HAKKO FR-300

DESOLDERING TOOL

New

Portable Desoldering Tool

Nozzle included

RoHS CE

OFFSET

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

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

Packing List

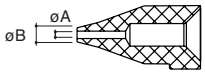
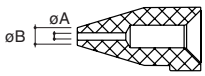
FR-300	Unit, Ceramic paper filter (L; 2 pcs), Nozzle changing tool, Protection cover, Pre-filter, Iron holder, Cleaning pin for 1.0 mm diameter nozzle, Cleaning pin for heating core, Instruction manual

Specifications

Model No.	FR-300
Power consumption	118 W
Temperature range	350 to 500°C
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Vacuum generator	Diaphragm pump
Vacuum pressure	81 kPa (610 mmHg)
Suction flow	11 L/min.
Standard nozzle	ø1.0 mm (No. N50-04)
Dimensions	210 (W) × 226 (H) mm
Weight	0.52 kg

Replacement Nozzles

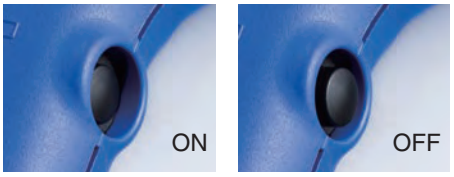
Unit : mm

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

Features

Quick-change nozzle replacement with special tools

Power switch at hand



Simplified iron holder as standard

HAKKO FR-400 ESD SAFE

DESOLDERING TOOL

New

Heavy Duty Desoldering Tool Digital

Nozzle included

for LEAD FREE · ESD SAFE · RoHS · CE

Desoldering

Auto off · SLEEP · Low °C · OFFSET

- 300 W heavy duty desoldering tool with built-in vacuum pump
- Secure desoldering with valve function
- Reduction of solder clogging
- Improvement in maintainability

GOOD DESIGN AWARD 2015

Packing List

FR-400	Station, Desoldering tool (FR-4001), Power cord, Iron holder (with cleaning wire), Tool box (Cleaning pin for ø1.0 mm, Cleaning pin for heating element, Cleaning drill for ø1.0 mm, Nozzle wrench, Filter [qty 2], Ceramic paper filter [qty 4]), Instruction manual

Specifications

Model No.	FR-400
Power consumption	320 W
Temperature range	350 to 500°C
Temperature stability	±5°C at idle temperature

Station

Output voltage	AC 29 V
Vacuum generator	Vacuum pump, double cylinder type
Vacuum pressure	Max. 80 kPa (600 mmHg)
Suction flow	15 L/min.
Dimensions	166 (W) × 137 (H) × 264 (D) mm
Weight	5.7 kg

Desoldering Tool

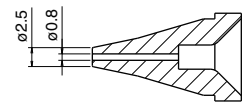
Power consumption	300 W (29 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Standard nozzle	ø1.0 mm (No. N60-02)
Cord length	1.2 m
Total length*	183 mm (with ø1.0 mm nozzle)
Weight*	245 g (with ø1.0 mm nozzle)

