oxidization.

Hot Air Rework Station

1. Keep the air outlet clear and free of blockages at all times.

2. The installation of the hot air gun nozzles MUST be carried out ONLY when the nozzle enclosure and nozzle have cooled. Install the nozzle correctly. DO NOT install the nozzle with brute force, pull the edge of the nozzle with tweezers, or over-tighten the screws.

3. Select the appropriate nozzle based on your operation requirement (temperatures may vary when you use nozzles in different diameters). When using nozzles smaller than the stock nozzles, you MUST use the maximum air volume with a relatively lower temperature setting. Complete this operation in the shortest duration possible to prevent damaging the hot air gun.

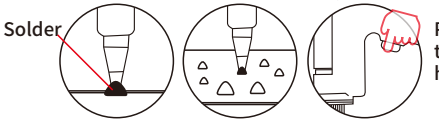
4. Keep a minimum distance of 2mm between the component and the hot air gun's nozzle.

5. DO NOT allow the hot air to come in direct contact with facial parts and beware of the danger of burn injuries. Upon the first use, the hot air gun may emit white fumes, and the white fume will dissipate in a short while.

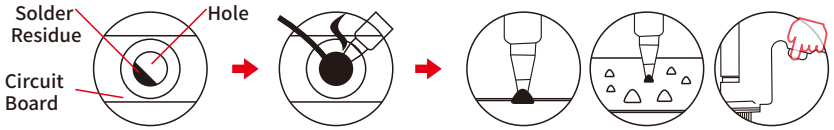
NOTE: The station's hot air gun and soldering iron handles use high-strength stainless steel tubes. The station goes through no less than 4 cycles of testing, inspection, and calibration procedures under standard operation conditions. The steel tube may exhibit light bronze color as a result of our quality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

Desoldering Station

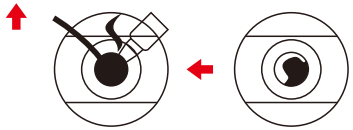
1. While desoldering, position the desoldering gun vertically on the solder joint that needs to be desoldered. Once the solder on top/ at the bottom has melted, press the desoldering gun's trigger to desolder the joint.



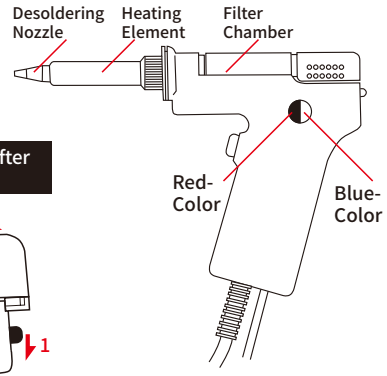
2. If there is remaining solder residue inside the holes of the circuit board, please apply additional solder and then repeat the desoldering procedure.



3. If the component pin is adhered to the inside of the printed circuit board's hole and the solder cannot be removed. Reapply solder to the joint and then melt the solder using the desoldering nozzle. Gently move the desoldering nozzle back and forth to nudge the component's pin, until it is no longer in contact with the hole. Then, press the desoldering trigger to remove the solder completely.

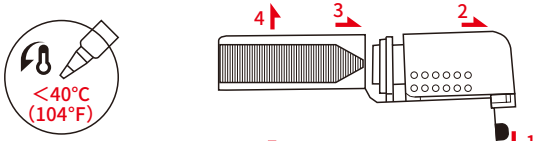


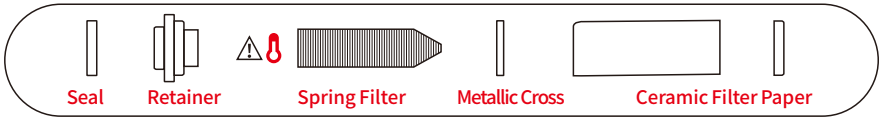
4. Press the desoldering gun's trigger and observe the color of the indicator. If the red area is greater than or equal to the blue area, it indicates that you need to clean the desoldering nozzle, heating element, and filter chamber.



5. Cleaning: Filter Chamber

Caution: The filter chamber can only be removed after the desoldering has fully cooled!

