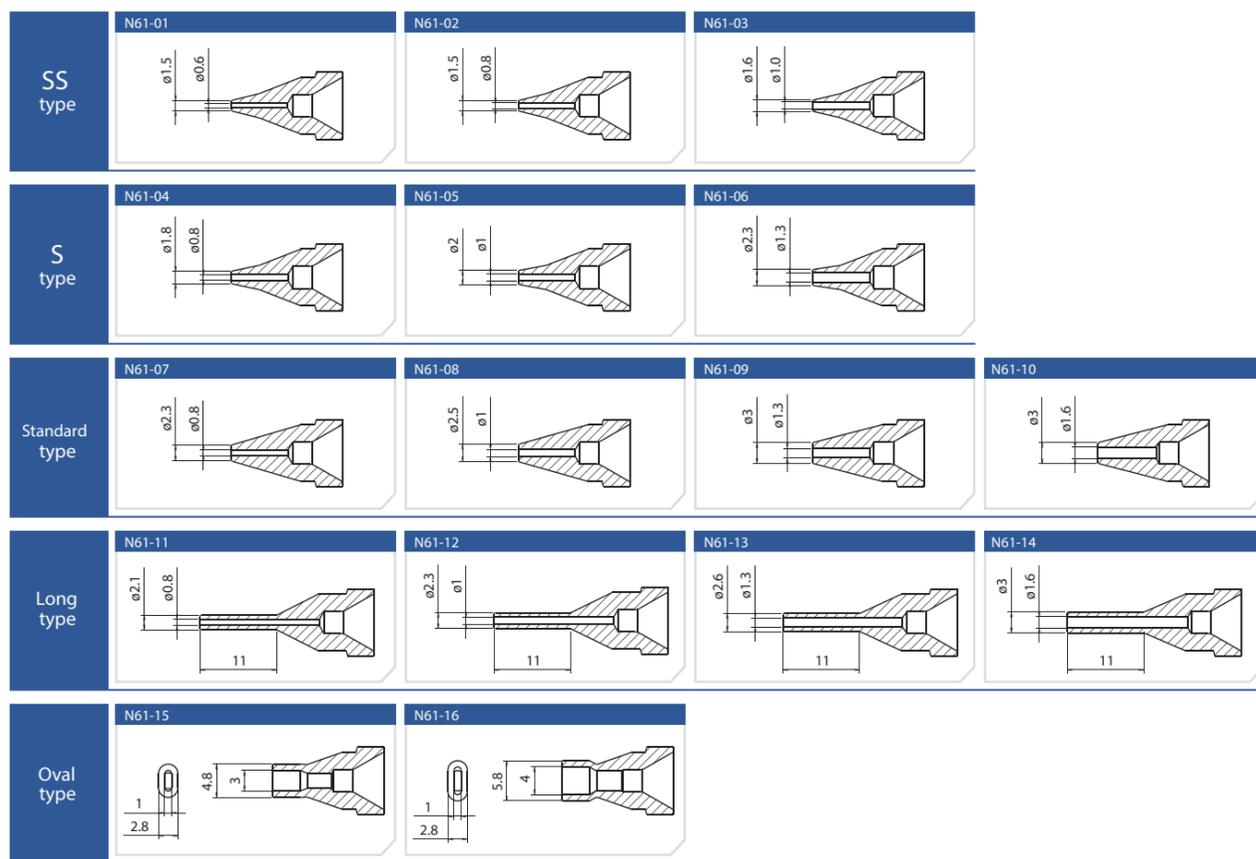


Desoldering Nozzles

(Unit: mm)



FR-410

Contents



Station, Desoldering tools (FR-4101 and FR-4102), Iron holder (with cleaning sponge), 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

Part Number: FR410-02 includes FR-4101 Gun type desoldering tool  
Part Number: FR410-03 includes FR-4102 Pencil type desoldering tool

Specifications

Power consumption	190W
Temperature range	330 - 450°C (620 - 850°F)
Temperature stability	$\pm 5^\circ\text{C}$ (9°F) at idle temperature

Station

Output voltage	AC 24 V
Vacuum generator	Vacuum pump, double cylinder type
Vacuum pressure	80 kPa ( 600 mmHg )
Suction flow	15 L /min.
Dimensions	165 (W) x 137 (H) x 244 (D) mm , (6.5 x 5.4 x 9.6 in.)
Weight	4.8 Kg (10.6 lb.)

Desoldering Tools	Hakko FR-4101 (Gun type)	Hakko FR-4102 (Pencil type)
Power consumption	140W (24V)	140W (24V)
Nozzle to ground resistance	< 2 $\Omega$	< 2 $\Omega$
Nozzle to ground potential	< 2 mV	< 2 mV
Heating element	Composite heater	Composite heater
Standard nozzle	N61-05	N61-05
Cord length	1.2 m (4 ft.)	1.2 m (4 ft.)
Total length (without cord)	168 mm (6.6 in.) w/ N61-05	206 mm (8.1 in.) w/ N61-05
Weight (without cord)	170 g (0.38 lb.) w/ N61-05	160 g (0.35 lb.) w/ N61-05

- Temperature was measured using the Hakko FG-101 station tester.
- This product is protected against electrostatic discharge.
- Specifications and design are subject to change without notice.

