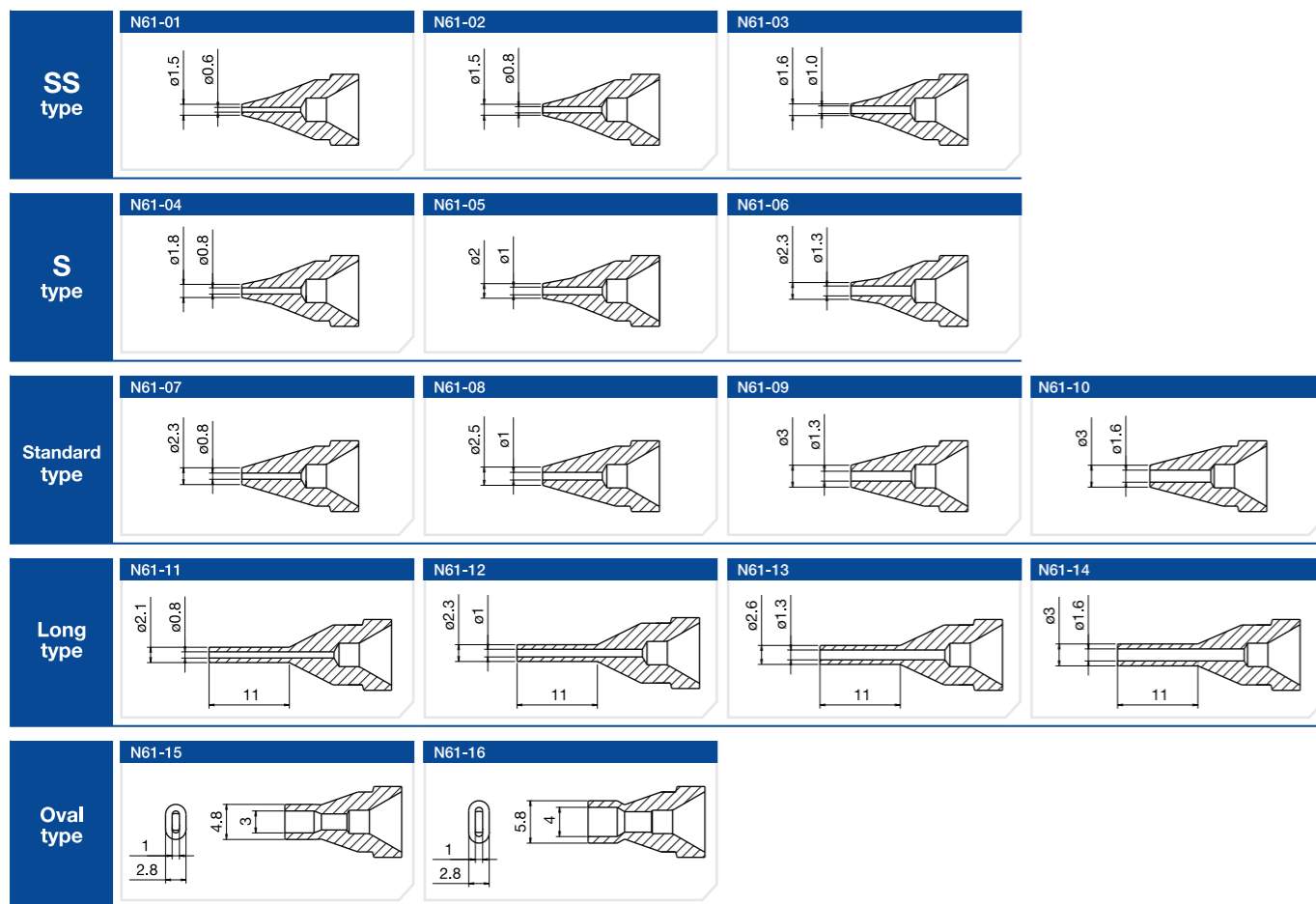


Replacement nozzles

(Unit: mm)



Desoldering • Rework

Station Type  
Desoldering Tool

**HAKKO FR-410** ESD SAFE  
DESOLDERING TOOL

**High Power of 140 Watts !  
Ideal for Micro Land Pattern  
and Narrow Space**

NEW



**FR-410**

Packing list



Station, Desoldering tool (FR-410), Iron holder (with cleaning wire), Power cord, Tool box (Cleaning pin for  $\phi 1.0$ mm, Cleaning pin for heater, Cleaning drill for  $\phi 1.0$ mm, Nozzle wrench, Filter [qty 2], Ceramic paper filter [qty 4], Instruction manual

Specifications

|                             |   |
|-----------------------------|---|
| Power consumption           | 190 W                                       |
| Temperature range           | 330 to 450°C                                |
| Temperature stability       | $\pm 5^\circ\text{C}$ at idle temperature   |
| <b>Station</b>              |   |
| Output voltage              | AC 24 V                                     |
| Vacuum generator            | Double cylinder type                        |
| Vacuum pressure             | 80 kPa ( 600 mmHg )                         |
| Suction flow                | 15 L /min.                                  |
| Dimensions                  | 165 ( W ) x 137 ( H ) x 244 ( D ) mm        |
| Weight                      | 4.8 Kg                                      |
| <b>Desoldering tool</b>     |   |
| Power consumption           | 140 W ( 24V )                               |
| Nozzle to ground resistance | < 2 $\Omega$                                |
| Nozzle to ground potential  | < 2 mV                                      |
| Heating element             | Composite heater                            |
| Standard nozzle             | $\phi 1.0$ mm S type ( Part No.N61-05 )     |
| Cord length                 | 1.2 m                                       |
| Total length (without cord) | 168 mm ( with $\phi 1.0$ mm S type nozzle ) |
| Weight (without cord)       | 170 g ( with $\phi 1.0$ mm S type nozzle )  |

