

HAKKO Soldering Iron Lineup

		FX-888D	FX-100	FX-951	FX-950	FX-838	FM-203
							
Specifications	Power consumption of Handpiece	65 W	25 W (85 W)	70 W	70 W	150 W	70 W × 2 port
	Temperature Range	50 to 480°C	450°C/400°C	200 to 450°C	200 to 450°C	200 to 500°C	200 to 450°C
	Soldering Tip	T18 series	T31 series	T12 series	T12 series	T20 series	T12 series
Applicable Standard	Lead Free Suggestible	●	●	●	●	●	●
	ESD Safe	●	●	●	●	●	●
	RoHS Suggestible	●	●	●	●	●	●
Accessories	Micro Soldering Iron connectable			●			●
	SMD Hot Tweezers connectable	●					●
	N ₂ Soldering Iron connectable	●		●	●	●	●
	Desoldering Iron connectable						●
	Hot Air Handpiece connectable						
	Self Feeder connectable	●		●	●	●	●
	Heavy Duty Soldering Iron connectable					● * Standard feature	
Function	Auto Shutoff Function: When a set time passed, the function stops to supply power to the heating element.						
			●	●		●	●
	Auto Sleep Function: When a set time passed, the tip temperature decreases to a set lower temperature.						
			●	●	● * Option	●	●
	Lock Function: Lockable by password, control card or lock key.						
		Password	●	Control card	Lock key	Control card	Control card
	Lower Temperature Error Alert: When the temperature drops below a set limit, an error is displayed and the buzzer sounds.						
				●		●	●
Offset Temperature Function: Temperature offsettable by analog, digital or adjustment mode.							
	Adjustment mode		Digital	Manual	Digital	Digital	
Preset Temperature Function: The function allows to input several frequently-used temperatures and recall with one push of a button.							
	●				●		

HAKKO FU-500 ESD SAFE FEEDER CONTROLLER HAKKO FU-600 ESD SAFE SOLDERING STATION



Auto Soldering Unit

Tip not included



HAKKO FU-500 ESD SAFE FEEDER CONTROLLER

- Accurate solder feeding
- Supports solder diameters of 0.3 mm and up to 1.6 mm
- Easy adjustment of solder feeding positions
- Equipped with countermeasures against solder ball splash as standard

HAKKO FU-600 ESD SAFE SOLDERING STATION

- Easy tip replacement
- High performance composite tip
- Six presets tip-temperature function

Packing List

FU-500	Main unit, Feeder unit, Solder reel stand, Feeder cable, Tube unit, Power cord, Instruction manual
FU-600	Station, Handpiece (FU-6001), Iron unit fixing assembly, Tip adjustment jig unit, Iron cable, Heat resistant pad, Connecting cable, Power cord, Flux protector, Feeder unit attachment screw, Instruction manual

Specifications

Model No.	FU-500
Power consumption	25 W
Compatible solder diameters	0.3 mm, 0.5 mm, 0.6(0.65) mm, 0.8 mm, 1.0 mm, 1.2 mm, 1.6 mm
Dimensions	145 mm (W) × 100 mm (H) × 230 mm (D)
Weight (not including cords)	2.3 kg
Model No.	FU-600
Power consumption	140 W
Temperature range	50 to 600°C
Preset temperature	6 settings
Dimensions	145 mm (W) × 102 mm (H) × 210 mm (D)
Weight (not including cords)	2.8 kg

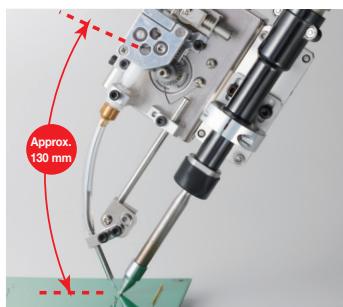
Replacement Parts (Optional)

*The accessories are required for initial set-up, such as a solder feed pulley unit, solder-feed guide set, and teflon tube are not included. They must be ordered separately and adapted to use with the soldering iron and solder wire diameter.

Part No.	Name	Remarks
BX1000	Solder feed pulley unit/0.3 mm	
BX1001	Solder feed pulley unit/0.5 mm	
BX1002	Solder feed pulley unit/0.6 mm	
BX1003	Solder feed pulley unit/0.8 mm	
BX1004	Solder feed pulley unit/1.0 mm	
BX1005	Solder feed pulley unit/1.2 mm	
BX1006	Solder feed pulley unit/1.6 mm	
BX1007	Solder feed guide set/0.3 mm	
BX1008	Solder feed guide set/0.5-1.0 mm	
BX1009	Solder feed guide set/1.2-1.6 mm	
BX1010	Teflon tube/0.3 mm (set of 10)	
BX1011	Teflon tube/0.5-0.6 mm (set of 10)	
BX1012	Teflon tube/0.8 mm (set of 10)	
BX1013	Teflon tube/1.0 mm (set of 10)	
BX1014	Teflon tube/1.2 mm (set of 10)	
BX1015	Teflon tube/1.6 mm (set of 10)	
BX1016	Tube unit/0.3-1.0 mm	
BX1017	Tube unit/1.2-1.6 mm	
BX1027	Flux protector	
BX1023	Adapter assembly	
BX1024	Nozzle assembly <A>	
BX1025	Nozzle assembly 	
BX1026	Nozzle assembly <C>	
CX1000	Slide unit	
CX1001	Slide unit for drag soldering	
CX1002	Temperature probe	
CX1003	Cleaner	

Accurate Solder Feeding

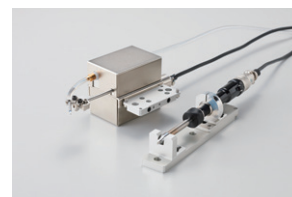
The HAKKO FU-500 features a compact drive unit that allows the solder feed unit to be brought closer to the iron. This adaptation makes it possible to increase the accuracy of amount of solder feeding.



Easy Tip Replacement

The position of the tip end can be easily adjusted using the tip adjustment jig unit included with the FU-600. Work can be started just by removing the iron from the main unit by removing two screws, positioning the tip using the tip adjustment jig unit, and returning the iron to the main unit.

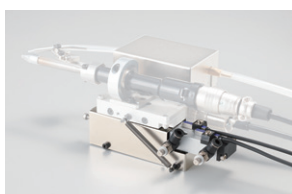
Using another iron (FU6001-01X) makes it possible to install a new tip in advance, minimizing equipment downtime.



Optional Parts & Accessories

Slide unit

The slide unit allows the FU-600's iron vertical movement. As the solenoid valve comes pre-wired, the unit can be used by simply connecting to the FU-500 via special connector and supplying compressed air externally.



Slide unit (for drag soldering)

If height varies during drag soldering due to the angle or other conditions of the sample, height variations can be absorbed by attaching this slide unit to the FU-600's iron.



N₂ adapter assembly

Simply attach the optional N₂ adapter to the iron and install a nozzle assembly that matches the tip to perform N₂ soldering.



Tip cleaner

The tip cleaner's rotating brush can remove not only excess solder but also flux carbides, which are difficult to remove from tips by compressed air.

It is possible to turn the brush on and off via an external signal.



Optional Tips for the FU-600

TX1-XD Shape-XD 	TX1-XD08 Shape-0.8XD 	TX1-XD16 Shape-1.6XD 	TX1-XD24 Shape-2.4XD 	TX1-XD3 Shape-3XD
TX1-XBCR2 Shape-2XBCR 	TX1-XBCR3 Shape-3XBCR 	TX1-XBCR4 Shape-4XBCR 	TX1-XDR Shape-XDR 	
TX1-XDR16 Shape-1.6XDR 	TX1-XDR24 Shape-2.4XDR 	TX1-XDR3 Shape-3XDR 	TX1-XRK Shape-XRK 	

HAKEO

SOLDERING STATION

FX-888D

ESD
SAFE

All-Round Soldering Station

Digital

Tip included



LEAD
FREE

ESD
SAFE

RoHS

Soldering

Soldering
(Option)
N₂

Rework
(Option)
Hot Tweezer

Key

Low °C

OFFSET

PRE °C

- Features Adjustment mode, Preset mode, and Password function
- Separable tip/heater design provides superior cost performance.

Packing List

FX-888D	Station, Handpiece (FX-8801), Iron holder, Instruction manual
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Specifications

Model No.	FX-888D
Power consumption	70 W
Temperature range	50 to 480°C
Temperature stability	±1°C at idle temperature

Station

Output voltage	AC 26 V
Dimensions	100 (W) × 120 (H) × 120 (D) mm
Weight	1.2 kg

Soldering Iron

Power consumption	65 W (26 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Standard tip	Shape-B (No.T18-B)
Cord length	1.2 m
Total length*	217 mm (with B tip)
Weight*	46 g (with B tip)

* Without cord

Features

Strict temperature management

● Digital display

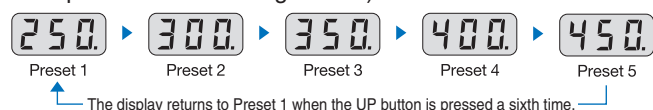
The FX-888D's digital display makes it easy to check the set temperature at a glance.

● Password function

Settings can be locked using a password to prevent them from being changed unexpectedly.

● Preset mode

Simply select the desired temperature from a selection of preset temperatures registered in advance. (Up to 5 preset temperatures can be registered.)



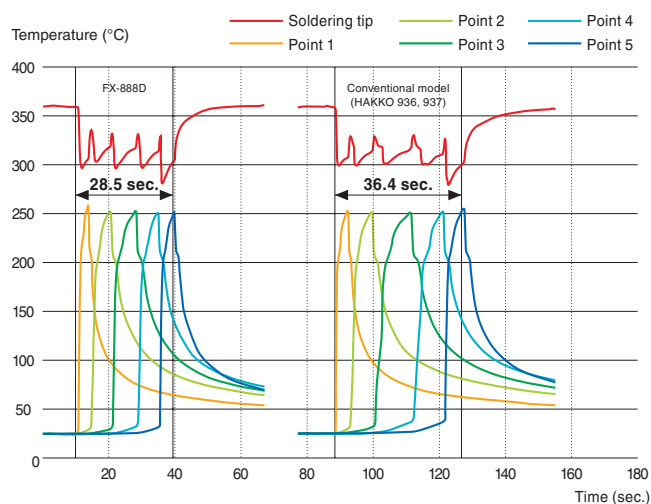
● Adjustment mode

With adjustment mode, what used to be a troublesome procedure is now as simple as entering the measured tip temperature in the FX-888D.



Measuring the tip temperature with a tip thermometer (HAKKO FG-100)

Graph of a comparison of the performance of the HAKKO FX-888D and a conventional station



Test criteria

Measurement method	Thermocouples are mounted on the tip and the soldered portion on the board, and the time until the soldered portion reaches 250°C is measured for 5 points.
Board	Paper phenol copper board
Component used	Connector
Tip shape	Shape-1.2D
Temperature setting	360°C
Solder	Lead-free solder (Sn/Ag/Cu), diameter: 0.5 mm

Accessories for HAKKO FX-888D

HAKKO FX-8802 ESD SAFE SOLDERING IRON

N₂ Soldering Iron

Tip included



HAKKO FX-8803 ESD SAFE SOLDERING GUN

Soldering Gun

Tip included



HAKKO FX-8804 ESD SAFE SMD HOT TWEEZER

SMD Hot Tweezers

Tip included



Packing List

FX-8802	Handpiece, Shield plate, Instruction manual
FX-8803	Handpiece, Instruction manual
FX-8804	Handpiece, Caution label, Heat resistant pad, Instruction manual

NOTE: The soldering iron cannot be used as a standalone device.

