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Four-in-one Anti-Static Multi-Function Rework Station

INSTRUCTION MANUAL

CSI948-2

English



Thank you for choosing this Intelligent rework station, this product is specially designed for lead-free soldering station, please read the instructions carefully before use, after reading please keep for future reference.

Safety Guidelines

To use this product, the following basic measures should be strictly followed to avoid hazards of electric shock, bodily injury, and fire.

- To ensure personal safety, please turn off the power switch after power work is completed; if it will not be used for a long time, please unplug the power cord!!!
- 2. Serious consequences may result if non-original or non-approved parts are used
- 3. In the event of product failure, repairs must be carried out by professionals or manufacturer-designated personnel.
- 4. This product uses three-wire grounded plug must be inserted into three-hole grounded outlet, do not change the plug or use an ungrounded three-headed adapter leaving poor grounding.
- 5. After the desoldering station is switched on, its temperature can exceed 400°C. Do not use near flammable or explosive objects. To avoid burns, do not touch the metal part of the soldering iron.
- 6. Do not leave the work area when the soldering station is switched on.
- 7. The power cord must be unplugged and the iron must be allowed to cool before installing or replacing soldering iron parts.
- 8. After used, remember that cooling the unit before installation.
- The desoldering station should only be used for soldering. Do not hit the
 desoldering gun station against the work surface to remove flux residues, as
 doing so may seriously damage the soldering iron.
- 10. Soldering produces fumes, ensure there is adequate ventilation.

WARNING

- 1. If the power cable is damaged, it must be replaced by the manufacturer or by a maintenance department professional in order to avoid danger.
- 2. This tool must be placed in its stand when not in use.
- 3. Be careful when using this device in the vicinity of flammable materials; Never use this device for extended periods in the same location.
- 4. Be aware that heat may be transferred to distant flammable materials; Someone must be present at all times while the device is connected.
- 5. This device is not intended to by operated by individuals with diminished physical, sensory, or mental capacities or by those who lack experience (such as children), except in the presence of individuals qualified to provide necessary supervision and guidance;

I. Product Features

- Adopts PID programmable temperature control technology with an implant able highest-precision PID program for high-speed tracking and detection of actual desoldering gun and soldering iron temperatures with real-time temperature correction. Miraculous temperature compensation speeds allow for minimal temperature error for temperature stability and compensation speeds.
- 2. With hot air gun rework station, desoldering station, soldering iron and suction pen functions, the rework range is wide. The desoldering station and soldering iron functions are smart with interchangeable identity. With a handle connected, such a function can easily be used.
- 3. Anti-static design prevents electrostatic component damage or leakage.
- 4. Built-in vacuum with strong suction and without an external vacuum system, easy to carry.
- 5. The design of machine has the following strong humanization functions:
- A. With 3 storage function: Different parameters can be stored separately, it is convenient to choice, and easy to operate.
- **B. Digital temperature correction function:** You can use this feature to correct the temperature when the iron temperature is different from the display temperature, which caused by the environmental impact or replacing heating element, iron tips or other components.
- **C. Temperature Celsius/Fahrenheit display function:** This temperature display mode designed to meet the needs of different markets, you can choose according to your customary or interest.
- D. Iron sleep function: Soldering iron automatic detection of their work status are not in use in a quiescent state, arriving to set the sleep time, the temperature of the iron automatically lower the temperature to 200°C enter into sleep state, can effectively prevent the oxidation of iron head and prolong the iron tip service life, energy saving and environmental protection. The sleep time can be set range: 2 to 99 minutes in 1 minute steps, users can be set based on usage, if you do not need a soldering iron sleep, the sleep time is set to ---.

 Waking up hibernation method:
- a. Shake soldering handle up and down several times or flick the red switch on the suction gun once.
- b. Press any one button.
- c. Turn the power switch on and off.
- **E. Automatic shutdown function:** After machine enter into sleep state, start the timer program, set the shutdown time did not wake up from sleep, automatic shutdown, energy saving and environmental protection. Auto power off time setting range: 2 to 99 minutes in 1 minute steps, If you do not need a auto shutdown function the power off time is set to - -.
- **F. Air gun without wind protection function:** Non-normal stopping in the process of using a hot air gun, the heating element will stop heating, it can prevent burn the handle, and greatly improved product safety.
- G. Air gun automatic/manual function:
- a. When you choose the Auto function, and the air gun handle back on the bracket, the machine will shut off the heater automatically and cool down, it can prolong the service life of the heating element effectively and it is energy saving and environment friendly. It has very high safe factors when turn on the machine again ,when you turn on the machine at the an unknown condition. It can prevent the fire or other accidents effectively.

