

## N<sub>2</sub> Soldering Iron Instruction Manual

Thank you for purchasing the FM-2026 soldering iron.

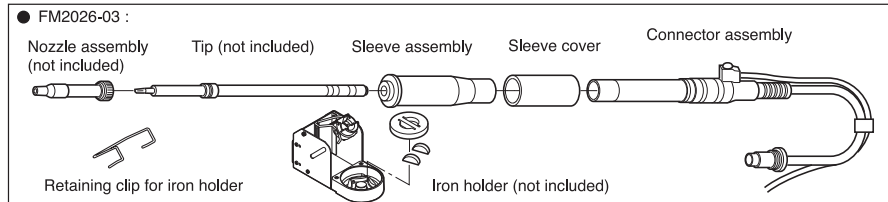
The FM-2026 soldering iron is designed to supply hot gas to the soldering area. This can increase soldering efficiency, as the gas pre-heats the work area.

When the heated gas is nitrogen (N<sub>2</sub>), soldering efficiency is further improved as the nitrogen materially reduces the amount of oxygen in the ambient atmosphere. Please read this manual before operating the FM-2026. Keep this manual readily accessible for reference.

**CAUTION** When you use the FM-2026 for the first time, note that calibration is required before starting operation. Read the instruction manual for the station used in conjunction with the FM-2026 soldering iron.

### 1. PACKING LIST AND PART NAMES

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



### 2. SPECIFICATIONS

Model No.	FM-2026
Power Consumption	70W (24V)
Tip to Ground Resistance	<2Ω
Tip to Ground Potential	<2mV
Cord	1.2 m (4 ft.)
Length (w/o cord)	205 mm (8.1 in.) with tip T13-D24
Weight (w/o cord)	45 g. (0.1 lb) w/nozzle assembly C and T13-D24

\* This product is protected against electrostatic discharge.  
\* Specifications and design are subject to change without notice.

### 3. COMPATIBLE STATIONS

This is N<sub>2</sub> soldering iron. Use this product with the following models.

- MODEL FM-202 or HAKKO FX-950, FX-951, FX-952
- HAKKO FX-780 (N<sub>2</sub> generator)
- HAKKO FX-791 or HAKKO 955, 955B (N<sub>2</sub> station)

**NOTE:**  
If you do not connect the product to HAKKO FX-780 and FX-791, refer to the connection diagram in "5. OPERATION" as a guide for using the product.

### 4. WARNINGS AND CAUTIONS

Warnings and cautions 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.

• Be sure to observe the following for safety.

#### CAUTION

When power is ON, tip temperature will be between 200°C and 400°C (392°F to 752°F). To avoid injury or damage to personnel and items in the work area, observe the following:

- Do not touch the tip or the metal parts near the tip.
- Do not allow the tip to come close to, or touch, flammable materials.
- Inform others in the area that the unit is hot and should not be touched.
- Turn the power off when not in use, or left unattended.
- Turn the power off and allow sufficient time for cooling off when the unit is not in use.
- 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 accidents or damage, be sure to observe the following:

- Do not use the FM-2026 for applications other than soldering.
- Do not allow the FM-2026 to become wet, or use it with wet hands.
- Do not modify the FM-2026.
- Use only genuine HAKKO replacement parts.
- Do not set the temperature over 400°C/752°F.
- Do not strike the iron against hard objects to remove excess solder. This will damage the iron.
- Remove power and iron cords by holding the plug - not the wires.
- Be sure the work area is well ventilated. Soldering produces smoke.

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### 5. OPERATION

#### 1. Iron holder

If the shape of the retaining clip of the iron holder is as shown in drawing A, the iron is not compatible with FM-2026. Please change to the retaining clip provided with the FM-2026 as shown in drawing B.

**CAUTION**  
Shut off the gas supply when the FM-2026 is left unattended for an extended period.

#### 2. Tip

Select and attach the proper nozzle assembly (see the cross reference table in section 9, parts list for the tip. Insert the tip into the connector until it touches the stop.

#### 3. Connection

**CAUTION**  
When you connect or disconnect power to the mains or the receptacle, always turn off the power switch on the station to preclude damage to the unit.

- Connect the power cord to the power receptacle at the back of the station. Connect th connector cord to the receptacle at the front of the station.
  - Place the FM-2026 soldering iron on the iron holder.
  - Plug the power cord into a grounded wall socket.
  - Insert the tube of the HAKKO FM-2026 to the terminal marked "OUT" of the HAKKO FX-791\*.
- (Refer to the instruction manual for the HAKKO FX-791.) If HAKKO FX-791 is not used, refer to the diagram on the right for connection and use without HAKKO FX-791.

