

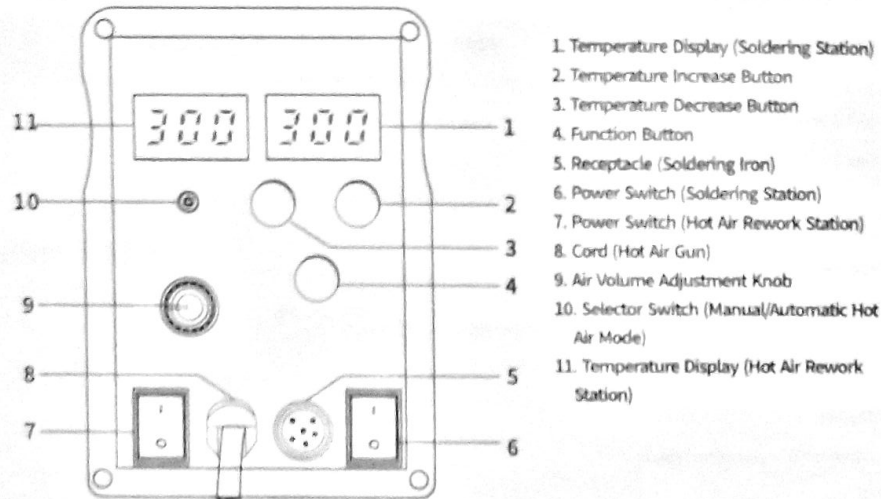
SPECIFICATION

| Model number | 899D | 899D+ |
|------------------------------------|-----------------------------|-------|
| Main unit dimensions | L148xW99xH134mm ±5mm | |
| Operating ambient temperature | 0°C~40°C/32°F~104°F | |
| Hot Air Rework Station | | |
| Airflow type | Brushless fan with soft air | |
| Airflow capacity | ≤120L/min | |
| Temperature range | 100°C~480°C/212°F~896°F | |
| Display | Nixie tube | |
| Soldering Station | | |
| Temperature range | 200°C~480°C/392°F~896°F | |
| Display | Nixie tube | |
| Soldering tip to ground resistance | < 2 ohms | |

I. APPLICATIONS

1. *This unit is suitable for desoldering & soldering operations on a broad range of components. E.g., SOIC, CHIP, QFP, PLCC, BGA, SMD, and more. The unit is especially suited for desoldering operations on in-line sockets.*
2. *You can use this unit for heat shrinking, drying, paint removal, glue removal, defrosting, pre-heating, glue soldering, and more.*

II. CONTROL PANEL GUIDE



III. OPERATION

Hot Air Rework Station

1. 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.
2. Install the required nozzle (Use of nozzles in larger diameters is recommended). Connect the station's power cord to an electrical outlet.
3. Turn ON the master power switch located at the rear of the station, then turn ON the hot air rework station's power switch. The hot air temperature display will show "—" to indicate the gun in standby mode. Set the desired temperature, pick up the hot air gun, and it will enter standard operation mode. 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.

300  Indicator for real-time PID program temperature tracking & compensation

The indicator turns ON when the hot air gun is heating up, blinks when the temperature is stabilized, and turns OFF when the hot air gun is cooling. Adjust the air volume adjustment knob to set the appropriate air volume, wait for the temperature to stabilize then, begin your work. Once the temperature is stabilized, the operation indicator can be seen blinking rapidly. At this point, the high-precision PID program is tracking and compensating the actual hot air temperature in milliseconds, and the hot air gun enters the high-precision thermostatic state.

4. Once the operation is complete, return the hot air gun to the holder. At this point, the hot air gun's heating power will be cut OFF and the operation indicator will turn OFF. The hot air gun will only put out air without heating up, and the hot air gun's heating element will begin cooling down. When the temperature is cooled to below 100°C (212°F), the hot air temperature display will show "—". Turn OFF the hot air rework station's power switch at this point. If the station is not in use for an extended period, turn OFF the station and DISCONNECT the power plug.

Soldering Station

1. Connect the soldering iron to the station, and place the iron into its holder.
2. Turn ON the station's master power switch located at the rear of the station, and then turn ON the soldering station's power switch. The soldering station's heating element will begin heating, and its operation indicator light (the dot located at the bottom-right corner of the soldering station display) 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 the temperature's 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.

300  Indicator for PID program real-time temperature tracking & compensation

3. 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 master power switch and DISCONNECT the power cord.