* Without cord and hose

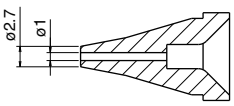
Replacement Nozzles

Unit : mm

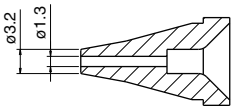
N60-01 Nozzle ø0.8



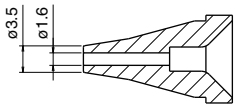
N60-02 Nozzle ø1.0



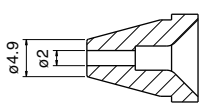
N60-03 Nozzle ø1.3



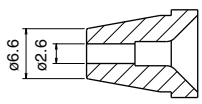
N60-04 Nozzle ø1.6



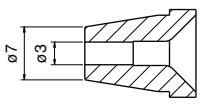
N60-05 Nozzle ø2.0



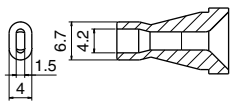
N60-06 Nozzle ø2.6



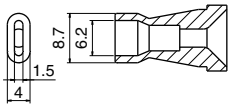
N60-07 Nozzle ø3.0



N60-08 Nozzle 4.2 × 1.5

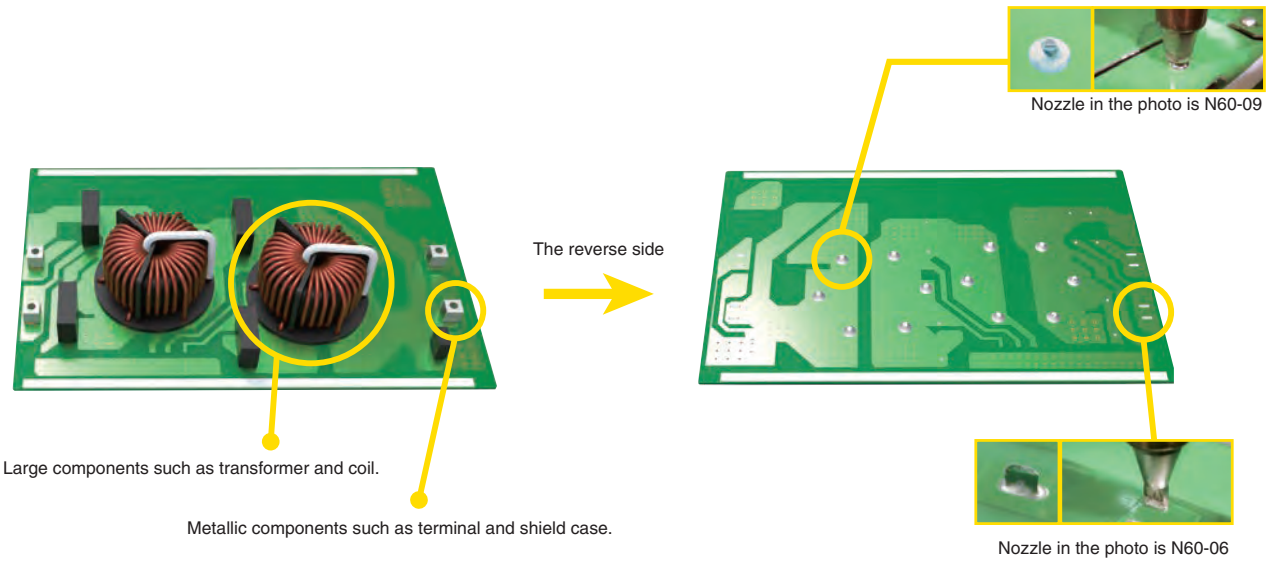


N60-09 Nozzle 6.2 × 1.5

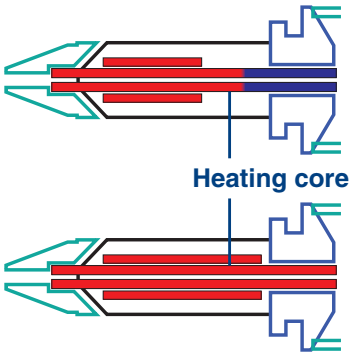


Features

300 W tremendous power makes incredible heating.



Secure desoldering, valve function that suctions with high pressure
Suction starts 0.2 seconds after pulling the trigger for instance and high pressure suction to achieve complete desoldering.



Previous models

FR-400

Reduction of solder clogging

Improvement in heating core
Heating ability for backside of heating core is increased to ensure suctioned solder be carried to filter pipe and avoid solder clogging.

Featuring ACF (Anti Clogging Function)
ACF ensures suctioned solder be carried to filter pipe by keeping pump running for a second after releasing trigger.

Improvement in maintainability

■Easy heater replacement

By removing 3 screws

■New filter pipe

Previous models

FR-400

■Tool box for maintenance kit

HAKKO FR-410 ESD SAFE

DESOLDERING TOOL

New

High-Power Desoldering Tool Digital

Nozzle included

for LEAD FREE · ESD SAFE · RoHS · CE · VDE · GS · VDE EMC

Desoldering

Auto off · SLEEP · Low °C · OFFSET

- 140 W high power enables perfect desoldering for the components on multi-layer PWB.
- A wide selection of nozzles is available for a variety of desoldering works.

Packing List

FR-410	Station, Desoldering Tool (FR-4101), Power cord, Iron Holder (with cleaning wire), Tool box (Cleaning pin for ø1.0 mm, Cleaning pin for heating element, Cleaning drill for ø1.0 mm, Nozzle wrench, Filter [qty 2], Ceramic paper filter [qty 4]), Instruction manual

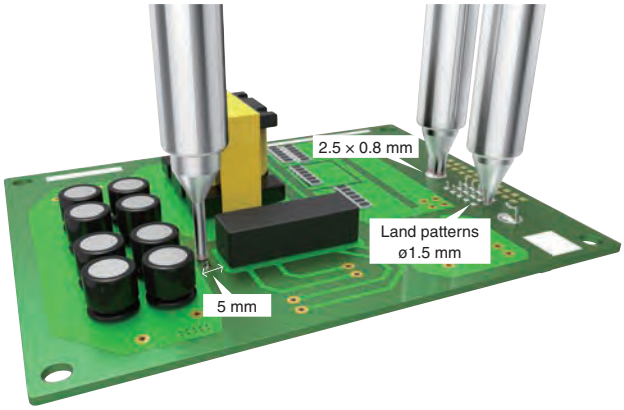
Specifications

Model No.	FR-410
Power consumption	190 W
Temperature range	330 to 450°C
Temperature stability	±5°C at idle temperature
Station	
Output voltage	AC 24 V
Vacuum generator	Vacuum pump, double cylinder type
Vacuum pressure	Max. 80 kPa (600 mmHg)
Suction flow*	15 L/min.
Dimensions	165 (W) × 137 (H) × 244 (D) mm
Weight	4.8 kg
Desoldering Tool	
Power consumption	140 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Standard nozzle	ø1.0 mm S type (No. N61-05)
Cord length	1.2 m
Total length**	168 mm (with ø1.0 mm S type nozzle)
Weight**	170 g (with ø1.0 mm S type nozzle)

* The suction flow is measured at the filter case suction port of station.
** Without cord and hose

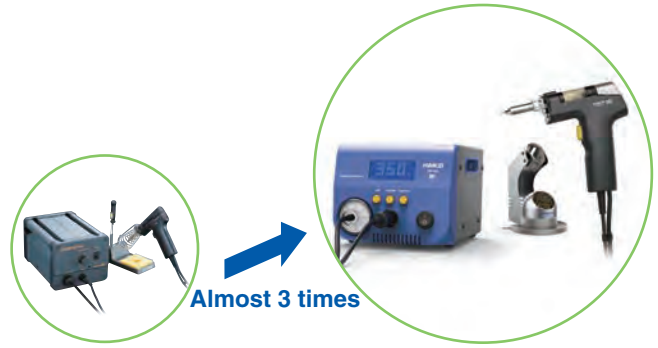
Features

A wide selection of nozzles is available for a variety of desoldering works.



- **Long type nozzles for narrow space**
  Slim and long nozzles reach to target easily in a narrow space.
- **Oval shape nozzles for flat terminals**
  No solder left-over because of the nozzles that much square shape terminals.
- **SS type nozzles for micro land-patterns**
  Close-fitting nozzles on micro land pattern secure desoldering.

