

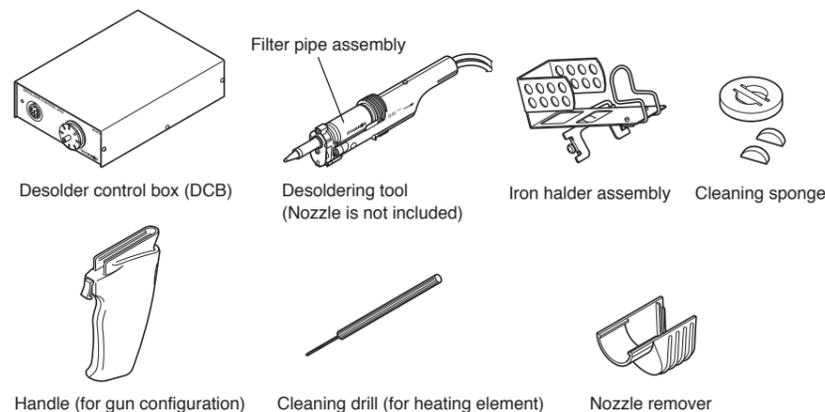
Instruction Manual

Thank you for purchasing MODEL FM-2024 desoldering tool .
 Please read this manual before operating the MODEL FM-2024.
 Keep this manual readily accessible for reference.

1. PACKING LIST AND PART NAMES

Please check to make sure that all items listed below are included in the package.

Desolder control box (DCB)	1	Handle (for gun configuration).....	1
Desoldering tool	1	Cleaning drill (for heating element)	1
Filter pipe assembly	1	Nozzle remover	1
Iron holder assembly	1	Instruction manual	1
Cleaning sponge	1		



2. SPECIFICATIONS

Desolder control box

Power consumption	12 W
Output	24 V
Vacuum generator	Ejector type
Vacuum pressure (max.)	93 kPa (700 mmHg)
Suction flow	20 l/min*
Tip to ground potential	< 2 mV
Applied air pressure	490 kPa (5.0 kgf/cm ²) when in use (trigger or button is pressed)
Compressed air consumption	1.62 c.f.m. (46 l/min.)
Outer dimension, (w/o cord)	119 (W) x 45 (H) x 172 (D) mm
Weight	1.2 kg

* This suction flow is measured at the filter case suction port of Station.

Desoldering tool

Power consumption	70 W (24 V)
Temperature range	350 - 450°C (650 - 840°F)
Tip to ground potential	< 2 mV
Tip to ground resistance	< 2 Ω
Length, less cord	180 mm
Weight, less cord & hose	65 g
Length of cord	1.2 m

NOTE:

- * The temperatures were measured using the HAKKO FG-101 soldering tester.
- * This product is protected against electrostatic discharge.
- * Specifications and design are subject to change without notice.

CAUTION

This product includes such features as electrically conductive plastic parts and grounding of the handpiece and station as measures to protect the device to be soldered from the effects of static electricity. Be sure to observe the following instructions:

1. The handle and other plastic parts are not insulators, they are conductors. When replacing parts or repairing, take sufficient care not to expose live electrical parts or damage insulation materials.
2. Be sure to ground the unit during use.

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3. WARNINGS, CAUTIONS AND NOTES

WARNING

Warnings, cautions and notes are placed at critical points in this manual to direct the operator's attention to significant items. They are defined as follows:

- WARNING:** Failure to comply with a WARNING may result in serious injury or death.
- CAUTION:** Failure to comply with a CAUTION may result in injury to the operator, or damage to the items involved. Two examples are given below.

NOTE: A NOTE indicates a procedure or point that is important to the process being described.
EXAMPLE: An EXAMPLE is given to demonstrate a particular procedure point or process.

Failure to do so may result in serious problems.

CAUTION

- When the power is on, the nozzle temperature is between 350°C/650°F and 450°C/840°F. Since mishandling may lead to burns or fire, be sure to comply with the following precautions.
- Do not touch the metal parts near the nozzle, nearby plastic parts, or the metal parts of iron holder.
 - Do not use the product near flammable items.
 - Advise other people in the work area that the unit can reach a very high temperature and should be considered potentially dangerous.
 - Turn the power off while taking breaks and when finished using the unit.
 - Before replacing parts or storing the unit, turn the power off and allow the unit to cool to room temperature.
 - This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
 - Children should be supervised to ensure that they do not play with the appliance.