Specifications

Model No.	FX-8802
Power consumption	65 W (26 V)
Temperature range	50 to 480°C
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Standard tip	Shape-B (No.T18-B)
Cord length	1.2 m
Total length*	190 mm (with B tip)
Weight*	59 g (with B tip and nozzle assembly A)

* Without cord and tube

Model No.	FX-8803
Power consumption	65 W (26 V)
Temperature range	50 to 480°C
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Standard tip	Shape-3C pre-tinned surface 45° (No.T18-CF3)
Standard guide nozzle	ø1.0 mm
Usable solder diameter	0.6, 0.8, 1.0, 1.2, 1.6 mm
Cord length	1.1 m
Dimensions	170 (W) × 180 (H) × 23 (D) mm
Weight*	177 g

* Without cord

Model No.	FX-8804
Power consumption	65 W (26 V)
Temperature range	200 to 400°C
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Standard tip	Shape-2L (No. A1378) 2 pcs/set
Cord length	1.2 m
Total length*	186 mm
Weight*	93 g

* Without cord

Option

FX-8803

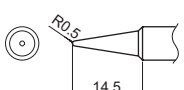
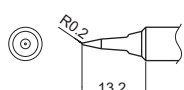
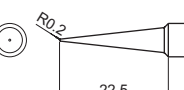
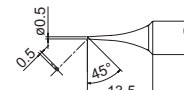
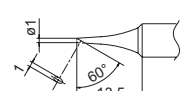
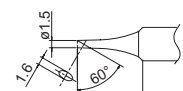
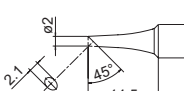
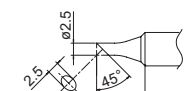
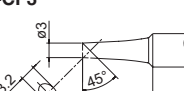
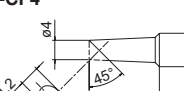
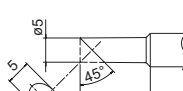
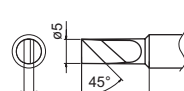
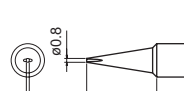
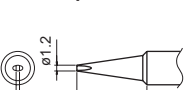
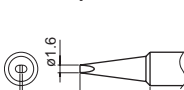
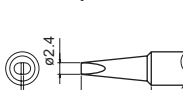
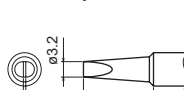
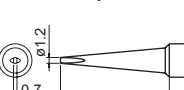
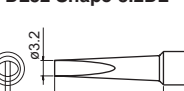
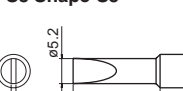
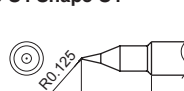
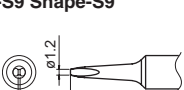
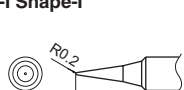
Part No.	Name	Specifications
C1437	Iron holder (with cleaning sponge)	—

FX-8804

Part No.	Name	Specifications
FH800-04BY	Iron holder (with cleaning sponge)	Blue & yellow

Replacement Tips for the FX-8801 and FX-8803

Unit: mm

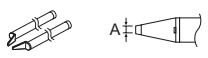
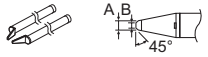
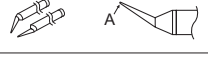
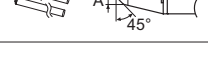
Applicable for FX-8803 T18-B Shape-B 	Applicable for FX-8803 T18-SB Shape-SB 	T18-BR02 Shape-0.2BR 	T18-BL Shape-BL 	T18-C05 Shape-0.5C 
Applicable for FX-8803 T18-C08 Shape-0.8C 	T18-C1 Shape-1C T18-CF1* 	T18-CF15* Shape-1.5C 	Applicable for FX-8803 T18-C2 Shape-2C T18-CF2* 	Applicable for FX-8803 T18-CSF25* Shape-2.5CS 
Applicable for FX-8803 T18-C3 Shape-3C T18-CF3* 	Applicable for FX-8803 T18-C4 Shape-4C T18-CF4* 	T18-C5 Shape-5C 	Applicable for FX-8803 T18-K Shape-K 	T18-D08 Shape-0.8D 
T18-D12 Shape-1.2D 	Applicable for FX-8803 T18-D16 Shape-1.6D 	Applicable for FX-8803 T18-D24 Shape-2.4D 	Applicable for FX-8803 T18-D32 Shape-3.2D 	T18-DL12 Shape-1.2DL 
T18-DL2 Shape-2DL 	T18-DL32 Shape-3.2DL 	T18-S3 Shape-S3 	Applicable for FX-8803 T18-S4 Shape-S4 	T18-S6 Shape-S6 
T18-S9 Shape-S9 	T18-I Shape-I 	* These tips are tinned on the soldering surface only.		

Replacement Tips and Nozzles for the FX-8802

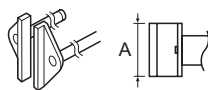
Please see the replacement tips on P.33

Replacement Tips for the FX-8804

For Chip Component

Part No.	Name	Size of A (B)	Tip Shape
A1577	Tip/CHIP 0.5L	0.5 mm	
A1379	Tip/CHIP 1L	1 mm	
A1378	Tip/CHIP 2L	2 mm	
A1388	Tip/CHIP 0.5C	1.5 (0.5) mm	
A1389	Tip/CHIP 0.5I	R0.25 mm	
A1576	Tip/CHIP 2.6C	2.6 mm	

For SOP Component

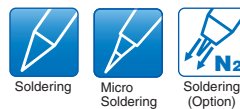
Part No.	Name	Size of A	Tip Shape
A1390	Tip/SOP 4L	4 mm	
A1391	Tip/SOP 6L	6 mm	
A1380	Tip/SOP 8L	8 mm	
A1381	Tip/SOP 10L	10 mm	
A1382	Tip/SOP 13L	13 mm	
A1392	Tip/SOP 15L	15 mm	
A1383	Tip/SOP 18L	18 mm	
A1384	Tip/SOP 20L	20 mm	
A1385	Tip/SOP 25L	25 mm	

High Performance Soldering Station

HAJKO FX-951 SOLDERING STATION ESD SAFE

High Performance Soldering Station **Digital**

Tip not included



- Compact high-power thermally-controlled soldering iron
- Informs you of errors by a warning buzzer or display

HAJKO FM-2032 SOLDERING IRON ESD SAFE



Micro soldering Iron is available positionally.

For further details, see the micro soldering iron (P.23).

HAJKO FX-950 SOLDERING STATION ESD SAFE

High Performance Soldering Station **Analog**

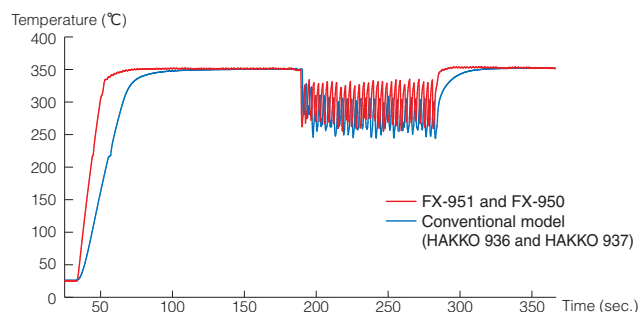
Tip not included



- Analog type high-power soldering iron
- "Lock key" can lock the temperature setting.
- Informs you of various errors by a lamp

Features

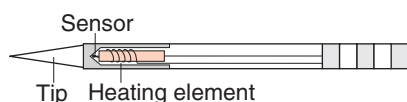
Thermal recovery graph (Comparison of HAKKO products)



Test criteria

Measurement method	A thermocouple is mounted on the tip and the tip temperature is measured when soldering $\phi 1.6$ mm x 5 mm solder to paper phenol copper board once every 3 seconds.
Board	Paper phenol copper board.
Temperature setting	350°C
Solder	Lead-free solder (Sn/Ag/Cu), diameter: 1.6 mm x 5 mm

Composite tip



The composite tip with an integrated heating element and sensor offers superior thermal responsivity and thermal recovery.

Variety of tips



Connectable with N₂ soldering iron

To improve solder wettability and spreadability



For further details, see the N₂ soldering system (P.30 & P.31).

Packing List

FX-951	Station, Handpiece (FM-2028), Control card, Power cord, Connection cable, Heat resistant pad, Iron holder, Instruction manual
FX-950	Station, Handpiece (FM-2028), Lock key, Heat resistant pad, Iron holder, Instruction manual

Specifications

Model No.	FX-951 and FX-950
Power consumption	75 W
Temperature range	200 to 450°C
Temperature stability	±5°C at idle temperature

Station

Output voltage	AC 24 V
Dimensions	FX-951: 80 (W) x 130 (H) x 131 (D) mm FX-950: 80 (W) x 118 (H) x 138 (D) mm
Weight	1.2 kg

Soldering Iron

Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	188 mm (with 2.4D tip)
Weight*	30 g (with 2.4D tip)

* Without cord

Option

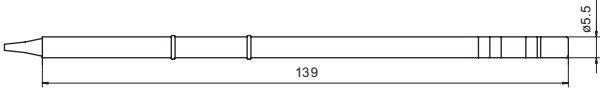
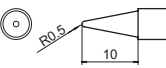
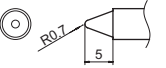
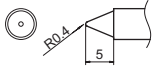
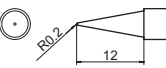
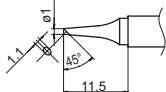
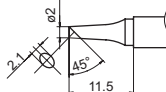
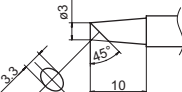
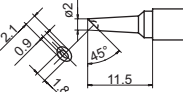
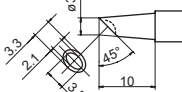
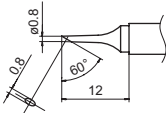
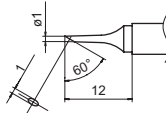
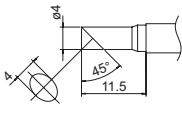
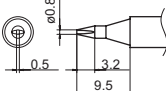
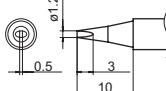
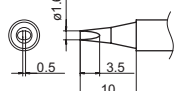
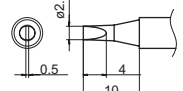
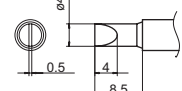
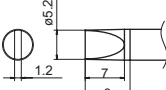
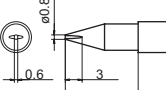
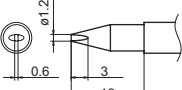
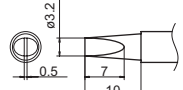
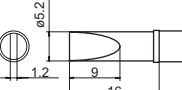
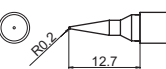
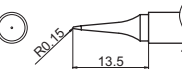
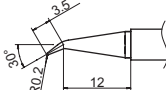
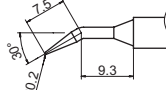
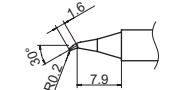
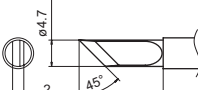
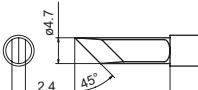
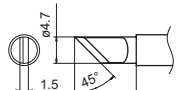
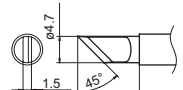
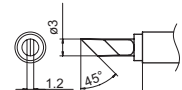
Part No.	Name	Specifications
FH200-01	Iron holder	With power-save function and cleaning wire
FH200-02	Iron holder	With power-save function and cleaning sponge

* In order to use the power-save function with the FX-950, the FH200-01 or FH200-02 iron holder is required.

