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Quality tools for the electronics industry



HAKKO Gio



HAKKO brand is much loved in more than 50 countries worldwide.

HAKKO has grown into a global brand. Our soldering irons and related equipment are hard at work in more than 50 countries. We have local branches and sales representatives around the world, and continue to expand our global network.



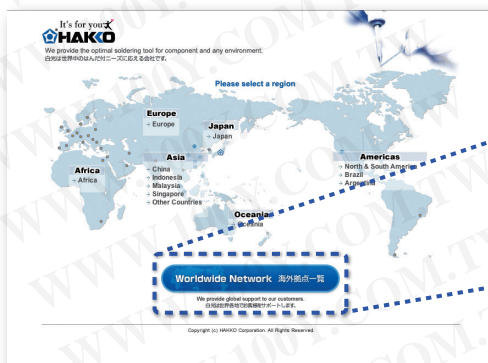
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Global Network



As of Sept. 2014

WORLDWIDE NETWORK

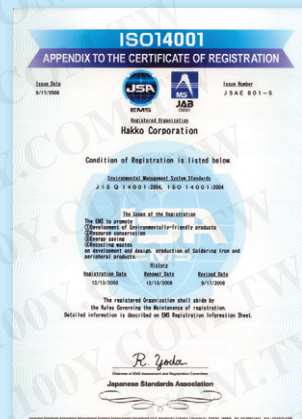
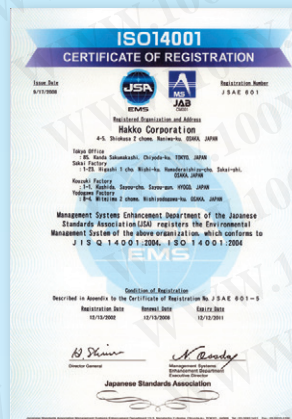
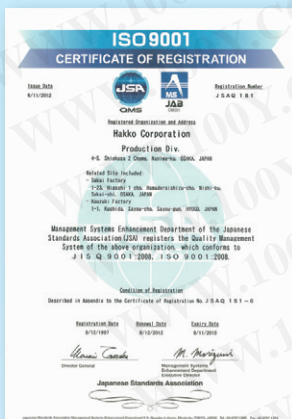


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Quality Tools for the



HAKKO is certified under ISO 9001 (JIS Q 9001), the international standard for quality management systems. We are also certified under ISO 14001 (JIS Q 14001) and are actively involved in preserving the global environment.

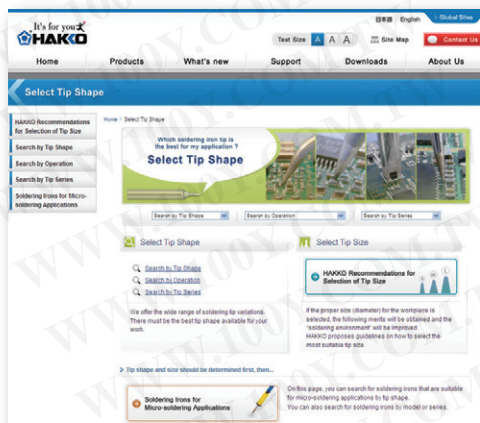
See the official HAKKO website for all necessary information regarding HAKKO products and services.

• HAKKO WEBSITE



• SELECT TIP SHAPE

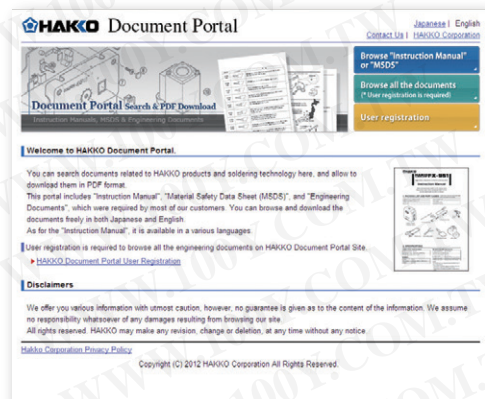
Search for the appropriate tip for your work by following the guidelines.



http://www.hakko.com/english/tip_selection/

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Electronics Industry

New
Products

HAKO FX-100 SOLDERING STATION **ESD SAFE**

IH Soldering Station

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HAKO FR-300 DESOLDERING TOOL

Portable Desoldering Tool

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HAKO FR-872 PREHEATER **ESD SAFE**

L-size IR Preheater

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

Micro Soldering Iron

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HAKO FU-500 FEEDER CONTROLLER **ESD SAFE**

Solder Feed Unit

HAKO FU-600 SOLDERING STATION **ESD SAFE**

Soldering Iron Unit

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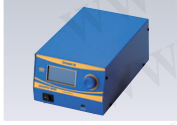


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Auto Soldering Unit

Auto Soldering Unit

FU-500
Solder feed unit



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FU-600
Soldering iron unit



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Soldering Iron

All-round Soldering Station & Accessories

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Soldering station (65W)



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FX-8801
Soldering iron



P.10

FX-8803
Soldering gun



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FX-8804
Hot tweezers



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High Performance Soldering Station

FX-100
IH



P.18

FX-951
70W



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FX-950
70W



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FX-838
150W



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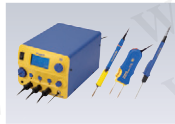
High Performance Rework Station & Accessories

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2-port type



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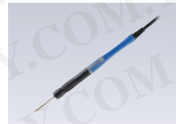
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FM-2032
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FM-2022
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Soldering Pot

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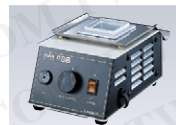
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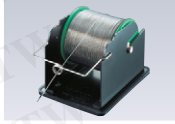
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Iron holder



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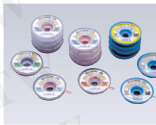
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Glue Gun

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Heating Gun

880B/881/882



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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.								
	●				●			

Auto Soldering Unit

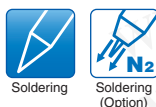
HAKKO FU-500 **ESD SAFE**
FEEDER CONTROLLER

HAKKO FU-600 **ESD SAFE**
SOLDERING STATION



Auto Soldering Unit

Tip not included



HAKKO FU-500 **ESD SAFE**

- 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**

- 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

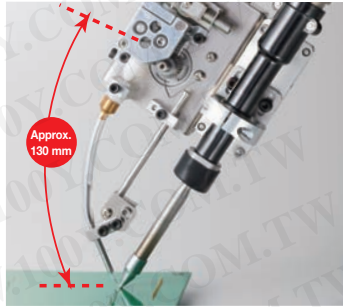
Replacement Parts (Optional)

*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	

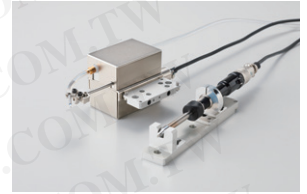
Accurate Solder Feeding

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

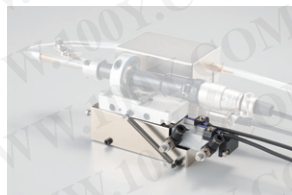
The position of the tip end can be easily adjusted using the tip adjustment jig unit included with the FU-600. Work can be started just by removing the iron from the main unit by removing two screws, positioning the tip using the tip adjustment jig unit, and returning the iron to the main unit. Using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

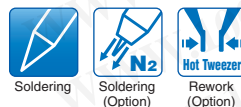
TX1-XD Shape-XD 	TX1-XD08 Shape-0.8XD 	TX1-XD16 Shape-1.6XD 	TX1-XD24 Shape-2.4XD 	TX1-XD3 Shape-3XD
TX1-XBCR2 Shape-2XBCR 	TX1-XBCR3 Shape-3XBCR 	TX1-XBCR4 Shape-4XBCR 	TX1-XDR Shape-XDR 	
TX1-XDR16 Shape-1.6XDR 	TX1-XDR24 Shape-2.4XDR 	TX1-XDR3 Shape-3XDR 	TX1-XRK Shape-XRK 	

All-Round Soldering Station

HAJKO FX-888D ESD SAFE SOLDERING STATION

All-Round Soldering Station Digital

Tip included



- 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
---------	---

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.)



↑ The display returns to Preset 1 when the UP button is pressed a sixth time. ↓

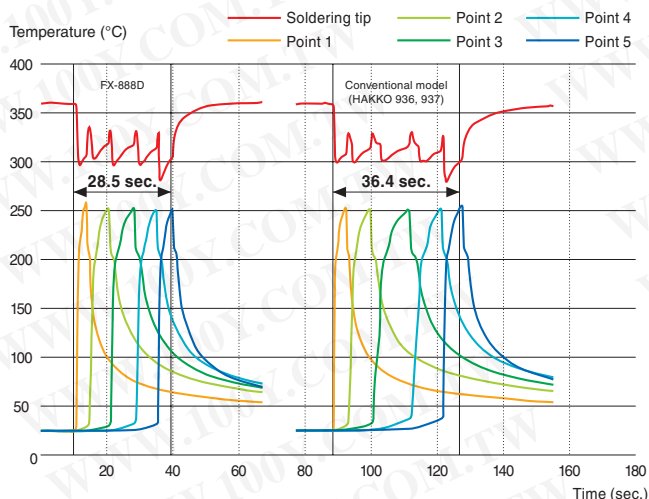
● Adjustment mode

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

HAKKO FX-8802 SOLDERING IRON ESD SAFE

N₂ Soldering Iron

Tip included



HAKKO FX-8803 SOLDERING GUN ESD SAFE

Soldering Gun

Tip included



HAKKO FX-8804 SMD HOT TWEEZER ESD SAFE

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

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

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

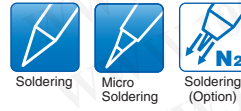
Part No.	Name	Size of A	Tip Shape
A1390	Tip/SOP 4L	4 mm	
A1391	Tip/SOP 6L	6 mm	
A1380	Tip/SOP 8L	8 mm	
A1381	Tip/SOP 10L	10 mm	
A1382	Tip/SOP 13L	13 mm	
A1392	Tip/SOP 15L	15 mm	
A1383	Tip/SOP 18L	18 mm	
A1384	Tip/SOP 20L	20 mm	
A1385	Tip/SOP 25L	25 mm	

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



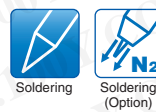
Micro soldering Iron is available positionally.

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

HAJKO FX-950 SOLDERING STATION ESD SAFE

High Performance Soldering Station **Analog**

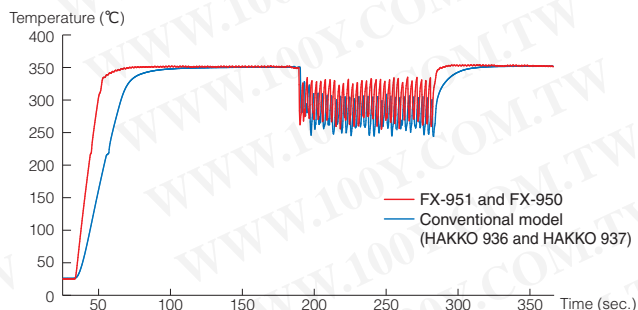
Tip not included



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

Features

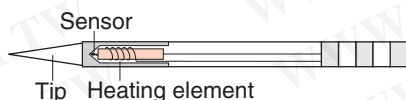
Thermal recovery graph (Comparison of HAKKO products)



Test criteria

Measurement method	A thermocouple is mounted on the tip and the tip temperature is measured when soldering $\phi 1.6 \text{ mm} \times 5 \text{ mm}$ 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.

High Performance Soldering Station

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
---------------------	---------------------

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
	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

IH Soldering Station

HAKKO **FX-100** **ESD SAFE**
SOLDERING STATION



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
---------------	---

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

Indicates tip shape and size as usual.

"01" for 450°C
 "02" for 400°C

Optional Tips for the FX-100

Unit: mm

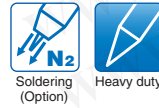
<p>T31-01BC1 Shape-1BC T31-02BC1</p>	<p>T31-01BC28 Shape-2.8BC T31-02BC28</p>	<p>T31-01BL Shape-BL T31-02BL</p>
<p>T31-01D08 Shape-0.8D T31-02D08</p>	<p>T31-01D16 Shape-1.6D T31-02D16</p>	<p>T31-01D24 Shape-2.4D T31-02D24</p>
<p>T31-01D52 Shape-5.2D T31-02D52</p>	<p>T31-01I Shape-I T31-02I</p>	<p>T31-01IL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

Heavy Duty Soldering Iron

HAKO FX-838 SOLDERING STATION ESD SAFE

Heavy Duty Soldering Iron Digital

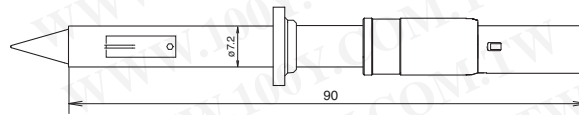
Tip not included



- 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

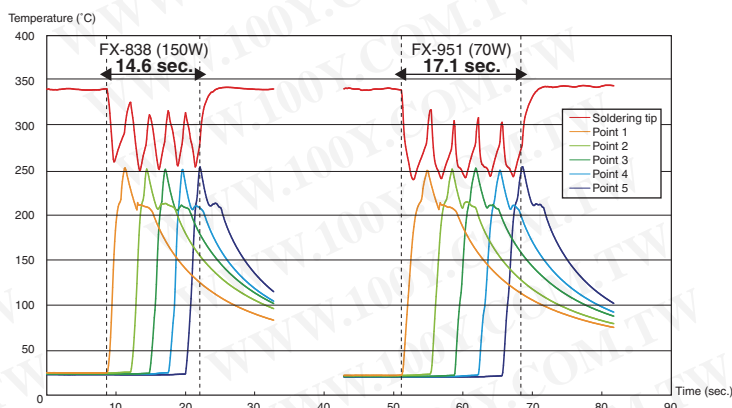


T20-B2 Shape-0.5B 	T20-BC2 Shape-2BC T20-BCF2* 	T20-BC3 Shape-3BC T20-BCF3* 	T20-BC4 Shape-4BC T20-BCF4* 	T20-BCM2 Shape-2BC Bevel with indent
T20-BCM3 Shape-3BC Bevel with indent 	T20-BL Shape-BL 	T20-BL2 Shape-2BL 	T20-BL3 Shape-3BL 	T20-C5 Shape-5C
T20-C6 Shape-6C 	T20-D16 Shape-1.6D 	T20-D24 Shape-2.4D 	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

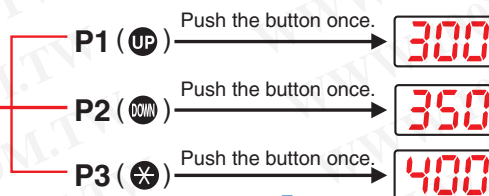
Measurement method	Thermocouples are mounted on the tip and the soldered portion on the board, and the time until the soldered portion reaches 250°C is measured for 5 points.
Board	Bakelite board
Component used	Terminal
Tip shape	Shape-1.6D
Temperature setting	340°C
Solder	Lead-free solder (Sn/Ag/Cu),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

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

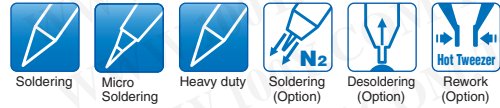
High Performance Rework Station & Accessories

HAJKO 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.

