



# CATALOG

Quality Tools for the electronics Industry

<http://www.mts9.com>

**HAKKO**FX-951 **ESD  
SAFE**  
SOLDERING STATION

350

Soldering  
Rework  
Desoldering  
Smoke Absorber  
Static Control  
Heating Gun  
Glue Gun  
Other Tools



**“To deliver excitement to our customers”  
This statement reflects Hakko’s ideal.**

In creating products, we not only make products as a manufacturer, but also add hospitality, in order to express our ideal of delivering excitement to our customers. The ideal is also our basis for continuing to meet the challenges of creating new possibilities.

Hakko’s products offer the best soldering for any component, in any environment, from the latest electronics to hobbies and crafts. Each genre is expanding without limits as the 21st century technology continues to advance and the world becomes increasingly borderless.

We give form to ideas beyond the norm by facing the user’s true needs with a welcoming feeling. Hakko confidently introduces soldering irons and related equipment with world class quality, starting with the new products designed in Blue & Yellow.

<http://www.mts9.com>

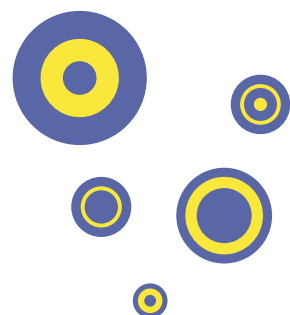


The Blue which inherited from the HAKKO corporate blue, this expresses both the tradition that we continue and the beauty of the global environment.

The Yellow which is resonating with HAKKO corporate blue, this yellow express the imagination of every single employee and our team spirit.

# HAKKO BLUE & YELLOW





**FRIENDLY innovation**



*Blue meets yellow*  
**GREEN PROJECT**

Not only has Hakko been approved by ISO 9001 & 14001, but we are also conducting our own campaigns. We are involved in improving quality through 3 “friendlies.”

**“Hakko is friendly to customers”**

We always strive to take on the perspective of our customers and think outside the normal frameworks to deliver products that amaze and excite customers.

**“Hakko is friendly to society”**

We take the environment into careful consideration when creating the products so that people and nature co-exist. In addition, each individual carries out activities that are valuable to the society.

**“Hakko employees are friendly to each other”**

Teamwork is very important in order to deliver the products that excite the customers. Creative power stems from the relations among the employees as well as between the Hakko international groups.

**Hakko, as a specialized manufacturer of soldering irons, has established the Green Project.**

We promote the development of products that are friendly to the environment (e.g., conforming to the EU RoHS directives, etc.), starting with products compatible with lead-free soldering.

We rapidly respond to the latest needs of our customers. Our lineup of products, including new products designed in Blue & Yellow and products compatible with lead-free soldering (e.g., soldering irons for various purposes, desoldering stations, etc.), could only be offered by a specialized manufacturer like Hakko.

Furthermore, our Green Project not only eliminates the hazardous materials from the products, but also aims to expand our activities so that our business is friendly to the people and the society. Hakko is always moving forward with our eyes on the future to deliver products that excite customers throughout the world.

<http://www.mts9.com>



Our company has been certified under ISO 9001 (JIS Q 9001), the international quality system standards. We are also certified under ISO 14001 (JIS Q 14001) and are actively involved in preserving the global environment.



Quality Tools for the electronics Industry



## Products List

Soldering Station



P.6~17, P.22~26

N<sub>2</sub> System



P.18~21

Soldering Gun



P.27, P.34~35

Soldering Iron



P.28~33

Cordless Soldering Iron



P.33

Self Feeder



P.36~37

Thermometer, Soldering Tester



P.38~39

Soldering Pot



P.40~41

Soldering System



P.42

Tip Polisher, Chemical Paste



P.43~44

Iron Holder



P.45

Solder Reel Stand



P.45

Desoldering Station, Desoldering Tool



P.46~51

SMD Rework Station



P.52~55, P.57

Preheater



P.56

SMD-BGA Repair System



P.56

SMD Desoldering



P.58~59

Repair System



P.60

Rework System



P.61

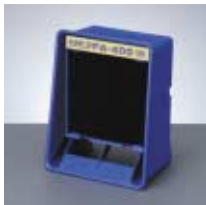
<http://www.mts9.com>

Smoke Cleaner



P.62

Smoke Absorber



P.63~64

Static Eliminator



P.65

Static Level Meter



P.66

Wrist Strap



P.67

System Tester



P.68

Heating Gun



P.69

Melter



P.70

Other Tools

Cutting Tool



P.71

Vacuum Pick-up



P.72~73

Lead Former/Lead Cutter



P.74~75



Helps you lead-free solder application.



ESD safe by design.



## Soldering

HAKKO FX-888	6
HAKKO FX-950	10
HAKKO FX-951	10
HAKKO FM-203	14
HAKKO FM-2027	14
HAKKO MODEL FM-2022	14
HAKKO MODEL FM-2023	14
HAKKO MODEL FM-2024	14
HAKKO FX-780	19
HAKKO FX-791	19
HAKKO FM-2026	19
HAKKO FX-8302	19
HAKKO FX-838	22
HAKKO 937	24
HAKKO 928	26
HAKKO 951	27
HAKKO 952	27
HAKKO 933	28
HAKKO 934	28
HAKKO MACH-I	29
HAKKO DASH	30
HAKKO 455	31
HAKKO 456	31
HAKKO PRESTO	32
HAKKO RED	33
HAKKO FX-901	33
HAKKO MG	34
HAKKO 958	35
HAKKO 959	35
HAKKO 373	36
HAKKO 375	37
HAKKO FG-100	38
HAKKO FG-101	38
HAKKO FX-301B	40
HAKKO FX-300	40
HAKKO 96	41
HAKKO 485	42
HAKKO FT-710	43
HAKKO FT-700	44
HAKKO FS-100	44
IRON HOLDER	45
HAKKO 611	45

## Desoldering/ Rework

HAKKO FM-204	46
HAKKO MODEL FM-2024	46
HAKKO 474	48
HAKKO 475	48
HAKKO 809	49
HAKKO 815	49
HAKKO 816	49
HAKKO 484	50
HAKKO 808	50
HAKKO SPPON	51
HAKKO WICK	51
HAKKO FR-801	52
HAKKO FR-802	52
HAKKO FR-803B	52
HAKKO FR-830	56
Nozzle Tray	56
Omnivise	56
Rework Fixture	56
HAKKO 851	57
HAKKO MODEL FM-2022	58
HAKKO MODEL FM-2023	58
HAKKO 950	59
HAKKO MACH-FP	59
HAKKO 701	60
HAKKO 702B	61

## Smoke Absorber/ Static Control

HAKKO 490	62
HAKKO FA-400	63
HAKKO 494	64
HAKKO FE-500	65
HAKKO FG-450	66
HAKKO 442B	67
HAKKO 496	67
HAKKO 498	68

## Heating Gun/ Glue Gun

HAKKO HEATING GUN	69
HAKKO MELTER	70

## Other Tools

HAKKO CUTTING TOOL	71
HAKKO 392	72
HAKKO 394	73
HAKKO 153	74
HAKKO 154	74
HAKKO 155	74
HAKKO 152B	75
HAKKO DIPLINER	75

<http://www.mts9.com>



**HAKKO FX-888** ESD SAFE

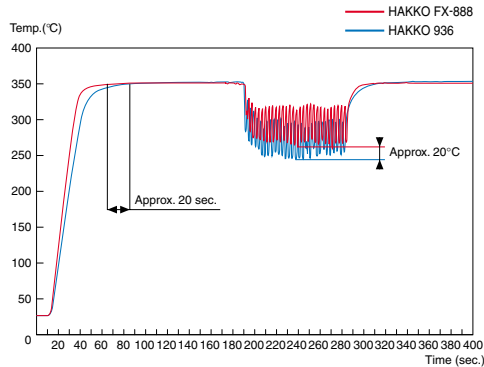


- Heater output increased to 65W.
- Excellent thermal recovery.
- The calibration (CAL) screwdriver is included as a standard accessory.
- 3 types of cleaning methods available in one soldering iron holder.
- Space-saving compact design.

**Heater output increased to 65W**

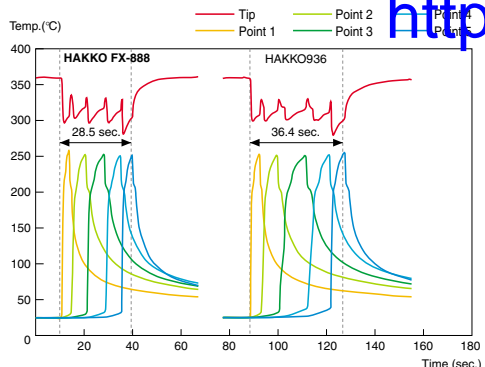
Output has been increased by 30% compared to that of the HAKKO 936. The conventional tip design was reviewed and the shape was improved to provide more efficient heat transfer from the heating element. As a result, the thermal recovery time to 350°C is 20 seconds faster, and the drop in tip temperature during continuous work is reduced (refer to the thermal recovery graph), enabling the time for performing the same work to be shortened (refer to the graph showing performance comparison) and work efficiency to be greatly increased.

**Thermal recovery graph**



**[ Test criteria ]**  
● Board: Paper phenol copper  
● Solder:  $\phi 1.6 \times 5\text{mm}$  Cycle: Every 3 sec.  
● Lead-free solder is used.

**HAKKO FX-888 performance comparison graph with conventional station**



**[ Test criteria ]**  
● Board: Paper phenol copper  
● Solder:  $\phi 1.6 \times 5\text{mm}$  Cycle: Every 3 sec.  
● Lead-free solder is used.

**Downsized to save space**

The new FX-888 realizes space savings of approx. 50% in mounting area in comparison with conventional stations. It enables working space to be secured, which is important factor with the introduction of cell production.



Comparison in size between FX-888 and HAKKO 936.

**The calibration (CAL) screwdriver is included as a standard accessory**

The calibration (CAL) screwdriver (resin) is stored in the bottom of station as a standard accessory. This enables temperature compensation to be adjusted easily and reduces the possibility of damage to the calibration volume.



**Design improved for ease of use**

**3 types of cleaning methods available in one soldering iron holder**

**Cleaning sponge**

Residual solder and flux adhering on the tip can be wiped off by the sponge soaked with water.



**Rubber cleaner**

Residual solder and flux adhering on the tip can be wiped off on the silicone rubber cleaner. Use without water prevents the tip temperature from decreasing rapidly or tip oxidation from being promoted.



**Cleaning wire**

Residual solder and flux adhering on the tip is removed by inserting the tip into a thin metallic wire. This cleaning wire leaves an appropriate amount of solder on the tip end, which prevents the tip from being oxidized. Use without water prevents the tip temperature from decreasing rapidly or tip oxidation from being promoted.



**Reduce sounds with storing the iron**



A protective cap installed in the iron receptacle is provided to reduce sounds when storing the iron.

**Easy trashing of solder waste**



The iron holder base is provided with a detachable waste collecting plate, which improves its maintainability.

**Specifications**

Model No.	FX-888
Power Consumption	70W
Temperature Range	200-480°C
Temperature Stability	$\pm 1^\circ\text{C}$
Temperature Setting Lock Type	Dial screw type

**Station**

Voltage	26V
Dimensions	100(W) x 120(H) x 130(D)mm
Weight (w/o cord)	1.3kg

**Iron**

Model No.	FX-8801
Power Consumption	65W (26V)
Tip to Ground Resistance	$< 2\Omega$
Tip to Ground Potential	$< 2\text{mV}$
Cord	1.2m
Total Length (w/o cord)	190mm
Weight (w/o cord)	44g

**Replacement Tips**

Please refer to page 8.

**Packing List**

Model Name	Contents
HAKKO FX-888	Station .....
	Iron (FX-8801) .....
	Iron holder with rubber cleaner and cleaning sponge (No.FH800-01BY) .....
	Cleaning wire .....
	Hexagon wrench .....
	CAL adjustment driver* .....

\*CAL adjustment driver is attached to the bottom of the station.

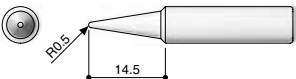
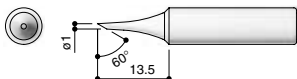
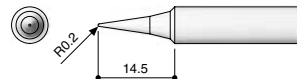
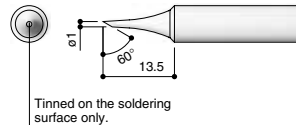
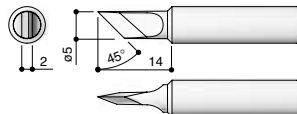
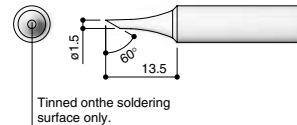
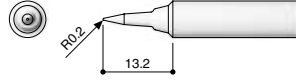
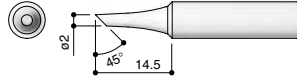
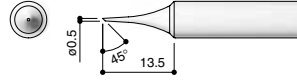
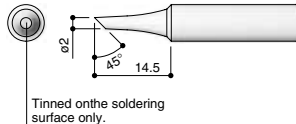
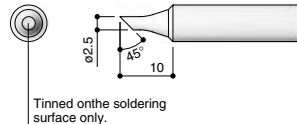
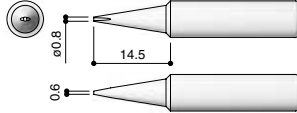
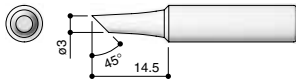
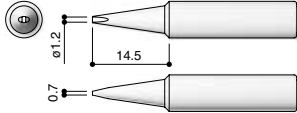
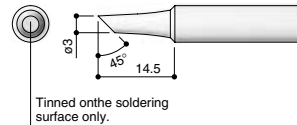
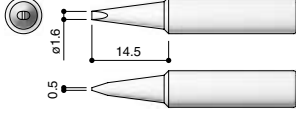
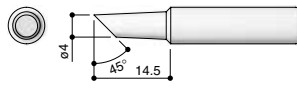
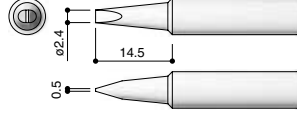
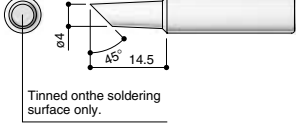
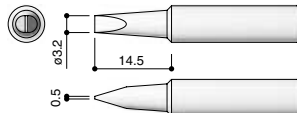
**Replacement and Optional Parts**

Part No.	Name/Description
FX8801-01	Soldering iron FX-8801/26V-65W
FH800-01BY	Iron holder FH-800/blue & yellow
A1559	Cleaning sponge
A1561	Cleaning wire
B3474	Rubber cleaner
A1560	Heating element/26V-65W
B3469	Tip enclosure
B1785	Nut
B2022	Nipple
B3466	CAL adjustment driver



Optional Tips

Unit : mm

<p>T18-B</p> 	<p>T18-C1</p> 	<p>T18-I</p> 
<p>T18-CF1</p> 	<p>T18-K</p> 	<p>T18-CF15</p> 
<p>T18-SB</p> 	<p>T18-C2</p> 	<p>T18-C05</p> 
<p>T18-CF2</p> 	<p>T18-CSF25</p> 	<p>T18-D08</p> 
<p>T18-C3</p> 	<p>T18-D12</p> 	<p>T18-CF3</p> 
<p>T18-D16</p> 	<p>T18-C4</p> 	<p>T18-D24</p> 
<p>T18-CF4</p> 	<p>T18-D32</p> 	

<http://www.mts9.com>



**HAKO** **FX-888** **ESD SAFE**  
SOLDERING STATION

can provide the solution to all your needs.  
Lead-free soldering, reducing costs, cell production, improving quality, etc.



**HAKKO FX-951** ESD SAFE  
SOLDERING STATION



- Excellent thermal recovery
- Suitable for various kinds of applications from touch up to heavy duty application.
- Informs you of errors via a warning buzzer or display.
- "Control Card" can lock the temperature settings.
- Quick and easy offsetting of tip temperature by the digital offset function.
- Low temperature alarm function is provided.
- Sleep function prevents the tip from being oxidized and extends the tip life.
- Energy-saving automatic power shut-off function.
- Space-saving compact design
- Antibacterial color sleeve enables the tip replacement to be easier and more comfortable.

Digital type

**HAKKO FX-950** ESD SAFE  
SOLDERING STATION

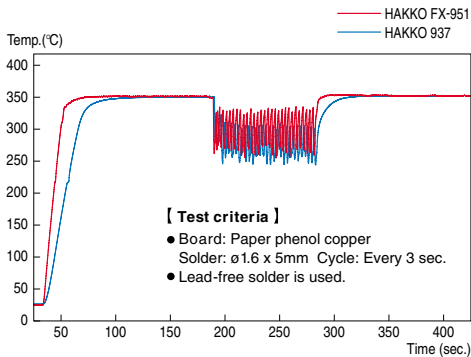


- Excellent thermal recovery
- Suitable for various kinds of applications from touch up to heavy duty application.
- "Lock key" can lock the temperature settings.
- Offset function
- Space-saving compact design
- Informing of various errors by lamp.

Analog type

<http://www.mts9.com>

Thermal Recovery Graph



Power-save Function (HAKKO FX-951)



The power-save function operates while being linked to the iron holder. After the iron is inserted into the iron holder, the sleep function\*1 activates for an arbitrarily-set time (0 to 29 min.) and the tip temperature will decrease to 200°C. After 30 minutes have elapsed, the automatic power shutoff function\*2 activates.

\*1 To use sleep function, it is necessary to set the desired time arbitrarily in advance.

For using the sleep function with the FX-950, the FH200-01 or the FH 200-02 iron holder is required, which is sold as option. Then, the time before activating the sleep function is fixed by 6 minutes and cannot be changed.

\*2 In order to use the automatic power shutoff function, it is necessary to set it in advance.

The FX-950 is not equipped with the automatic power shutoff function.

Performance comparison table

		FX-950	FX-951
Analog/Digital type		Analog	Digital
Thermal setting lock		Lock key	Control card
Power-save function	Auto-power shutoff function	×	○
	Sleep function	○ Fixed: 6min.	○ Arbitrary: 0 to 29 min.
Low temperature alarm function		×	○

Specifications

Model No.	FX-950	FX-951
Power Consumption	75W	
Temperature Range	200-450°C	
Temperature Stability	±5°C	

Station

Model No.	FX-950	FX-951
Output Voltage	24V	
Dimensions	80(W) x 118(H) x 138(D)mm	80(W) x 130(H) x 131(D)mm
Weight (w/o cord)	1.2kg	

Iron

Model No.	FM-2028
Power Consumption	70W (24V)
Tip to Ground Resistance	< 2Ω
Tip to Ground Potential	< 2mV
Cord length	1.2m
Total Length (w/o cord)	188mm with 2.4D tip
Weight (w/o cord)	30g with 2.4D tip

Replacement Tips

Please refer to page 12-13.

Replacement and Optional Parts

Part No.	Name/Description
FM2028-01	HAKKO FM-2028 24V/70W w/yellow sleeve
FM2028-02	HAKKO FM-2028 24V/70W w/blue sleeve
FH200-02	HAKKO FH-200 <cleaning sponge type>
FH101-02	HAKKO FH-101 <cleaning sponge type>
B3253	Connecting cable
A1536	Cleaning sponge, green
599B-02	HAKKO 599B tip cleaner
B2756	Tip tray
B3216	Sleeve assembly, yellow
B3217	Sleeve assembly, orange
B3218	Sleeve assembly, blue
B3219	Sleeve assembly, green

Sleeve Assembly



Four color sleeve assemblies are available. Workability increases if sleeves are changed according to the tip shape and job application.

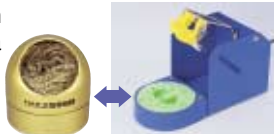
Packing List

Model Name	Contents
HAKKO FX-951	Station ..... 1
	Iron (FM-2028) ..... 1
	Power cord ..... 1
	Iron holder with cleaning sponge (No.FH200-02) ..... 1
	Control card ..... 1
HAKKO FX-950	Heat resistant pad ..... 1
	Station ..... 1
	Iron (FM-2028) ..... 1
	Power cord ..... 1
	Iron holder with cleaning sponge (No.FH101-02) ..... 1
	Lock key ..... 1
	Heat resistant pad ..... 1

\* Tips are optional parts.

Iron Holder

The unit can be used with HAKKO 599B instead of a cleaning sponge.



Tip Tray



No. B2756

For storage of tip

- \* Option
- \* Tips are not included.

N<sub>2</sub> System



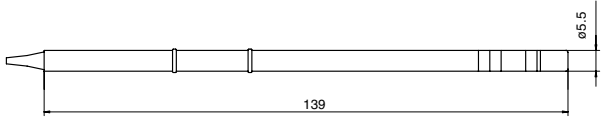
Combination sample with the N<sub>2</sub> system HAKKO FX-951, HAKKO FM-2026, HAKKO FX-780, HAKKO FX-791

\* For further details, refer to page 18-21.



