



# CATALOG

Quality Tools for the electronics Industry



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CATALOG Quality Tools for the electronics Industry



# CATALOG

Quality Tools for the electronics Industry

HAKKO CORPORATION

HAKKO FX-951 ESD SAFE  
SOLDERING STATION



- 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.

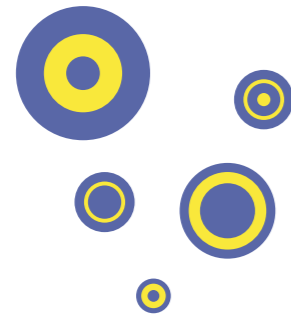
We give form to ideas beyond the norm by facing the user's true needs with a welcoming feeling. Hakko confidently introduces soldering irons and related equipment with world class quality, starting with the new products designed in Blue & Yellow.



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**

Not only has Hakko been approved by ISO 9001 & 14000, 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.



*Blue meets yellow*  
**GREEN PROJECT**

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.



Our company has been certified under ISO 9001 (JIS Z 9901), 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	Soldering Station	N <sub>2</sub> System	Soldering Iron	Cordless Soldering Iron	Self Feeder	Thermometer
	Soldering Tester	Soldering Pot	Soldering System	Tip Polisher, Chemical Paste	Iron Holder	Solder Reel Stand
Desoldering / Rework	Desoldering Station	Desoldering Tool	SMD Rework Station	Preheater		
	SMD-BGA repair system	SMD Desoldering	Repair System	Rework System		
Smoke Absorber / Static Control	Smoke Absorber	Static Eliminator	Static Level Meter	Wrist Strap	System Tester	
	Heating Gun	Melter	Cutting Tool	Vacuum Pick-up	Lead Former/Lead Cutter	
Other Tools						

**LEAD FREE** Helps you lead-free solder application. **ESD SAFE** ESD safe by design.

## INDEX

### Soldering

- HAKKO MODEL FM-202 .....
- HAKKO MODEL FM-2021 .....
- HAKKO MODEL FM-2022 .....
- HAKKO MODEL FM-2023 .....
- HAKKO MODEL FM-2024 .....
- HAKKO FX-951 .....
- HAKKO FX-952 .....
- HAKKO FM-2026 .....
- HAKKO FX-780 .....
- HAKKO FX-791 .....
- HAKKO 938 .....
- HAKKO 931 .....
- HAKKO 936 .....
- HAKKO 937 .....
- HAKKO 928 .....
- HAKKO 951 .....
- HAKKO 952 .....
- HAKKO 933 .....
- HAKKO 934 .....
- HAKKO MACH-I .....
- HAKKO DASH .....
- HAKKO 455 .....
- HAKKO 456 .....
- HAKKO PRESTO .....
- HAKKO RED .....
- HAKKO FX-901 .....
- HAKKO MG .....
- HAKKO SF .....
- HAKKO 373 .....
- HAKKO 375 .....
- HAKKO FG-100 .....
- HAKKO 192 .....
- HAKKO FX-301 .....
- HAKKO 96 .....
- HAKKO 485 .....
- HAKKO FT-700 .....
- HAKKO FS-100 .....
- IRON HOLDER .....
- HAKKO 611 .....

### Desoldering/ Rework

- HAKKO 474 .....
- HAKKO 475 .....
- HAKKO 809 .....
- HAKKO 815 .....
- HAKKO 816 .....
- HAKKO MODEL FM-2024 .....
- HAKKO 484 .....
- HAKKO 808 .....
- HAKKO SPPON .....
- HAKKO WICK .....
- HAKKO FR-801 .....
- HAKKO FR-802 .....
- HAKKO FR-803 .....
- HAKKO 853 .....
- Nozzle Tray .....
- Omnivise .....
- Rework Fixture .....
- HAKKO 851 .....
- HAKKO MODEL FM-2022 .....
- HAKKO MODEL FM-2023 .....
- HAKKO 950 .....
- HAKKO MACH-FP .....
- HAKKO 701 .....
- HAKKO 702B .....

### Heating Gun/ Glue Gun

- HAKKO HEATING GUN .....
- HAKKO MELTER .....



### Other Tools

- HAKKO CUTTING TOOL .....
- HAKKO 392 .....
- HAKKO 394 .....
- HAKKO 153 .....
- HAKKO 154 .....
- HAKKO 155 .....
- HAKKO 152B .....
- HAKKO DIPLINER .....



### Smoke Absorber/ Static Control

- HAKKO 490 .....
- HAKKO 494 .....
- HAKKO 493 .....
- HAKKO 443 .....
- HAKKO 430 .....
- HAKKO 442B .....
- HAKKO 496 .....
- HAKKO 498 .....



Soldering

Desoldering / Rework

Smoke Absorber/ Static Control

Heating Gun / Glue Gun

Other Tools

## Products List

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Desoldering / Rework	Desoldering Station	Desoldering Tool	SMD Rework Station	Preheater		
	SMD-BGA repair system	SMD Desoldering	Repair System	Rework System		
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Cutting Tool	Vacuum Pick-up	Lead Former/Lead Cutter				



Helps you lead-free solder application.



ESD safe by design.

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- HAKKO MODEL FM-2023 .....
- HAKKO MODEL FM-2024 .....
- HAKKO FX-951 .....
- HAKKO FX-952 .....
- HAKKO FM-2026 .....
- HAKKO FX-780 .....
- HAKKO FX-791 .....
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- HAKKO 931 .....
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### Heating Gun/ Glue Gun

- HAKKO HEATING GUN .....
- HAKKO MELTER .....



### Other Tools

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- HAKKO 498 .....



Soldering

Desoldering / Rework

Smoke Absorber / Static Control

Heating Gun / Glue Gun

Other Tools

**FM series**  
**HAKKO** MODEL **FM-202** **ESD SAFE**  
SOLDERING STATION



**A single station plays all roles of soldering, desoldering and SMD rework.**

- Powerful thermal recovery.
- Easy thermal adjustment; Just inserting the tip into the process gate located on the left side of the front panel, automatically adjusts the accurate temperature setting.
- Auto power shut-off.
- Indicates by buzzer and/or display when various errors occur.
- ESD safe by design.

**Soldering**



**HAKKO** MODEL **FM-2021** **ESD SAFE**

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

**SMD Rework**

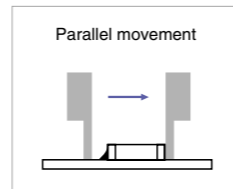


**HAKKO** MODEL **FM-2022** **ESD SAFE** • **HAKKO** MODEL **FM-2023** **ESD SAFE**

- 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**



**HAKKO** MODEL **FM-2024** **ESD SAFE**

- 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

**N<sub>2</sub> System**



- Combination sample with the N<sub>2</sub> system  
HAKKO MODEL FM-202, HAKKO FM-2026, HAKKO FX-780, HAKKO FX-791  
\*For further details, refer to page 14-15.

**Specifications**

**MODEL FM-202**

Model No.	FM-202
Power Consumption	140W
Temperature Range	200-450°C
Temperature Accuracy	± 10°C of set temperature
Temperature Stability	± 5°C at idle temperature

**Station**

Output Voltage	24V
Dimensions	119 (W) x 117 (H) x 178 (D) mm
Weight (w/o cord)	2.7kg

**MODEL FM-2021**

Model No.	FM-2021
Power Consumption	AC 24V/70W
Tip to Ground Resistance	< 2
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	AC 24V/140W	
Temperature Range	200-400°C	
Tip to Ground Resistance	< 2	
Tip to Ground Potential	< 2mV	
Cord	1.2m	
Total Length (w/o cord & tip)	110mm	75mm
Weight (w/o cord)	64g with SOP 25L tip	37g with I tip

**MODEL FM-2024**

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

**Desoldering Control Box**

Power Consumption	12W
Output Voltage	24V
Vacuum Generator	Ejector type
Vacuum Pressure (Max.)	93KPa (70mmHg)
Suction Flow	2.8ℓ/min.
Nozzle to Ground Potential	< 2mV
Applied Air Pressure	490KPa (5.0kgf/cm <sup>2</sup> ) 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

**Packing List**

Model Name	Contents
HAKKO MODEL FM-202	Station .....1
	Soldering iron (MODEL FM-2021) .....1
	Power cord .....1
	Iron holder with HAKKO 599B tip cleaner (No.FH100-01) .....1
	Control card .....1
	Tip tray .....1
HAKKO MODEL FM-2022	Heat resistant pad .....1
	*Tip is an optional part.
	Parallel remover (MODEL FM-2022) .....1
	Holder clip .....1
HAKKO MODEL FM-2023	Heat resistant pad .....1
	Cleaning sponge .....1
	*Tips are optional parts.
	Mini parallel remover (MODEL FM-2023) .....1
HAKKO MODEL FM-2024	Tips (T9-I/2pcs of set) .....1
	Holder clip .....1
	Component bed .....1
	Tip ID number key .....1
	Heat resistant pad .....1
	Cleaning sponge .....1
	Desoldering tool (MODEL FM-2024) .....1
	Desoldering control box (DCB) .....1
	Iron holder assembly .....1
	Handle for gun configuration .....1
Cleaning sponge .....1	
Nozzle remover .....1	
Filter pipe assembly .....1	
Cleaning drill for heating element .....1	
*Nozzle is an optional part.	

**Replacement Tips and Nozzles**

Please refer to page 8-9.

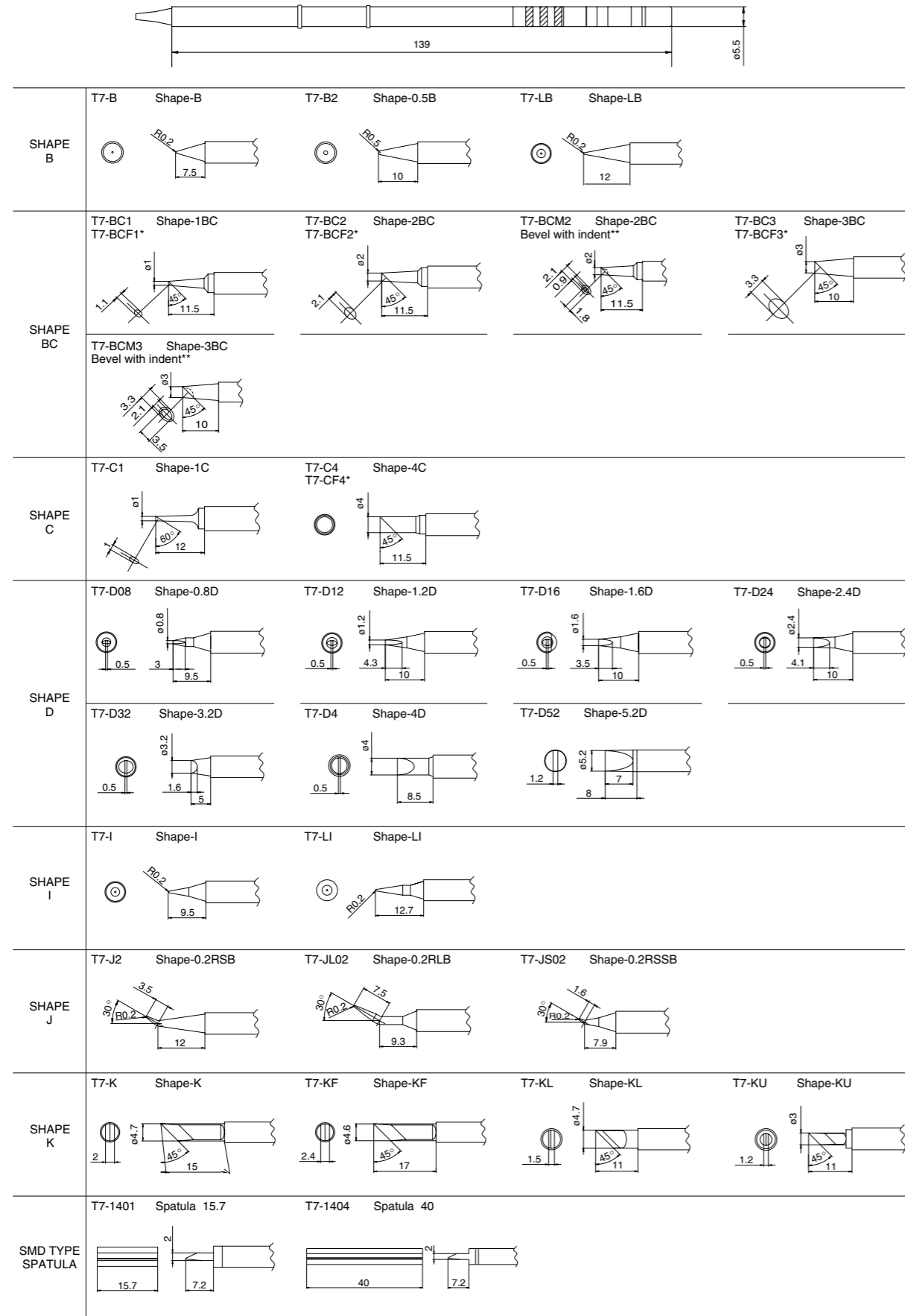
**Replacement Parts**

Part No.	Name/Description
B2765C	Sleeve assembly, yellow
B2768C	Sleeve assembly, orange
B2769C	Sleeve assembly, blue

Replacement Tips and Nozzles

Unit : mm

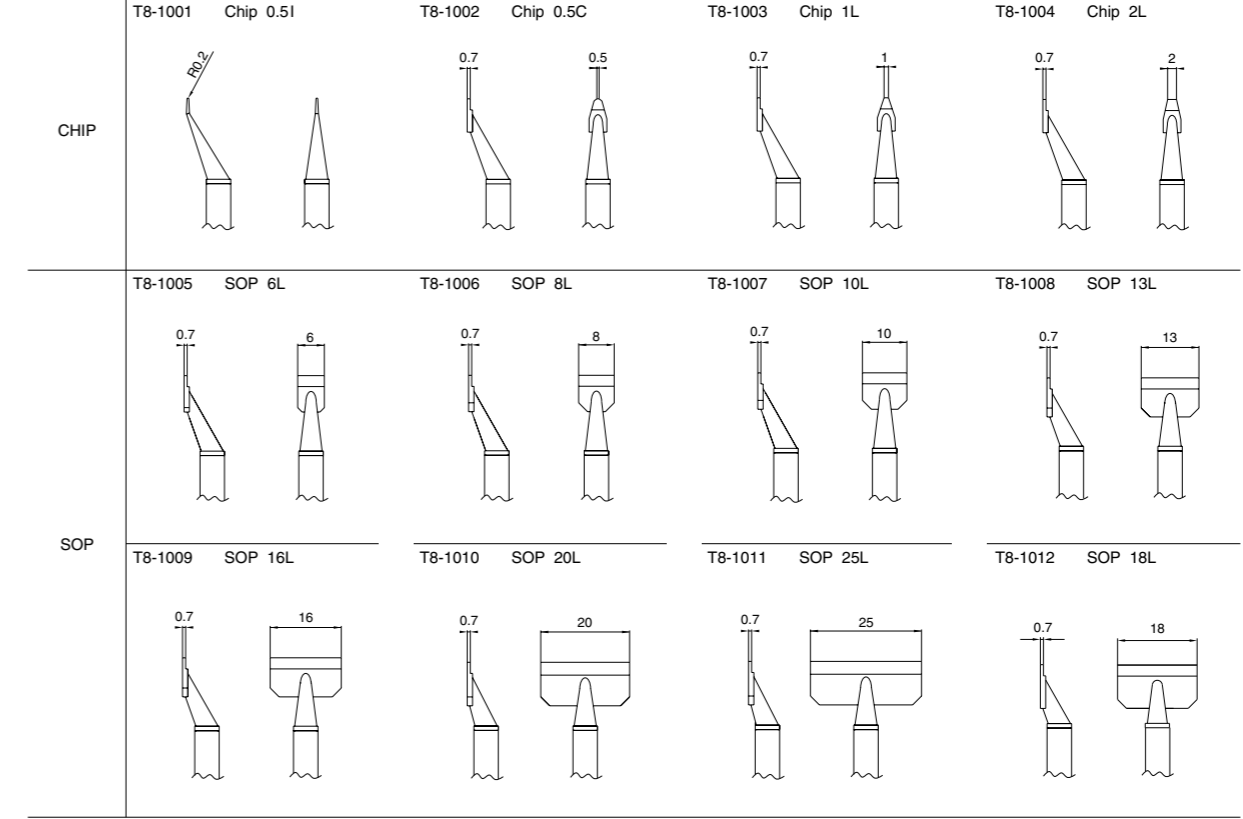
T7 Series For MODEL FM-2021



\* These tips are tinned on the soldering surface only.  
\*\* The part numbers T7-BCM2 and T7-BCM3 are not available for sale or use in the U.S.A.

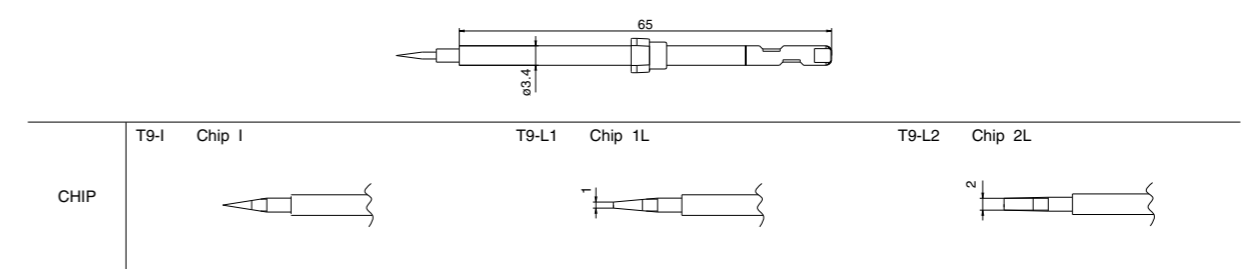
T8 Series For MODEL FM-2022

\* 1set: 2pcs.

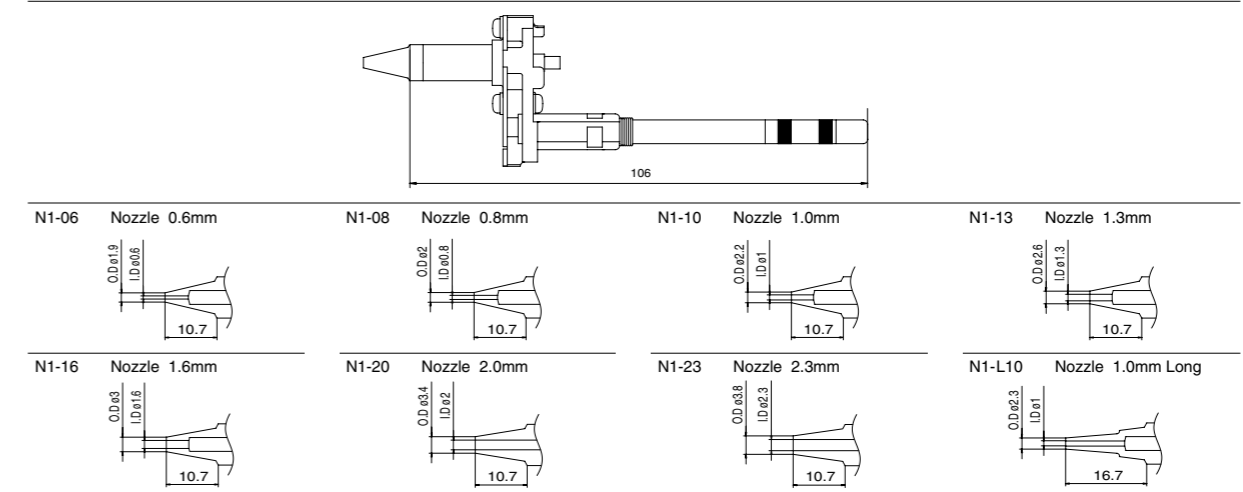


T9 Series For MODEL FM-2023

\* 1set: 2pcs.



N1 Series For MODEL FM-2024



# HAKKO FX-951 · 952 ESD SAFE

SOLDERING STATION



No. FX-951

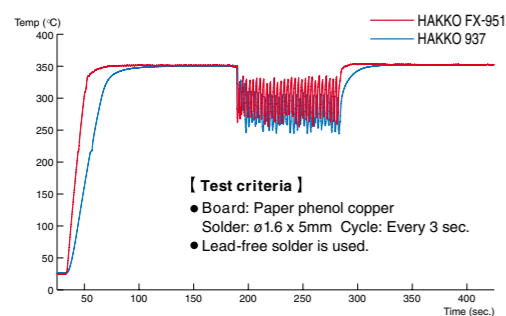
- Excellent thermal recovery.
- Suitable for various kinds of applications from touch up to heavy duty application.
- Informs you of errors via a warning buzzer or display.
- "Control Card" can lock the temperature settings.
- Quick and easy offsetting of tip temperature by the digital offset function.
- 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.
- ESD safe by design.



No. FX-952

- FX-952:-**
- Two soldering irons can be controlled by one station.
  - Allows use of different tips and temperature settings for different application.

### Thermal Recovery Graph



### Tip Tray



No. B2756

### Additional System to Expand the FX-951 and FX-952 Functions



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 14-15.

### Specifications

Model No.	FX-951	FX-952
Power Consumption	75W	*140W
Temperature Range	200-450°C	
Temperature Stability	± 5°C	

\*Wattage would be different value according to the standard.

### Station

Model No.	FX-951	FX-952
Output Voltage	24V	
Dimensions	80 (W) x 130 (H) x 131 (D) mm	113 (W) x 106 (H) x 206 (D) mm
Weight (w/o cord)	1.2kg	2.6kg

### Iron

Model No.	FM-2026
Power Consumption	AC 24V/70W
Tip to Ground Resistance	< 2
Tip to Ground Potential	< 2mV
Cord	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.

### Optional Parts

Part No.	Name/Description
B2756	Tip tray
B2765C	Sleeve assembly, yellow
B2768C	Sleeve assembly, orange
B2769C	Sleeve assembly, blue

### Packing List

Model Name	Contents
HAKKO FX-951	Station .....1
	Iron (FM-2025) .....1
	Power cord .....1
	Iron holder with cleaning sponge (No.FH100-02) .....1
	Control card .....1
HAKKO FX-952	Station .....1
	Iron (FM-2025) .....2
	Power cord .....1
	Iron holder with cleaning sponge (No.FH100-04) .....1
	Control card .....1
Heat resistant pad .....1	

\*Tips are optional parts.