HAJKO 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



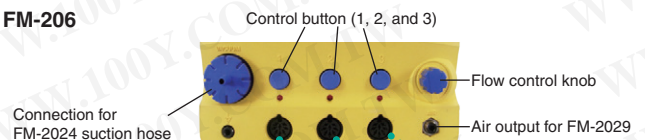
Handpiece	Channel D connector	Channel S connector
FM-2027	○	○
FM-2022 ^{*1}	○	×
FM-2023 ^{*1}	○	×
FM-2024 ^{*2}	○	○
FM-2026 ^{*3}	○	○
FM-2032	○	○

*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-2032 SOLDERING IRON ESD SAFE **New**

Micro Soldering Iron

Tip not included



HAJKO FM-2026 SOLDERING IRON ESD SAFE

70 W N₂ Soldering Iron

Tip not included



HAJKO MODEL FM-2022 PARALLEL REMOVER ESD SAFE

SMD Hot Tweezers

Tip not included



HAJKO FM-2029 HOT AIR HANDPIECE ESD SAFE

Hot-Air Pencil

Nozzle not included



HAJKO MODEL FM-2023 MINI PARALLEL REMOVER ESD SAFE

Mini SMD Hot Tweezers

Tip included



HAJKO FM-2030 SOLDERING IRON ESD SAFE

Heavy Duty Soldering Iron

Tip not included



HAJKO MODEL FM-2024 DESOLDERING TOOL ESD SAFE

Desoldering Tool

Nozzle not included



HAJKO FM-2031 SOLDERING IRON ESD SAFE

140 W N₂ Soldering Iron

Tip 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.

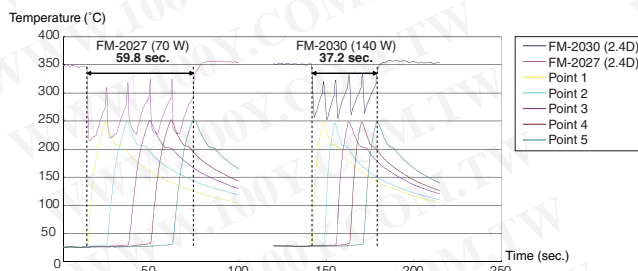


FM-2032 Size



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

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

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

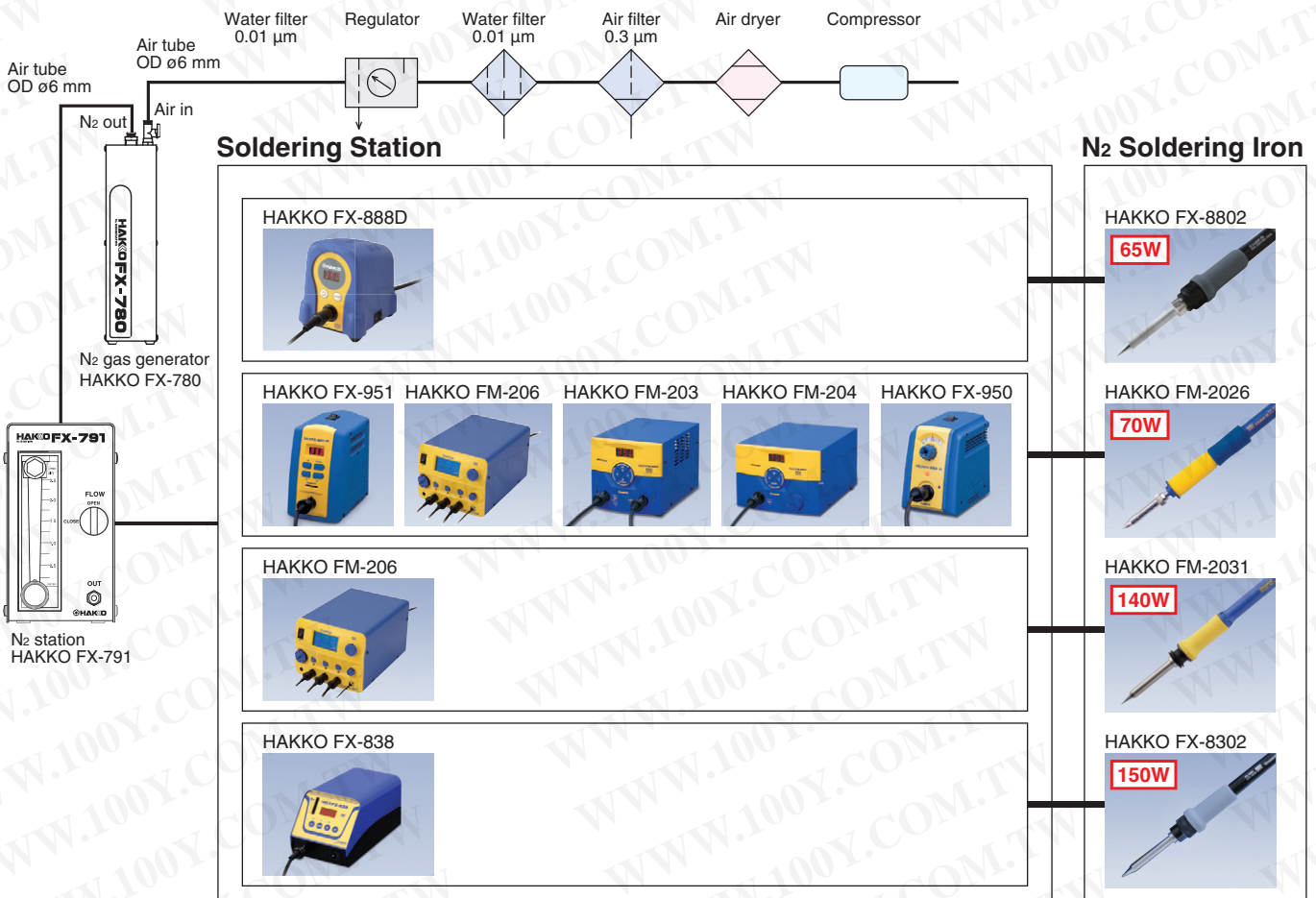
N. STATION

N₂ Flowmeter



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

Connection Method



* Select one.

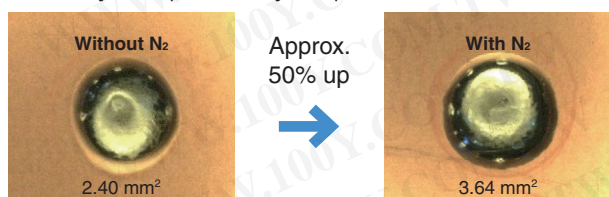
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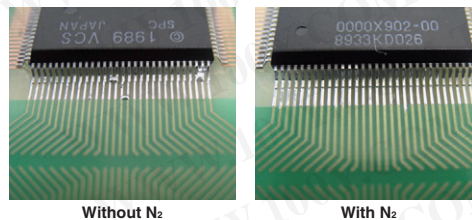
Set-up example
 HAKKO FX-780
 HAKKO FX-791
 HAKKO FX-951
 HAKKO FM-2026

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

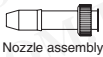
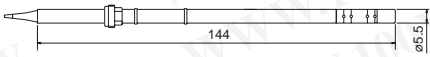
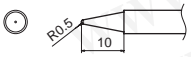
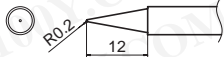
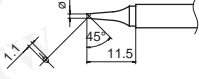
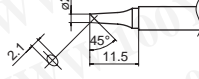
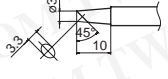
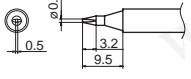
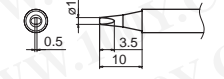
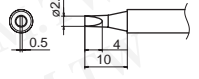
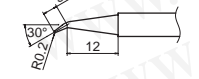
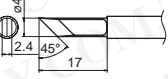
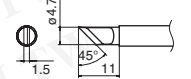
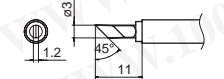
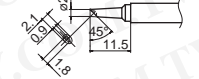
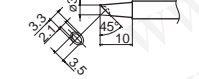
Model No.	Contents
FX-780	Unit, Rack for unit (2 pcs), Instruction manual
FX-791	Unit, Instruction manual

N₂ Soldering System

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.

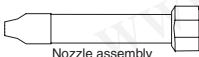
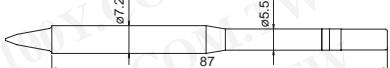


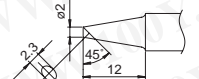


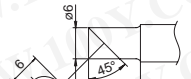
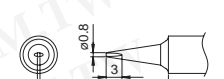

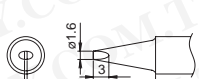
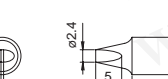

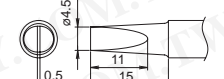
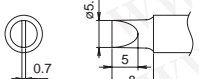
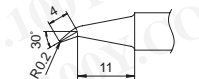
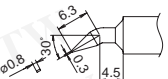
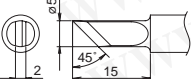
Unit: mm

 				
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.

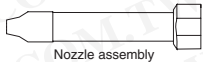
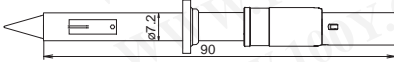
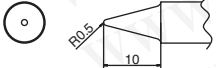
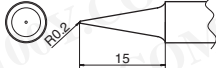
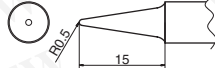


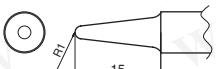
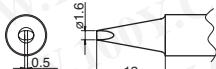
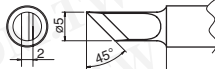
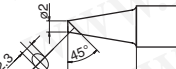

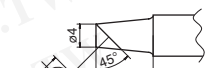






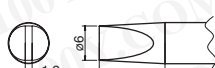
Unit: mm

 				
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.

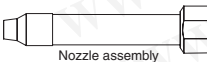

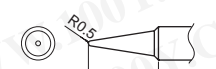





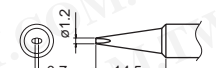


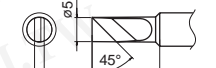

Unit: mm

 Nozzle assembly				
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 		
B3124 Nozzle assembly D	B3124 Nozzle assembly D	B3561 Nozzle assembly E	* These tips are tinned on the soldering surface only.	

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

 Nozzle assembly				
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 				
B3664 Nozzle assembly C	* These tips are tinned on the soldering surface only.			

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

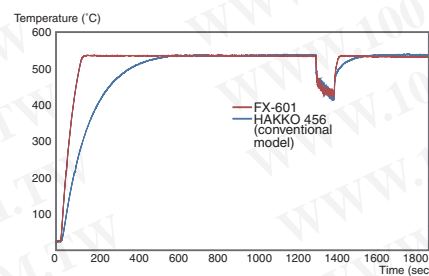
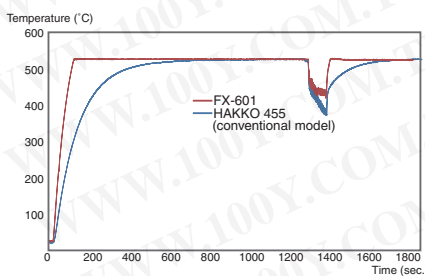
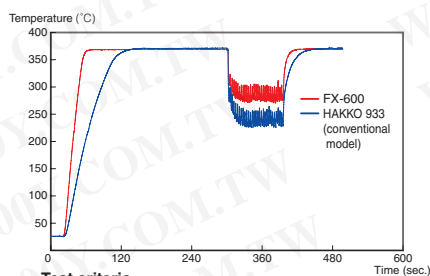
Tip included



- 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

HAJKO DASH

SOLDERING IRON

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 	<p>* These tips are tinned on the soldering surface only.</p>

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 	<p>* These tips are tinned on the soldering surface only.</p>

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

Battery-Powered Soldering Iron

HAJKO 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

Turn the nipple
90° clockwise.



Easy battery replacement



Packing List

FX-901	Unit, Cap
--------	-----------

* 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.

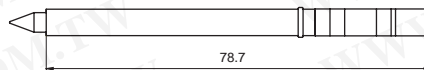
* When using batteries other than those specified above, the performance and the operating time will vary.

** Without cap

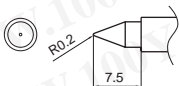
*** Without battery

Replacement Tips for the FX-901

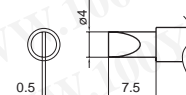
Unit: mm



T11-B Shape-B



T11-D4 Shape-4D



Nichrome Heater Soldering Iron & Solder Feed Soldering Gun

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 x 65 mm (No.BB3)	ø4 x 70 mm (No.BB4)	ø6 x 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-T4)	ø6 mm (No.585-T6)	ø8 mm (No.587-T8)	ø10 mm (No.592-T10)		
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
-------------------------------------	--

* 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.

HAKKO 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.

HAKKO FX-300

SOLDERING POT

High Performance Soldering Pot

Analog

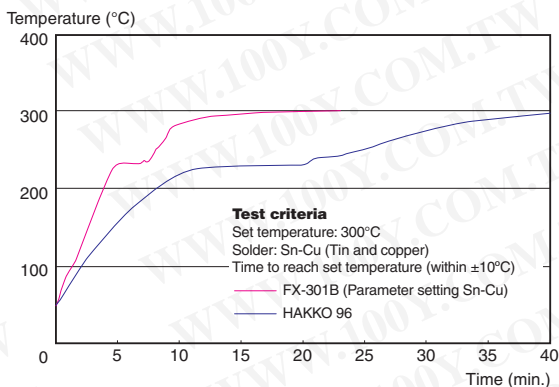


- Temperature can be adjusted just by turning a knob during operation.
- Adding an optional specially coated stainless-steel pot provides compatibility with lead-free solder.