Optional Tips

Unit : mm

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

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
TUNNEL	T12-1209 Quad 8.4 x 8.4			
SPATULA	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
SPATULA	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		
SPATULA				

SPECIAL APPLICATIONS 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)
T12-BCM2 Shape-2BC Bevel with indent**	T12-BCM3 Shape-3BC Bevel with indent**		

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

\* These tips are tinned on the soldering surface only.

\*\* T12-BCM2 and T12-BCM3 are not available for sale or use in the U.S.A.



HAJKO FM-203 ESD SAFE SOLDERING STATION



- A single station plays multiple roles of soldering, desoldering and SMD rework.
- Two connection ports:—  
Two soldering irons can be connected at the same time, which allows users to select and use the appropriate one without having to connect them alternatively.
  - Powerful thermal recovery
  - Sleep function
  - Auto power shutoff function

Soldering



HAJKO FM-2027 ESD SAFE SOLDERING IRON

- Light weight grip provides fatigueless work even for extended jobs.
- New colored antibacterial sleeves can be replaced more easily than conventional ones.
- Four colored sleeves are provided. Using color classification for tip shape enables convenient work.

SMD Rework



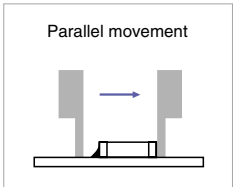
HAJKO MODEL FM-2022 ESD SAFE PARALLEL REMOVER

- Unique parallel movement of tips allows easy removal.
- Direct heating prevents damage to neighboring sensitive components comparing with hot air.

FM-2022:—  
Can be used for chips and flat packages up to 25mm in size.



FM-2023:—  
Standard or reverse tweezers action can be selected with a switch lever.  
Equipped with a small ergonomic grip.



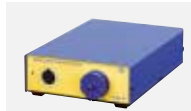
Desoldering-external air compressor type



HAJKO MODEL FM-2024 ESD SAFE DESOLDERING TOOL

- Small ergonomic style grip with light weight provides fatigueless work.
- New design with reduced distance between the nozzle end and filter pipe prevents clogging by sucked solder.
- Easy maintenance:—  
Uses disposable paper filter pipes.  
One-touch nozzle replacement.
- Detachable handle allows two-way use: gun type or straight type
- Safe design:—  
Equipped with a nozzle lock function.  
Nozzles can be safely replaced with the nozzle remover.

\* Before using the FM-2024 unit, connect to a compressor.



\* Desoldering Control Box (DCB) for MODEL FM-2024

Conversion Kit

FM-2027 Conversion Kit (No.FM2027-03)



FM-2022 Conversion Kit (No.FM2022-04)



FM-2023 Conversion Kit (No.FM2023-04)



FM-2024 Conversion Kit



\* The part number of "Conversion kit" varies from the input voltage.  
Please contact with the nearest representative for the further information.

<http://www.mts9.com>

Sleep function

After the iron is inserted into the iron holder, the sleep function activates for a user-settable time (0 to 29 min.) and the tip temperature will decrease to approximately 200°C.

Auto power shutoff function

When 30 minutes have elapsed after inserting the iron into the iron holder, the auto power shut-off function activates and stops to apply power to the heating element.



connecting cable



Connect the FM-203 station and FH-200 iron holder using a connecting cable.

\* It is necessary to change unit settings before using sleep and auto power shut-off functions.

Combination examples

Since all handpieces cannot be connected to each connector port, refer to the following table.



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

\*1 If the FM-2022 or the FM-2023 handpiece is connected to the channel D connector the other handpiece connected to the channel S connector can be used with it at the same time. If either handpiece is used, the non-used handpiece will be automatically subject to sleep mode.

\*2 If two FM-2024 handpieces are connected to both channel connectors connect each of them to the desolder control box.

\*3 The N<sub>2</sub> generator and N<sub>2</sub> airflow meter must be connected before using the FM-2026. For further details, refer to page 18-21.



Specifications

Model No.	FM-203
Power Consumption	140W
Temperature Range	200-450°C
Temperature Stability	±5°C at idle temperature

Station

Output	24V
Dimensions	120 (W) x 120 (H) x 190 (D) mm
Weight	2.7kg

FM-2027

Model No.	FM-2027
Power Consumption	70W (24V)
Tip to Ground Resistance	< 2Ω
Tip to Ground Potential	< 2mV
Total Length (w/o cord)	188mm with 2.4D tip
Weight (w/o cord)	30g with 2.4D tip
Cord	1.2m

MODEL FM-2022/MODEL FM-2023

Model No.	FM-2022	FM-2023
Power Consumption	140W (24V)	
Temperature Range	200-400°C	
Tip to Ground Resistance	< 2Ω	
Tip to Ground Potential	< 2mV	
Total Length (w/o cord & tip)	148mm with SOP 25L tip	117mm with I tip
Weight (w/o cord)	64g with SOP 25L tip	37g with I tip
Cord	1.2m	

MODEL FM-2024

Model No.	FM-2024
Power Consumption	70W (24V)
Temperature Range	350-450°C
Tip to Ground Potential	< 2mV
Tip to Ground Resistance	< 2Ω
Total Length (w/o cord)	180mm with ø1.0 nozzle
Weight (w/o cord & hose)	65g with ø1.0 nozzle
Cord	1.2m

Desolder Control Box

Power Consumption	12W
Output	24V
Vacuum Generator	Ejector type
Vacuum Pressure (Max.)	93kPa (700mmHg)
Suction Flow	28ℓ/min.
Nozzle to Ground Potential	< 2mV
Applied Air Pressure	490kPa (5.0kgf/cm²) when in use (trigger or button is pressed.)
Compressed Air Consumption	1.62 c.f.m (46ℓ/min.)
Dimensions	119(W) x 45(H) x 172(D)mm
Weight (w/o cord)	1.2kg

Replacement Tips and Nozzles

FM-2027: Please refer to page 12-13.  
MODEL FM-2022, MODEL FM-2023, MODEL FM-2024: Please refer to page 17.

N<sub>2</sub> System



Combination sample with the N<sub>2</sub> system HAKKO FM-203, HAKKO FM-2026, HAKKO FX-780, HAKKO FX-791  
\* For further details, refer to page 18-21.

Packing List

Model Name	Contents
HAKKO FM-203	Station .....1
	Soldering iron (FM-2027) .....1
	Power cord .....1
	Iron holder with 599B tip cleaner (No.FH200-01) .....1
	Control card .....1
	Connecting cable .....1
	Tip tray .....1
	Heat resistant pad .....1
	* Tip is an optional part.
HAKKO FM-2027 (Conversion kit)	Soldering iron (FM-2027) .....1
	Iron holder with 599B tip cleaner (No.FH200-01) .....1
	Connecting cable .....1
	Heat resistant pad .....1
	* Tip is an optional part.
HAKKO MODEL FM-2022 (Conversion kit)	Parallel remover (MODEL FM-2022) .....1
	Iron holder with cleaning sponge (No.FH200-03) .....1
	Connecting cable .....1
	Heat resistant pad .....1
	* Tip is an optional part.
HAKKO MODEL FM-2023 (Conversion kit)	Mini parallel remover (MODEL FM-2023) .....1
	Tips (T9-I/2pcs of set) .....1
	Iron holder with cleaning sponge (No.FH200-04) .....1
	Connecting cable .....1
	Heat resistant pad .....1
HAKKO MODEL FM-2024 (Conversion kit)	Component bed .....1
	Desoldering tool (MODEL FM-2024) .....1
	Desolder control box (DCB) .....1
	Iron holder with 599B tip cleaner (No.FH200-05) .....1
	Connecting cable .....1
	Cleaning drill .....1
	Ceramic paper filter.....10
	Filter pipe assembly .....1
	Handle (for gun configuration) .....1
	Nozzle remover.....1
	* Nozzle is an optional part.

Replacement Parts

Part No.	Name/Description
FM2027-02	HAKKO FM-2027/Connector assembly 24V-70W
FM2022-02	MODEL FM-2022/24V-140W
FM2023-02	MODEL FM-2023/24V-140W
FM2024-02	MODEL FM-2024/24V-70W
B3216	Sleeve assembly, yellow
B3218	Sleeve assembly, blue
B3217	Sleeve assembly, orange
B3219	Sleeve assembly, green
599B-02	Tip cleaner
B3253	Connecting cable
A1514	Ceramic paper filter/10 pcs
A1512	Front holder
A1511	Filter pipe assembly
B2756	Tip tray

Replacement Tips and Nozzles

Unit : mm

T8 Series For MODEL FM-2022 \* 1set: 2pcs.

CHIP	T8-1001	Chip 0.5I	T8-1002	Chip 0.5C	T8-1003	Chip 1L	T8-1004	Chip 2L	T8-1013	Chip 3L
SOP	T8-1005	SOP 6L	T8-1006	SOP 8L	T8-1007	SOP 10L	T8-1008	SOP 13L	T8-1009	SOP 16L

T9 Series For MODEL FM-2023 \* 1set: 2pcs.

CHIP	T9-I	Chip I	T9-L1	Chip 1L	T9-L2	Chip 2L

N1 Series For MODEL FM-2024

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



N2 System

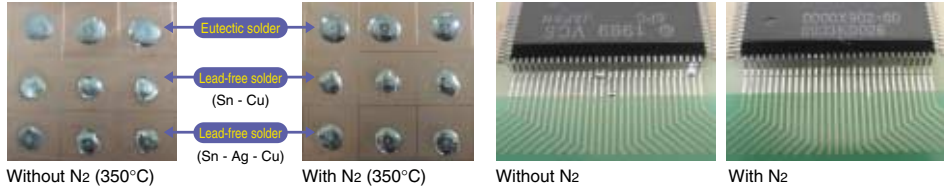


Setting example with the FX-951  
\* HAKKO FX-951, HAKKO FM-2026  
HAKKO FX-780, HAKKO FX-791

N2 gas and preheating effect improves the solderability greatly!

- The preheating effect is achieved by passing Nitrogen gas along the heating element in the hand piece. Soldering can be done on multilayer PWB and high density PWB sensitive to heat without raising the temperature of the tip excessively, even when the melting point of lead-free solder is high.
- Improvement of wettability and spreadability.
- Preventing oxidation.
- Space saving:—  
In case of setting with HAKKO FX-951, the dimensions are 163(W) x 280(H) x 110(D)mm  
In case of setting with FM-203, the dimensions are 201(W) x 280(H) x 190(D)mm

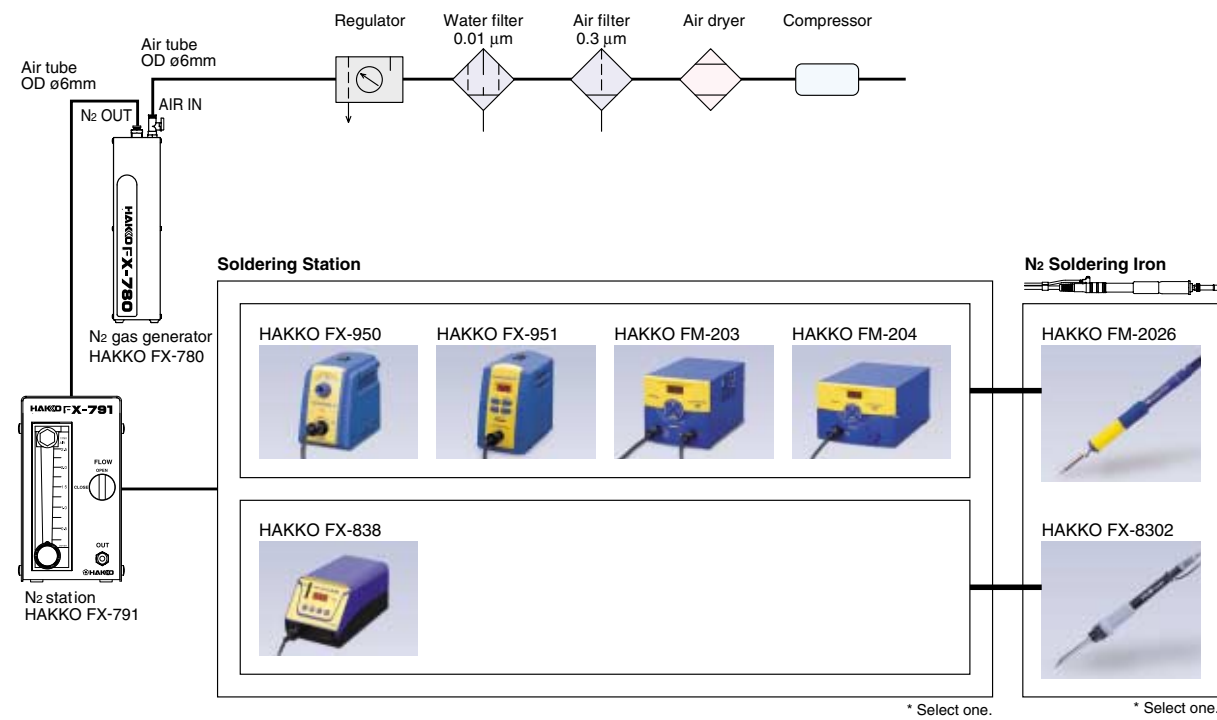
Comparison of wettability and spreadability



Less bridge is generated even for components susceptible to bridging.

<http://www.mts9.com>

Connection method



Compact High-Performance N2 Generator



HAKKO FX-780

■ HAKKO FX-780 generate Nitrogen gas at a maximum concentration of 99.9%. It is very compact and can be installed in a minimal space. Moreover, it can be placed perpendicularly or horizontally.

Compact N2 Flow Meter



HAKKO FX-791

■ This meter is very compact and can be installed in a minimal space next to the soldering station. The flow meter has a range between 0.25-2.5ℓ/min, allowing easy control.  
(Recommended flow rate is 0.5ℓ/min. to 1.5ℓ/min. Adjust the flow rate depending on the tip shape.)

N2 Soldering Iron

Nitrogen gas passes between the tip and nozzle assembly uniformly and the soldering tip is entirely covered with Nitrogen gas which intercepts oxygen to prevent the soldering tip and solder from being oxidized and increases the preheating effect. It allows more stable and uniform soldering.



HAKKO FM-2026

■ N2 Soldering iron with high-out 70W  
FM-2026 Conversion Kit (No.FM2026-04)



Iron holder (No.FH200-01) is included.

● Sleep Function

Station	FX-951		FX-952*		FM-203	FM-204	FM-202*
Conversion Kit	Former	Latest	Former	Latest			
FM-2026 Conversion Kit (No.FM2026-04)	○	×	○	×	○	○	×

○ ... Equipped with the sleep function    × ... Not equipped with the sleep function  
\* Discontinued Product



HAKKO FX-8302

- Heavy-duty soldering iron 150W
- Easy tip replacement  
—A cartridge type soldering tip can be replaced easily and quickly.



Specifications

<b>FX-780</b>	
Model No.	FX-780
Air Supply Pressure	0.3-0.7MPa
Concentration of Generated N <sub>2</sub>	99.9% (Max.)
Amount of Generated N <sub>2</sub>	1.5ℓ/min. (When compressed air of 0.5MPa is supplied at 25°C, the concentration of generated nitrogen is 98%.)
Dimensions (w/o sockets & valve)	73(W) x 282(H) x 71(D)mm
Weight (w/o racks)	1.5kg

FX-791

Model No.	FX-791
Dimensions	70(W) x 121(H) x 134(D)mm
Weight	600g
Pressure Gauge for Discharged Gas	0.2MPa (2.0kgf/cm <sup>2</sup> )
Gas flow	0.25-2.5ℓ/min

FM-2026

Model No.	FM-2026
Power Consumption	70W (24V)
Tip to Ground Resistance	< 2Ω
Tip to Ground Potential	< 2mV
Cord	1.2m
Total Length (w/o cord)	205mm with 2.4D tip
Weight (w/o cord)	45g w/nozzle assembly C & 2.4D tip

FX-8302

Model No.	FX-8302
Power Consumption	150W
Tip to Ground Resistance	< 2Ω
Tip to Ground Potential	< 2mV
Cord	1.2m
Total Length (w/o cord)	195mm with 2.4D tip
Weight (w/o cord)	41g w/nozzle assembly D & 2.4D tip

Packing List

Model Name	Contents
HAKKO FX-780	N <sub>2</sub> generator .....1 Racks for station .....2
HAKKO FX-791	N <sub>2</sub> station .....1
HAKKO FM-2026 (Conversion kit)	N <sub>2</sub> soldering iron (FM-2026) .....1 Iron holder with 599B tip cleaner (No.FH200-01) .....1 Connecting cable .....1 Heat resistant pad .....1 * This unit does not include a soldering tip or nozzle as- sembly. When purchasing this unit, please buy your de- sired soldering tip and nozzle assembly together.
HAKKO FX-8302	N <sub>2</sub> soldering iron (FX-8302).....1 * This unit does not include a soldering tip or nozzle as- sembly. When purchasing this unit, please buy your de- sired soldering tip and nozzle assembly together.

Replacement and Optional Parts

Part No.	Name/Description
FM2026-02	HAKKO FM-2026/24V-70W
B2974	Sleeve cover
B2765D	Sleeve assembly, yellow
B2768D	Sleeve assembly, orange
B2769D	Sleeve assembly, blue
B2998*	Nitrogen guard

\* When using the soldering iron holder cover, install it into your soldering iron holder.

Sleeve Assemblies



No. B2765D (Yellow)



No. B2768D (Orange)



No. B2769D (Blue)

Optional Tips and Nozzle Assemblies

Unit : mm

For FM-2026

Tip	Applicable Nozzle Assembly	Tip	Applicable Nozzle Assembly
T13-B2 Shape-0.5B	B2708 Nozzle assembly C	T13-BL Shape-BL	B2898 Nozzle assembly E
T13-BC2 T13-BCF2* Shape-2BC	B2706 Nozzle assembly A	T13-BC3 T13-BCF3* Shape-3BC	B2900 Nozzle assembly G
T13-D16 Shape-1.6D	B2708 Nozzle assembly C	T13-D24 Shape-2.4D	B2708 Nozzle assembly C
T13-KF Shape-KF	B2923 Nozzle assembly J	T13-KR Shape-KR	B2902 Nozzle assembly I
T13-BCM2 Bevel with indent** Shape-2BC	B2706 Nozzle assembly A	T13-BCM3 Bevel with indent** Shape-3BC	B2900 Nozzle assembly G

\* These tips are tinned on the soldering surface only.  
\*\* T13-BCM2 and T13-BCM3 are not available for sale or use in the U.S.A.

For FX-8302

Tip	Applicable Nozzle Assembly
T20-B2	B3121 Nozzle assembly A
T20-BC2 T20-BCF2* T20-BC4 T20-BCF4* Shape-2BC	B3124 Nozzle assembly D
T20-D16	B3123 Nozzle assembly C
T20-D6	B3561 Nozzle assembly E
T20-KU	B3122 Nozzle assembly B
T20-BL3	B3123 Nozzle assembly C
T20-BC3 T20-BCF3* Shape-3BC	B3124 Nozzle assembly D
T20-C5	B3124 Nozzle assembly D
T20-D24	B3124 Nozzle assembly D
T20-J02	B3122 Nozzle assembly B
T20-BL	B3121 Nozzle assembly A
T20-BCM2**	B3124 Nozzle assembly D
T20-C6	B3124 Nozzle assembly D
T20-D32	B3124 Nozzle assembly D
T20-K	B3123 Nozzle assembly C
T20-BL2	B3121 Nozzle assembly A

\* Tinned on the soldering surface only.  
\*\* The part number T20-BCM2 is not available for sale or use in the U.S.A.

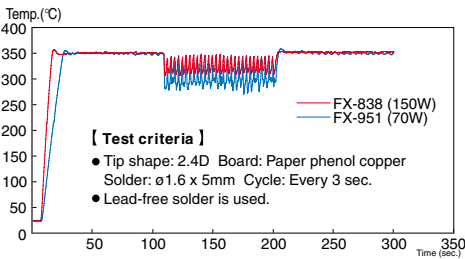


HAKKO FX-838 ESD SAFE SOLDERING STATION



- High Power 150W Soldering Station suitable for soldering from large to fine components.
- Great thermal recovery improves the soldering environment.
- Easy and speedy tip replacement is possible.
- Equipped with high-power mode for soldering heat sinks, shield cases and chassis, which require high heat capacity in particular.
- Operate at Maximum Temperature of 500 degrees.
- Temperature preset mode saves time and effort.
- Auto sleep function
- Auto power shutoff function

Thermal Recovery Graph



Easy Tip Replacement

Tips can be quickly and easily replaced because they are of the cartridge type.



Loosen the nipple slightly and remove the tip.

Replace the tip and tighten the nipple.