Optional Tips for the FM-2028

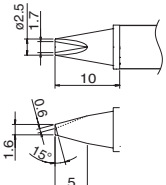
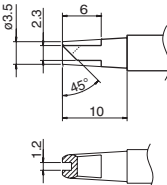
Unit: mm

Standard type

					
B	T12-B Shape-B 	T12-B2 Shape-0.5B 	T12-B3 Shape-0.7B 	T12-B4 Shape-0.4B 	T12-BL Shape-BL 
BC	T12-BC1 Shape-1BC T12-BCF1* 	T12-BC2 Shape-2BC T12-BCF2* 	T12-BC3 Shape-3BC T12-BCF3* 	T12-BCM2 Shape-2BC Bevel with indent 	T12-BCM3 Shape-3BC Bevel with indent 
C	T12-C08 Shape-0.8C 	T12-C1 Shape-1C 	T12-C4 Shape-4C T12-CF4* 		
D	T12-D08 Shape-0.8D 	T12-D12 Shape-1.2D 	T12-D16 Shape-1.6D 	T12-D24 Shape-2.4D 	T12-D4 Shape-4D 
	T12-D52 Shape-5.2D 	T12-DL08 Shape-0.8DL 	T12-DL12 Shape-1.2DL 	T12-DL32 Shape-3.2DL 	T12-DL52 Shape-5.2DL 
I	T12-I Shape-I 	T12-IL Shape-IL 	T12-ILS Shape-ILS 		
J	T12-J02 Shape-0.2J 	T12-JL02 Shape-0.2JL 	T12-JS02 Shape-0.2JS 		
K	T12-K Shape-K 	T12-KF Shape-KF 	T12-KL Shape-KL 	T12-KR Shape-KR 	T12-KU Shape-KU 

* These tips are tinned on the soldering surface only.

Concave type

T12-1610 	T12-1612 
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SMD type

Quad	T12-1201 Quad 13.6 x 8.5 	T12-1202 Quad 10.3 x 10.3 	T12-1203 Quad 12.8 x 12.8 	T12-1204 Quad 17.9 x 17.9 	T12-1205 Quad 23.4 x 17.3
	T12-1206 Quad 22.5 x 16.5 	T12-1207 Quad 15.5 x 15.5 	T12-1208 Quad 15.8 x 15.8 	T12-1209 Quad 8.4 x 8.4 	
Tunnel	T12-1001 Tunnel 5.1 x 4.6 	T12-1002 Tunnel 5.1 x 10.4 	T12-1003 Tunnel 9.5 x 18.3 	T12-1004 Tunnel 9.5 x 15.8 	T12-1005 Tunnel 9.5 x 13.2
	T12-1006 Tunnel 6.9 x 11.4 	T12-1007 Tunnel 7.9 x 18.8 	T12-1008 Tunnel 19.5 x 10.2 	T12-1009 Tunnel 13.4 x 20.5 	T12-1010 Tunnel 19.5 x 12
Spatula	T12-1401 Spatula 10.4 	T12-1402 Spatula 15.7 	T12-1403 Spatula 21.2 	T12-1404 Spatula 25 	T12-1405 Spatula 32
	T12-1406 Spatula 40 				

Long life type

T12-B2Z Shape-0.5B (Z) 	T12-BC1Z Shape-1BC (Z) T12-BCF1Z* 	T12-BC2Z Shape-2BC (Z) T12-BCF2Z* 	T12-BC3Z Shape-3BC (Z) T12-BCF3Z* 	T12-BZ Shape-B (Z)
T12-C4Z Shape-4C (Z) T12-CF4Z* 	T12-D12Z Shape-1.2D (Z) 	T12-D16Z Shape-1.6D (Z) 	T12-D24Z Shape-2.4D (Z) 	T12-D4Z Shape-4D (Z)
T12-KFZ Shape-KF (Z) 	T12-KRZ Shape-KR (Z) 			

* These tips are tinned on the soldering surface only.

Heavy duty type

T12-WB2 Shape-0.5WB 	T12-WD08 Shape-0.8WD 	T12-WD12 Shape-1.2WD 	T12-WD16 Shape-1.6WD 	T12-WD52 Shape-5.2WD 	T12-WI Shape-WI

HAKKO

SOLDERING STATION

FX-100

ESD
SAFE

New

IH Soldering Station

Digital

Tip not included



- Provides the heat to the tip effectively by an ‘Induction heater’
Unique “Power assist” feature that assists the thermal recovery performance of the soldering iron tip
- No calibration is required
- Wide variety of tips available
- Meets or exceeds IPC J-STD-001 and ANSI ESD S20.20.

GOOD DESIGN
AWARD 2013

Good Design Award has been a sole comprehensive design evaluation and commendation system in Japan since 1957. “G Mark”, the symbol of the award has been recognized widely as a mark representing good design.

Packing List

FX-100	Station, Handpiece (FX-1001), Heat resistant pad, Power cord, Sleeve (green), Sleeve (gray), Cleaning wire, Iron holder, Instruction manual
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Specifications

Model No.	FX-100
Power consumption	28 W (85 W)
Temperature range	T31-01 Series: 450°C, T31-02 Series: 400°C
Temperature stability	±1.1°C

Station	
Output power	50 W
Output frequency	13.56 MHz
Dimensions	127 (W) × 150 (H) × 167 (D) mm
Weight	3 kg

Soldering Iron	
Heating element	IH (Induction heating)
Cord length	1.3 m
Total length*	190 mm with 2.4D tip for 400°C 193 mm with 2.4D tip for 450°C
Weight*	31 g (with 2.4D tip for 400°C)

* Without cord

Features

IH technology delivers the ultimate soldering iron
Excellent heat supply. Ideal for the most challenging soldering jobs.

The HAKKO FX-100 features IH (induction heater) that continuously powers the soldering iron and maintains the set temperature by automatically detecting even minute drops in temperature, plus HAKKO's proprietary "Power Assist" function.

The FX-100 achieves powerful thermal recovery even with fine-shaped tips. It provides excellent thermal responsiveness that conventional IH and sensor feedback systems cannot offer.

Boost function

To increase tip temperature by 5 to 10°C (depends on tip shape) for better working efficiency.



Interactive method by LCD display with 3 buttons

PROFILE

```
PROFILE 1
S:HAKKO-1
U:ID-123
S:0.6 LEAD FREE
```

Station ID, user name and solder type can be registered.

TIP LOAD

```
TIP LOADS
approx.
000025 Points
<RESET> <OK>
```

The soldering count is displayed.

TIP TIME

```
TIP TIME
0023 hours
<RESET> <OK>
```

The cumulative running time on the iron tip is displayed.

TIP TYPE and NORMAL MODE/BOOST MODE

```
<01>
N
.....
```

Visible tip type (01/02) and normal mode (N)/boost mode (B) on display.

T31-XX BC1

"01" for 450°C
 "02" for 400°C

Indicates tip shape and size as usual.

Optional Tips for the FX-100

Unit: mm

T31-01BC1 Shape-1BC T31-02BC1	T31-01BC28 Shape-2.8BC T31-02BC28	T31-01BL Shape-BL T31-02BL
T31-01D08 Shape-0.8D T31-02D08	T31-01D16 Shape-1.6D T31-02D16	T31-01D24 Shape-2.4D T31-02D24
T31-01D52 Shape-5.2D T31-02D52	T31-01I Shape-I T31-02I	T31-01IL Shape-IL T31-02IL
T31-01J02 Shape-0.2RSB T31-02J02	T31-01JL02 Shape-0.2RLB T31-02JL02	T31-01JS02 Shape-0.2RSSB T31-02JS02
T31-01KU Shape-KU T31-02KU	T31-01SBL Shape-SBL T31-02SBL	T31-01WD08 Shape-0.8WD T31-02WD08

HAKO FX-838 ESD SOLDERING STATION SAFE

Heavy Duty Soldering Iron Digital

Tip not included



- High powered 150 W soldering iron
- Best suited for soldering of power-supply boards, heat sinks, and shield cases
- Applicable also to the soldering of multilayer boards with micro components

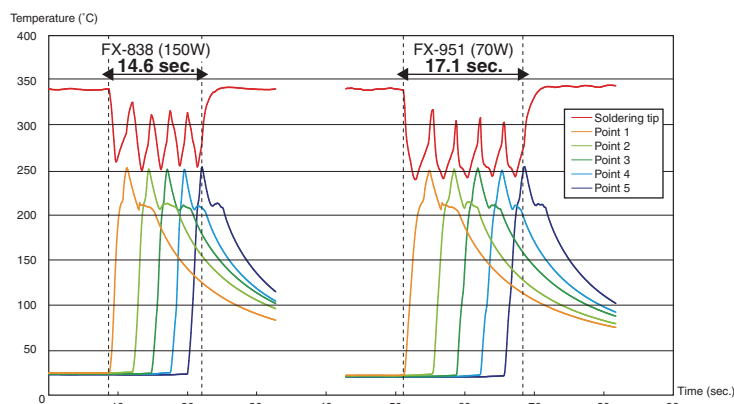
Optional Tips for the FX-8301 Unit: mm

T20-B2 Shape-0.5B 	T20-BC2 Shape-2BC T20-BCF2* 	T20-BC3 Shape-3BC T20-BCF3* 	T20-BC4 Shape-4BC T20-BCF4* 	T20-BCM2 Shape-2BC Bevel with indent
T20-BCM3 Shape-3BC Bevel with indent 	T20-BL Shape-BL 	T20-BL2 Shape-2BL 	T20-BL3 Shape-3BL 	T20-C5 Shape-5C
T20-C6 Shape-6C 	T20-D16 Shape-1.6D 	T20-D24 Shape-2.4D 	T20-D32 Shape-3.2D 	T20-D6 Shape-6D
T20-J02 Shape-0.2J (0.2RSB) 	T20-K Shape-K 	T20-KU Shape-KU 	T20-1610 	T20-1611

* These tips are tinned on the soldering surface only.