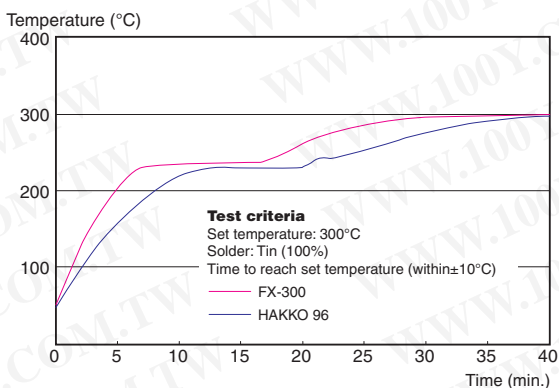
Quick Heat Up

Time comparison to reach set temperature

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



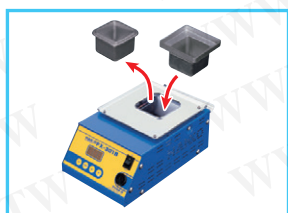
HAKKO FX-300 vs. HAKKO 96 (conventional model)



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

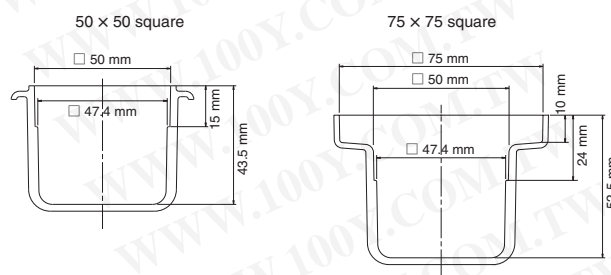
* Without solder and cord

** 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

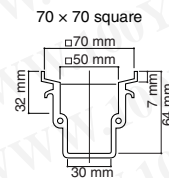
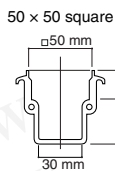
Soldering Pot



- 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
----------	-----------------------------------

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

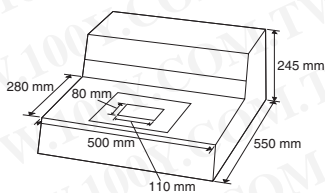
HAKKO 485 SOLDERING SYSTEM

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



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

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

* Solder is not included.

Thermal Wire Stripper

HAKKO FT-801 ESD SAFE

Thermal Wire Stripper

Blade not included



- Thermal wire stripper that ensures clean-cut removal of wire insulation
- High stripping performance ensures clean cut through highly heat-resistant PTFE.

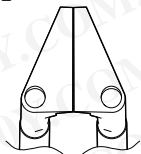
Features

Solves the problem of whiskers and scratches being left by conventional tools

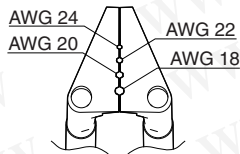


Replacement Blades

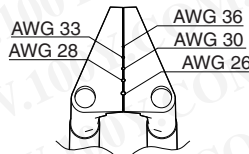
For FT-8002



G2-1601 Wire stripper blade
Straight

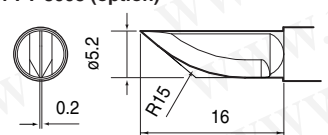


G2-1602 Wire stripper blade
AWG 18 to 24



G2-1603 Wire stripper blade
AWG 26 to 36

For FT-8003 (option)



G3-1601 Knife type blade

Packing List

FT-801	Station, Handpiece (FT-8002), Power cord, Handpiece holder, Connecting cable, Lead adjuster, Blade removal tool, Instruction manual
--------	---

Option

Part No.	Name	Specifications
FT8003-01	HAKKO FT-8003 conversion kit	Handpiece (FT-8003), Knife blade, Handpiece holder, Instruction manual



Blade included



Specifications

Model No.	FT-801
Power consumption	68 W / 50 W*
• Station	
Output voltage	AC 24 V
Dimensions	80 (W) × 130 (H) × 131 (D) mm
Weight**	1.2 kg
• Handpiece	
Power consumption	64 W (24 V)
Cord length	1.3 m
Total length***	96 mm
Weight***	48 g

* When connecting with FT-8003

** Without cord

*** Without cord and blade

HAKKO 153·154 LEAD FORMER

Lead Cutter and Former



- Lead cutter and former for axial components
- Can be used for forming and cutting, forming only, or cutting only

Cutting and Forming

HAKKO 153	HAKKO 154
<p>Cutting and forming</p>	<p>Cutting and forming</p>
<p>Forming</p>	<p>Forming</p>
<p>Cutting</p>	<p>Cutting</p>

Packing List

153, 154

Unit, Parts tray, Clamp, Handle, 2.0 mm Hexagon wrench, 2.5 mm Hexagon wrench, 3.0 mm Hexagon wrench, 4.0 mm Hexagon wrench, Instruction manual

Specifications

Part No.	153-1	154-1
Forming size	5.6 mm pitch	5 mm pitch
Max. diameter of lead wire	ø0.8 mm (max.)	ø0.5 mm (max.)
Lead wire*	For annealed copper lead wire only	
Outer width of tape	85 mm (max.)	
Taping pitch	5 mm	
Dimensions	125 (W) × 130 (H) × 110 (D) mm	
Weight**	2 kg	

* These tools are not suited to work on components with lead frames (multiangular lead).
** Including handle and clamp

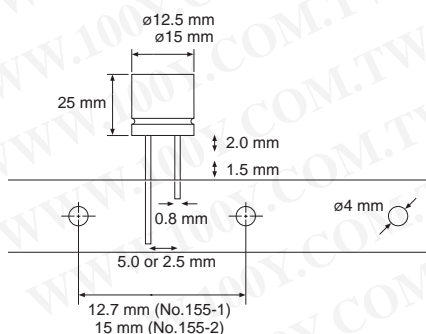
HAKKO 155 LEAD CUTTER

Lead Cutter



- Lead cutter for radial components

Cutting



* Cutting only

Packing List

155

Unit, Parts tray, Clamp, Handle, 2.0 mm Hexagon wrench, 2.5 mm Hexagon wrench, 3.0 mm Hexagon wrench, 4.0 mm Hexagon wrench, Instruction manual

Specifications

Part No.	155-1	155-2
Max. diameter of lead wire	ø0.8 mm (max.)	
Lead wire*	For annealed copper lead wire only	
Max. processing part size	ø12.5 × 25 mm (max.)	
Feed hole pitch	12.7 mm	15 mm
Lead pitch**	5.0 mm, 2.5 mm	5.0 mm
Min. processing size	1.5 mm from taping end, 2.0 mm from component end	
Dimensions	110 (W) × 140 (H) × 125 (D) mm	
Weight***	1.7 kg	

* These tools are not suited to work on components with lead frames (multiangular lead).

** When shipped, the unit is set for components with a lead pitch of 5.0 mm.

*** Including handle and clamp

Lead Cutter, Former

HAKKO 152B

MOTOR DRIVE

Motor Drive



Lead cutter or former is not included in the HAKKO 152B.



- Motor drive that enables automatic cutting and forming of taped components
- Constant-torque drive ensures precise and speedy processing.
- Speed control knob enables the adjustment of the processing speed.

Packing List

152B	Unit, Instruction manual
------	--------------------------

Specifications

Model No.	152B
Power consumption	30 W
Max. processing capacity (with HAKKO 153, 154)	36,000 pcs/hr
Max. processing capacity (with HAKKO 155)	18,000 pcs/hr
Dimensions	430 (W) × 150 (H) × 140 (D) mm
Weight*	5.6 kg

* Without cord

HAKKO DIPLINER

LEAD STRAIGHTENER

Lead Straightener



- IC lead liner for correcting variable lead pitches
- Simple mechanism enables the adjustments with just one screw.
- Simply insert the IC case into the chute.

Packing List

FT100, FT150, FT200, FT300	Unit, Instruction manual
----------------------------	--------------------------

Specifications

Part No.	FT100	FT150	FT200	FT300
Width of IC	7.5 mm	10 mm	15 mm	19 mm
Number of IC leads	8, 14, 16, 18, 20	22	24, 28, 40, 42	64

Tip Cleaner and Polisher

HAKKO FT-710 TIP CLEANER ESD SAFE

Solder-Splash-Preventing Rotary Tip Cleaner







- The solder removal level can be adjusted using two different types of brushes.
- Brushes can be replaced without using any tools, and safe design prevents solder waste from entering the drive part.

Features

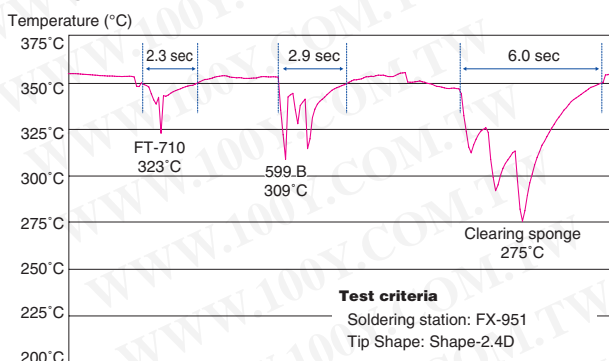
Solder-Splash prevention



Controllable solder removal level

Brush	Cleaning brush A (standard accessory)	Cleaning brush B (optional)
Material	Resin 	Metal 
Image after cleaning	Some solder remains. 	Solder is completely removed. 
Benefit	Prevents tip oxidation and extends the service life of the tip	Suitable for soldering small sections that require control over the amount of solder.

Minimizes decrease in temperature of the tip during cleaning



Packing List

FT-710	Unit, AC adapter, Receptacle A, Receptacle B, Lock nut, Gauge, Instruction manual
--------	---

Specifications

Model No.	FT-710
Power consumption	5 W
Standard receptacle	Receptacle A and B
Dimensions	71 (W) × 77 (H) × 107 (D) mm
Weight	450 g
• AC adapter	
Motor rating	DC 24V 130 mA
Dimensions	45 (W) × 40 (H) × 65 (D) mm
Weight	250 g

• Compatibility table

Tip	Receptacle A	Receptacle B	Receptacle C
T12, T11	✓		
T18, 900M, T14		✓	
T20, T13, T22			✓

- * This cleaner cannot be used with the T12-JL02, quad type, tunnel type, and spatula type soldering tips of the T12 series.
- * There are some tips with dimensions that cannot be adjusted with the standard receptacles. In this situation, consult your nearest HAKKO dealer or distributor.

Option

Part No.	Name	Specifications
A1567	Cleaning brush B	Metal brushes, set of 2
B3519	Receptacle C	—

Tip Cleaner and Polisher

HAKO FT-700

TIP POLISHER

Tip Polisher



- Soldering tip polisher best suited to the removal of oxidation on soldering tips
- Prevents the shortening of the service life of tips caused by oxidation.

Usage

Before



Oxidized tip

After

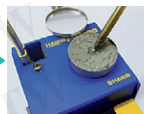


Polished and retinned tip

Cleaning procedure



1. Remove the oxidation.



2. Quickly retin the tip.



3. Remove the chemical paste attached to the tip end.



4. Feed the solder wire to the tip.

* Approximately 300°C is the most suitable temperature for cleaning the tips.



Use the brush to remove tough oxide.

Packing List

FT-700

Unit, Paste, Brush, Instruction manual

Specifications

Model No.	FT-700
Power consumption	3 W (100 V), 4.5 W (110 to 120 V, 220 to 240 V)
Dimensions	70 (W) × 54 (H) × 101 (D) mm
Weight*	0.65 kg

* Without cord

• Chemical paste

Amount	10 g
Ingredients	Flux, tin (Sn) 50 wt% (each)

* The flux component of chemical paste consists of alicyclic amine hydrobromate, aliphatic amine hydrobromate, petrolatum, and wax.

HAKO FS-100

CHEMICAL PASTE

Chemical Paste



- Chemical paste best suited to the removal of oxidation on soldering iron tips
- Also used for retinning of soldering tips

Packing List

FS-100

Paste, Instruction manual

Specifications

• Chemical paste

Amount	10 g
Ingredients	Flux, tin (Sn) 50 wt% (each)

* The flux component of chemical paste consists of alicyclic amine hydrobromate, aliphatic amine hydrobromate, petrolatum, and wax.

HAKKO 373 ESD SAFE SELF FEEDER

Self Feeder



- Automatic solder feeder that enables a user to complete soldering work with just one hand
- The solder feed time and speed can be set.

Set-Up Example

•Soldering for one-handed operation

Soldering irons + HAKKO 373 + Solder diameter adjustment ring + Tube unit with switch or Guide pipe assembly or

* See the applicable soldering irons in the P.49.

Set-up example

•Soldering with a feeder pen

Soldering irons + HAKKO 373 + Solder diameter adjustment ring + Feeder pen + Switch or Foot switch or Feeder switch

* Compatible with all soldering irons

Set-up example

Specifications

Model No.	373
Power consumption	6 W
Solder feed time	0 to 7 seconds (auto mode)
Solder feed speed	4.5 to 26 mm/sec.
Solder feed quantity	0 to 182 mm
Solder return quantity	0 to 5 mm (fixed speed)
Mode	Auto and manual
Usable solder diameter*	0.6, 0.65, 0.8, 1.0, 1.2, 1.6 mm
Usable solder quantity	1 kg or less
Dimensions	107 (W) × 110 (H) × 215 (D) mm
Weight**	1.5 kg

* ϕ 1.6 mm lead free solder can't be used.
 ** Without cord



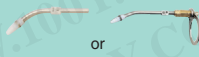

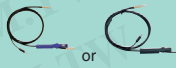


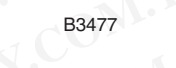


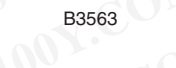


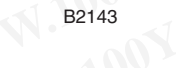


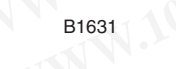


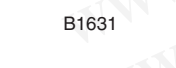

Packing List

373	Unit, Instruction manual
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The accessories that are required for initial set-up, such as a tube unit, guide pipe assembly, and solder diameter adjustment ring, are not included. They must be ordered separately and adapted to use with the soldering iron and solder wire diameter.