<http://www.mts9.com>

Specifications

Model No.	HAKKO FX-838
Power Consumption	158W

Station

Output Voltage	27V
Temperature Range	200-500°C
Temperature Stability	±5°C
Dimensions	110(W) x 110(H) x 205(D)mm
Weight (w/o cord)	3.2kg

Iron

Model No.	HAKKO FX-8301
Power Consumption	150W
Tip to Ground	< 2Ω
Resistance	< 2mV
Tip to Ground Potential	Ceramic heater
Heating Element	1.2m
Length of Cord	175mm with 2.4D tip
Length (w/o cord)	31g with 2.4D tip

Packing List

Model Name	Contents
Hakko FX-838	Station .....1
	Iron (FX-8301) .....1
	Control card .....1
	Power cord .....1
	Iron holder with cleaning sponge and 599B .....1
	Connecting cable .....1
	Heat resistant pad .....1

\* Tip are optional parts.

N<sub>2</sub> Soldering Iron (Optional)



HAKKO FX-8302 ESD SAFE

N<sub>2</sub> System to Expand the HAKKO FX-838 Functions

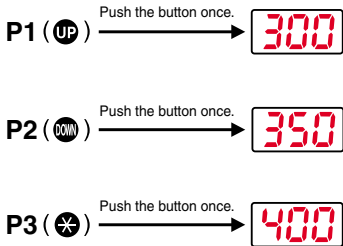


Combination sample  
HAKKO FX-838,  
HAKKO FX-8302\*,  
HAKKO FX-780,  
HAKKO FX-791.

\* Optional HAKKO FX-8302 is required to complete N<sub>2</sub> System.

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.



Example

- For setting the temperature according to the tip shape or application.
- For the temperature setting by different operators.

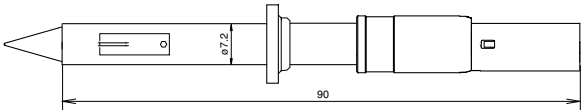
One push of a button can quickly recall each setting.

A great change!

- Because 500°C is the maximum setting temperature, work which is assumed to suffer from insufficient thermal power can be done.

Replacement Tips

Unit : mm



Tip	Applicable Nozzle Assembly	Applicable Nozzle Assembly	Applicable Nozzle Assembly	Applicable Nozzle Assembly	
T20-BC2 T20-BCF2*	B3121 Nozzle assembly A	T20-BC2 T20-BCF2*	B3124 Nozzle assembly D	T20-BC3 T20-BCF3*	B3124 Nozzle assembly D
T20-BC4 T20-BCF4*	B3124 Nozzle assembly D	T20-C5	B3124 Nozzle assembly D	T20-C6	B3124 Nozzle assembly D
T20-D16	B3123 Nozzle assembly C	T20-D24	B3124 Nozzle assembly D	T20-D32	B3124 Nozzle assembly D
T20-D6	B3561 Nozzle assembly E	T20-J02	B3122 Nozzle assembly B	T20-K	B3123 Nozzle assembly C
T20-KU	B3122 Nozzle assembly B	T20-BL	B3121 Nozzle assembly A	T20-BL2	B3121 Nozzle assembly A
T20-BL3	B3123 Nozzle assembly C	T20-BCM2**	B3124 Nozzle assembly D		

\* Tinned on the soldering surface only.

\*\* The part number T20-BCM2 is not available for sale or use in the U.S.A.



HAKKO 937 ESD SAFE SOLDERING STATION



- Digital indicator ensures accurate temperature setting by all personnel.
- Once set, temperature cannot be changed without inserting the control card, providing easy temperature management.
- Compact unit takes up little space on the workbench.
- Thinner grip for easier use.
- ESD safe by design.

Irons for Soldering Stations

3 Types of iron available: for HAKKO 937 Soldering Stations

Type	Small: For micro soldering	Medium: Standard	Large: For heavy duty soldering
Model No.	900S-ESD	907-ESD	908-ESD
Thermal recovery graph*			

\* Test criteria  
Board: Paper phenol copper  
Solder:  $\phi 1.6 \times 5\text{mm}$   
Cycle: Every 3 sec.

Specifications

Model No.	937					
Power Consumption	60W					
<b>Station</b>						
Output Voltage	AC 24V					
Temperature Range	200-480°C					
Dimensions	120(W) x 93(H) x 170(D)mm					
Weight (w/o cord)	1.3kg					
<b>Iron</b>						
Model No.	900S	907	908			
Type	S	M	L			
Style	Regular	ESD	Regular	ESD	Regular	ESD
Power Consumption	50W (24V)					
Standard Tip	900S-T-I		900M-T-B		900L-T-B	
Tip to Ground Resistance	< 2Ω					
Tip to Ground Potential	< 2mV (Typ.0.6mV)					
Heating Element	Ceramic Heater					
Total Length (w/o cord)	176mm		190mm		200mm	
Weight (w/o cord)	25g		44g		54g	

Packing List

Model Name	Contents
HAKKO 937	Station.....1
	Iron (900S/907/908) .....1
	Iron holder with cleaning sponge (900S-No.C1141, 907/908-No.C1142) .....1
	Control card.....1

When ordering or HAKKO 937, please specify the type of Iron (S, M or L).

Replacement Tips

Please refer to page 25.

Optional Parts

Please refer to page 27, 59.



Stackable design puts two units in the bench space of one unit.

Replacement Tips

Unit : mm

Small For 900S, 900S-ESD

900S-T-B Shape-B	900S-T-1C Shape-1C	900S-T-2C Shape-2C	900S-T-1.2D Shape-1.2D
900S-T-1.6D Shape-1.6D	900S-T-I Shape-I		

Medium For 900M, 900M-ESD, 907, 907-ESD, 933

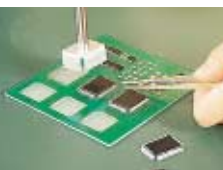
900M-T-B Shape-B	900M-T-0.5C Shape-0.5C	900M-T-0.8C Shape-0.8C	900M-T-1C Shape-1C
900M-T-1.5CF* Shape-1.5C	900M-T-2C Shape-2C	900M-T-3C Shape-3C	900M-T-4C Shape-4C
900M-T-0.8D Shape-0.8D	900M-T-1.2D Shape-1.2D	900M-T-1.6D Shape-1.6D	900M-T-2.4D Shape-2.4D
900M-T-3.2D Shape-3.2D	900M-T-H Shape-H	900M-T-1.8H Shape-1.8H	900M-T-I Shape-I
900M-T-K Shape-K	900M-T-LB Shape-LB	900M-T-1.2LD Shape-1.2LD	900M-T-2LD Shape-2LD
900M-T-R Shape-R	900M-T-RT Shape-RT	900M-T-S3 Shape-S3	900M-T-S4 Shape-S4
900M-T-SB Shape-SB	900M-T-SI Shape-SI		

Large For 900L, 900L-ESD, 908, 908-ESD, 934

900L-T-B Shape-B	900L-T-2B Shape-2B	900L-T-2C Shape-2C	900L-T-3C Shape-3C
900L-T-4C Shape-4C	900L-T-5C Shape-5C	900L-T-2.4D Shape-2.4D	900L-T-3.2D Shape-3.2D
900L-T-I Shape-I	900L-T-K Shape-K	900L-T-S1 Shape-S1	

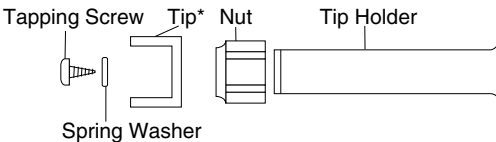
\* These tips are tinned on the soldering surface only.

For SMD Desoldering



	907	907 ESD	900M	900M ESD
		+		
Tip Holder (No.900M-1000)				
		+		
Tip				

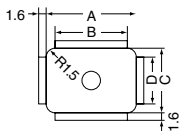
No.900M-1000

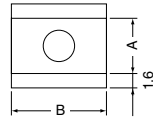



\* Tip is not included.

Optional Tips

Unit : mm

Part No.	Tip Size				
	A	B	C	D	
924-T-1002	12.5	9.5	12.5	9.5	
924-T-1003	15.5	12.5	15.5	12.5	
924-T-1004	16.3	13.3	16.3	13.3	
924-T-1005	17.0	14.0	17.0	14.0	
924-T-1006	23.0	20.0	17.0	14.0	
924-T-1007	20.0	17.0	20.0	17.0	

Part No.	Tip Size		
	A	B	
924-T-1010	6.0	5.0	
924-T-1011	6.0	10.0	
924-T-1012	7.0	12.5	
924-T-1013	9.0	15.2	
924-T-1014	9.0	18.0	

Part No.	Type	
924-T-1020	Spatula 9.5	





- Two soldering irons of different thermal capacities may be used simultaneously.
- Choose the exact irons you need for your soldering applications.
- Cost effective and practical in production, using up less available space.
- Super quick heat-up and faster thermal recovery, permitting high quality soldering at lower temperature.
- Two separate controls, independent of each other.

**Specifications**

Model No.	928
Power Consumption	120W

**Station**

Output Voltage	AC 24V
Temperature Range	200-480°C
Dimensions	135mm (5.31in) x 87mm (3.43in) x 19mm (0.75in)
Weight (w/o cord)	2.7kg

**Iron**

Model No.	900S-ESD	900M-ESD	900L-ESD
Power Consumption	50W (24V)		
Standard Tip (Shape-B)	900S-T-I	900M-T-B	900L-T-B
Tip to Ground Resistance	2Ω		
Tip to Ground Potential	< 2mV (Typ.0.6mV)		
Heating Element	Ceramic Heater		
Total Length (w/o cord)	176mm	190mm	200mm
Weight (w/o cord)	25g	45g	55g

**Replacement Tips**

Please refer to page 25.

**Optional Parts**

Please refer to page 27, 59.

**Packing List**

Model Name	Contents
HAKKO 928 (LL)	Station .....1
	Iron (900L-ESD, 900L-ESD).....2
HAKKO 928 (LM)	Iron holder with cleaning sponge (No.631-03) .....1
	Station .....1
HAKKO 928 (LS)	Iron (900L-ESD, 900M-ESD).....2
	Iron holder with cleaning sponge (No.631-03) .....1
HAKKO 928 (MM)	Station .....1
	Iron (900L-ESD, 900S-ESD) .....2
HAKKO 928 (MS)	Iron holder with cleaning sponge (No.631-04) .....1
	Station .....1
HAKKO 928 (SS)	Iron (900M-ESD, 900M-ESD).....2
	Iron holder with cleaning sponge (No.631-03) .....1
HAKKO 928 (SS)	Station .....1
	Iron (900S-ESD, 900S-ESD).....2
HAKKO 928 (SS)	Iron holder with cleaning sponge (No.631-05) .....1
	Station .....1





- Available for your Hakko 701, 702B, 928 or 937.
- ESD safe by design.
- Compact design and light weight.
- Easy positioning for the solder feeding.
- A variety of tip type.

Specifications

Model No.	951	952
Type	M	L
Power Consumption	50W (24V)	
Temperature Range	200-480°C	
Tip to Ground Resistance	< 2Ω	
Tip to Ground Potential	< 2mV (Typ.0.6mV)	
Heating Element	Ceramic Heater	
Standard Tip	900M-T-S10 (Shape-S10) 900L-T-S1 (Shape-S1)	
Standard Guide Nozzle	ø1.0mm (No.B2654)	
Usable Solder Dia.	ø0.6, 0.8, 1.0, 1.2, 1.6mm	
Cord	1.1m	
Dimensions (w/o cord)	170 (W) × 180 (H)mm	
Weight (w/o cord)	177g	187g

Optional Parts

Part No.	Name/Description
B2652	Guide nozzle/ø0.6mm ESD
B2653	Guide nozzle/ø0.8mm ESD
B2654	Guide nozzle/ø1.0mm ESD
B2655	Guide nozzle/ø1.2mm ESD
B2656	Guide nozzle/ø1.6mm ESD
A1321	Heating element
937	Control cable

Replacement Tips

Unit : mm

Medium For 951, 958

900M-T-B 900M-T-BF2* Shape-B R0.5 17	900M-T-0.8C Shape-0.8C 0.8 45 17
900M-T-4C 900M-T-4CF* Shape-4C 4 45 17	900M-T-1.6D Shape-1.6D 0.6 2 17
900M-T-K Shape-K 15 45 15	900M-T-SB Shape-SB 0.2 R0.2 14
900M-T-S10 Shape-S10 17 45 17	900M-T-S11 Shape-S11 14 45 17

900M-T-2C 900M-T-2CF* Shape-2C 2 45 17	900M-T-3C 900M-T-3CF* Shape-3C 3 45 17
900M-T-2.4D Shape-2.4D 2.4 5 17	900M-T-3.2D Shape-3.2D 3.2 6.5 17
900M-T-S3 Shape-S3 0.5 9 19	900M-T-S4 Shape-S4 0.5 R0.25 15

Large For 952, 959

900L-T-B Shape-B R0.5 20	900L-T-2B Shape-2B R1 20
900L-T-4C 900L-T-4CF* Shape-4C 4 45 20	900L-T-5C 900L-T-5CF* Shape-5C 5 45 15
900L-T-K Shape-K 15 45 18	900L-T-S1 Shape-S1 0.5 9 19

900L-T-2C 900L-T-2CF* Shape-2C 2 45 20	900L-T-3C 900L-T-3CF* Shape-3C 3 45 20
900L-T-2.4D Shape-2.4D 2.4 5 20	900L-T-3.2D Shape-3.2D 3.2 8 20

\* These tips are tinned on the soldering surface only.  
\* 900M-T-BF2 is tinned a distance of 2mm from the end of the tip.  
\* For heavy duty soldering HAKKO recommends the 952 and the 959 with heavier tips.

**CAUTION**  
Use only genuine replacement tips for Hakko 951, 952, 958, 959.  
The tips for Hakko Dash are not available to use.



HAKKO 933·934

SOLDERING IRON



- Simple and quick temperature setting by inserting the appropriate temperature button into the handle.
- Easy temperature management-preset temperature can be seen at a glance.
- More efficient use of work space.

Specifications

Model No.	933	934
Power Consumption	51W	
Standard Tip	900M-T-B (Shape-B)	900L-T-B (Shape-B)
Temperature	300 · 330 · 360 · 390 · 420 · 450 · 480°C	
Tip to Ground Resistance	< 2Ω	
Tip to Ground Potential	< 2mV (Typ. 0.6mV)	
Heating Element	Ceramic heater	
Total Length (w/o cord)	200mm	210mm
Weight (w/o cord)	55g	65g

Packing List

Model Name	Contents
HAKKO 933	Iron (M) .....1
	Temperature setting button .....3 (360°C-No.B1768, 390°C-No.B1769, 420°C-No.B1770)
HAKKO 934	Iron (L) .....1
	Temperature setting button .....3 (360°C-No.B1768, 390°C-No.B1769, 420°C-No.B1770)

\* 390°C button is originally set into the iron.  
Other setting buttons are available as optional parts.

Replacement Tips

Please refer to page 25.  
· Tips for HAKKO 933 = Tips for M-Type Iron  
· Tips for HAKKO 934 = Tips for L-Type Iron

Optional Parts

Part No.	Name/Description
B1766	Temp. setting button 300°C
B1767	Temp. setting button 330°C
B1768	Temp. setting button 360°C
B1769	Temp. setting button 390°C
B1770	Temp. setting button 420°C
B1771	Temp. setting button 450°C
B1772	Temp. setting button 480°C

Recommended Iron Holders



No. 606



No. 633-01



No. 633-02

Temp. Setting Button







- Begin soldering in only 10 seconds!
- Greater thermal capacity and rapid transmission to the tip means faster thermal recovery.
- The temperature control sensor is built into the heating element for faster, more stable temperature control.
- The highly insulated ceramic heater never overheats.  
An insulation factor of over 100MΩ can be maintained even during actual use.
- The compact, light weight design with high cooling efficiency at the handle permits fatigue-free soldering over long periods for maximum work efficiency.

Specifications

Model No.	918	920	921	922
Power Consumption	55W			
Standard Tip	918-T-B (Shape-B)	920-T-SB (Shape-SB)	920-T-B (Shape-B)	
Temperature	420°C	300°C	370°C	420°C
Heating Element	Ceramic Heater			
Insulation Resistance	100MΩ			
Total Length (w/o cord)	220mm	210mm		
Weight (w/o cord)	70g	50g		

Recommended Iron Holders



No.606



No.633-01



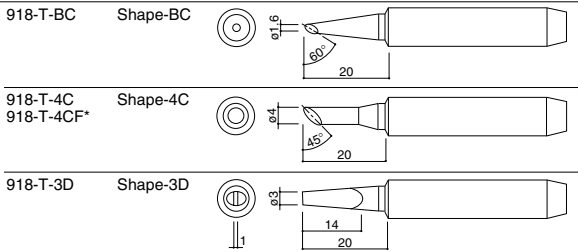
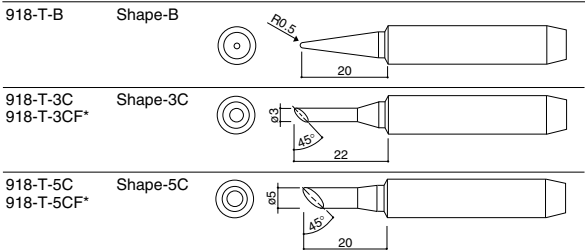
No.633-02

<http://www.mts9.com>

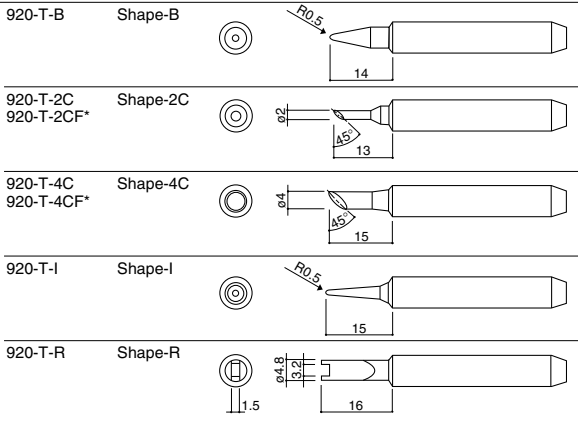
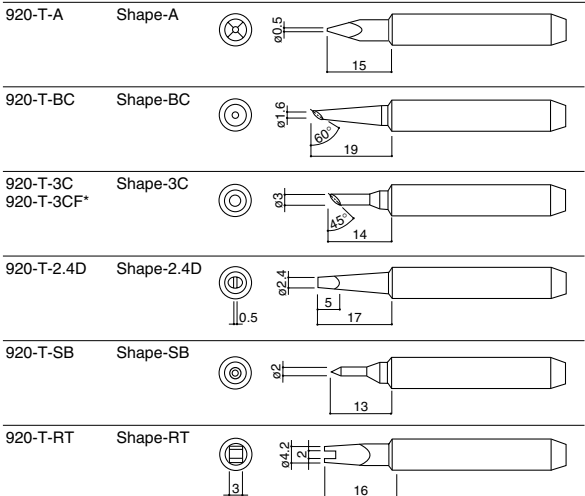
Replacement Tips

Unit : mm

For 918



For 920, 921, 922



\* These tips are tinned on the soldering surface only.



HAKKO DASH  
SOLDERING IRON



Specifications

Model No.	N452	N453	N454
Power Consumption	15W	20W	25W
Standard Tip	N452-T-B (Shape-B)		N454-T-B (Shape-B)
Heating Element	Ceramic Heater		
Insulation Resistance	200MΩ	100MΩ	
Total Length (w/o cord)	185mm	177mm	192mm
Weight (w/o cord)	57g	51g	59g

- Compact, light weight design with a slender handle for a more comfortable grip.
- Rod-type ceramic heater brings high insulation, and reduces the handle-to-tip distance for faster soldering with a minimum of movement.
- Special alloy heating element is printed in the alumina ceramic insulating layer and then sintered to the ceramic main body, thus completely sealing the heating element off from air. This protects the heating element from oxidation, and ensures years of trouble-free use.

Recommended Iron Holders



No.602



No.603



No.606



No.633-01



No.633-02

Replacement Tips

Unit : mm

For N452, N453

N452-T-B	Shape-B	
N452-T-1C N452-T-1CF*	Shape-1C	
N452-T-3C N452-T-3CF*	Shape-3C	
N452-T-D	Shape-D	
N452-T-SB	Shape-SB	
N452-T-SD	Shape-SD	

N452-T-C	Shape-C	
N452-T-2C N452-T-2CF*	Shape-2C	
N452-T-4C N452-T-4CF*	Shape-4C	
N452-T-I	Shape-I	
N452-T-SC	Shape-SC	

For N454

N454-T-B	Shape-B	
N454-T-3C N454-T-3CF*	Shape-3C	
N454-T-5C N454-T-5CF*	Shape-5C	
N454-T-I	Shape-I	

N454-T-2C N454-T-2CF*	Shape-2C	
N454-T-4C N454-T-4CF*	Shape-4C	
N454-T-D	Shape-D	

\* These tips are tinned on the soldering surface only.