### Sleeve Assemblies



Soldering

Desoldering / Rework

Smoke Absorber / Static Control

Heating Gun / Glue Gun

Other Tools

Soldering

Desoldering / Rework

Smoke Absorber / Static Control

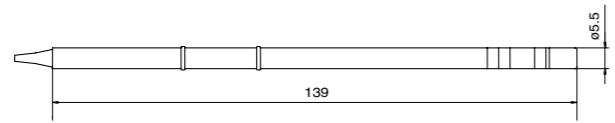
Heating Gun / Glue Gun

Other Tools



## Optional Tips

Unit : mm



	T12-B	Shape-B	T12-B2	Shape-0.5B	T12-B3	Shape-0.7B	T12-B4	Shape-0.4B
SHAPE B								
	T12-BL	Shape-BL						
SHAPE BC	T12-BC1 T12-BCF1*	Shape-1BC	T12-BC2 T12-BCF2*	Shape-2BC	T12-BC3 T12-BCF3*	Shape-3BC	T12-BCM2 Bevel with indent**	Shape-2BC
	T12-C1	Shape-1C	T12-C4 T12-CF4*	Shape-4C				
	T12-D08	Shape-0.8D	T12-D12	Shape-1.2D	T12-D16	Shape-1.6D	T12-D24	Shape-2.4D
SHAPE D								
	T12-D4	Shape-4D	T12-D52	Shape-5.2D	T12-DL08	Shape-0.8DL	T12-DL12	Shape-1.2DL
	T12-DL32	Shape-3.2DL	T12-DL52	Shape-5.2DL				
SHAPE I	T12-I	Shape-I	T12-IL	Shape-IL	T12-ILS	Shape-ILS		
	T12-J02	Shape-0.2J	T12-JL02	Shape-0.2JL	T12-JS02	Shape-0.2JS		
SHAPE J								
	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
T12-1209	Quad 8.4 x 8.4							
TUNNEL	T12-1001	Tunnel 5.1 x 4.6	T12-1002	Tunnel 5.1 x 10.4	T12-1003	Tunnel 9.5 x 18.3	T12-1004	Tunnel 9.5 x 15.8
	T12-1005	Tunnel 9.5 x 13.2	T12-1006	Tunnel 6.9 x 11.4	T12-1007	Tunnel 7.9 x 18.8	T12-1008	Tunnel 19.5 x 10.2
T12-1009	Tunnel 13.4 x 20.5	T12-1010	Tunnel 19.5 x 12					
SPATULA	T12-1401	Spatula 10.4	T12-1402	Spatula 15.7	T12-1403	Spatula 21.2	T12-1404	Spatula 25
T12-1405	Spatula 32	T12-1406	Spatula 40					

## SPECIAL APPLICATIONS TYPE

T12-BZ	Shape-B (Z)	T12-B2Z	Shape-0.5B (Z)	T12-BC1Z T12-BCF1Z*	Shape-1BC (Z)	T12-BC2Z T12-BCF2Z*	Shape-2BC (Z)
T12-BC3Z T12-BCF3Z*	Shape-3BC (Z)	T12-C4Z T12-CF4Z*	Shape-4C (Z)	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)

## HEAVY DUTY TYPE

T12-WB2	Shape-2WB	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.

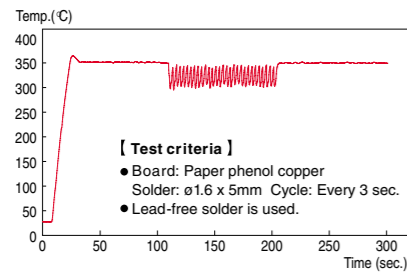
\*\*The part numbers T12-BCM2 and T12-BCM3 are not available for sale or use in the U.S.A.

**HAKKO 938** ESD SAFE  
SOLDERING STATION



- Great thermal recovery.
- Wide application from micro soldering to heavy duty application.
- Easy and speedy tip replacement is possible.
- Sleep function prevents the tip from being oxidized and extends the tip life.
- Energy-saving automatic power shut-off function.
- The low temperature alarm function is provided.
- Using "Control Card" can lock the temperature settings.
- Quick and easy offsetting of tip temperature by the digital offset function.
- ESD safe by design.

**Thermal Recovery Graph**



**Easy Tip Replacement**

A cartridge type soldering tip can be replaced easily and quickly.



**Specifications**

Model No.	938
Power Consumption	100W
Temperature Range	200-450°C
Temperature Stability	±2°C at idle temperature

**Station**

Output Voltage	27V 3.4A
Dimensions	100 (W) x 106 (H) x 188 (D) mm
Weight (w/o cord)	2.5kg

**Iron**

Model No.	917
Power Consumption	90W (27V)
Standard Tip	T10-D24 (Shape-2.4D)
Tip to Ground Resistance	< 2
Tip to Ground Potential	< 2mV
Total Length (w/o cord)	175mm with 2.4D tip
Weight (w/o cord)	45g with 2.4D tip
Cord	1.2m

**Packing List**

Model Name	Contents
Hakko 938	Station .....1
	Iron (917) .....1
	Power cord .....1
	Iron holder with cleaning sponge (No.635-02) .....1
	Control card .....1
	Heat resistant pad .....1

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



**N<sub>2</sub> System to Expand the HAKKO 938 Functions**



Combination sample  
HAKKO 938, HAKKO957\*,  
HAKKO FX-780,  
HAKKO FX-791.

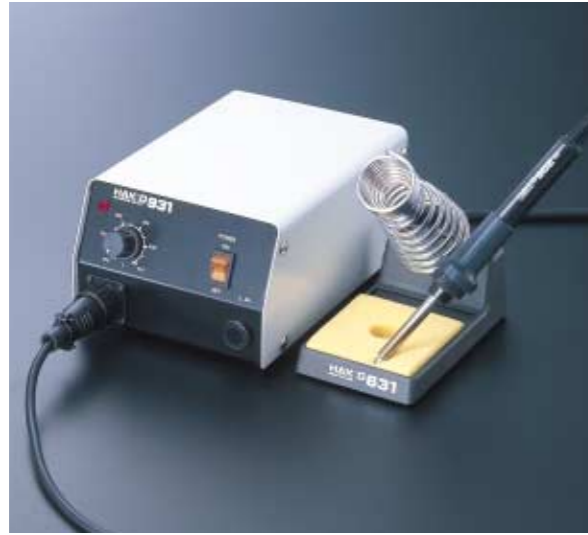
\*Optional HAKKO 957 is required to complete N<sub>2</sub> System.

**Replacement Tips**

Model	Shape	Model	Shape	Model	Shape
T10-B	Shape-B	T10-B2	Shape-0.5B	T10-BC1 T10-BCF1*	Shape-1BC
T10-BC2 T10-BCF2*	Shape-2BC	T10-BC3 T10-BCF3*	Shape-3BC	T10-BC4 T10-BCF4*	Shape-4BC
T10-C5 T10-CF5*	Shape-5C	T10-C6	Shape-6C	T10-D08	Shape-0.8D
T10-D12	Shape-1.2D	T10-D16	Shape-1.6D	T10-D24	Shape-2.4D
T10-D32	Shape-3.2D	T10-D4	Shape-4D	T10-D52	Shape-5.2D
T10-D6	Shape-6D	T10-I	Shape-I	T10-J02	Shape-0.2RSB
T10-K	Shape-K	T10-KL	Shape-KL	T10-KU	Shape-KU
T10-LB	Shape-LB	T10-LI	Shape-LI	T10-BCM2**	Shape-2BC Bevel with indent
T10-BCM3**	Shape-3BC Bevel with indent				

\* These tips are tinned on the soldering surface only.  
\*\* The part numbers T10-BCM2 and T10-BCM3 are not available for sale or use in the U.S.A.

**HAKKO 931** ESD SAFE  
SOLDERING STATION



- Only one-third start-up time of conventional soldering irons with ceramic heaters (based on Hakko tests).
- Can be used to solder places on multi-layer boards where heat loss is great.
- Excellent conduction of heat from the heater increases heating efficiency, shortens start-up time, and minimizes temperature fluctuations during soldering.
- Faster sensor response makes the supply of heat uniform and enables more accurate control over tip temperature.
- High quality, uniform soldering is possible even with fine soldering iron tips.

**Specifications**

Model No.	931
Power Consumption	100W
<b>Station</b>	
Output Voltage	AC 24V
Temperature Range	200-450°C
Dimensions	135 (W) x 95 (H) x 190 (D) mm
Weight (w/o cord)	2.7kg

**Packing List**

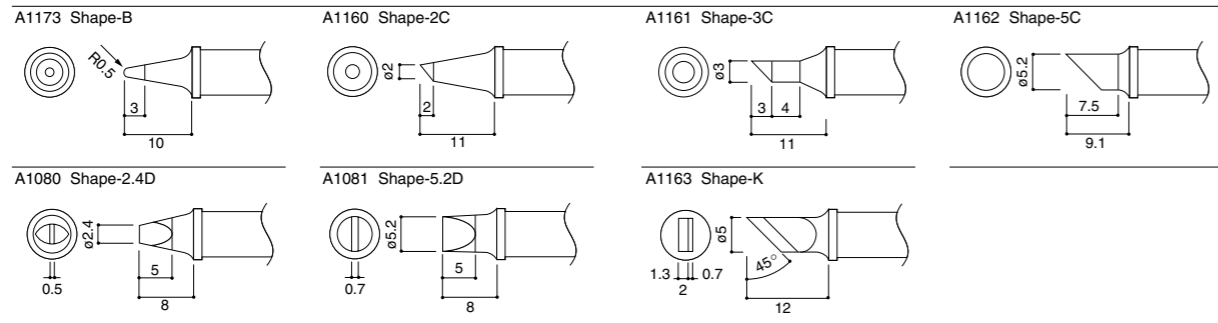
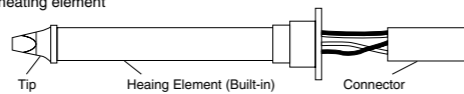
Model Name	Contents
HAKKO 931	Station .....1
	Iron (902) .....1
	Iron holder with cleaning sponge (No.631-01) .....1
	Cap nut wrench .....1

**Iron**

Model No.	902
Power Consumption	AC 24V/90W
Standard Tip	A1080 (Shape-2.4D)
Tip to Ground Resistance	< 2.0
Tip to Ground Potential	< 2mV (Typ.0.6mV)
Heating Element	Integrated Heater
Total Length (w/o cord)	180mm
Weight (w/o cord)	45g

**Replacement Tips**

The integrated tip/heating element



**HAKKO 936** ESD SAFE  
SOLDERING STATION



- Compact unit takes up little space on the workbench.
- Thinner grip for easier use.
- Lock screw prevents inadvertent changes in the temperature setting.
- The unit is also available in regular style other than ESD safe.

**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 936, HAKKO 937 Soldering Stations

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

\*Test criteria  
Board: Paper phenol copper  
Solder: φ1.6 x 5mm  
Cycle: Every 3 sec.

**Specifications**

Model No.	936	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	AC 24V/50W		
Standard Tip	900S-T-I	900M-T-B	900L-T-B
Tip to Ground Resistance	< 2		
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 936	Station .....1
	Iron (900S/907/908) .....1
	Iron holder with cleaning sponge (900S-No.C1141, 907/908-No.C1142) .....1
HAKKO 937	Hexagon wrench (1.5mm) .....1
	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 HAKKO 936 or HAKKO 937, please specify the type of Iron (S, M or L).

**Replacement Tips**

Please refer to page 21.

**Optional Parts**

Please refer to page 22, 53.

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



# HAKKO 931 ESD SAFE



- Only one-third start-up time of conventional soldering irons with ceramic heaters (based on Hakko tests).
- Can be used to solder places on multi-layer boards where heat loss is great.
- Excellent conduction of heat from the heater increases heating efficiency, shortens start-up time, and minimizes temperature fluctuations during soldering.
- Faster sensor response makes the supply of heat uniform and enables more accurate control over tip temperature.
- High quality, uniform soldering is possible even with fine soldering iron tips.

### Specifications

Model No.	931
Power Consumption	100W
<b>Station</b>	
Output Voltage	AC 24V
Temperature Range	200-450°C
Dimensions	135 (W) x 95 (H) x 190 (D) mm
Weight (w/o cord)	2.7kg

### Packing List

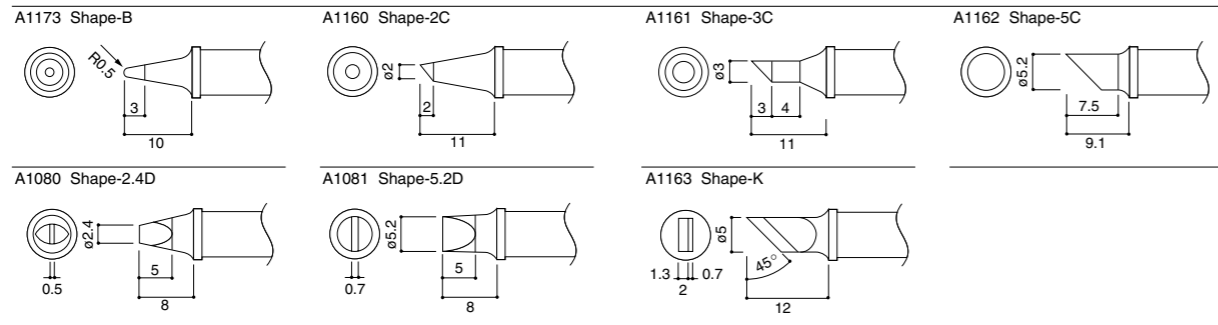
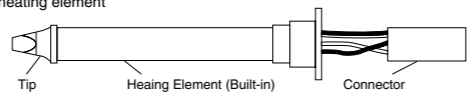
Model Name	Contents
HAKKO 931	Station .....1
	Iron (902) .....1
	Iron holder with cleaning sponge (No.631-01) .....1
	Cap nut wrench .....1

### Iron

Model No.	902
Power Consumption	AC 24V/90W
Standard Tip	A1080 (Shape-2.4D)
Tip to Ground Resistance	< 2.0
Tip to Ground Potential	< 2mV (Typ.0.6mV)
Heating Element	Integrated Heater
Total Length (w/o cord)	180mm
Weight (w/o cord)	45g

### Replacement Tips

The integrated tip/heating element



# HAKKO 936 ESD SAFE



- Compact unit takes up little space on the workbench.
- Thinner grip for easier use.
- Lock screw prevents inadvertent changes in the temperature setting.
- The unit is also available in regular style other than ESD safe.

# HAKKO 937 ESD SAFE



- 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 936, HAKKO 937 Soldering Stations

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

\*Test criteria  
Board: Paper phenol copper  
Solder: φ1.6 x 5mm  
Cycle: Every 3 sec.

### Specifications

Model No.	936	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	AC 24V/50W		
Standard Tip	900S-T-I	900M-T-B	900L-T-B
Tip to Ground Resistance	< 2		
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 936	Station .....1
	Iron (900S/907/908) .....1
	Iron holder with cleaning sponge (900S-No.C1141, 907/908-No.C1142) .....1
HAKKO 937	Hexagon wrench (1.5mm) .....1
	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 HAKKO 936 or HAKKO 937, please specify the type of Iron (S, M or L).

### Replacement Tips

Please refer to page 21.

### Optional Parts

Please refer to page 22, 53.

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



**HAKKO 928** ESD SAFE  
SOLDERING STATION



- 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
<b>Station</b>	
Output Voltage	AC 24V
Temperature Range	200-480°C
Dimensions	135 (W) x 88 (H) x 190 (D) mm
Weight (w/o cord)	2.7kg

**Iron**

Model No.	900S-ESD	900M-ESD	900L-ESD
Power Consumption	AC 24V/50W		
Standard Tip (Shape-B)	900S-T-1	900M-T-B	900L-T-B
Tip to Ground Resistance	2		
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 21.

**Optional Parts**

Please refer to page 22, 53.

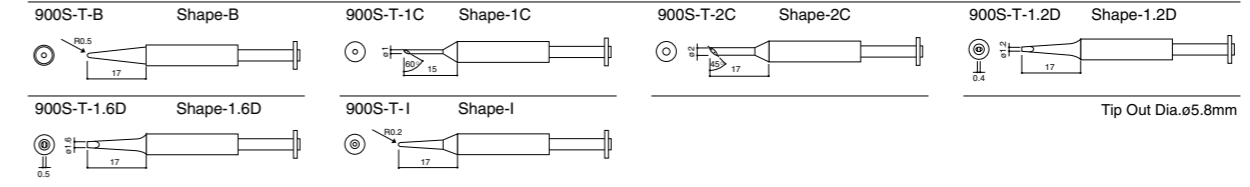
**Packing List**

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

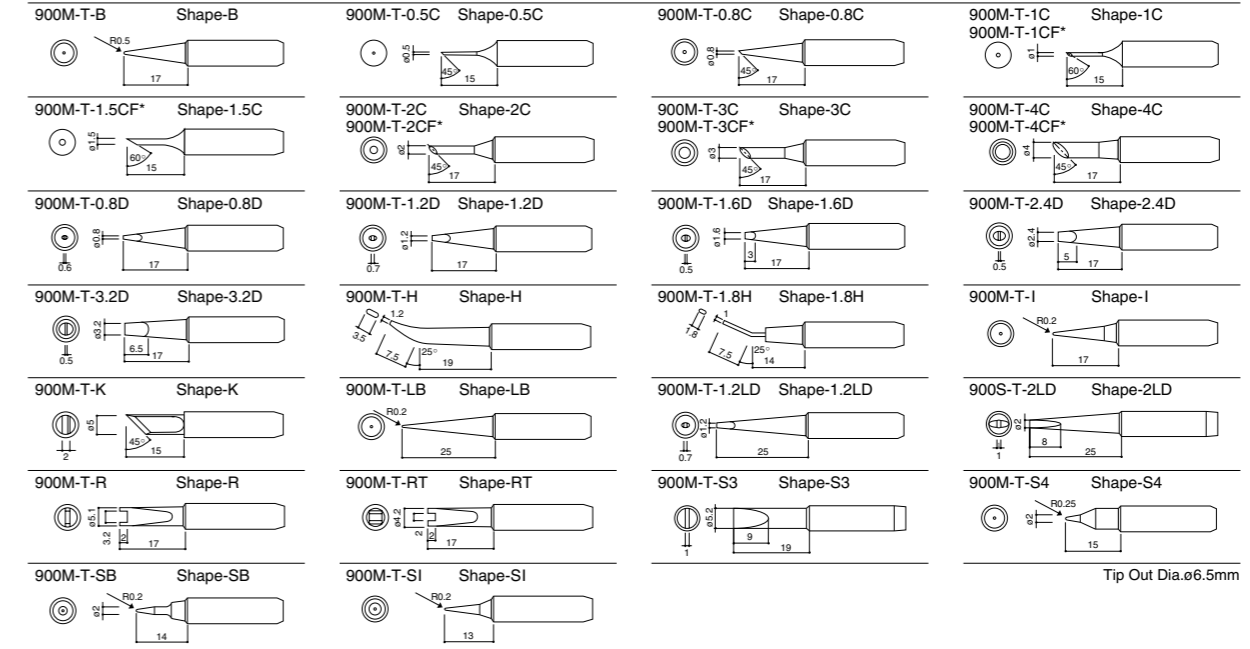
**Replacement Tips**

Unit : mm

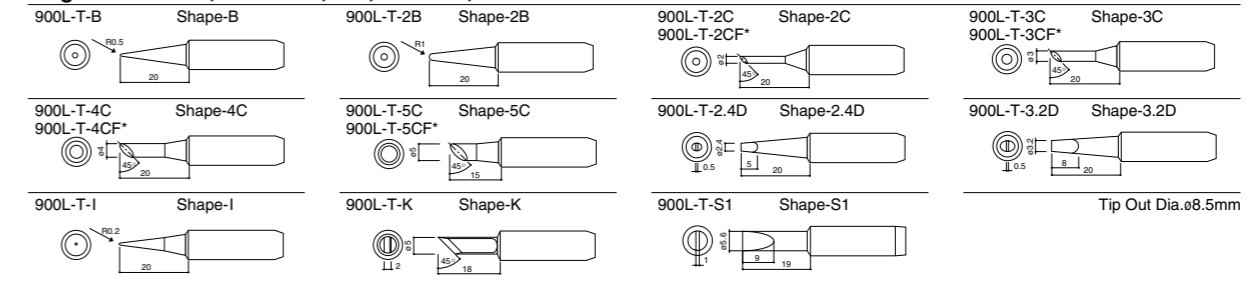
**Small For 900S, 900S-ESD**



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

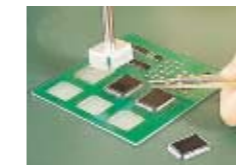


**Large For 900L, 900L-ESD, 908, 908-ESD, 934**



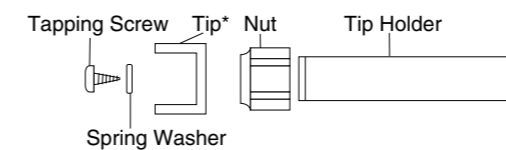
\*These tips are tinned on the soldering surface only.

**For SMD Desoldering**



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

**No.900M-1000**

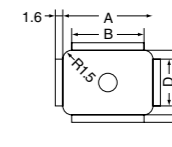


\*Tip is not included.

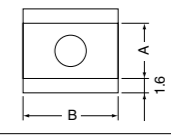
**Optional Tips**

Unit : mm

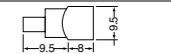
Part No.	Tip Size			
	A	B	C	D
924-T-1002	12.5	9.5	12.5	9.5
924-T-1003	15.5	12.5	15.5	12.5
924-T-1004	16.3	13.3	16.3	13.3
924-T-1005	17.0	14.0	17.0	14.0
924-T-1006	23.0	20.0	17.0	14.0
924-T-1007	20.0	17.0	20.0	17.0



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



# N<sub>2</sub> System



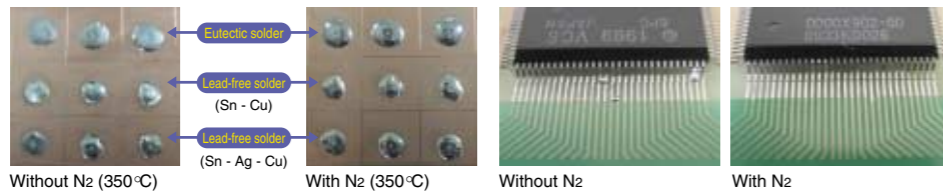
**N<sub>2</sub> gas and preheating effect improves the solderability greatly!**

- 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 MODEL FM-202, the dimensions are 200(W) x 280(H) x 178(D)mm

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

## Comparison of wettability and spreadability



Less bridge is generated even for components susceptible to bridging.

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



**HAKKO FM-2026** ESD SAFE

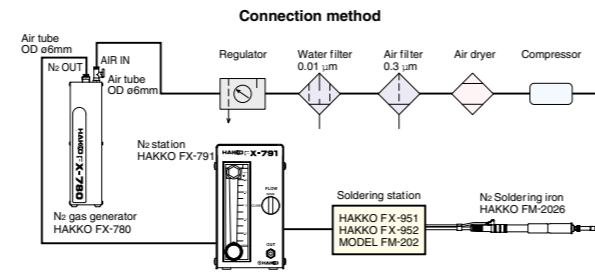
Nitrogen gas passes between the tip and nozzle ass'y uniformly and the soldering tip is entirely covered with Nitrogen gas, which intercepts oxygen to prevent the soldering tip and solder from being oxidized and increases the preheating effect. It allows more stable and uniform soldering.