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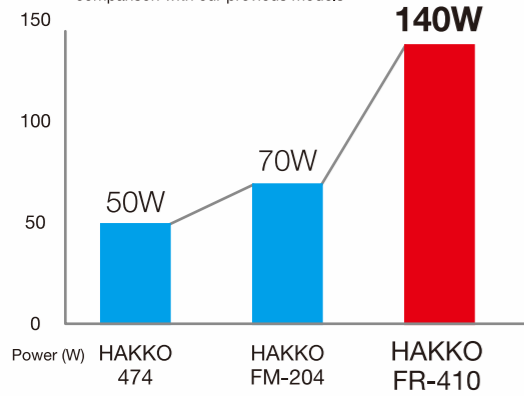
# 140 W high powers enable perfect desoldering for the components on multi-layer PWB

3 times more powerful than the previous models!  
The high power makes it easy to desolder on multi-layer PWB.

\*HAKKO 474 · 475

### Heating power

almost **3 times increased**  
comparison with our previous models



## Unique functions increase desoldering work efficiency

### Secure desoldering - High suction pressure with valve function

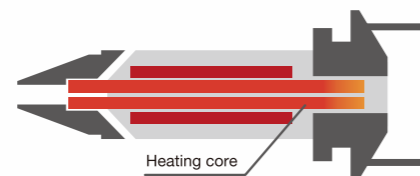
Suction starts 0.2 seconds after pulling the trigger for immediate and high pressure suction to achieve complete desoldering.



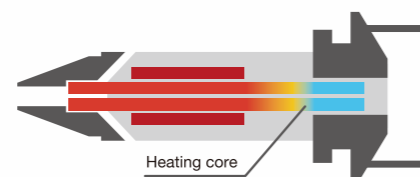
### Reduction of solder clogging

#### 1. Improvement in heating core

Heating ability for backside of heating core is increased to ensure suctioned solder be carried to filter pipe.



**HAKKO FR-410**  
No solder clogging due to higher temperature at the back side of heating core



**previous model**  
Solder clogs at the backside of heating core

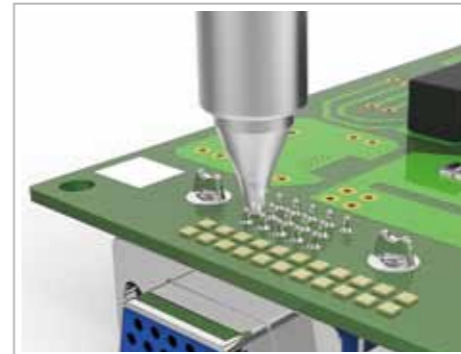
Image

#### 2. Featuring ACF (Anti Clogging Function)

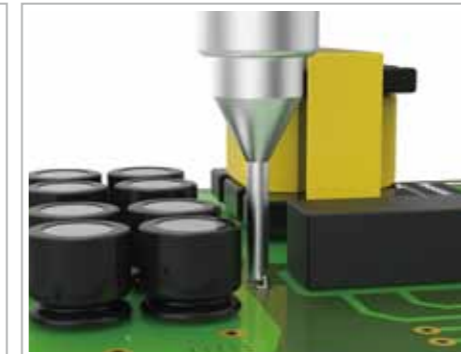
ACF ensures suctioned solder be carried to filter pipe by keeping pump running for a certain period of time (1 to 5 seconds) automatically after releasing trigger.

# A wide selection of nozzle is available for a variety of desoldering works

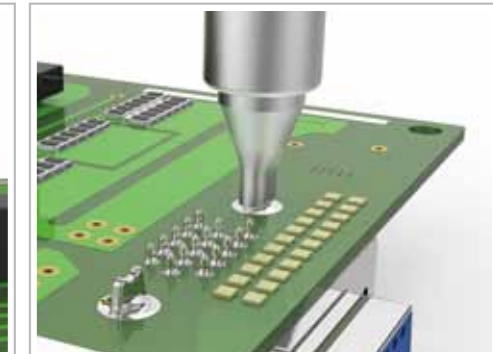
New added nozzles make it possible to desolder even on micro lands, components in narrow space and flat type terminals



**SS type nozzles for micro land-patterns**  
Close-fitting nozzles on micro land pattern secure desoldering.



**Long type nozzles for narrow space**  
Slim and long nozzles reach to target easily in a narrow space.



**Oval shape nozzles for flat type terminals**  
No solder left-over because of the nozzles that match square shape terminals.



### Improvement in maintainability

#### 1. Easy nozzle replacement

The dedicated wrench allows safe, easy and smooth nozzle replacement.



#### 2. Easy heater replacement

Easy heater replacement by removing 3 screws on the part of heating core.



#### 3. Lager filter and more transparency

Filter size has been increased to protect the pump from contaminants, and transparent filter cover allows quick visual check of the filter condition.



#### 4. Tool box

FR-410 comes with a tool box that contains of maintenance tools to keep nozzle and heater in a good condition.



### Easy-to-read large LCD

The large LCD display clearly shows set temperature and indicates a level of solder clogging.



Suction with no clogging



Suction with clogging