High power of 140 W!
3 times more powerful than the previous model



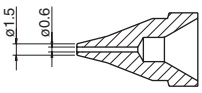
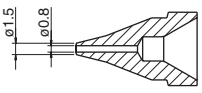
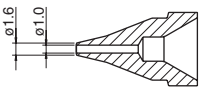
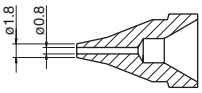
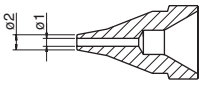
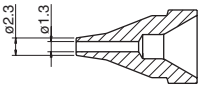
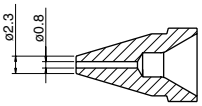
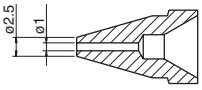
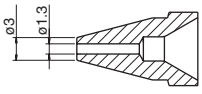
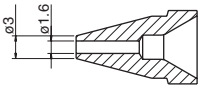
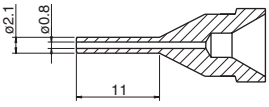
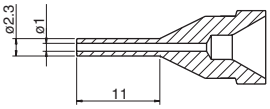
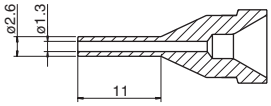
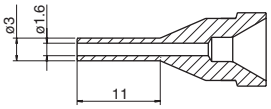
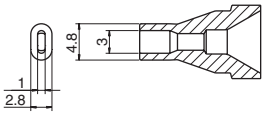
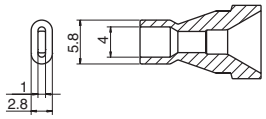
HAKKO 474 (50 W) FR-410 (140 W)

Features comparison with the latest models and the previous model

Features	FR-400	FR-410	HAKKO 474
High pressure suction	○	○	△
Longer heating core	○	○	×
ACF (Anti Clogging Function)	○	○	×
Easy nozzle replacement	○	○	△
Easy heater replacement	○	○	×
Bigger filter pipe	○	○	△
Large LCD display	○	○	×

Replacement Nozzles

Unit : mm

N61-01 	**N61-02** 	**N61-03** 	**N61-04** 
N61-05 	**N61-06** 	**N61-07** 	**N61-08** 
N61-09 	**N61-10** 	**N61-11** 	**N61-12** 
N61-13 	**N61-14** 	**N61-15** 	**N61-16** 

HAKKO FM-204 ESD SAFE

DESOLDERING TOOL

Composite-type Desoldering Tool Digital

Nozzle not included

for LEAD FREE · ESD SAFE · RoHS · CE · VDE · GS · VDE EMC

Soldering (Option) · Soldering (Option) · Desoldering

Auto off · SLEEP · Low °C · OFFSET

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

Packing List

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

Option

Part No.	Name	Specifications
FM2027-03	FM-2027 conversion kit	70 W (24 V)
FM2026-06	FM-2026 conversion kit	70 W (24 V)

Specifications

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

Station

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

Desoldering Tool

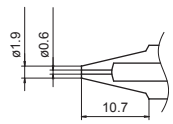
Power consumption	70 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length**	180 mm (with ø1.0 mm nozzle)
Weight**	65 g (with ø1.0 mm nozzle)

* Measured at the filter case suction port of the station.
** Without cord and hose

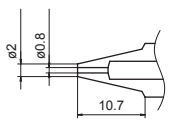
Optional Nozzles

Unit : mm

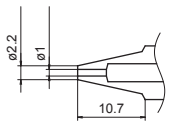
N3-06 Nozzle ø0.6



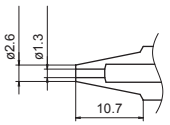
N3-08 Nozzle ø0.8



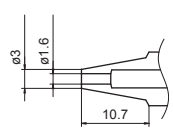
N3-10 Nozzle ø1.0



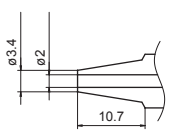
N3-13 Nozzle ø1.3



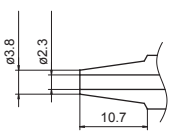
N3-16 Nozzle ø1.6



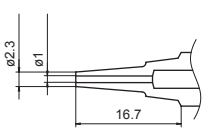
N3-20 Nozzle ø2.0



N3-23 Nozzle ø2.3

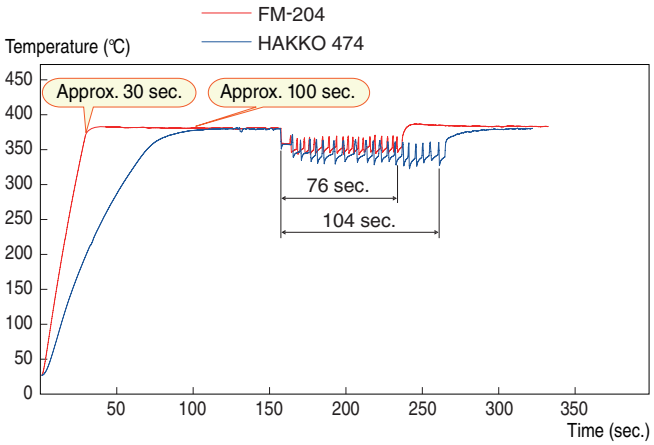


N3-L10 Nozzle ø1.0 Long



Features

Excellent thermal recovery



Test criteria

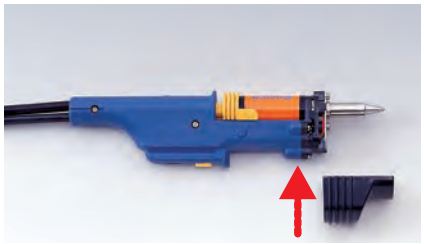
Measurement method	The time until the soldered portion reaches 200°C is measured for 20 points.
Nozzle used	ø1.0 mm
Solder	Lead-free solder

Two way use of grip part

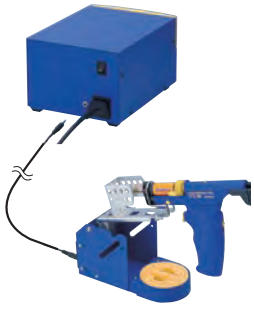
Gun configuration

Straight configuration

Simple and safe nozzle replacement by the nozzle remover



Sleep function and Auto Power Shut-off function



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

Replacing the handpiece enables soldering.