## Compact High-Performance N<sub>2</sub> 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 N<sub>2</sub> 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.)

## Specifications

FM-2026	
Model No.	FM-2026
Power Consumption	24V/70W
Tip to Ground Resistance	< 2
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-780	
Model No.	FX-780
Air Supply Pressure	0.3-0.7KPa
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	0.25-25ℓ/min

## Packing List

Model Name	Contents
HAKKO FM-2026	N <sub>2</sub> soldering iron (FM-2026) .....1
	Retaining clip for iron holder .....1
HAKKO FX-780	Nitrogen guard .....1
	*This unit does not include a soldering tip or nozzle assembly. When purchasing this unit, please buy your desired soldering tip and nozzle assembly together.
HAKKO FX-780	N <sub>2</sub> generator .....1
HAKKO FX-791	Racks for station .....2
HAKKO FX-791	N <sub>2</sub> station .....1

## Replacement and Optional Parts

Part No.	Name/Description
B2974	Sleeve cover
B2765C	Sleeve assembly, yellow
B2768C	Sleeve assembly, orange
B2769C	Sleeve assembly, blue
B2998*	Nitrogen guard

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

## Nitrogen Guard



When soldering iron holder is installed.

No. B2998

## Optional Tips and Nozzle Assemblies

Tip	Applicable Nozzle Assembly	Tip	Applicable Nozzle Assembly	Tip	Applicable Nozzle Assembly
T13-B2 Shape-0.5B	B2708	T13-BL Shape-BL	B2898	T13-BC1 Shape-1BC	B2899
	Nozzle assembly C		Nozzle assembly E		Nozzle assembly F
T13-BC2 Shape-2BC	B2707	T13-BC3 Shape-3BC	B2900	T13-D08 Shape-0.8D	B2709
	Nozzle assembly A		Nozzle assembly G		Nozzle assembly D
T13-D16 Shape-1.6D	B2708	T13-D24 Shape-2.4D	B2708	T13-J02 Shape-0.2J	B2707
	Nozzle assembly C		Nozzle assembly C		Nozzle assembly B
T13-KF Shape-KF	B2923	T13-KR Shape-KR	B2902	T13-KU Shape-KU	B2901
	Nozzle assembly J		Nozzle assembly I		Nozzle assembly H
T13-BCM2 Shape-2BC Bevel with indent**	B2706	T13-BCM3 Shape-3BC Bevel with indent**	B2900		
	Nozzle assembly A		Nozzle assembly G		

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

## Soldering Gun

# HAKKO 951-952

SOLDERING GUN



- Available for your Hakko 701, 702B, 928, 936, 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	AC 24V/50W	
Standard Tip	900M-T-S10 (Shape-S10)	900L-T-B (Shape-B)
Temperature Range	200-480°C	
Tip to Ground Resistance	< 2	
Tip to Ground Potential	< 2mV (Typ.0.6mV)	
Heating Element	Ceramic Heater	
Standard Guide Nozzle	ø1.0 (B2654)	
Usable Solder Dia.	ø0.6, 0.8, 1.0, 1.2, 1.6	
Dimensions (w/o cord)	170 (W) x 180 (H)mm	
Weight (w/o cord)	177g	187g

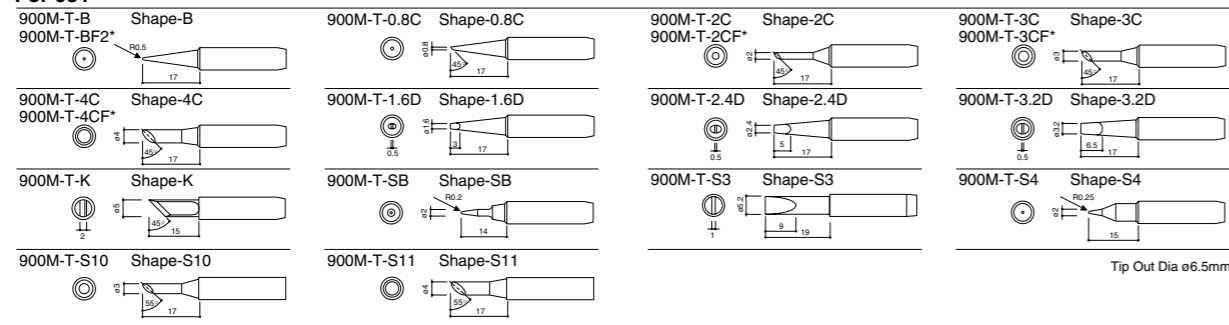
### Optional Parts

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
C1437	Iron holder

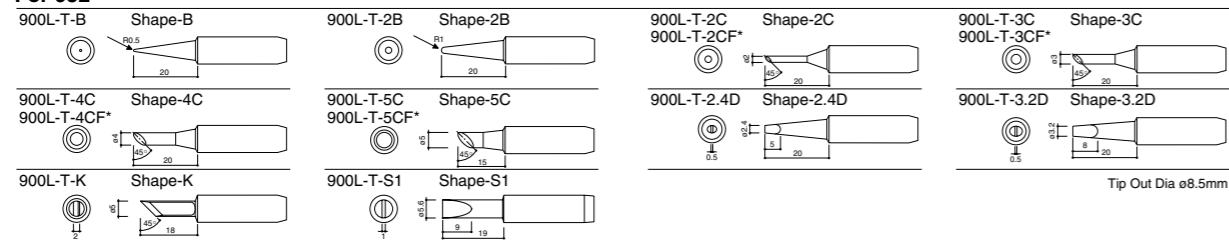
### Replacement Tips

Unit : mm

#### For 951



#### For 952



\*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 gun with heavier tips.

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

## Soldering Iron

# 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	< 2	
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

### Replacement Tips

Please refer to page 21.  
 ·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

### 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.

### Recommended Iron Holders



### Temp. Setting Button



## Soldering Gun

**HAKKO MG**  
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.



### 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	

### 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

### Recommended Iron Holder



No.607

### Spool Holder



No.582-022

## Self Feeder

**HAKKO SF**  
SELF FEEDER

SELF FEEDER 370 <SF> SOLDERING GUN 371-372 <SF> SOLDERING IRON 376



- The feeder unit incorporates a torque limiter which prevents the motor from overloading should something go wrong with the solder feeding operation.
- Permits to select 'Manual' or 'Auto' feeding by mode switch.

### Specifications

Model No.	370	
Frequency	50Hz	60Hz
Input Voltage	AC 100-120V	
Power Consumption	48W	
Motor Output	8W	
Solder Feed Q'ty	1.6mm-16mm	2.0mm-20mm
Usable Solder Dia.	0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.6mm	
Usable Solder	1kg roll bobbin (Max.)	
Standard Setting	for 1.0mm dia. solder use	
Dimensions	135(W) x 125(H) x 280(D)mm	
Weight (w/o cord)	2.6kg	

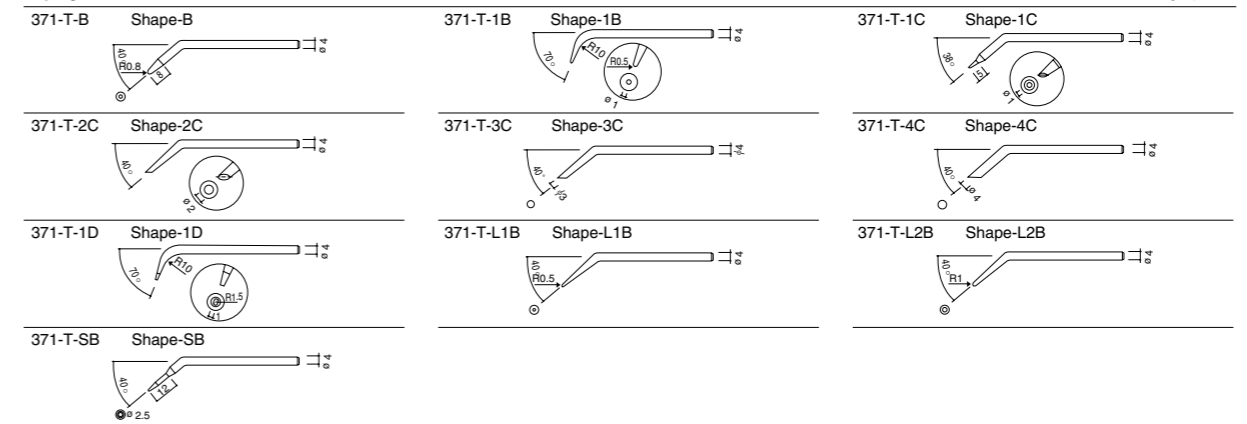
### Iron

Model No.	371	372	376
Type	Gun		
Heating Element	40W Ceramic Heater	60W Ceramic Heater	40W Ceramic Heater
Standard Tip (Shape-B)	371-T-B	372-T-B	900M-T-B
Temperature Range	300-420°C	330-450°C	300-420°C
Usable Solder Dia.	0.6mm, 0.8mm, 1.0mm, 1.2mm		0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.6mm
Standard Setting	for 1.0mm dia. solder use		
Dimensions /Total Length	146(W) x 132(H)mm	161(W) x 132(H)mm	196mm
Weight (w/o cord)	180g	190g	80g

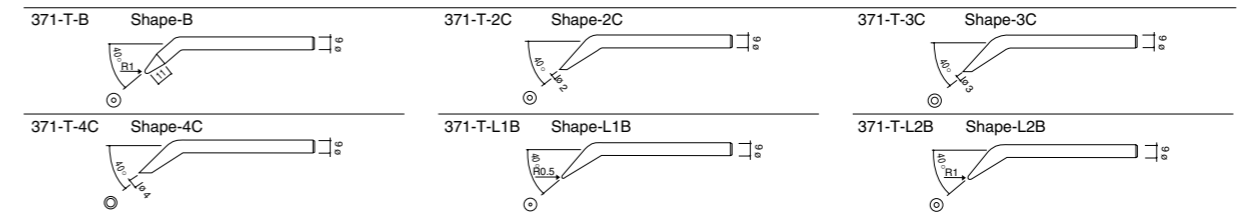
\*When ordering Nos. 371,372 or 376, No.607 iron holder is included.

### Replacement Tips

#### For 371



#### For 372



#### For 376

\*Please refer to page 21.  
\*900M-T series (except LB, 1.2LD, H, 1.6H) are available for 376.



## Soldering Gun

# HAKKO 951-952

SOLDERING GUN



- Available for your Hakko 701, 702B, 928, 936, 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	AC 24V/50W	
Standard Tip	900M-T-S10 (Shape-S10)	900L-T-B (Shape-B)
Temperature Range	200-480°C	
Tip to Ground Resistance	< 2	
Tip to Ground Potential	< 2mV (Typ.0.6mV)	
Heating Element	Ceramic Heater	
Standard Guide Nozzle	ø1.0 (B2654)	
Usable Solder Dia.	ø0.6, 0.8, 1.0, 1.2, 1.6	
Dimensions (w/o cord)	170 (W) x 180 (H)mm	
Weight (w/o cord)	177g	187g

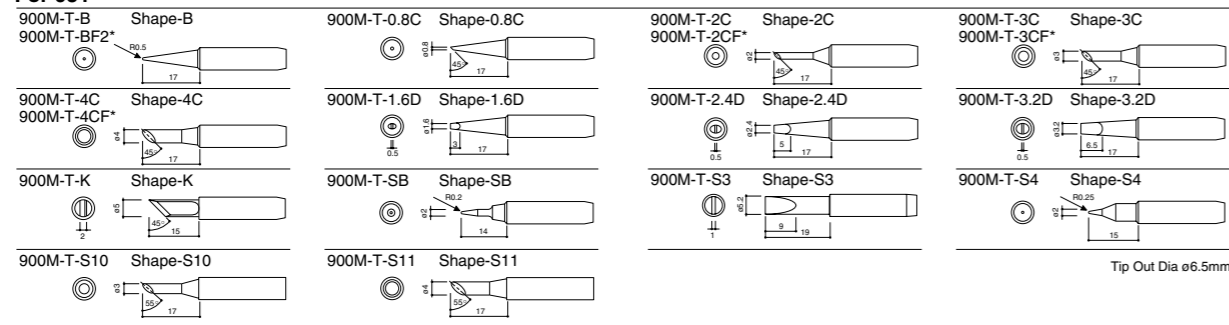
### Optional Parts

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
C1437	Iron holder

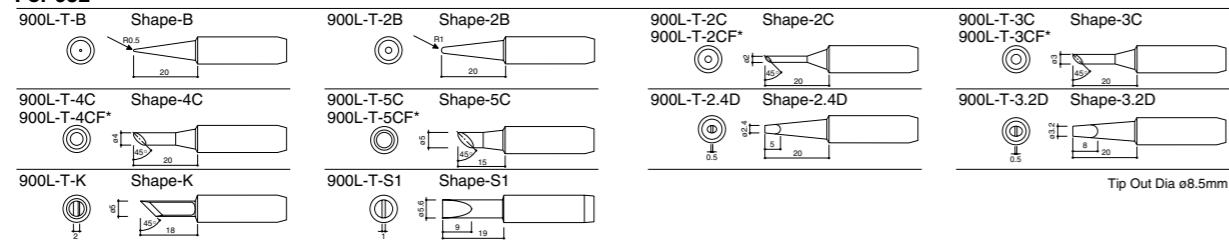
### Replacement Tips

Unit : mm

#### For 951



#### For 952



\*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 gun with heavier tips.

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

## Soldering Iron

# 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	< 2	
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

### Replacement Tips

Please refer to page 21.  
 ·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

### 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.

### Recommended Iron Holders



### Temp. Setting Button



# HAKKO MACH-I

SOLDERING IRON



- 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 100M 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	100M			
Total Length (w/o cord)	220mm	210mm		
Weight (w/o cord)	70g	50g		

### Recommended Iron Holders

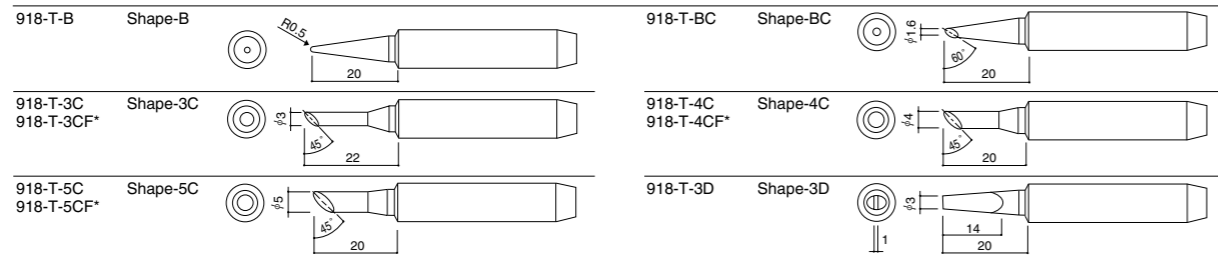


No.606 No.633-01 No.633-02

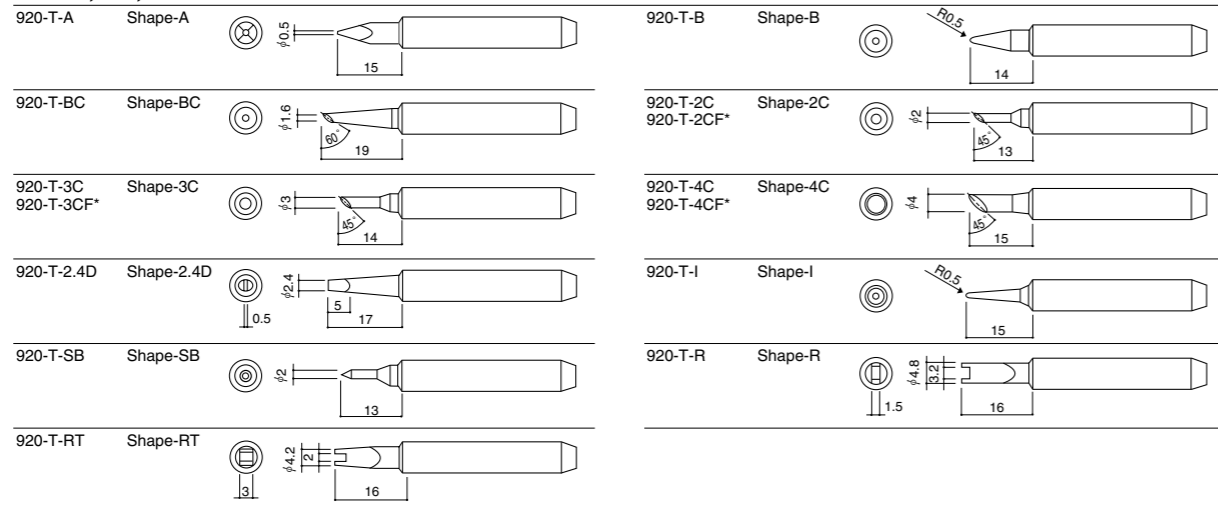
### Replacement Tips

Unit : mm

#### For 918



#### For 920, 921, 922



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

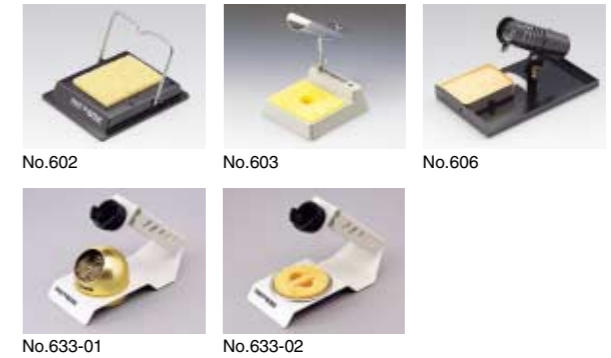
# HAKKO DASH

SOLDERING IRON



- 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

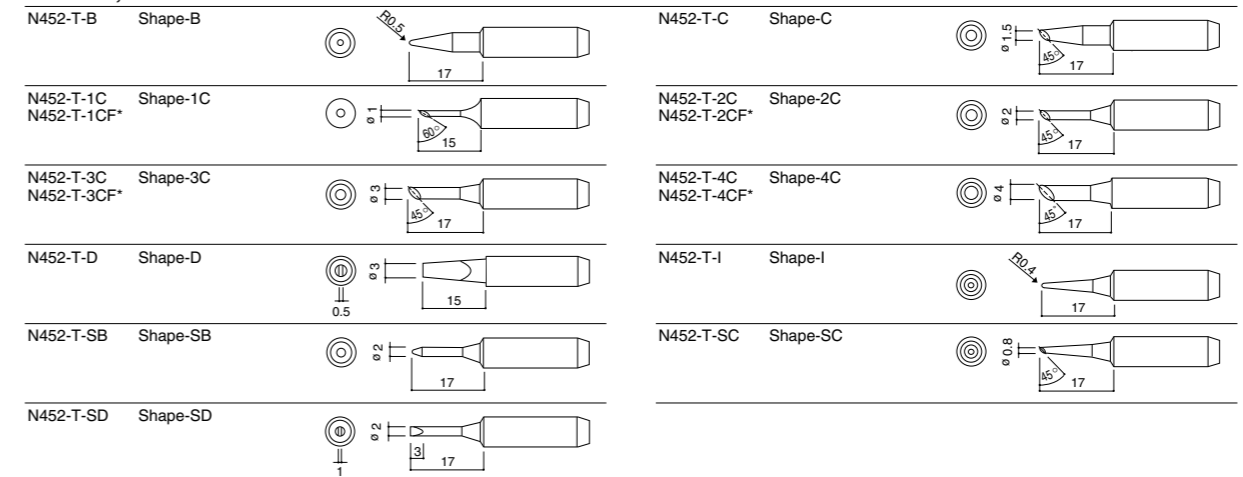
### Specifications

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	200M	100M	
Total Length (w/o cord)	185mm		192mm
Weight (w/o cord)	47g		57g

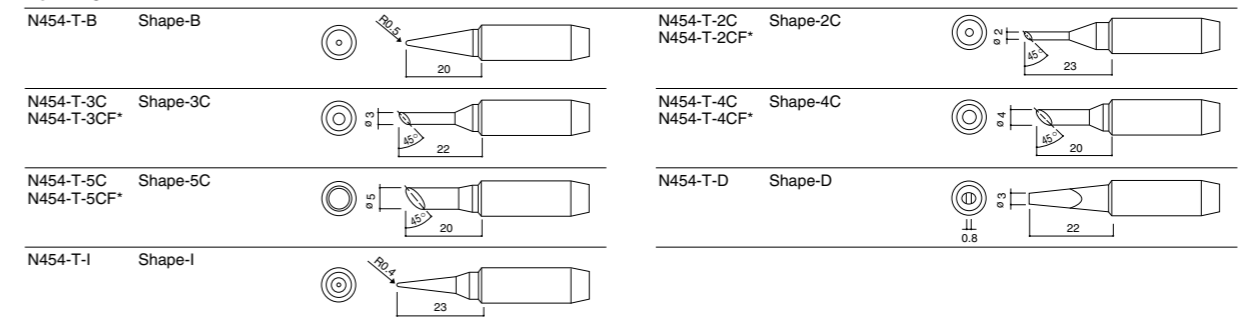
### Replacement Tips

Unit : mm

#### For N452, N453



#### For N454



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

# HAKKO MACH-I

SOLDERING IRON



- 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 100M 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	100M			
Total Length (w/o cord)	220mm	210mm		
Weight (w/o cord)	70g	50g		

