

# Multi-Tool Station: Screen Separator, Hot Air Rework Station, Soldering Station

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

# OPERATION INSTRUCTION

English



Made in China

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

## Specifications

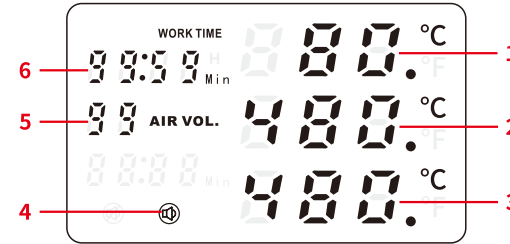
|                                    |   |
|------------------------------------|---|
| Main Unit Dimensions               | L275xW195xH130mm ±5mm                     |
| Operating Ambient Temperature      | 0~40°C/32°F~104°F                         |
| Screen Separator                   |   |
| Temperature Range                  | 50°C~120°C/122°F~248°F                    |
| Display                            | Nixie LED                                 |
| Heater Surface Area                | 200×110mm ±5mm                            |
| Hot Air Rework Station             |   |
| Air Delivery                       | Brushless blower with smooth air delivery |
| Output Air Volume                  | ≤120L/min                                 |
| Temperature Range                  | 100°C~480°C/212°F~896°F                   |
| Display                            | Nixie LED                                 |
| Soldering Station                  |   |
| Temperature Range                  | 200°C~480°C/392°F~896°F                   |
| Display                            | Nixie LED                                 |
| Soldering Tip to Ground Resistance | <2 Ohms                                   |

## I. APPLICATIONS

1. This station is suitable for separating LCD screens, and especially suitable for separating mobile phone screens.
2. Suitable for soldering and desoldering applications for a wide range of components. (E.g., SOIC, CHIP, QFP, PLCC, BGA, SMD, and more) This station is especially great for desoldering in-line sockets.
3. Applicable in heat shrinking, drying, paint removal, conformal coating removal, defrosting, preheating, glue soldering and more.

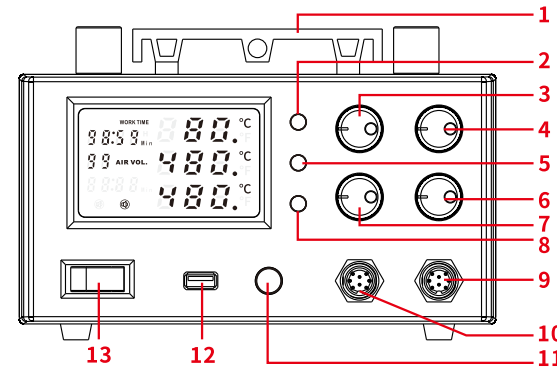
## II. REFERENCE DIAGRAM

### Reference Diagram



1. Temperature Display (Screen Separator)
2. Temperature Display (Hot Air Rework Station)
3. Temperature Display (Soldering Station)
4. Sleep Mode Indicator
5. Simulated Air Volume
6. Suction Pump Indicator

### Reference: Panel



1. Aluminum Heating Plate
2. Power Switch (Screen Separator)
3. Temperature Adjustment Knob (Screen Separator)
4. Air Volume Adjustment Knob
5. Power Switch (Hot Air Rework Station)
6. Temperature Adjustment Knob (Hot Air Rework Station)
7. Temperature Adjustment Knob (Soldering Station)
8. Power Switch (Soldering Station)
9. Hot Air Gun's Receptacle (or Hot Air Gun's Cord)
10. Receptacle (Soldering Iron)
11. Suction Activation Switch
12. USB Port
13. Power Switch

## III. OPERATIONS

### Screen Separator

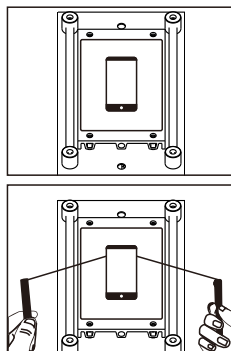
1. Connect the station's power cord to an electrical outlet.

- Place the silicone gel pad onto the aluminum heating plate, and align the gel pad's holes with the holes on the aluminum heating plate.
- Turn ON the power switch, and turn the screen separator's temperature adjustment knob to set the temperature at around 80°C/176°F. Then, the aluminum heating plate will begin heating.



**CAUTION:** We recommend NOT setting the temperature value overly high to prevent damaging the screen due to overheating. The operation indicator (the dot located at the bottom-right corner of the screen) turns ON when heating, blinks at a consistent frequency when the temperature is stabilized, turns OFF when cooling.

- Once the temperature have stabilized, place the screen onto the silicone gel pad and cover the holes on the gel pad with the screen. Then, turn ON the suction activation switch, and the screen will be secured.
- Use the separating rods to separate: pull the rods left and right, and apply appropriate amount pulling motion towards the direction of the separation. Complete the screen separation procedure in two repetitions.
- Once the operation is complete, turn OFF the suction activation button and the power switch. Disconnect the power plug from the electrical socket and clean the aluminum heating plate once the station had cooled completely.