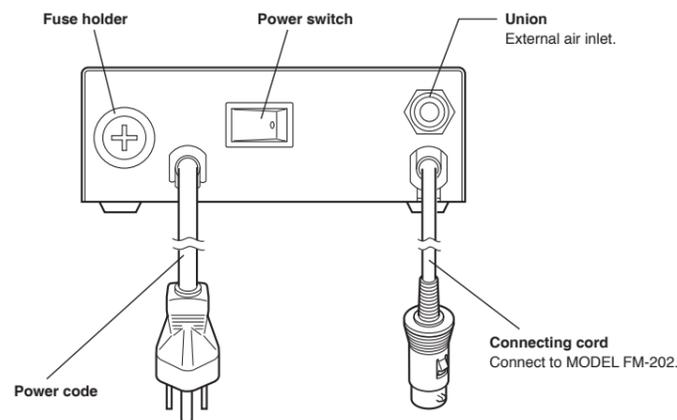
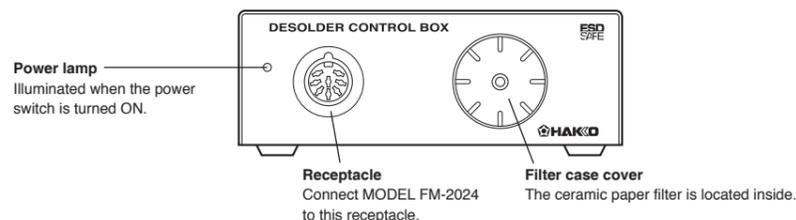
To prevent damage to the unit and ensure a safe working environment, be sure to comply with the following precautions.

- Use only filtered air. Adjust the pressure to 490 to 686 kPa (5.0 to 7.0 kgf/cm²) while allowing air to flow by pulling the trigger.
- Do not use the unit for applications other than desoldering.
 - Do not rap the desoldering tool against the work bench to shake off residual solder, or otherwise subject the iron to severe shocks.
 - Do not modify the unit.
 - Use only genuine HAKKO replacement parts.
 - Do not wet the unit or use the unit when your hands are wet.
 - When desoldering, ensure good ventilation for smoke.
 - While using the unit, don't do anything which may cause bodily harm or physical damage.

4. PART NAMES

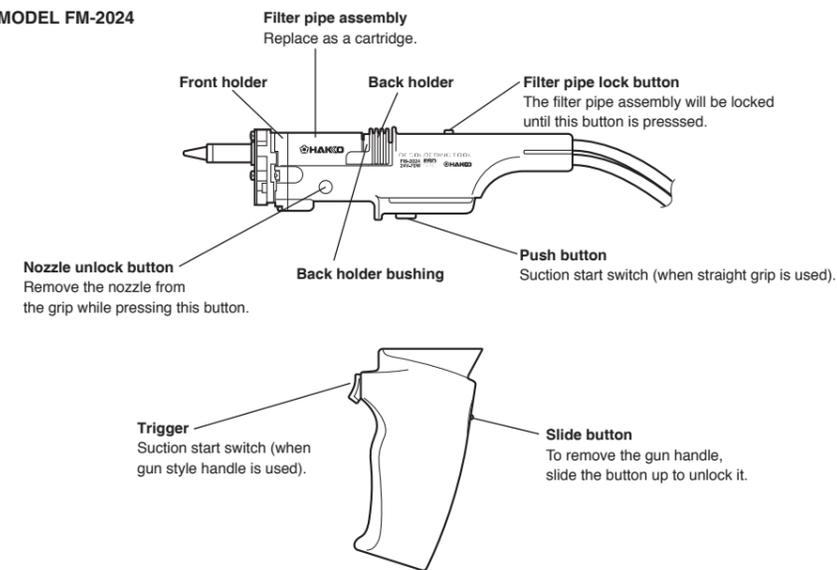
(Refer to Maintenance guide for part nos.)

DCB



4. PART NAMES

MODEL FM-2024

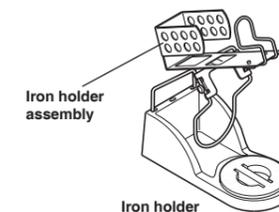


5. OPERATION

Assembling, connection operation and removing solder

Assembling

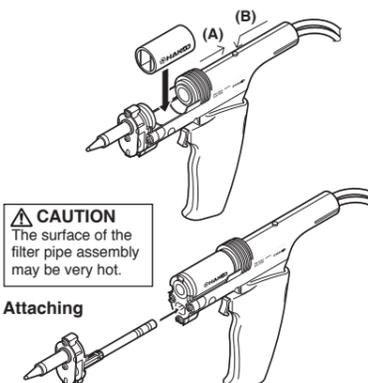
1. Iron holder



2. Connecting and replacing the filter pipe

Pull the back holder (A) until it locks, then insert the filter pipe assembly with the opening to the nozzle side. Ensure that the outer surface of the filter pipe assembly is even with the handle support. If the filter pipe assembly is tilted, a leak may occur.