- **b.** When you choose the manual function, the air gun will not cool down when you put it back to bracket, this function is suitable for using the air gun frequently, it can save the cooling and warming up time, improve the working efficiency. We recommend you that after using the manual function, please transfer the function into auto function, so it can improve the safety.
- 6. With a unique tin suction nozzle and heating pipe design, solder can be inhaled through filters in a molten state without the need for regular maintenance, thereby delivering greater efficiency.
- 7. Adopts silicone heat-resistant tubing to prevent heat generation and contact damage.
- The double-sided internal SMT manufacturing process boasts clean craftsmanship. The signal flow is clear, and the machine is both stable and safe, further improving its performance and adaptability to various harsh environments.

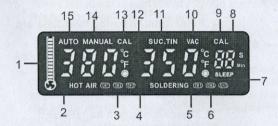
II. Specifications

Maximum power	725W		
Power supply voltage	AC 110V ±10% 60Hz/AC 200V~240V 50Hz		
Outer appearance and dimension	L280xW187xH135mm		
weight	5.2kg		
Working temperature	0~40°C/32~104°F		
Storage temperature	-20~80°C/-4~176°F		
Storage humidity	35%~45%		
Hot air gun part			
Power	650W		
Temperature range	100°C~480°C		
Air mode	Brushless fan and soft wind		
Air flow	≤120L/min		
Display mode	LED digital tube		
Temperature stability	±1°C (static state)		

Desoldering station part		
Power	75W	
Temperature range	350~480°C	
Tin soldering pump power	12W	
Vacuum degree of tin soldering pump	0.12MPa	
Display mode	LED digital tube	
Temperature stability	±1°C (static state)	
Heating element voltage	26V~ ±10%	
Ground resistance of soldering tips	<2Ω	
Soldering iron parts		
Soldering iron power	60W	
Temperature range	200~480°C	
display mode	LED digital tube	
temperature stability	±1°C (static state)	
Soldering iron heating element voltage	AC 26V ±10%	
ground resistance of soldering tips	<2Ω	

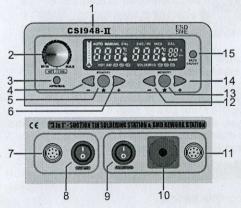
III. Schematic View of Display Screen, Panel and Desoldering Gun

Display Screen Schematic View



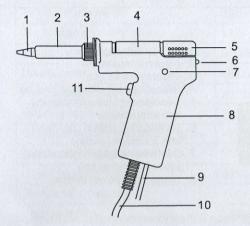
- 1. Air flow simulate date
- 2. Air gun temperature
- 3. 3 storage of air gun
- 4. Indication light of air gun heating
- 5. Desoldering station /soldering iron temperature
- 6. Desoldering station / desolder iron 3 storage function
- 7. Desoldering station/indication light of soldering iron
- 8. Sleep time / power off time
- 9. Desoldering station/ temperature calibration indication symbol of soldering iron
- 10. Suction pen indication symbol
- 11. Desoldering station indication symbol
- 12. Fahrenheit/Celsius display mode
- 13. Indication symbol of air gun temperature calibration
- 14. Indication symbol of air gun manual function
- 15. Indication symbol of air gun auto function

Panel Schematic View



- 1. Model
- 2. Air flow knobs/cool air and hot air switch
- 3. Air gun manual/automatic button
- 4. Air gun temperature decrease button
- 5. Air gun function button
- 6. Air gun temperature increase button
- 7. Air gun handle interface
- 8. Air gun switch
- Desoldering station/ soldering iron switch
- 10. Suction pen Interface
- 11. Desoldering station/ soldering iron handle interface
- 12. Desoldering station/ soldering iron temperature decrease buttons
- 13. Desoldering station/ soldering iron function key
- 14. Desoldering station/ soldering iron temperature increase key
- 15. Suction pen switch