Accessory Selection Guide

One-handed operation

Applicable soldering iron	Solder feed unit	Solder diameter	Options		
			Solder diameter adjustment ring	Guide pipe assembly	Tube unit
FM-2027 FM-2028 	373	0.6, 0.65 mm		 or 	 or 
		0.8 mm	B1627	B3482	
		1.0 mm	B1628	B3483	
		1.2 mm	B1629	B3484	
FM-2030 	373	0.6, 0.65 mm	B1626	B3726	 or 
		0.8 mm	B1627	B3727	
		1.0 mm	B1628	B3728	
		1.2 mm	B1629	B3729	
FX-8301 	373	0.6, 0.65 mm	B1626	B3566	 or 
		0.8 mm	B1627	B3567	
		1.0 mm	B1628	B3568	
		1.2 mm	B1629	B3569	
FX-8801 907 	373	0.6, 0.65 mm	B1626	B2146	 or 
		0.8 mm	B1627	B2147	
		1.0 mm	B1628	B2148	
		1.2 mm	B1629	B2149	
Dash (N452) (N453) 	373	0.6, 0.65 mm	B1626	B1674	 or 
		0.8 mm	B1627	B1675	
		1.0 mm	B1628	B1676	
		1.2 mm	B1629	B1677	
Dash (N454) 	373	0.6, 0.65 mm	B1626	B1679	 or 
		0.8 mm	B1627	B1680	
		1.0 mm	B1628	B1681	
		1.2 mm	B1629	B1682	
		1.6 mm	B1630	B1683	

Feeder pen

Applicable soldering iron	Solder feed unit	Solder diameter	Options		
			Solder diameter adjustment ring	Feeder pen	Switch
Compatible with all soldering irons	373	0.6, 0.65 mm		 or 	 or 
		0.8 mm	B1627		
		1.0 mm	B1628		
		1.2 mm	B1629		
		1.6 mm	B1630		

HAKKO 375 SELF FEEDER

V-Groove Maker



- Cutting a V-groove put on the solder surface reduces the splash of solder and flux.
- The solder feed amount can be controlled by turning the switch on and off.
- Compact, space-saving automatic solder feeder

Features

Minimize solder and flux splash

Cutting a V-groove on the solder surface enables the release of gas pressure generated by the flux, thereby suppressing splash. The HAKKO 375 can cut a groove in only the solder needed, then helps to reduce the level of defectiveness.

Advantages of V-grooved solder

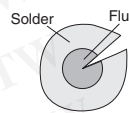
-Examination of solder and flux splash

Test criteria

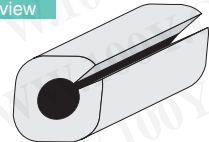
Measurement method	Measure the amount of solder and flux splashing after solder is fed to the soldering iron
Temperature setting for soldering iron	350°C and 400°C
Solder	Lead-free (Sn-3Ag-0.5Cu) Halogen-free flux ø0.3 mm and ø1.0 mm
Solder feed length	50 mm

* The effect of solder and flux splashing prevention may differ under different operation conditions.

Solder cross-section view

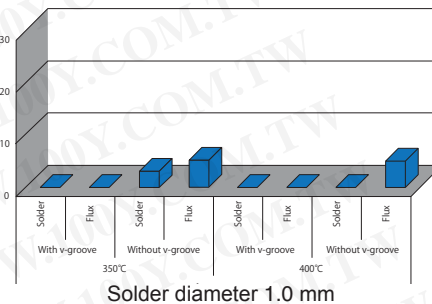
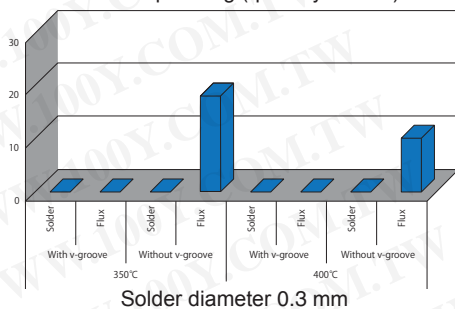


3D view



V-grooved solder

■ Amount of flux splashing (quantity of dots)



Packing List

375	Unit, AC Adapter, Instruction manual
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Option

Part No.	Name
B1649	Foot switch
B2763	Hand switch

Specifications

Model No.	375
Rating	DC 24V 75 mA
Solder feed speed	27 mm/sec.
Usable solder diameter	0.3, 0.5, 0.6, 0.8, 1.0 mm
Dimensions	78 (W) × 98 (H) × 56 (D) mm
Weight	0.59 kg
•AC Adapter	
Motor rating	DC 24V 130 mA
Dimensions	45 (W) × 40 (H) × 65 (D) mm
Weight	0.25 kg

HAJKO CUTTING TOOL

Cutting Tool

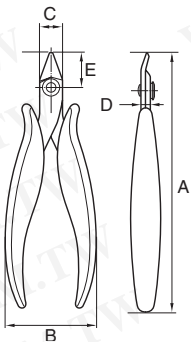


- Designed for precision assembly of delicate, complex electronic work
- Soft-touch grip enables long tool usage for long periods at a time.
- Recommend for use in cutting copper and soft lead wires

Specifications

Part No.	Name	Max. copper wire cutting capability	A	B	C	D	E
106-01	Cutting tool for flush cut with safety clip	1.3 mm	132	54	13.5	5	20
106-02	Cutting tool for flush cut with angled blade	1.3 mm	129	54	13.5	5	16
106-03	Cutting tool for flush cut with small blade	0.8 mm	130	54	9.5	4	18
106-04	Cutting tool for a front, flush cut	1.0 mm	138	54	14	6	27
106-05	Cutting tool for flush cut	1.3 mm	132	54	13.5	5	20
106-06	Short nose pliers	—	140	54	13	6	29
106-07	Long nose pliers	—	154	54	13	6	40
106-08	Bent nose pliers	—	146	54	13	4	35

(Unit: mm)



HAJKO IRON HOLDER

Iron Holder



No.633-01



No.633-02



No.606



No.609



No.607



No.602



No.603



Wire-type tip cleaner



No.599B

HAKKO 599B

Prevents soldering tip oxidation



Applicable Soldering Irons

Part No.	633-01	633-02	606	609	607	602	603
Soldering irons	DASH PRESTO FX-600 FX-601	DASH PRESTO FX-600 FX-601	DASH PRESTO FX-600 FX-601	DASH PRESTO FX-600 FX-601	DASH PRESTO MG	RED	RED

HAJKO 611 ESD SAFE SOLDER REEL STAND

Reel Stand



- Solder reel stand for coiled solder with a maximum load of 1 kg
- Smooth action when reeling out solder wire improves work efficiency
- A mounting screw for the grounding wire is attached on the baseplate.

Specifications

Part No.	611-1	611-2
Shaft diameter	ø15 mm	
Usable solder	Roll solder 1 kg (max.) × 1	Roll solder 1 kg (max.) × 2
Dimensions	86 (W) × 78 (H) × 141 (D) mm	87 (W) × 200 (H) × 141 (D) mm
Weight	450 g	750 g



No.611-2

Vacuum Pick-Up Tool

HAKKO392 ESD SAFE VACUUM PICK-UP

Outlet-Powered Type



- Outlet-powered suction pick-up tool with built-in vacuum pump
- The pick-up capacity can be increased up to 230 gf with an optional pad.

HAKKO393 VACUUM PICK-UP

Dropper Type



- Portable, easy-to-carry manual dropper-type vacuum pick-up
- Maximum pick-up capacity of 40 gf
- Uses antistatic material

HAKKO394 VACUUM PICK-UP

Battery-Powered Type



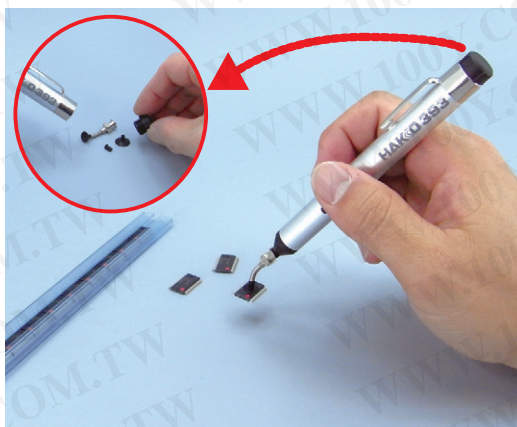
- Battery-powered suction pick-up tool with built-in vacuum pump
- Maximum pick-up capacity of 120 gf
- Uses antistatic material

Usage Example

HAKKO 392



HAKKO 393



HAKKO 394



With the bent nozzle accessory, 0603-size components can be picked up.



Replacement Pads and Nozzles

Part No.	Name	Specifications
A1164	Bent nozzle	0.4 mm
A1165	Bent nozzle	1.1 mm with stopper
A1198	Bent nozzle	0.26 mm
A1486	Straight nozzle	1.1 mm with stopper
A1166	Pad	3 mm
A1312	Pad	5 mm
A1167	Pad	7 mm
A1311	Pad	10 mm

Packing List

392	Unit, 0.4 mm diameter Bent nozzle, 1.1 mm diameter Bent nozzle, 3 mm diameter Pad, 7 mm diameter Pad, Instruction manual
393	Unit, 1.1 mm diameter Bent nozzle with stopper, 3 mm diameter Pad, 7 mm diameter Pad, 10 mm diameter Pad, Instruction manual
394	Unit, 1.1 mm diameter Bent nozzle with stopper, 5 mm diameter Pad, 10 mm diameter Pad, two AAA Alkaline batteries (for trial), Instruction manual

Specifications

Model No.	392
Power consumption	5 W
Maximum pressure	37.3 kPa (280 mmHg)
Pad	Conductive silicone rubber
Dimensions	Station: 132 (W) × 83 (H) × 170 (D) mm Pen: ø10 × 123 (L) mm Hose: 1.1 m
Weight*	Station: 1.65 kg Pen: 25 g

* Without cord, nozzle and pad

Model No.	393
Pad	Conductive silicone rubber
Dimensions	ø13 mm × 132 mm
Weight*	19.2 g

* Without nozzle and pad

Model No.	394
Power supply	Two AAA batteries
Pad	Conductive silicone rubber
Battery life	Approx. 30,000 suction (with alkaline batteries)
Suction capacity	120 gf (with a pad diameter of 10 mm)
Dimensions	130 (W) × 29 (H) × 22 (D) mm
Weight*	43 g

* Without batteries, nozzle and pad

HAKKO FM-204 ESD SAFE DESOLDERING TOOL

High-Power Desoldering Tool **Digital**

Nozzle not included



- Vacuum pump built-in type desoldering tool
- Digital display ensures easy and reliable temperature control.
- Sleep function that works with iron holder prevents nozzle oxidation.

Packing List

FM-204	Station, Iron holder, Ceramic paper filter (10 pcs), Cleaning drill for heating element, Filter pipe assembly (1 pc), Control card, Power cord, Connecting cable, Nozzle remover, Desoldering tool (FM-2024), Handle for gun configuration, Instruction manual
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Option

Part No.	Name	Specifications
FM2027-04	HAKKO FM-2027 conversion kit	70 W (24 V)
FM2026-05	HAKKO FM-2026 conversion kit	70 W (24 V)

Specifications

Model No.	FM-204
Power consumption	120 W
Temperature range	FM-2024: 350 to 450°C FM-2026/2027: 200 to 450°C
Temperature stability	±5°C at idle temperature

• Station

Output voltage	AC 24 V
Vacuum generator	Double cylinder type
Vacuum pressure	Max. 80 kPa (600 mmHg)
Suction flow*	15 L/min.
Dimensions	160 (W) × 120 (H) × 225 (D) mm
Weight	3.7 kg

• 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)

* Measured at the filter case suction port of the station.

** Without cord and hose

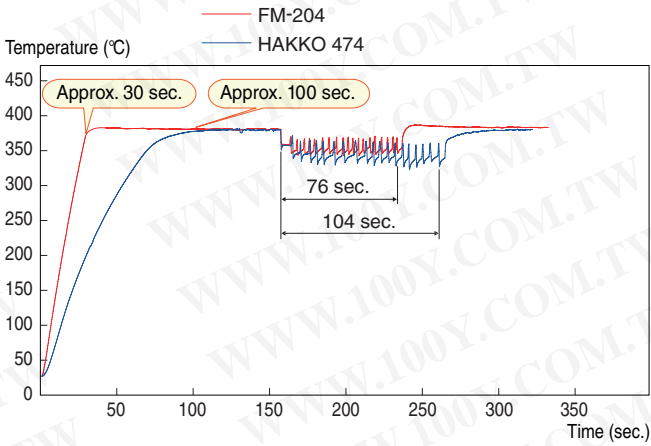
Optional Nozzles

Unit : mm

N1-06 Nozzle ø0.6 	N1-08 Nozzle ø0.8 	N1-10 Nozzle ø1.0 	N1-13 Nozzle ø1.3
N1-16 Nozzle ø1.6 	N1-20 Nozzle ø2.0 	N1-23 Nozzle ø2.3 	N1-L10 Nozzle ø1.0

Features

Excellent thermal recovery



Test criteria

Measurement method	The time until the soldered portion reaches 200°C is measured for 20 points.
Nozzle used	ø1.0 mm
Solder	Lead-free solder

Two way use of grip part

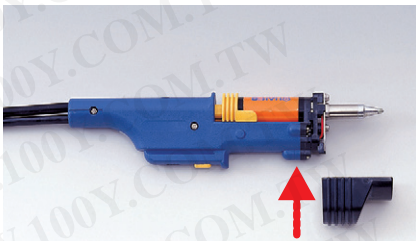


Gun configuration



Straight configuration

Simple and safe nozzle replacement by the nozzle remover



Sleep function and Auto Power Shut-off function



Connect the FM-204 station and FH-200 iron holder using a connecting cable.

Replacing the handpiece enables soldering.