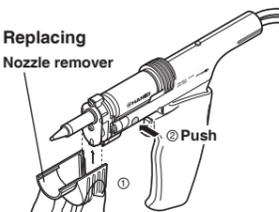
To replace the filter pipe assembly, press back holder unlock button (B), pull the back holder to lock it, change the filter pipe assembly, then lock the filter pipe assembly. Replace the filter pipe assembly in the cartridge.



3. Attaching and replacing the nozzle

Insert the grip fully into the nozzle cartridge as shown in the illustration. Once the nozzle cartridge is inserted, it is locked automatically.

To replace the nozzle cartridge, insert the nozzle remover into the flange of the nozzle cartridge and pull.



CAUTION
The nozzle can be very hot. To attach or remove the nozzle cartridge, be sure to use the nozzle remover to preclude the possibility of breaking the grip or cartridge.

5. OPERATION

Press the nozzle unlock button (A) and remove the nozzle cartridge.

CAUTION
The nozzle may be very hot.

The nozzle remover may be left mounted on the end of the straight grip when not in use to prevent it from being misplaced.

● Connection

1. Connect the plug from the MODEL FM-2024 to the receptacle on the DCB, then connect the DCB to the soldering station as shown in the drawing.

2. Put MODEL FM-2024 into the iron holder.

3. Connect the hose from the MODEL FM-2024 to the filter case cover on the DCB.

4. Connect the DCB to the shop air supply/compressor.

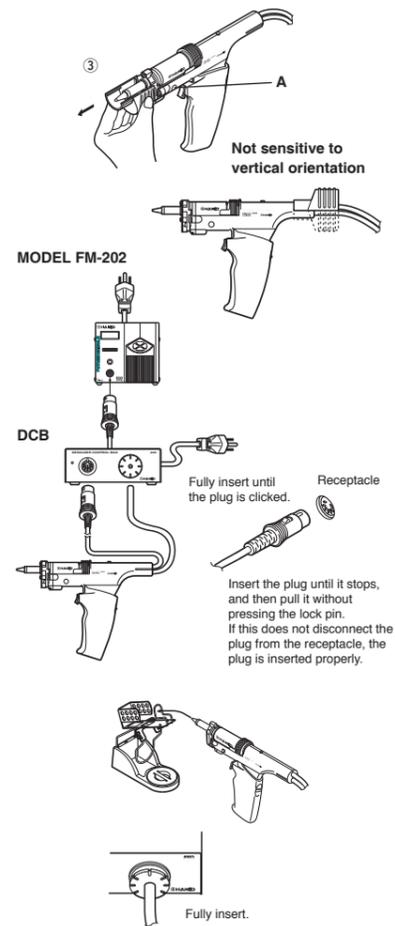
Use only filtered air to eliminate the probability of dust, water, and oil content from fouling the mechanism.

Adjust the pressure to 490 kPa (5.0 kgf/cm²) with the regulator while allowing air to flow by pressing the button (or pulling the trigger) on the handpiece.

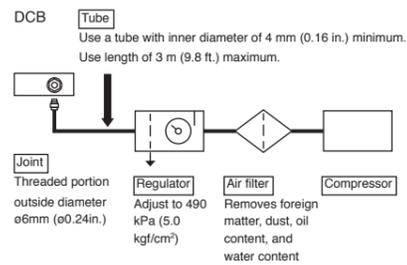
CAUTION
If you attempt to adjust the pressure without allowing air to flow, or if the tube size is not as specified, the suction capability will decrease. Ensure that the regulator shows less than 882 kPa (9.0 kgf/cm²) when the trigger is turned OFF. If pressure equal to or higher than this value is applied, damage may result.

5. Turn ON the power.
Ensure that the power switch is OFF before inserting the AC plug.

Turn the power switches ON as follows: First, the DCB; second, the soldering station. Unless the DCB is turned on first, an error message will appear since the desoldering iron remains disconnected.