Schematic View of Desoldering Gun



- 1. Suction tips, wearing parts
- 2. Steel tube
- 3. Nut
- 4. Filter (built-in spring filter tube are wearing parts)
- 5. Back holder assembly
- 6. Release button
- 7. Indicator
- 8. Housing cover
- 9. Air pipe
- 10. Desoldering gun handle cord
- 11. Desoldering station switch

IV. Operation Instructions

Air gun part

- 1. Put the Product in place, attach the air gun handle, equip the required nozzles, the air gun handle should lay on the holder.
- 2. Connect the power supply, open the main switch that behind the machine.
- Open the air gun switch, the screen display "---", then you can set the temperature and air flow you want.
- 4. Pick up the handle and start the air gun, the air guns starting supply air and heating, only until the temperature is stable, you can work.
- 5. When finished, put the handle back to holder (or turn off the air gun switch directly), come into the cool air cool down the heater mode. After the temperature dropped to 100°C, unplug the main power switch.
- 6. Please unplug the power cord, when you do not use the machine for a long time.

Desoldering station/soldering iron part

- 1. Attach the desoldering gun or soldering iron handle.
- 2. Connect to the power supply.

- 3. Turn on the main power switch. The desoldering station or soldering iron will begin heating.
- 4. Press the plus and minus keys to set the desired temperature. Once the soldering iron reaches a constant temperature, work may begin. The desoldering gun can only begin desoldering three minutes after the power switch has been turned on: use the desoldering gun nozzle at the foot of the element. Completely melt solder on the element foot. Press the red switch on the suction gun to remove solder.
- 5. When finished, return the soldering iron handle or desoldering gun handle to the holder and turn off the power.

Attention matters

- Desoldering gun and soldering iron handles share the same interface. When
 using the soldering station, the soldering station handle connect to 8-core
 aviation plug, and connect the air pipe to the suction pen interface. When using
 the soldering iron, disconnect the desoldering gun and connect the soldering
 iron handle.
- When using the desoldering station, please pay attention to the following points:
 A. The red switch on the desoldering gun may only be flicked after solder has completely melted.
 - B. If there is residual solder within printed circuit board apertures, the circuit board must be soldered and de-soldered anew.
 - **C.** If the element foot rests on the printed circuit board aperture such that solder cannot be suctioned cleanly, first re-weld and then use the suction nozzle for melted solder. Then, slowly move the suction nozzle, moving the element foot so that the element foot is not in contact with the aperture. Then press the red switch on the desoldering gun to clean the solder.
 - **D.** When the desoldering nozzle is not blocked, press the red switch on the suction gun and observe the indicator color. If the color is red or at least 50% red, the suction nozzle and filter pipe need cleaning. If the color is blue or light red, no cleaning is necessary.
 - **E.** The nozzle has different sizes: ϕ 0.8MM, ϕ 1.0MM, ϕ 1.2MM, ϕ 1.6MM ϕ 1.8MM, ϕ 2.0MM, the big nozzle suitable for soldering large component foot, the small nozzle suitable for soldering small components foot, please select the suitable nozzle to work.

Vacuum suction pen

- 1. Connect the vacuum suction pen.
- 2. Press the "VAC" key to start the vacuum suction pen.
- 3. Press the "VAC" key to stop the vacuum suction pen, or stop automatically after 5 minutes.

Note: In the use of de-soldering gun station , vacuum suction pen is prohibited used.

V. Description of Function Setting

Air gun part

Press the * key to toggle the function setting

Digital temperature calibration



Switch between Fahrenheit/ Celsius temperature display

Digital temperature calibration

1. Open the switch of the air gun, start the air gun.

2. Press the * key of the air gun for 2second, the screen display as the picture 1.

The machine comes into the parameters setting status.

3. Press the "+,-" key ,the machine comes into the temperature calibration status, after the screen display "---" press the manual /auto key to move, press the "+,-" and enter the temperature of the thermometer. If there still small error, you can repeat the calibration.

 Press the ★ key to exit the temperature calibration status, if no operation for 25 seconds the machine will exit the parameters setting, and the calibration is

done.