■ Soldering



HAKKO FM-2027

■ N₂ System



Set-up example
 HAKKO FM-204
 HAKKO FM-2026
 HAKKO FX-780
 HAKKO FX-791

HAKKO 474 DESOLDERING TOOL ESD SAFE

Vacuum-Pump Type Desoldering Tool Analog

Nozzle included



- Vacuum pump built-in type that is easy to carry

HAKKO 475 DESOLDERING TOOL ESD SAFE

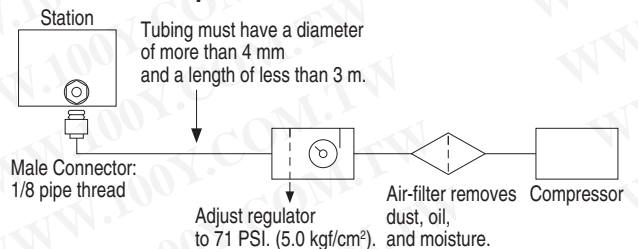
External-Air-Compressor Type Desoldering Tool Analog

Nozzle included



- External air compressor type that has a more powerful vacuum than HAKKO 474

Connection example



Handpiece Variations



HAKKO 809



HAKKO 815



HAKKO 816



Packing List

474, 475 (with 809)	Station, 809 Desoldering gun, Filter pipe, Ceramic paper filter (S; 2 pcs), Ceramic paper filter (L; 4 pcs), Spring filter (3 pcs), Cleaning pin for 1.0 mm diameter nozzle, Cleaning drill for 1.0 mm diameter nozzle, Cleaning pin for heating element, Cleaning pin holder, Wrench, Silicone grease, Iron holder base, Cleaning sponge, Spring iron holder, Instruction manual
474, 475 (with 815)	Station, 815 Desoldering tool, Filter pipe, Ceramic paper filter (S; 2 pcs), Ceramic paper filter (L; 4 pcs), Spring filter (3 pcs), Cleaning pin for 1.0 mm diameter nozzle, Cleaning drill for 1.0 mm diameter nozzle, Cleaning pin for heating element, Cleaning pin holder, Wrench, Silicone grease, Anti-seizure, Iron holder base, Cleaning sponge, Iron receptacle with holder, Instruction manual
474, 475 (with 816)	Station, 816 Desoldering gun, Filter pipe, Ceramic paper filter (S; 2 pcs), Ceramic paper filter (L; 4 pcs), Spring filter (3 pcs), Cleaning pin for 1.0 mm diameter nozzle, Cleaning drill for 1.0 mm diameter nozzle, Cleaning pin for heating element, Cleaning pin holder, Wrench, Silicone grease, Anti-seizure, Iron holder base, Cleaning sponge, Iron receptacle with holder, Instruction manual

Specifications

Model No.	474 (with 809)	474 (with 815)	474 (with 816)	475 (with 809)	475 (with 815)	475 (with 816)
Power consumption	100 W			70 W		
Temperature range	380 to 480°C					

•Station

Output voltage	AC 24 V					
Vacuum generator	Double cylinder type			Ejector type		
Vacuum pressure	Max. 80 kPa (600 mmHg)			Max. 93 kPa (700 mmHg)		
Suction flow*	15 L/min.			20 L/min.		
Applied air pressure	-			490 kPa (5.0 kgf/cm ²) While trigger or button is pressed		
Compressed air consumption	-			46 L/min.		
Dimensions	165 (W) × 135 (H) × 260 (D) mm					
Weight**	3.8 kg			3.0 kg		

•Desoldering Tool

Type	Gun	Pen	Gun	Gun	Pen	Gun
Power consumption	50 W (24 V)					
Nozzle to ground resistance	<2 Ω					
Nozzle to ground potential	<2 mV					
Heating element	Ceramic heater					
Standard nozzle	1.0 mm S type (No. A1003)	ø1.0 mm S type (No. A1499)		ø1.0 mm S type (No. A1003)	ø1.0 mm S type (No. A1499)	
Dimensions	135 (W) × 174 (H) mm	200 (W) × 80 (H) mm	180 (W) × 150 (H) mm	135 (W) × 174 (H) mm	200 (W) × 80 (H) mm	180 (W) × 150 (H) mm
Weight**	200 g	100 g	120 g	200 g	100 g	120 g

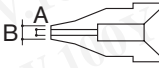
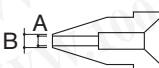
* Measured at the filter case suction port of the station.

** Without cord and hose

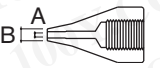


Replacement Nozzles

Unit : mm

For 808 and 809

Part No.	Figure	Size	
		A	B
A1002		0.8	1.8
A1003		1.0	2.0
A1004		0.8	2.3
A1005		1.0	2.5
A1006		1.3	3.0
A1007		1.6	3.0

For 815 and 816

Part No.	Figure	Size	
		A	B
A1496		0.8	1.8
A1499		1.0	2.0
A1498		0.8	2.3
A1500		1.0	2.5
A1501		1.3	3.0
A1502		1.6	3.0
A1503		2.0	3.6
A1497		0.8	2.2

HAKO FR-300 DESOLDERING TOOL



Portable Desoldering Tool

Nozzle included



- Power switch and adjustable temperature control built into the handle
- Ergonomic grip design provides superior operability



FR-300 is supplied in a carrying case with maintenance parts and simple iron holder.

Packing List

FR-300

Unit, Ceramic paper filter (L; 2pcs), Nozzle changing tool, Protection cover, Pre-filter, Iron holder, Cleaning pin for 1.0 mm diameter nozzle, Cleaning pin for heating core, Instruction manual

Specifications

Model No.	FR-300
Power consumption	100 V 98 W (50/60 Hz), 110 V 122 W (50/60 Hz), 120 V 140 W (50/60 Hz), 220 V 105 W (50/60 Hz), 230 V 118 W (50/60 Hz), 240 V 130 W (50/60 Hz)
Temperature range	350 to 500°C
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Vacuum generator	Diaphragm pump
Vacuum pressure	81 kPa (610 mmHg)
Suction flow	11 L/min.
Standard nozzle	ø1.0 mm (No. N50-04)
Dimensions	210 (W) × 226 (H) mm
Weight	0.52 kg

Replacement Nozzles

Unit : mm

Part No.	Figure	Size	
		A	B
N50-01		0.8	2.0
N50-02		1.0	2.0
N50-03		0.8	2.5
N50-04		1.0	2.5
N50-05		1.3	3.0
N50-06		1.6	3.0

Features

Quick-change nozzle replacement with special tools



Power switch at hand



Simplified iron holder as standard



Desoldering Tool and Wire

HAKKO SPPON

DESOLDERING TOOL

Desoldering Tool

Nozzle included



- Light-weight and simplified desoldering tool with high suction power
- Use a cleaning shaft that enables the nozzle to be cleaned after each use
- Nozzles can be easily replaced.

Replacement Nozzles

Unit : mm

Part No.	Figure	Adaptation products
18-N		No.18, 18G
20-N		No.20, 20G
DS01-N		No.DS01P

Specifications

Part No.	Absorption capacity
18	12 cm ³ (12 cc)
18G	12 cm ³ (12 cc) with guard
20	20 cm ³ (20 cc)
20G	20 cm ³ (20 cc) with guard
DS01P	28 cm ³ (28 cc)

HAKKO WICK

DESOLDERING WIRE

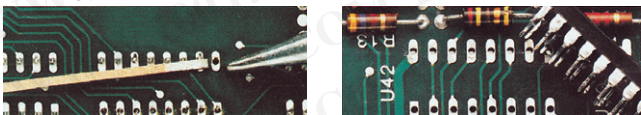
Desoldering Wire



- Handy for removing solder after dismantling surface-mounted components

Features

Through-hole solder removal



Bridging solder removal



Specifications

Regular type (Flux)

Part No.	Description
FR100-00	1.5 m × 0.6 mm
FR100-01	1.5 m × 0.9 mm
FR100-02	1.5 m × 1.4 mm
FR100-03	1.5 m × 1.9 mm
FR100-04	1.5 m × 2.5 mm
FR100-05	1.5 m × 3.3 mm

Unflux type (Unflux)

Part No.	Description
FR110-00	1.5 m × 0.6 mm
FR110-02	1.5 m × 1.4 mm
FR110-03	1.5 m × 1.9 mm
FR110-04	1.5 m × 2.5 mm
FR110-05	1.5 m × 3.3 mm

No clean type (Low residue flux) ESD SAFE package

Part No.	Description
FR120-00	1.5 m × 0.6 mm
FR120-01	1.5 m × 0.9 mm
FR120-02	1.5 m × 1.4 mm
FR120-03	1.5 m × 1.9 mm
FR120-04	1.5 m × 2.5 mm
FR120-05	1.5 m × 3.3 mm

HAKKO 701 REPAIR SYSTEM ESD SAFE

Repair System Analog

Tip included

Nozzle included



Soldering



Soldering (Option)



Desoldering



Hot Tweezer (Option)



OFFSET

- All-in-one repair system that enables both soldering and desoldering

Packing List

701	Station, Soldering iron (907), Desoldering gun (809), Filter pipe, Cleaning pin for 1.0 mm diameter nozzle, Cleaning pin for heating element, Cleaning drill for 1.0 mm diameter nozzle, Ceramic paper filter (S; 2 pcs), Ceramic paper filter (L; 4 pcs), Spring filter (3 pcs), Silicone grease, Wrench, Iron holder for soldering iron, Iron holder for desoldering gun, Instruction manual
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Replacement Tips and Nozzles

For information on replacement tips and nozzles, see our website (<http://www.hakko.com>).

Specifications

Model No.	701
Power consumption	150 W
Temperature range	Soldering: 200 to 480°C Desoldering: 380 to 480°C

• Station

Output voltage	AC 24 V
Vacuum generator	Double cylinder type
Vacuum pressure	Max. 80 kPa (600 mmHg)
Suction flow	15 L/min.
Dimensions	190 (W) × 130 (H) × 250 (D) mm
Weight*	5 kg

• Soldering Iron

Power consumption	50 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Standard tip	Shape-B (No. 900M-T-B)
Cord length	1.2 m
Total length*	222 mm (with B tip)
Weight*	44 g (with B tip)

• Desoldering Gun

Power consumption	50 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Ceramic heater
Standard nozzle	ø1.0 mm S type (No. A1003)
Cord length	1.2 m
Dimensions**	135 (W) × 174 (H) mm
Weight**	200 g

* Without cord

** Without cord and hose

HAJKO 702B REWORK SYSTEM ESD SAFE

Rework System **Analog**

Tip included

Nozzle included



Soldering



Soldering (Option)



Desoldering



Hot Tweezer (Option)



Hot Air



OFFSET

- Multi-station that enables soldering, desoldering, and SMD rework all with a single unit

Packing List

702B

Station, Soldering iron (907 × 1 pc, 900S × 1 pc), Desoldering gun (809), Handpiece (hot air), Nozzle tray, Filter pipe, Cleaning pin for 1.0 mm diameter nozzle, Cleaning pin for heating element, Cleaning drill for 1.0 mm diameter nozzle, Ceramic paper filter (S; 2 pcs), Ceramic paper filter (L; 4 pcs), Spring filter (3 pcs), Silicone grease, Wrench, Iron holder for soldering iron (2 pcs), Iron holder for desoldering gun, Handpiece holder, FP pick-up with S and L wires, Nozzle for handpiece (hot air; A1124B × 1 pc, A1128B × 1 pc), Power cord, Instruction manual, Troubleshooting guide

Replacement Tips and Nozzles

For information on replacement tips and nozzles, see our website (<http://www.hakko.com>).

Specifications

Model No.	702B
Power consumption	500 W
Temperature range	Soldering: 200 to 480°C Desoldering: 380 to 480°C SMD Rework: 100 to 420°C (use No. A1126B)

• Station

Output voltage	AC 24 V
Vacuum generator	Double cylinder type
Vacuum pressure	Max. 80 kPa (600 mmHg)
Suction flow	15 L/min.
Air flow	23 L/min. (max.)
Dimensions	360 (W) × 150 (H) × 266 (D) mm
Weight*	10 kg

• Soldering Iron

Power consumption	50 W (24 V) × 2 pcs
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Standard tip	Shape-B (No. 900M-T-B), Shape-I (No. 900S-T-I)
Cord length	1.2 m
Total length*	907-ESD: 222 mm (with B tip) 900S-ESD: 215 mm (with B tip)
Weight*	907-ESD: 44 g (with B tip) 900S-ESD: 29 g (with B tip)

• Desoldering Gun

Power consumption	50 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Ceramic heater
Standard nozzle	ø1.0 mm S type (No. A1003)
Cord length	1.2 m
Dimensions**	135 (W) × 174 (H) mm
Weight**	200 g

• Handpiece (Hot Air)

Power consumption	250 W
Standard nozzle	No. A1124B and A1128B
Total length*	196 mm
Weight*	120 g

* Without cord

** Without cord and hose

HAJKO FR-803B ESD SAFE SMD REWORK STATION

Hot-Air SMD Rework Station Digital

Nozzle not included



- 3-step temperature profile (preheating, heating, and cooling down) is available.
- Vacuum function makes it possible to pick up workpieces.

Packing List

FR-803B

Station with handpiece, Power cord, Control card, Handpiece holder, Connecting cable, Pad (3 mm, 5 mm, 7.6 mm x 2 pcs each), Instruction manual

NOTE: This product does not come with a nozzle. When purchasing this product, be sure to order a nozzle suitable for the work to be done.

Specifications

Model No.	FR-803B
Power consumption	310 W (100 V), 370 W (110 V), 440 W (120 V), 590 W (220 V), 650 W (230 V), 700 W (240 V)
Temperature range	100 to 500°C (sensor)

•Station

Power consumption	30 W (100 V), 40 W (110-120 V), 50 W (220-240 V) (stand-by power consumption: 4 W [100-120 V, 220-240 V])
Air flow	5 to 20 L/min. (max.)
Operation mode	Auto or manual
Timer	50 files, 3 steps each
Dimensions*	160 (W) x 145 (H) x 230 (D) mm
Weight*	5 kg

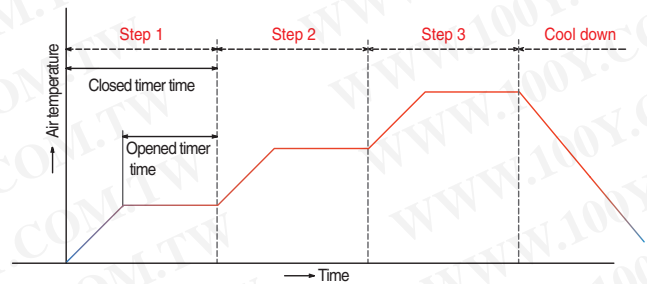
•Handpiece

Power consumption	280 W (100 V), 330 W (110 V), 400 W (120 V), 540 W (220 V), 600 W (230 V), 650 W (240 V)
Total length*	200 mm
Weight*	200 g

* Without cord

Features

Settable 3-step temperature profile



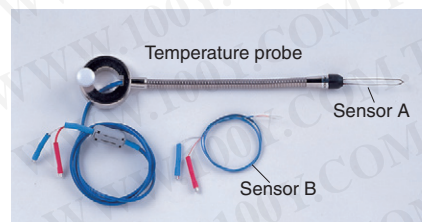
Built-in vacuum pickup



Option

Part No.	Name
C1541	Temperature probe

Controlling the temperatures of the hot air rework system and the workpiece using a temperature probe



Set-up example 1



Set-up example 2



Set-up example 3



Accessories for SMD-BGA Repair System

Set-up example; Rework fixture, Omnivise, FR-803B, FR-830, FG-100



- Combination with HAKKO FR-803B allows the SMD and BGA rework equipment to set up at low cost.