### Recommended Iron Holders

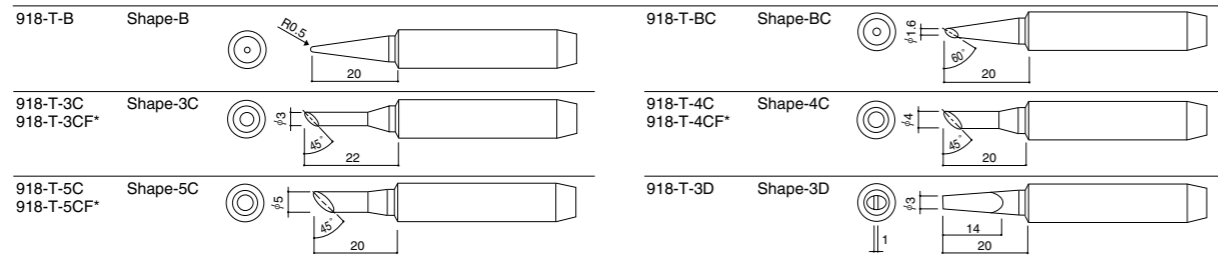


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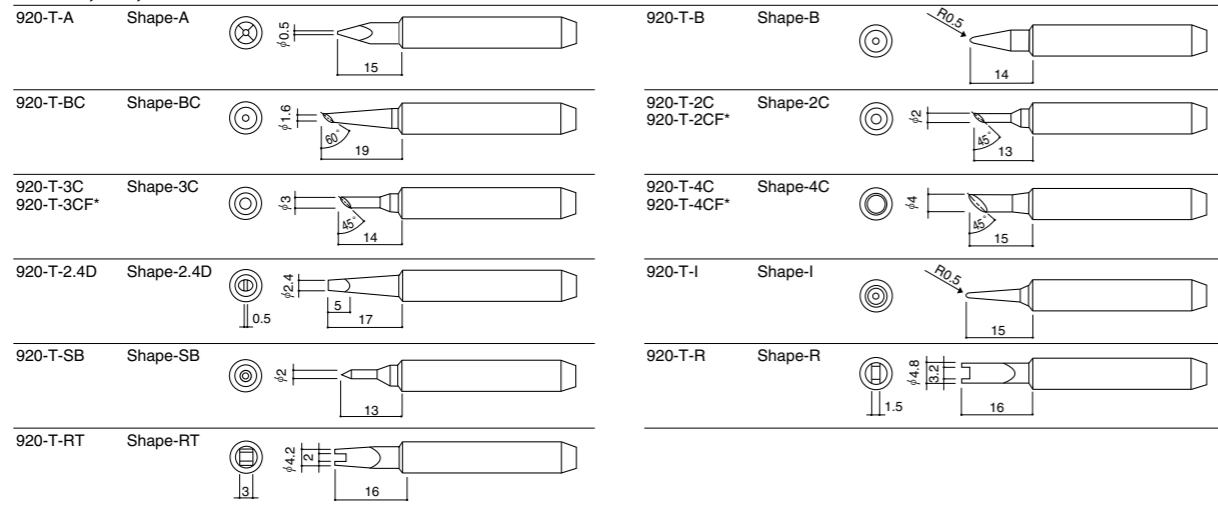
### Replacement Tips

Unit : mm

#### For 918



#### For 920, 921, 922



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

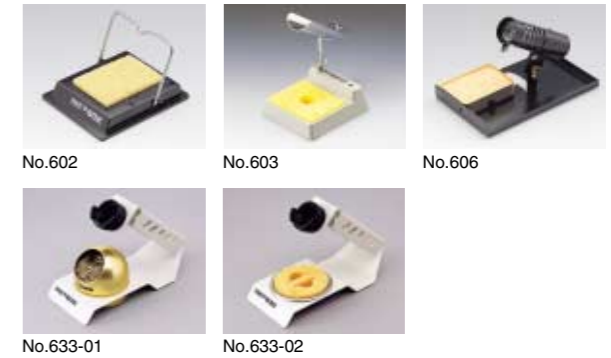
# HAKKO DASH

SOLDERING IRON



- 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

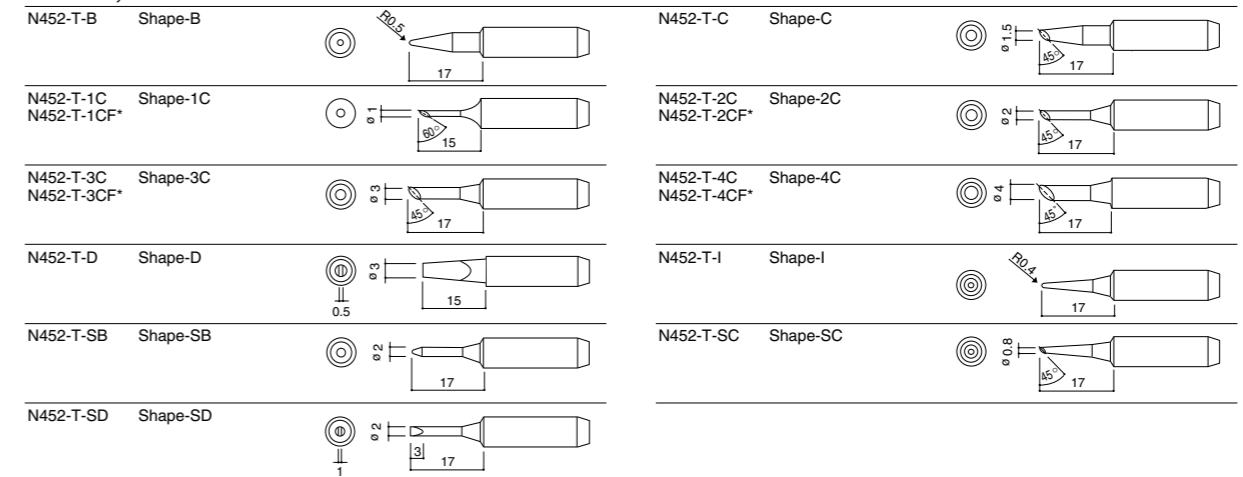
### Specifications

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	200M	100M	
Total Length (w/o cord)	185mm		192mm
Weight (w/o cord)	47g		57g

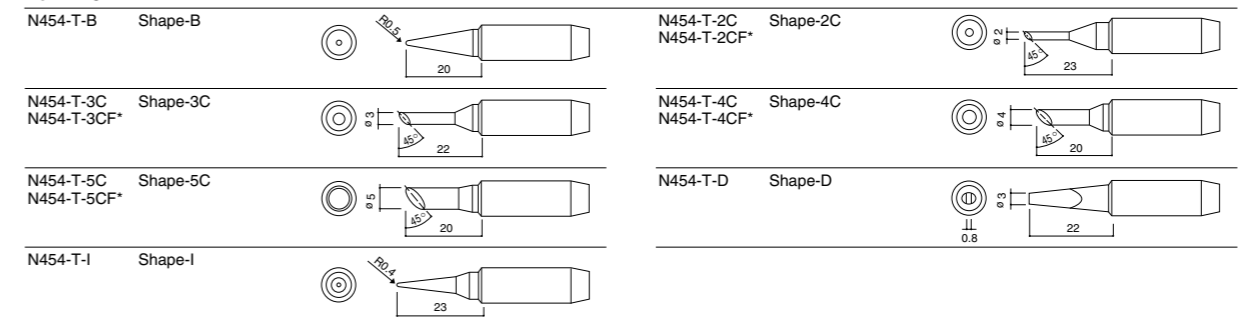
### Replacement Tips

Unit : mm

#### For N452, N453



#### For N454



\* 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

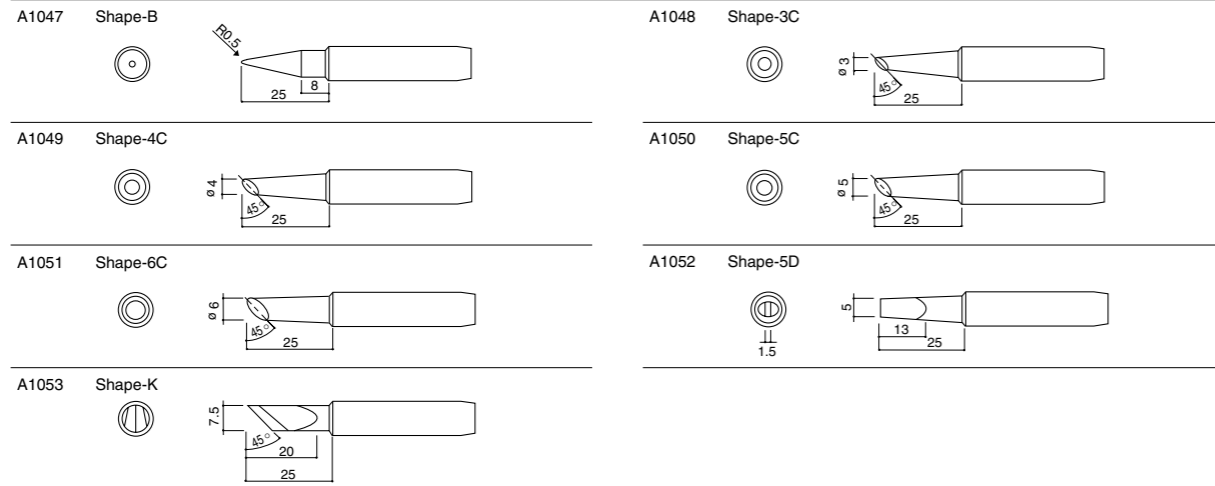


No.633-01 No.633-02

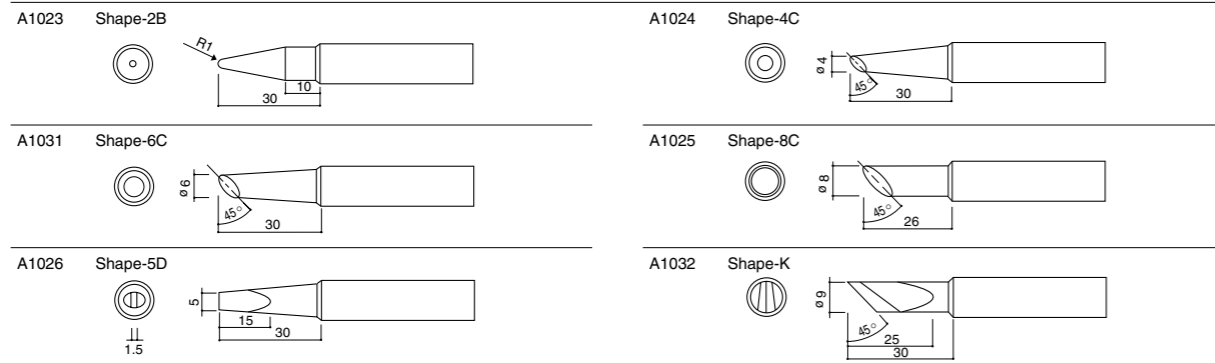
### Replacement Tips

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.

### 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 100M (20W)			
Total Length (w/o cord)	205mm	160mm	205mm	160mm
Weight (w/o cord)	48g	92g	56g	100g

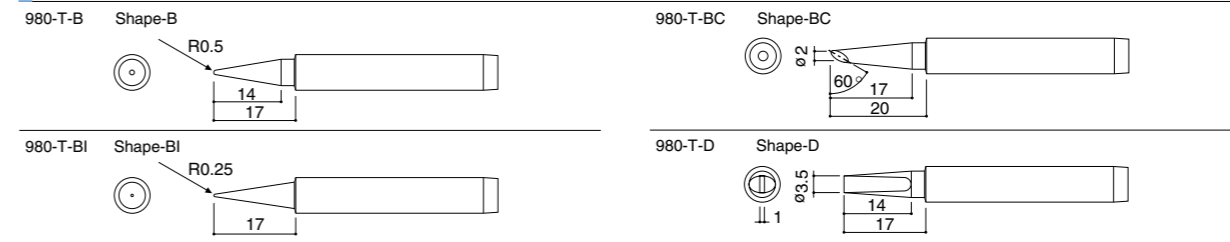
### Recommended Iron Holders



No.606 No.633-01 No.633-02

### Replacement Tips

Unit : mm



# HAKKO 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

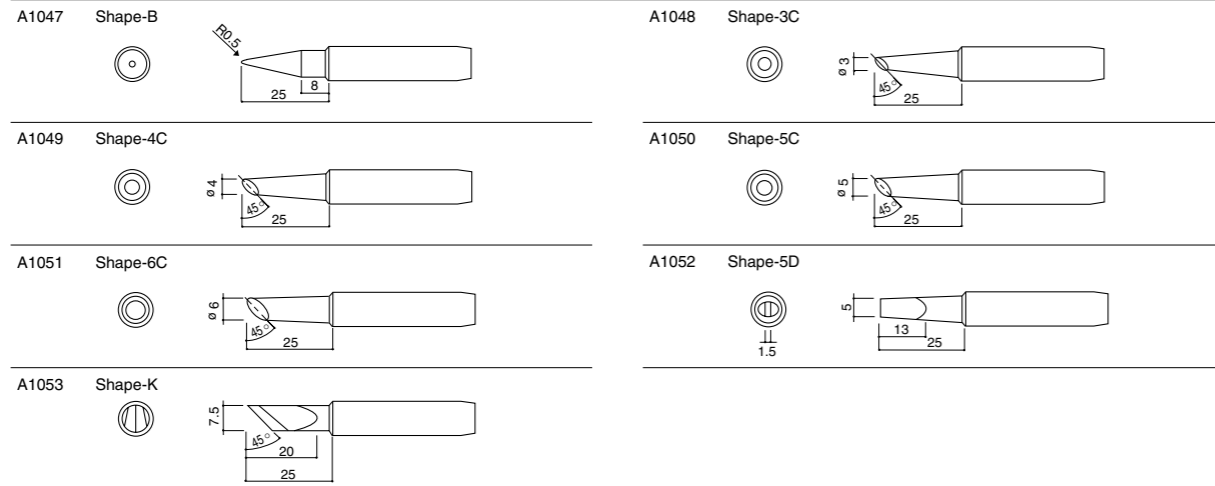


No.633-01 No.633-02

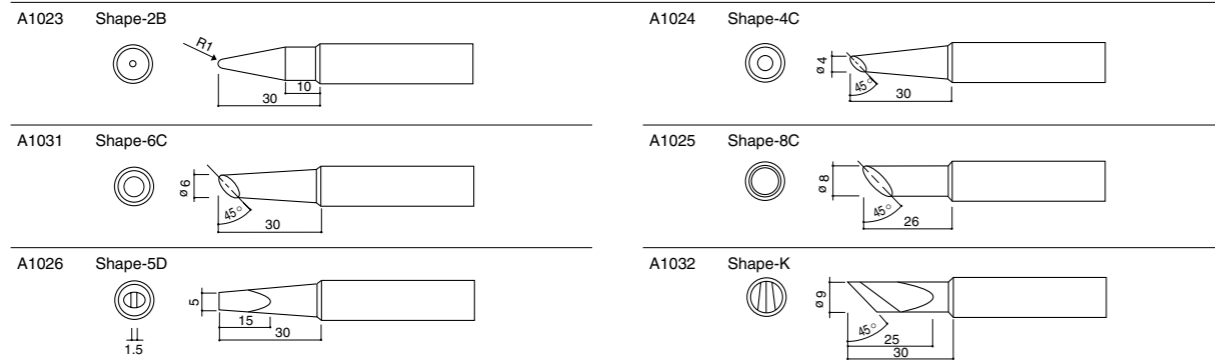
### Replacement Tips

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.

### 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 100M (20W)			
Total Length (w/o cord)	205mm	160mm	205mm	160mm
Weight (w/o cord)	48g	92g	56g	100g

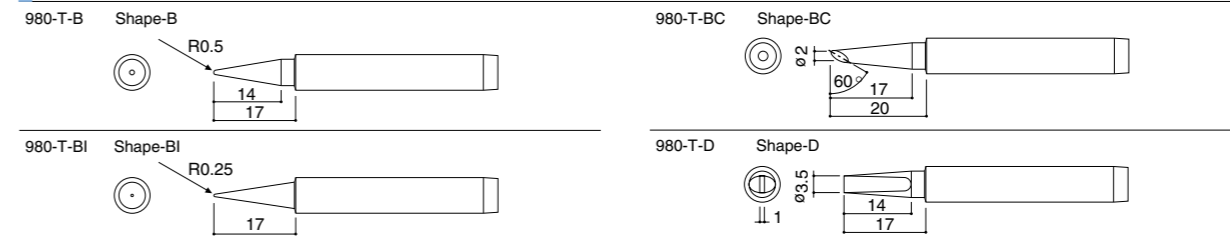
### Recommended Iron Holders



No.606 No.633-01 No.633-02

### Replacement Tips

Unit : mm



## Soldering Iron

### HAKKO RED SOLDERING IRON



- 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.

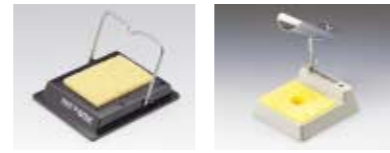
#### Specifications

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	

#### Replacement Tips

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

#### Recommended Iron Holders



No.602

No.603

## Cordless Soldering Iron

### HAKKO FX-901 CORDLESS IRON



- 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.

#### Tip: Easy Replacement



Loosen the nipple.

Replace the tip and tighten the nipple.

#### Battery: Selective & Cartridge



#### Specifications

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

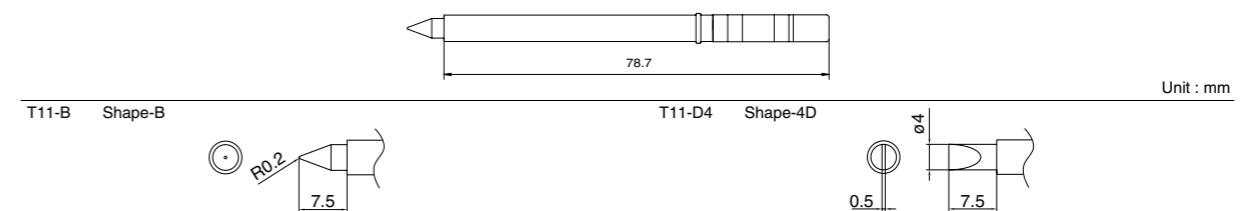
\*Measurement conditions  
When using new batteries. Performance will vary depending on batteries.  
When the tip temperature is maintained at more than 300°C.  
The life is measured from the time power is switched on.  
\*When using the batteries except specified above, performance and hour operation will vary.

#### Packing List

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

\*Battery is not included.

#### Replacement Tips



## Soldering Iron

### HAKKO RED SOLDERING IRON



- 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.

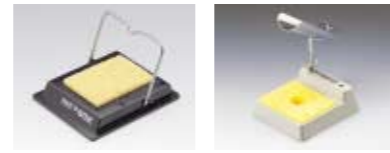
#### Specifications

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	

#### Replacement Tips

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

#### Recommended Iron Holders



No.602

No.603

## Cordless Soldering Iron

### HAKKO FX-901 CORDLESS IRON



- 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.

#### Tip: Easy Replacement



Loosen the nipple.

Replace the tip and tighten the nipple.

#### Battery: Selective & Cartridge



#### Specifications

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

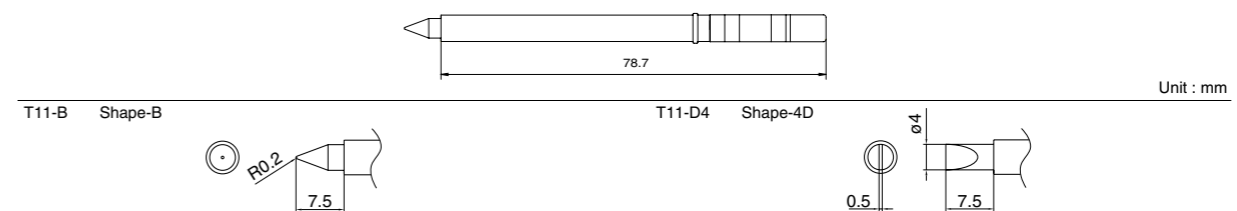
\*Measurement conditions  
When using new batteries. Performance will vary depending on batteries.  
When the tip temperature is maintained at more than 300°C.  
The life is measured from the time power is switched on.  
\*When using the batteries except specified above, performance and hour operation will vary.

#### Packing List

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

\*Battery is not included.

#### Replacement Tips



## Soldering Gun

**HAKKO MG**  
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.



### 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	

### 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

### Recommended Iron Holder



No.607

### Spool Holder



No.582-022

## Self Feeder

**HAKKO SF**  
SELF FEEDER

SELF FEEDER 370 <SF> SOLDERING GUN 371-372 <SF> SOLDERING IRON 376



- The feeder unit incorporates a torque limiter which prevents the motor from overloading should something go wrong with the solder feeding operation.
- Permits to select 'Manual' or 'Auto' feeding by mode switch.

### Specifications

Model No.	370	
Frequency	50Hz	60Hz
Input Voltage	AC 100-120V	
Power Consumption	48W	
Motor Output	8W	
Solder Feed Q'ty	1.6mm-16mm	2.0mm-20mm
Usable Solder Dia.	0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.6mm	
Usable Solder	1kg roll bobbin (Max.)	
Standard Setting	for 1.0mm dia. solder use	
Dimensions	135(W) x 125(H) x 280(D)mm	
Weight (w/o cord)	2.6kg	

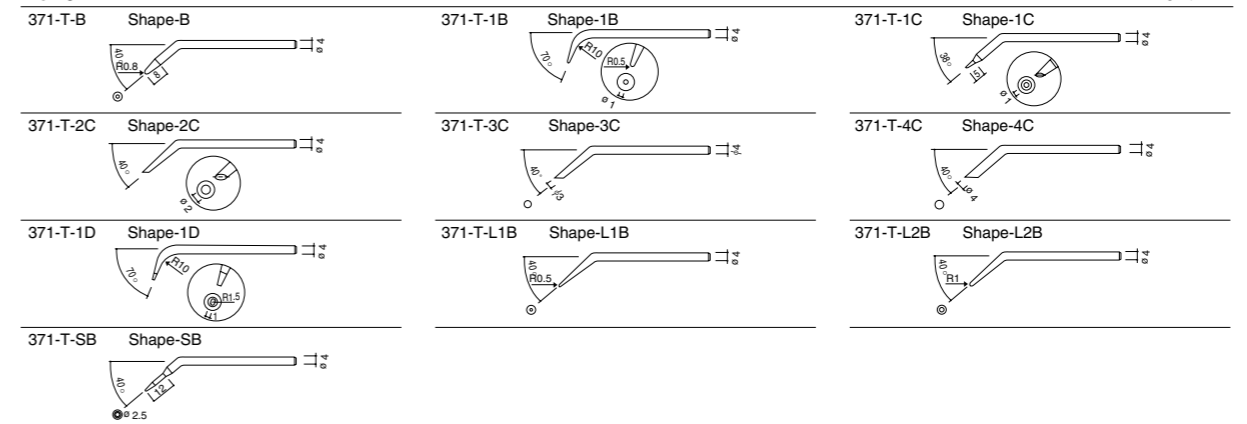
### Iron

Model No.	371	372	376
Type	Gun		
Heating Element	40W Ceramic Heater	60W Ceramic Heater	40W Ceramic Heater
Standard Tip (Shape-B)	371-T-B	372-T-B	900M-T-B
Temperature Range	300-420°C	330-450°C	300-420°C
Usable Solder Dia.	0.6mm, 0.8mm, 1.0mm, 1.2mm		0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.6mm
Standard Setting	for 1.0mm dia. solder use		
Dimensions /Total Length	146(W) x 132(H)mm	161(W) x 132(H)mm	196mm
Weight (w/o cord)	180g	190g	80g

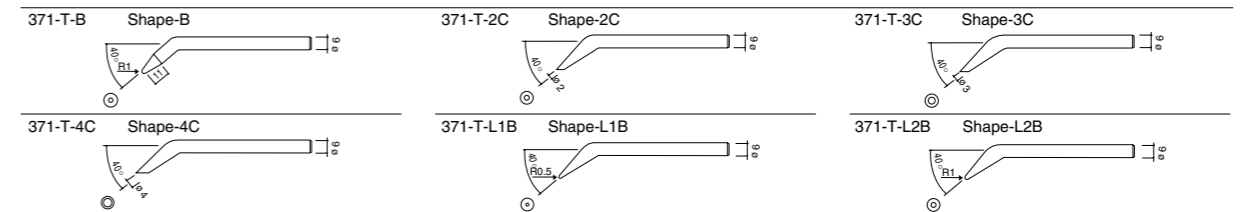
\*When ordering Nos. 371,372 or 376, No.607 iron holder is included.