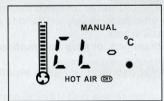
Fahrenheit/ Celsius display settings

1. Open the air gun switch , start the air gun .

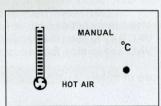
2. Press the * Key of the air gun for 2 second , the screen display as the picture 1.

3. Press the ★ key of the air gun again, the screen display as picture 2.the "°C" is

4. Press the "+,-" key to transfer the Fahrenheit/ Celsius display mode, press the key to make sure the parameters setting and exit the parameters setting, and the setting is done.



Picture 1



Picture 2

Desoldering station / soldering iron part

The setting method of the desoldering station and the solder iron function are the same. The function setting order as followings, Press *:



Digital temperature calibration

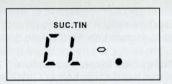
1. Open the desoldering station switch , start the desoldering station

2. Press the \bigstar key of the desoldering station for 2 second ,the screen display as

the picture 3.

3. Press the "+, -" key to enter the temperature calibration status ,waiting the screen display "---" then press the switch of the suction pen to move, press the "+, -" key to enter thermometer temperature, and press the ★ key to make sure. If there is small error ,you can repeat the calibration.

4. Press the *key to exit the temperature calibration status, if no operation for 25 seconds the machine will exit the parameters setting, and the correction is done.



Picture 3

Hibernation time setting

1. Turn on the desoldering station switch, start the desoldering station.

2. Press the *key of the soldering station for 2 second, the machine come into parameters setting status, press the *key one more time, the function setting transfer to hibernation time setting, the screen display as the picture 4, the "10" is flashing.

3. Press the "+, -" to change the hibernation time, and press the ★ key to make sure the setting, if no operation for 25 second ,the machine will exit the parameters setting status ,and the setting is done.



Picture 4

Automatic power off time setting

1. Turn on the desoldering station switch, start the desoldering station.

 Press the *key of the soldering station for 2 second ,the machine comes into parameters setting status, and press the *key for 2 times. The function will change to automatic power off setting, the screen display as the picture 5, the " 02" is flashing.

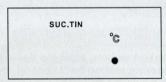
3. Press the "+, -" key to change the automatic power off time, and press the ★ key to make sure the setting, if no operation for 25second, the machine will exit the parameters setting status, and the setting is done. The range of automatic power off time is: 2-99second, Setting "---" to cancel the automatic power off time.



Picture 5

Fahrenheit/Celsius temperature display setting

- 1. Turn on the desoldering station switch, start the desoldering station.
- 2. Press the *key of the soldering station for 2 second, the machine come into parameter setting status, press the *key for three times transfer to Fahrenheit / Celsius display setting the screen display as picture 6, the "°C" is flashing.
- 3. Press the "+, -" key to choose the Fahrenheit or Celsius display mode, press the *key to make sure the setting, and the setting is done.



Picture 6

VI. Symbol Signal

S-E indicate that the sensor is detecting the error, you need to check if the sensor of the heating element is damaged, or the cable is in the poor contact condition.

VII. Terms of Use

- When turning on the power supply, the air gun handle must be placed on the handle holder.
- 2. Please keep the air vent open and free of obstructions.
- 3. After completion of work, the heating handle must be placed on the handle holder. Let the machine cool down by itself until it displays "---" (stop air supply). Only then can you turn off the air gun power switch.
- 4. When using a smaller nozzle other than the standard machine nozzle, you must adjust the air flow to use lower temperatures to the max and within a short period of time. Avoid long-term use of the air gun, as this causes damage.
- Choose the right air nozzle according to work needs. Different air nozzles may have slightly different temperatures. The distance between the outlet and the object is at least 2 mm.
- 6. Do not forcefully install the nozzle or use pliers to pull the nozzle edge. Do not tighten the screw firmly.
- 7. Before installing the nozzle, both the heat pipe and the nozzle must be cooled first
- 8. Do not touch the heat pipe or directly spray someone's face with hot air, as there is a risk of burning the human body. When it is just started, white smoke may be emitted. This is a normal occurrence, which will later disappear.
- 9. When replacing the heating element, be careful not to damage the ground wire.
- 10. During replacement, pay attention to the order and color of the connection cable. Never make a mistake in the connection!
- 11. Please replace with the same model heater or heating element!