# HAKKO 455.456

SOLDERING IRON



- Both the HAKKO 455-456 incorporate a ceramic heating element, which provides a longer service life than conventional nichrome heating element.
- Alloy-coated iron tips ensure long-lasting protection from corrosion.
- The HAKKO 455 is perfect for soldering tuners, inverters and similar components.
- The HAKKO 456 is ideal for soldering chassis, dynamos, large harnesses, transformers and other parts which require a large amount of soldering.

### Specifications

Model No.	455	456
Power Consumption	40W	60W
Standard Tip	A1047 (Shape-B)	A1023 (Shape-2B)
Heating Element	Ceramic Heater	
Total Length (w/o cord)	215mm	250mm
Weight (w/o cord)	100g	150g

### Recommended Iron Holders



No.633-01



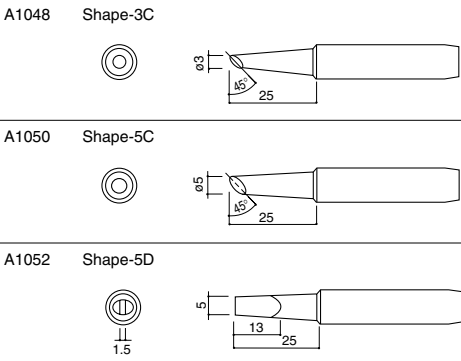
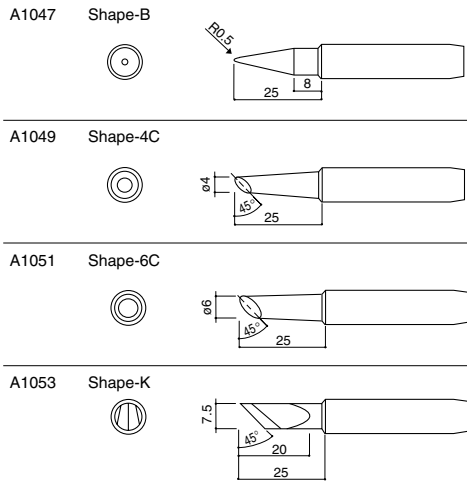
No.633-02

<http://www.mts9.com>

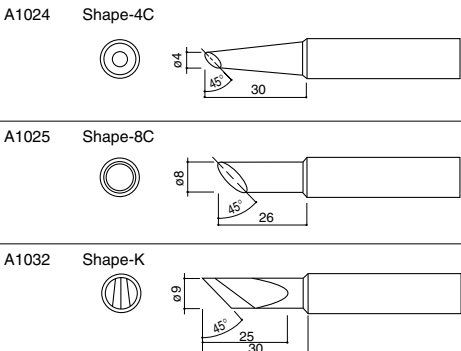
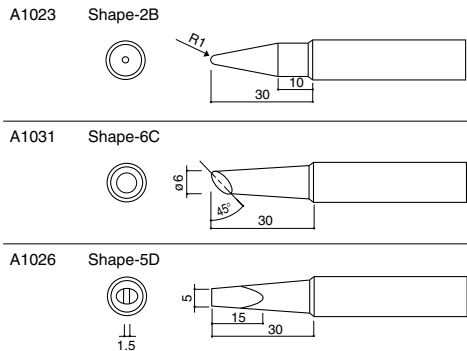
### Replacement Tips

Unit : mm

#### For 455



#### For 456





**HAKKO PRESTO**  
SOLDERING IRON



- The HAKKO PRESTO features two operating wattages-20W and 130W, which can be switched by simply pressing a button according to the component size you want to solder.
- The HAKKO PRESTO is available in both pen and gun types so you can select the type that best matches your needs.
- A Safety cap is available for 984 and 985. You can put in a toolbox immediately after finishing soldering work.

<http://www.mts9.com>

**Specifications**

Model No.	980	981	984	985
Type	Pen	Gun	Pen	Gun
Safety Cap	—	—	○	○
Power Consumption	20W/130W			
Standard Tip	980-T-B (Shape-B)			
Heating Element	Ceramic Heater			
Insulation Resistance	Over 100MΩ (20W)			
Total Length (w/o cord)	205mm	160mm	205mm	160mm
Weight (w/o cord)	48g	92g	56g	100g

**Recommended Iron Holders**



No.606



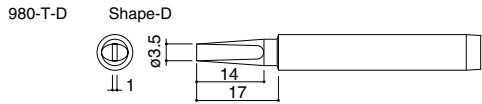
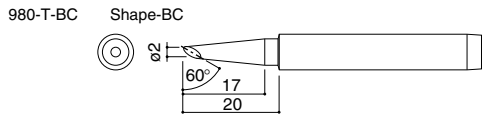
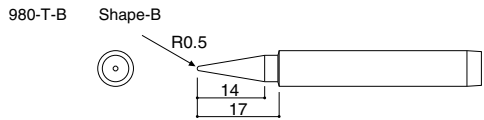
No.633-01



No.633-02

**Replacement Tips**

Unit : mm





HAKKO RED  
SOLDERING IRON



Specifications

Model No.	500	501	502	503
Power Consumption	20W	30W	40W	60W
Standard Tip	BB3 (ø3mm)	BB4 (ø4mm)		BB6 (ø6mm)
Heating Element	Nichrome Heater			
Total Length (w/o cord)	197mm	205mm		238mm
Weight (w/o cord)	40g			70g

- Ideal for use in a variety of soldering works like hobbies, repairing electric household appliances.
- 20W-40W ...  
Circuit Boards, small electrical parts, etc.
- 60W ...  
Connectors, heavier wiring connections, etc.

Recommended Iron Holders



No.602



No.603

Replacement Tips

Part No.	Name/Description
BB3	Black tip ø3mm
BB4	Black tip ø4mm
BB6	Black tip ø6mm

HAKKO FX-901  
CORDLESS IRON



Specifications

Model No.	FX-901
Power Supply	"AA" x 4 pcs.
Continuous Operating Time	Alkaline Batteries: Approx. 60 min. Nickel-Hydrogen Batteries (2150mAh): Approx. 120 min.
Power Consumption	Alkaline Batteries: 6V (6W) Nickel-Hydrogen Batteries (2150mAh): 4.8V (5W)
Standard Tip	T11-B (Shape-B)
Weight (w/o battery)	76g
Total Length (w/o cap)	212mm

\* Measurement conditions  
When using new batteries. Serviceable time varies depending on battery type.  
When the tip temperature is maintained at 300°C or higher.  
The operation time was started to measure immediately after powered on.  
\* When using the batteries except specified above, performance and hours vary.

- Various soldering application is available such as hobby, field service and repair.
- Quick & Easy tip replacement.
- Various types of batteries are available such as Alkaline Battery, Nickel-Cadmium Battery, and Nickel-Hydrogen Battery.

Battery: Selective & Cartridge



Packing List

Model Name	Contents
HAKKO FX-901	Cordless iron .....1
	Cap .....1

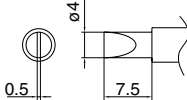
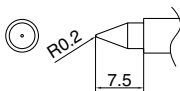
\* Battery is not included.

Replacement Tips

Unit : mm

T11-B Shape-B

T11-D4 Shape-4D





**HAKKO**  
SOLDERING GUN



- Trigger operation for easy one-hand soldering.
- Quick solder wire replacement with a simple upward push of the trigger.
- Solder feed control for precise adjustment of the amount of solder wire feed to the tip.  
<Min: 3mm Max: 8mm>
- Simple heating element replacement procedure requires no special skills.



<http://www.mts9.com>

**Specifications**

Model No.	582	583	585	587	589	592
Power Consumption	30W	40W	60W	80W	100W	150W
Standard Tip	582-T-4 (ø4mm)		585-T-6 (ø6mm)	587-T-8 (ø8mm)		592-T-10 (ø10mm)
Packed in Guide Nozzle	582-N-1.6 & 582-N-2.3					
Heating Element	Nichrome Heater					
Dimensions (W) x (H)	197 x 149mm		213 x 149mm	227 x 149mm		241 x 149mm
Weight (w/o cord)	266g		290g	318g	322g	380g

**Recommended Iron Holder**



No.607

**Spool Holder**



No.582-022

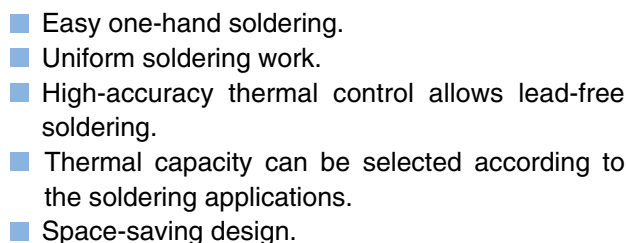
**Replacement Tips**

Part No.	Name/Description
582-T-4	Tip ø4mm
585-T-6	Tip ø6mm
587-T-8	Tip ø8mm
592-T-10	Tip ø10mm

**Optional Parts**

Part No.	Name/Description
582-N-0.8	Guide nozzle/ø0.8mm
582-N-1.0	Guide nozzle/ø1.0mm
582-N-1.2	Guide nozzle/ø1.2mm
582-N-1.6	Guide nozzle/ø1.6mm
582-N-2.3	Guide nozzle/ø2.0-2.3mm
582-022	Spool holder <Core size 29mm x ø19mm>
607	Iron holder





### Combination Example

### Solder-feeding unit

\* Select one.

\* Select one

\* Select one.

\* For 937 only.

\* Soldering gun is not included.

## Packing List

Part No.	Contents
958-01	Soldering gun (HAKKO 958).....1
	Guide nozzle .....3
	(ø0.6mm-No.B2652, ø0.8mm-No.B2653, ø1.0mm-No.B2654)
	Tube unit S (No.B3268) .....1
958-02	Soldering gun (HAKKO 958).....1
	Guide nozzle .....2
	(ø1.2mm-No.B2656, ø1.6mm-No.B2655)
	Tube unit L (No.B3269).....1
959-01	Soldering gun (HAKKO 959).....1
	Guide nozzle .....3
	(ø0.6mm-No.B2652, ø0.8mm-No.B2653, ø1.0mm-No.B2654)
	Tube unit S (No.B3268) .....1
959-02	Soldering gun (HAKKO 959).....1
	Guide nozzle .....2
	(ø1.2mm-No.B2656, ø1.6mm-No.B2655)
	Tube unit L (No.B3269).....1

## Replacement Tips

Please refer to page 27.



HAKKO 373 SELF FEEDER ESD SAFE



- Can be used with a wide range of Hakko brand soldering irons, permitting selection of the most appropriate iron for the task at hand. If you already own one of these compatible Hakko soldering irons, you won't need to buy another.
- ESD design helps protect electrically sensitive parts.
- Can be connected to simple soldering equipment by using a switching jack.
- Adjustable solder return function reduces waste, permits fully automatic soldering.

Set Up



HAKKO 373



Solder Dia. Adjustment Ring



Tube Unit



Guide Pipe Assembly



Tube Unit for MACH-I



Feeder Switch



Feeder Pen



Feeder Switch



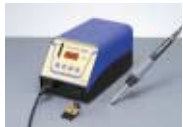
Feeder Pen



Foot Switch

<http://www.mts9.com>

Compatible Soldering Iron



HAKKO FX-838 (Iron: FX-8301)



HAKKO FX-888



HAKKO FX-951



HAKKO FX-950



HAKKO FM-203



HAKKO 937\*



HAKKO 928\*



HAKKO MACH-I



HAKKO DASH



HAKKO 958 - 959

Specifications

Model No.	373
Power Consumption	6W
Motor Output	DC 24V, 3.2W
Solder Feed Time	0-7sec. (Auto Mode)
Solder Feed Speed	4.5-26mm/sec.
Solder Feed Q'ty	0-182mm (Auto Mode)
Solder Return Q'ty	0-5mm
Usable Solder Dia.	ø0.6, 0.65, 0.8, 1.0, 1.2, 1.6mm*
Usable Solder	1kg roll bobbin (Max.)
Dimensions	107(W) x 110(H) x 215(D)mm
Weight (w/o cord)	1.5kg

\* ø1.6mm "Lead-free solder" is not available for use.

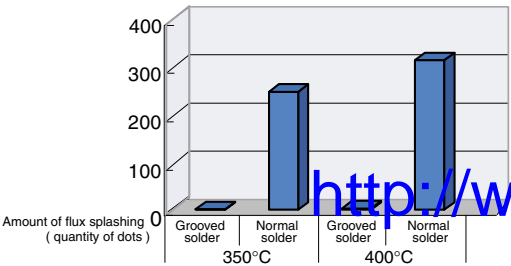
\* 900S soldering iron is not compatible with HAKKO 373.





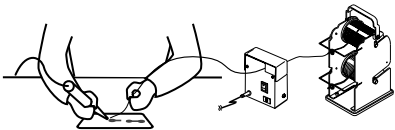
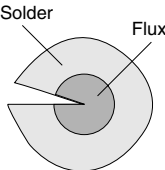
- Reducing flux splashing and solder balls generated during soldering operation.
- Compact design to save work bench.
- Can be installed to your solder reel stand.

Effects of Using Cut Solder



• Test criteria  
Feed  $\phi 1.0 \times 500$  mm of lead-free solder (Sn-3Ag-0.5Cu) to one of our soldering irons, which has tip temperature setting at 350 and 400°C and measure the amount of flux splashing. The effects of flux splashing prevention may differ under different test criteria.

Cross Section of Solder



Specifications

Model No.	375
Rating	DC24V 75mA
Motor rating	DC24V 130mA
Dimensions	76(W) x 96(H) x 50(D)mm
Weight (w/o cord)	590g

AC adapter

Rating	DC24V 250mA
--------	-------------

Optional Parts

Part No.	Name
B1649	Foot switch
B2763	Hand switch

Packing List

Model Name	Contents
HAKKO 375	Unit .....1
	AC adapter .....1



No.B1649



No.B2763



# HAKKO FG-100



Enables you to perform temperature control surely and easily, which is essential during lead-free soldering.

- Suitable for Lead-Free solder:-  
Quick and accurate tip temperature measurement using a fine CA wire sensor (Dia.0.2mm)  
Disposable sensor always maintains accurate temperature measurement.  
Sensor has twice service life of conventional one.
- MAX HOLD function
- Auto shutoff function
- Compact size

### 3-Dimensional Measurement



Allows you to measure from any desired direction according to tip shape.



# HAKKO FG-101





- Tip temperature, leak voltage and ground resistance of soldering irons can be measured.
- Soldering irons can be controlled based on the MIL-HDBK-263B standard.
- Soldering irons can be controlled based on the IPC J-STD.
- MAX HOLD function.
- Leak voltage and ground resistance can be easily measured.



<http://www.mts9.com>

### Specifications

HAKKO FG-100	
Resolution	1°C
Temperature measurement range	0-700°C
Applicable sensor	K (CA) type thermocouple
Measurement tolerance	±3°C (between 300 and 600°C)
Display	Besides measured temperatures, display indications include the following: 
Power Supply	006P 9V dry battery (alkaline cell recommended)
Outline dimensions	68(W) x 140(H) x 38(D)mm (excluding protrusions)
Weight	115g (excluding battery)
Ambient temperature/humidity range	0-40°C, 20-90%RH, without condensation
Environmental Condition	Applicable rated pollution degree 2 (According to IEC/UL61010-1)

\*1 When  appears, be sure to replace the battery.  
Failure to do so will result in incorrect temperature measurements.  
\*2 This alarm indicates a sensor burnout. If this alarm occurs, replace the sensor.

HAKKO FG-101	
Temperature	Resolution 1°C
	Measurement Range 0-700°C*1
Voltage	Precision ±3°C (between 300 and 600°C)
	Sensor K (CA) type thermocouple
Resistance	Resolution 0.1mV
	Measurement Range 0 to 40mV (AC)
Display	Precision ±(5% of reading +1 digit)
	Resolution 0.1Ω
Power Consumption	Measurement Range 0 to 40Ω
	Precision ±(5% of reading +1 digit)
Dimensions	LCD 3 1/2 digits
	Over Range*2 Burnout*3
Weight	Shown as "MAX HOLD" in the lower right on the display
	MAX HOLD
Ambient Temperature/Humidity Range	100V-2.6W, 110V-2.9W, 120V-2.6W, 220V-2.7W, 230V-2.8W, 240V-3.0W
	200(W) x 50(H) x 120(D)mm
Environmental Condition	Weight 1kg
	Ambient Temperature/Humidity Range 0-40°C, 20-90%RH (Non condensing)
	Environmental Condition Applicable rated pollution degree 2 (According to IEC/UL61010-1)

\*1 Temperature sensor (No.191-212) can only be used to measure temperatures below 500°C. To measure higher temperature, use an applicable temperature probe.  
\*2 An Over Range alarm occurs during temperature measurement when the temperature sensor is not attached, and during voltage and resistance measurement when the tip is not in contact with the conduction plate.  
\*3 When a sensor burns out, the same alarm symbol as the one for Over Range alarm is also displayed. If this alarm occurs, replace the sensor.

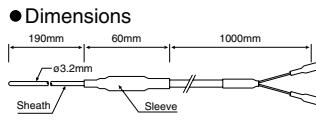
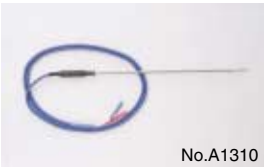
### Packing List

Model Name	Contents
HAKKO FG-100	Thermometer .....1
	006P 9V battery .....1
	Sensor .....10
HAKKO FG-101	Soldering tester .....1
	Fuse .....1
	Conduction wire .....1
	Multi-adapter .....1
	Ground clip .....1
	Power cord .....1
	Sensor .....10

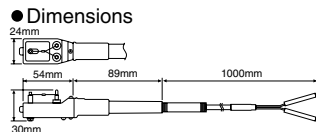
### Temperature Probe

For measuring the temperature of solder in pots, automatic solder machine and hot air.

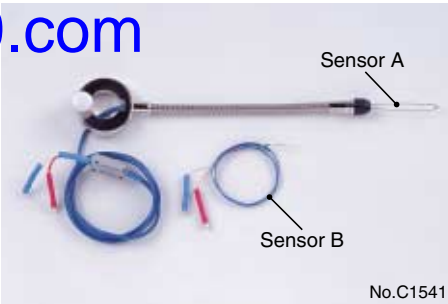
#### For Solder in Pots



#### For Automatic Solder Machine

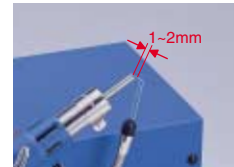


#### For Hot Air

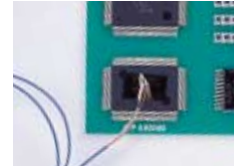


- Sensor A  
Sensor A is primarily used to measure the temperature of hot air.
- Sensor B  
Sensor B is primarily used to measure the temperature of works.

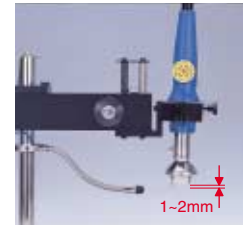
#### How to use 1 Hot Air (FR-803B)



#### How to use 3 Works



#### How to use 2 Hot Air (SMD-BGA Repair System)





HAKKO FX-301B



- Easy pot replacement.
- Selectable heating programs allows to get optimum temperature quickly.
- Select from four heating programs: Sn-Pb (Tin/Lead), Sn-Ag-Cu (Tin/Silver/Copper), Sn-Cu (Tin/Copper), and Sn (Tin).
- Special coating pot for long life as standard.
- Precise temperature control by digital temperature display & offset function.
- A timer function helps you keep tabs on how long the soldering pot has been in use, making it easy to judge the time for pot replacement.

Digital type

LEAD FREE

HAKKO FX-300



- Easy pot replacement.
  - Use different pots for different composition solder, or different pot sizes (50 mm square and 75 mm square) with the same unit.
- Special coating pot for long life. (Option)

Analog type

<http://www.mts9.com>

Easy Pot Replacement

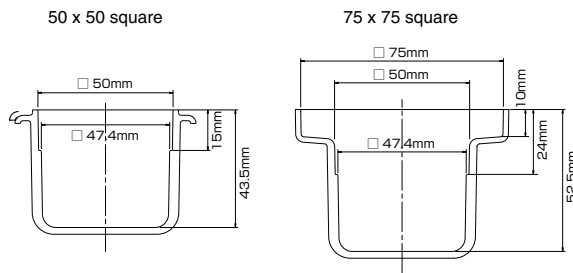


Loosen the screws on both sides of the pot.



Replace the pot and retighten the screws.

Dimensions of Solder Pot



Performance comparison table

	FX-300	FX-301B
Analog/Digital type	Analog	Digital
Parameter setting	×	○ Four heating programs
Offset function	×	○
Timer function	×	○
Standard pot/Special coating pot (50mm square and 75mm square)	○	○

Specifications

Model No.	FX-301B	FX-300
Power Consumption	200W	195W
Weight (w/o solder & cord)	1.7kg	
Dimensions	143(W) x 100(H) x 220(D)mm	

Soldering Pot

	50 x 50 Square	75 x 75 Square
Temperature Range	200-450°C	200-380°C
Dimensions	50(W) x 43.5(H) x 50(D)mm	75(W) x 52.5(H) x 75(D)mm
Molten Solder Capacity	0.85kg	1.2kg

\* Only a 50 x 50 square solder pot is included in this product.  
\* The 75 x 75 square solder pot is an optional part.