Features

Graph of a comparison of the performance of the HAKKO FX-838 and a conventional station



Test criteria

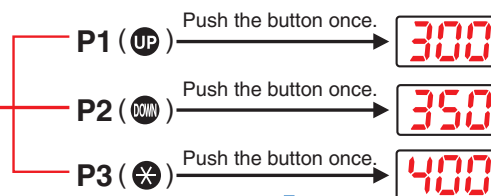
Measurement method	Thermocouples are mounted on the tip and the soldered portion on the board, and the time until the soldered portion reaches 250°C is measured for 5 points.
Board	Bakelite board
Component used	Terminal
Tip shape	Shape-1.6D
Temperature setting	340°C
Solder	Lead-free solder (Sn/Ag/Cu), diameter: 0.5 mm

Temperature preset mode

The temperature preset mode allows you to input three frequently-used temperatures in advance and recall them with one push of a button.



Preset example



One push of a button can quickly recall each setting.

Connectable with N₂ soldering iron

To improve solder wettability and spreadability

HAKKO FX-8302 ESD SAFE

N₂ Soldering Iron

Tip not included



For further details, see the N₂ soldering system (P.30 & P.31).

Packing List

FX-838	Station, Handpiece (FX-8301), Control card, Power cord, Heat resistant pad, Connecting cable, Iron holder, Instruction manual
FX-8302	Handpiece, Instruction manual

Specifications

Model No.	FX-838
Power consumption	158 W
Temperature range	200 to 500°C
Temperature stability	±5°C at idle temperature

Station

Output voltage	AC 27 V
Dimensions	110 (W) × 110 (H) × 205 (D) mm
Weight	3.2 kg

Soldering Iron

Power consumption	150 W (27 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Cord length	1.2 m
Total length*	175 mm (with 2.4D tip)
Weight*	31 g (with 2.4D tip)

* Without cord

Model No.	FX-8302
Power consumption	150 W (27 V)
Temperature range	200 to 500°C
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Cord length	1.2 m
Total length*	195 mm (with 2.4D tip)
Weight*	41 g (with 2.4D tip and nozzle assembly D)

* Without cord and tube

High Performance Rework Station & Accessories

HAKKO FM-203 SOLDERING STATION ESD SAFE

2-Port High Performance Rework Station Digital

Tip not included



- 2 handpieces can be connected at the same time.

HAKKO FM-206 REWORK SYSTEM ESD SAFE

3-Port High Performance Rework Station Digital

Tip not included Nozzle not included



- 3-port rework station that enables soldering, desoldering, and SMD rework all with a single unit
- Graphic LCD enables easy viewing and operation.

Handpiece Combination Examples

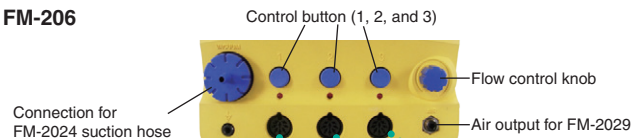
FM-203



Handpiece	Channel D connector	Channel S connector
FM-2027	○	○
FM-2022 ^{*1}	○	×
FM-2023 ^{*1}	○	×
FM-2024 ^{*2}	○	○
FM-2026 ^{*3}	○	○
FM-2032	○	○

^{*1} When the FM-2022 or FM-2023 is connected to the channel D connector, both channel connectors can't be used at the same time.
^{*2} When two FM-2024s are connected to the channel connectors, each FM-2024 must be connected to the desolder control box.
^{*3} For the FM-2026, each handpiece needs an N₂ generator (HAKKO FX-780), flow meter (HAKKO FX-791), compressor, regulator, etc. For further details, see the N₂ soldering system (P.30).

FM-206



Handpiece	Receptacle 1	Receptacle 2	Receptacle 3
FM-2027	○	○	○
FM-2024	○ ^{*1}	○	○ ^{*1}
FM-2029	×	×	○
FM-2022	×	○	×
FM-2023	×	○	×
FM-2026	○	○	○
FM-2030	×	○	○
FM-2031	×	○ ^{*2}	○ ^{*2}
FM-2032	○	○	○

^{*1} The FM-2024 can be connected to receptacle 2 and 3. However, only one FM-2024 can be used with the station.
^{*2} For the FM-2031 and FM-2026, each handpiece needs an N₂ generator (HAKKO FX-780), flow meter (HAKKO FX-791), compressor, regulator, etc. For further details, see the N₂ soldering system (P.30).
NOTE: The FM-2024 and FM-2029 can't be used at the same time.

Accessories

HAJKO FM-2027 SOLDERING IRON **ESD SAFE**

Soldering Iron

Tip not included

**HAJKO FM-2026** SOLDERING IRON **ESD SAFE**70 W N₂ Soldering Iron

Tip not included

**HAJKO FM-2029** HOT AIR HANDPIECE **ESD SAFE**

Hot-Air Pencil

Nozzle not included

**HAJKO FM-2030** SOLDERING IRON **ESD SAFE**

Heavy Duty Soldering Iron

Tip not included

**HAJKO FM-2031** SOLDERING IRON **ESD SAFE**140 W N₂ Soldering Iron

Tip not included

**HAJKO FM-2032** SOLDERING IRON **ESD SAFE**

Micro Soldering Iron

Tip not included

**HAJKO MODEL FM-2022** PARALLEL REMOVER **ESD SAFE**

SMD Hot Tweezers

Tip not included

**HAJKO MODEL FM-2023** MINI PARALLEL REMOVER **ESD SAFE**

Mini SMD Hot Tweezers

Tip included

**HAJKO MODEL FM-2024** DESOLDERING TOOL **ESD SAFE**

Desoldering Tool

Nozzle not included



High Performance Rework Station & Accessories

Specifications

Model No.	FM-203
Power consumption	140 W
Temperature range	FM-2026/2027: 200 to 450°C FM-2022/2023: 200 to 400°C FM-2032: 200 to 450°C FM-2024: 350 to 450°C
Temperature stability	±5°C at idle temperature

Station

Output voltage	AC 24 V
Dimensions	120 (W) × 120 (H) × 190 (D) mm
Weight	2.7 kg

Soldering Iron (FM-2027)

Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	188 mm (with 2.4D tip)
Weight*	30 g (with 2.4D tip)

* Without cord

Model No.	FM-206
Power consumption	410 W (max.)
Temperature range	FM-2026/2027: 200 to 450°C FM-2022/2023: 200 to 400°C FM-2024: 350 to 450°C FM-2029: 100 to 550°C FM-2030: 200 to 500°C FM-2031: 200 to 500°C FM-2032: 200 to 450°C
Temperature stability	±5°C at idle temperature

Station

Output voltage	AC 24 V
Vacuum generator	Cylinder type vacuum pump
Vacuum pressure	80 kPa (600 mmHg, max.)
Suction flow	14 L/min.
Air flow	6 L/min. (max.)
Dimensions	162 (W) × 136 (H) × 245 (D) mm
Weight*	6.2 kg

Soldering Iron (FM-2027)

Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	188 mm (with 2.4D tip)
Weight*	30 g (with 2.4D tip)

Desoldering Tool (FM-2024)

Power consumption	70 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	180 mm (with ø1.0 mm nozzle)
Weight**	65 g (with ø1.0 mm nozzle)

Hot Air Handpiece (FM-2029)

Power consumption	140 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length**	232 mm (with ø4.0 mm nozzle)
Weight***	50 g (with ø4.0 mm nozzle)

* Without cord ** Without cord and hose *** Without cord and tube

Model No.	FM-2022
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	148 mm (with SOP 25L tip)
Weight*	64 g (with SOP 25L tip)

* Without cord

Model No.	FM-2023
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Standard tip	Shape-I: 2 pcs/set (No.T9-I)
Cord length	1.2 m
Total length*	117 mm (with I tip)
Weight*	37 g (with I tip)

* Without cord

Model No.	FM-2024
• Desoldering Tool	
Power consumption	70 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	180 mm (with ø1.0 mm nozzle)
Weight*	65 g (with ø1.0 mm nozzle)

• Desolder Control Box

Power consumption	12 W (24 V)
Output voltage	24 V
Vacuum generator	Ejector type
Vacuum pressure	Max. 93 kPa (700 mmHg)
Suction flow	28 L/min.
Nozzle to ground potential	<2 mV
Applied air pressure	490 kPa (5.0 kgf/cm ²) While trigger or button is pressed
Compressed air consumption	46 L/min.
Outer dimensions	119 (W) × 45 (H) × 172 (D) mm
Weight*	1.2 kg

* Without cord

Model No.	FM-2026
Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	205 mm (with 2.4D tip)
Weight*	45 g (with 2.4D tip and nozzle assembly C)

* Without cord and tube

Model No.	FM-2027
Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	188 mm (with 2.4D tip)
Weight*	30 g (with 2.4D tip)

* Without cord

Specifications

Model No.	FM-2030
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.3 m
Total length*	224 mm (with 2.4D tip)
Weight*	41 g (with 2.4D tip)

* Without cord

Model No.	FM-2032
Power consumption	48 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.3 m
Total length*	170 mm (with 1D tip)
Weight*	14 g (with 1D tip)

* Without cord

Model No.	FM-2031
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	231 mm (with 2.4D tip)
Weight*	47 g (with 2.4D tip and nozzle assembly E)

* Without cord and tube

Packing List

FM-203	Station, Handpiece (FM-2027), Sleeve assembly, Connecting cable, Power cord, Control card, Iron holder, Tip tray, Heat resistant pad, Instruction manual
FM-206	Station, Power cord, Tip tray, Desoldering tool (FM-2024), Handle (for gun configuration for FM-2024), Iron holder (for FM-2024), Ceramic paper filter (10 pcs; for FM-2024), Nozzle remover (for FM-2024), Cleaning drill for heating element (for FM-2024), Connecting cable (for FM-2024), Handpiece (FM-2027), Iron holder (for FM-2027), Heat resistant pad (for FM-2027), Connecting cable (for FM-2027), Hot air handpiece (FM-2029), Iron holder (for FM-2029), Heat resistant pad (for FM-2029), Connecting cable (for FM-2029), Instruction manual
FM-2022 (Conversion kit)	Parallel remover, Heat resistant pad, Iron holder, Connecting cable, Instruction manual
FM-2023 (Conversion kit)	Mini parallel remover, Soldering tip (T9-I), Heat resistant pad, Iron holder, Component bed, Connecting cable, Instruction manual

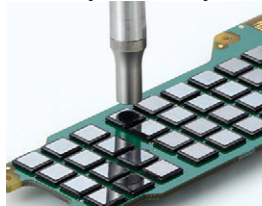
FM-2024 (Conversion kit, with DCB)	Desoldering tool, Handle (for gun configuration), Desoldering control box, Filter pipe assembly, Iron holder, Cleaning drill for heating element, Nozzle remover, Ceramic paper filter (10 pcs), Connecting cable, Instruction manual
FM-2026 (Conversion kit)	Handpiece, Sleeve cover, Sleeve assembly (yellow), Heat resistant pad, Iron holder, Connecting cable, Instruction manual
FM-2027 (Conversion kit)	Handpiece, Sleeve assembly (yellow), Heat resistant pad, Iron holder, Connecting cable
FM-2029 (Conversion kit)	Handpiece (hot air), Handpiece holder, Heat resistant pad, Connecting cable, Instruction manual
FM-2030 (Conversion kit)	Handpiece (soldering), Heat resistant pad, Iron holder, Connecting cable, Instruction manual
FM-2031 (Conversion kit)	Handpiece (soldering), Heat resistance pad, Iron holder, Connecting cable, Instruction manual
FM-2032 (Conversion kit)	Handpiece, Heat resistant pad, Iron holder, Connecting cable, Instruction manual

FM-2024 Features

Please see the features on P.55.