\*Except use with HAKKO FX-791, the HAKKO 955 or HAKKO 955B is also available to use.

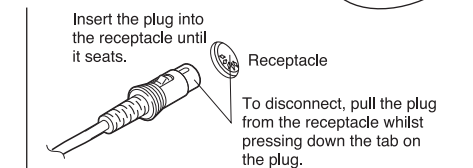
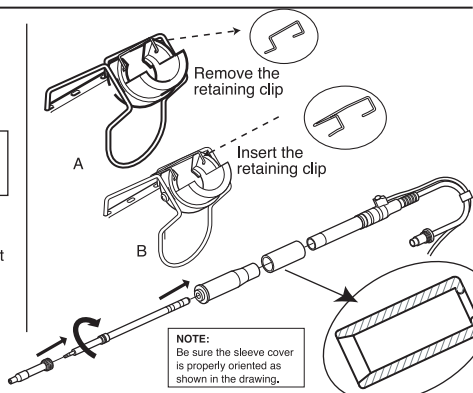
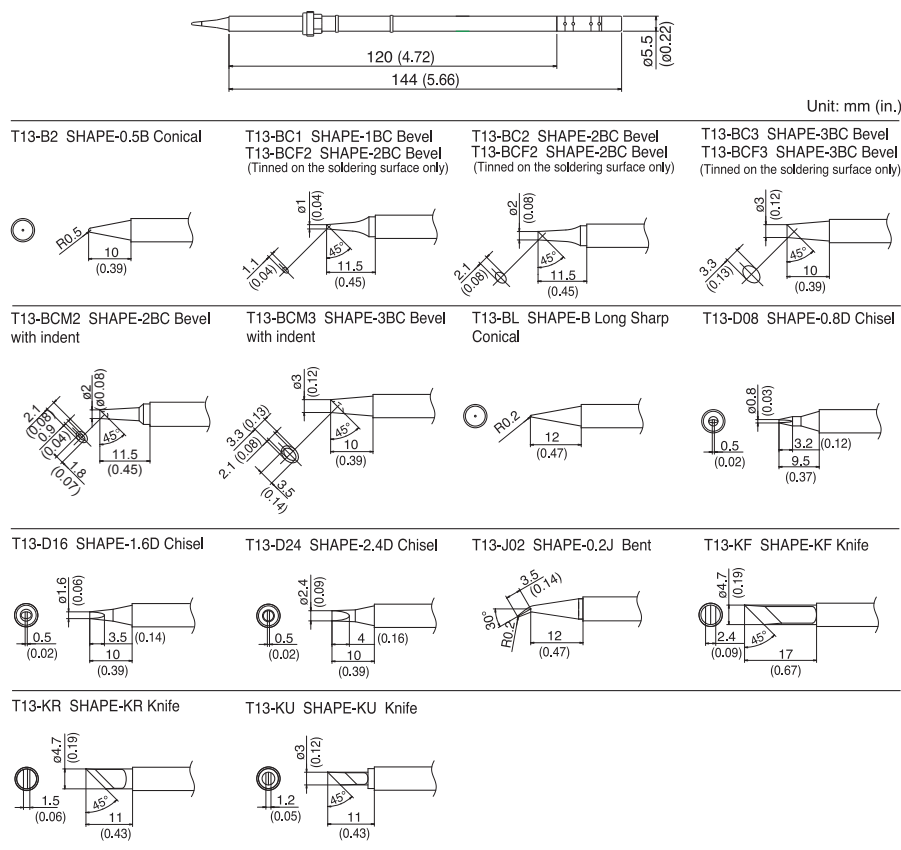
#### 4. Temperature setting

- If used in conjunction with MODEL FM-202. Insert the tip ID end of the tip into the process gate until the buzzer sounds once.
- If used in conjunction with HAKKO FX-950, FX-951 or FX-952 station.

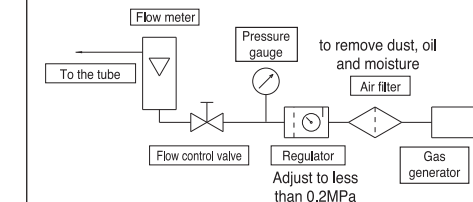
- Connect the station to the HAKKO FM-2026. Set the desired temperature and the heat control begins. (Please refer to the HAKKO FX-950, FX-951 or FX-952 instruction manual.)
- Turn on N<sub>2</sub> gas and adjust the rate of flow to be appropriate. Suggested flow rate : 0.5/min. ~ 1.5/min.
- Measure the tip temperature when it is stabilized. Input the offset value so that it will become to the measured temperature. (Please refer to the HAKKO FX-950, FX-951 or FX-952 instruction manual.)