**CAUTION:** The screen separator is not suitable for use in environments with excessive sources of air turbulence. Excessive amount of external airflow interference will lead to insufficient temperature for the aluminum heating plate, negatively impacting the work results.

### ● Hot Air Rework Station

- Set the station appropriately. Install the hot air gun holder onto the left side of the station, and place the hot air gun in its holder.
- Connect the station to a power socket.
- Turn ON the power switch, then turn ON the hot air rework station's power button, and the hot air rework station will begin heating. Turn the hot air rework station's temperature adjustment knob to select the desired temperature, and turn the air volume adjustment knob to set the desired output air volume. Begin operation once the hot air temperature have stabilized, and the hot air rework station's operation indicator light (the dot located at the bottom-right of the hot air temperature display) will turn ON. The operation indicator turns ON when heating up, blinks rapidly when the temperature stabilizes, and turns OFF when the station is cooling. Once

the temperature is stabilized, the hot air operation indicator can be seen blinking rapidly. At this point, the precision PID program is tracking the actual hot air temperature and making temperature compensations every millisecond. The hot air gun is now in the high precision thermostatic state.



- Once the operation is complete, turn OFF the hot air rework station's power button. The hot air rework station's heating power will be automatically cut-off, and the operation indicator will turn off. The hot air gun will only output air without heating, and the hot air gun's heating element will begin cooling. Once the temperature is cooled to below 100°C ( 212°F ), the hot air temperature display turns OFF and stop outputting air. If the station is not in use for an extended period, turn OFF the station's power switch.

### ● Soldering Station

- Connect the soldering iron to the station, and place the iron into its holder.
- Turn ON the station's master power switch and then turn ON the soldering station's power button. The soldering station's heating element will begin heating, and its operation indicator light will turn ON. The operation indicator light will stay constantly ON when the soldering iron is heating up, blink rapidly when the temperature stabilizes, and be turned OFF when the soldering iron is cooling. Begin your operation once the soldering station's indicator is blinking rapidly to indicate temperature stabilization.



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

- When the operation is complete, use a wet sponge or metal wool ball to clean the soldering iron tip. Tin the tip with a new layer of solder, then put the soldering iron back to its holder and turn OFF the power switch. If the station is not in use for an extended period, turn OFF the station's power switch and DISCONNECT the power cord.

## IV. FUNCTION CONFIGURATION

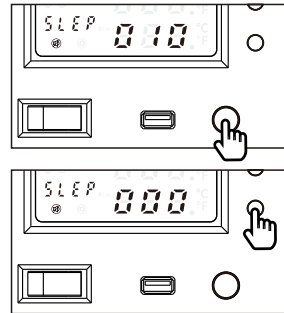
### Sleep Mode

When the station's sleep mode is turned ON, the system will automatically detect the station's operation status. If the station is not in use and no motion is detected for approximately 10 minutes, the soldering iron will enter the sleep mode. This effectively prevents the soldering iron tip from oxidization, prolongs the soldering iron tip's lifespan, and protects the environment.

1. Press and hold the suction activation button for approximately 5 seconds, and the display will show value "SLEP 10" to indicate that the sleep mode function is turned ON, with a countdown timer duration of approximately 10 minutes.
2. Press the soldering station's power switch to turn ON or turn OFF the sleep mode function.
3. Once done setting, press the suction activation switch 3 times to exit the setting menu.

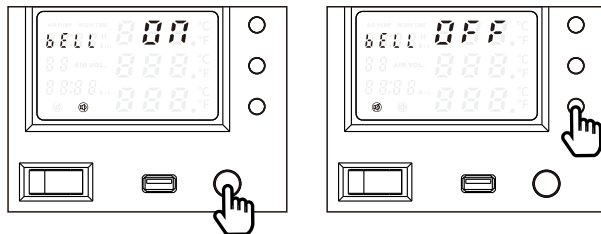
To start up the soldering iron from sleep mode:

- a. Shake the soldering iron handle a few times or
- b. Turn OFF, then, turn ON the soldering station's power switch.



### Buzzer Prompt

1. Press and hold the suction activation button for approximately 5 seconds, and the display will show value "SLEP 10".
2. Press the suction activation button, and the display will show value "bELL ON" to indicate that the buzzer is turned ON.
3. Press the soldering station's power button to turn ON or turn OFF the buzzer prompt.
4. Once done setting, press the suction activation button two times to exit the setting interface.



### Automatic Shut-down

When the soldering station enters the sleep mode, its CPU will start counting down. If the station is not woken within approximately 30 minutes, the soldering station will automatically shut off.

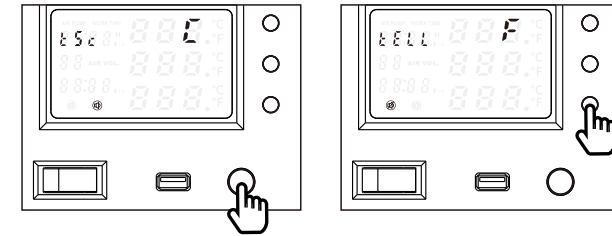
To restart the soldering station, please turn OFF the power switch.