### Replacement Tips

#### For 371



#### For 372



#### For 376

\*Please refer to page 21.  
\*900M-T series (except LB, 1.2LD, H, 1.6H) are available for 376.

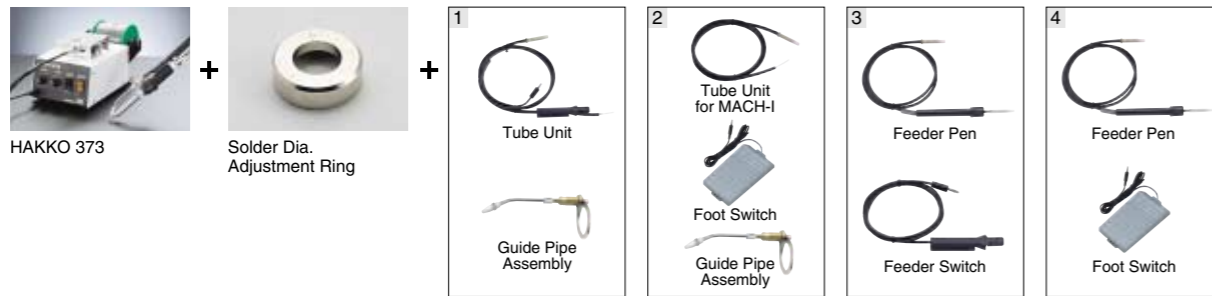


# HAKKO 373 SELF FEEDER ESD SAFE



- 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



### Compatible Soldering Iron



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

### 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.	0.6mm, 0.65mm, 0.8mm, 1.0mm, 1.2mm, 1.6mm
Usable Solder	1kg roll bobbin (Max.)
Dimensions	107(W) x 110(H) x 215(D)mm
Weight (w/o cord)	1.5kg

# HAKKO 375 SELF FEEDER LEAD FREE



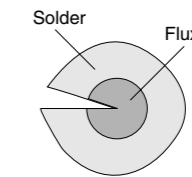
- Reducing flux splashing and solder balls generated during soldering operation.
- Compact design to save work bench.
- Can be installed to your solder reel stand.

### Effects of Using Cut Solder

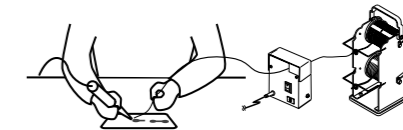


\* Test criteria  
Feed  $\phi 1.0 \times 500$  mm of lead-free solder (Sn-3Ag-0.5Cu) to one of our soldering irons, which has tip temperature setting at 350 and 400°C and measure the amount of flux splashing. The effects of flux splashing prevention may differ under different test criteria.

### Cross Section of Solder



### Set Up



### 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
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### 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



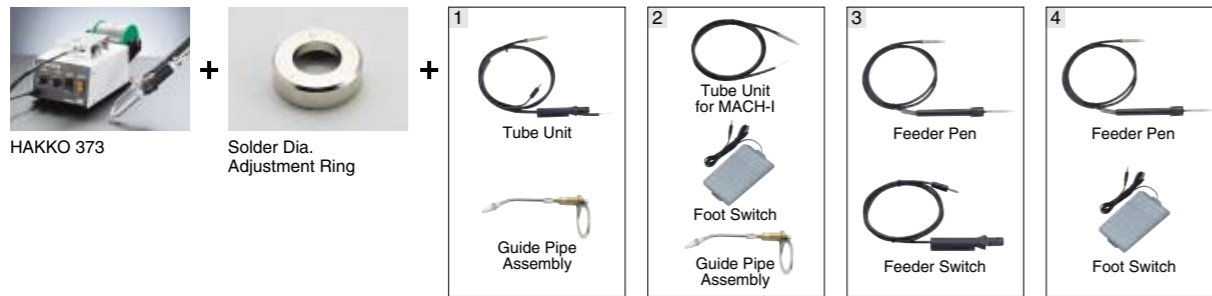
No. B2763

# HAKKO 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



### Compatible Soldering Iron



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

### Specifications

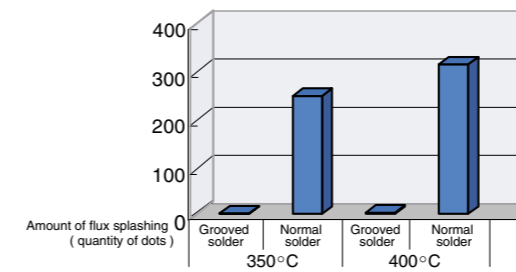
Model No.	373
Power Consumption	6W
Motor Output	DC 24V, 3.2W
Solder Feed Time	0-7sec. (Auto Mode)
Solder Feed Speed	4.5-26mm/sec.
Solder Feed Q'ty	0-182mm (Auto Mode)
Solder Return Q'ty	0-5mm
Usable Solder Dia.	0.6mm, 0.65mm, 0.8mm, 1.0mm, 1.2mm, 1.6mm
Usable Solder	1kg roll bobbin (Max.)
Dimensions	107(W) x 110(H) x 215(D)mm
Weight (w/o cord)	1.5kg

# HAKKO 375 SELF FEEDER LEAD FREE



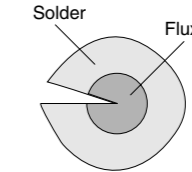
- Reducing flux splashing and solder balls generated during soldering operation.
- Compact design to save work bench.
- Can be installed to your solder reel stand.

### Effects of Using Cut Solder

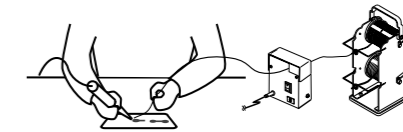


\* Test criteria  
Feed  $\phi 1.0 \times 500$  mm of lead-free solder (Sn-3Ag-0.5Cu) to one of our soldering irons, which has tip temperature setting at 350 and 400°C and measure the amount of flux splashing. The effects of flux splashing prevention may differ under different test criteria.

### Cross Section of Solder



### Set Up



### 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

## Thermometer

# 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 shut-off function
- Compact size

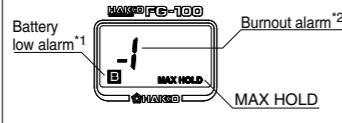
LEAD FREE


### 3-Dimensional Measurement



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

### Specifications

Model No.	FG100-01
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.

### Replacement Parts

Part No.	Name/Description
191-212	Sensor/10 pcs

### Packing List

Model Name	Contents
HAKKO FG-100	Thermometer .....1
	006P 9V battery .....1
	Sensor .....10

### Optional Parts

Part No.	Name/Description
A1310	Temperature probe/Total Length 1.2m
C1220	Temperature probe/Total Length 1.1m



No.A1310  
For measuring the temperature of solder in pots.



No.C1220  
For measuring the temperature of automatic solder machine.

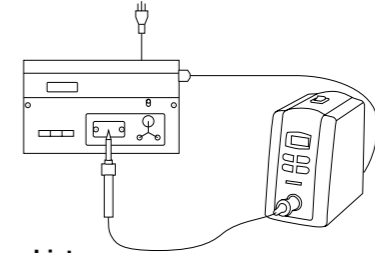
## Soldering Tester

# HAKKO 192




LEAD FREE

- Measures tip temperature, leak voltage and ground resistance.
- Meets MIL-STD-2000 for leak voltage measurement.
- Measures true root-mean-square (TRMS) values.
- Resistant to drift and temperature changes, ensuring highly reliable measurements.
- Measurements can be output to a monitor, printed out on a recorder, etc.



### Specifications

Temperature	Resolution	1°C
	Measurement Range	0-600°C
	Precision	±3°C (in 300-500°C range)
Voltage	Applied Sensor	K (CA) thermocouple
	Resolution	0.1mV
	Measurement Range	0-90mV (AC)
	Accuracy	±(5%+1 digit)
Resistance	Conforms to MIL-STD-2000	
	Resolution	0.1
	Measurement Range	0 - 90
Display	Accuracy	±(5%+1 digit)
	Liquid Crystal Display (LCD)	3 1/2 digits
Monitor Output	Burn Out	
	Temperature	1mV/°C
	Voltage	10mV/mV
Power Consumption	Resistance	10mV/
	1W	
Dimensions	200(W) x 50(H) x 120(D)mm	
Weight (w/o cord)	1.1kg	
Operating Environment	0 to 40°C, 20 to 90%RH, no dew formation	

**CAUTION**  
The HAKKO 192 cannot be used with soldering irons equipped with ungrounded tips.

### Packing List

Model Name	Contents
HAKKO 192	Tester .....1
	Sensor .....10
	Ring plate .....1
	Ground clip .....1
	Midjet fuse (5A) .....1
	Conduction wire .....1

### Replacement Parts

Part No.	Name/Description
191-212	Sensor/10 pcs
B1752	Conduction plate
B1754	Ground clip

### Optional Parts

Part No.	Name/Description
A1310	Temperature probe/ Total length 1.2m
C1220	Temperature probe/ Total length 1.1m



No.A1310  
For measuring the temperature of solder in pots.



No.C1220  
For measuring the temperature of automatic solder machine.

# HAKKO FG-100 THERMOMETER



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

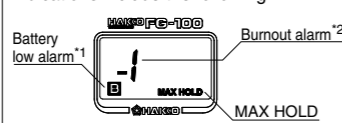
- Suitable for Lead-Free solder:- Quick and accurate tip temperature measurement using a fine CA wire sensor (Dia.0.2mm) Disposable sensor always maintains accurate temperature measurement. Sensor has twice service life of conventional one.
- MAX HOLD function
- Auto shut-off function
- Compact size

### 3-Dimensional Measurement



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

### Specifications

Model No.	FG100-01
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.

### Replacement Parts

Part No.	Name/Description
191-212	Sensor/10 pcs

### Packing List

Model Name	Contents
HAKKO FG-100	Thermometer .....1
	006P 9V battery .....1
	Sensor .....10

### Optional Parts

Part No.	Name/Description
A1310	Temperature probe/Total Length 1.2m
C1220	Temperature probe/Total Length 1.1m



No.A1310 For measuring the temperature of solder in pots.

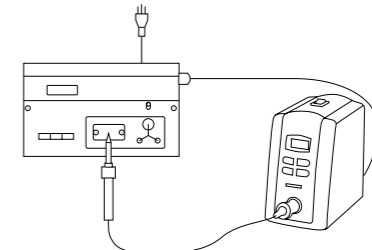


No.C1220 For measuring the temperature of automatic solder machine.

# HAKKO 192 SOLDERING TESTER



- Measures tip temperature, leak voltage and ground resistance.
- Meets MIL-STD-2000 for leak voltage measurement.
- Measures true root-mean-square (TRMS) values.
- Resistant to drift and temperature changes, ensuring highly reliable measurements.
- Measurements can be output to a monitor, printed out on a recorder, etc.



### Specifications

Temperature	Resolution	1°C
	Measurement Range	0-600°C
	Precision	±3°C (in 300-500°C range)
Voltage	Applied Sensor	K (CA) thermocouple
	Resolution	0.1mV
	Measurement Range	0-90mV (AC)
	Accuracy	±(5%+1 digit)
Resistance	Conforms to MIL-STD-2000	
	Resolution	0.1
	Measurement Range	0 - 90
Display	Accuracy	±(5%+1 digit)
	Liquid Crystal Display (LCD)	3 1/2 digits
Monitor Output	Burn Out	
	Temperature	1mV/°C
	Voltage	10mV/mV
Power Consumption	Resistance	10mV/
	1W	
Dimensions	200(W) x 50(H) x 120(D)mm	
Weight (w/o cord)	1.1kg	
Operating Environment	0 to 40°C, 20 to 90%RH, no dew formation	

**CAUTION**  
The HAKKO 192 cannot be used with soldering irons equipped with ungrounded tips.

### Packing List

Model Name	Contents
HAKKO 192	Tester .....1
	Sensor .....10
	Ring plate .....1
	Ground clip .....1
	Midset fuse (5A) .....1
	Conduction wire .....1

### Replacement Parts

Part No.	Name/Description
191-212	Sensor/10 pcs
B1752	Conduction plate
B1754	Ground clip

### Optional Parts

Part No.	Name/Description
A1310	Temperature probe/ Total length 1.2m
C1220	Temperature probe/ Total length 1.1m



No.A1310 For measuring the temperature of solder in pots.



No.C1220 For measuring the temperature of automatic solder machine.

# HAKKO FX-301



LEAD FREE

- 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).
- Precise temperature control by digital temperature display & offset function.
- Use different pots for different composition solder, or different pot sizes (50 mm square and 75 mm square) with the same unit.
- 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.

## Easy Pot Replacement



Loosen the screws on both sides of the pot.



Replace the pot and retighten the screws.

## Specifications

Model No.	FX-301
Power Consumption	200W
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 Parts

Part No.	Name/Description
A1517	Solder pot/50 x 50mm
A1518	Solder pot/75 x 75mm

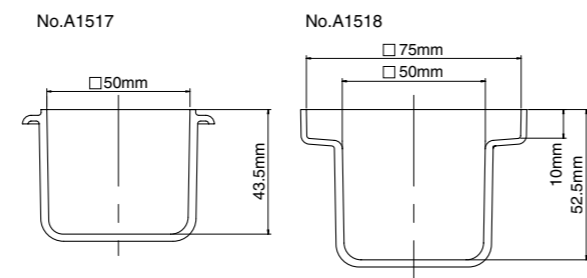
## Temperature Probe

Part No.	Name/Description
A1310	Temperature probe/Total Length 1.2m for HAKKO 191, 192

## Packing List

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

## Dimensions of Solder Pot



# 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	
Temperature	100-450°C	100-380°C
Insulation Resistance	Over 100M (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	Approx. 0.85kg of melted solder	Approx. 1.2kg of melted solder
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 Probe

Part No.	Name/Description
A1310	Temperature probe/Total Length 1.2m for HAKKO 191, 192

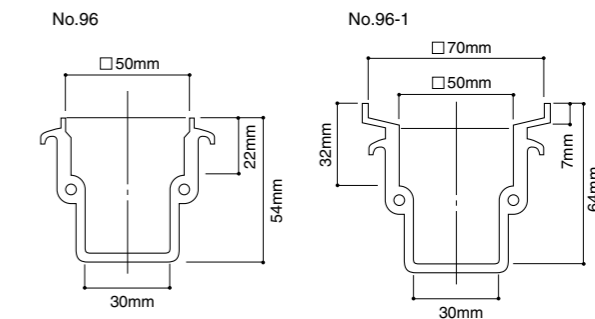


\*For measuring the temperature of solder in pots.

## Packing List

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

## Dimensions of Solder Pot



# HAKKO FX-301



LEAD FREE

- 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).
- Precise temperature control by digital temperature display & offset function.
- Use different pots for different composition solder, or different pot sizes (50 mm square and 75 mm square) with the same unit.
- 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.

## Easy Pot Replacement



Loosen the screws on both sides of the pot.



Replace the pot and retighten the screws.

## Specifications

Model No.	FX-301
Power Consumption	200W
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 Parts

Part No.	Name/Description
A1517	Solder pot/50 x 50mm
A1518	Solder pot/75 x 75mm

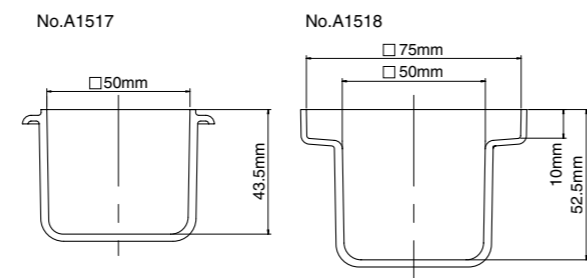
## Temperature Probe

Part No.	Name/Description
A1310	Temperature probe/Total Length 1.2m for HAKKO 191, 192

## Packing List

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

## Dimensions of Solder Pot



# 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	
Temperature	100-450°C	100-380°C
Insulation Resistance	Over 100M (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	Approx. 0.85kg of melted solder	Approx. 1.2kg of melted solder
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

## Packing List

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

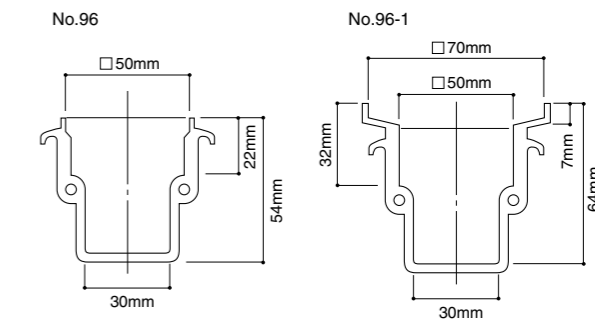
## Temperature Probe

Part No.	Name/Description
A1310	Temperature probe/Total Length 1.2m for HAKKO 191, 192



\*For measuring the temperature of solder in pots.

## Dimensions of Solder Pot



## Soldering System

# HAKKO 485

SOLDERING SYSTEM

LEAD FREE



- 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	AC100V 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

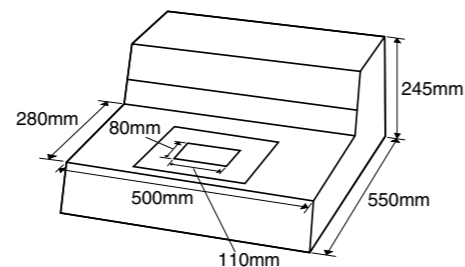
### Replacement Parts

Nozzle		Air Hood	
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

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



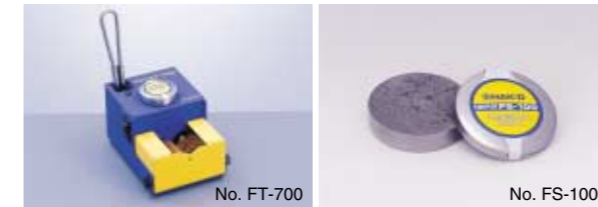
## Tip Polisher, Chemical Paste / Iron Holder / Solder Reel Stand

# HAKKO FT-700 · HAKKO FS-100

TIP POLISHER

CHEMICAL PASTE

LEAD FREE



- 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.

### Specifications

<b>FT-700</b>	
Model No.	FT-700
Power Consumption	4.5W/3W (100W)
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 you lead-free solder application.

## HAKKO 611 ESD SAFE

SOLDER REEL STAND

ESD SAFE



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

### 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 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	AC100V 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

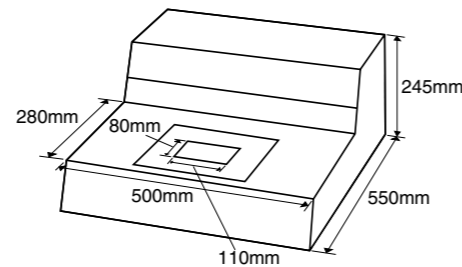
### Replacement Parts

Nozzle		Air Hood	
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

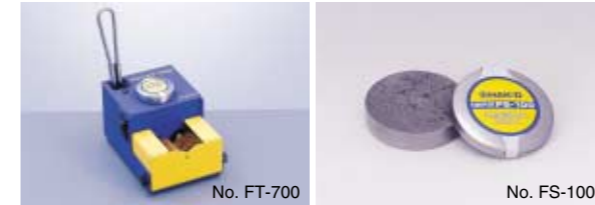
Model Name	Contents
HAKKO 485	Main unit (No.485-1) .....1 Air Unit (No.486) .....1 Nozzle (No.485-N-01~04) .....1 each Air hood (No.485-28~31) .....1 each IC tweezers .....1 Anti-oxidizer .....1 Spatula .....1 Lamp (6V-10V) .....1 Horizontal gauge .....1 Positioning board .....1 Waste collector .....1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

### Dimensions



# HAKKO FT-700 · HAKKO FS-100

TIP POLISHER · CHEMICAL PASTE



- 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.

### Specifications

<b>FT-700</b>	
Model No.	FT-700
Power Consumption	4.5W/3W (100W)
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 you lead-free solder application.

# HAKKO 611 ESD SAFE

SOLDER REEL STAND



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

### 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 474·475** DESOLDERING TOOL **ESD SAFE**



**Choose the system that best fits your needs!**  
The portable HAKKO 474 vacuum pump type or the economical HAKKO 475 air compressor type.