■Soldering

FM-2027

■N_2 System (P.32 & P.33)

Set-up example

FM-204
FM-2026
FX-780
FX-791

HAKKO FR-810B ESD SAFE New

SMD REWORK STATION

Hot-Air SMD Rework Station Digital

Nozzle included

for LEAD FREE · ESD SAFE · RoHS · CE

Hot Air Rework

Auto off · SLEEP · OFFSET · PRE℃

- High volume airflow and high output for a various kinds of rework
- Full digital control of temperature, airflow, and time
- Simple nozzle removal and easy maintenance
- The vacuum pick-up function with an indicator ensures safety for the components and PWB's.

HAKKO FR-811 ESD SAFE New

SMD REWORK STATION

Hot-Air SMD Rework Station Digital

Nozzle not included

for LEAD FREE · ESD SAFE · RoHS · CE

Hot Air Rework

Auto off · SLEEP · OFFSET · PRE℃

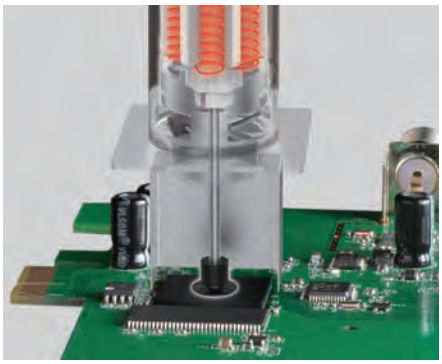
- Possible to make full-scale thermal profiles with 6-zone hot air and a bottom heater
- Possible to measure and record temperature of components and PWB with type K thermocouple
- The dedicated software to link a station and a computer for easy and quick settings
- Easy data transfer through an USB cable

Common Features of FR-810B and FR-811

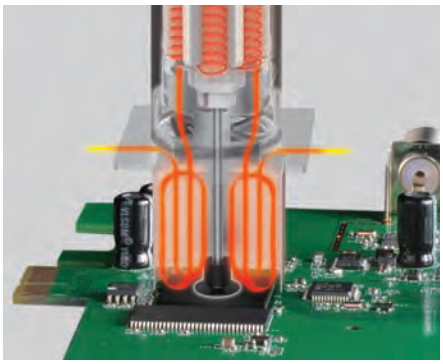
New user friendly functions for SMD rework

Pickup indicator
The indication comes up and the moment of picking up will be visible.

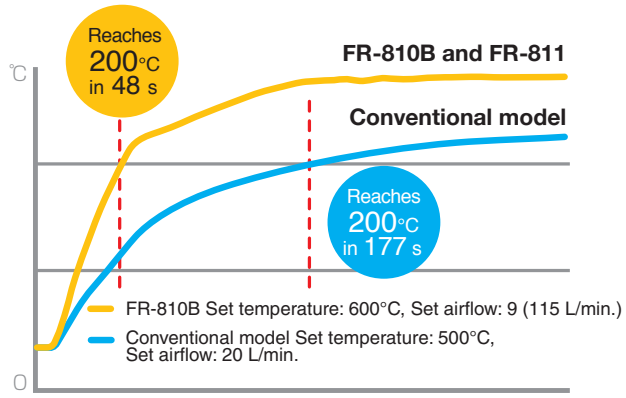
Vacuum pickup function
This can avoid an error to peel off the land by removing components with excessive force.



New type of nozzles
The new nozzles improve work efficiency with uniform heating (Only with BGA nozzles).

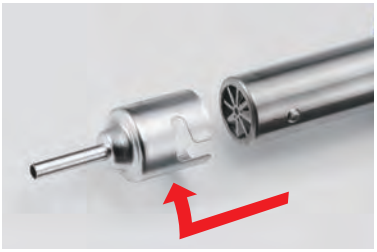


Efficiency improvement
The high volume airflow and high output of FR-810B and FR-811 make it possible to perform the same work in only one-third of the time required when using a conventional model. This reduces the thermal impact on boards and components.



* Examination of time taken for connector sections soldered onto a ceramic board to be heated to 200°C with maximum temperature and airflow settings selected. Single nozzles with an approximately 4 mm diameter were used.

Quick-change N51 nozzles



Simple heater replacement

Packing List

FR-810B	Station with handpiece, Nozzle (ø4 mm), Handpiece holder, Vacuum pipe control knob L (with screw), Pads (qty 2 each. of ø3 mm, ø5 mm, ø7.6 mm), Heat resistant pad, Power Cord, Temperature distribution chart, Instruction manual
FR-811	Station with handpiece, Grip stand assembly, Vacuum pipe control knob L (with screw), Pads (qty 2 each. of ø3 mm, ø5 mm, ø7.6 mm), USB cable, Software (CD-ROM), Thermocouple, Heat resistant pad, Power Cord, Temperature distribution chart, Instruction manual

Option

Part No.	Name	Specifications
C5027	Boad holder	–
C5028	Grip fixture M	With hexagon wrench, o-ring and tray
C5029	Grip fixture L	With hexagon wrench and o-ring
B5098	Boad clip	–
B5136	Boad support unit	–
C5013	Bottom heater	For FR-811

Specifications

Port No.	FR-810B	FR-811
Power consumption	1200 W	
Temperature range	50 to 600°c	
Station		
Power consumption	30 W	
Air flow*	1 to 9 (5 to 115 L/min.)	001 to 100% (5 to 115 L/min.)
Dimensions	160 (W) × 145 (H) × 220 (D) mm	
Weight	1.5 kg	
Handpiece		
Power consumption	1170 W	
Standard nozzle	ø4 mm (No. N51-02)	–
Total length**	250 mm	
Weight**	180 g	