FM-2029 Features

Securely and easily remove 10 x 10 (mm) chips.

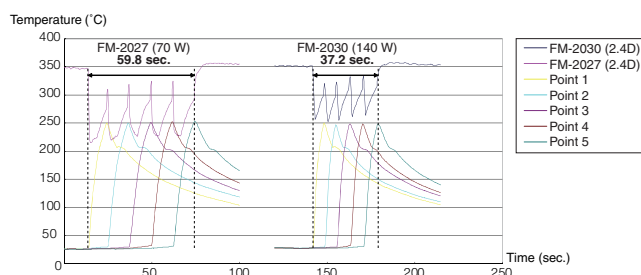


FM-2032 Size



FM-2030 Features

Graph of a comparison of the performance of FM-2027 (70 W) and FM-2030 (140 W)



Test criteria

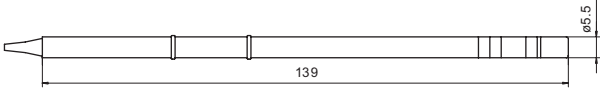
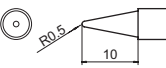
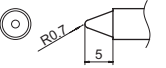
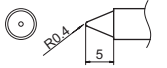
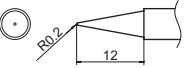
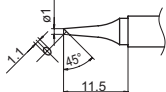
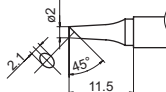
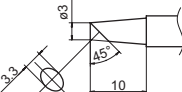
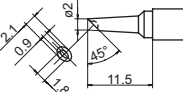
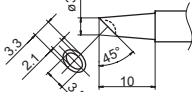
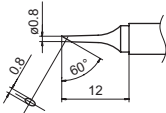
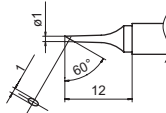
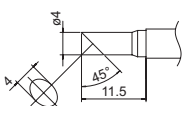
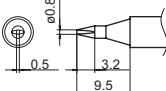
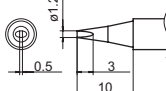
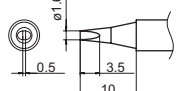
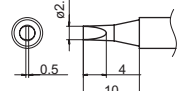
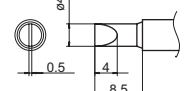
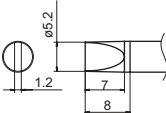
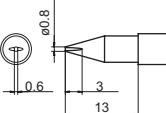
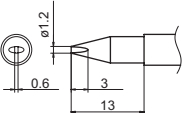
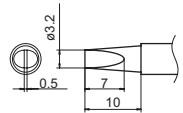
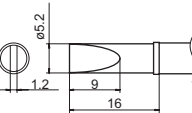
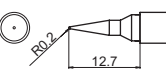
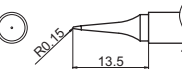
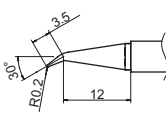
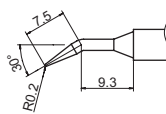
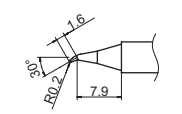
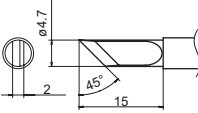
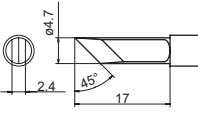
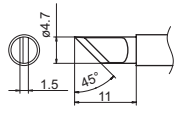
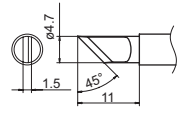
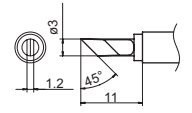
Test method	Solder at 5 points and measure the time until the temperature of the workpiece reaches 250°C.
Board	Bakelite board
Component used	Screw
Tip shape	Shape-2.4D
Temperature setting	350°C
Solder	Lead-free solder (Sn/Ag/Cu), diameter: 1.0 mm

High Performance Soldering Accessories

Optional Tips for the FM-2027

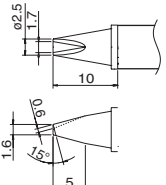
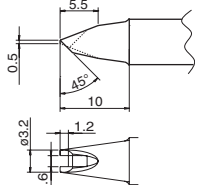
Unit: mm

Standard type

					
B	T12-B Shape-B 	T12-B2 Shape-0.5B 	T12-B3 Shape-0.7B 	T12-B4 Shape-0.4B 	T12-BL Shape-BL 
BC	T12-BC1 Shape-1BC T12-BCF1* 	T12-BC2 Shape-2BC T12-BCF2* 	T12-BC3 Shape-3BC T12-BCF3* 	T12-BCM2 Shape-2BC Bevel with indent 	T12-BCM3 Shape-3BC Bevel with indent 
C	T12-C08 Shape-0.8C 	T12-C1 Shape-1C 	T12-C4 Shape-4C T12-CF4* 		
D	T12-D08 Shape-0.8D 	T12-D12 Shape-1.2D 	T12-D16 Shape-1.6D 	T12-D24 Shape-2.4D 	T12-D4 Shape-4D 
	T12-D52 Shape-5.2D 	T12-DL08 Shape-0.8DL 	T12-DL12 Shape-1.2DL 	T12-DL32 Shape-3.2DL 	T12-DL52 Shape-5.2DL 
I	T12-I Shape-I 	T12-IL Shape-IL 	T12-ILS Shape-ILS 		
J	T12-J02 Shape-0.2J 	T12-JL02 Shape-0.2JL 	T12-JS02 Shape-0.2JS 		
K	T12-K Shape-K 	T12-KF Shape-KF 	T12-KL Shape-KL 	T12-KR Shape-KR 	T12-KU Shape-KU 

* These tips are tinned on the soldering surface only.

Concave type

T12-1610 	T12-1611 
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SMD type

Quad	T12-1201 Quad 13.6 x 8.5 	T12-1202 Quad 10.3 x 10.3 	T12-1203 Quad 12.8 x 12.8 	T12-1204 Quad 17.9 x 17.9 	T12-1205 Quad 23.4 x 17.3
	T12-1206 Quad 22.5 x 16.5 	T12-1207 Quad 15.5 x 15.5 	T12-1208 Quad 15.8 x 15.8 	T12-1209 Quad 8.4 x 8.4 	
Tunnel	T12-1001 Tunnel 5.1 x 4.6 	T12-1002 Tunnel 5.1 x 10.4 	T12-1003 Tunnel 9.5 x 18.3 	T12-1004 Tunnel 9.5 x 15.8 	T12-1005 Tunnel 9.5 x 13.2
	T12-1006 Tunnel 6.9 x 11.4 	T12-1007 Tunnel 7.9 x 18.8 	T12-1008 Tunnel 19.5 x 10.2 	T12-1009 Tunnel 13.4 x 20.5 	T12-1010 Tunnel 19.5 x 12
Spatula	T12-1401 Spatula 10.4 	T12-1402 Spatula 15.7 	T12-1403 Spatula 21.2 	T12-1404 Spatula 25 	T12-1405 Spatula 32
	T12-1406 Spatula 40 				

Long life type

T12-B2Z Shape-0.5B (Z) 	T12-BC1Z Shape-1BC (Z) T12-BCF1Z* 	T12-BC2Z Shape-2BC (Z) T12-BCF2Z* 	T12-BC3Z Shape-3BC (Z) T12-BCF3Z* 	T12-BZ Shape-B (Z)
T12-C4Z Shape-4C (Z) T12-CF4Z* 	T12-D12Z Shape-1.2D (Z) 	T12-D16Z Shape-1.6D (Z) 	T12-D24Z Shape-2.4D (Z) 	T12-D4Z Shape-4D (Z)
T12-KFZ Shape-KF (Z) 	T12-KRZ Shape-KR (Z) 			

* These tips are tinned on the soldering surface only.

Heavy duty type

T12-WB2 Shape-0.5WB 	T12-WD08 Shape-0.8WD 	T12-WD12 Shape-1.2WD 	T12-WD16 Shape-1.6WD 	T12-WD52 Shape-5.2WD 	T12-WI Shape-WI

High Performance Rework Station & Accessories

Optional Tips for the FM-2032

Unit: mm

T30-D06 Shape-0.6D 	T30-D1 Shape-1D 	T30-I Shape-I 	T30-J Shape-J 	T30-KU Shape-KU 	T30-KN Shape-KN
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Optional Tips for the FM-2022

Unit: mm

CHIP

*1 set: 2 pcs

T8-1001 Chip 0.5L 	T8-1002 Chip 0.5C 	T8-1003 Chip 1L 	T8-1004 Chip 2L 	T8-1013 Chip 3L
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SOP

T8-1005 SOP 6L 	T8-1006 SOP 8L 	T8-1007 SOP 10L 	T8-1008 SOP 13L 	T8-1009 SOP 16L
T8-1010 SOP 20L 	T8-1011 SOP 25L 	T8-1012 SOP 18L 		

Replacement Tips for the FM-2023

Unit: mm

CHIP

*1 set: 2 pcs

T9-I Chip I 	T9-L1 Chip 1L 	T9-L2 Chip 2L
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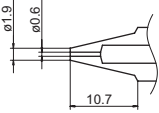
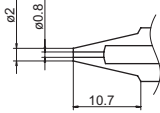
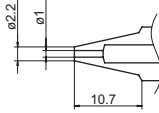
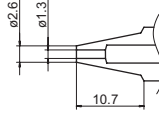
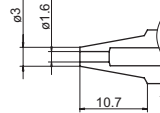
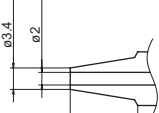
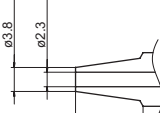
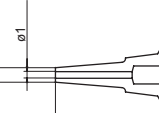
Optional Tips for the FM-2030

Unit: mm

T22-BL Shape-BL 	T22-BL2 Shape-2BL 	T22-BC2 Shape-2BC 	T22-C3 Shape-3C 	T22-C5 Shape-5C 	T22-C6 Shape-6C
T22-D08 Shape-0.8D 	T22-D12 Shape-1.2D 	T22-D16 Shape-1.6D 	T22-D24 Shape-2.4D 	T22-D32 Shape-3.2D 	T22-D45 Shape-4.5D
T22-D52 Shape-5.2D 	T22-J02 Shape-0.2J 	T22-JD08 Shape-0.8JD 	T22-K Shape-K 		

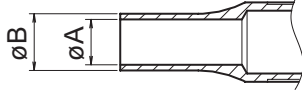
Optional Nozzles for the FM-2024

Unit: mm

N1-06 Nozzle $\phi 0.6$ 	N1-08 Nozzle $\phi 0.8$ 	N1-10 Nozzle $\phi 1.0$ 	N1-13 Nozzle $\phi 1.3$ 	N1-16 Nozzle $\phi 1.6$ 
N1-20 Nozzle $\phi 2.0$ 	N1-23 Nozzle $\phi 2.3$ 	N1-L10 Nozzle $\phi 1.0$ Long 		

Optional Nozzles for the FM-2029

Unit: mm

			
		ϕA	ϕB
N4-01 Nozzle $\phi 2.0$		2.0	2.5
N4-02 Nozzle $\phi 4.0$		4.0	5.0
N4-03 Nozzle $\phi 6.0$		6.0	7.0
N4-04 Nozzle $\phi 8.0$		8.0	9.0

Optional Tips for the FM-2026

Please see the optional tips on P.32.

