

# MADELL 850D

## Hot Air Rework Station User's Manual



**Madell Technology Corporation**

**<http://www.madelltech.com>**

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## Specifications:

<b>Power Voltage</b>	<b>110V or 220V AC, as specified</b>
<b>Power Consumption</b>	<b>560W (Max.)</b>
<b>Pump</b>	<b>Diaphragm Pump</b>
<b>Capacity</b>	<b>23L/ min (Max.)</b>
<b>Hot Air Temperature</b>	<b>100°C– 480°C</b>
<b>Outer Dimensions</b>	<b>187 (W)* 135 (H)* 245 (D) mm</b>

## Usage

Suitable for most SMD components rework, such as SOIC, CHIP, QFP, PLCC, BGA, etc.

### Control Knobs, display:

The AT850D unit has a air volume adjustment knob and a temperature adjustment knob.

The LED displays the setting temperature at normal conditions, and displays the output air temperature when the red “Real Temp” button is pressed.

The temperature indicator light flickers when the heating element is being heated up; it goes out when the hot air has reached the setting temperature.

## Operating instructions

### Before using the hot air gun

1. Select the nozzle that matches the size of the IC. Attach the nozzle when both the hot air gun and the nozzle are cool.
2. Loosen the screw on the Nozzle.
3. Attach the nozzle on the front of the hot air gun and tighten the screw. Do not force the nozzle or pull on the edge of the nozzle by pliers. Also, do not over tighten the screw.

### De-soldering

1. Plug the power cord into the power supply. Pay attention to the specified AC voltage on the back of the unit. The automatic blowing function will start sending air through the hot air gun at this time, but the heating element remains cool.
2. Turn on the power switch. The power switch may be turned on at any time while the automatic blowing function is operating. Once the power switch is turned on, the heating element begins to heat up.
3. Adjust the air flow and temperature control knobs to the desired settings. Wait for a few seconds for the temperature to stabilize.
4. Melt the solder. Hold the iron so that the Nozzle is located directly over, but not touching the IC and allow the hot air to melt the solder. Be careful not to touch the leads of the IC with the Nozzle.
5. Remove the IC. Once the solder has melted, remove the IC by lifting it with a pair of tweezers.
6. Turn the Power Switch off. After the power switch is turned off, the automatic blowing function begins sending cool air through the hot air gun to cool down both the heating element and the handle. Do not disconnect the power

plug at this time. The automatic blowing function will turn itself off after a short while, about one minute.

7. Remove any remaining solder. After removing the IC, remove remaining solder with a wick or desoldering tool.

## **Soldering**

1. Apply the solder paste. Apply the proper amount of solder paste and install the SMD on the PCB. A paste dispenser may be necessary for fine pitch IC's.
2. Soldering: Heat the IC pins evenly with a properly selected nozzle.

Note: Soldering of IC's with a hot air gun may cause problems of solder balls and solder bridges. It is recommended to examine the soldering results carefully before the circuit is powered on.

## **Precautions**

1. Before attach the nozzle, make sure that both the heating tube and the nozzle are not hot.

### **2. High Temperature**

Do not use the hot air rework station near ignitable gases, paper, or other inflammable materials. Both the nozzle and the heated air are extremely hot and can cause bodily injury. Never touch the heat pipe or allow the heated air to blow against your skin.

If it is the first time the unit is used, it may emit white smoke, but this will disappear after a short moment.

4. Make sure the unit is cooled down after each use.

After turning off the power switch, the unit will automatically blow cool air through the hot air gun for a short period of time .Do not disconnect the power plug during this cooling process.

5. Never drop, knock or hammer the hot air gun.

The hot air gun contains quartz glass, which can break if the unit is dropped or jolted.

6. Do not disassemble the air pump. It is sealed in the factory.

7. Disconnect the power plug when it is not used for a long time.

When the power cord is connected, the unit still has running current, even the power switch is in the OFF position.

## **Replacing the Heating Element**

- Remove the 3 screws on the hot air gun; slide the rubber hose away from the end of the handle. The rubber hose conducts air and also holds wires. Open the Handle.
- Disconnect the ground wire sleeve and remove the chrome steel tube. The chrome tube holds quartz glass heat insulation. Do not drop or throw it away.
- Disconnect the old heating element connections and remove it.
- Insert a new heating element. Please handle with care. Never rub the heating element wire. Connect the heating element the way as it was disconnected. Connect the ground wire after replacing the element.

- Assemble the handle in the order reverse in procedure as disassembled.
- Push the rubber hose back onto the end of the handle. Make sure it does not leak air.

**Interchangeable heating elements:**

<b>No.</b>	<b>Name / Specifications</b>
1144	Heating Element / 100V 250W
1146	Heating Element / 220—240V 250W
1144A+	Heating Element / 100V 250W
1146A+	Heating Element / 220—240V 250W