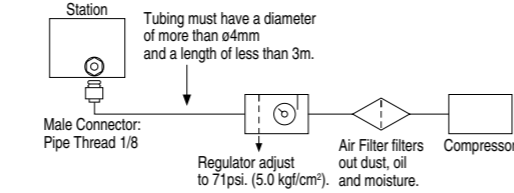
- Both models are constructed of static dissipative materials using an ESD design which prevents damage to circuit boards and parts caused by electro-static discharge.
- Heating element and motor features zero-cross switching in order to prevent electrical surges.
- An insulated transformer completely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



**Specifications**

Model No.	474	475
Power Consumption	100W	70W
<b>Station</b>		
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	< 2	
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 $\phi 1.0\text{mm}$ nozzle .....1	
	Cleaning pin for heating element .....1	
	Cleaning drill for $\phi 1.0\text{mm}$ nozzle .....1	
	Ceramic paper filter (S) .....2	
HAKKO 475 with 809	Ceramic paper filter (L) .....4	
	Spring filter.....3	
	Silicone grease .....1	
	Iron holder (No.631-06) .....1	
	Spanner wrench.....1	
	Station.....1	
	Desoldering gun (815/816) .....1	
HAKKO 474 with 815/816	Filter pipe .....1	
	Cleaning pin for $\phi 1.0\text{mm}$ nozzle .....1	
	Cleaning pin for heating element .....1	
	Cleaning drill for $\phi 1.0\text{mm}$ nozzle .....1	
	Ceramic paper filter (S) .....2	
	HAKKO 475 with 815/816	Ceramic paper filter (L) .....4
		Spring filter .....3
Silicone grease .....1		
Iron holder (No.635-01) .....1		
Wrench .....1		
Anti-seizure .....1		

**Desoldering Tools for HAKKO 474 . 475**



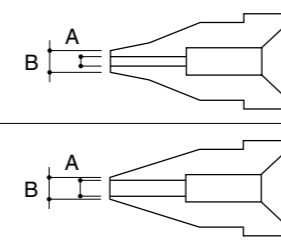
**Specifications**

Model No.	809	815	816
Type	Gun	Pen	Gun
Power Consumption	AC 24V/50W		
Temperature Range	380-480°C		
Standard Nozzle	A1003 ( $\phi 1.0\text{mm}$ S type)	A1499 ( $\phi 1.0\text{mm}$ 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**

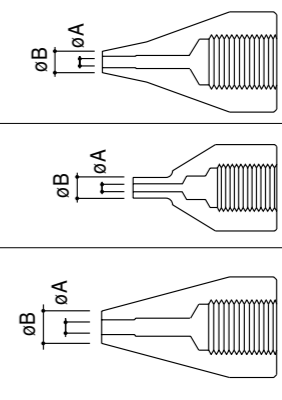
**For 809**

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



**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



Unit : mm

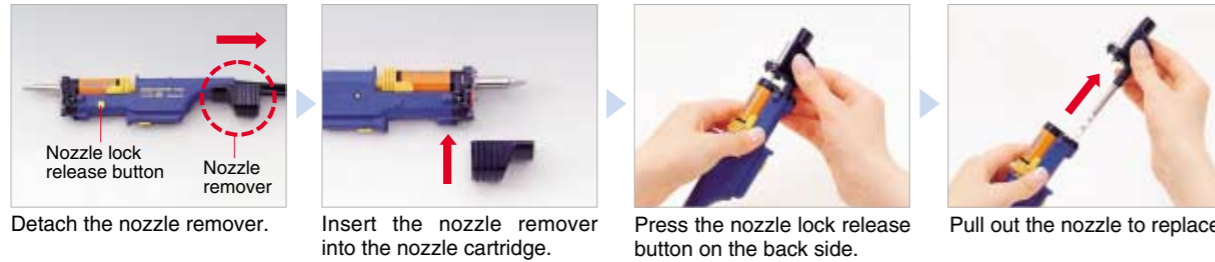
**HAKKO** MODEL FM-2024 **ESD SAFE**  
DESOLDERING TOOL



\*The MODEL FM-2024 is not included with the MODEL FM-202 station.  
\*Before using the FM-2024 unit, connect to a compressor.

- 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. Allows paper and solder to be disposed of separately.  
One-touch nozzle for replacement. Nozzle can be replaced safely with the provided nozzle remover.
- Detachable handle allows two-way use: gun type or straight type.
- 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.

**Simple and Safe Nozzle Replacement**



**Specifications**

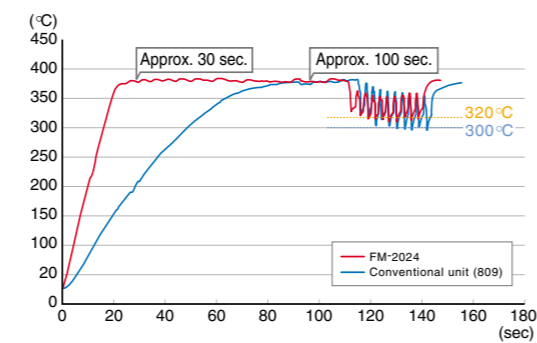
Desolder Control Box	
Power Consumption	12W
Output Voltage	AC 24V
Vacuum Generator	Ejector Type
Vacuum Pressure (Max.)	93KPa (700mmHg)
Suction Flow	28ℓ/min
Nozzle to Ground Potential	< 2mV
Applied Air Pressure	490KPa (5.0kgf/cm <sup>2</sup> ) when in use (trigger or button is pressed)
Compressed Air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

MODEL FM-2024 Desoldering Tool	
Power Consumption	70W (24V)
Temperature Range	350-450°C
Nozzle to Ground Potential	<2mV
Nozzle to Ground Resistance	<2
Total Length (w/o cord)	180mm
Weight (w/o cord & hose)	65g
Cord	1.2m

**Optional Nozzles**

Please refer to page 9.

**Comparison between FM-2024 and conventional unit (809)**



**Packing List**

Model Name	Contents	
HAKKO MODEL FM-2024	Desoldering tool (MODEL FM-2024) .....1	
	Desolder control box (DCB) .....1	
	Iron holder assembly .....1	
	Handle for gun configuration .....1	
	Cleaning sponge .....1	
	Nozzle remover .....1	
	Filter pipe assembly .....1	
	Cleaning drill (for heating element) .....1	
	*Nozzle is an optional part.	

**HAKKO 484**  
DESOLDERING TOOL



- 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 accumulation of solder can be easily checked from the outside.

**Specifications**

Model No.	484
Power Consumption	60W

**Station**

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) x180(D)mm
Weight (w/o cord)	2.5kg

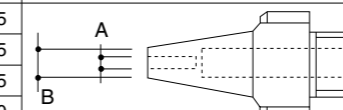
**Desoldering Gun**

Standard Nozzle	481-T-1.0 (ø1.0mm)
Heating Element	Ceramic Heater
Insulation Resistance	100M
Weight (w/o cord & hose)	230g

**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



**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

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



\*The MODEL FM-2024 is not included with the MODEL FM-202 station.

- 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. Allows paper and solder to be disposed of separately.  
One-touch nozzle for replacement. Nozzle can be replaced safely with the provided nozzle remover.
- Detachable handle allows two-way use: gun type or straight type.
- 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.

**Simple and Safe Nozzle Replacement**



**Specifications**

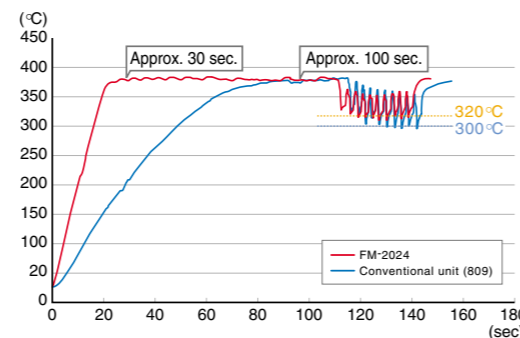
Desolder Control Box	
Power Consumption	12W
Output Voltage	AC 24V
Vacuum Generator	Ejector Type
Vacuum Pressure (Max.)	93KPa (700mmHg)
Suction Flow	28ℓ/min
Nozzle to Ground Potential	< 2mV
Applied Air Pressure	490KPa (5.0kgf/cm <sup>2</sup> ) when in use (trigger or button is pressed)
Compressed Air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

MODEL FM-2024 Desoldering Tool	
Power Consumption	70W (24V)
Temperature Range	350-450°C
Nozzle to Ground Potential	<2mV
Nozzle to Ground Resistance	<2
Total Length (w/o cord)	180mm
Weight (w/o cord & hose)	65g
Cord	1.2m

**Optional Nozzles**

Please refer to page 9.

**Comparison between FM-2024 and conventional unit (809)**



**Packing List**

Model Name	Contents	
HAKKO MODEL FM-2024	Desoldering tool (MODEL FM-2024) .....1	
	Desolder control box (DCB) .....1	
	Iron holder assembly .....1	
	Handle for gun configuration .....1	
	Cleaning sponge .....1	
	Nozzle remover .....1	
	Filter pipe assembly .....1	
	Cleaning drill (for heating element) .....1	
	*Nozzle is an optional part.	

**HAKKO 484**  
DESOLDERING TOOL



- 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 accumulation of solder can be easily checked from the outside.

**Specifications**

Model No.	484
Power Consumption	60W

**Station**

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) x180(D)mm
Weight (w/o cord)	2.5kg

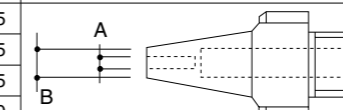
**Desoldering Gun**

Standard Nozzle	481-T-1.0 (ø1.0mm)
Heating Element	Ceramic Heater
Insulation Resistance	100M
Weight (w/o cord & hose)	230g

**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



**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

# HAKKO 808

DESOLDERING TOOL



- 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.

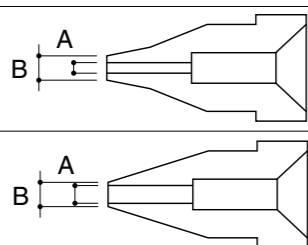
### Specifications

Model No.	808
Power Consumption	70W
Motor Output	6.5W
Temperature Range	380-480°C
Standard Nozzle	A1005 (ø1.0mm)
Nozzle to Ground Resistance	< 2
Nozzle to Ground Potential	< 2mV
Vacuum Generator	Double-Cylinder Type
Vacuum Pressure	80KPa (600mmHg)
Suction Flow	10ℓ/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

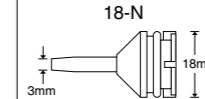
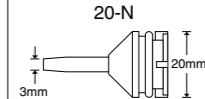
# HAKKO SPPON

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



- 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 808

DESOLDERING TOOL



- 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	< 2
Nozzle to Ground Potential	< 2mV
Vacuum Generator	Double-Cylinder Type
Vacuum Pressure	80KPa (600mmHg)
Suction Flow	10ℓ/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



- 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 ESD SAFE



- 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.
- Space-saving design.
- ESD safe by design.

## New Mechanism



To reduce temperature irregularity

## Specifications

Model No.	FR-801
Power Consumption	100V-310W 110V-360W 120V-430W 220V-570W 230V-630W 240V-680W

### Station

Power Consumption	30W (Stand-by power consumption 100-120V 4W, 220-240V 7W)
Capacity (Air blow)	5-20ℓ/min. (Max.)
Temperature Range	100-420°C (Use A1126B)
Dimensions	160(W) x 145(H) x 230(D)mm
Weight (w/o cord)	4kg

### Handpiece

Power Consumption	100V-280W 110V-330W 120V-400W 220V-540W 230V-600W 240V-650W
Total Length (w/o hose)	185mm
Weight (w/o hose)	115g

## Optional Nozzles

Please refer to page 49.

## 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
	FP pick-up wire (L) .....1

\*Nozzle is an optional part.

# HAKKO FR-802 ESD SAFE



- The air outlet is provided with a new mechanism to reduce the temperature irregularity.
- Digital display.
- 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.
- Comes with an airflow meter to allow more accurate and easier control of the flow rate.
- Space saving design.
- ESD safe by design.

## New Mechanism



To reduce temperature irregularity

## Specifications

Model No.	FR-802
Power Consumption	100V-310W 110V-360W 120V-430W 220V-570W 230V-630W 240V-680W

### Station

Power Consumption	30W (Stand-by power consumption 100-120V 4W, 220-240V 7W)
Capacity (Air blow)	5-20ℓ/min. (Max.)
Temperature Range	100-450°C (Sensor)
Dimensions	160(W) x 145(H) x 230(D)mm
Weight (w/o cord)	4.3kg

### Handpiece

Power Consumption	100V-280W 110V-330W 120V-400W 220V-540W 230V-600W 240V-650W
Total Length (w/o hose)	200mm
Weight (w/o hose)	200g

## Optional Nozzles

Please refer to page 49.

## Packing List

Model Name	Contents
HAKKO FR-802	Station .....1
	Handpiece .....1
	Power cord .....1
	Handpiece holder .....1
	Control card .....1
	FP pick-up .....1
	FP pick-up wire (S) .....1
	FP pick-up wire (L) .....1

\*Nozzle is an optional part.

# HAKKO FR-801 ESD SAFE



- 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.
- Space-saving design.
- ESD safe by design.

### New Mechanism



To reduce temperature irregularity

### Specifications

Model No.	FR-801
Power Consumption	100V-310W 110V-360W 120V-430W 220V-570W 230V-630W 240V-680W

#### Station

Power Consumption	30W (Stand-by power consumption 100-120V 4W, 220-240V 7W)
Capacity (Air blow)	5-20ℓ/min. (Max.)
Temperature Range	100-420°C (Use A1126B)
Dimensions	160(W) x 145(H) x 230(D)mm
Weight (w/o cord)	4kg

#### Handpiece

Power Consumption	100V-280W 110V-330W 120V-400W 220V-540W 230V-600W 240V-650W
Total Length (w/o hose)	185mm
Weight (w/o hose)	115g

### Optional Nozzles

Please refer to page 49.

### 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
	FP pick-up wire (L) .....1

\*Nozzle is an optional part.

# HAKKO FR-802 ESD SAFE



- The air outlet is provided with a new mechanism to reduce the temperature irregularity.
- Digital display.
- 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.
- Comes with an airflow meter to allow more accurate and easier control of the flow rate.
- Space saving design.
- ESD safe by design.

### New Mechanism



To reduce temperature irregularity

### Specifications

Model No.	FR-802
Power Consumption	100V-310W 110V-360W 120V-430W 220V-570W 230V-630W 240V-680W

#### Station

Power Consumption	30W (Stand-by power consumption 100-120V 4W, 220-240V 7W)
Capacity (Air blow)	5-20ℓ/min. (Max.)
Temperature Range	100-450°C (Sensor)
Dimensions	160(W) x 145(H) x 230(D)mm
Weight (w/o cord)	4.3kg

#### Handpiece

Power Consumption	100V-280W 110V-330W 120V-400W 220V-540W 230V-600W 240V-650W
Total Length (w/o hose)	200mm
Weight (w/o hose)	200g

### Optional Nozzles

Please refer to page 49.

### Packing List

Model Name	Contents
HAKKO FR-802	Station .....1
	Handpiece .....1
	Power cord .....1
	Handpiece holder .....1
	Control card .....1
	FP pick-up .....1
	FP pick-up wire (S) .....1
	FP pick-up wire (L) .....1

\*Nozzle is an optional part.

# HAKKO FR-803 ESD SAFE



- The heating conditions can be recreated due to the sensor feedback temperature control. 3 steps temperature profile can be set, allowing easier control for temperature, flow rate and time. Highly accurate job can be standardized.
- The airflow nozzle is provided with a new mechanism to reduce temperature irregularity.
- Comes with an airflow meter to allow more accurate and easier numerical control of the flow rate.
- The air outlet is equipped with a vacuum pipe.
- 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.
- The power saving function (30 min/60 min/ can be selected) will automatically stop the hot air-flow after a specific time passes.
- Comes with an offset function.
- Card lock function to lock the setting details.
- Space saving design.
- ESD safe by design.

## New Mechanism



To reduce temperature irregularity  
Easier operation to adjust in the vacuum pipe from the air outlet

## Specifications

Model No.	FR-803
Power Consumption	100V-310W 110V-360W 120V-430W 220V-570W 230V-630W 240V-680W
<b>Station</b>	
Power Consumption	30W (Stand-by power consumption 100-120V 4W, 220-240V 7W)
Capacity (Air blow)	5-20ℓ/min. (Max.)
Temperature Range	100-420°C (Use A1126B)
Modes	Manual/Auto
Timer	3 file/step
Dimensions	160(W) x 145(H) x 230(D)mm
Weight (w/o cord)	5kg
<b>Handpiece</b>	
Power Consumption	100V-280W 110V-330W 120V-400W 220V-540W 230V-600W 240V-650W
Total Length (w/o hose)	200mm
Weight (w/o hose)	200g

## Optional Nozzles

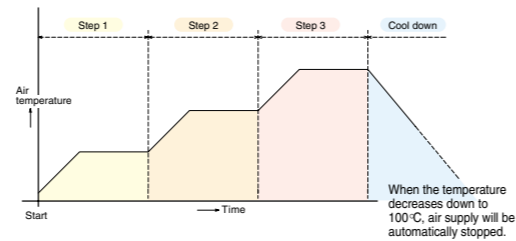
Please refer to page 49.

## Packing List

Model Name	Contents	
HAKKO FR-803	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.

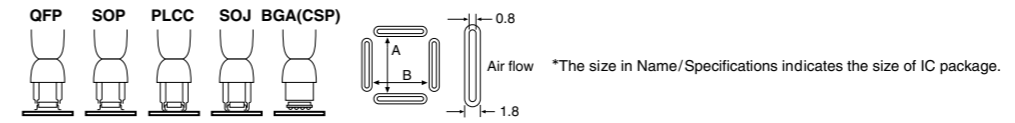
## 3 steps Temperature Profile



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

## Optional Nozzles

Unit : mm



## Vacuum Function Operative Nozzles

\*These nozzles are available for the 850B and the 852.  
\*The vacuum function is not available in the FR-801, the FR-802 and the 850B.

A1125B QFP 10 x 10 A:10.2 B:10.2	A1126B QFP 14 x 14 A:15.2 B:15.2	A1127B QFP 17.5 x 17.5 A:19.2 B:19.2	A1128B QFP 14 x 20 A:15.2 B:21.2	A1129B QFP 28 x 28 A:29.7 B:29.7	A1135B PLCC 17.5 x 17.5 (44 Pins) A:18.5 B:18.5	A1136B PLCC 20 x 20 (52 Pins) A:21 B:21
A1137B PLCC 25 x 25 (68 Pins) A:26 B:26	A1138B PLCC 30 x 30 (84 Pins) A:31 B:31	A1139B PLCC 12.5 x 7.3 (18 Pins) A: 9 B:14 6.9	A1140B PLCC 11.5 x 11.5 (28 Pins) A:13 B:13 10	A1141B PLCC 11.5 x 14 (32 Pins) A:15 B:13 10	A1180B BQFP 17 x 17 A:18.2 B:18.2 13.6	A1181B BQFP 19 x 19 A:19.2 B:19.2 16
A1182B BQFP 24 x 24 A:24.2 B:24.2 21	A1184B SOJ 18 x 8 10	A1185B TSOL 13 x 10 11.9	A1186B TSOL 18 x 10 18.2	A1187B TSOL 18.5 x 8 18.5	A1259B SOP 13 x 28 13.5	A1260B SOP 8.6 x 18 8.7
A1261B QFP 20 x 20 A:20.2 B:20.2 21	A1262B QFP 12 x 12 A:12.2 B:12.2 12	A1188B PLCC 9 x 9 (20 Pins) A:11 B:11 10	A1189B PLCC 34 x 34 (100 Pins) A:36.5 B:36.5 33.5	A1203B QFP 35 x 35 A:35.2 B:35.2 31	A1214B SOJ 10 x 26 A:26 B:26 12	A1215B QFP 42.5 x 42.5 A:42.5 B:42.5 40
A1257B SOP 11 x 21 11.7	A1258B SOP 7.6 x 12.7 8.2	A1263B QFP 28 x 40 A:27.7 B:39.7 39	A1264B QFP 40 x 40 A:40.2 B:40.2 39	A1265B QFP 32 x 32 A:32.2 B:32.2 31	A1470 BGA 8 x 8 9	A1471 BGA 12 x 12 13
A1472 BGA 13 x 13 14	A1473 BGA 15 x 15 16	A1474 BGA 18 x 18 19	A1475 BGA 27 x 27 28	A1476 BGA 35 x 35 36	A1477 BGA 38 x 38 39	A1478 BGA 40 x 40 41

## Vacuum Function Inoperative Nozzles

A1124B Single ø2.5 ø2.5 (I.D.)	A1130 Single ø4.4 ø4.4 (I.D.)	A1131 SOP 4.4 x 10 4.8	A1132 SOP 5.6 x 13 5.7	A1133 SOP 7.5 x 15 7.2	A1134 SOP 7.5 x 18 7.2	A1142B Bent Single 1.5 x 3 45° ø1.5 (I.D.)
A1183 SOJ 15 x 8 8	A1190 Dual Single 2.5 x 9.5 ø2.5 (I.D.)	A1191 SIP 25L 26	A1192 SIP 50L 52.5	A1325 Dual Single 1.5 x 5-10 Adjustable Pitch The pitch between the two nozzles is adjustable 5 10 ø1.5 (I.D.)		



## Preheater/SMD-BGA repair system

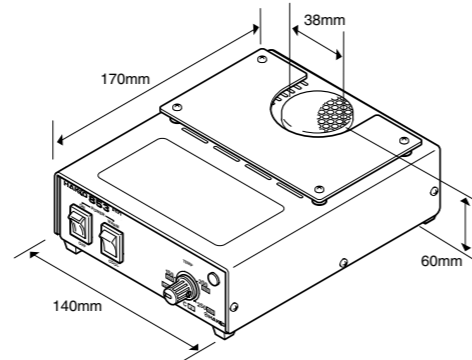
### HAKKO 853 ESD SAFE PREHEATER



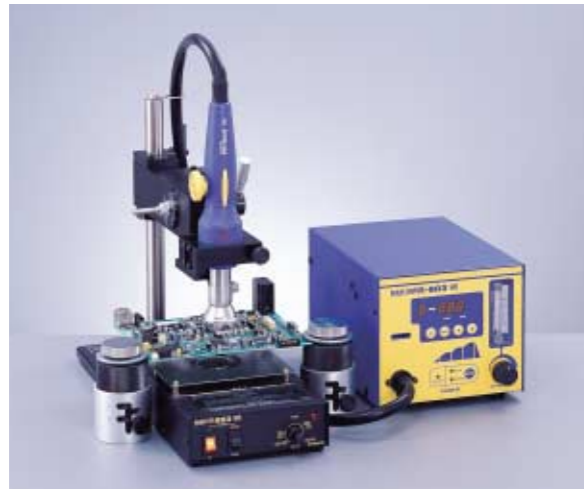
- Compact design.
- Fast heating.
- Temperature range 120 to 250°C.
- Excellent thermal stability.
- Closed loop variable temperature control.
- ESD safe by design.

#### Specifications

Model No.	853
Power Consumption	100V-350W 110V-400W 120V-500W 220V-460W 230V-500W 240V-540W
Input Voltage	AC100V-240V
Temperature Range	120-250°C (Above the blow exit)
Air Flow	0.18mm <sup>3</sup> /min. (Fixed)
Dimensions	140(W) x 50(H) x 170(D)mm
Weight (w/o cord)	1kg



## SMD-BGA Repair System



Setting example  
HAKKO FR-803, HAKKO 853, Rework Fixture, Omnivise

- Combination of HAKKO FR-803 and 853 allows the SMD and BGA rework equipment to set up at a lower price.

#### Omnivise ESD SAFE



No. C1390C

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

#### Nozzle Tray ESD SAFE



No. C1391B

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

#### Rework Fixture ESD SAFE



No. C1392B

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

## SMD Rework Station

### HAKKO 851 ESD SAFE SMD REWORK STATION

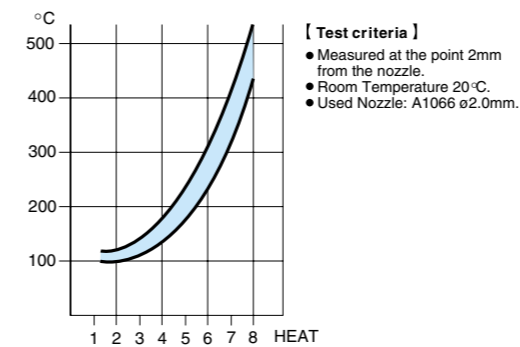


- Adjustable temperature control: 100-540°C.
- Air volume selector switch with ultra-light setting.
- ESD design and grounding measure to minimize damage from current leakage and electrostatic discharge.