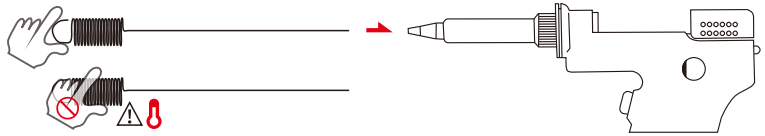




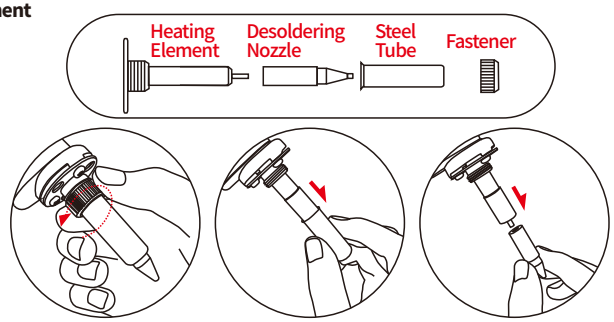
Replace the respective components inside the filter chamber if any of the following conditions occur:
* Unable to remove the solder from the spring filter, or the filter has collected more than 2/3 of solder of its capacity – Replace the spring filter.
* The retainer has hardened and cracked – Replace the retainer.
* The ceramic filter paper is hardened due to the over-accumulation of solder and flux – Replace the ceramic filter paper .

6. Cleaning the Desoldering Nozzle and Heating Element

CAUTION:
The solder in the heating element's inner hole must ONLY be cleaned when completely melted. If the cleaning pin cannot be put through the heating element's inner hole, replace the heating element.



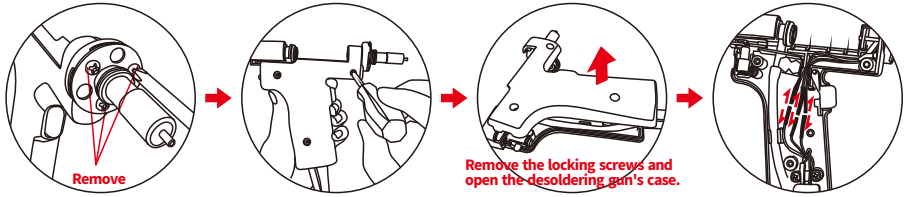
7. Desoldering Nozzle Replacement



8. Heating Element Replacement

Remove the filter chamber and desoldering nozzle (Reference: Section 5 Cleaning: Filter Chamber and Section 7 Desoldering Nozzle Replacement) and then remove the locking screws to open the handpiece's case.

Make sure the wire's correct polarity is noted before removal. Remove the heating element's wire to remove the heating element. Assemble the desoldering gun in the reverse order of the disassembly and calibrate the temperature.



VI. TROUBLESHOOTING GUIDE

1. S-E – This is an indication that the station's sensor module is faulty. You need to replace the heating element (the heating element and the sensor modules). Or the handle has not been connected (Turn OFF the power, connect the handle, then turn ON the station again.)

2. OCP- This is an indication that the heating element is defective and needs to be replaced.

Specifications

Model	948D IV
Rated voltage range	220V-240V~
Rated Frequency	50Hz
Rated power	1410W（245 Heating Element）(1330W: 210 Heating Element)
Control unit dimensions	L300xW340xH145mm ±10mm
Operating ambient temperature	0°C~40°C/32°F~104°F
Display	LED Nixie

Hot Air Rework Station	
Air delivery	Compressor Motor
Air Volume (Measured at Exhaust)	≤ 55L/min
Temperature range	100°C~500°C/212°F~932°F

Soldering Station	
Temperature range	90°C~450°C/194°F~842°F
Soldering tip to ground resistance	< 2 ohms

Desoldering Station	
Temperature range	380°C~480°C/716°F~896°F
Suction Pressure	0.05MPa (measured from the nozzle)
Soldering tip to ground resistance	< 2 ohms

Hot Tweezer Soldering Station	
Temperature range	90°C~450°C/194°F~842°F
Soldering tip to ground resistance	< 2 ohms

IMPORTANT SAFETY GUIDELINES

Strictly follow the basic safety guidelines and precautions when using the product. The guidelines include:

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.