Replacement and Optional Parts

Part No.	Name/Description
A1517	Solder pot/50 x 50mm
A1518	Solder pot/75 x 75mm
A1539*	Solder pot/50 x 50mm Special coating for long life
A1540*	Solder pot/75 x 75mm Special coating for long life

\* A special coating is applied to increase the corrosion resistance of the solder pot and provide extended life. The corrosion resistance test<sup>①</sup> shows that the life of this solder pot is more than 5 times longer compared to that of the standard pot. This pot is compatible with both lead-free and tin-lead soldering.

① The data are based on our comparison test. actual life varies depending on the use conditions.

Packing List

Model Name	Contents
HAKKO FX-301B	Unit .....1
	Spatula .....1
	J-shaped waste collector .....1
	Hexagon wrench .....1
HAKKO FX-300	Unit .....1
	Spatula .....1
	J-shaped waste collector .....1
	Hexagon wrench .....1

Temperature Probe

Part No.	Name/Description
A1310	Temperature probe for solder in pots



\* For further details, refer to page 39.

HAKKO 96



- Large-capacity solder pot holds a larger amount of solder, the solder temperature remains high even during continuous soldering operations.
- The stainless steel solder pot and other heavy-duty components offer greater durability, while the solder overflow prevention rim around the pot provides greater safety.
- The raised rim around the pot enhances soldering and desoldering efficiency.
- A waste collector adds a final touch of operating ease and efficiency.



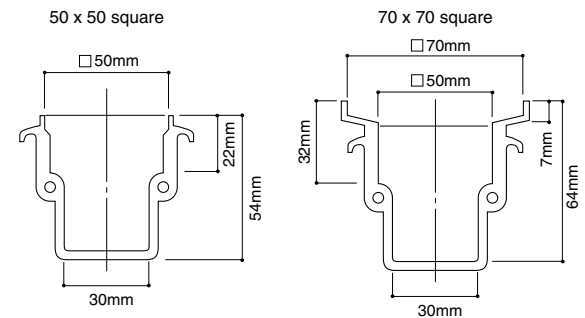
Specifications

Model No.	96	96-1
Power Consumption	200W	
Heating Element	Ceramic Heater	
Dimensions	135(W) x 107(H) x 222(D)mm	135(W) x 117(H) x 222(D)mm
Weight (w/o cord)	1.5kg	1.6kg
Temperature	100-450°C	100-380°C
Insulation Resistance	Over 100MΩ (250°C)	
Dimension of Solder Pot	50(W) x 54(H) x 50(D)mm	70(W) x 64(H) x 70(D)mm
Molten Solder Capacity	0.85kg	1.2kg

Packing List

Model Name	Contents
HAKKO 96	Unit .....1
	Spatula .....1

Dimensions of Solder Pot





HAKKO 485  
SOLDERING SYSTEM



- Compact and high performance soldering system developed for soldering and desoldering components and connectors mounted on circuit boards.
- The solder flow is both temperature controlled and time controlled.
- Many different nozzle sizes are available.
- Soldering and desoldering cycles are automatic and precise.
- A built-in locator light pinpoints the exact position for component placement.
- Solder remaining in the through hole is completely removed by utilizing the air unit.

Operation



Specifications

Model No.	485
Input Voltage	AC 100V 50/60Hz
Power Consumption	850W
<b>Main Unit</b>	
Part No.	485-1
Room Temperature	-5~400°C
Temperature Range	Normal Temperature-229°C
Capacity of Solder Bath	10kg
Heating Element	800W (400W x 2)
Dimensions	500(W) x 245(H) x 550(D)mm
Weight (w/o cord)	35kg w/o Solder
<b>Air Unit</b>	
Part No.	486
Air Pressure	196-686kPa (2-7kgf/cm <sup>2</sup> )
Dimensions	150(W) x 100(H) x 300(D)mm
Weight (w/o cord)	3.5kg

Replacement Parts

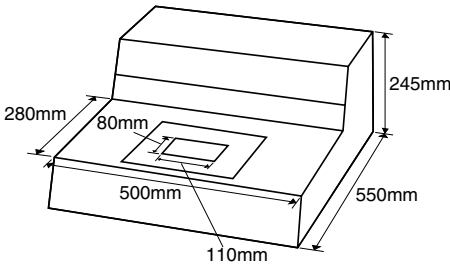
Nozzle		Unit : mm	Air Hood		Unit : mm
Part No.	Inner Dia.		Part No.	Inner Dia.	
485-N-01	21 x 11		485-28	21 x 10	
485-N-02	26 x 11		485-29	25 x 10	
485-N-03	38 x 18		485-30	34 x 17	
485-N-04	54 x 19		485-31	52 x 17	
485-N-11	55 x 7		485-32	51 x 7	
485-N-12	68 x 7		485-33	64 x 7	
485-N-13	81 x 7		485-34	77 x 7	
485-N-14	30 x 30		485-35	30 x 30	
485-N-15	50 x 50		485-36	50 x 50	
485-N-16	11 x 21 Cross				
485-N-17	11 x 26 Cross				
485-N-18	18 x 38 Cross				
485-N-19	19 x 54 Cross				

Packing List

s9.com

Model Name	Contents
HAKKO 485	Main unit (No.485-1) .....1
	Air Unit (No.486) .....1
	Nozzle (No.485-N-01~04) .....1 each
	Air hood (No.485-28~31) .....1 each
	IC tweezers .....1
	Anti-oxidizer .....1
	Spatula .....1
	Lamp (6V-10V) .....1
	Horizontal gauge .....1
	Positioning board .....1
	Waste collector .....1
	Locator light .....1
	Foot switch .....1

Dimensions





HAKKO FT-710 ESD SAFE TIP CLEANER



- Prevents from solder splashing and tip oxidation.
- Compatible with various HAKKO soldering irons and tips.
- Controls the amount of solder to be left on tips.
- Minimizes the drop of tip temperature
- Easy to maintain
- ESD safe (A ground wire is not included)
- Silent design

Solder-splashing prevention

The encapsulated design prevents solder from splashing during tip cleaning, which could become a significant cause of failure.



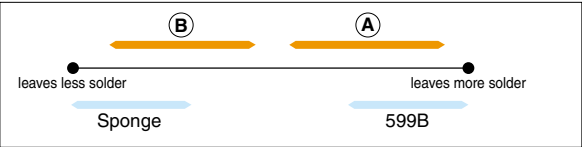
Because the housing is encapsulated, solder does not splash.

Controllable degree of solder removal

Two types of cleaning brushes are available. Selection of brushes can control the amount of solder to be left.

Brush	Cleaning brush A (Standard accessory)	Cleaning brush B (Optional)
Material	Resin	Metal
Image after cleaning	Solder slightly remains	Solder is fully removed
Benefit	Prevents tip from being oxidized and extends service life of tip	Suitable for soldering to a tiny section which requires control of solder amount

Combines the best properties of a cleaning sponge and cleaning wire (HAKKO 599B).



(A) : FT-710 with cleaning brush <A>    (B) : FT-710 with cleaning brush <B>

Packing List

Model Name	Contents
Hakko FT-710	HAKKO FT-710 (With cleaning brush A and solder waste collector) ... 1
	Receptacle (No.3517, B3518) ..... 2
	Lock nut ..... 1
	AC adapter ..... 1
	Gauge ..... 1

Compatible with various HAKKO soldering irons and tips

A suitable receptacle can be selected and the height can be adjusted according to the soldering iron and tip to be used.

Applicable table

Applicable tip	Receptacle A	Receptacle B	Receptacle C
T12, T11	○		
T18, 900M, T14		○	
T10, T20, T13, T17			○

\*This cleaner cannot be used for shape of 0.2JL, quad type, tunnel type, spatula type of the T12 series.  
\*There are some tips with dimensions that cannot be adjusted with the standard receptacles. In this case, please consult with your nearby dealer or distributor.

Easy to maintain

The metallic waste collector enables you to clean easily. In addition, the driving parts are isolated from other parts, which prevents solder waste from entering.



Specifications

Model No.	HAKKO FT-710
Motor Rating	DC24V 50mA
Power Consumption	5W
Standby Power Consumption	0.6W
Dimensions	71(W) x 77(H) x 107(D)mm
Weight	450g
Brush Rotational Speed	2500rpm

AC adapter

Rating	DC24V 130mA
Dimensions	45(W) x 40(H) x 65(D)mm
Weight	0.25kg

Replacement and Optional Parts

Part No.	Name/Description
A1566	Cleaning brush A/set of 2
A1567	Cleaning brush B/set of 2
B3520	Pulley belt
B3521	Solder waste collector
B3523	Lock nut
B3517	Receptacle A
B3518	Receptacle B
B3519	Receptacle C



**HAKKO**FT-700 · **HAKKO**FS-100

TIP POLISHER

CHEMICAL PASTE



No. FT-700



No. FS-100

- Removes oxides without damaging the tip.
- Does not contain any diammonium phosphate, so it is safe to tip, P.W.B., operator and global environment.
- Energy-saving design consumes only 4.5W.



Before cleaning



After cleaning

**A simple procedure that's easy to learn.**



- ① Place the tip of the soldering iron onto the spinning brush of the tip polisher for several seconds to remove oxides.



- ② Re-solder plating using chemical paste FS-100.  
\*There is another way to solder plating is that apply the using soldering wire to the tip.



- ③ Wipe the FS-100 remaining cleanly off the tip before start soldering work.



- ④ Apply and melt wire solder on the tip before start soldering work.

**Use the brush to remove tough oxide.**

Use the accessory brush to remove tough oxides. The procedure is as follows: First, remove the oxide using the brush. Second, clean the tip using the tip polisher.



Brush

**Specifications**

<b>FT-700</b>	
Model No.	FT-700
Power Consumption	100V 3W, 110-120V 4.5W, 220-240V 4.5W
Dimensions	70(W) x 54(H) x 101(D)mm
Weight (w/o cord)	650g

<b>FS-100</b>	
Model No.	FS-100
Amount	10g
Contents	Flux paste, tin
Dimensions	ø34 x 9(H)mm

**Packing List**

Model Name	Contents
HAKKO FT-700	Tip polisher .....1
	Chemical paste .....1
	Brush .....1



HAKKO IRON HOLDER



Specifications

Model No.	Dimensions of Cleaner	Dimensions	Weight
599B*		ø70 x 71(H)mm	65g
602	65 x 45 x 15mm	92(W) x 108(D)mm	80g
603	70 x 70 x 15mm	82(W) x 95(D)mm	500g
606	65 x 45 x 15mm (w/Aluminum Case)	100(W) x 160(D)mm	310g
607	70 x 70 x 15mm	98(W) x 166(D)mm	600g
633-01	ø70 x 71(H)mm	84(W) x 186(D)mm	380g
633-02	ø70 x 15mm	84(W) x 186(D)mm	340g

HAKKO 599B\*

- Replacement cartridge for HAKKO 633.
- No water required.
- Helps your lead-free solder application.

HAKKO 611 SOLDER REEL STAND ESD SAFE



- ESD safe by design.
- Keep your bench neat.
- Draw out the solder wire smoothly.

<http://www.mts9.com>

Specifications

Part No.	611-1	611-2
Dimensions	86(W) x 114(H) x 78(D)mm	87(W) x 200(H) x 141(D)mm
Shaft Dia.	ø15mm	
Usable Solder	1kg roll bobbin (Max.) x 1	1kg roll bobbin (Max.) x 2
Weight	550g	750g



HAKKO FM-204 ESD SAFE

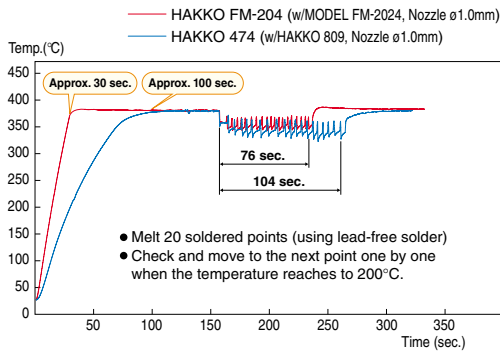


\*When the gun grip is detached

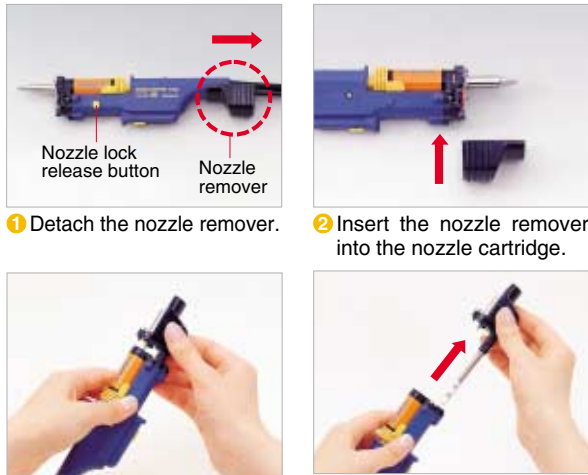
Easier to use!

- Excellent thermal recovery:-  
The integrated nozzle contains both heater and sensor to provide more powerful thermal recovery than conventional tips.
- New design with reduced distance between the nozzle end and filter pipe prevents clogging by sucked solder.
- Easy maintenance:-  
Uses disposable paper filter pipes. Allows paper and solder to be disposed of separately.  
One-touch nozzle for replacement. Nozzle can be replaced safely with the provided nozzle remover.
- Safe design:-  
Equipped with a nozzle lock function. Inserting a nozzle into the grip automatically locks it in place and prevents the nozzle cartridge from being pulled out suddenly.
- Sleep function
- Auto power shutoff function
- Detachable handle allows two-way use: gun type or straight type

Thermal Recovery Graph



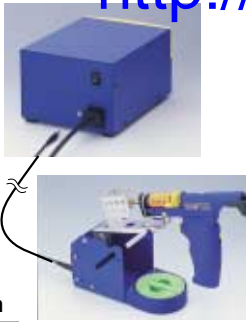
Simple and Safe Nozzle Replacement



- ③ Press the nozzle lock release button on the back side.
- ④ Pull out the nozzle to replace.

Sleep function

After the iron is inserted into the iron holder, the sleep function activates after a user-settable time (0 to 29 min.) and the tip temperature will decrease to approximately 200°C.



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

Auto power shut-off function

After 30 minutes have elapsed after inserting the iron into the iron holder, the auto power shut-off function activates and stops to apply power to the heating element.

\* It is necessary to change unit settings before using sleep and auto power shut-off functions.

Specifications

HAKKO FM-204	
Power Consumption	120W
Temperature Range	200-450°C
Temperature Stability	±5°C at idle temperature
Station	
Output	24V
Dimensions	160(W) x 120(H) x 225(D)mm
Weight	3.7kg
Vacuum Generator	Vacuum pump, double cylinder type
Vacuum Pressure (Max.)	80kPa (600mmHg)
Suction Flow	15ℓ/min
MODEL FM-204 Desoldering Tool	
Power Consumption	70W (24V)
Temperature Range	350-450°C
Nozzle to Ground Resistance	< 2Ω
Nozzle to Ground Potential	< 2mV
Total Length (w/o cord)	180mm with ø1.0 nozzle
Weight (w/o cord & hose)	65g with ø1.0 nozzle
Cord	1.2m

Replacement and Optional Parts

Part No.	Name/Description
FM204-24-02	MODEL FM-204 24V/70W
A1514	Ceramic paper filter/10 pcs
A1512	Front holder
A1511	Filter pipe assembly
B3253	Connecting cable
FM2027-03*	HAKKO FM-2027 Conversion kit
FM2026-04*	HAKKO FM-2026 Conversion kit

\* Iron holder (No.FH200-01) is included.

Packing List

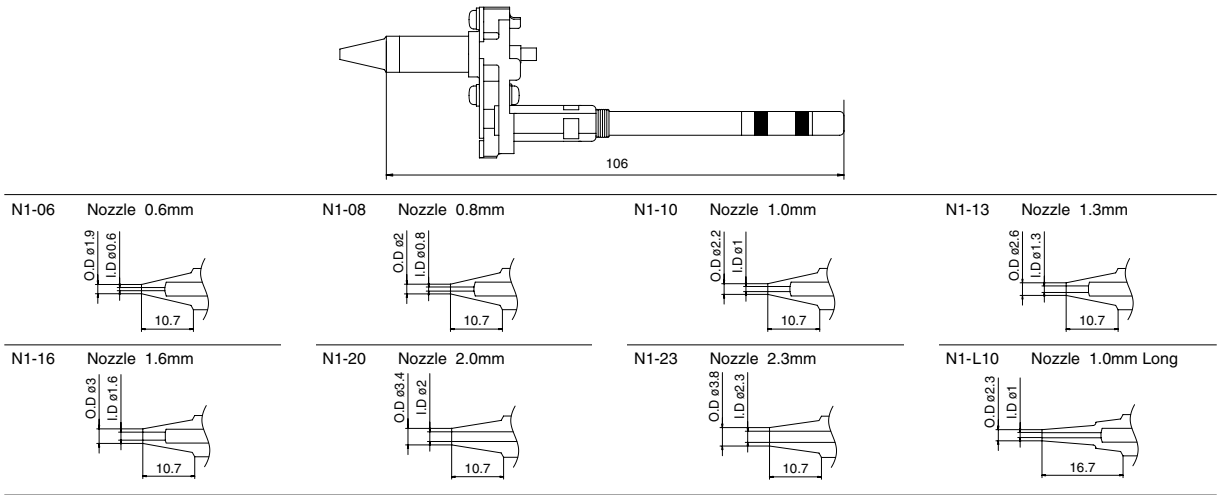
Model Name	Contents
HAKKO FM-204	Station.....1
	Desoldering tool (MODEL FM-204) .....1
	Control card .....1
	Power cord.....1
	Connecting cable .....1
	Ceramic paper filter.....10
	Filter pipe assembly
	(Originally equipped x 1, additional replacement x 1) .....2
	Handle (for gun configuration) .....1
	Nozzle remover.....1
	Iron holder with 599B tip cleaner
	(No.FH200-05) .....1
	Cleaning drill .....1
	* Nozzle is an optional part.

Increase your options

The FM-204 is a desoldering station as standard, but it can be operated with optional FM-2027 and FM-2026 soldering handpieces. A single station plays multiple roles: soldering and desoldering.



Optional Nozzle





HAKKO 474·475 DESOLDERING TOOL ESD SAFE



No. 474



No. 475

Choose the system that best fits your needs!

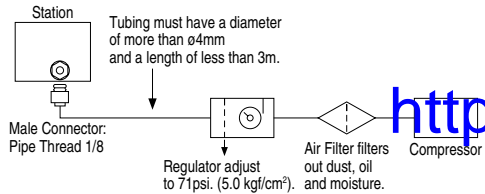
The portable HAKKO 474 vacuum pump type or the economical HAKKO 475 air compressor type.

- Both models are constructed of static dissipative materials using an ESD design which prevents damage to circuit boards and parts caused by electro-static discharge.
- Heating element and motor features zero-cross switching in order to prevent electrical surges.
- An insulated transformer completely isolated the output circuit from the power input circuit.

HAKKO 475 - external air compressor type

- Use filtered air to clean away any dust, oil and moisture.
- With the trigger pulled and air flowing, adjust the regulator air pressure to 71 psi (5.0kgf/cm<sup>2</sup>).