FR410BRO Rev. 2016-02



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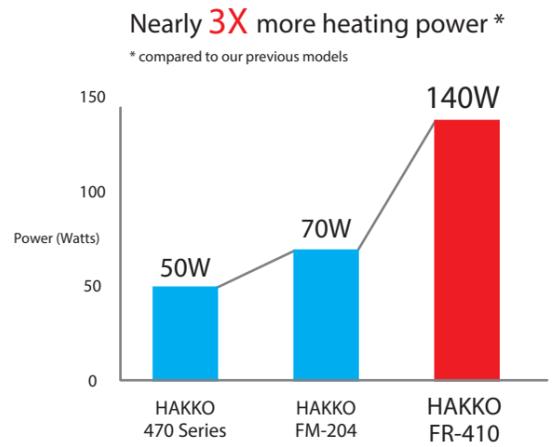
HAKKO FR-410 ESD SAFE  
DESOLDERING TOOL

140W Heavy Duty Desoldering Station

Excellent for desoldering small land patterns and difficult to reach lands in narrow spaces



# 140 watts delivers the power to desolder components on multi-layer PWBs



## Unique features increase desoldering work efficiency

### Advanced vacuum system for near instant vacuum

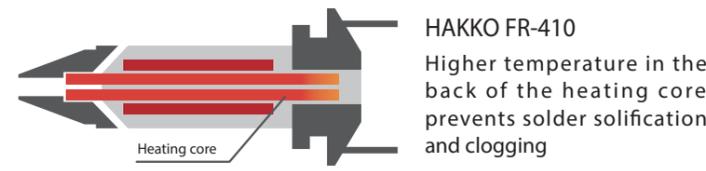
Suction starts 0.2 seconds after pulling the trigger, allowing for a buildup of vacuum which is then applied to the solder joint for an instant high power vacuum and complete desoldering.



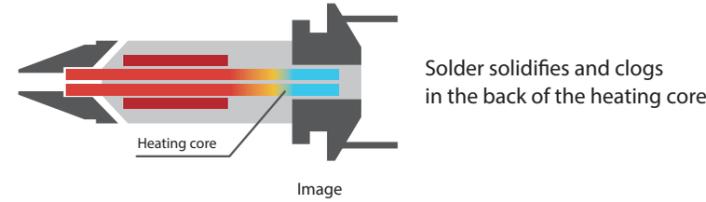
### Reduce Solder Clogging

#### 1. Improved Heater Core

Increased heating at the back end of the heating core helps ensure molten solder is sucked into the filter pipe.



— VS —

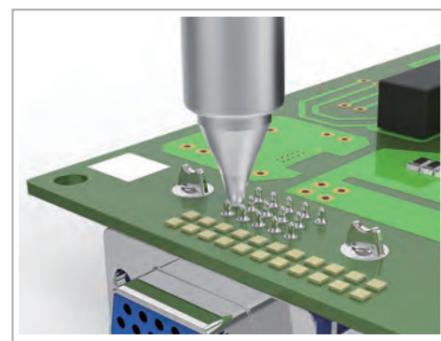


#### 2. Special Anti Clogging Feature (ACF)

After releasing the trigger, the ACF ensures proper application of suction so that the solder in the heater core is sucked and carried all the way into the filter pipe (the pump continues to run for an extended period of time [1 - 5 sec]).

# Wide selection of nozzles for a variety of desoldering applications

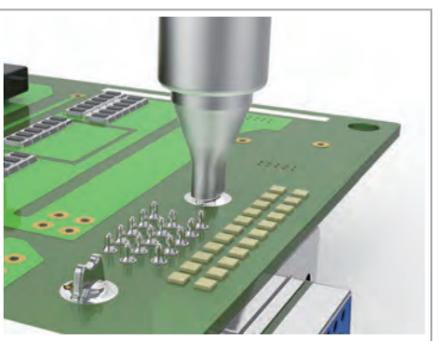
Newly designed nozzles now make it possible to desolder on micro lands, components in difficult to reach narrow spaces and on flat terminals.



"SS" type nozzles for micro land patterns  
Close-fitting nozzles on micro land patterns for reliable desoldering.



"Long" type nozzles for narrow space  
Use slim and long nozzles for difficult to reach components in a narrow spaces.



"Oval" shape nozzles for flat type terminals  
Nozzles match shape of land for thorough desoldering, eliminating residual solder.

## Ease of Maintenance

- 1. Easy nozzle replacement**  
Specially designed wrench for easy and safe nozzle replacement.
- 2. Easy heater replacement**  
Simply remove three screws.
- 3. Large transparent filter**  
Increased filter size protects the pump from contaminants and the transparent filter cover allows quick visual check of the filter condition.
- 4. Basic maintenance kit included**  
An assortment of basic tools to keep your desoldering nozzles and heater in proper working condition.



## Easy-to-read large LCD

Large temperature display with vacuum indicator to prevent clogging and loss of suction power.



Suction with no clogging



Suction with clogging