* Air flow capacity is rated as free flowing. Restrictions created by various nozzles may reduce the maximum airflow capacity.
** Without cord

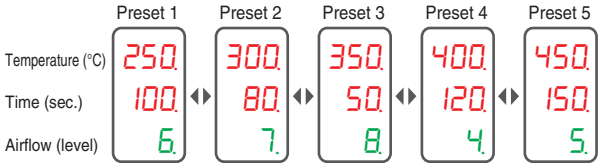
Common Features of FR-810B and FR-811

Auto sleep and auto shutoff features

To ensure safety and conserve power, when the handpiece is placed in the handpiece holder, the auto sleep function is activated and it starts cooling automatically.
If the handpiece has not been removed from the handpiece holder (Example: Using it in a rework fixture) and after it has been idle for 30 minutes, auto shutoff function is activated. It is automatically powered off.
Access to settings can be restricted via the password function for easy management.

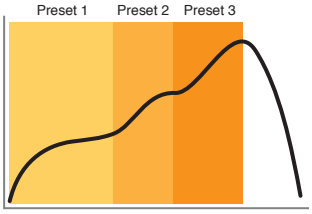
Handpiece holder No.B5048 in the picture can be attached to FR-811 as well (option).

Preset mode



Chain presets function for making a simple thermal profile

The chain presets function is to make a simple thermal profile by combining several preset conditions (Up to 5 steps).



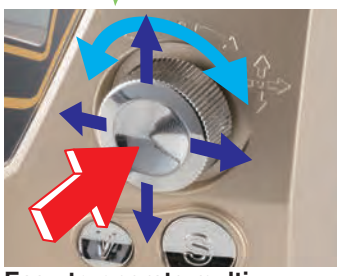
	Temperature (°C)	Time (s)	Airflow
Preset 1	250	100	6
Preset 2	300	40	6
Preset 3	350	50	6
Preset 4	100	000	6
Preset 5	100	000	6

* Presets 4 and 5 have been set to "000", so they are skipped.

Features of FR-811

Interface designed for intuitive operation. Possible to link to a PC.

Easy-to-read LCD



Easy-to-operate multi-direction control knob

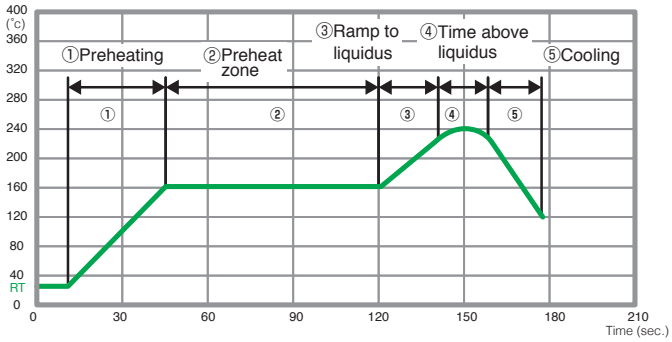
A USB device terminal for easy data transfer

Link to a PC (A USB I/F terminal available)

The functions needed for SMD rework are in a compact body.

Possible to make full-scale thermal profiles with 6-zone hot air and a bottom heater

A basic thermal profile is composed of the 5 parts shown below. FR-811 can provide 6 zones in which temperature, time, and air flow are controlled. Therefore FR-811 can make a full-scale thermal profile which is close to reflow profiles made by a reflow oven.

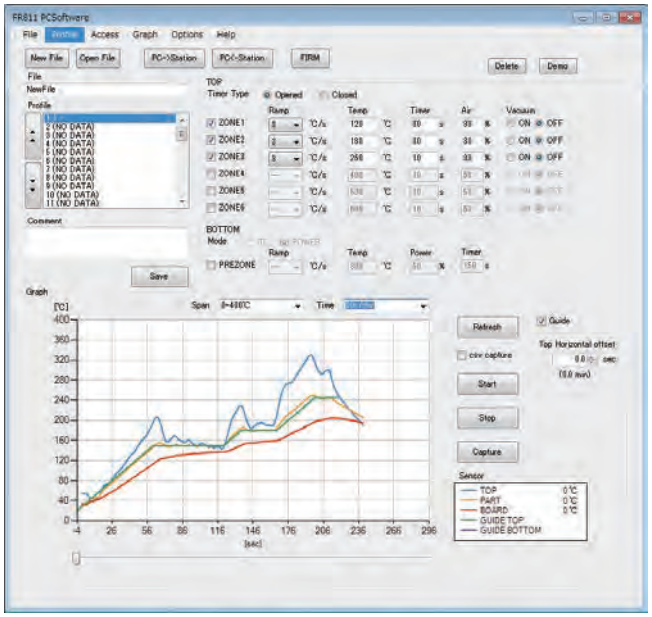


Record thermal data

By connecting a thermocouple included with FR-811, the temperature of the component or circuit board can be measured and recorded. In addition, if “TC LINK” is set, the heater output can be automatically controlled so that the temperature of the thermocouple attached to the component or circuit board follows the set profile.

Operation on a PC for various settings

By connecting FR-811 and a computer with a USB cable and using the dedicated software which comes as standard, a set thermal profile and actual temperature change can be shown in a graph in real time. The set values and graph can be saved in csv format.