Connections



<http://www.mts9.com>

Specifications

Model No.	474	475
Power Consumption	100W	70W

Station

Output Voltage	AC 24V	
Vacuum Generator	Double Cylinder Type	Ejector Type
Vacuum Pressure (Max.)	80kPa (600mmHg)	93kPa (700mmHg)
Suction Flow	15ℓ/min.	28ℓ/min.
Nozzle to Ground Resistance	< 2Ω	
Nozzle to Ground Potential	< 2mV (Typ. 1.2mV)	
Applied Air Pressure	---	71dsi (5.0kgf/cm <sup>2</sup> )(490kPa)
Compressed Air Consumption	---	1.62 c.f.m. (46ℓ/min.)
Dimensions	165(W) x 135(H) x 260(D)mm	
Weight (w/o cord)	3.8kg	3.0kg

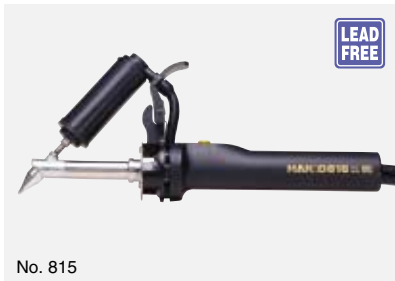
Packing List

Model Name	Contents
HAKKO 474 with 809	Station.....1
	Desoldering gun (809) .....1
	Filter pipe .....1
	Cleaning pin for ø1.0mm nozzle .....1
	Cleaning pin for heating element .....1
	Cleaning drill for ø1.0mm nozzle .....1
	Ceramic paper filter (S) .....2
	Ceramic paper filter (L) .....4
	Spring filter.....3
	Silicone grease .....1
HAKKO 475 with 809	Iron holder (No.631-06) .....1
	Spanner wrench.....1
	Station.....1
	Desoldering gun (815/816) .....1
	Filter pipe .....1
	Cleaning pin for ø1.0mm nozzle .....1
	Cleaning pin for heating element .....1
	Cleaning drill for ø1.0mm nozzle .....1
	Ceramic paper filter (S) .....2
	Ceramic paper filter (L) .....4
HAKKO 474 with 815/816	Spring filter .....3
	Silicone grease .....1
	Iron holder (No.635-01) .....1
	Wrench .....1
	Anti-seizure .....1
	Station.....1
	Desoldering gun (815/816) .....1
	Filter pipe .....1
	Cleaning pin for ø1.0mm nozzle .....1
	Cleaning pin for heating element .....1
HAKKO 475 with 815/816	Cleaning drill for ø1.0mm nozzle .....1
	Ceramic paper filter (S) .....2
	Ceramic paper filter (L) .....4
	Spring filter .....3
	Silicone grease .....1
	Iron holder (No.635-01) .....1
	Wrench .....1
	Anti-seizure .....1
	Station.....1
	Desoldering gun (815/816) .....1

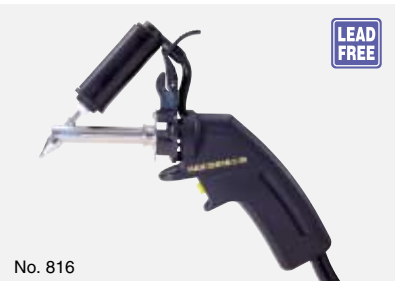
Desoldering Tools for HAKKO 474 . 475



No. 809



No. 815



No. 816

Specifications

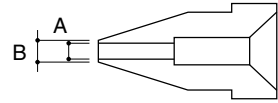
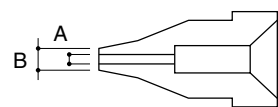
Model No.	809	815	816
Type	Gun	Pen	Gun
Power Consumption	50W (24V)		
Temperature Range	380-480°C		
Standard Nozzle	A1003 (ø1.0mm S type)	A1499 (ø1.0mm S type)	
Dimensions	135(W) x 174(H)mm	200(W) x 80(H)mm	180(W) x 150(H)mm
Weight (w/o cord)	200g	100g	120g

Replacement Nozzles

Unit : mm

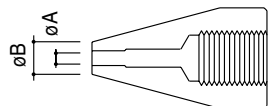
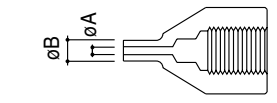
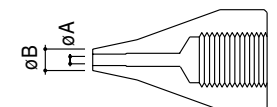
For 809

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



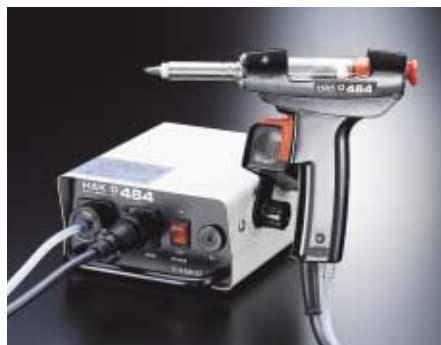
For 815, 816

Part No.	A	B
A1496	0.8	1.8
A1499	1.0	2.0
A1497	0.8	2.2
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





## HAKKO 484



- Complete with an inner pump, which can be easily carried. Therefore, suction work is possible anywhere that there is an electric source available.
- The nozzle and heating core have been specially designed so solder can be absorbed in the filter while it is still in the molten state. Consequently maintenance time has been reduced and work efficiency improved.
- To clean, simply pull the knob to remove the filter pipe. The filter pipe is made of heat-proof transparent glass, therefore the accu-

### Specifications

Model No.	484
Power Consumption	60W
<b>Station</b>	
Vacuum Generator	Double Cylinder Type
Vacuum Pressure (Max.)	80kPa (600mmHg)
Suction Flow	10/12 l/min (50/60Hz)
Motor Output	12W
Dimensions	135(W) x 75(H) x 180(D)mm
Weight (w/o cord)	2.5kg
<b>Desoldering Gun</b>	
Standard Nozzle	481-T-1.0 (ø1.0mm)
Heating Element	Ceramic Heater
Insulation Resistance	100MΩ
Weight (w/o cord & hose)	230g

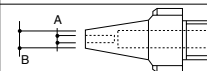
### Packing List

Model Name	Contents
HAKKO 484	Station.....1
	Desoldering gun.....1
	Filter set.....1
	Cleaning pin for heating core.....1
	Cleaning pin for ø1.0mm nozzle.....1
	Cleaning wrench.....1
	Silicone grease.....1
	Anti-seizure.....1
	Iron holder.....1

### Replacement Nozzles

Unit : mm

Part No.	A	B
481-T-0.8	0.8	2.5
481-T-1.0	1.0	2.5
481-T-1.3	1.3	2.5
481-T-1.6	1.6	3.0



## HAKKO 808



- The unique Hakko design places the pump and motor above, not inside the grip, so vibration is minimal and the grip is thin and easy to hold.
- The new, miniature, high-performance diaphragm pump is housed in the pump chamber at the rear of the unit. So, pump maintenance is quick and easy—simply remove the cover of the pump chamber.
- The optional carrying case makes it easy to transport the unit to wherever it is needed.

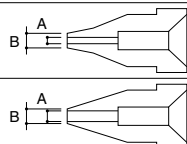
### Specifications

Model No.	808
Power Consumption	70W
Motor Output	6.5W
Temperature Range	380-480°C
Standard Nozzle	A1005 (ø1.0mm)
Nozzle to Ground Resistance	< 2Ω
Nozzle to Ground Potential	< 2mV
Vacuum Generator	Double-Cylinder Type
Vacuum Pressure	80kPa (600mmHg)
Suction Flow	10 l/min
Dimensions	235(W) x 170(H)mm
Weight (w/o cord)	420g

### Replacement Nozzles

Unit : mm

Part No.	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



### Packing List

Model Name	Contents
HAKKO 808	Desoldering gun.....1
	Filter pipe with filter holder and pre-filter (Alum.).....1
	Cleaning pin for nozzle ø1.0mm.....1
	Cleaning pin for heating element.....1
	Pre-filter (Alum.).....3
	Ceramic paper filter (L).....4
	Wrench.....1

### Carrying Case



No. C1099

### Iron Holder



No. C1100



# HAKKO SPPON

DESOLDERING TOOL



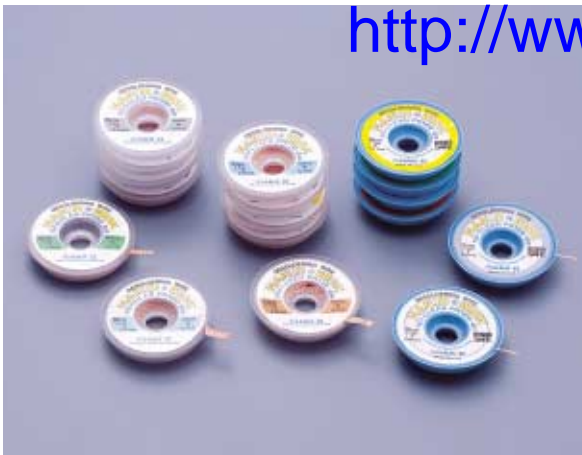
- Light weight and economical design.
- Powerful enough for both occasional and heavy duty desoldering applications efficiently.
- Unique cleaning shaft allows you to clean the nozzle quickly and easily.

## Specifications

Model No.	18	18G	20	20G
	---	w/guard	---	w/guard
Absorption Capacity	12cm <sup>3</sup> (12 c.c.)		20cm <sup>3</sup> (20 c.c.)	
Spare Nozzle				

# HAKKO WICK

DESOLDERING WIRE



<http://www.mts9.com>

- Regular Type
- Unflux Type
- No Clean Type

## Specifications

### Regular Type < Flux >

Part No.	Name/Description
FR100-00	HAKKO WICK <REGULAR> 1.5m x 0.6mm
FR100-01	HAKKO WICK <REGULAR> 1.5m x 0.9mm
FR100-02	HAKKO WICK <REGULAR> 1.5m x 1.4mm
FR100-03	HAKKO WICK <REGULAR> 1.5m x 1.9mm
FR100-04	HAKKO WICK <REGULAR> 1.5m x 2.5mm
FR100-05	HAKKO WICK <REGULAR> 1.5m x 3.3mm
87-2-30	HAKKO WICK <REGULAR> 30m x 1.5mm
87-3-30	HAKKO WICK <REGULAR> 30m x 2.0mm
87-4-30	HAKKO WICK <REGULAR> 30m x 2.5mm
87-4-100	HAKKO WICK <REGULAR> 100m x 2.5mm

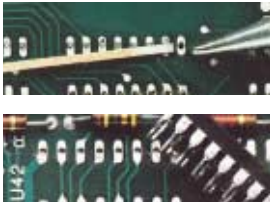
### Unflux Type < Unflux >

Part No.	Name/Description
FR110-00	HAKKO WICK <UNFLUXED> 1.5m x 0.6mm
FR110-02	HAKKO WICK <UNFLUXED> 1.5m x 1.4mm
FR110-03	HAKKO WICK <UNFLUXED> 1.5m x 1.9mm
FR110-04	HAKKO WICK <UNFLUXED> 1.5m x 2.5mm
FR110-05	HAKKO WICK <UNFLUXED> 1.5m x 3.3mm

### No Clean Type < No Clean Type >

Part No.	Name/Description
FR120-00	HAKKO WICK <NO CLEAN> 1.5m x 0.6mm
FR120-01	HAKKO WICK <NO CLEAN> 1.5m x 0.9mm
FR120-02	HAKKO WICK <NO CLEAN> 1.5m x 1.4mm
FR120-03	HAKKO WICK <NO CLEAN> 1.5m x 1.9mm
FR120-04	HAKKO WICK <NO CLEAN> 1.5m x 2.5mm
FR120-05	HAKKO WICK <NO CLEAN> 1.5m x 3.3mm

Removal for thru-hole...



Removal for bridging...





**HAKKO FR-801 FR-802 FR-803B** ESD SAFE LEAD FREE

For lead-free soldering with sufficiently high power HAKKO hot air lineup allows easier thermal control.



**HAKKO FR-801** ESD SAFE Analog

The air outlet is provided with new mechanism to reduce the temperature irregularity in hot air.

- The air outlet is provided with a new mechanism to reduce the temperature irregularity. Supplies hot air at a stable temperature.
- Comes with an airflow meter to allow more accurate and easier control of flow rate.



New mechanism to reduce temperature irregularity



**HAKKO FR-802** ESD SAFE Digital display

The digital thermal display allows easier temperature control.

- Comes with the offset function to compensate for difference of air outlet temperatures depending on the nozzle size.
- The power saving function (30 min./60 min./∞ can be selected) will automatically stop the hot airflow after a specific time passes.
- Comes with the auto cool-down function. If the power is turned off and then continues to supply air until the temperature in the nozzle pipe decreases down to 100°C to protect the heating element.
- Card lock function to lock the setting details.

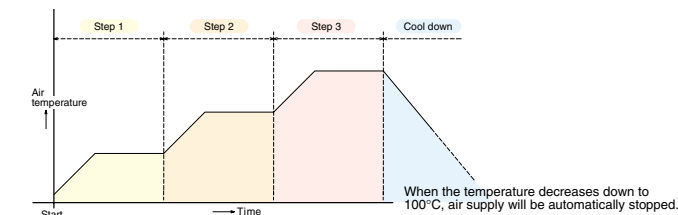


**HAKKO FR-803B** ESD SAFE Digital display with 50 memories/3 steps temperature profile

Preheating, main heating and cooling down 50 memories/3 steps temperature profile can be set.

- For more effective rework operation, it can be interfaced to the HAKKO FR-830.
- The heating conditions can be recreated due to the sensor feedback temperature control. 50 memories/3 steps temperature profile can be set, allowing easier control for temperature, flow rate and time. Highly accurate job can be standardized.
- The power saving function (30 min/60 min/∞ can be selected) will automatically stop the hot airflow after a specific time passes.
- Comes with an offset function.

**3 steps Temperature Profile**



3-step 'temperature and time' are pre-programmed. Sensor feedback temperature control is adopted.

**Performance comparison table**

		FR-801	FR-802	FR-803B
Basic Ability	● The air outlet is provided with new mechanism.	○	○	○
	● Comes with an airflow meter.	○	○	○
	● Space-saving design	○	○	○
	● ESD safe by design	○	○	○
Digital Function	● Offset function		○	○
	● Auto cool-down function		○	○
	● Power-saving design		○	○
	● Card-lock function		○	○
Ideal Function	● 3-step temperature profile can be set.			○
	● Comes with a vacuum pipe.			○

**Specifications**

Model No.	FR-801	FR-802	FR-803B
Power Consumption	100V-310W, 110V-360W, 120V-430W, 220V-570W, 230V-630W, 240V-680W		
Station			
Model No.	FR-801	FR-802	FR-803B
Power Consumption	30W (Stand-by power consumption 100-120V 4W, 220-240V 7W)	30W (Stand-by power consumption 100-120V 4W, 220-240V 4W)	
Capacity (Air blow)	5-20 ℓ/min. (Max.)		
Temperature Range	100-500°C (Use A1130)	100-500°C (Sensor)	
Modes	—	—	Manual/Auto
Timer	—	—	50 memories/3 steps temperature profile
Dimensions	160(W) x 145(H) x 230(D)mm		
Weight (w/o cord)	4kg	4.3kg	5kg
Handpiece			
Power Consumption	100V-280W, 110V-330W, 120V-400W, 220V-540W, 230V-600W, 240V-650W		
Total Length (w/o hose)	185(L)mm	200(L)mm	
Weight (w/o hose)	115g	200g	

**Packing List**

Model Name	Contents
HAKKO FR-801	Station .....1
	Handpiece .....1
	Power cord .....1
	Handpiece holder .....1
	FP pick-up .....1
	FP pick-up wire (S) .....1
HAKKO FR-802	FP pick-up wire (L) .....1
	Station .....1
	Handpiece .....1
	Power cord .....1
	Handpiece holder .....1
	Control card .....1
HAKKO FR-803B	FP pick-up .....1
	FP pick-up wire (S) .....1
	FP pick-up wire (L) .....1
	Station .....1
	Handpiece .....1
	Power cord .....1
	Handpiece holder .....1
	Control card .....1
	Vacuum pipe control knob (L) .....1
	Pad (ø3mm) .....2
	Pad (ø5mm) .....2
	Pad (ø7.6mm) .....2

\* Nozzle is an optional part.

**Optional Nozzles**

Please refer to page 54, 55.

**SMD-BGA Repair System**



Combination of HAKKO FR-803B and FR-830 allows the SMD and BGA rework equipment to set up at a lower price.

\* For further details, refer to page 56.

**Temperature Probe**

Part No.	Name/Description
C1541	Temperature probe for hot air

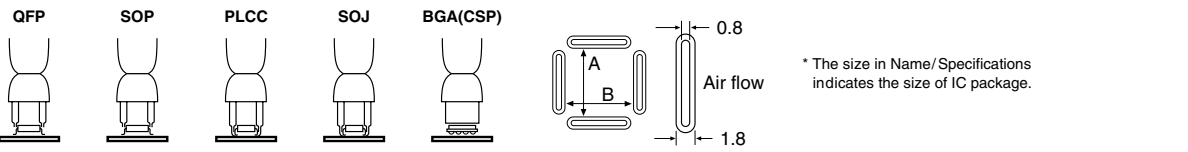


■ For measuring the temperature of hot air.

\* For further details, refer to page 39.



Optional Nozzles



Unit : mm		
QFP	A1125B QFP 10 x 10	A1262B QFP 12 x 12
	A1128B QFP 14 x 20	A1127B QFP 17.5 x 17.5
	A1129B QFP 28 x 28	A1263B QFP 28 x 40
	A1203B QFP 35 x 35	A1264B QFP 40 x 40
	A1180B BQFP 17 x 17	A1181B BQFP 19 x 19
	A1257B SOP 11 x 21	A1259B SOP 13 x 28
	A1132* SOP 5.6 x 13	A1133* SOP 7.5 x 15
	A1258B SOP 7.6 x 12.7	A1260B SOP 8.6 x 18
	A1186B TSOL 18 x 10	A1187B TSOL 18.5 x 8
	A1126B QFP 14 x 14	A1261B QFP 20 x 20
	A1265B QFP 32 x 32	A1215B QFP 42.5 x 42.5
	A1182B BQFP 24 x 24	
	A1131* SOP 4.4 x 10	A1134* SOP 7.5 x 18
	A1185B TSOL 13 x 10	

PLCC	A1140B PLCC 11.5 x 11.5 (28 Pins)	A1141B PLCC 11.5 x 14 (32 Pins)	A1139B PLCC 12.5 x 7.3 (18 Pins)
	A1135B PLCC 17.5 x 17.5 (44 Pins)	A1136B PLCC 20 x 20 (52 Pins)	A1137B PLCC 25 x 25 (68 Pins)
	A1138B PLCC 30 x 30 (84 Pins)	A1189B PLCC 34 x 34 (100 Pins)	A1188B PLCC 9 x 9 (20 Pins)
	A1214B SOJ 10 x 26	A1183* SOJ 15 x 8	A1184B SOJ 18 x 8
	A1470 BGA 8 x 8	A1471 BGA 12 x 12	A1472 BGA 13 x 13
	A1473 BGA 15 x 15	A1474 BGA 18 x 18	A1475 BGA 27 x 27
	A1476 BGA 35 x 35	A1477 BGA 38 x 38	A1478 BGA 40 x 40
SOJ			
BGA			
Single	A1124B* Single ø2.5	A1130* Single ø4.4	A1142B* Bent Single 1.5 x 3
	A1190* Dual Single 2.5 x 9.5	A1325* Dual Single ø 1.5 x 5-10 Adjustable Pitch	
SIP	A1191* SIP 25L	A1192* SIP 50L	

\* These nozzles are vacuum function inoperative.  
The vacuum function is not available in the FR-801 and the FR-802.



# HAKKO FR-830 PREHEATER

ESD SAFE

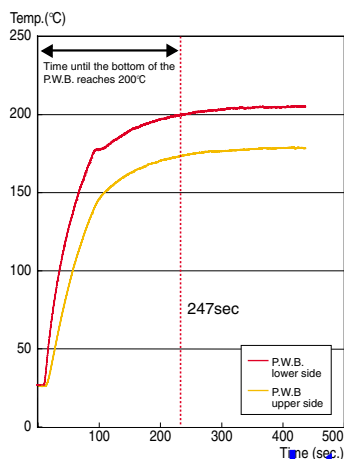
LEAD FREE

ESD SAFE



- Safe design to protect the heating elements and P.W.B. of the unit
- Equipped with automatic cool-down function
- Space-saving compact design

## Temperature characteristics graph



### 【 Test criteria 】

- Setting temperature: 300°C
- Distance between air outlet and P.W.B.: 10mm
- Temperature measured using sensors mounted on both the top and bottom surfaces of the P.W.B.

With the FR-830, improvements in the air outlet structure enables heat to be applied more effectively than the previous model (FR-820), reducing the time needed to heat the P.W.B.

## Specifications

Power Consumption	100V-210W, 110V-240W, 120V-470W 220V-230W, 230V-250W, 240V-270W
Control Temperature	150-300°C (Above the hot air outlet)
Dimensions	140(W) x 75*(H) x 185(D)mm
Weight (w/o cord)	750g
Air Flow	0.15m³/min (fan capability)

\* Height (H) is the distance from the bottom of the foot to the top of the hot air outlet.

## Packing List

Model Name	Contents
HAKKO FR-830	Preheater .....1 Power cord .....1

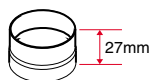
<http://www.mts9.com>

## Extension pipe w/Lid



No. B3263

For local heating



## Hand switch



No. B2763

## Foot switch



No. B1649

# SMD-BGA Repair System



Setting example

HAKKO FR-803B, HAKKO FR-830, Rework Fixture, Omnivise

- Combination of HAKKO FR-803B and FR-830 allows the SMD and BGA rework equipment to set up at a lower price.

## Omnivise



No. C1390C

Hold boards easily, safely and securely. Unique design allows 360° use. Five(5) adjustable heights. Can accommodate any board size.

## Rework Fixture



No. C1392B

The rework fixture is compact and stable. Smooth vertical motion makes operation easy.

## Nozzle Tray



No. C1391B

Convenient storage for nozzles. Removal and installation slots make changing nozzles safe, fast and easy.