Special Note:

Hello, dear user! Because the machine air gun and the soldering iron handle use high-strength stainless steel tube, in the production process, the machine must go through inspection or calibration four times under normal working conditions. The cylinder will turn slightly yellow due to high temperature. When the new machine is disassembled or used, and slight yellowing is discovered around the steel cylinder. This is to be regarded as a normal occurrence, so please remain at ease when using it!

VIII. Soldering Tips Maintenance and Use

Soldering Tip Temperature

If the soldering temperature is too high, it will diminish the functionality of the soldering tip. Therefore, choose the lowest possible temperature. This soldering tip features outstanding temperature resilience with the capacity for rechargeable solder at lower temperatures to protect temperature sensitive components.

Cleaning

The soldering tip should be regularly cleaned with a cleaning sponge. After soldering, carbon compounds and oxides derived from the soldering tip's residual solder will damage the soldering tips, causing soldering errors or a drop in soldering tip thermal conductivity. When the soldering iron is used continuously for long periods of time, the soldering tip should be dismantled once a week to remove oxides. To prevent soldering tips damage, reduce the temperature.

When Not in Use

When the soldering iron is not in use, the soldering iron cannot remain in a high-temperature state for long periods of time; otherwise, solder on the soldering tips will convert to oxide, greatly diminishing the thermal conductivity of the soldering tips.

After Use

Following use of the soldering iron, the soldering tips should be wiped clean and coated with a new layer of tin to prevent soldering tips oxidation.

- 1. When the soldering iron is initially used, pay attention and check for temperature rises on the soldering iron tips. Wait until the temperature is just hot enough to melt the solder wire, coat the soldering iron tips with a layer of tin and then increase the temperature to the desired temperature. Remember when working that the soldering iron tips should have been coated with a layer of tin for a long period of time to protect the soldering iron tips and thus be able to achieve optimal soldering functionality.
- 2. If a layer of oxide appears on the surface of the soldering iron, thus making it seem like the soldering tips is at such a low temperature that it cannot melt tin or be coated with tin, both the heating core and the soldering iron will in fact be extremely hot at this time. When this happens, do not blindly raise the temperature. Instead, use a cleaning sponge to wipe away the oxide. If the oxide does not come off, wait until the soldering iron temperature falls back down to room temperature, then use sandpaper to carefully remove the oxide. Afterwards, follow the initial steps in point 1 above for the use of the soldering iron.
- 3. Note that after the soldering iron is used for high temperature work, when it is returned inactive to the iron holder, the temperature knob should be turned to 250°C or below. When inactive for over 20 minutes, please turn off the power. Otherwise, if the soldering iron rests at a high temperature for a long period of

time, accumulative heat will be generated between the soldering iron and its holder, thus accelerating the ageing process of the heating core. In this state, the soldering tips will derive oxide, directly diminishing soldering functionality. When severe, it may even melt the connecting coupling nut or short-circuit the heating core.

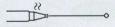
- 4. Do not cull oxide from the soldering tips with a file. If the soldering tip is deformed or rusts, it must be replaced.
- When soldering, do not apply excessive pressure to the soldering tip. While
 excessive pressure will not change its thermal conductivity, it will damage the
 soldering tips.

IX. Desoldering Gun Maintenance and Component Replacement

- 1. Cleaning and maintenance are the same for both the high-frequency soldering station soldering tips and the desoldering gun nozzle.
- 2. Nozzle, Heating Element, and Filter Pipe Cleaning.

Nozzle Cleaning

- 1. Insert the plug into the power outlet. Turn on the power switch to heat the nozzle.
- 2. Select an appropriate nozzle cleaning needle to clean the nozzle hole.

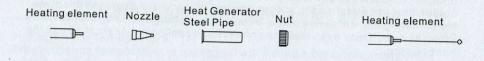


Heating element cleaning

- Unscrew the nut after the heating element has cooled. Remove the steel pipe and nozzle.
- 2. Turn on the power switch to heat the heating element. Use an appropriate cleaning needle to clean the heating element holes.
- 3. The power must be turned off after cleaning.