Features

REWORK FIXTURE 脚 No.C1392B



- Smooth vertical motion
- The handpiece may be easily installed or removed from the clamp.
- Easy to position

OMNIVISE 脚 No.C1390C (Set of 1 piece)



- The height can be adjusted to 72.5 mm, 78.0 mm, 84.5 mm, 91.0 mm and 97.5 mm.
- The jaws are padded to preclude damage to delicate objects.
- Full rotations of 360° are available without interference.

NOZZLE TRAY 脚 No.C1391B

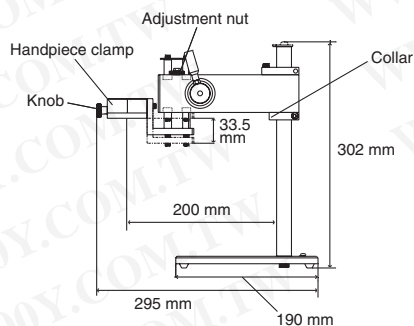


- Holds nozzles in neat rows
- Aids in nozzle installation and removal

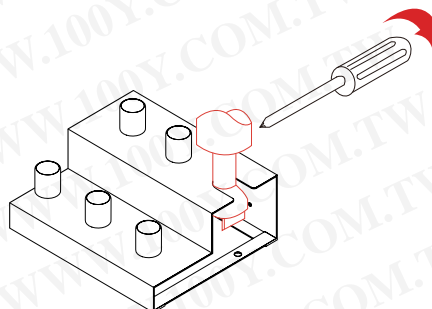
Specifications

Model No.	C1392B	C1390C	C1391B
Dimensions	—	ø57 × 88 mm	305 (W) × 64 (H) × 140 (D) mm
Weight	4.6 kg	1.2 kg (1 pc)	0.87 kg

Dimensional drawing for C1392B

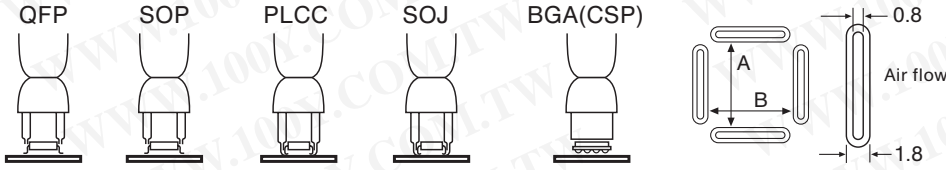


Easy to install and remove the nozzle for C1391B


















Optional Nozzles

Unit: mm














The size in each description indicates the size of the package.










QFP and BQFP

A1125B QFP 10 × 10  A: 10.2 B: 10.2	A1262B QFP 12 × 12  A: 12.2 B: 12.2	A1126B QFP 14 × 14  A: 15.2 B: 15.2	A1128B QFP 14 × 20  A: 15.2 B: 21.2	A1127B QFP 17.5 × 17.5  A: 19.2 B: 19.2
A1261B QFP 20 × 20  A: 20.2 B: 20.2	A1129B QFP 28 × 28  A: 29.7 B: 29.7	A1263B QFP 28 × 40  A: 27.7 B: 39.7	A1265B QFP 32 × 32  A: 32.2 B: 32.2	A1203B QFP 35 × 35  A: 35.2 B: 35.2
A1264B QFP 40 × 40  A: 40.2 B: 40.2	A1215B QFP 42.5 × 42.5  A: 42.5 B: 42.5	A1180B BQFP 17 × 17  A: 18.2 B: 18.2	A1181B BQFP 19 × 19  A: 19.2 B: 19.2	A1182B BQFP 24 × 24  A: 24.2 B: 24.2




SOP and TSOL

A1131* SOP 4.4 × 10  4.8	A1132* SOP 5.6 × 13  5.7	A1133* SOP 7.5 × 15  7.2	A1134* SOP 7.5 × 18  7.2	A1258B SOP 7.6 × 12.7  8.2
A1260B SOP 8.6 × 18  8.7	A1257B SOP 11 × 21  11.7	A1259B SOP 13 × 28  13.5	A1185B TSOL 13 × 10  11.9	A1186B TSOL 18 × 10  11.7 18.2
A1187B TSOL 18.5 × 8  18.5				










PLCC

A1188B PLCC 9 × 9 (20 pins)  A: 11 B: 11	A1140B PLCC 11.5 × 11.5 (28 pins)  A: 13 B: 13	A1141B PLCC 11.5 × 14 (32 pins)  A: 15 B: 13	A1139B PLCC 12.5 × 7.3 (18 pins)  A: 9 B: 14	A1135B PLCC 17.5 × 17.5 (44 pins)  A: 18.5 B: 18.5
A1136B PLCC 20 × 20 (52 pins)  A: 21 B: 21	A1137B PLCC 25 × 25 (68 pins)  A: 26 B: 26	A1138B PLCC 30 × 30 (84 pins)  A: 31 B: 31	A1189B PLCC 34 × 34 (100 pins)  A: 36.5 B: 36.5	



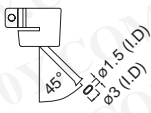

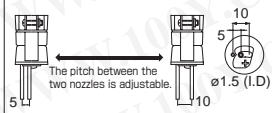
SOJ

<p>A1214B SOJ 10 × 26</p> 	<p>A1183* SOJ 15 × 8</p> 	<p>A1184B SOJ 18 × 8</p> 
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

BGA

<p>A1470 BGA 8 × 8</p> 	<p>A1471 BGA 12 × 12</p> 	<p>A1472 BGA 13 × 13</p> 	<p>A1473 BGA 15 × 15</p> 	<p>A1474 BGA 18 × 18</p> 
<p>A1475 BGA 27 × 27</p> 	<p>A1476 BGA 35 × 35</p> 	<p>A1477 BGA 38 × 38</p> 	<p>A1478 BGA 40 × 40</p> 	

Single

<p>A1124B* Single 2.5</p> 	<p>A1130* Single 4.4</p> 	<p>A1142B* Bent single 1.5 × 3</p> 	<p>A1190* Dual single 2.5 × 9.5</p> 	<p>A1325* Dual single ø1.5 × 5 to 10 Adjustable pitch</p> 
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SIP

<p>A1191* SIP 25L</p> 	<p>A1192* SIP 50L</p> 
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* The vacuum function does not operate with these nozzles.
The vacuum function is not available on the FR-801 and the FR-802.

HAKKO FR-870 PREHEATER ESD SAFE

IR Preheater Digital



- Infrared preheater that provides the optimal heating effect over the whole workpiece surface
- Short heatup time realized by the use of a infrared heater improves work efficiency.
- Non-contact system enables the application of this preheater to doublesided boards.

HAKKO FR-872 PREHEATER ESD SAFE



Large Size IR Preheater Digital



- Large heating area 286 (W) x 350 (D) mm
- 4 independent switch work grids

Mode Selection

Power Mode

Control heater output from 0% to 100%.

T/C Mode

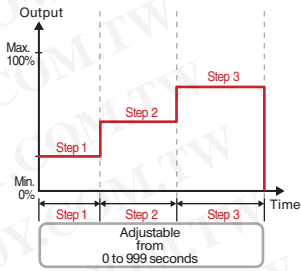
Sense the temperature of the sensor attached to the board and control to maintain the set temperature for the board.



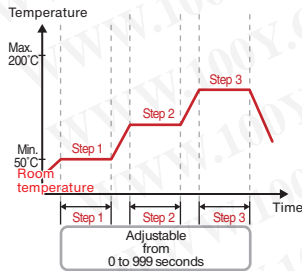
Auto Mode

Auto mode provides three steps (Step 1 to 3) to create an optimal heating profile for the workpiece.

With Power Mode



With T/C Mode



Packing List

FR-870	Unit, Thermocouple, Power cord, Heater lamp, Instruction manual
FR-872	Unit, Thermocouple, Heater, Power cord, Instruction manual

Specifications

Model No.	FR-870	FR-872
Power consumption	460 W (100 V) 520 W (110 V) 580 W (120 V) 1400 W (220 V) 1500 W (230 V)	1050 W (100 V) 1250 W (110 V) 1440 W (120 V) 1150 W (220 V) 1250 W (230 V)
Operation mode	Power mode, T/C mode Auto power mode, Auto T/C mode	
Setting range	Power mode: 0 to 100% T/C mode: 50 to 200°C Set time: 0 to 999 seconds	
Heating element	Halogen heater: 100 V, 110 V, 120 V Carbon heater: 220 V, 230 V	High efficiency carbon heater
Effective heated area	190 (W) × 80 (D) mm	224 (W) × 266 (D) mm
Heater area dimensions	248 (W) × 140 (D) mm	286 (W) × 350 (D) mm
Heater zone	2	4
Temperature sensor	K-type thermocouple	
Heater lamp lifetime*	2000 hours	2100 hours
Heater control	Power mode: Percentage-based system T/C mode: PID control	
External connections	Start signal input possible	
Dimensions	290 (W) × 100 (H) × 308 (D) mm	AC100 to 120 V: 360 (W) × 97 (H) × 535 (D) mm AC220 to 230 V: 360 (W) × 97 (H) × 524 (D) mm
Weight**	3.4 kg	5.6 kg

* Provided for reference purpose only and is not guaranteed.

** Without cord

Heating Zone Selectable

FR-870 (2-zone)



FR-872 (4-zone)



HAKKO FR-830 PREHEATER ESD SAFE

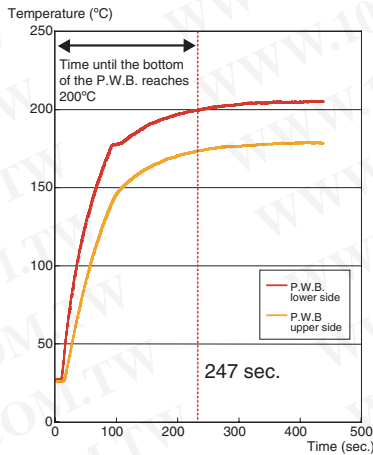
Preheater **Analog**



- Compact pre-heater best suited for heat processing on localized areas
- Featuring quick heatup and less variations in temperature

Features

Preheating in a short time



Test criteria

Measurement method	Temperature measured using sensors mounted on both the top and bottom surfaces of the P.W.B.
Distance between air outlet and P.W.B.	10 mm
Temperature setting	300°C

Set-up example



HAKKO FR-830
HAKKO FR-803B
REWORK FIXTURE
OMNIVISE
HAKKO FG-100

Packing List

FR-830	Unit, Power cord, Instruction manual
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Specifications

Model No.	FR-830
Power consumption	210 W (100 V), 240 W (110 V), 470 W (120 V), 230 W (220 V), 250 W (230 V), 270 W (240 V)
Air flow	0.15 m ³ /min. (fan capability)
Temperature range	150 to 300°C (Above the blow exit)
Dimensions*	140 (W) × 75 (H) × 185 (D) mm
Weight**	0.75 kg

* The height (H) is the distance from the bottom of the feet to the top of the exhaust outlet.
** Without cord

Option

Part No.	Name	Specifications
B3263	Extension pipe	with lid
B2763	Hand switch	-
B1649	Foot switch	-

SMD Rework Station

HAKKO 851 ESD SAFE
SMD REWORK STATION

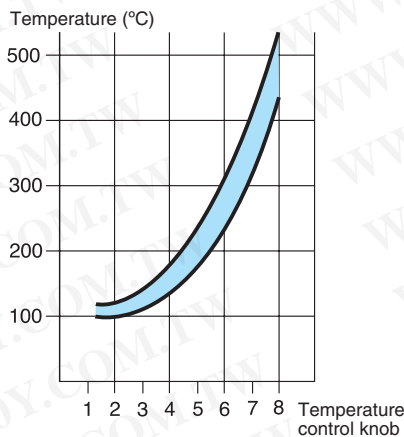
Hot-Air SMD Rework Station **Analog**

Nozzle included



- Single-nozzle hot air rework system that is perfect for the repair or local heating of small surface-mounted components
- Slim grip is ideal for work in narrow spaces.

Temperature Distribution Chart



Test criteria

Measured at a point	2 mm from the nozzle
Room temperature	20 °C
Nozzle used	A1066 ø2.0 mm

Replacement Nozzles

Part No.	Name	Specifications
A1065	Nozzle	ø1.5 mm
A1066	Nozzle	ø2.0 mm
A1067	Nozzle	ø3.0 mm
A1147	Nozzle	ø1.0 mm

Packing List

851	Station with handpiece, Handpiece holder, Nozzle holder, Instruction manual
------------	---

Specifications

Model No.	851
Power consumption	85 W
Hot air temperature	100 to 540°C

• Station

Power consumption	5 W
Air flow	6 L/min. (max.)
Dimensions*	167 (W) × 101 (H) × 182 (D) mm
Weight*	1.8 kg

• Handpiece

Power consumption	80 W
Standard nozzle	ø2.0 mm (No. A1066)
Total length**	217 mm
Weight**	180 g

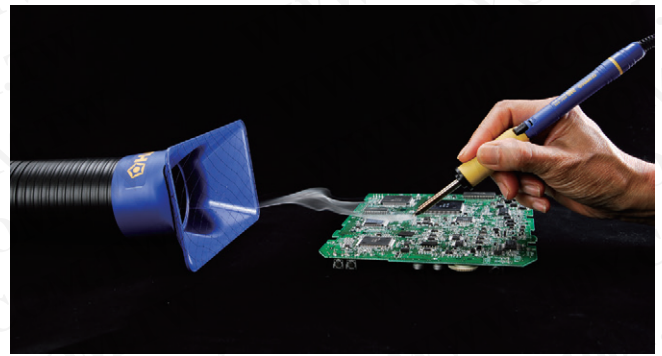
* Without cord and handpiece
** Without cord

HAKKO FA-430 ESD SAFE FUME EXTRACTION

Air-Purifying Smoke Absorber



- Powerful yet quiet suction
- Freestanding flexible ducts facilitate production changeovers
- Three airflow levels are selectable according to working environments.