**CAUTION**  
Tip temperature may not reach the set value if the gas flow rate exceeds the specified limit.

### 6. TIP STYLE



adjust the value between 0.5/min ~ 1.5/min



**CAUTION**  
Auto power shutoff and sleep may not function normally in case the discharge of gas.

**CAUTION**  
Ensure that the gas pressure to the FM-2026 is less than 0.2MPa (2.0kgf/cm<sup>2</sup>). If the pressure exceeds 0.2MPa, damage may occur.

**CAUTION**  
Set the maximum temperature to 400°C/752°F.

### 7. GENERAL INFORMATION

- Tip temperature** – High temperatures shorten tip life. Always use the soldering iron at the lowest possible temperature. The excellent thermal recovery characteristics of the FM-2026 ensures effective soldering at low temperature, protecting sensitive components easily damaged by thermal shock.
- Cleaning** – Always clean the soldering tip before use to remove any residual solder or flux adhering to it. Use the 599B tip cleaner or a clean moist cleaning sponge. Contaminants on the tip have many deleterious effects, including reduced heat conductivity, which contribute to poor soldering performance.
- Interruption** – Do not allow the unit to idle at high temperature for extended periods. A heavy oxide layer on the tip will reduce the heat transfer from the tip..
- After use** – Whenever you finish soldering work, always clean the tip and coat it with fresh solder. This guards against oxidation.

### 8. MAINTENANCE

#### Tip maintenance

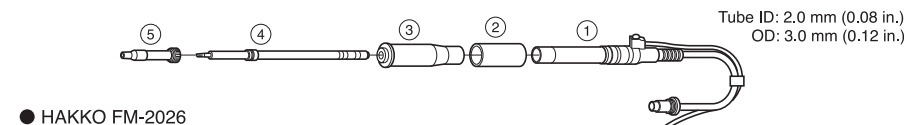
- Set the temperature to 250°C/482°F.
- When the temperature stabilizes, clean the tip and check its condition.
- If the solder plated part of the tip is covered with black oxide, apply fresh solder containing flux and clean the tip again. Repeat until all the oxide is removed, then coat the tip with fresh solder.
- Turn the power OFF and remove the tip after it cools off. Remaining oxides, such as the yellow discoloration on the tip shaft, can be removed with isopropyl alcohol.
- Replace the tip with a new one if it is badly deformed or corroded.

**CAUTION**  
NEVER file the tip to remove oxides!

#### Maintenance of nozzle assembly

As the unit is used, oxidation will accumulate on the nozzle tip. Remove it periodically by cleaning so that the gas will flow freely.

### 9. PARTS LIST



#### HAKKO FM-2026

Item No.	Part No.	Part Name	Specifications
① ② ③ ⑦	FM2026-03	HAKKO FM-2026	③ is yellow
①	FM2026-02	Connector assembly	
②	B2974	Sleeve cover	
③	B2765D	Sleeve assembly	Yellow
	B2768D	Sleeve assembly	Orange
	B2769D	Sleeve assembly	Blue
④		Tip	See section '6.TIP STYLE'
⑤	B2706	Nozzle assembly A	See the cross reference guide under.
	B2707	Nozzle assembly B	
	B2708	Nozzle assembly C	
	B2709	Nozzle assembly D	
	B2898	Nozzle assembly E	
	B2899	Nozzle assembly F	
	B2900	Nozzle assembly G	
	B2901	Nozzle assembly H	
	B2902	Nozzle assembly I	
	B2923	Nozzle assembly J	
⑥	B2300	Heat resistant pad	
⑦	B2791	Retaining clip	For iron holder

#### Cross reference guide for tip and nozzle

Tip		Nozzle	
Tip Shape	Part No.	Part No.	Part Name
2BC, 2BCF, 2BCM	T13-BC2, T13-BCF2, T13-BCM2	B2706	Nozzle assembly A
0.2J	T13-J02	B2707	Nozzle assembly B
1.6D, 0.5B, 2.4D	T13-D16, T13-B2, T13-D24	B2708	Nozzle assembly C
0.8D	T13-D08	B2709	Nozzle assembly D
BL	T13-BL	B2898	Nozzle assembly E
1BC, 1BCF	T13-BC1, T13-BCF1	B2899	Nozzle assembly F
3BC, 3BCF, 3BCM	T13-BC3, T13-BCF3, T13-BCM3	B2900	Nozzle assembly G
KU	T13-KU	B2901	Nozzle assembly H
KR	T13-KR	B2902	Nozzle assembly I
KF	T13-KF	B2923	Nozzle assembly J