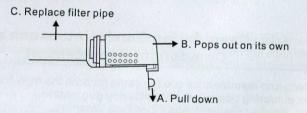
CAUTION:

Solder in the heating element holes can only be cleaned after it is melted. If the cleaning needle cannot penetrate the heating element holes, replace the heating element. When assembling, the nut must be screwed on tightly. Otherwise, the nozzle temperatures will be low.

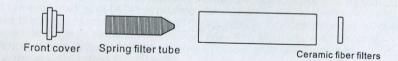


Filter pipe cleaning

 Turn off the power. Wait until the filter has cooled. Remove the filter according to the picture below.



 Press the diagram of the filter to break up and remove the spring filter tubes, filter tubes spring clean up solder.
 Note: The filter tube is very hot, be careful not to burn.



When the filter assembly components need to be replaced with the following phenomena:

* Spring filter tube can not be removed or soldering solder reservoir two-thirds needed to replace the spring filter tubes.

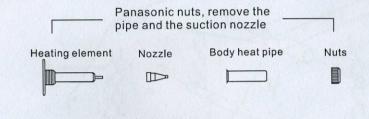
* The front cover stiff and cracked, you need to replace the front cover.

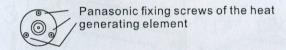
* Ceramic fiber filters too much solder and flux due to siltation and stiff, the need to replace the asbestos filters.

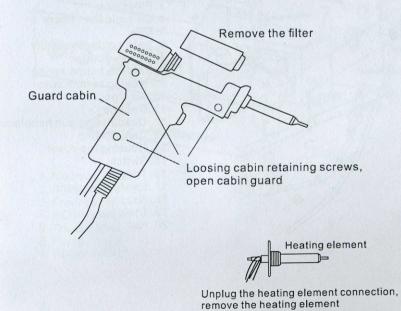
3. The replacement of the heating element

- ① Unplug the power cord and the heating element to cool.
- ② Panasonic nuts, remove the pipe and the suction nozzle.
- 3 Panasonic fixing screws of the heat generating element.

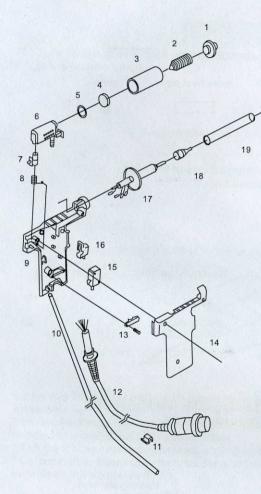
- 4 Remove the filter,
- (5) Cabin, open cabin protection.
- 6 Unplug the heater element connections, remove the heating element.
- TReload new heating element.
- ® Method according to the original wiring connected to wires.
- (9) In reverse order of assembly suction tin soldering station, and re-calibrate the temperature







X. List of Desoldering Gun Parts



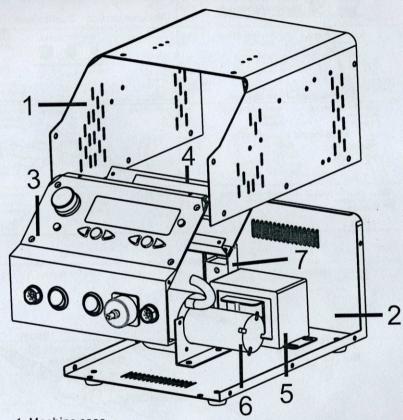
- 1. Front cover
- Filtering spring
 Filter pipe
 Ceramic fiber filters

- 5. Seal
- 6. Back holder assembly
- 7. Release button
- 8. Release button spring
- 9. Housing bottom cover

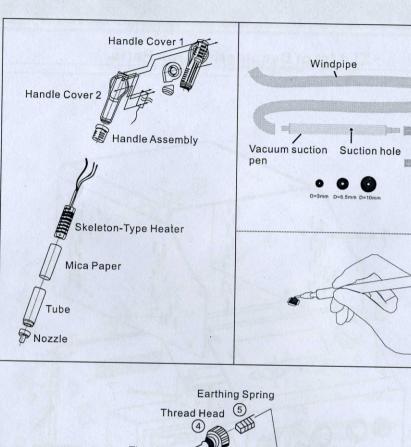
- 10. Air pipe
 11. S clamp
 12. Desoldering gun handle cord
 13. Cable clamp
 14. Housing top cover