Packing List

FA-430	Main unit, Power cord, Main filter, Pre-filter (10 pcs), Instruction manual
--------	---

*Ducts are optional parts.

Specifications

Model No.	FA-430
Power consumption	120 W
Noise level*	50 dB
Max. suction capacity	With single duct: Max. 4.1 m ³ /min. (145 cFm) With two ducts: Max. 4.7 m ³ /min. (167 cFm)
Filtering efficiency**	99.97% 0.3 μm (LOW or MEDIUM mode) 99.96% 0.3 μm (HIGH mode)
Static pressure	1500 Pa
Duct set (sold separately)***	Duct length: ø55 mm × 1.2 m (ESD safe)
Dimensions	330 (W) × 366 (H) × 343 (D) mm
Weight****	7.5 kg

- * Measured at a distance of 1 m from the face of the unit in an anechoic room.
 ** An initial value of the collection efficiency based on a counting method for airborne dust collected by a single plate of filter (unfolded)
 *** Nets in duct sets are not protected against electrostatic discharge.
 **** Without cord

Option

Part No.	Name	Specifications
C1571	Duct set	With rectangular type nozzle
C1572	Duct set	With round type nozzle



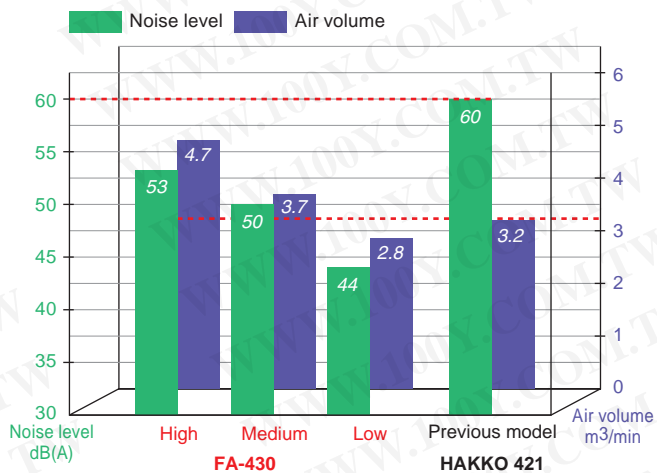
No.C1571



No.C1572

Features

Quiet operation and powerful suction



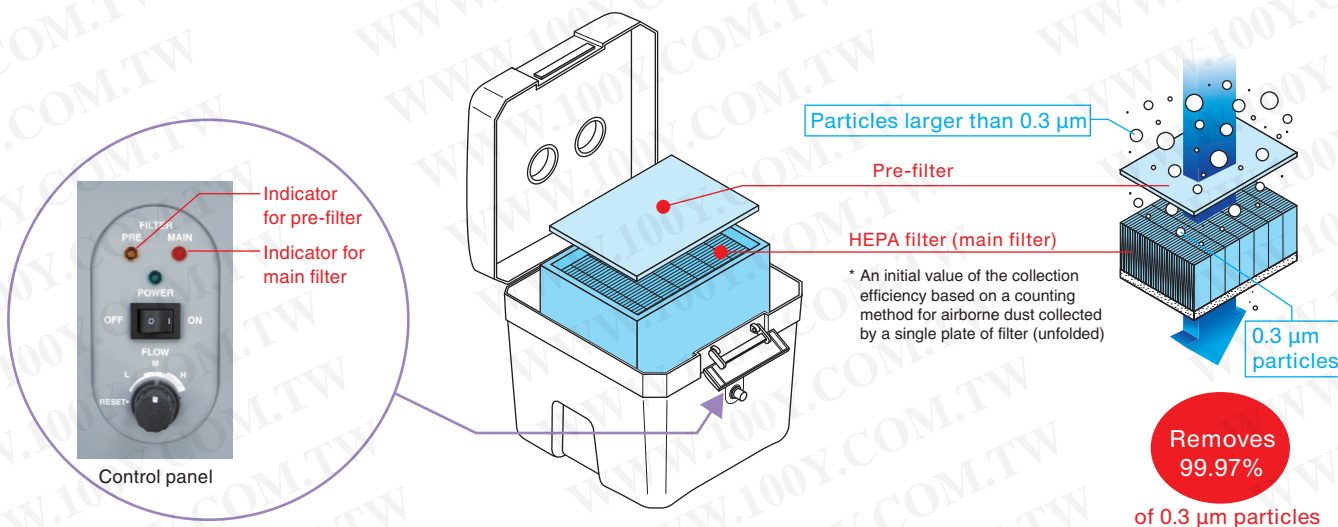
Basic noise level guide

Quiet office = 50 dB
 Ringing telephone, noisy street, or office = 70 dB

Flexible ducts and compact body for perfect placement

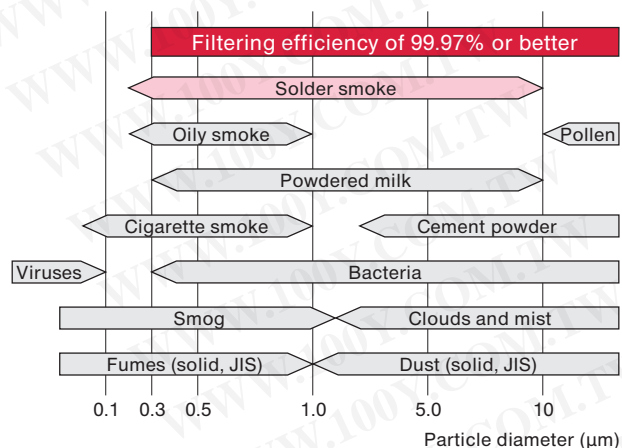


Filter replacement notification function



Aerosol particle diameter range

* During LOW and MIDDLE modes



HAKKO 490

SMOKE CLEANER

External Air Compressor Type Smoke Absorber



- External air compressor type soldering smoke absorber
- Three inner filters attached on different levels absorb soldering smoke.
- Up to 2 soldering irons can be connected to one unit.

Compatible Soldering Station for HAKKO 490 and HAKKO 494



HAKKO FX-888D



HAKKO FX-951



HAKKO FX-950



HAKKO FX-838



HAKKO FM-203



HAKKO FM-206



HAKKO DASH

Specifications

Model No.	490
Noise level	39 dB
Working pressure	392 to 686 kPa (4 to 7 kgf/cm ²)
Air consumption	40 L/min. (490 kPa)
Suction flow	23 L/min. (490 kPa)
Dimensions	ø120 × 200 (H) mm
Weight*	1.5 kg

* Unit only

** Use compressed air; no power supply is necessary.

Packing List

490	Unit, Absorption pipe set, Instruction manual
-----	---

* A second soldering iron can be attached to HAKKO 490 by purchasing an additional absorption pipe set.

Smoke Absorber

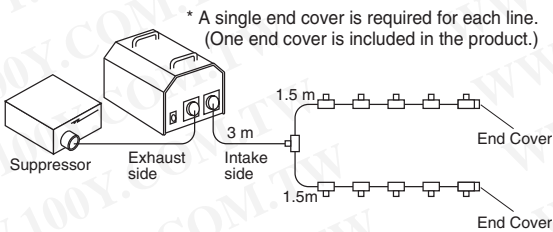
HAKKO 494 SMOKE ABSORBER

Smoke Absorbing System



- Soldering smoke absorber for production-line use that enables the exhausting of fumes to an outdoor location
- Equipped with a suppressor to reduce exhaust noise during operation
- Up to 10 soldering irons can be connected to one unit

Example of Connections



Packing List

494	Unit, Filter case, Filter cap, Pre-filter (5 pcs), Duct (3 m), End cover, Main filter (5 pcs), Inlet socket, Exhaust duct (5 m), Nylon strap, Suppressor, Absorption pipe set, Instruction manual
------------	---

*When ordering HAKKO 494, specify the part number of the absorption pipe set.

Option

Part No.	Name	Specifications
C1540	Absorption pipe set <R>	Any with a handle Φ 16 mm or smaller
B1246	Parallel piping joint	-

Specifications

Model No.	494
Power consumption	50 Hz: 150 W 60 Hz: 200 W
Noise level*	With hose: 55 dB Without hose: 71 dB
Max. suction capacity	50 Hz: 1.56 m ³ /min. 60 Hz: 1.82 m ³ /min.
Static pressure	50 Hz: 2.3 kPa (240 mmAq.) 60 Hz: 3.2 kPa (325 mmAq.)
Dimensions**	322 (W) × 300 (H) × 386 (D) mm
Weight***	18 kg

* Measured at a distance of 1 m from the face of the unit.

** Without handle and cord

*** Unit only

HAJKO FA-400 ESD SAFE SMOKE ABSORBER

Desktop Type Smoke Absorber



- Desktop solder smoke absorber that can be mounted horizontally or vertically
- An optional arm stand makes a third mounting position available.



2 Way Plus Placement

Vertically mounted:



Horizontally mounted:



Using a stand:



Packing List

FA-400	Unit, Filter, Instruction manual
--------	----------------------------------

Specifications

Model No.	FA-400
Power consumption	50 Hz: 15 W (100 V), 18W (110 V), 19 W (220 V), 22 W (230 V), 24 W (240 V) 60 Hz: 13 W (100 V), 15 W (110 V), 19 W (120 V), 16W (220 V), 18W (230 V), 19 W (240 V)
Noise level*	50 Hz: 48 dB 60 Hz: 51 dB
Max. suction capacity**	Vertically: 1.0 m ³ /min. (50 Hz), 1.1 m ³ /min. (60 Hz) Horizontally: 0.4 m ³ /min. (50 Hz), 0.5 m ³ /min. (60 Hz)
Air velocity	Vertically: 1.0 m/s (50 Hz), 1.1 m/s (60 Hz) Horizontally: 2.6 m/s (50 Hz), 2.9 m/s (60 Hz)
Filter size	130 (W) × 130 (H) × 10 (D) mm
Dimensions	166 (W) × 212 (H) × 113 (D) mm
Weight***	0.91 kg

* Measured at a distance of 1 m from the face of the unit

** Measured with a filter present

*** Without cord

Option

Part No.	Name	Specifications
C1568	Arm stand	With knobs

HAKOFE-510 STATIC ELIMINATOR

Static Eliminator

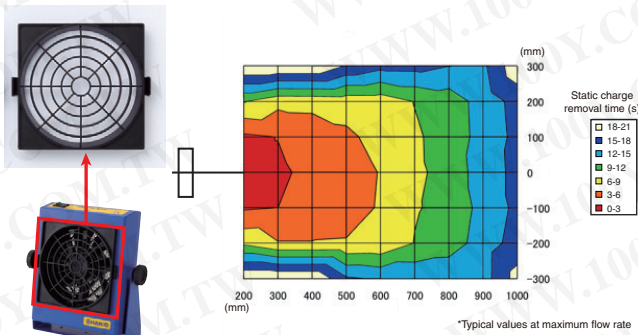


- Static eliminator enables the selection of the area in which static will be neutralized.
- Locking mechanism maintains the angle of the eliminator unit.
- Error output signal function is useful when incorporating the unit into line applications.

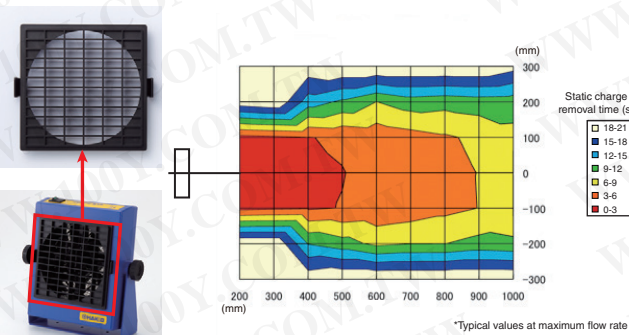
Features

Static elimination area

Wide-angle louver



Straight louver



Error output signal



Superb ease of maintenance

The discharge electrode can be replaced simply by turning it gently in the clockwise direction.



Packing List

FE-510	Unit, Straight louver, Cleaning brush, Filter, AC adapter, Output signal connection lead (1 set), Instruction manual
--------	--

Specifications

Model No.	FE-510
AC adapter output/Capacity	DC 24 V 10 VA
Discharge method	High frequency AC method
High voltage output	Approx. AC 2,000 V
Ion balance*	±10 V or less
Static elimination time*	Straight louver: Approx. 1.5 sec. Wide-angle louver: Approx. 2.5 sec.
High voltage abnormality output (ALARM)	MOS FET relay non-voltage contact output Max. current: 100 mA Applied voltage: DC 30 V or less
Cleaning check output (C.C)	MOS FET relay non-voltage contact output Max. current: 100 mA Applied voltage: DC 30 V or less
Air flow	1.5 to 3.0 m ³ /min.
Air flow out angle	Vertically 360° variable (every 10°)
Quantity of produced ozone**	0.04 ppm or less
Operating environment	Ambient temperature: 0 to 40°C Ambient humidity: 15 to 65% (without condensation)
Material for discharge needles	Tungsten
Dimensions	150 (W) × 182 (H) × 50 (D) mm (without stand)
Weight***	0.79 kg

AC adapter

AC adapter output/Capacity	DC 24 V 1 A
Dimensions	34 (W) × 72 (H) × 51 (D) mm
Weight	100 g

* Typical value measured (before shipment) at a distance of 300 mm from the center of the fan outlet with the maximum flow rate

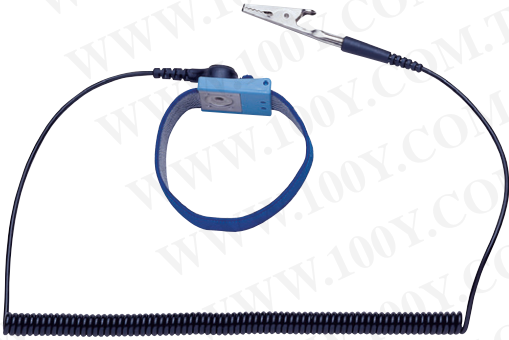
** Measured at a point 150 mm away from the center of the fan outlet

*** Including stand

HAKKO 442B

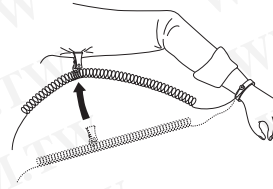
WRIST STRAP

Wrist Strap



- This antistatic wrist strap prevents the human body from becoming charged with static electricity.
- The stretchable band is easy to adjust.
- A conductive thread is used for the band lining.