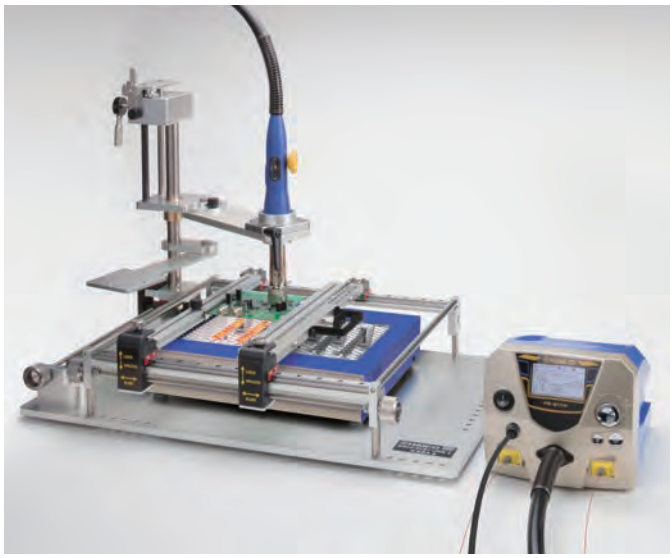
Linked operation with the bottom heater

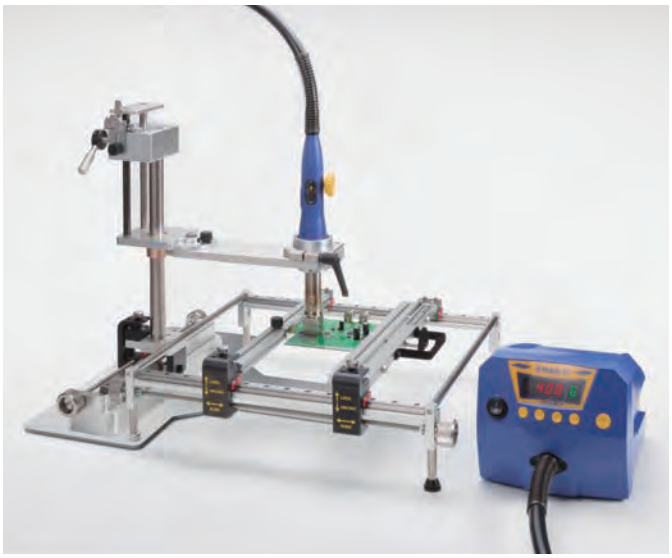
FR-811 can control on/off timing and output of the bottom heater which is available optionally.

Common Features of FR-810B and FR-811

Assembly of a low-cost SMD rework system

A low cost rework system can be assembled with a bottom heater, a grip fixture, and a board holder.
* The following pictures are set-up examples.





Option

Grip Fixture L

A board holder can be easily attached to the large baseplate.

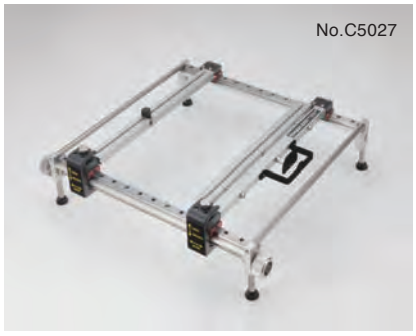
Grip Fixture M

Recommended if a bottom heater is not required or in case of use of a bottom heater other than the dedicated model for FR-811.

The dedicated bottom heater for FR-811

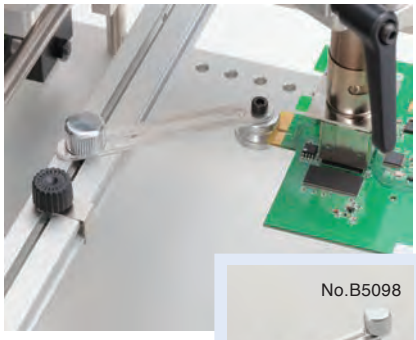
Equipped with carbon heaters.
Heating area is divided into 2 sections.

Board Holder



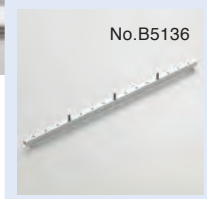
Makes it easy to set and remove a PWB and to make fine adjustments after setting.

Board Clip



Accepts even irregular-shaped PWB.

Board Support Unit



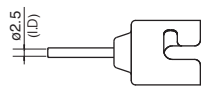
Supports PWB from underneath to minimize its warping.