Optional Tips for the FM-2031

Please see the optional tips on P.32.

N₂ Soldering System

HAKKO FX-780

N. GENERATOR

N₂ Gas Generator



- Highest concentration of nitrogen gas: 99.9%
- Compact design reduces footprint.

HAKKO FX-791

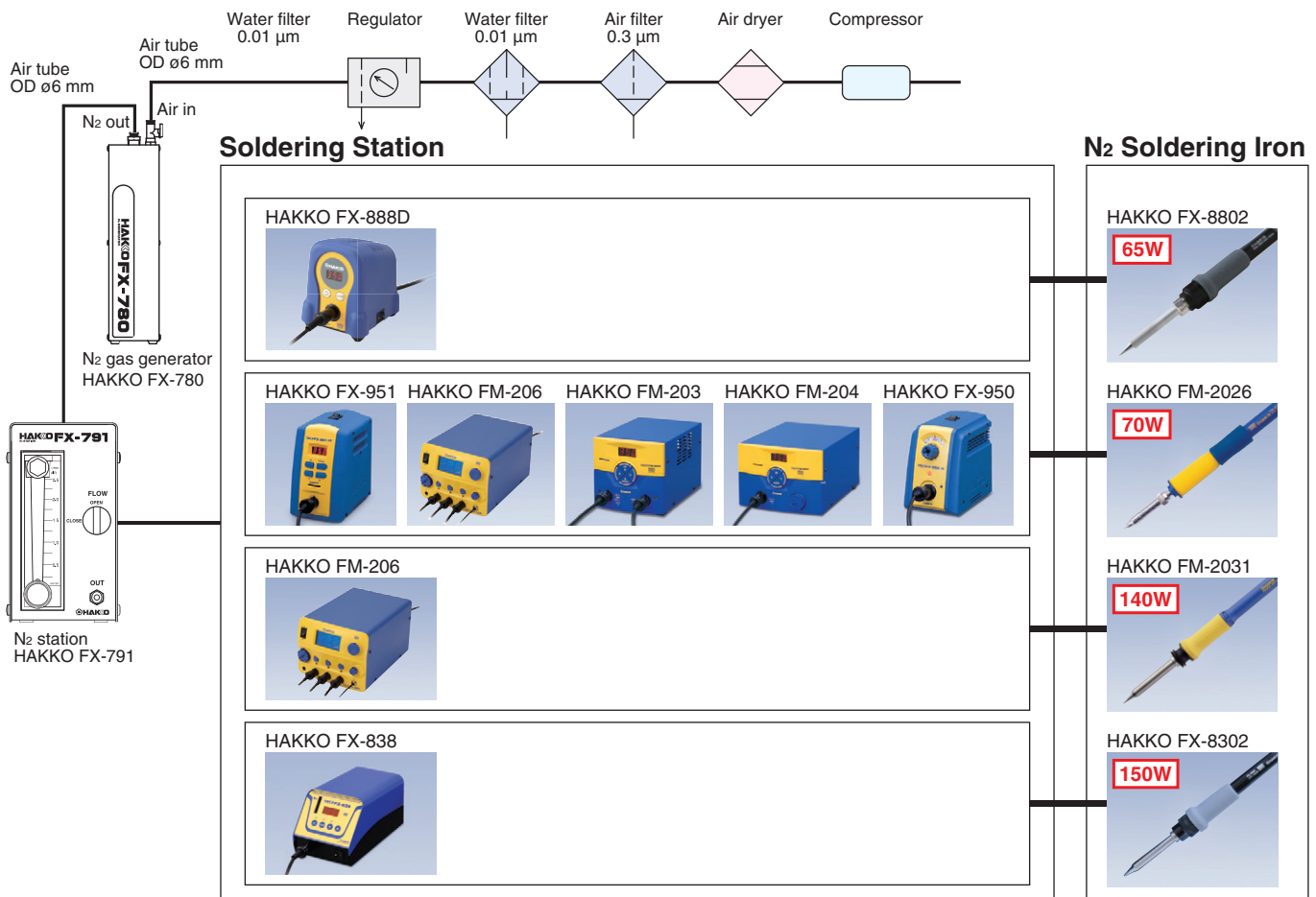
N. STATION

N₂ Flowmeter



- Flowmeter for N₂ soldering iron with flow control valve and regulator

Connection Method



* Select one.

* Select one.



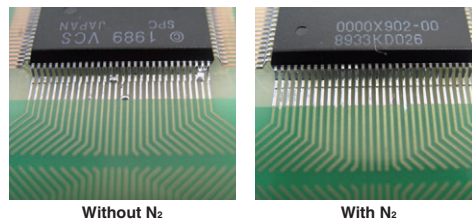
Set-up example
HAKKO FX-780
HAKKO FX-791
HAKKO FX-951
HAKKO FM-2026

Improved Solderability

- Wettability and spreadability comparisons



- Less bridging occurs even for components susceptible to bridging.



Specifications

Model No.	FX-780
Air supply pressure	0.3 to 0.7 MPa
Concentration of generated N ₂	99.9% (max.)
Amount of generated N ₂	1.5 L/min. (When compressed air of 0.5 MPa is supplied at 25°C, the concentration of the generated nitrogen is 98%.)
Dimensions*	73 (W) × 282 (H) × 71 (L) mm
Weight**	1.5 kg

* Without sockets and valve

** Without racks

Model No.	FX-791
Pressure of discharged gas	0.2 MPa (2.0 kgf/cm ²)
Gas flow	0.25 to 2.5 L/min.
Dimensions	70 (W) × 121 (H) × 134 (D) mm
Weight	600 g

Packing List

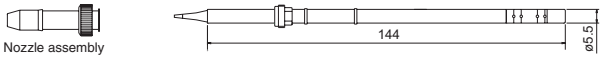
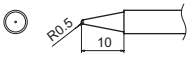
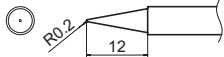
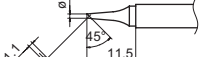
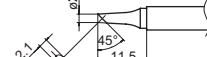
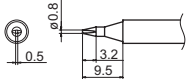
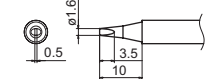
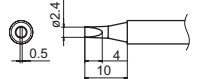
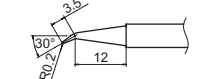
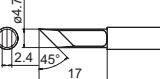
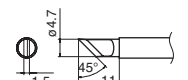
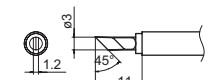
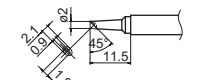
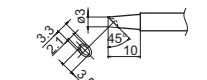
FX-780	Unit, Rack for unit (2 pcs), Instruction manual
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FX-791	Unit, Instruction manual
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Optional Tips and Nozzles Assemblies for the FM-2026

Tip and nozzle assembly are supplied separately. Please purchase a compatible nozzle assembly for your tip referring the chart below.

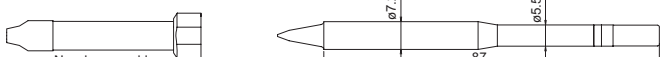
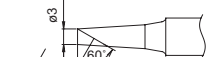
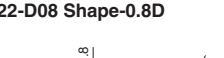
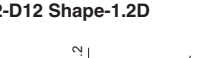
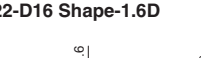
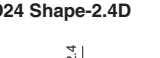
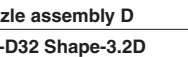
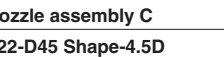
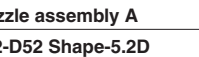
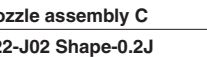
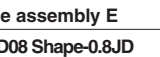
Unit: mm

				
T13-B2 Shape-0.5B 	T13-BL Shape-BL 	T13-BC1 Shape-1BC T13-BCF1* 	T13-BC2 Shape-2BC T13-BCF2* 	T13-BC3 Shape-3BC T13-BCF3* 
B2708 Nozzle assembly C	B2898 Nozzle assembly E	B2899 Nozzle assembly F	B2706 Nozzle assembly A	B2900 Nozzle assembly G
T13-D08 Shape-0.8D 	T13-D16 Shape-1.6D 	T13-D24 Shape-2.4D 	T13-J02 Shape-0.2J 	T13-KF Shape-KF 
B2709 Nozzle assembly D	B2708 Nozzle assembly C	B2708 Nozzle assembly C	B2707 Nozzle assembly B	B2923 Nozzle assembly J
T13-KR Shape-KR 	T13-KU Shape-KU 	T13-BCM2 Shape-2BC Bevel with indent 	T13-BCM3 Shape-3BC Bevel with indent 	
B2902 Nozzle assembly I	B2901 Nozzle assembly H	B2706 Nozzle assembly A	B2900 Nozzle assembly G	* These tips are tinned on the soldering surface only.

Optional Tips and Nozzles Assemblies for the FM-2031

Tip and nozzle assembly are supplied separately. Please purchase a compatible nozzle assembly for your tip referring the chart below.

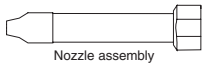
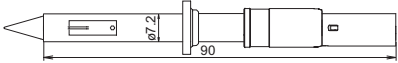
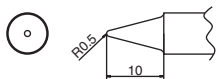
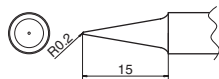
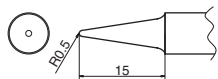
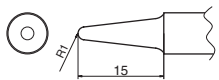
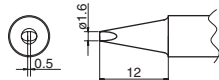
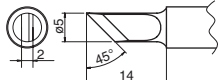
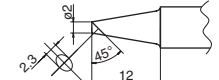
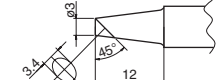
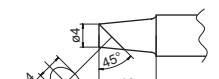
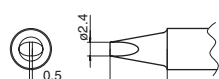
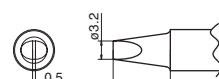
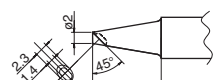
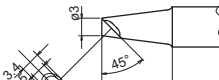
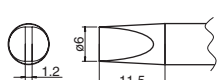
Unit: mm

				
T22-BL Shape-BL 	T22-BL2 Shape-2BL 	T22-BC2 Shape-2BC 	T22-C3 Shape-3C 	T22-C5 Shape-5C 
B3121 Nozzle assembly A	B3121 Nozzle assembly A	B3121 Nozzle assembly A	B3121 Nozzle assembly A	B3124 Nozzle assembly D
T22-C6 Shape-6C 	T22-D08 Shape-0.8D 	T22-D12 Shape-1.2D 	T22-D16 Shape-1.6D 	T22-D24 Shape-2.4D 
B3124 Nozzle assembly D	B3123 Nozzle assembly C	B3121 Nozzle assembly A	B3123 Nozzle assembly C	B3561 Nozzle assembly E
T22-D32 Shape-3.2D 	T22-D45 Shape-4.5D 	T22-D52 Shape-5.2D 	T22-J02 Shape-0.2J 	T22-JD08 Shape-0.8JD 
B3124 Nozzle assembly D	B3124 Nozzle assembly D	B3124 Nozzle assembly D	B3121 Nozzle assembly A	B3561 Nozzle assembly E
T22-K Shape-K 				
B3123 Nozzle assembly C				

Optional Tips and Nozzles Assemblies for the FX-8302

Tip and nozzle assembly are supplied separately. Please purchase a compatible nozzle assembly for your tip referring the chart below.