Cord Helper



1. Insert the grounding wire into the ring of the cord helper.
2. Clip the cord helper to clothing as shown here.

Packing List

442B	Wrist band, Grounding wire, Cord helper, Instruction manual
------	---

Specifications

Part No.	442B-01	442B-02
Color	Blue	
Grounding wire	1.5 m	2.5 m

HAKO FG-450

STATIC LEVEL METER

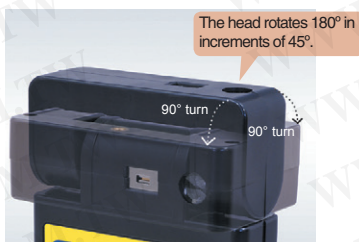
Static Level Meter



- Portable static level meter for the measurement of electric potential of films and plastic objects
- Useful when checking electric potential measurements in production lines.
- Also suitable for performing operation test of static eliminators.

Features

Rotating sensor head



Selectable two modes in measurement

- Measuring static electricity (Resolution: 10V)



The red light image is projected to a point about 30 mm from the meter.



- Measuring ion balance (Resolution: 1V)



Packing List

FG-450	Unit (with carrying case), Grounding wire, Strap, 006P 9 V Manganese dry battery (for trial), Ion balance plate (with screw), Instruction manual
--------	--

Specifications

Model No.	FG-450
Power supply	006P 9 V dry battery
Measurable potential range	Normal mode: 0.00 to ±19.99 kV (resolution: 0.01 kV) Ion balance mode: 0.000 to ±1.999 kV (resolution: 0.001 kV)
Signal detection method	Oscillating chopper method
Display refresh frequency	0.5 seconds
Measurement precision	±10% of reading ±2 digits
Continuous operating limit	Approx. 10 hours (with an alkaline battery)
Measurement distance	30 mm (between object being measured and sensor)
Measurement distance adjustment	Red LED beam focusing method
Sensor head rotation angle	180° (in increments of 45°)
Display	LCD display with built-in backlight
Polarity display	Positive polarity/negative polarity display
Mode switching	Ion balance/static electricity measurement modes
Battery check	Remaining charge displayed in display panel
Operating environment	0 to 40°C, 20 to 70%RH (without condensation)
Dimensions	68 (W) × 138 (H) × 22 (D) mm
Weight*	160 g

* Including battery

Option

Part No.	Name	Specifications
B3586	Body changing level measurement plate	-

Soldering Iron Thermometer/Tester

HAKO FG-100

THERMOMETER

Soldering Iron Thermometer



- Tip thermometer that provides reliable temperature control of soldering iron tips
- Compact design minimizes your workspace and enables you to easily carry it around.
- Incorporating an extremely fine sensor that has high temperature reactivity.

HAKO FG-101

SOLDERING TESTER

Soldering Iron Tester



- Tip temperature, leak voltage, and tip-to-ground resistance can be easily measured with high accuracy.
- Soldering iron tester useful for daily maintenance of station-type soldering irons

What is leak voltage and tip-to-ground resistance?

Leak voltage

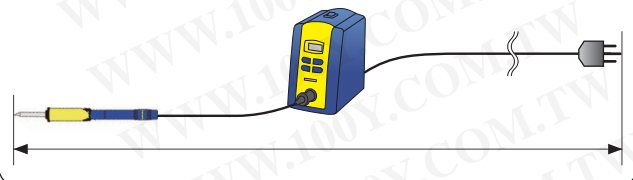
Leak current is the current that leaks from the tip to a board or device. Leak voltage is a specific measurement of the level of this current.

The leakage can adversely affect delicate devices, so it is necessary to check leak voltage on a daily basis.



Tip-to-ground resistance

Most leak current flows from the tip via the ground wire to the outlet ground terminal, and is prevented from affecting the device. Because of this, tip-to-ground resistance is another important issue that must be checked daily.



Common Features of FG-100 and FG-101

Dimensional measurement



*Design image only

MAX HOLD function

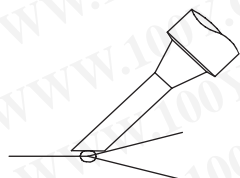
When the "MAX HOLD" button is pressed, "MAX HOLD" is displayed and the highest tip temperature is held on the display.



Procedure for Measuring the Soldering Tip Temperature



- Typical measuring point for Shape B, I and D (Measure at the center of the tin coated area)



- Typical measuring point for Shape BC and C which are tinned flat only.



Option / Replacements

Part No.	Name	Specifications
A1310	Temperature probe	For solder bath and pot
C1541	Temperature probe	For hot air
A1556	Sensor A	-
A1557	Sensor B	-
191-212	Sensor/10 pcs	-

Packing List

FG-100	Unit, 006P 9 V Manganese dry battery (for trial), Instruction manual, Sensor (10 pcs)
FG-101	Unit, Fuse, Conduction wire, Sensor (10 pcs), Multi-adapter, European adapter, Ground clip, Power cord, Instruction manual

Specifications

Model No.	FG-100
Power supply	006P 9 V dry battery
Temperature resolution	1°C
Temperature measurement range	0 to 700°C
Temperature precision	±3°C (300 to 600°C) ±5°C (other than above)
Temperature sensor	K (CA) type thermocouple
Display*	Besides measured temperatures, display indications include the following: Battery low alarm  Burnout alarm  "MAX HOLD" is displayed in the lower right of the LCD.
Operating environment	0 to 40°C, 20 to 90%RH (without condensation)
Environmental conditions	Applicable rated pollution degree 2 (according to IEC/UL 61010-1)
Dimensions**	68 (W) × 140 (H) × 38 (D) mm
Weight***	115 g

* When the battery low alarm appears, be sure to replace the battery. Failure to do so will result in incorrect temperature measurements.

** Excluding protrusions

*** Excluding battery

Model No.	FG-101
Power consumption	2.6 W (100 V), 2.9 W (110 V), 2.6 W (120 V), 2.7 W (220 V), 2.8 W (230 V), 3.0 W (240 V)
Temperature resolution	1°C
Temperature measurement range	0 to 700°C
Temperature precision	±3°C (300 to 600°C) ±5°C (other than above)
Temperature sensor*	K (CA) type thermocouple
Voltage resolution	0.1 mV
Voltage measurement range	0 to 40 mV (CA)
Voltage precision	± (5% of reading + 1 digit)
Resistance resolution	0.1Ω
Resistance measurement range	0 to 40kΩ
Resistance precision	± (5% of reading + 1 digit)
Display**	LCD: 3 1/2 digits Burnout: -1 MAX HOLD: "MAX HOLD" is displayed in the lower right of the LCD.
Operating environment	0 to 40°C, 20 to 90%RH (without condensation)
Environmental conditions	Applicable rated pollution degree 2 (according to IEC/UL 61010-1)
Dimensions	200 (W) × 50 (H) × 120 (D) mm
Weight***	1 kg

* The temperature sensor (No.191-212 or No.191-212C) can only be used to measure temperatures below 500°C. To measure higher temperatures, use an applicable temperature probe.

** When a sensor is not attached or it burns out, the Burnout (-1) alarm symbol is displayed. The same symbol is also displayed when a temperature outside the measurement range is detected.

*** With power cord

HAKKO 498

SYSTEM TESTER

Wrist Strap Tester



- Easy-to-use, quick-response tester for wrist straps

Features

Can be used anywhere to quickly and easily check a variety of grounding systems.



Packing List

498	Unit, 006P 9 V Manganese dry battery (for trial), Grounding wire, Instruction manual
-----	--

Specifications

Model No.	498
Power supply	006P 9 V dry battery
Indication: LOW	$R < 800 \text{ k}\Omega$
Indication: GOOD	$800 \text{ k}\Omega \leq R \leq 9 \text{ M}\Omega$
Indication: HIGH	$R > 9 \text{ M}\Omega$
Battery life	Approx. 50,000 times
Grounding wire	2.5 m
Operating environment	0 to 40°C, 20 to 90%RH (without condensation)
Dimensions	80 (W) × 40 (H) × 117 (D) mm
Weight*	150 g

* Including battery

HAKKO MELTER

Glue Gun



- Glue gun with temperature control function is applicable also to the adhesion of electronic components.
- Useful when fixing up sealing of carton boxes, dressing cases, and packages
- Only used with a stick-type adhesive that is easy to replenish (ø11.5 mm)

Applications

When using polyamide adhesives

- Reinforce and insulate soldered parts.
- Fasten capacitors, resistors, etc.
- Fasten jumper wires.
- Perform insulation potting for terminals.
- Fasten the ends of coils.
- Fasten deflecting yokes and variable coils.

When using EVA adhesives

- Glue paper products (cardboard boxes, gift boxes, etc.).
- Fasten wood products.
- Fasten plastics and metals.
- Fasten textiles and shock absorbent packing.
- Reseal products during packaging.

Packing List

804	Unit, #13 Spanner, #14 Spanner, Instruction manual
-----	--

Specifications

Model No.	804
Power consumption	100 W
Melting temperature	100 to 200°C (variable)
Standard nozzle	ø2.0 mm (No. A1083)
Discharge capacity	900 g/h
Dimensions	207 (L) × 173 (H) × 45 (D) mm
Weight*	350 g

* Without cord

Adhesive Used

This model has been designed for use with stick adhesives (those hardened into the shape of a stick) only. Be sure to use adhesives recommended by HAKKO. (No. 810: UL94V-O recognized)

Part No.	810	811	812
Name	Polyamide	EVA	
Packing	1 kg		14 pcs
Color	Yellowish brown	Milky white	
Size	ø11.5 × 220 mm		
Viscosity	2,300 cps. (2,300 mPa·s)	5,800 cps. (5,800 mPa·s)	
Open time*	10 seconds	40 seconds	
Temperature at which adhesive is heat resistant	100°C	55°C	
Suitability	P.W.B.	○	—
	Wood	○	○
	Paper	○	○
	Metal	○	○
	Plastic	○	○
Packing	In aluminum foil bag	In polyethylene bag	In blister pack

Adhesives marked with ○ are more suited for that material than adhesives marked with ○.

* Application period

HAKKO HEATING GUN

Heating Gun



No. 880B 880 W

Ideal for heat shrinking of shrink films with low heat resistance. Optional nozzle makes local heating work possible.



No. 881 1000 W

General-purpose type: The range of applications can be expanded by using a variety of optional nozzles.

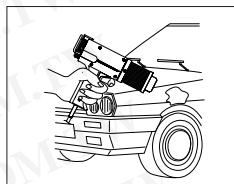


No. 882 1000 W

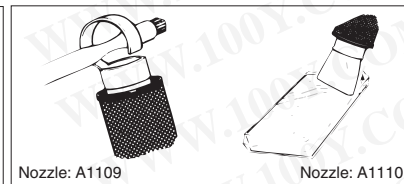
Temperature is freely adjustable within the range of room temperature to 450°C.

Applications

Drying of paints	Perfect for drying paints locally
Shrink film	Heat shrinking of films
Shrink tubing	Heat shrinking of electric wire covers
Putty	Repair work using putty including repairs of automotive bumpers
Interior decor	Vinyl cloth, floor materials, flooring work
Plastic moldings / Rubber products	Bending, fitting, and assembly of plastic products (heat plasticity)
PVC pipe	Bending work
Stone	Drying of stone after polishing, drying of surface-lustering agent, drying of paint finish, drying before rubber lining (printing of names, etc.)
Removal of labels	—
Thermosetting resin	Expediting setting
Defrosting	Heating water pipes and machinery frozen in winter



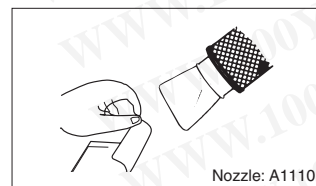
Spot drying of coating material and coating putty



Heating of shrink tubing and shrink film



Bending and welding of PVC pipes



Removing stickers, labels, and gummed tape

Packing List

880B, 881, 882	Unit, Instruction manual
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Option

Part No.	Name	Specifications
A1109	Nozzle	Hook type For 880B, 881, 882
A1110	Nozzle	Spatula type, 62 mm For 880B, 881, 882
A1111	Nozzle holder	For 881, 882, 880B
A1112*	Nozzle	For 881, 882
A1113*	Nozzle	Single, ø5 mm For 880B
A1114*	Nozzle	Spatula type, 20 mm For 881, 882, 880B
A1115	Roller	For 881, 882, 880B
B1419	Stand <L>	For 880B, 881
B1420	Stand <L>	For 882

* Must be inserted into part number A1111.

Specifications

Model No.	880B	881	882
Power consumption	880 W	1,000 W	1,000 W
Maximum temperature*	400°C	450°C	Room temperature to 450°C (variable)
Air velocity	330 m/min.	360 m/min.	360 m/min.
Air flow	0.18 m ³ /min.	0.2 m ³ /min.	0.2 m ³ /min.
Dimensions	245 (W) × 185 (H) × 70 (D) mm	245 (W) × 185 (H) × 70 (D) mm	285 (W) × 185 (H) × 70 (D) mm
Weight**	0.62 kg	0.62 kg	0.7 kg

* Approximate value measured at a point 10 mm from the hot air outlet

** Without cord



HEAD OFFICE

4-5, SHIOKUSA 2-CHOME, NANIWA-KU, OSAKA, 556-0024 JAPAN
TEL: +81-6-6561-3225 FAX: +81-6-6561-8466
<http://www.hakko.com> E-mail: sales@hakko.com

OVERSEAS AFFILIATES

U.S.A.
AMERICAN HAKKO PRODUCTS, INC.
28920 N. AVE. WILLIAMS VALENCIA, CA 91355, U.S.A.
TEL: (661) 294-0090 FAX: (661) 294-0096
Toll Free (800)88-HAKKO
4 2 5 5 6
<http://www.hakkousa.com>

HONG KONG
HAKKO DEVELOPMENT CO., LTD.
ROOM 1504, EASTERN HARBOUR CENTRE,
28 HOI CHAK STREET, QUARRY BAY, HONG KONG.
TEL: 2811-5588 FAX: 2590-0217
<http://www.hakko.com.hk> E-mail: info@hakko.com.hk

SINGAPORE
HAKKO PRODUCTS PTE LTD
1, GENTING LINK #02-04
PERFECT ONE, SINGAPORE 349518
TEL: 6748-2277 FAX: 6744-0033
<http://www.hakko.com.sg> E-mail: sales@hakko.com.sg

Please access to the following address for the other Sales affiliates.

<http://www.hakko.com>

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-54151736
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)