Note: The automatic shut-down function is ONLY activated when the sleep mode is turned ON.

### Fahrenheit\Celsius conversion settings

*This function allows the station to adapt to user preferences in different regions.*

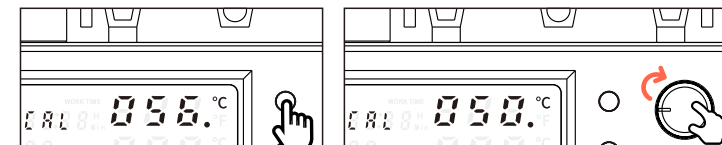
1. Press and hold the suction activation switch for approximately 8 seconds, and the display will show value "SLEP 10".
2. Press the suction activation switch 2 times, and the display will show value "tSc F" to indicate that the station is currently displaying temperature values in the Fahrenheit unit.
3. Press the soldering station's power switch to select either the Fahrenheit or the Celsius display mode.
4. Once done setting, press the suction activation switch to exit the setting menu.



### Digital Temperature Calibration

*Temperature discrepancies may occur due to the change in the environment's temperature or due to the replacement of the heating element, soldering iron tip and other components. You can correct the discrepancies with this function. The temperature calibration function can help improve work efficiency and extend the lifespan of the soldering iron.*

1. Set the calibrated temperature. (80°C/176°F for screen separator, 300°C/572°F for hot air rework station and 300°C/572°F for soldering station)
2. Once the temperature is stabilized, press and hold the screen separator/hot air rework station/soldering station's power button for approximately 8 seconds, the display will show the value "CAL" or "CA".
3. Turn the screen separator/hot air rework station/soldering station's temperature adjustment knob to enter the measured temperature.
4. Once done setting, press the screen separator/hot air rework station/soldering station's power button to confirm the entry. The system will automatically calibrate the temperature and exit the calibration interface.



## V. MAINTENANCE & PRECAUTIONS

### Screen Separator

1. Do not knock the aluminum heating plate with any hard objects.
2. Keep the aluminum heating plate clean, and DO NOT allow foreign objects to fall into the vacuum pump through the holes on the aluminum heating plate. Otherwise, the foreign objects may impact the suction performance negatively.

### Hot Air Rework Station

1. Keep the air outlet clear and free of blockages at all times.
2. The installation of the hot air nozzles MUST be carried out ONLY when the steel pipe 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 (temperature may vary when you use nozzles in different diameters). When using nozzles smaller than the standard machine nozzles, you MUST use the maximum air volume with a relatively lower temperature setting. Complete this operation in the shortest possible duration to avoid 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. 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 4 times or more testing, inspection, and calibration procedures before rolling off the assembly line. 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.

### Soldering Station

1. If a layer of oxidization forms on the surface of the soldering iron tip, a misconception can be created that the soldering tip cannot heat up properly to melt the solder and do the tinning. However, the actual temperatures of both the heating element and soldering tip are high. In such an instance, please do not increase the temperature value confusedly 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 has stabilized, gently rub the soldering iron tip inside the metal wool ball.

C. When the oxidization is partially removed, continue applying solder onto the tip while rubbing it until the solder completely adheres to soldering iron tip. If the tip is too severely oxidized beyond cleaning, replace the tip 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 it with a new tip.
3. DO NOT apply excessive force on the soldering tip when soldering. Doing so will not only damage the iron tip but also not improve the heat transfer.
4. When placing the soldering iron back in its 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 shorten the lifespan of the heating element and soldering iron tip.
5. After every operation, always clean the soldering iron tip, then coat it with a layer of solder to prevent its oxidization.

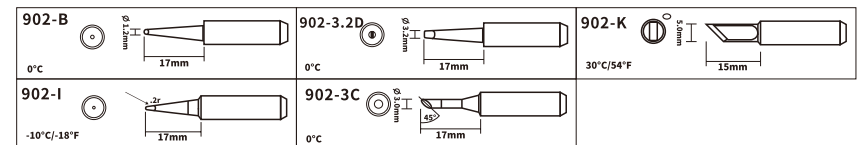
### Troubleshooting

1. "S-E" – This is an indication that the station's sensor module is faulty. To resolve this issue, you need to replace the heating element (the heating element and the sensor modules). Alternatively, the soldering iron could be disconnected from the station. (Please turn OFF the station, reconnect the soldering iron, and reboot the station)
2. When replacing the heating element, take note of the original connecting order and colors of the wires which MUST NOT be connected incorrectly.
3. F-1 or F-2 – This is an indication that the station has activated the hot air fail-safe measures. To resolve this, check the hot air gun and the hot air gun's power circuitry.
4. "SLP" – This is an indication that the soldering station is in sleep mode.

## For reference: compatible parts

### Tip style (specifications and sizes)

902 Series Tip Out Diam  $\phi$  6.5mm



## Nozzle style (specifications and sizes)

Nozzle sizes in correspondence to the IC sizes.