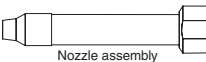
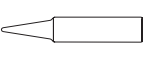
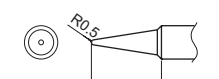
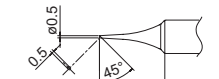
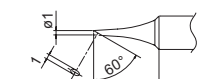
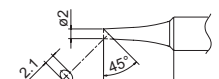
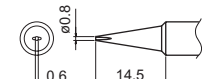
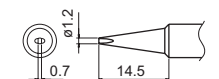
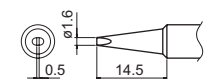
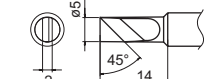
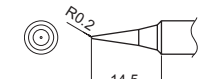
Unit: mm

 				
T20-B2 Shape-0.5B	T20-BL Shape-BL	T20-BL2 Shape-2BL	T20-J02 Shape-0.2J (0.2RSB)	T20-KU Shape-KU
				
B3121 Nozzle assembly A	B3121 Nozzle assembly A	B3121 Nozzle assembly A	B3122 Nozzle assembly B	B3122 Nozzle assembly B
T20-BL3 Shape-3BL	T20-D16 Shape-1.6D	T20-K Shape-K	T20-BC2 Shape-2BC T20-BCF2*	T20-BC3 Shape-3BC T20-BCF3*
				
B3123 Nozzle assembly C	B3123 Nozzle assembly C	B3123 Nozzle assembly C	B3124 Nozzle assembly D	B3124 Nozzle assembly D
T20-BC4 Shape-4BC T20-BCF4*	T20-C5 Shape-5C	T20-C6 Shape-6C	T20-D24 Shape-2.4D	T20-D32 Shape-3.2D
				
B3124 Nozzle assembly D	B3124 Nozzle assembly D	B3124 Nozzle assembly D	B3124 Nozzle assembly D	B3124 Nozzle assembly D
T20-BCM2 Shape-2BC Bevel with indent	T20-BCM3 Shape-3BC Bevel with indent	T20-D6 Shape-6D	* These tips are tinned on the soldering surface only.	
				
B3124 Nozzle assembly D	B3124 Nozzle assembly D	B3561 Nozzle assembly E		

Replacement Tips and Nozzles Assemblies for the FX-8802

Tip and nozzle assembly are supplied separately. Please purchase a compatible nozzle assembly for your tip referring the chart below.

Unit: mm

 				
T18-B Shape-B	T18-C05 Shape-0.5C	T18-C1 Shape-1C T18-CF1*	T18-C2 Shape-2C T18-CF2*	T18-C3 Shape-3C T18-CF3*
				
B3662 Nozzle assembly A	B3664 Nozzle assembly C	B3664 Nozzle assembly C	B3662 Nozzle assembly A	B3663 Nozzle assembly B
T18-D08 Shape-0.8D	T18-D12 Shape-1.2D	T18-D16 Shape-1.6D	T18-D24 Shape-2.4D	T18-K Shape-K
				
B3662 Nozzle assembly A	B3662 Nozzle assembly A	B3663 Nozzle assembly B	B3663 Nozzle assembly B	B3665 Nozzle assembly D
T18-I Shape-I	* These tips are tinned on the soldering surface only.			
				
B3664 Nozzle assembly C				

Temperature Adjustable Soldering Iron

HAKKO FX-600

SOLDERING IRON

Temperature Adjustable Soldering Iron

Tip included



- Adjustable temperature range: 200 to 500°C

HAKKO FX-601

STAINED GLASS

Heavy Duty Temperature Adjustable Soldering Iron

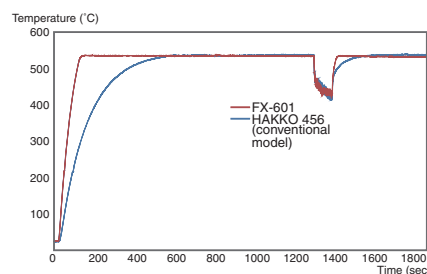
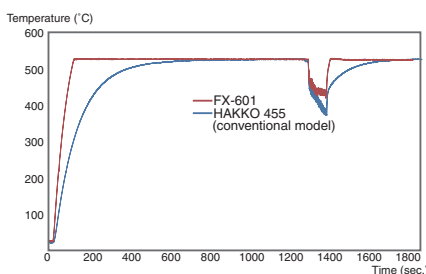
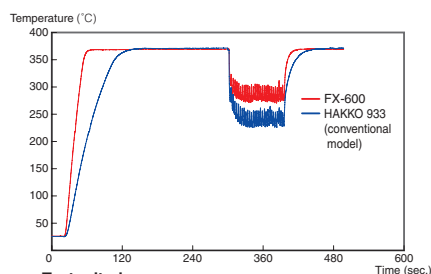
Tip included



- Maximum temperature: 540°C

Features

Superior heat conductivity



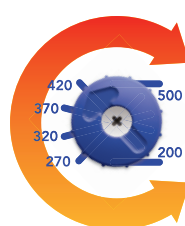
Test criteria

- Temperature of soldering iron with a diameter 1.6 x 5 mm piece of solder applied once every 3 seconds to paper phenol copper board.
- Lead-free solder is used.

Detach the control knob and lock the temperature setting.



Turn the CAL knob to attain a more accurate temperature.



* Accurate temperature control can be performed even outside the scale.

Specifications

Model No.	FX-600	FX-601
Power consumption	50 W	47 W
Temperature range	200 to 500°C	240 to 540°C
Temperature stability	±1°C at idle temperature	±1°C at idle temperature
Tip to ground resistance	<2 Ω	<2 Ω
Tip to ground potential	<2 mV	<2 mV
Heating element	Ceramic heater	Ceramic heater
Standard tip	Shape-B (No. T18-B)	Shape-2B (No. T19-B2)
Total length*	233 mm (with B tip)	237 mm (with 2B tip)
Weight*	61 g (with B tip)	68 g (with 2B tip)

* Without cord

Packing List

FX-600	Unit, Lock key, Instruction manual
FX-601	Unit, Lock key, Instruction manual



FX-600 with 605M

Option

Part No.	Name	Specifications
633-01	Iron holder	With 599B
633-02	Iron holder	With cleaning sponge
605M	Iron cover	—
B3720	Tip enclosure	With nut, required when converting from the FX-600 to the FX-601
B3730	Nut and tip enclosure	Required when converting from the FX-601 to the FX-600

* For information on the iron holders, see P.51.

Replacement Tips for the FX-600

Unit: mm

T18-B Shape-B 	T18-BL Shape-BL 	T18-C05 Shape-0.5C 	T18-C08 Shape-0.8C 	T18-C1 Shape-1C T18-CF1*
T18-C2 Shape-2C T18-CF2* 	T18-C3 Shape-3C T18-CF3* 	T18-C4 Shape-4C T18-CF4* 	T18-C5 Shape-5C 	T18-CF15* Shape-1.5C
T18-CSF25* Shape-2.5CS 	T18-D08 Shape-0.8D 	T18-D12 Shape-1.2D 	T18-D16 Shape-1.6D 	T18-D24 Shape-2.4D
T18-D32 Shape-3.2D 	T18-DL12 Shape-1.2DL 	T18-DL2 Shape-2DL 	T18-DL32 Shape-3.2DL 	T18-I Shape-I
T18-BR02 Shape-0.2BR 	T18-K Shape-K 	T18-S3 Shape-S3 	T18-S4 Shape-S4 	T18-S6 Shape-S6
T18-S9 Shape-S9 	T18-SB Shape-SB 	* These tips are tinned on the soldering surface only.		

Replacement Tips for the FX-601

Unit: mm

T19-B Shape-B 	T19-B2 Shape-2B 	T19-C3 Shape-3C 	T19-C4 Shape-4C 	T19-C65 Shape-6.5C
T19-D24 Shape-2.4D 	T19-D32 Shape-3.2D 	T19-D5 Shape-5D 	T19-D65 Shape-6.5D 	T19-I Shape-I



Ceramic Heater Soldering Iron

Tip included



- Light-weight, compact soldering iron with ceramic heater
- Three types available in capacities of 15 W, 20 W and 25 W

Specifications

Model No.	N452	N453	N454
Power consumption	15 W	20 W	25 W
Heating element	Ceramic heater		
Standard tip	Shape-B (No. N452-T-B)		Shape-B (No. N454-T-B)
Insulation resistance	200 MΩ	100 MΩ	
Total length*	185 mm		192 mm
Weight*	47 g		57 g

* Without cord

Option

Part No.	Name	Specifications
633-01	Iron holder	With 599B
633-02	Iron holder	With cleaning sponge
606	Iron holder	With cleaning sponge
609	Iron holder	With cleaning sponge

* For information on the iron holders, see P.51.

Replacement Tips

Unit: mm

For N452, N453

N452-T-B Shape-B 	N452-T-1C Shape-1C N452-T-1CF* 	N452-T-2C Shape-2C N452-T-2CF* 	N452-T-3C Shape-3C N452-T-3CF*
N452-T-4C Shape-4C N452-T-4CF* 	N452-T-C Shape-C 	N452-T-D Shape-D 	N452-T-I Shape-I
N452-T-SB Shape-SB 	N452-T-SC Shape-SC 	N452-T-SD Shape-SD 	* These tips are tinned on the soldering surface only.

For N454

N454-T-B Shape-B 	N454-T-2C Shape-2C N454-T-2CF* 	N454-T-3C Shape-3C N454-T-3CF* 	N454-T-4C Shape-4C N454-T-4CF*
N454-T-5C Shape-5C N454-T-5CF* 	N454-T-D Shape-D 	N454-T-I Shape-I 	* These tips are tinned on the soldering surface only.

HAKKO PRESTO

W-Switchable Ceramic Heater Soldering Iron

Tip included



- The boost switch can immediately raise the power from 20 W in normal operation mode to 130 W, which enables the soldering iron to be heated up at a high speed.
- The HAKKO Presto can be used for a wide range of applications.
- A safety cap is available for 984 and 985.

When capped



Packing List

980, 981	Unit
984, 985	Unit, Safety cap

Specifications

Model No.	980	981	984	985
Power consumption	20/130 W (while the switch is pushed)			
Heating element	Ceramic heater			
Standard tip	Shape-B (No. 980-T-B)			
Total length*	205 mm	160 mm	205 mm	160 mm
Weight*	48 g	92 g	56 g	100 g

* Without cord and cap

Option

Part No.	Name	Specifications
633-01	Iron holder	With 599B
633-02	Iron holder	With cleaning sponge
606	Iron holder	With cleaning sponge
609	Iron holder	With cleaning sponge

* For information on the iron holders, see P.51.