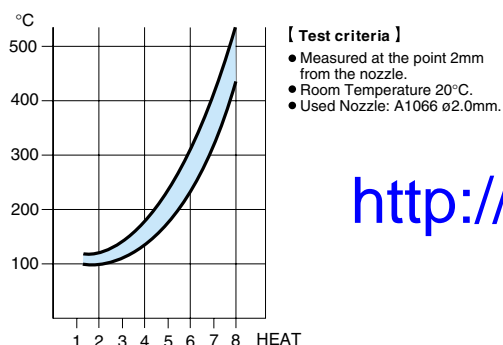


- Adjustable temperature control: 100-540°C.
- Air volume selector switch with ultra-light setting.
- ESD design and grounding measure to minimize damage from current leakage and electrostatic discharge.

### Applications

- Soldering and desoldering of small surface-mounted chip components.
- Shrinking tubing, heating tests and other local heating operations.

### Temperature Distribution Chart



<http://www.mts9.com>

### Specifications

Model No.	851
Power Consumption	85W

#### Station

Pump	Diaphragm Type
Capacity	6ℓ/min. (Max.)
Dimensions	167(W) x 101(H) x 182(D)mm
Weight (w/o cord)	1.8kg

#### Iron

Power Consumption	80W
Temperature Range	100-540°C
Standard Nozzle	A1066 (ø2.0mm)
Total Length (w/o hose)	217mm
Weight (w/o hose)	180g

### Packing List

Model Name	Contents
HAKKO 851	Station .....1
	Handpiece .....1
	Iron holder .....1

### Replacement Nozzles

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



**HAKKO** MODEL  
PARALLEL REMOVER FM-2022

ESD  
SAFE

**HAKKO** MODEL  
MINI PARALLEL REMOVER FM-2023

ESD  
SAFE

LEAD  
FREE

ESD  
SAFE



No. MODEL FM-2022



No. MODEL FM-2023

- Unique parallel movement of tips allows easy removal.
- Direct heating prevents damage to neighboring sensitive components comparing with hot air.

## FM-2022:-

- Can be used for chips and flat packages up to 25mm in size.

## FM-2023:-

- Standard or reverse tweezers action can be selected with a switch lever.
- Equipped with a small ergonomic grip.

\* MODEL FM-2022, FM-2023 must be used with MODEL FM-202<sup>①</sup> or FM-203.  
Please refer to page 14 about FM-203.

<sup>①</sup> Discontinued product

<http://www.mts9.com>

## Specifications

Model No.	FM-2022	FM-2023
Power Consumption	140W (24V)	
Temperature Range	200-400°C	
Tip to Ground Resistance	< 2Ω	
Tip to Ground Potential	< 2mV	
Total Length (w/o cord & tip)	148mm with SOP 25L tip	117mm with I tip
Weight (w/o cord)	64g with SOP 25L tip	37g with I tip
Cord	1.2m	

## Packing List

Model Name	Contents
HAKKO MODEL FM-2022 (Conversion kit)	Parallel remover (MODEL FM-2022) .....1
	Iron holder with cleaning sponge (No.FH200-03) .....1
	Connecting cable .....1
	Heat resistant pad .....1
	* Tip is an optional part.
HAKKO MODEL FM-2023 (Conversion kit)	Mini parallel remover (MODEL FM-2023) .....1
	Tips (T9-I/2pcs of set) .....1
	Iron holder with cleaning sponge (No.FH200-04) .....1
	Connecting cable .....1
	Heat resistant pad .....1
	Component bed .....1

## Replacement Tips

Please refer to page 17.

## Set Up



\* The MODEL FM-2022 and FM-2023 are not included with the FM-203 station.

## Conversion Kit

FM-2022 Conversion Kit (No.FM2022-04)



FM-2023 Conversion Kit (No.FM2023-04)







- Available for your HAKKO 936, 937, 701, 702B, 928 stations.
- Direct heating; less influence upon surrounding components on crowded boards.
- Easy removes SMD chips and flat pack's up to 25mm.
- The collet allows easy replacement and alignment of the tips.

\* The HAKKO 950 is not included with the stations.

## Operation



## Easy Replacement of Tip



## Easy Alignment of Tip



## Recommended Iron Holder



No.C1313

## Specifications

Output Voltage	AC 24V
Power Consumption	50W
Temperature Range	200-400°C
Standard Tip	A1378 (Chip 2L)
Tip to Ground Resistance	< 2Ω
Tip to Ground Potential	< 2mV (Typ.0.6mV)
Heating Element	Ceramic Heater
Total Length (w/o cord)	186mm
Weight (w/o cord)	93g

## Replacement Tips

Unit : mm

	Part No.	Name	A(a)	T	H	Size A (a) x T (Thickness) x H (Height)
CHIP	A1379	Tip/Chip 1L	1.0	1.0	13.0	
	A1378	Tip/Chip 2L	2.0	1.0	13.0	
	A1388	Tip/Chip 0.5C	1.5(0.5)	1.0	13.0	
	A1389	Tip/Chip 0.5I		R0.25	18.5	
SOP	A1390	Tip/Chip 4L	4.0	1.0	8.0	
	A1391	Tip/Chip 6L	6.0	1.0	8.0	
	A1380	Tip/Chip 8L	8.0	1.0	8.0	
	A1381	Tip/Chip 10L	10.0	1.0	8.0	
	A1382	Tip/Chip 13L	13.0	1.0	8.0	
	A1392	Tip/Chip 15L	15.0	1.0	8.0	
	A1383	Tip/Chip 18L	18.0	1.0	8.0	
	A1384	Tip/Chip 20L	20.0	1.0	8.0	
	A1385	Tip/Chip 25L	25.0	1.0	8.0	

## Packing List

Model Name	Contents
HAKKO 950	SMD hot tweezers .....1
	Heat resistant pad .....1
	Tip alignment tool .....1

<http://www.mts9.com>



- The economical iron for desoldering flat packages.
- The answer to every professional engineering need.
- The ceramic heating element provides faster heat transmission and excellent insulation.



## Specifications

Model No.	924
Power Consumption	55W
Heating Element	Ceramic Heater
Insulation Resistance	> 100mΩ
Total Length (w/o cord)	210mm
Weight (w/o cord)	60g

\* Tip is an optional part.

## Optional Tips

Please refer to page 25 (for SMD Desoldering).





- The all-in-one systems for soldering and desoldering.
- ESD safe by design.
- Compact design for minimum use of bench space.

### Specifications

Model No.	701
Power Consumption	150W

### Station

Soldering	Output Voltage	AC 24V
	Temperature Range	200-480°C
Desoldering	Output Voltage	AC 24V
	Vacuum Generator	Double Cylinder Type
	Vacuum Pressure	80kPa (600mmHg)
	Motor Output	12W
	Temperature Range	380-480°C
	Suction Flow	15L/min
Dimensions	190(W) x 130(H) x 250(D)mm	
Weight (w/o cord)	5kg	

### Soldering Iron

Model No.	907-ESD
Power Consumption	50W (24V)
Standard Tip	900M-T-B (Shape-B)
Tip to Ground Resistance	< 2Ω
Tip to Ground Potential	< 2mV
Heating Element	Ceramic Heater
Total Length (w/o cord)	190mm
Weight (w/o cord)	44g

### Desoldering Gun

Model No.	809
Power Consumption	50W (24V)
Standard Nozzle	A1003 (ø1.0mm S Type)
Heating Element	Ceramic Heater
Dimensions	135(W) x 174(H)mm
Weight (w/o cord)	200g

### Packing List

Model Name	Contents
HAKKO 701	Station .....1
	Soldering iron (907-ESD) .....1
	Desoldering gun (809) .....1
	Filter pipe .....1
	Cleaning pin for ø1.0mm nozzle .....1
	Cleaning pin for heating element .....1
	Cleaning drill for ø1.0mm nozzle .....1
	Ceramic paper filter (S) .....2
	Ceramic paper filter (L) .....4
	Spring filter .....3
	Silicone grease .....1
	Wrench .....1
	Iron holder for soldering iron (No.C1142) .....1
	Iron holder for desoldering gun (No.631-06) .....1

### Replacement Tips

Please refer to page 25 (for M-Type iron).

### Replacement Nozzles

Unit : mm

Part No.	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	





- Compact design for minimum use of bench space, incorporating : two soldering irons.  
desoldering gun.  
handpiece for hot-air SMD rework.
- Replacement tip/nozzle are available from Hakko's well-known series.
- ESD safe by design.

### Specifications

Model No.	702B
Power Consumption	500W

#### Station

Soldering	Output Voltage	AC 24V
	Temperature Range	200-480°C
Desoldering	Output Voltage	AC 24V
	Vacuum Generator	Double Cylinder Type
	Vacuum Pressure	80kPa (600mmHg)
	Suction Flow	13ℓ/min
SMD Rework	Temperature Range	380-480°C
	Input Voltage	AC 100, 110, 220-240V
	Pump	Diaphragm Pump
	Capacity	23ℓ/min (Max.)
Dimensions		360(W) x 266(H) x 150(D)mm
Weight (w/o cord)		10kg

#### Soldering Iron

Model No.	900S-ESD	907-ESD
Power Consumption	50W (24V)	
Tip to Ground Resistance	< 2Ω	
Tip to Ground Potential	< 2mV	
Heating Element	Ceramic Heater	
Standard Tip	900S-T-I (Shape-I)	900M-T-B (Shape-B)
Cord	1.2m	
Total Length (w/o cord)	176mm	190mm
Weight (w/o cord)	25g	44g

#### Desoldering Gun

Model No.	809
Power Consumption	50W (24V)
Nozzle to Ground Resistance	< 2Ω
Nozzle to Ground Potential	< 2mV
Standard Nozzle	A1003 (ø1.0mm S Type)
Dimensions	135(W) x 174(H)mm
Weight (w/o cord & hose)	200g

#### Handpiece for SMD Rework

Power Consumption	250W
Total Length (w/o cord)	196mm
Weight (w/o hose)	120g

### Packing List

Model Name	Contents
HAKKO 702B	Station .....1
	Soldering iron (900S-ESD, 907-ESD) .....2
	Desoldering gun (809) .....1
	Handpiece for SMD rework .....1
	Iron holder for soldering iron (No.C1141, No.C1142) .....2
	Iron holder for desoldering gun (No.631-06) .....1
	Handpiece holder .....1
	Nozzle tray .....1
	Filter pipe .....1
	Cleaning pin for ø1.0mm nozzle .....1
	Cleaning pin for heating element .....1
	Cleaning drill for ø1.0mm nozzle .....1
	Ceramic paper filter (S) .....2
	Ceramic paper filter (L) .....4
	Spring filter .....3
	Silicone grease .....1
	Wrench .....1
	FP pick-up .....1
	FP pick-up wire (S, L) .....2
	Nozzle for SMD rework handpiece (No.A1124B, A1128B) .....2

### Replacement Tips and Nozzles

Soldering iron: Please refer to page 25.  
Desoldering gun: Please refer to page 49.  
Handpiece for SMD Rework: Please refer to page 54-55.



# HAKKO 490

SMOKE CLEANER



- Compact and noise free, making it perfect for low-noise environments and desktop use.
- Use compressed air - no power supply is necessary.

## Compatible Soldering Iron



HAKKO FX-888



HAKKO FX-950



HAKKO FX-951



HAKKO FM-203

HAKKO FX-838  
(Iron: FX-8301)HAKKO 937\*  
(Iron: 907/908)HAKKO 928\*  
(Iron: 900M/L)

HAKKO 933/934



HAKKO DASH

HAKKO 701\*  
(Iron: 907/908)HAKKO 702B\*  
(Iron: 907/908)

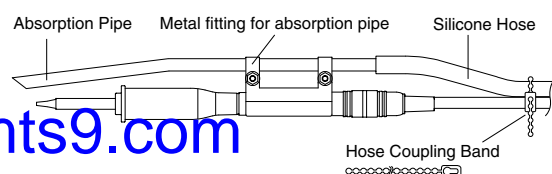
\* 900S soldering iron and desoldering gun are not compatible with HAKKO 490.

## Specifications

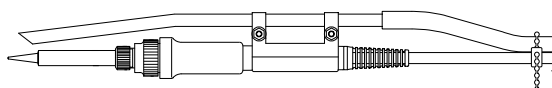
Model No.	490
Height	200mm
Diameter	120mm
Weight	1.5kg
Noise Level	39db
Working Pressure	4~7kgf/cm <sup>2</sup> (392~686kPa)
Air Consumption	40ℓ/min (5kgf/cm <sup>2</sup> )
Suction Flow	2.3ℓ/min (5kgf/cm <sup>2</sup> )

## Set Up

### ■ FM-2028, FM-2027



### ■ 917, 907, 908, 900M, 900L, 902, 933, 934, DASH

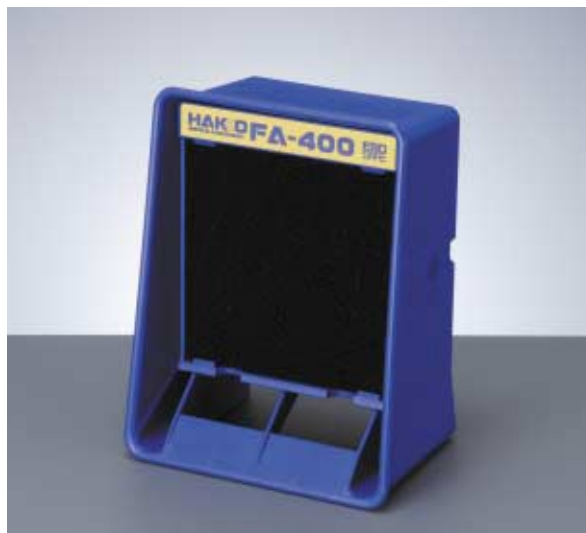


## Packing List

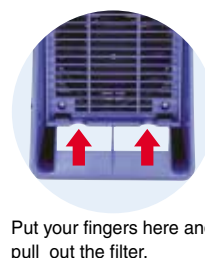
Model Name	Contents
HAKKO 490	Unit .....1
	Absorption pipe set (No.C1540) .....1

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





- Smoke absorber available to use in 2ways, "normal" and "face-down" position
- Space-saving compact design
- ESD safe by design
- Easy filter replacement



### Specifications

Model No.	HAKKO FA-400	
Power	50Hz	15W(100V) 18W(110V) 19W(220V) 22W(230V) 24W(240V)
Consumption	60Hz	13W(100V) 15W(110V) 16W(220V) 18W(230V) 19W(240V)
Airflow*	normal	1.0m³/min.(50Hz) 1.1m³/min.(60Hz)
	horizontal	0.4m³/min.(50Hz) 0.5m³/min.(60Hz)
Flow rate*	normal	1.0m/s(50Hz) 1.1m/s(60Hz)
	horizontal	2.6m/s(50Hz) 2.9m/s(60Hz)
Dimensions	166(W) x 212(H) x 113(D)mm	
Weight	930g	
Accessory	Filter(1pc)	

\*with filter

### Packing List

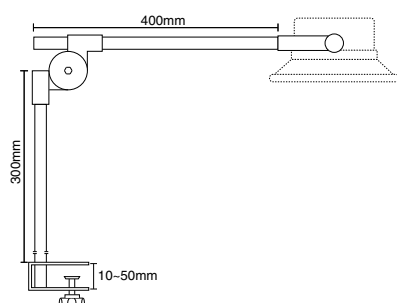
Model Name	Contents
HAKKO FA-400	Unit .....1
	Filter.....1

### Replacement Parts

Part No.	Name/Description
A1001	Filter set (5 pcs)

### Optional Attachment

Part No.	Name/Description
C1568	Arm stand w/knobs(set of 2,ESD)
B1166	Knob/set of 2,ESD



### User-Selectable Arrangement

In addition to horizontal and vertical installations, an optional arm stand allows use in suspended.



#### Normal installation

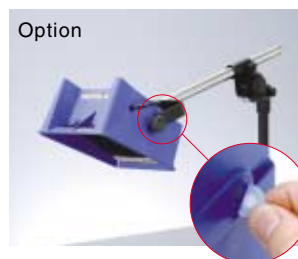
Wide-angle smoke absorption.



Flow rate  
Approx.2.5  
times faster

#### Horizontal installation

Powerful absorption at closer area with high flow rate. Because of low height, it gives less shade keeping your working area light.



Option

#### Suspended by Arm Stand

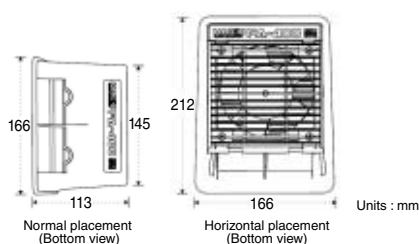
Convenient for approach from above or use in a limited space.

\*Arm stand is an optional part.

\*The screw holes on FA-400 are covered by stickers.

Peel off the stickers before mounting the absorber in the arm stand.

### Footprint





# HAKKO 494

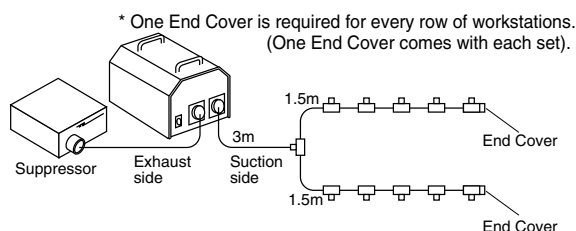
SMOKE ABSORBER



- Compact, light weight design.
- Convenient operation-easy to install flexible ducts permit quick and simple system adoption to longer or relocated production lines.
- Highly efficient operation-fumes and flux are absorbed at their source and trapped by a double filter system.
- One HAKKO 494 system handles Max. 10 soldering irons.

## Examples of Installation

Parallel piping joint (No.B1246) permits a variety of piping layouts to be used.



## Specifications

Model No.	494	
Frequency	50Hz	60Hz
Power Consumption	150W	200W
Static Pressure	2.3kPa (240mm/Aq)	3.2kPa (325mm/Aq)
Absorption Capacity	1.56m³/min.	1.82m³/min.
Length of Duct (Inlet)	< 20m	
Length of Duct (Outlet)	< 5m	
Dimensions (w/o duct)	322(W) x 300(H) x 386(D)mm	
Weight (w/o cord & duct)	18kg	

\* Above Measurement Value: Unit only

## Optional Attachments

Part No.	Name/Description	Accessories
C1029	Absorption Pipe Set A for HAKKO DASH, 900M, 900L	Absorption pipe .....1 Silicone hose 1m .....1 Hose coupling band .....5 Metal fitting for absorption pipe ...1
C1030	Absorption Pipe Set B for HAKKO MACH-I (920-922)	
C1031	Absorption Pipe Set C for HAKKO MACH-I (918)	
C1033	Absorption Pipe Set E for HAKKO MG (except 150W)	
C1034	Absorption Pipe Set F for HAKKO 455	
C1035	Absorption Pipe Set G for HAKKO 456	
C1086	Absorption Pipe Set H for HAKKO 902, 904	
C1540	Absorption Pipe Set R*	Absorption pipe .....1 Silicone hose 1.5m .....1 Hose coupling band .....5 Metal fitting for absorption pipe ...1

\* No.C1540 can be attached to: FM-2027, FM-2028, 917, 907, 908, 900M, 900L, 902, 933, 934, DASH.

## Packing List

Model Name	Contents
HAKKO 494	Unit .....1
	Absorption pipe set .....1
	Duct 3m .....1
	Filter case .....1
	Filter cap .....1
	End cover .....1
	Nylon strap .....2
	Main filter .....5
	Exhaust duct 5m .....1
	Pre-filter .....5
	Suppressor .....1
	Inlet socket for smoke absorber .....1

When ordering HAKKO 494, please specify the model number of soldering station/iron and q'ty to be used for additional parts arrangement.

## Duct Set

Part No.	Part Name	Contents
C1028	Duct Set	Filter cap .....1
		Pre-filter .....5
		Filter case .....1
		Duct 1.5m .....1
		Nylon strap .....2



## HAKKO FE-500



**Safe and easily maintained portable static eliminator  $\pm 5V$  ion balance.**

- Safety functions
  - Fan motor rotation monitoring function (force detection)
  - High voltage output shutdown function (overload detection)
  - As soon as the fan guard is detached, the power supply is automatically shut off.
- The voltage will be neutralized within 5V in approximately 10 seconds.
- Multiple power supplies allow use in many places. (100V~240V)

### Specifications

Model No.	FE-500
Input Voltage	DC24V $\pm 5\%$ 360mA
Output Voltage	AC3.5kV
Ion Balance	Factory adjusted to within $\pm 5V$ (at 300 mm from the front panel)
Airflow	1.5 to 3.0m <sup>3</sup> /min (variable)
Noise	52dB (A) With maximum wind volume
Ozone Production	0.03 ppm or less (at a point 300 mm from the outlet and aligned with the center of the outlet)
Maximum Allowable Ambient Temperature	40°C
Filter	Pre-filter level
Dimensions	140(W) x 190(H) x 81(D)mm
Weight (w/o AC Adapter)	1.4kg
AC Adapter Input	AC100-240V 50/60Hz 0.4A
Weight of AC Adapter (w/o cord)	135g

### Packing List

Model Name	Contents
HAKKO FE-500	Unit .....1
	Cover securing bracket .....1
	AC adapter .....1

### Replacement Parts

Part No.	Name/Description
A1525	Filter
B3120	Discharge electrode

### Easy Maintenance



### Optional Attachment

Part No.	Name/Description
C1023	Arm stand/1.8kg



### Check the ion balance



HAKKO FG-450 checks the ion balance status.