Optional Nozzles (Quick-change type) for FR-810B, FR-811 and FR-702

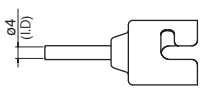
Unit: mm

Single

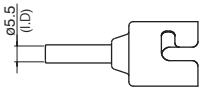
N51-01* Single 2.5



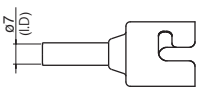
N51-02 Single 4



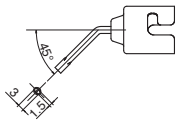
N51-03 Single 5.5



N51-04 Single 7

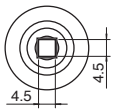


N51-05* Bent Single 1.5 × 3

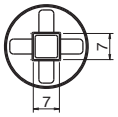


BGA

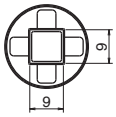
N51-10 BGA 4 × 4



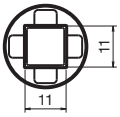
N51-11 BGA 6 × 6



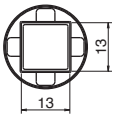
N51-12 BGA 8 × 8



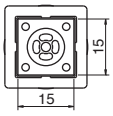
N51-13 BGA 10 × 10



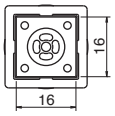
N51-14 BGA 12 × 12



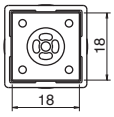
N51-15 BGA 14 × 14



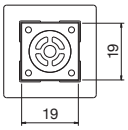
N51-16 BGA 15 × 15



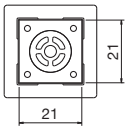
N51-17 BGA 17 × 17



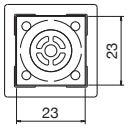
N51-18 BGA 18 × 18



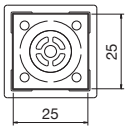
N51-19 BGA 20 × 20



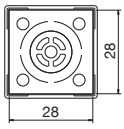
N51-20 BGA 22 × 22



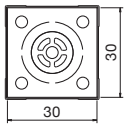
N51-21 BGA 24 × 24



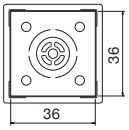
N51-22 BGA 27 × 27



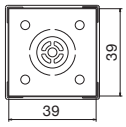
N51-23 BGA 29 × 29



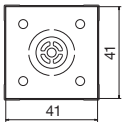
N51-24 BGA 35 × 35



N51-25 BGA 38 × 38



N51-26 BGA 40 × 40



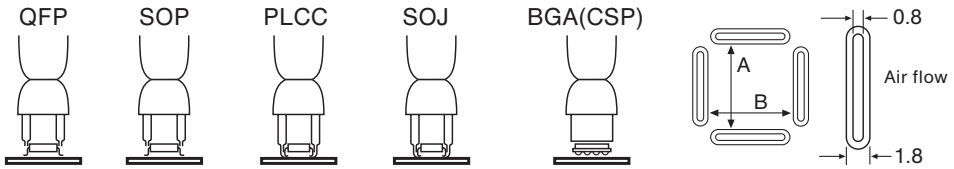
* The vacuum function does not operate with these nozzles.

Single nozzle set (N51-01, N51-03, N51-04, and N51-05) is also available.
* N51-02 included with FR-810B

No. N51-50

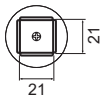
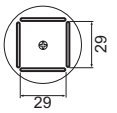
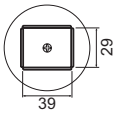
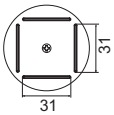
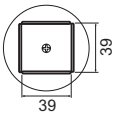
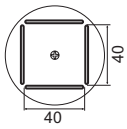
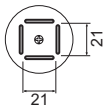
Optional Nozzles (Conventional type) for FR-810B, FR-811 and FR-702

Unit: mm

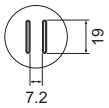
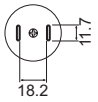
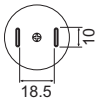


The size in each description indicates the size of the package.

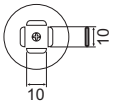
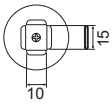
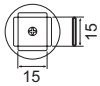
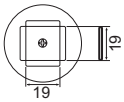
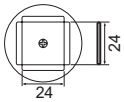
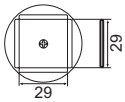
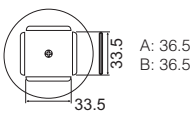
QFP and BQFP

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

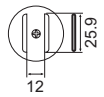
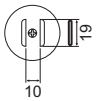
SOP and TSOL

A1131* SOP 4.4 × 10 	**A1132* SOP 5.6 × 13** 	**A1133* SOP 7.5 × 15** 	**A1134* SOP 7.5 × 18** 	**A1258B SOP 7.6 × 12.7** 
A1260B SOP 8.6 × 18 	**A1257B SOP 11 × 21** 	**A1259B SOP 13 × 28** 	**A1185B TSOL 13 × 10** 	**A1186B TSOL 18 × 10** 
A1187B TSOL 18.5 × 8 				

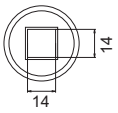
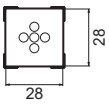
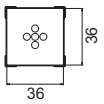
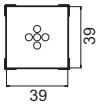
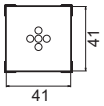
PLCC

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

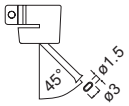
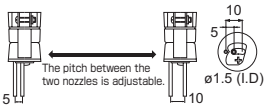
SOJ

A1214B SOJ 10 × 26	A1183* SOJ 15 × 8	A1184B SOJ 18 × 8
		

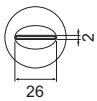
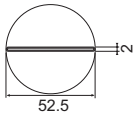
BGA

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

Single

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

SIP

A1191* SIP 25L	A1192* SIP 50L
	

* The vacuum function does not operate with these nozzles.

HAKKO FR-701 ESD SAFE

Repair System Digital

for LEAD FREE · ESD SAFE · RoHS · CE

Soldering · Soldering (Option) · Soldering (Option) · Desoldering · Rework (Option)

Auto off · SLEEP · Low ℃ · OFFSET · PRE ℃

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

Features

For information on features of soldering iron, see P. 13.
For information on features of desoldering tool, see P. 57.
NOTE: Auto Shutoff Function and Auto Sleep Function are available for desoldering tool only.

Packing List

FR-701	Station, Soldering iron (FX-8801), Desoldering tool (FR-4101), Iron holder for soldering iron (with cleaning sponge and wire), Iron holder for desoldering tool (with cleaning wire), Tool box (Cleaning pin for ø1.0 mm, Cleaning pin for heating element, Cleaning drill for ø1.0 mm, Nozzle wrench, Filter [qty 2], Ceramic paper filter L [qty 4]), Power cord, Instruction manual

Replacement Tips and Nozzles

For information on optional irons and replacement tips, see P. 15 to 17.
For information on replacement nozzles for desoldering tool, see P. 57.