Replacement Tips

Unit: mm

980-T-B Shape-B 	980-T-BC Shape-BC 	980-T-BI Shape-BI 	980-T-D Shape-D
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HAKO FX-901
CORDLESS IRON

Battery-Powered Soldering Iron

Tip included



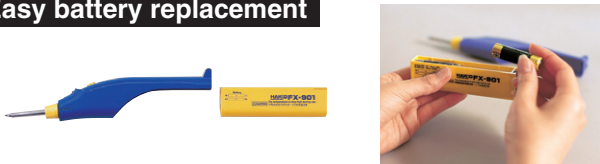
- Easy-to-carry soldering iron powered by AA alkaline batteries
- Cordless design makes this iron very handy and usable virtually anywhere.

Easy Replacement

Easy tip replacement



Easy battery replacement



Packing List

FX-901	Unit, Cap
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* Batteries not included

Specifications

Model No.	FX-901
Power supply	AA × 4 pcs
Power consumption	Alkaline batteries: 6 W (6 V) Nickel hydrogen batteries (2150 mAh): 5 W (4.8 V)
Standard tip	Shape-B (No.T11-B)
Battery life*	Alkaline batteries: 60 minutes Nickel hydrogen batteries (2150 mAh): 120 minutes
Total length**	212 mm
Weight***	76 g

Measurement conditions
· When using new batteries, performance will vary depending on the batteries.
· The operating time was measured from the point that the soldering iron was turned on to the point at which the temperature dropped below 300°C, which is the minimum temperature at which soldering can be performed.
* When using batteries other than those specified above, the performance and the operating time will vary.
** Without cap
*** Without battery

Replacement Tips for the FX-901

Unit: mm

T11-B Shape-B 	T11-D4 Shape-4D

HAKKO RED
SOLDERING IRON

Nichrome Heater Soldering Iron

Tip included



- Ideal for use in a variety of soldering works



Option

Part No.	Name	Specifications
602	Iron holder	With cleaning sponge
603	Iron holder	With cleaning sponge

* For information on the iron holders, see P.51.

Specifications

Model No.	500	501	502	503
Power consumption	20 W	30 W	40 W	60 W
Heating element	Nichrome heater			
Standard tip	ø3 × 65 mm (No.BB3)	ø4 × 70 mm (No.BB4)		ø6 × 85 mm (No.BB6)
Total length*	199 mm	207 mm		248 mm
Weight*	60 g	65 g		95 g

* Without cord

HAKKO MG
SOLDERING GUN

Solder Feed Soldering Gun

Tip included



- Solder feed mechanism built in the body allows users to make fine adjustments.



Specifications

Model No.	582	583	585	587	589	592
Power consumption	30 W	40 W	60 W	80 W	100 W	150 W
Heating element	Nichrome heater					
Standard tip	ø4 mm (No.582-T-4)	ø6 mm (No.585-T-6)	ø8 mm (No.587-T-8)	ø10 mm (No.592-T-10)		
Dimensions	197 x 149 mm	213 x 149 mm	227 x 149 mm	241 x 149 mm		
Weight*	266 g	290 g	318 g	322 g	380 g	

* Without cord

Packing List

582, 583, 585, 587, 589, 592	Unit, 1.6 mm diameter Guide nozzle, Instruction manual
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* A 2.3 mm diameter guide nozzle is originally set into the unit.

Option

Part No.	Name	Specifications
582-N-0.8	Guide nozzle	0.8 mm
582-N-1.0	Guide nozzle	1.0 mm
582-N-1.2	Guide nozzle	1.2 mm
607	Iron holder	With cleaning sponge
582-022	Spool holder	—

* For information on the iron holder, see P.51.

HAKO FX-301B

SOLDERING POT

High Performance Soldering Pot

Digital



- Digital display ensures reliable temperature control and realizes precise temperature adjustment.
- Soldering pot is coated in a special long-life material, which is best suited for lead-free solder. This is provided as a standard feature.

HAKO FX-300

SOLDERING POT

High Performance Soldering Pot

Analog

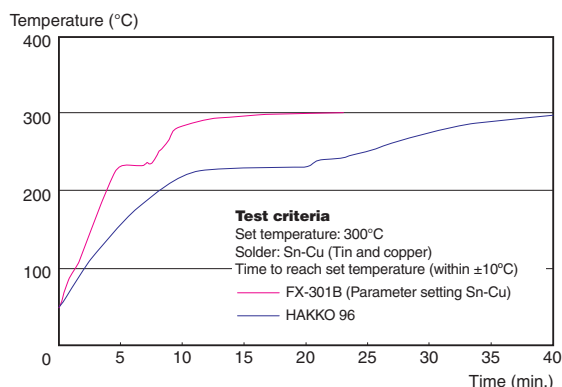


- Temperature can be adjusted just by turning a knob during operation.
- Adding an optional specially coated stainless-steel pot provides compatibility with lead-free solder.

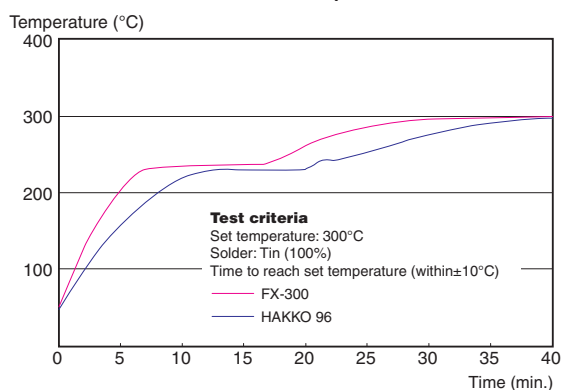
Quick Heat Up

Time comparison to reach set temperature

HAKKO FX-301B vs. HAKKO 96 (conventional model)



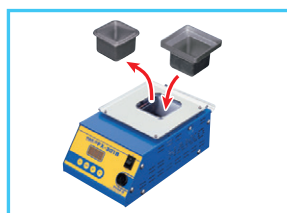
HAKKO FX-300 vs. HAKKO 96 (conventional model)



Easy Pot Replacement



Loosen the screw on both sides.



Change the pot and tighten the screws.

* For your safety, be sure to replace the pot after the solder completely cools.

Specially Coated Solder Pot (Durable type)

The special coating prevents the solder pot from corroding, which ensures that the solder pot has a long service life.



Standard solder pot



Specially coated solder pot

Packing List

FX-301B	Unit (with solder pot, 50 × 50 durable type), Spatula, J-shaped waste collector, Hexagon wrench, Instruction manual
FX-300	Unit (with solder pot, 50 × 50), Spatula, J-shaped waste collector, Hexagon wrench, Instruction manual

Specifications

Model No.	FX-301B
Power consumption	200 W (100 V), 260 W (110 V), 290 W (120 V), 240 W (220 V), 260 W (230 V), 280 W (240 V)
Dimensions	143 (W) × 100 (H) × 220 (D) mm
Weight*	1.7 kg

• Pot

Temperature range	50 × 50 square: 200 to 450°C 75 × 75 square: 200 to 380°C
Dimensions of solder pot	50 × 50 square durable type: 50 (W) × 43.5 (H) × 50 (D) mm 75 × 75 square durable type: 75 (W) × 52.5 (H) × 75 (D) mm
Molten solder capacity**	50 × 50 square: 0.85 kg 75 × 75 square: 1.2 kg

Model No.	FX-300
Power consumption	195 W (100 V), 220 W (110 V), 200 W (120 V), 190 W (220 V), 205 W (230 V), 215 W (240 V)
Dimensions	143 (W) × 100 (H) × 220 (D) mm
Weight*	1.7 kg

• Pot

Temperature range	50 × 50 square: 200 to 450 °C 75 × 75 square: 200 to 380 °C
Dimensions of solder pot	50 × 50 standard type: 50 (W) × 43.5 (H) × 50 (D) mm 75 × 75 standard type: 75 (W) × 52.5 (H) × 75 (D) mm
Molten solder capacity**	50 × 50 square: 0.85 kg 75 × 75 square: 1.2 kg

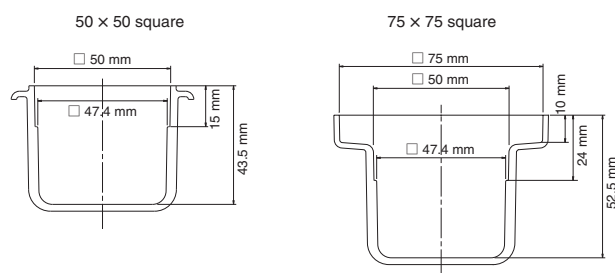
* Without solder and cord

** The 50 × 50 square solder pot is originally installed. The 75 × 75 square solder pot is an optional part.

Option / Replacements

Part No.	Name	Specifications
A1539	Solder pot	50 × 50 durable type
A1540	Solder pot	75 × 75 durable type
A1517	Solder pot	50 × 50
A1518	Solder pot	75 × 75
A1310	Temperature probe	For solder bath and pot

Dimensions of Solder Pot



Soldering Pot/Flow Soldering System

HAKKO 96 SOLDERING POT

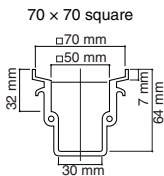
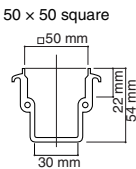
Soldering Pot



- Temperature can be adjusted just by turning a knob during operation.

Features

Dimensions of Solder Pot



Operation



Packing List

96, 96-1	Unit, Spatula, Instruction manual
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Specifications

Part No.	96	96-1
Power consumption	200 W	
Dimensions	135 (W) × 105 (H) × 224 (D) mm	135 (W) × 120 (H) × 224 (D) mm
Weight*	1.5 kg	1.6 kg
Temperature range	100 to 450°C	100 to 380°C
Dimensions of solder pot	50 (W) × 54 (H) × 50 (D) mm	70 (W) × 64 (H) × 70 (D) mm
Molten solder capacity	0.85 kg	1.2 kg

* Without cord

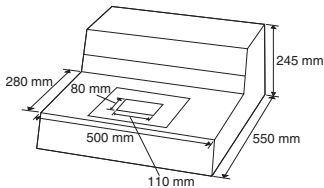
HAKKO 485 SOLDERING SYSTEM

Flow Soldering System



- Compatible with lead-free solder
- The impeller and chamber, which are the parts that corrode most easily, are plated with corrosion-resistant material.
- Both temperature and time are used to control the solder flow.

Dimensions



Packing List

485	Main unit, Air unit, Lamp (10 W [6 V]), Horizontal gauge, Spatula, IC tweezers, Waste collector, Positioning board, Foot switch, Locator light, Anti-oxidizer, 42-pin nozzle, 28-pin nozzle, 18/20-pin nozzle, 14/16-pin nozzle, 42-pin air hood, 28-pin air hood, 18/20-pin air hood, 14/16-pin air hood, Instruction manual
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* Solder is not included.

Specifications

Model No.	485
Power consumption	850 W
Temperature range	Room temperature to 300°C
Molten solder capacity	10 kg
Dimensions	500 (W) × 245 (H) × 550 (D) mm
Weight*	35 kg

• Air unit

Air pressure	196 to 686 kPa (2 to 7 kgf/cm ²)
Dimensions	150 (W) × 100 (H) × 300 (D) mm
Weight**	3.5 kg

* Without solder and cord

** Without cord