#### Applications

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

#### Temperature Distribution Chart



#### 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

## Preheater/SMD-BGA repair system

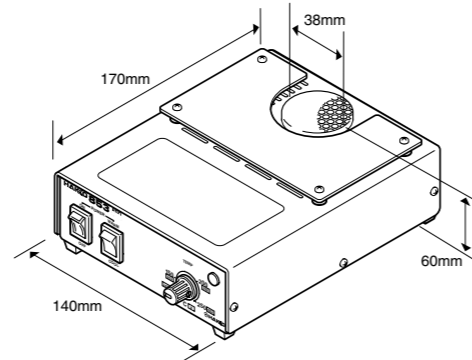
### HAKKO 853 ESD SAFE PREHEATER



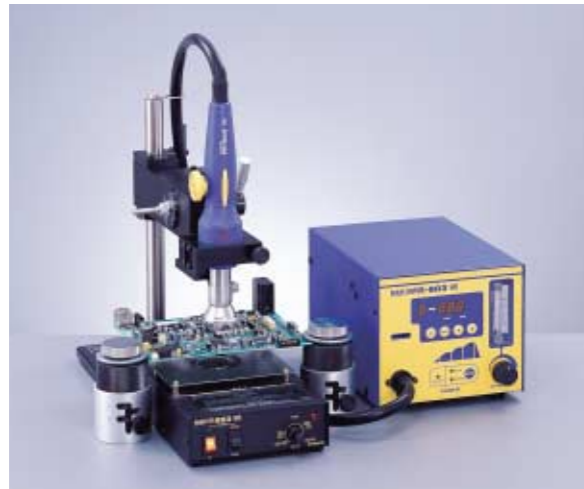
- Compact design.
- Fast heating.
- Temperature range 120 to 250°C.
- Excellent thermal stability.
- Closed loop variable temperature control.
- ESD safe by design.

#### Specifications

Model No.	853
Power Consumption	100V-350W 110V-400W 120V-500W 220V-460W 230V-500W 240V-540W
Input Voltage	AC100V-240V
Temperature Range	120-250°C (Above the blow exit)
Air Flow	0.18mm <sup>3</sup> /min. (Fixed)
Dimensions	140(W) x 50(H) x 170(D)mm
Weight (w/o cord)	1kg



## SMD-BGA Repair System



Setting example  
HAKKO FR-803, HAKKO 853, Rework Fixture, Omnivise

- Combination of HAKKO FR-803 and 853 allows the SMD and BGA rework equipment to set up at a lower price.

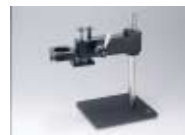
#### Omnivise ESD SAFE



No. C1390C

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

#### Rework Fixture ESD SAFE



No. C1392B

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

#### Nozzle Tray ESD SAFE



No. C1391B

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

## SMD Rework Station

### HAKKO 851 ESD SAFE SMD REWORK STATION

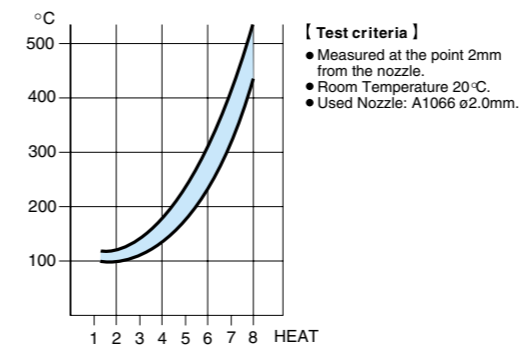


- Adjustable temperature control: 100-540°C.
- Air volume selector switch with ultra-light setting.
- ESD design and grounding measure to minimize damage from current leakage and electrostatic discharge.

#### Applications

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

#### Temperature Distribution Chart



#### 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 FM-2022** PARALLEL REMOVER **ESD SAFE** • **HAKKO MODEL FM-2023** MINI PARALLEL REMOVER **ESD SAFE** **LEAD FREE** **ESD SAFE**



No. MODEL FM-2022

- 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.



No. MODEL FM-2023

\*MODEL FM-202, FM-2023 must be used with MODEL FM-202. Please refer to page 6 about MODEL FM-202.

**Specifications**

Model No.	FM-2022	FM-2023
Power Consumption	140W (24V)	
Temperature Range	200-400°C	
Tip to Ground Resistance	< 2	
Tip to Ground Potential	< 2mV	
Cord	1.2m	
Standard Tip*	-	T9-I
Total Length (w/o cord & tip)	110mm	75mm
Weight (w/o cord)	64g with SOP 25L tip	37g with I tip

\*Tips for MODEL FM-2022 are optional part.

**Replacement Tips**

Please refer to page 9.

**Set Up**



\*The MODEL FM-2022 and FM-2023 are not included with the MODEL FM-202 station.

**Packing List**

Model Name	Contents
HAKKO MODEL FM-2022	Parallel remover (MODEL FM-2022) .....1
	Holder clip .....1
	Heat resistant pad .....1
	Cleaning sponge .....1
HAKKO MODEL FM-2023	Mini parallel remover (MODEL FM-2023) .....1
	Holder clip .....1
	Component bed .....1
	Tip ID number key .....1
	Heat resistant pad .....1
	Cleaning sponge .....1

**HAKKO 950** SMD HOT TWEEZER **ESD SAFE** **LEAD FREE** **ESD SAFE**



- 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	< 2
Tip to Ground Potential	< 2mV (Typ.0.6mV)
Heating Element	Ceramic Heater
Total Length (w/o cord)	186mm
Weight (w/o cord)	93g

**Packing List**

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

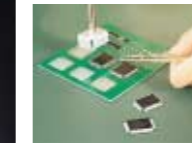
**Replacement Tips**   Unit : mm

Part No.	Name	A(a)	T	H	Size A (a) x T (Thickness) x H (Height)
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	
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	

**HAKKO MACH-FP** FP DESOLDERING



- 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	> 100m
Total Length (w/o cord)	210mm
Weight (w/o cord)	60g

\*Tip is an optional part.

**Optional Tips**

Please refer to page 21(for SMD Desoldering).

**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

- 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.



No. MODEL FM-2023

\*MODEL FM-202, FM-2023 must be used with MODEL FM-202. Please refer to page 6 about MODEL FM-202.

**Specifications**

Model No.	FM-2022	FM-2023
Power Consumption	140W (24V)	
Temperature Range	200-400°C	
Tip to Ground Resistance	< 2	
Tip to Ground Potential	< 2mV	
Cord	1.2m	
Standard Tip*	-	T9-I
Total Length (w/o cord & tip)	110mm	75mm
Weight (w/o cord)	64g with SOP 25L tip	37g with I tip

\*Tips for MODEL FM-2022 are optional part.

**Replacement Tips**

Please refer to page 9.

**Set Up**



\*The MODEL FM-2022 and FM-2023 are not included with the MODEL FM-202 station.

**Packing List**

Model Name	Contents
HAKKO MODEL FM-2022	Parallel remover (MODEL FM-2022) .....1
	Holder clip .....1
	Heat resistant pad .....1
	Cleaning sponge .....1
HAKKO MODEL FM-2023	Mini parallel remover (MODEL FM-2023) .....1
	Holder clip .....1
	Component bed .....1
	Tip ID number key .....1
	Heat resistant pad .....1
	Cleaning sponge .....1

**HAKKO SMD HOT TWEEZER 950** ESD SAFE LEAD FREE ESD SAFE



- 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	< 2
Tip to Ground Potential	< 2mV (Typ.0.6mV)
Heating Element	Ceramic Heater
Total Length (w/o cord)	186mm
Weight (w/o cord)	93g

**Packing List**

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

**Replacement Tips**

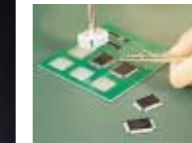
Part No.	Name	A(a)	T	H	Size A (a) x T (Thickness) x H (Height)
A1379	Tip/Chip 1L	1.0	1.0	13.0	
A1378	Tip/Chip 2L	2.0	1.0	13.0	
A1388	Tip/Chip 0.5C	1.5(0.5)	1.0	13.0	
A1389	Tip/Chip 0.5I	R0.25		18.5	
A1390	Tip/Chip 4L	4.0	1.0	8.0	
A1391	Tip/Chip 6L	6.0	1.0	8.0	
A1380	Tip/Chip 8L	8.0	1.0	8.0	
A1381	Tip/Chip 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	

Unit : mm

**HAKKO MACH-FP** FP DESOLDERING



- 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	> 100m
Total Length (w/o cord)	210mm
Weight (w/o cord)	60g

\*Tip is an optional part.

**Optional Tips**

Please refer to page 21(for SMD Desoldering).

## Repair System

**HAKKO 701** ESD SAFE  
REPAIR SYSTEM



- 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

Function	Parameter	Value
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	24V/50W
Standard Tip	900M-T-B (Shape-B)
Tip to Ground Resistance	< 2
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	24V/50W
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

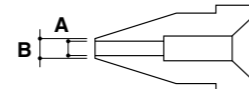
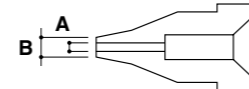
### Replacement Tips

Please refer to page 21 (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



## Rework System

**HAKKO 702B** ESD SAFE  
REWORK SYSTEM



- 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

Function	Parameter	Value
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	15ℓ/min
	Temperature Range	380-480°C
SMD Rework	Input Voltage	AC 100, 110, 220-240V
	Pump	Diaphragm Pump
	Capacity	23ℓ/min (Max.)
	Temperature Range	100-420°C (Use A1126B)
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	24V/50W	
Tip to Ground Resistance	< 2	
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	24V/50W
Nozzle to Ground Resistance	< 2
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.C1121 & 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 21.  
Desoldering gun: Please refer to page 41.  
Handpiece for SMD Rework: Please refer to page 49.

## Repair System

**HAKKO 701** ESD SAFE  
REPAIR SYSTEM



- 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

Function	Parameter	Value
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	24V/50W
Standard Tip	900M-T-B (Shape-B)
Tip to Ground Resistance	< 2
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	24V/50W
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

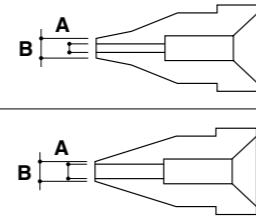
### Replacement Tips

Please refer to page 21 (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



## Rework System

**HAKKO 702B** ESD SAFE  
REWORK SYSTEM



- 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

Function	Parameter	Value
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	15ℓ/min
	Temperature Range	380-480°C
SMD Rework	Input Voltage	AC 100, 110, 220-240V
	Pump	Diaphragm Pump
	Capacity	23ℓ/min (Max.)
	Temperature Range	100-420°C (Use A1126B)
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	24V/50W	
Tip to Ground Resistance	< 2	
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	24V/50W
Nozzle to Ground Resistance	< 2
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.C1121 & 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 21.  
Desoldering gun: Please refer to page 41.  
Handpiece for SMD Rework: Please refer to page 49.

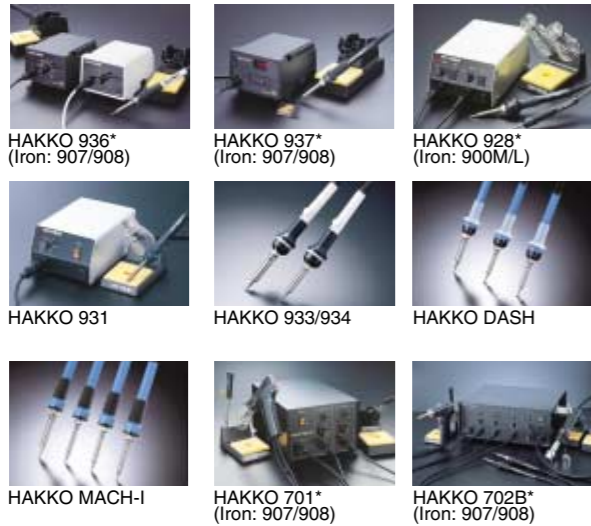
# HAKKO 490

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



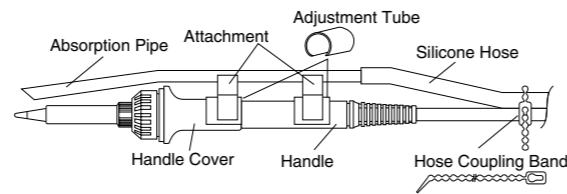
\*900S soldering iron and desoldering gun are not compatible with HAKKO 490.

### Specifications

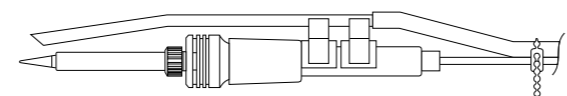
Model No.	490
Height	200mm
Diameter	120mm
Weight	1.5kg
Noise Level	39db
Working Pressure	4~7kgf/cm <sup>2</sup> (392~686KPa)
Air Consumption	40ℓ/min (5kgf/cm <sup>2</sup> )
Suction Flow	2.3ℓ/min (5kgf/cm <sup>2</sup> )

### Set Up

(900M/L, 907, 908, DASH)



(902, 904, 933, 934, MACH-I)



### Packing List

Model Name	Contents
HAKKO 490	Unit .....1 Absorption pipe set (No.C1125) .....1

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

# HAKKO 494

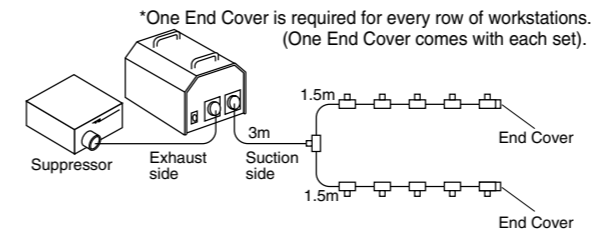
SMOKE ABSORBER



- Compact, light weight design.
- Convenient operation-easy to install flexible ducts permit quick and simple system adaption 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	1.56m <sup>3</sup> /min.	1.82m <sup>3</sup> /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	
C1030	Absorption Pipe Set B for HAKKO MACH-I(920-922)	
C1031	Absorption Pipe Set C for HAKKO MACH-I(918)	Absorption pipe .....1
C1033	Absorption Pipe Set E for HAKKO MG(except 150W)	Silicone hose 1m .....1
C1034	Absorption Pipe Set F for HAKKO 455	Hose coupling band .....5
C1035	Absorption Pipe Set G for HAKKO 456	Metal fitting for absorption pipe .....1
C1086	Absorption Pipe Set H for HAKKO 902, 904	
C1125	Absorption Pipe Set Q for HAKKO 907, 908, 933, 934	Absorption pipe .....1 Attachment .....2 Silicone hose 1.5m .....1 Adjustment tube .....3 Hose coupling band .....5

### 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 qty 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 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



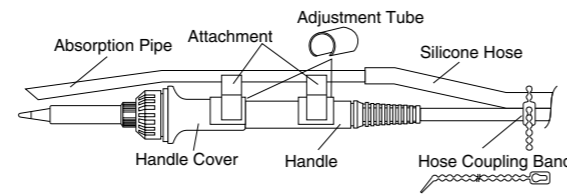
\*900S soldering iron and desoldering gun are not compatible with HAKKO 490.

### Specifications

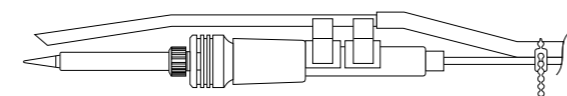
Model No.	490
Height	200mm
Diameter	120mm
Weight	1.5kg
Noise Level	39db
Working Pressure	4~7kgf/cm <sup>2</sup> (392~686KPa)
Air Consumption	40ℓ/min (5kgf/cm <sup>2</sup> )
Suction Flow	2.3ℓ/min (5kgf/cm <sup>2</sup> )

### Set Up

(900M/L, 907, 908, DASH)



(902, 904, 933, 934, MACH-I)



### Packing List

Model Name	Contents
HAKKO 490	Unit .....1 Absorption pipe set (No.C1125) .....1

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

# HAKKO 494

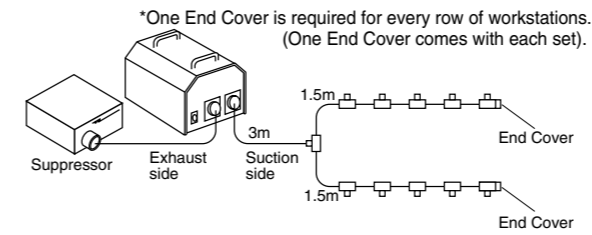
SMOKE ABSORBER



- Compact, light weight design.
- Convenient operation-easy to install flexible ducts permit quick and simple system adaption 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	1.56m <sup>3</sup> /min.	1.82m <sup>3</sup> /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	
C1030	Absorption Pipe Set B for HAKKO MACH-I(920-922)	
C1031	Absorption Pipe Set C for HAKKO MACH-I(918)	Absorption pipe .....1
C1033	Absorption Pipe Set E for HAKKO MG(except 150W)	Silicone hose 1m .....1
C1034	Absorption Pipe Set F for HAKKO 455	Hose coupling band .....5
C1035	Absorption Pipe Set G for HAKKO 456	Metal fitting for absorption pipe .....1
C1086	Absorption Pipe Set H for HAKKO 902, 904	
C1125	Absorption Pipe Set Q for HAKKO 907, 908, 933, 934	Absorption pipe .....1 Attachment .....2 Silicone hose 1.5m .....1 Adjustment tube .....3 Hose coupling band .....5

### 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 qty 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



## Smoke Absorber

### HAKKO 493 ESD SAFE SMOKE ABSORBER



- Fully-adjustable, low-noise, high performance fan.
- Use the filter made by joining specific urethan foam with refined activated carbon having a high absorbing performance.
- The entire unit is processed with a non sloughing static dissipative, conductive material.



#### Specifications

Model No.	493	
Frequency	50Hz	60Hz
Power Consumption	16W	14W
Absorption Capacity (w/filter)	0.93m <sup>3</sup> /min.	1.07m <sup>3</sup> /min.
Accessories	Filter (3 pcs)	
Dimensions	220(W) x 270(H) x 168(D)mm	
Weight (w/o cord)	1.5kg	

#### Replacement Parts

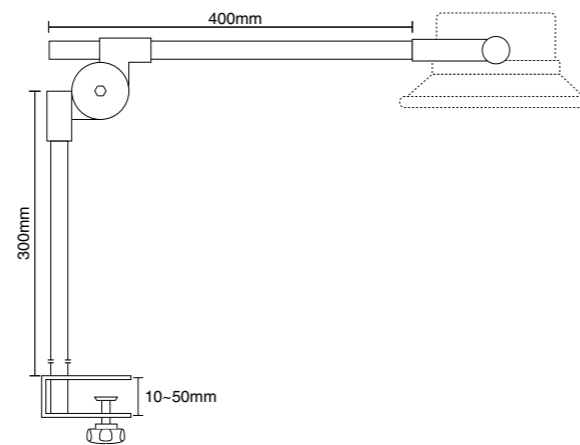
Part No.	Name/Description
A1001	Filter set (5 pcs)

#### Activated-Carbon Filter

Size	130(W) x 130(H) x 10(D)mm
Amount of Activated-Carbon per one filter	7g
Max.Absorbing weight of noxious components per one filter	2g

#### Optional Attachments

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



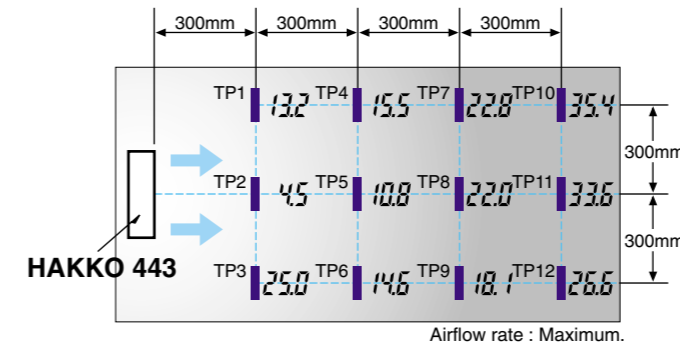
## Static Eliminator

### HAKKO 443 STATIC ELIMINATOR



- The compact, light weight, and upright design is well suited for use on a desktop, in the production line, and various other applications.
- Utilization of AC corona discharge provides for a good balance of positively charged ion generation and faster neutralization time that changes little over time.
- The airflow direction can be raised and lowered.
- A function for adjusting the airflow rate is provided.

#### Neutralization time (in sec.) from 1,000V to 10V



\*Method of measurement is in accordance with ANSI-EOS/ESD-S3.1-1991.  
\*Above data are for reference.

#### Specifications

Model No.	443
Power Consumption	10W
Output Voltage	3.5 kV AC
Ion Balance	Factory adjusted to within $\pm 10V$ (at 600mm from the front panel)
Air Flow	1.2 to 2.4m <sup>3</sup> /min (variable)
Noize	40 db (A)
Ozone Production	0.01 ppm or less (at a point 150mm from the outlet and aligned with the center of the outlet)
Maximum Allowable Ambient Temperature	50°C
Filter	Pre-Filter level
Dimensions	140(W) x 190(H) x 83(D)mm
Weight (w/o cord)	1.4kg

#### Packing List

Model Name	Contents
HAKKO 443	Unit .....1
	Cotton swabs (cleaning for electrodes) .....1

#### Optional Attachment

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



## Smoke Absorber

### HAKKO 493 ESD SAFE SMOKE ABSORBER



- Fully-adjustable, low-noise, high performance fan.
- Use the filter made by joining specific urethan foam with refined activated carbon having a high absorbing performance.
- The entire unit is processed with a non sloughing static dissipative, conductive material.