Specifications

Part No.	FR-701
Power consumption	260 W
Station (Soldering iron)	
Output voltage	AC 26 V
Temperature range	50 to 480℃
Temperature stability	±1℃ at idle temperature (when set to 200 to 480℃)
Station (Desoldering tool)	
Output voltage	AC 24 V
Vacuum generator	Vacuum pump, double cylinder type
Vacuum pressure	Max. 80 kPa (600 mmHg)
Suction flow	15 L/min.
Temperature range	330 to 450℃
Temperature stability	±5℃ at idle temperature
Station	
Dimensions	190 (W) × 140 (H) × 220 (D) mm
Weight	6.2 kg
Soldering Iron	
Power consumption	65 W (26 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Ceramic heater
Standard tip	Shape-B (No. T18-B)
Cord length	1.2 m
Total length*	217 mm (with B tip)
Weight*	46 g (with B tip)
Desoldering tool	
Power consumption	140 W (24 V)
Nozzle to fround resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Standard nozzle	ø1.0 mm S type (No. N61-05)
Cord length	1.2 m
Total length**	168 mm (with ø1.0 mm S type nozzle)
Weight**	170 g (with ø1.0 mm S type nozzle)

* Without cord
** Without cord and hose

HAKKO REWORK SYSTEM FR-702 ESD SAFE

Rework System Digital

for LEAD FREE · ESD SAFE · RoHS · CE

Soldering · Soldering (Option) · Soldering (Option) · Desoldering · Rework (Option) · Rework

Auto off · SLEEP · Low °C · OFFSET · PRE °C

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

Features

For information on features of soldering iron, see P. 13.
For information on features of desoldering tool, see P. 57.
For information on features of hot air, see P. 61 to 62 (Common features).
NOTE: Auto Shutoff Function and Auto Sleep Function are available for desoldering tool and hot air only.
Low Temperature Error Alert is available for soldering iron and desoldering tool only.

Packing List

FR-702	Station with hot air handpiece, Nozzle (ø4 mm) for hot air, Handpiece holder for hot air, Vacuum pipe control knob L (with screw), Pads (qty 2 each of ø3 mm, ø5 mm, ø7.6 mm), Soldering iron (FX-8801), Desoldering tool (FR-4101), Iron holder for soldering iron (with cleaning sponge and wire), Iron holder for desoldering tool (with cleaning wire), Tool box (Cleaning pin for ø1.0 mm, Cleaning pin for heating element, Cleaning drill for ø1.0 mm, Nozzle wrench, Filter [qty 2], Ceramic paper filter L [qty 4]), Heat resistant pad, Color band (qty 2), Power cord, Instruction manual

Replacement Tips and Nozzles

For information on optional irons and replacement tips, see P. 15 to 17.
For information on replacement nozzles for desoldering tool, see P. 57.
For information on replacement nozzles for hot air, see P. 65 to 67.

Specifications

Part No.	FR-702
Power consumption	1530 W

Station (Soldering iron)

Output voltage	AC 26 V
Temperature range	50 to 480℃
Temperature stability	±1℃ at idle temperature (when set to 200 to 480℃)

Station (Desoldering tool)

Output voltage	AC 24 V
Vacuum generator	Vacuum pump, double cylinder type
Vacuum pressure	Max. 80 kPa (600 mmHg)
Suction flow	15 L/min.
Temperature range	330 to 450℃
Temperature stability	±5℃ at idle temperature

Station (SMD rework station)

Power consumption	30 W
Air flow*	1 to 9 (5 to 115 L/min.)
Temperature range	50 to 600℃

Station

Dimensions	370 (W) × 150 (H) × 220 (D) mm
Weight	9 kg

Soldering Iron

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

Desoldering tool

Power consumption	140 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Standard nozzle	ø1.0 mm S type (No. N61-05)
Cord length	1.2 m
Total length***	168 mm (with ø1.0 mm S type nozzle)
Weight***	170 g (with ø1.0 mm S type nozzle)

Handpiece (Hot air)

Power consumption	1170 W (230 V)
Standard nozzle	ø4 mm (No. N51-02)
Total length**	250 mm
Weight**	180 g

* Air flow capacity is rated as free flowing. Restrictions created by various nozzles may reduce the maximum airflow capacity.
** Without cord.
*** Without cord and hose.

HAKKO FR-830 ESD SAFE

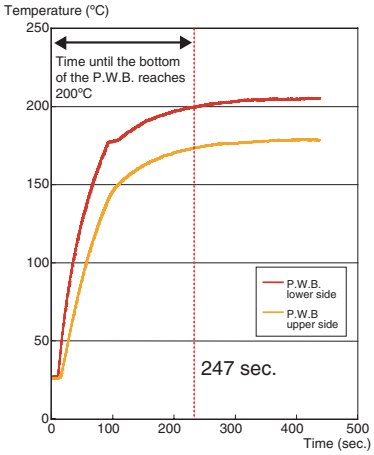
PREHEATER

Preheater Analog

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

Features

Preheating in a short time



Test criteria

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

Packing List

FR-830	Unit, Power cord, Instruction manual

Specifications

Model No.	FR-830
Power consumption	250 W
Air flow	0.15 m³/min. (fan capability)
Temperature range	150 to 300°C (above the hot air outlet)
Dimensions*	140 (W) × 75 (H) × 185 (D) mm
Weight	0.75 kg

* The height (H) is the distance from the bottom of the feet to the top of the exhaust outlet.

Option

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

HAKKO SPPON DESOLDERING TOOL

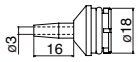
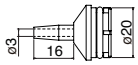
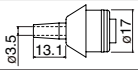
Desoldering Tool

Nozzle included

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

Replacement Nozzles

Unit : mm

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

Specifications

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

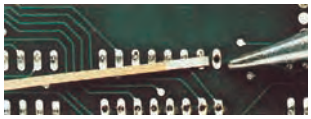
HAKKO WICK DESOLDERING WIRE

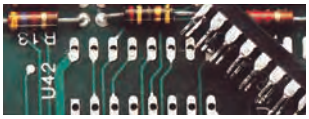
Desoldering Wire

- Economical and easy-to-use desoldering wire

Features

Through-hole solder removal





Bridging solder removal

Specifications

Regular type (Flux)

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

Unflux type (Unflux)

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

No clean type (Low residue flux) ESD SAFE package

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