● Temperature Setting

1. When the hot air rework station's or soldering station's power switch is turned ON, press the temperature increase or decrease button to set the desired temperature. Press once to change the value by 1 unit or, Press and hold to change the value quickly.
2. When both the soldering station and the hot air rework station's power switches are turned ON, press the function button to change the temperature setting for either the hot air rework station or the soldering station, then, press the temperature increase or decrease button to set the desired temperature.

● Digital Temperature Calibration

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

Temperature Calibration (Hot Air Rework Station)

1. After the hot air temperature is stabilized, press and hold both the function button and the temperature decrease button for approximately 2 seconds. The display will show 3 digit dots along with the set temperature.
2. Press the temperature increase or decrease button to enter the measured temperature value.
3. Once done entering, press the function button to confirm entry. The system automatically calibrates the temperature and exits the calibration interface.

Temperature Calibration (Soldering Station)

1. Once the soldering station's temperature is stabilized, press and hold both the function button and the temperature increase button for approximately 2 seconds. The display will show 3 digit-dots while showing the set temperature.
2. Press the temperature increase or decrease button to enter the measured temperature value.
3. Once done setting, press the function button to confirm entry. The system automatically calibrates the temperature and exits the calibration interface.

● 10-Minute Sleep Mode (Non-Adjustable)

The station automatically detects its operating status, and enters sleep mode when the station is unused and static for longer than 10 minutes. In sleep mode, the soldering iron's idling temperature will be at 200°C/392°F to effectively prevent the iron tip's oxidization, and extend its lifespan. At the same time, this function also saves energy and protects the environment.

To start-up the station from sleep mode:

- a. shake the iron a few times,
- b. press any button on the control panel,
- or c. turn OFF the power, then, turn ON the power

● Automatic / Manual Hot Air Mode

1. Flip the manual/automatic toggle switch on the control panel to select the hot air mode.
2. Automatic Mode:
When the hot air gun is returned to the holder, the station turns OFF the heating power to the hot air gun. The hot air gun goes into standby mode when the temperature display will show "----".
3. Manual Mode:
When the hot air gun is returned to the holder, the station continues to heat up and operate.

IV. MAINTENANCE AND PRECAUTIONS

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.