#### Specifications

Model No.	493	
Frequency	50Hz	60Hz
Power Consumption	16W	14W
Absorption Capacity (w/filter)	0.93m <sup>3</sup> /min.	1.07m <sup>3</sup> /min.
Accessories	Filter (3 pcs)	
Dimensions	220(W) x 270(H) x 168(D)mm	
Weight (w/o cord)	1.5kg	

#### Replacement Parts

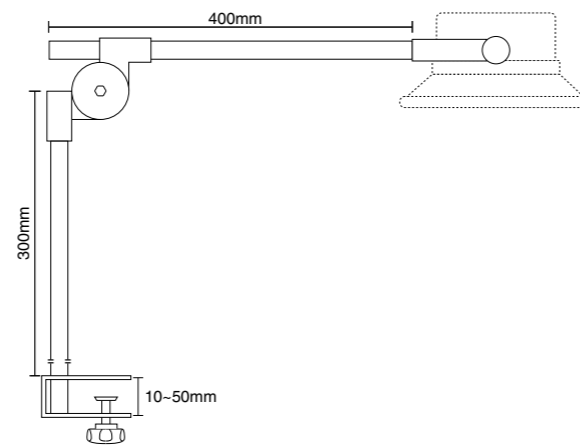
Part No.	Name/Description
A1001	Filter set (5 pcs)

#### Activated-Carbon Filter

Size	130(W) x 130(H) x 10(D)mm
Amount of Activated-Carbon per one filter	7g
Max.Absorbing weight of noxious components per one filter	2g

#### Optional Attachments

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



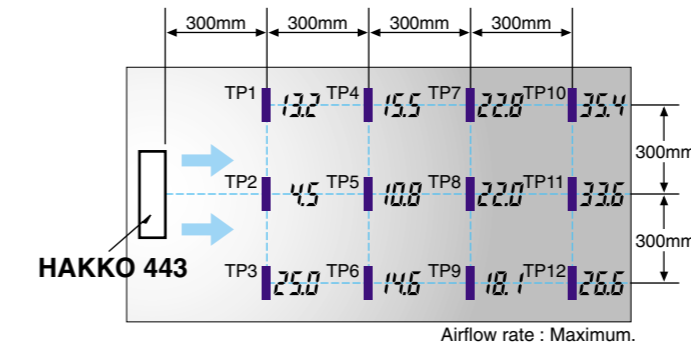
## Static Eliminator

### HAKKO 443 STATIC ELIMINATOR



- The compact, light weight, and upright design is well suited for use on a desktop, in the production line, and various other applications.
- Utilization of AC corona discharge provides for a good balance of positively charged ion generation and faster neutralization time that changes little over time.
- The airflow direction can be raised and lowered.
- A function for adjusting the airflow rate is provided.

#### Neutralization time (in sec.) from 1,000V to 10V



\*Method of measurement is in accordance with ANSI-EOS/ESD-S3.1-1991.  
\*Above data are for reference.

#### Specifications

Model No.	443
Power Consumption	10W
Output Voltage	3.5 kV AC
Ion Balance	Factory adjusted to within $\pm 10V$ (at 600mm from the front panel)
Air Flow	1.2 to 2.4m <sup>3</sup> /min (variable)
Noize	40 db (A)
Ozone Production	0.01 ppm or less (at a point 150mm from the outlet and aligned with the center of the outlet)
Maximum Allowable Ambient Temperature	50°C
Filter	Pre-Filter level
Dimensions	140(W) x 190(H) x 83(D)mm
Weight (w/o cord)	1.4kg

#### Packing List

Model Name	Contents
HAKKO 443	Unit .....1
	Cotton swabs (cleaning for electrodes) .....1

#### Optional Attachment

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



## Static Level Meter

### HAKKO 430

STATIC LEVEL METER



- Three modes for measuring electric potential:
  - (1) Momentary value of static electric potential.
  - (2) Peak value of static electric potential.
  - (3) AC potential.
- Measurement of ion balance in 1-V intervals.
- High sensitivity and high precision.
- Simple adjustment of measurement distance.
- Pocket size: compact and light weight.

#### Specifications

Model No.	430	
Electric Potential Measurement	Range	0 to ± 19.99kV
	Resolution	10V
	Distance	50mm (between detector and object being measured)
	Output	1V for 10kV display, output impedance 100
	Measurement Distance Adjustment	Red LED beam (find distance where light spot is in focus)
Ion Balance Measurement	Range	0 to ± 1,999V
	Resolution	1V
	Distance	Any (when plate is attached)
	Output	1V for 1kV display, output impedance 100
Measurement Precision	±5% of reading ±2 digits (in range from - 10kV to +10kV)	
Display	Over Range	# □ □ □
	Battery Alarm	AC (DC) blinks
	Polarity	Indicates negative (-) polarity only
Power Supply	One 1.5V Alkaline Battery "AA" (provide approximately 10 hours of continuous use)	
Operating Environment	0 to 40°C, 20 to 90% RH, no dew formation	
Dimensions	106(W) x 23(H) x 66(D)mm	
Weight (w/battery)	120g	

#### Packing List

Model Name	Contents	
HAKKO 430	Unit .....	1
	Alkaline battery "AA" .....	1
	Plate for measuring (Ion balance) .....	1
	Grounding wire with screw and nut .....	1
	Monitor cord .....	1

## Wrist Strap

### HAKKO 442B

WRIST STRAP



- 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

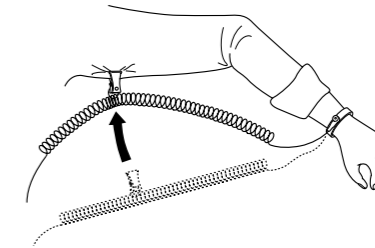
#### Replacement Parts

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



### HAKKO 496

WRIST STRAP



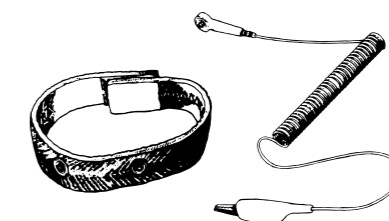
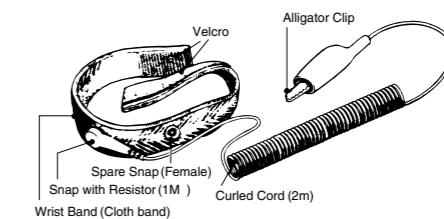
- Comfortable and light weight.
- Available in blue, wine and green color.
- 'Velcro' & 'Snap' help quick and easy adjusting.
- Standard ground termination is alligator clip.

#### 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>



## Static Level Meter

### HAKKO 430 STATIC LEVEL METER



- Three modes for measuring electric potential:  
(1) Momentary value of static electric potential.  
(2) Peak value of static electric potential.  
(3) AC potential.
- Measurement of ion balance in 1-V intervals.
- High sensitivity and high precision.
- Simple adjustment of measurement distance.
- Pocket size: compact and light weight.

#### Specifications

Model No.	430	
Electric Potential Measurement	Range	0 to ± 19.99kV
	Resolution	10V
	Distance	50mm (between detector and object being measured)
	Output	1V for 10kV display, output impedance 100
	Measurement Distance Adjustment	Red LED beam (find distance where light spot is in focus)
Ion Balance Measurement	Range	0 to ± 1,999V
	Resolution	1V
	Distance	Any (when plate is attached)
	Output	1V for 1kV display, output impedance 100
Measurement Precision	±5% of reading ±2 digits (in range from - 10kV to +10kV)	
Display	Over Range	# □ □ □
	Battery Alarm	AC (DC) blinks
	Polarity	Indicates negative (-) polarity only
Power Supply	One 1.5V Alkaline Battery "AA" (provide approximately 10 hours of continuous use)	
Operating Environment	0 to 40°C, 20 to 90% RH, no dew formation	
Dimensions	106(W) x 23(H) x 66(D)mm	
Weight (w/battery)	120g	

#### Packing List

Model Name	Contents	
HAKKO 430	Unit .....	1
	Alkaline battery "AA" .....	1
	Plate for measuring (Ion balance) .....	1
	Grounding wire with screw and nut .....	1
	Monitor cord .....	1

## Wrist Strap

### HAKKO 442B WRIST STRAP



- 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

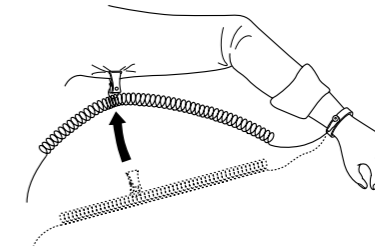
#### Replacement Parts

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



### HAKKO 496 WRIST STRAP



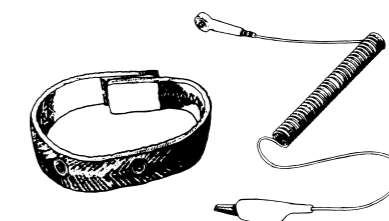
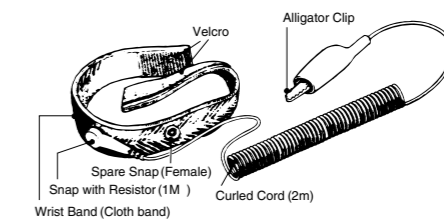
- Comfortable and light weight.
- Available in blue, wine and green color.
- 'Velcro' & 'Snap' help quick and easy adjusting.
- Standard ground termination is alligator clip.

#### 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 to 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	OFF
GOOD (Green)	800K ≤R≤9M	ON
HIGH (Red)	R>9M	OFF

# HAKKO HEATING GUN



- 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	
Maximum Temperature*	400°C	450°C	
Temp. Control Function	---	---	Room Temp. ~450°C
Air Velocity	330m/min.	360m/min.	
Air Flow	0.18m³/min.	0.2m³/min.	
Dimensions	245(W) x 185(H) x 70(D)mm		285(W) x 185(H) x 70(D)mm
Weight (w/o cord)	550g		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

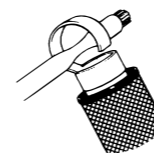
\*Indicate optional attachments that require the A1111 for use.

### Optional Parts & Operating Technique

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

#### No.A1109 Nozzle/Hook Type

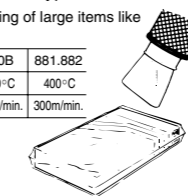
Ideal for the circumference heating of shrink tubing, plastic shafting etc.



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

Ideal for heating of large items like shrink film.

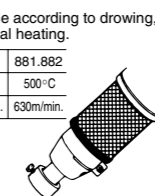
	880B	881.882
Temperature	350°C	400°C
Air Velocity	270m/min.	300m/min.



#### No.A1111 Nozzle Holder

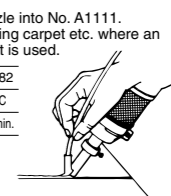
Attach this nozzle according to drawing, and use for partial heating.

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



#### No.A1112 Nozzle

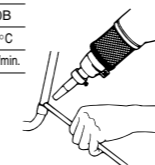
Insert this nozzle into No. A1111. Ideal for repairing carpet etc. where an adhesive agent is used.



#### No.A1113 Nozzle/Single ø5

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

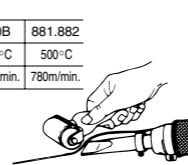
	880B
Temperature	550°C
Air Velocity	780m/min.



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

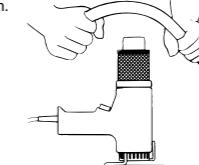
Attach this nozzle on No. A1111. Ideal for adhesion of vinyl chloride sheet etc.

	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 498

SYSTEM TESTER



- Can be used anywhere to 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	OFF
GOOD (Green)	800K ≤R≤9M	ON
HIGH (Red)	R>9M	OFF

# HAKKO HEATING GUN



- 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	
Maximum Temperature*	400°C	450°C	
Temp. Control Function	---	---	Room Temp. ~450°C
Air Velocity	330m/min.	360m/min.	
Air Flow	0.18m³/min.	0.2m³/min.	
Dimensions	245(W) x 185(H) x 70(D)mm	285(W) x 185(H) x 70(D)mm	
Weight (w/o cord)	550g		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

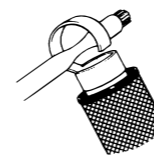
\*Indicate optional attachments that require the A1111 for use.

### Optional Parts & Operating Technique

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

#### No.A1109 Nozzle/Hook Type

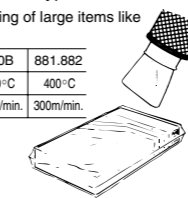
Ideal for the circumference heating of shrink tubing, plastic shafting etc.



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

Ideal for heating of large items like shrink film.

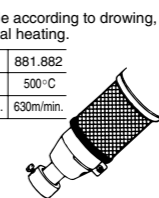
	880B	881.882
Temperature	350°C	400°C
Air Velocity	270m/min.	300m/min.



#### No.A1111 Nozzle Holder

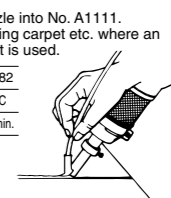
Attach this nozzle according to drawing, and use for partial heating.

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



#### No.A1112 Nozzle

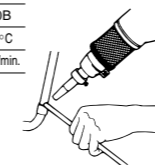
Insert this nozzle into No. A1111. Ideal for repairing carpet etc. where an adhesive agent is used.



#### No.A1113 Nozzle/Single ø5

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

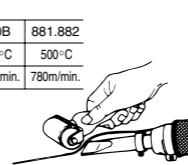
	880B
Temperature	550°C
Air Velocity	780m/min.



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

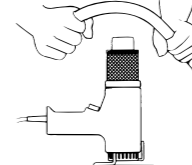
Attach this nozzle on No. A1111. Ideal for adhesion of vinyl chloride sheet etc.

	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



- 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.
- Anti-overheat mechanism  
–Built-in thermal fuse near the heater, prevent the temperature from rising too high.

## 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-0 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.

## Specifications

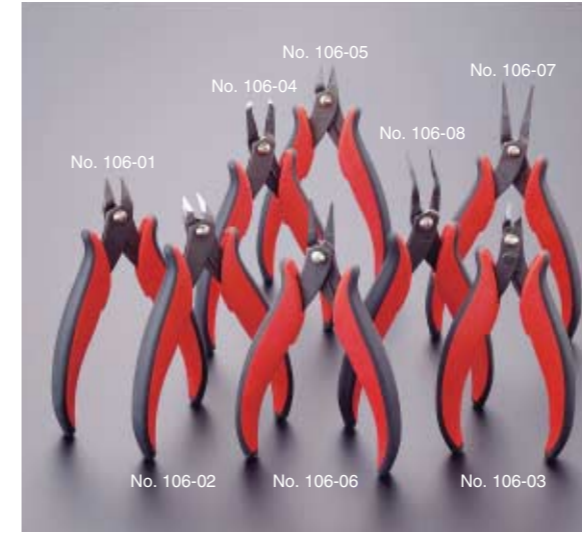
Model No.	804
Power Consumption	100W
Standard Nozzle	A1083 (ø2.0mm)
Melting Temperature	100-200°C variable
Discharge Capacity	900g/hour
Fusing Temperature	187°C
Dimensions	215(W) x 170(H) x 45(D)mm
Weight (w/o cord)	350g

## 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	

# HAKKO CUTTING TOOL



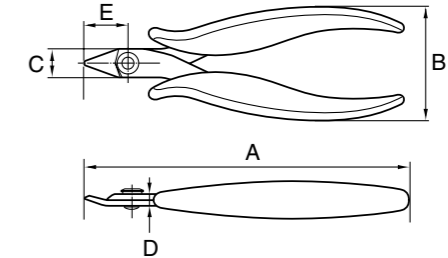
- Designed for precision assembly of delicate, complex electronic work.
- Soft-touch grip ensures long and comfortable work.
- Recommend to cut copper & soft lead wires.

## 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	-

Model No.	A	B	C	D	E
106-01	138	54	13.5	5	20
106-02	135	54	13.5	5	16
106-03	136	54	9.5	4	18
106-04	144	54	14	6	27
106-05	138	54	13.5	5	20
106-06	146	54	13	6	29
106-07	160	54	13	6	40
106-08	152	54	13	4	35

Unit : mm



# HAKKO MELTER



- Temperature control function enables use of polyamide adhesives that are ideal for use with electronic components.
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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	

\*Application Period.

## Specifications

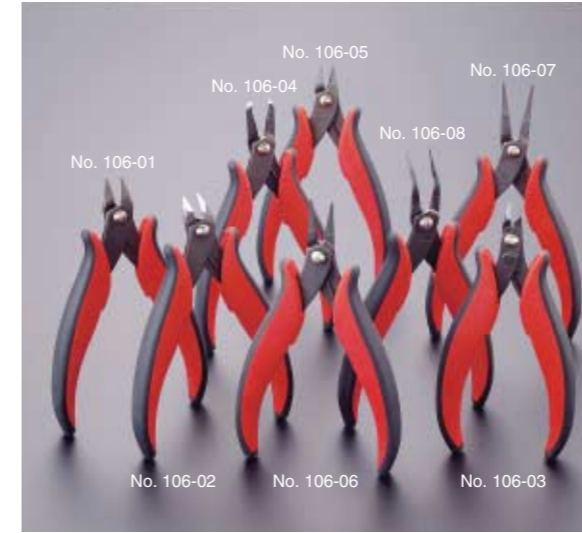
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Discharge Capacity	900g/hour
Fusing Temperature	187°C
Dimensions	215(W) x 170(H) x 45(D)mm
Weight (w/o cord)	350g

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Unit : mm

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

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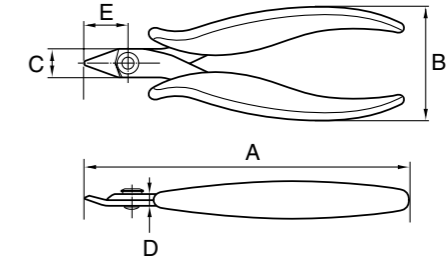
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106-07	160	54	13	6	40
106-08	152	54	13	4	35

Unit : mm





# HAKKO 392 ESD SAFE VACUUM PICK-UP



- 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.

### Specifications

Model No.	392
Power Consumption	5W
Pump	Diaphragm Type
Maximum Pressure	37.3KPa (280mmHg)
Accessories	Bent Nozzle x 2 (Inner Dia. 0.4mm & 1.1mm) Pad x 2 (Outer Dia. 3mm & 7mm)
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 Pickup 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

# 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**	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 392 ESD SAFE VACUUM PICK-UP



- A built-in diaphragm pump eliminates the need for a separate air supply unit.
- Lifts objects weighting up to 120g.
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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 Pickup Performance

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Applicable for Chip Components  
(With A1164 Bent Nozzle)

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Model No.	394
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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

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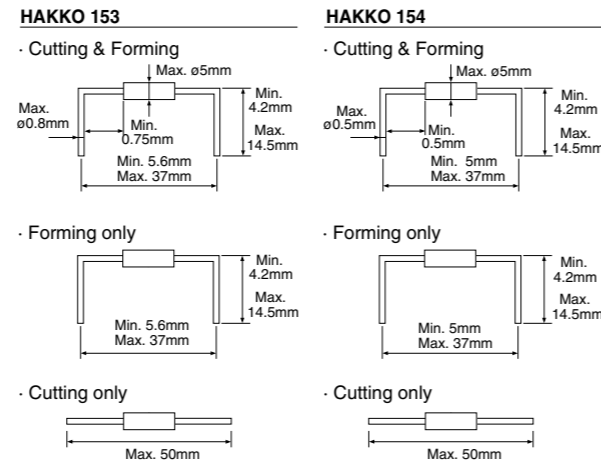
# HAKKO 153·154

LEAD FORMER



### 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.



### Specifications

Part No.	153-1	154-1
Forming Size	5.6mm Pitch	5mm Pitch
Max. Diameter of Lead*	$\phi 0.8\text{mm}$	$\phi 0.5\text{mm}$
Compatible Taping Dimension	Outer Width of Tape	Max. 85mm
	Pitch	5mm
Dimensions	125(W) x 130(H) x 110(D)mm	
Weight	2kg	

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

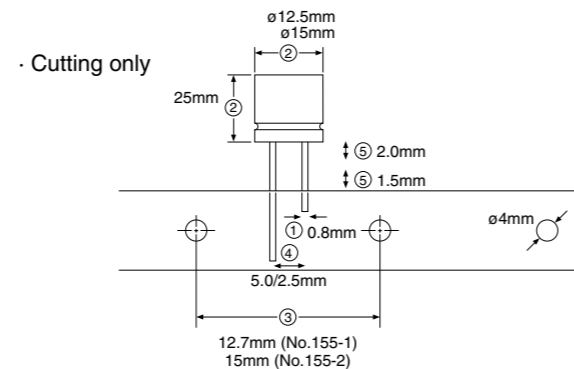
# HAKKO 155

LEAD CUTTER



### 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.



### Specifications

Part No.	155-1	155-2
① Max. Diameter of Lead Wire	$\phi 0.8\text{mm}$	
② Max. Processing Part Size	$\phi 12.5\text{mm}$ ~25mm	$\phi 15\text{mm}$ ~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.

# HAKKO 152B

MOTOR DRIVE



### 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.

\*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	18,000 pcs/hr
	(w/HAKKO 153, 154)	(w/HAKKO 155)
Dimensions	430(W) x 150(H) x 140(D)mm	
Weight (w/o cord)	5.6kg	

# 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



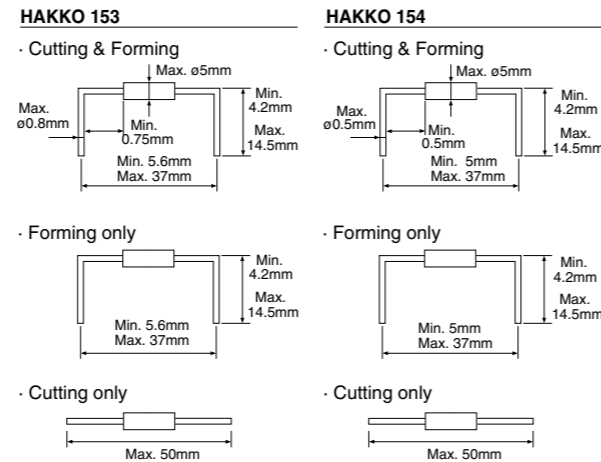
## HAKKO 153-154

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### Specifications

Part No.	153-1	154-1
Forming Size	5.6mm Pitch	5mm Pitch
Max. Diameter of Lead*	$\phi 0.8\text{mm}$	$\phi 0.5\text{mm}$
Compatible Taping Dimension	Outer Width of Tape	Max. 85mm
	Pitch	5mm
Dimensions	125(W) x 130(H) x 110(D)mm	
Weight	2kg	

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

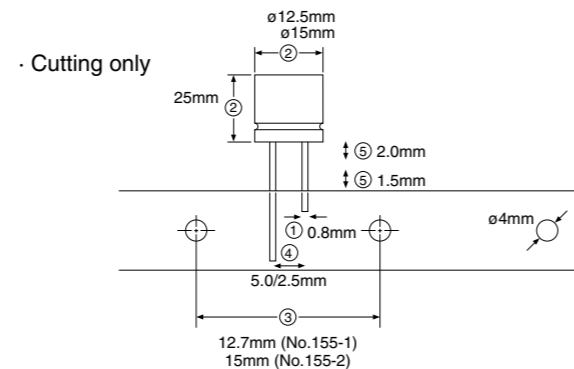
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### Specifications

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 150(H) x 140(D)mm	
Weight (w/o cord)	5.6kg	

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FT150	10mm	22
FT200	15mm	24,28,40,42
FT300	19mm	64



# Hakko Global Network



## 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>

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# CATALOG

Quality Tools for the electronics Industry



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CA00226BbBa002 July 2006

CATALOG Quality Tools for the electronics Industry



# CATALOG

Quality Tools for the electronics Industry

HAKKO CORPORATION

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



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

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Largest Supplier of Electrical and Electronic Components

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