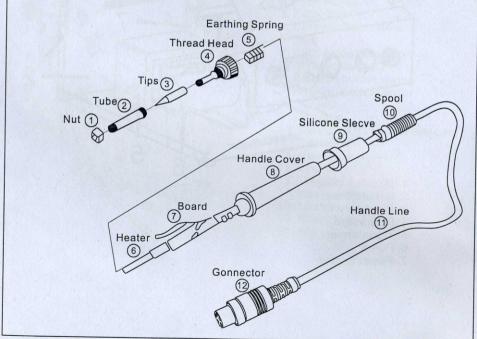
- 15. Switch
- 16. Trigger
- 17. Heating element
- 18. Nozzle 19. Steel pipe 20. Nut

XI. List of Desoldering Gun Parts



- 1. Machine case
- 2. Bottom case
- 3. Front panel
- 4. PCB board
- 5. Transformer
- 6. Pump 7. Power socket

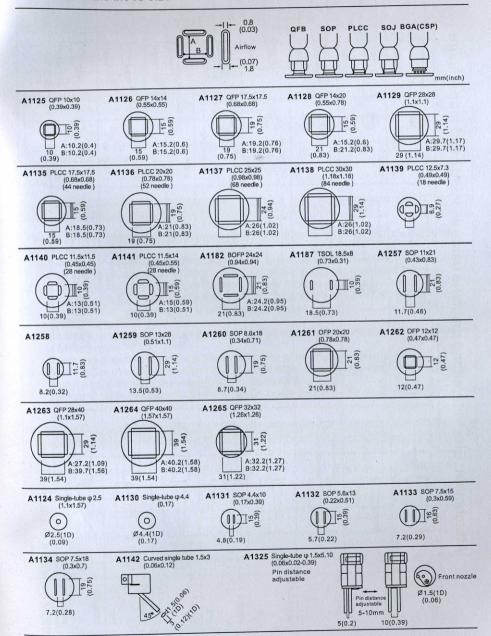




General parts

Sucker

*Nuzzle specification and size means the IC size



Attachment: Electric welding machine using welding head model figure

9000M-T-0.8D © THE MINISTER OF	900M-T-LB	∏
0°C	-10°C/-18°F	30°C/54°F
900M-T-1.2D	900M-T-0.5C	9000M-T-R
17mm 17mm	0°C	0°C
9000M-T-1,6D	900M-T-0.8C	9000M-T-RT
0°C	0°C	17mm
9000M-T-2.4D	900M-T-1C O T - 0 O O O O O O O O O O O O O O O O O O	900M-T-SI
17mm 17mm	0°C	O°C
900M-T.3.2D	900M-T-1.5CF	900M-T-I
0°C	0°C	-10°C/-18°F
900M-T-1.2LD	900M-T-2C	900М-Т-H
-10°C/-18°F	17mm 17mm	-20°C/-36°F
9000M-T-SB	900M-T-3C	900M-T-1.8H 1.8mm (2.5c.)
0°C	0°C	-10°C/-18°F
9000M-T-B	900M-T-4C	900M-T-S4
17mm	0°C 17mm	D ₀ 0
900M Series Tip Out Diam Ø6.5mm		

Product certification

Model NO.

Product ID

Examine

Upon examination products meet technical occupants standards

Sales Date

Date of manufacture

Warranty Card

Thank you for choosing this type of products, please read the following terms before using:

- From purchasing date within 7 days, under normal use(Non-artificial damage), new package, not be disassemble and repaired ,enjoy replacement service.
- From purchasing date within one year, under normal use, if there are quality problem, not be disassemble and repaired ,enjoy free repair service.
- 3. For more than warranty, we provide a lifetime warranty service, free of labor costs, charge only spare parts costs.
- 4. Failure to present warranty card during warranty period, the company will not be a free service.
- 5. Users need warranty service, please contact your original sales unit.
- 6. When users need warranty service, please provide warranty card and purchase invoice, or receipt of the certificate of the company seal.
- 7. Warranty does not include transportation costs and provide on-site service.

Maintenance records

NO.	Date for repair	Cause	Fix date	Repairer