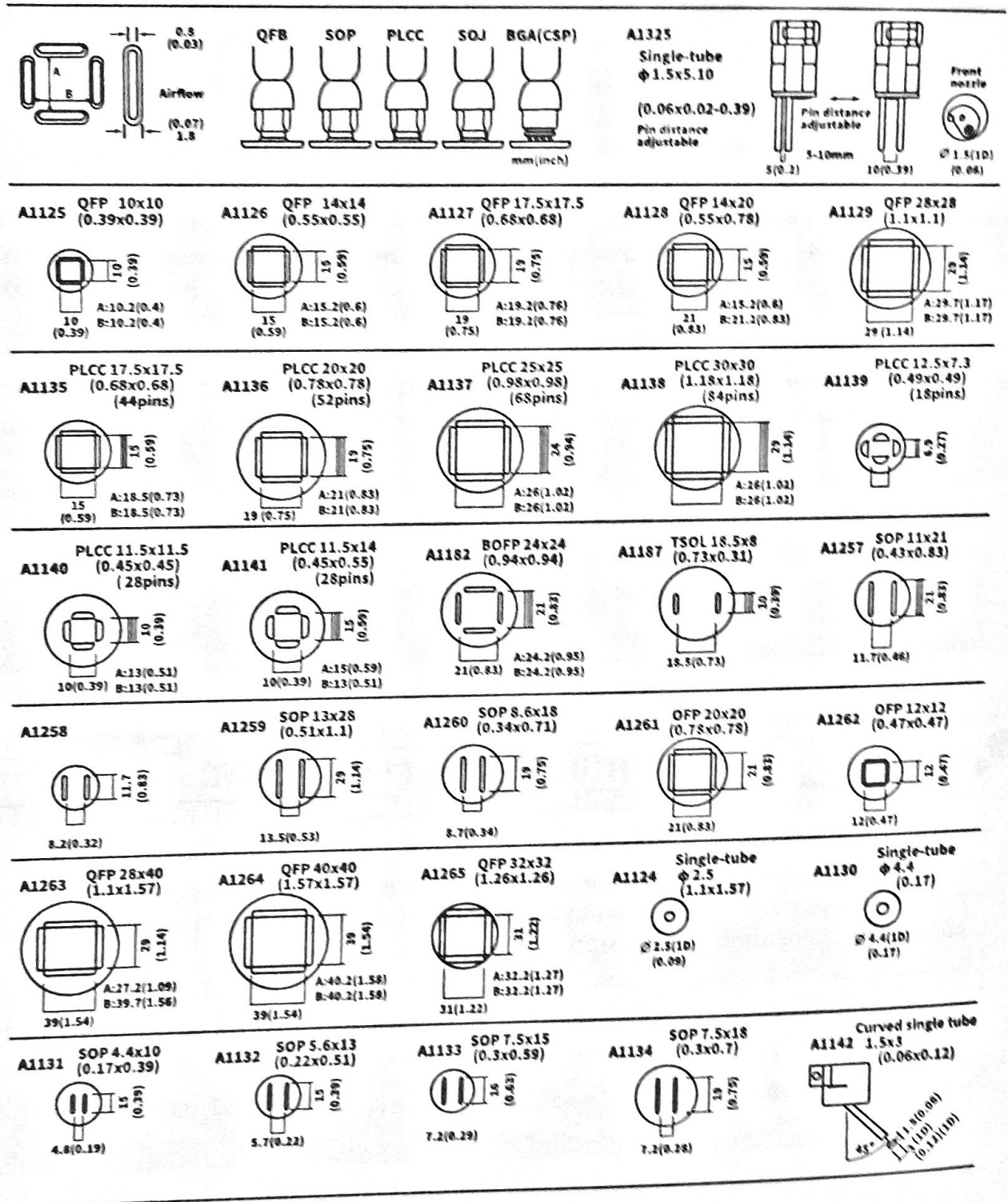
V. TROUBLESHOOTING GUIDE

1. "S-E" – This is an indication that the soldering station or hot air rework station's sensor module is faulty. You need to replace the heating element (the heating element and the sensor modules). Or, the soldering iron is not connected (turn off the station, then have the handle connected before turning on 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. "SLP" – This is an indication that the soldering station is in sleep mode.

For reference: compatible parts

Nozzle style (specifications and sizes)

The nozzle sizes match with their corresponding IC sizes.



Tip style (specifications and sizes)

900M Series Tip Out Diam ϕ 6.5mm

| | | |
|--|--|---|
| <p>900M-T-0.8D 0°C ϕ 0.8mm 17mm</p> | <p>900M-T-LB -10°C/-18°F 25mm .2r</p> | <p>900M-T-K 30°C/54°F 5.0mm 15mm</p> |
| <p>900M-T-1.2D 0°C ϕ 1.2mm 17mm</p> | <p>900M-T-0.5C 0°C ϕ 0.5mm 45° 15mm</p> | <p>900M-T-R 0°C ϕ 3.2mm 5.0mm 17mm</p> |
| <p>900M-T-1.6D 0°C ϕ 1.6mm 17mm</p> | <p>900M-T-0.8C 0°C ϕ 0.8mm 45° 17mm</p> | <p>900M-T-RT 0°C ϕ 2.0mm 4.2mm 17mm</p> |
| <p>900M-T-2.4D 0°C ϕ 2.4mm 17mm</p> | <p>900M-T-1C 0°C ϕ 1.0mm 45° 15mm</p> | <p>900M-T-SI 0°C .2r 13mm</p> |
| <p>900M-T-3.2D 0°C ϕ 3.2mm 17mm</p> | <p>900M-T-1.5CF 0°C ϕ 1.5mm 60° 15mm</p> | <p>900M-T-I -10°C/-18°F .2r 17mm</p> |
| <p>900M-T-1.2LD -10°C/-18°F ϕ 1.2mm 25mm</p> | <p>900M-T-2C 0°C ϕ 2.0mm 45° 17mm</p> | <p>900M-T-H -20°C/-36°F 3.5mm 7.5mm 25° 19mm</p> |
| <p>900M-T-SB 0°C ϕ 2mm .2r 14mm</p> | <p>900M-T-3C 0°C ϕ 3.0mm 45° 17mm</p> | <p>900M-T-1.8H -10°C/-18°F 1.8mm 7.5mm 25° 14mm</p> |
| <p>900M-T-B 0°C .5r 17mm</p> | <p>900M-T-4C 0°C ϕ 4.0mm 45° 17mm</p> | <p>900M-T-S4 0°C ϕ 2.0mm .25r 15mm</p> |