## HAKKO FG-450

STATIC LEVEL METER



- Two modes for measuring electric potential:
  - Electrostatic potential of object or human body
  - Ion balance of ionizer
- Adjusts zero point easily with just a single touch of a button.
- Battery indicator informs you the replacement timing of battery.
- Easy-to-see with large figures and color display.

### Specifications

Signal detection method	Oscillating chopper method
Display refresh frequency	0.5 seconds
Measurable potential range	Normal mode: 0.00 to $\pm 19.99kV$ (resolution: 0.01kV) LB (ion balance) mode: 0.000 to $\pm 1.999kV$ (resolution: 0.001kV)
Measurement precision	$\pm 10\%$ of reading $\pm 2$ digit
Continuous operating limit	Approximately 10 hours (with alkaline battery)
Measuring distance	3 mm (between object being measured and sensor)
Measuring distance adjustment	Red LED beam focusing method
Sensor head rotation angle	180° (stops every 45°)
Display	LCD display with built-in backlight
Polarity display	+ polarity / - polarity display
Mode switching	Switch modes by pressing MODE button
Battery check	Remaining charge displayed in display panel
Battery	DC9V alkaline rectangular dry cell battery 006P
Operating temperature/ humidity range	0 - +40°C, 20 - 70%RH, non-condensing
Dimensions	68 mm x 22 mm x 138 mm (W x D x H)
Weight	Approximately 160g (including battery)

### Packing List

Model No.	Contents
HAKKO FG-450	Unit (With case) ..... 1
	Grounding wire ..... 1
	Strap ..... 1
	Battery (DC9V alkaline rectangular dry cell battery 006P)..... 1
	Ion Balance Plate (With screw)..... 1

### Replacement Parts

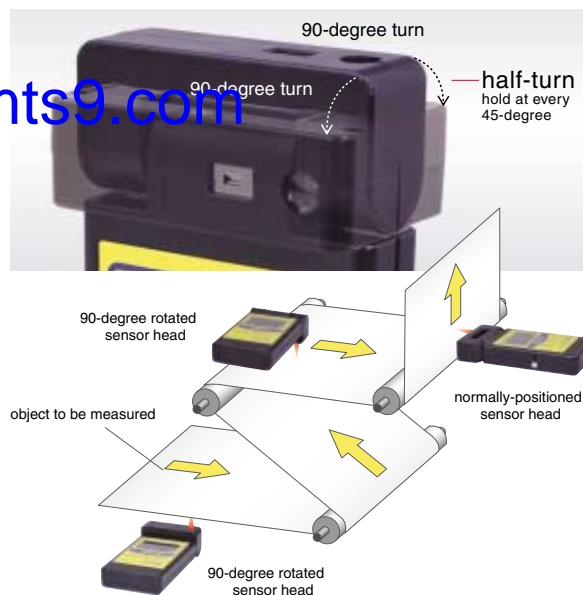
Part No.	Name/Description
B3584	Grounding wire
B3585	Ion balance plate

### Optional Parts

Part No.	Name/Description
B3586	Charging level measurement plate for body

### Rotary Sensor Head

Sensing area rotates and you can locate it at any position which allows easy readout under any situations as shown in the illustration.



### Measuring Method

Because the ion balance plate is supplied with the unit as the standard accessory, you can check ion balance quickly in addition to measuring electrostatic potential.



**Ion Balance Measurement**  
Ion balance can be measured in 1-V intervals.



**Electric Potential Measurement**



**Measuring Plate for electrostatic potential of the human body (option)**  
You can measure the electrostatic potential of the human body easily with the exclusive Measuring Plate.



## HAKKO 442B



- Comfortable and light weight.
- Standard ground termination is alligator clip & w/banana plug.
- With adjustable wrist band.
- Available in blue color.

### Specifications

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

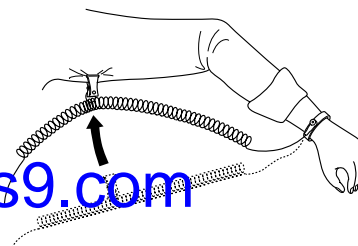
### Replacement Parts

Part No.	Name/Description
B2760	Strap
B2758	Grounding wire/1.5m
B2759	Grounding wire/2.5m

### Packing List

Model Name	Contents
HAKKO 442B	Wrist band .....1
	Grounding wire .....1
	Cord helper .....1

### How To Use The Cord Helper



<http://www.mts9.com>

## HAKKO 496



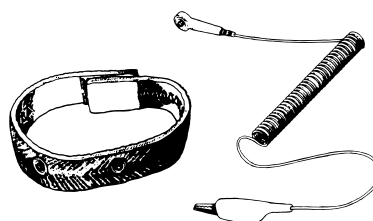
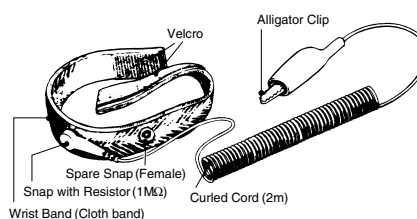
- Comfortable and light weight.
- Available in blue, wine and green color.
- 'Velcro' & 'Snap' help quick and easy adjusting.
- Standard ground termination is alligator clip.

### Specifications

Part No.	496B	496R	496G
Color	Blue	Wine	Green
Grounding Wire	2m		

### Replacement Parts

Part Name	Name/Description
496-1B	Wrist band <Blue>
496-1R	Wrist band <Wine>
496-1G	Wrist band <Green>
496-2B	Grounding wire <Blue>
496-2R	Grounding wire <Wine>
496-2G	Grounding wire <Green>





**HAKKO 498**  
SYSTEM TESTER



- Can be used anywhere quickly and easily to check a variety of grounding systems.
- Ensures employee's safety.
- Eliminates product defects caused by static electricity.



**Quickly and simply checks**  
Wrist straps and grounding wires.  
The contact resistance between the wrist strap and the skin.

**Operation**  
Simply connect the grounding wire and press the pad.  
If the grounding system is safe, the green 'GOOD' lamp will light up and an audible signal will be heard.

Specifications		
Model No.	498	
Power Supply	9V Battery	
Grounding Wire	2.5m	
Operating Environment	0 to 40°C, 20 to 90%RH, no dew formation	
LED Indication	Calibration Resistance	Buzzer
LOW (Red)	$R < 800K\Omega$	OFF
GOOD (Green)	$800K\Omega \leq R \leq 9M\Omega$	ON
HIGH (Red)	$R > 9M\Omega$	OFF

Packing List	
Model No.	Contents
HAKKO 498	Unit ..... 1
	Grounding wire ..... 1



## HAKKO HEATING GUN



No. 880B/881



No. 882

- Ideal for use in a variety of heating operations including drying paint, processing shrink films and shrink tubing, drying resin putty for sheet metal, repairing automobile urethane bumpers and applying long-length floor materials or vinyl moldings.
- Powerful heating for a wide range of work.
- Light weight, ergonomic design for easier handling and simpler operation.

### Specifications

Model No.	880B	881	882
Power Consumption	800W	1000W	1000W
Maximum Temperature*	400°C	450°C	450°C
Temp. Control Function	---	---	Room Temp. ~450°C
Air Velocity	330m/min.	360m/min.	360m/min.
Air Flow	0.18m³/min.	0.2m³/min.	0.2m³/min.
Dimensions	245(W) x 185(H) x 70(D)mm	285(W) x 185(H) x 70(D)mm	285(W) x 185(H) x 70(D)mm
Weight (w/o cord)	550g	700g	700g

\* Max. Temp. is approximate one which measured at the point 10mm from the pipe.

### Compatibility Chart

The optional attachments that can be used depend on the model.  
Use the chart below to check for compatibility.

Part No.	Model No.	880B	881	882
A1108				
A1109		○	○	○
A1110		○	○	○
A1111		○	○	○
*A1112			○	○
*A1113		○		
*A1114		○	○	○
B1419		○	○	
B1420				○

○ ... Usable

\* Indicate optional attachments that require the A1111 for use.

### Optional Parts & Operating Technique

(The temperature of No. 882 is at Temp. Control knob 6.)

#### No.A1109 Nozzle/Hook Type

Ideal for the circumference heating of shrink tubing, plastic shafting etc.



#### No.A1110 Nozzle/Spatula Type 62mm

Ideal for heating of large items like shrink film.

	880B	881.882
Temperature	350°C	400°C
Air Velocity	270m/min.	300m/min.

#### No.A1111 Nozzle Holder

Attach this nozzle according to drawing, and use for partial heating.

	880B	881.882
Temperature	450°C	500°C
Air Velocity	580m/min.	630m/min.

#### No.A1112 Nozzle

Insert this nozzle into No. A1111. Ideal for repairing carpet etc. where an adhesive agent is used.

	881.882
Temperature	550°C
Air Velocity	780m/min.

#### No.A1113 Nozzle/Single ø5

Insert this nozzle into No. A1111. Ideal for partial heating.

	880B
Temperature	550°C
Air Velocity	780m/min.

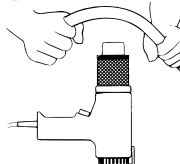
#### No.A1114 Nozzle/Spatula Type 20mm

Attach this nozzle on No. A1111. Ideal for adhesion of vinyl chloride sheet etc.

	880B	881.882
Temperature	450°C	500°C
Air Velocity	720m/min.	780m/min.

#### No.B1419 Stand No.B1420 Stand

For vertical operation. Remove original and attach.





# HAKKO MELTER



## Major 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 & metals.
- Fasten textiles and shock absorbent packing.
- Reseal products during packaging.

## Adhesive Used

This model has been designed for 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	1kg		14 pcs
Color	Yellowish-Brown	Milky-White	
Size	ø11.5 x 220mm		
Viscosity	2,300 cps. (2,300mPa·s)	5,800 cps. (5,800mPa·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 ○.

\* Application Period.

- Temperature control function enables use of polyamide adhesives that are ideal for use with electronic components.
- Superior thermal recovery makes the unit tough enough to handle several operations in succession.

## Specifications

Model No.	804
Power Consumption	100W
Standard Nozzle	A1083 (ø2.0mm)
Melting Temperature	100-200°C variable
Discharge Capacity	900g/hour
Dimensions	215(W) x 170(H) x 45(D)mm
Weight (w/o cord)	350g

## Packing List

Model No.	Contents
HAKKO 804	Unit .....1
	Stand assembly .....1
	Spanner(13, 14) .....2

## Replacement Nozzles

Unit : mm

Part No.	Name/Description	Diagram
A1088	Nozzle ø1.0mm	
A1086	Nozzle ø1.5mm	
A1083	Nozzle ø2.0mm	
A1089	Long nozzle ø1.0mm	
A1087	Long nozzle ø1.5mm	
A1084	Long nozzle ø2.0mm	



# HAKO CUTTING TOOL



- Designed for precision assembly of delicate, complex electronic work.
- Soft-touch grip ensures long and comfortable work.
- Recommend to cut copper & soft lead wires.

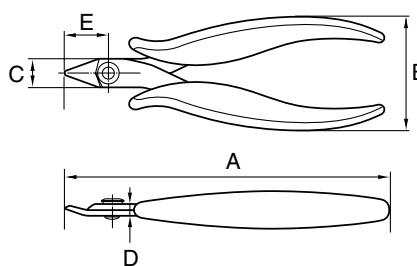
## Specifications

Model No.	Name	Maximum cutting capability for copper wire
106-01	Flush Cut with Safety Clip	1.3mm
106-02	Flush Cut with Angled Blade	1.3mm
106-03	Flush Cut with Small Blade	0.8mm
106-04	For a Front, Flush Cut	1.0mm
106-05	Flush Cut	1.3mm
106-06	Short Nose Pliers	-
106-07	Long Nose Pliers	-
106-08	Bent Nose Pliers	-

<http://www.mts9.com>

Unit : mm

Model No.	A	B	C	D	E
106-01	132	54	13.5	5	20
106-02	129	54	13.5	5	16
106-03	130	54	9.5	4	18
106-04	138	54	14	6	27
106-05	132	54	13.5	5	20
106-06	140	54	13	6	29
106-07	154	54	13	6	40
106-08	146	54	13	4	35







- A built-in diaphragm pump eliminates the need for a separate air supply unit.
- Lifts objects weighting up to 120g.
- Pen, suction pads and air hoses are all made of anti-static materials for greater safety and reduced risk of damage to delicate parts.

### Easy To Set Up, Easy To Use



1. Place the nozzle or pad on the object to be picked up.
2. Place a finger over the hole in the pen.  
A vacuum is instantly created and the resulting suction at the tip of the pen "holds" the object to the pen.
3. Now raise the pen and the object is lifted along with the pen.

<http://www.mts9.com>

### Specifications

Model No.	392
Power Consumption	5W
Pump	Diaphragm Type
Maximum Pressure	37.3kPa (280mmHg)
Dimensions	Station : 132(W) x 83(H) x 170(D)mm Pen : 123(L) x 10 (outer dia.)mm Air Hose: 1100(L) x 6 (outer dia.)mm
Weight (w/o cord)	Station : 1.65kg Pen : 25g

### Vacuum Pick-up Performance

Nozzle/Pad	Maximum Item Weight	Applications
Bent Nozzle <0.4mm>	0.6g	Chip resistors and tiny components
Bent Nozzle <1.1mm>	2g	Small ICs (8~40 pins)
Bent Nozzle <1.1mm> + Pad <3mm>	20g	ICs (40 pins or greater)
Bent Nozzle <1.1mm> + Pad <7mm>	120g	Large electronic components, etc

### Packing List

Model No.	Contents
HAKKO 392	Unit .....1
	Bent nozzle.....2 (Inner Dia. 0.4mm, 1.1mm)
	Pad .....2 (Outer Dia. 3mm, 7mm)



# HAKKO 394

VACUUM PICK-UP



- A built-in very small, but powerful pump eliminates the needs of power cord and air tube.
- Easy to handle for continuous pickup.
- Anti-static material are used.

## Service Life of Battery

Pickup repetition limit*1	Continuous pickup time*2
Approx. 30,000 pickup times (With alkaline batteries)	Approx. 15 hours

\*1 26mm x 26mm QFP is pickup for 2 seconds using a 10 mm dia. pad and then released for 1 second. This cycle is repeated continuously until the QFP is no longer picked up.

\*2 This is the time period from the moment 26mm x 26mm QFP starts being pickup using a 10 mm dia. pad to the moment the QFP drops.



Applicable for Chip Components  
(With A1164 Bent Nozzle)

## Specifications

Model No.	394
Power Supply	Alkaline Battery "AAA" x 2
Dimensions	130(L) x 22(W) x 29(H)mm
Weight (w/o batteries)	43g

## Replacement Parts

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

## Packing List

Model Name	Contents
HAKKO 394	Unit .....1
	Bent nozzle 1.1mm with stopper (No.A1165) .....1
	Pad 5mm (No.A1312) .....1
	Pad 10mm (No.A1311) .....1
	Alkaline battery "AAA" .....2

## Pickup Power

Part No.	Name/Description	Pickup Performance
A1166	Pad 3mm	6 gf
A1312	Pad 5mm	40 gf
A1167	Pad 7mm	80 gf
A1311	Pad 10mm	120 gf

\* The max. pickup performance shown above slightly differs depending on the surface of the object.



# HAKKO 153·154

LEAD FORMER



## Specifications

Part No.	153-1	154-1
Forming Size	5.6mm Pitch	5mm Pitch
Max. Diameter of Lead*	ø0.8mm	ø0.5mm
Compatible Taping Dimension	Outer Width of Tape Pitch	Max. 85mm
		5mm
Dimensions	125(W) x 130(H) x 110(D)mm	
Weight	2kg	

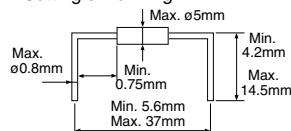
**CAUTION** \* For annealed copper lead only.

## Cutting and forming for tape-type axial components

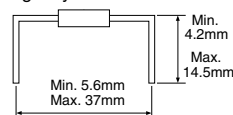
- Easy to use—simply set the taped components in place and turn the handle. Ideal for processing tape-type components.
- Improved, longer-life cutting blade for a clean, smooth cut.
- Sealed bearings for longer service life and greater durability and efficiency.
- Can be used for forming and cutting, forming only, or cutting only.

### HAKKO 153

#### · Cutting & Forming



#### · Forming only

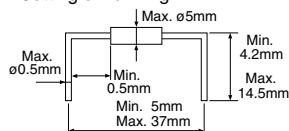


#### · Cutting only

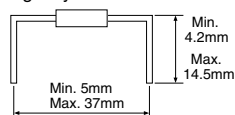


### HAKKO 154

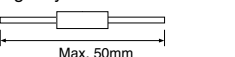
#### · Cutting & Forming



#### · Forming only



#### · Cutting only



# HAKKO 155

LEAD CUTTER



## Specifications

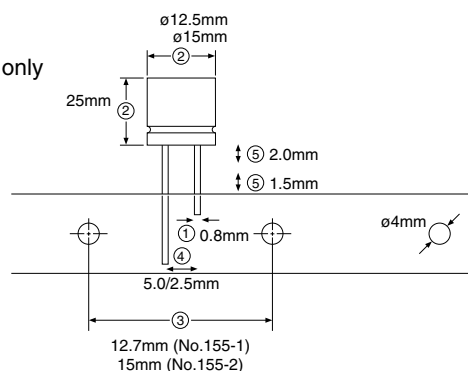
Part No.	155-1	155-2
① Max. Diameter of Lead Wire	ø0.8mm	
② Max. Processing Part Size	ø12.5mm~25mm	ø15mm~25mm
③ Feed Hole Pitch	12.7mm	15mm
④ Lead Pitch	2.5mm*, 5.0mm	5.0mm
⑤ Min. Processing Size	1.5mm from taping end	2.0mm from part end
Dimensions	125(W) x 110(H) x 140(D)mm	
Weight	1.7kg	

\* When processing a part with a lead pitch of 2.5mm, be sure to adjust the cutting wheel. Parts with a pitch of 2.5mm can be processed only on the No.155-1.

## Cutting for tape-type radial components

- Easy to use—simply set the taped components in place and turn the handle. The super-sharp, high quality cutting blade allows you to cut all types of tape-type radial parts, including resistors, capacitors, transistors, etc. cleanly and smoothly. Continuous operation ensures faster, more efficient processing.
- Sealed bearings make it long-lasting, durable and efficient.
- The compact design allows you to place it virtually anywhere.

#### · Cutting only





## HAKKO 152B

MOTOR DRIVE



\* Combination with HAKKO 153.

\* The HAKKO 153 is not included with the HAKKO 152B.

### Specifications

Model No.	152B	
Rotary	28rpm (50Hz), 34rpm (60Hz)	
Max. Processing Capacity	36,000 pcs/hr (w/HAKKO 153, 154)	18,000 pcs/hr (w/HAKKO 155)
Dimensions	430(W) x 154(D) x 140(H) mm	
Weight (w/o cord)	5.6kg	

### Automatic cutting and forming

- Constant-torque drive ensures uniform processing quality.
- Processes up to 36,000 pieces per hour when used with the HAKKO 153.154, up to 18,000 pieces per hour with the HAKKO 155.
- Speed control knob permits adjustment of the processing speed.

<http://www.mts9.com>

## HAKKO DIPLINER

LEAD STRAIGHTENER



- Low-cost, high-performance tool for reforming IC and LSI leads.
- Speeds IC and LSI insertion.
- No more broken leads during IC and LSI insertion or transportation.
- Simply insert the IC case into the Dipliner chute, and the leads are protected right through circuit board insertion.
- Adjustable lead former fits all types, sizes and makes of ICs and LSIs.
- Simple mechanism for maintenance-free operation.

### Specifications

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







## Global and Niche: The Hakko brand is much loved in more than 50 countries worldwide.

We have grown into a global brand. Currently, Hakko soldering irons and related equipment are desired in more than 50 countries in overseas markets. We have local corporations and sales representatives in various regions worldwide, and continue to expand our global network. Again, we believe that creative power stems from connections between the Hakko international groups. Hakko promises to fulfill our customers' needs with our global network of friendly relationships.



<http://www.hakko.com>

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





# CATALOG

Quality Tools for the electronics Industry

<http://www.mts9.com>



**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)86-HAKKO  
<http://www.hakkousa.com>

#### 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

**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 INDUSTRIAL  
BUILDING, 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>

Specifications and design are subject to change without notice.  
Copyright HAKKO Corporation. All right reserved.

CA00350BbBa001 May. 2010