

U.S.A.



















### Experience a Whole New Level

350°°

Automobiles, smartphones, computers, home electric appliances, etc.. Soldering is supporting our daily life in various aspects. Hakko, as a manufacturer of soldering equipment, has been working closely with users to solve their problems in order to meet the needs of soldering all over the world. Now, "the standard", which has been contributing to the soldering industry for years, is evolving. Then, we keep supporting a variety of manufacturing sites, such as laboratories, developments, productions, reworks, etc.

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HAK



940B 1st Generation

The composite-type soldering tip that integrated tip and sensor, was newly developed, which has better thermal recovery than the conventional soldering tip separated from the heater/sensor.

### 1999 >>

The global transition to lead-free solder moved forward. A major electronics manufacturer started using lead-free solder in Japan for the first time.



942 2nd Generation

Responding to the growing needs for high thermal capacity brought by lead-free soldering, 75 W soldering iron debuted.

### >> 2001 >>

3G communications started Multi-layered P.W.B. and smaller components of communication equipment advanced.





### FX-951 3rd Generation

FX-952 3rd Generation

Those two models were equipped with auto-sleep and auto-shutoff functions as standard, which are effective in inhibiting tip oxidation. They took over the 942's performance in the new design and were more lead-free oriented.

### >> 2005 >>

Lead-free soldering became standard in the world.





FM-202 2nd Generation A multi-playing station for soldering, desoldering, and SMD rework.



FM-203 3rd Generation 2-port multi-playing station for soldering, desoldering, and SMD rework.

Keep up with the changes in electronic components and the environment surrounding soldering.

## >>> **2023** >>>

### **4th Generation**

Thanks to Hakko's customers who keep using the products, we have been supplying those models to the market for over twenty years.

We will strive perseveringly in manufacturing to appreciate the customers' support and patronage with the spirit of "It's for you."





### >> 2012 >>

4G communications started. Alongside the spread of smartphones, the multi-layering of P.W.B. and miniaturization of components such as 0402 advanced. While, solar panels, automotive capacitors, and power modules grew in size.



FX-971 · FX-972

### A new level of workability not experienced ever



# 100POWER













### New composite tip (PATENTED)

With improved sensor sensitivity and the design that smoothly transfers the heat from the heater to the tip, the tip temperature stables and it ensures better soldering.



### Cycle time reduced by approx. 40%

It enables soldering in a shorter time and improves work efficiency.

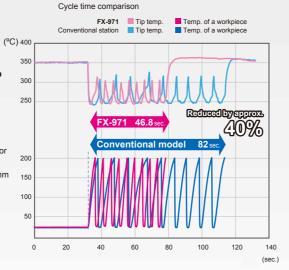
Test criteria : