SMTmax

ML-859

Desoldering Station

User's Manual

CONTENTS

Before using, please read the user's

manual carefully.

⚠ NOTICE:

To avold weak soction,when the desoldering station is used over 600 hours,please open its housing and clean the gas storage of pump according to the "Notice" stuck on the pump.

1. Summary

Temp-controlled desoldering station is composed of: air pump part, heating part, transfer part and control part. Air pump part is including diaphragm pump, high power electromotor. Heating part is ceramic heater (temperature sensor) & Soldering tip. Transfer part is made up of the gun, vacuum pipette and filter gauze. Control part is control PCB. While working, the electromotor drives air pump and make negative pressure to imbibe melted soldering tin into filter pipe, thereby it gets the goal of cleaning out soldering tin on the circuit board.

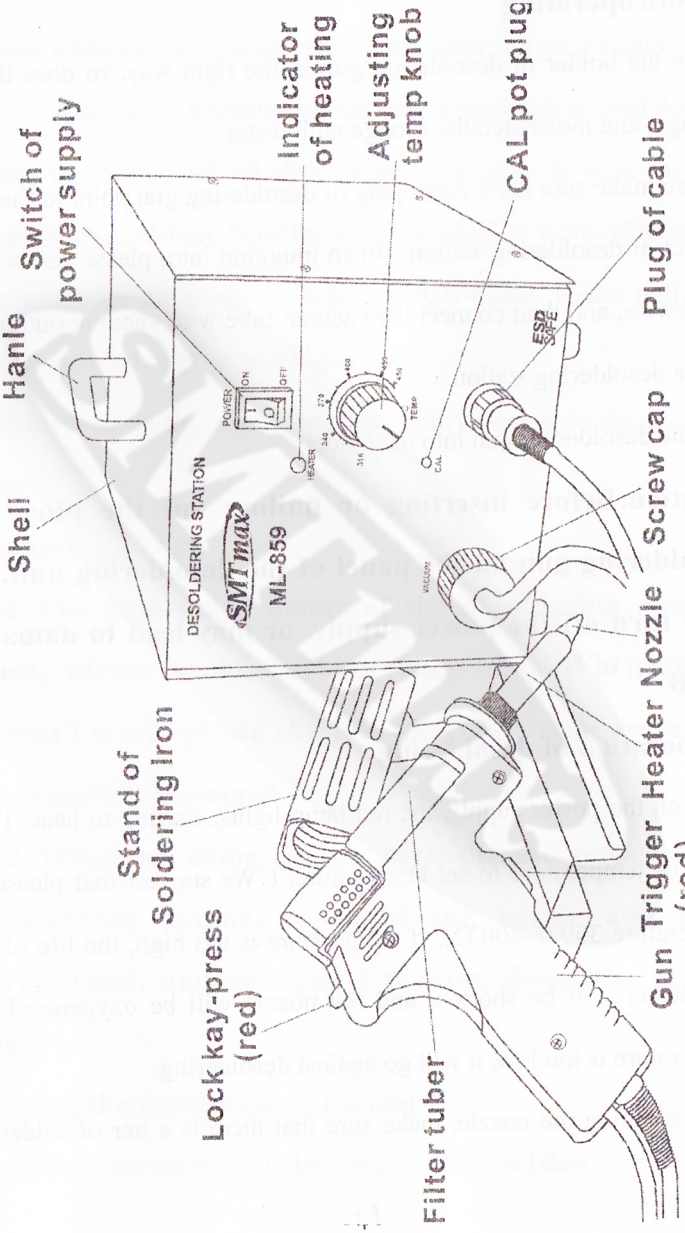
2. Features

- Anti-static design, to prevent from break caused by static and creepage
- Powerful built-in vacuum pump, needn't connect other vacuum system, convenient to put and use.
- Heating system is adopted sensor that is closed loop temperature control to ensure precision & constant temperature.
- Transformer makes the power from main power supply into 26V AC low voltage for heating element, good for safety in work.
- High quality Hot-resistant soft vacuum tube, to avoid damage by hot soldering iron.
- Electromotor of vacuum pump is fit on temperature safety resistance, prevent it from damage due to long time working.

3. Specification

Voltage of Power Supply:	220±10%V AC 50Hz/60Hz
Heating Power:	60W / 27 ±10%V AC 50Hz/60Hz
Temp. of Desoldering tip:	280℃-450℃
Pump:	Diaphragm
Vacuum Pressure:	-680mmHg
Electromotor Power:	40W / 220V AC
Tip to Ground Resistance:	< 2 Ω
Tip to ground potential:	< 2 mv

4. Introduction of shape



(Picture 1)

5. Usage for operation

5.1 Before operating

- Place the holder of desoldering gun in the right way, so does the clean sponge, and moistened the sponge with water.
- Please make sure the 6 cores plug of desoldering gun point to the 6 cores socket of desoldering station. When plugging into, please screw it down clockwise, and then connect the vacuum tube with vacuum output socket of the desoldering station.
- Put the desoldering gun into the holder.

⚠ **Caution:Before inserting or pulling out the plug of the desoldering gun on the panel of the desoldering unit, make sure turn off the power supply, or may lead to damage the PWB**

5.2 Operation of desoldering

- Turn on the power supply, the red lamp lights, starting to heat. Turn the knob of temperature to set temperature. (We suggest that please adopt temperature 350℃-400℃). If temperature is too high, the life of nozzle and heater will be shorten, and the nozzle will be oxygenated. If the temperature is too low, it will go against desoldering.
- After cleaning the nozzle, make sure that there is a tier of soldering tin

covering the nozzle.

- Close with the weld of the PWB by nozzle of desoldering gun, melt down soldering tin, please make sure keep out of touching the weld. After ensuring the soldering tin has been completely melted down, please press the switch of WL-858 desoldering gun, to start the pump of desoldering statation. Now the unit is starting to work. (For sucking dry the soldering tin inside the holes of PCB board, please pull the leg of components slowly by nozzle.)
- If the soldering tin hasn't been sucked dry, please do the above process again.

⚠ **Caution:**

5.2.1 The high-speed motor of the desoldering pump easily heat, please avoid working long time. When the motor doesn't work, please check if the 105℃ temperature secure resistance is damaged.

5.2.2 When no using, please turn off the power supply of desoldering station, to avoid the nozzle and heater is oxygenated, and go against melting down the desoldering tin.

5.3 Solving the desoldering problem

5.3.1 The soldering tin can't be completely melted down.

5.3.1.1 When facing the multilayer PCB、electrical source layer PCB、grounding wire layer PCB、large-scale transistor with radiator 、controllable silicon、large-scale transfers end on the circuitry board to get rid of soldering tin, we can set high temperature to melt soldering tin as it is hard to get rid of soldering tin with the lack of heat. The best way is that we use accessorial heater to heat the PBC board to reach 70 ℃, and then use desoldering gun to get rid of tin.

5.3.1.2 If the nozzle is damaged, such as the plating layer of the nozzle was damaged or eroded to reduce the conduction of heat, in this case, please replace the nozzle.

5.3.1.3 After using desoldering gun for a period of time, especially, using under high temperature (such as above 400℃), please termly clean the nozzle and interface between the nozzle and heater. Using methods as follows: Set the temperature to 300℃:

A. Apply the nozzle of the gun with clean gauze, till the black oxide on the nozzle is cleared away, finally, plate the new layer of tin on it. And repeat it till the black oxide is assuredly clear away.

B. As picture 2, loose the nut, go out from the stainless steel socket, to take the nozzle out, and then clean inside of nozzle 、the tip of the heater and the dirt between them.

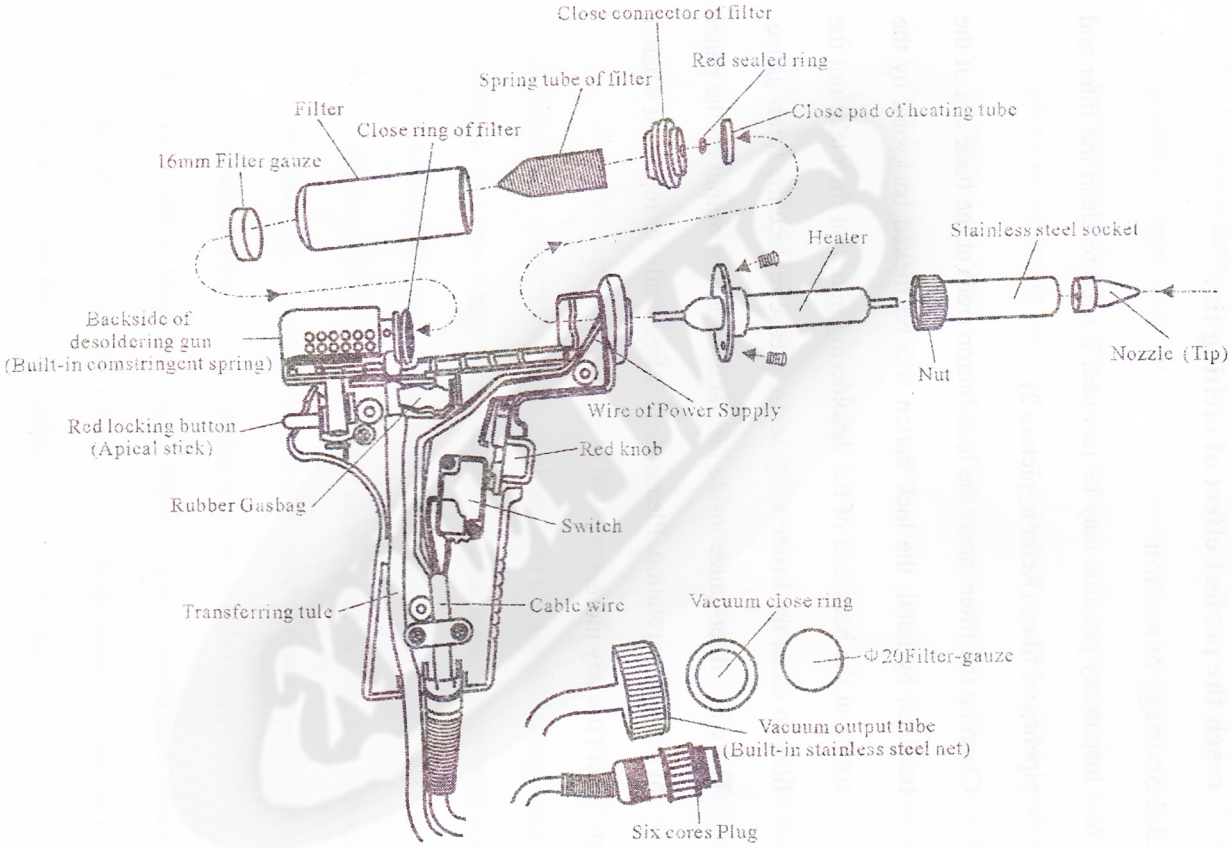
⚠ **Caution: Make sure cleaning should be done well to**

reach the perfect effect of melting tin.

5.3.2 Shortage of suction

A: Inspiratory pipeline may be jammed, it need to clean the filter and pipeline of filter. (Refer to picture 2)

Cleaning the filter: press the lock-button (red) at the back end of the handgun by hand, the lock button will be flicked backward by the spring at the back end of the desoldering gun, and then take out the filter to clean the inside tinny scrap, please replace the filter- gauze. There is a filter-gauze inside the vacuum unit of output on the panel of desoldering station. Please clean it frequently, or replace it when it can't use any more.


Close connector of filter
Red sealed ring
Spring tube of filter
Filter
Close pad of heating tube
Close ring of filter
16mm Filter gauze
Heater
Stainless steel socket
Backside of
desoldering gun
(Built-in comstringent spring)
Nozzle (Tip)
Nut
Wire of Power Supply
Red locking button
(Apical stick)
Red knob
Rubber Gasbag
Switch
Transferring tule
Cable wire
Vacuum close ring
Φ20Filter-gauze
Vacuum output tube
(Built-in stainless steel net)
Six cores Plug

(Picture 2)

Cleaning the pipeline: Nozzle was connected with pipeline of stainless steel, was easy to be jammed by scrap. Under the hot condition, please clean it with steel needle.

⚠ **Caution: Only in the hot condition, can the scrap be melt.**

B: Vacuum system leak

When vacuum system leak happen, please check if the vacuum connection-tube is

Leak, if the nozzle is fixed, if the vacuum unit of output is screwed down, and if the rubber sealed cover is damaged, which is inside the desoldering gun 858.

If the above problem happens, please airproof or replace parts.

C: Vacuum system fault

When the working time of this unit reach the time limit, the built-in plastic parts and rubber will be worn and torn to leak air, at this time, please replace the parts or sent it back to repair shop.

6. Calibrating the nozzle temperature

After replace the different specifications of nozzles or heater, please calibrating the nozzle temperature again.

6.1 Set the temperature control knob to 380℃.

6.2 Remove the CAL pot plug.

6.3 Fill the nozzle with solder, put the tip of thermometer inside the solder.

6.4 When the temperature stabilizes, use "—" screwdriver of small "+" screwdriver to adjust the potential utensil (marked CAL at the station) until the tip thermometer increase a temperature of 380℃.

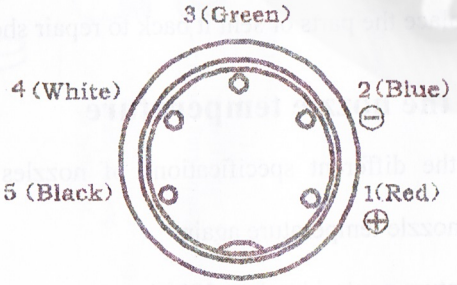
7. The connection plug of desoldering station and desoldering gun

7.1 When the part of heater doesn't work, or fail to connect, please measure the plug of wire of gun as the picture 3 (plug of 6 cores

7.11 When the resistance value "a" and "b" are out of gear, please replace the heater.

7.12 When press the knob "c", the resistance value isn't 0Ω, please replace the swich.

7.13 When the "d" is grounding wire, the resistance value of it and stain steel must less than 2Ω



(Picture 3)

Caution:

① and ② are K type thermocouple, ① is ⊕, ② is ⊖, the blue wire of heater is ⊕, and white wire is ⊖. The anode and cathode of K type thermocouple should not be connected crossly.

a.	Between pins 4 & 5 (Heating element)	Around 16Ω
b.	Between pins 1 & 2 (Sensor)	K style (2Ω under normal temperature)
c.	Between pins 3 & 2 (Switch)	Infinite (without touching), 0 (touching)
d.	Between pins3 & Tip	Under 2Ω

8. Replacing Parts

Serial No. Of parts	Name of parts	Specification
ML-A1313A	Heater element	50W / 27V AV
ML-A1002	Nozzle	Φ0.8 (0.03in)
ML-A1003	Nozzle	Φ1.0 (0.04in)
ML-A1006	Nozzle	Φ1.2 (0.05in)
ML-A1007	Nozzle	Φ1.5 (0.06in)
ML-B1087-1	Cleaning needle	Used forΦ0.6mm nozzle
ML-B1087-2	Cleaning needle	Used forΦ0.8mm nozzle
ML-B1087-3	Cleaning needle	Used forΦ1.0mm nozzle
ML-B1087-4	Cleaning needle	Used forΦ1.2mm nozzle
ML-M1001	Filter-gauze (big size)	Φ20mm
ML-M1002	Filter-gauze(small size)	Φ16mm
ML-F1001	Close pad of heater	Seal the heater and tie in
ML-F1002	Close joint of filter-tube	Seal the filter tube and heater
ML-F1003	Close ring of filter-tube	Seal the filter tube and gun backlash
ML-F1004	Sealed ring of vacuum stand	Seal output tube
ML-JI1001	Rubber gasbag	Display place of suction scale
ML-T1001	Spring filter tube	