Typical interconnections



CAUTION
Be sure to use an air filter. Foreign matter in the piping or the air supply can jam the solenoid valve, causing a failure.

CAUTION
Be sure to ground this product as it is ESD safe by design.

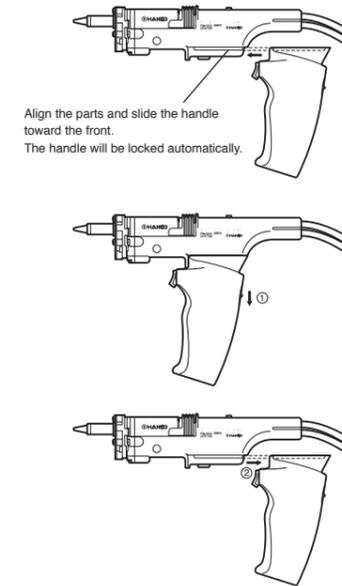
5. OPERATION

● Using the desoldering iron in the gun configuration.

To use the desoldering iron in the gun configuration, attach the handle to the straight grip.

● Using the desoldering iron in the pen configuration.

To remove the handle, slide down the button located on the rear of the handle to unlock it, then slide the handle toward the back of the MODEL FM-2024.



● Operation

1. When the MODEL FM-2024 is used with the MODEL FM-202, turning the power switch ON will display the nozzle ID **00**.

All the standard nozzles for MODEL FM-2024 share the same ID **00**. Use the standard nozzle as it is.

2. Set the temperature.

Refer to the instruction manuals for the soldering station being used.

3. Reaching the set temperature

After the MODEL FM-202 has reached the set temperature, there will be an idle period of 15 seconds before the 'ready' alarm sounds. This time is used to ensure more efficient suction. For the MODEL FM-202, pressing the push button (or pulling the trigger) before the alarm sounds will cause the displayed temperature to start blinking. The MODEL FM-202 should be used until after the alarm has sounded.

● Removing solder

Clean the nozzle tip.

Be sure the nozzle tip is tinned with clean, fresh solder.

5. OPERATION

If the nozzle tip is coated with oxidized film or the like, its thermal conductivity deteriorates. In contrast, if the nozzle end is wetted with a small amount of clean solder, its thermal conductivity increases.

1. Melt the solder.

Position the nozzle above the lead to be desoldered as shown in the illustration and melt the solder.

CAUTION
Never allow the nozzle to touch the board itself.

Confirm that the solder is melted.

CAUTION
To confirm that all solder is melted, observe the inside of the hole and the backside of the P.W.B. If this is difficult to do, try slowly moving the lead with the nozzle. If the lead moves, the solder is melted. Never move the lead by force. If it doesn't move easily, the solder isn't yet fully melted.

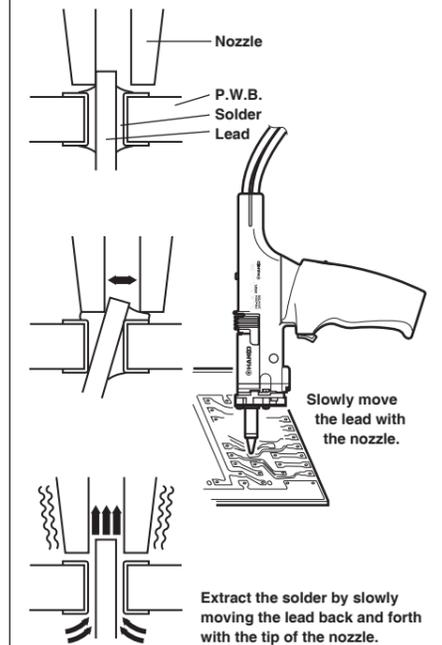
2. Extract the solder.

After confirming that the solder is completely melted, extract the solder by pressing the button (or squeezing the trigger)

CAUTION
Never leave any solder remaining inside the hole in the P.W.B.

3. Problems during desoldering.

If solder remains, resolder the component and repeat the desoldering process.



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MEMO:

CAUTION
In case of long shape nozzle, the nozzle temperature will be lower than the normal one. In order to set very precise temperature, enter the nozzle ID number of **04**.

NOTE:
If a different ID was entered, change to **00**. Refer to the MODEL FM-202 instruction manual for instructions in changing the nozzle ID.

CAUTION
If the nozzle temperature is 250°C/482°F or higher when the power is turned ON, the idling time will be omitted.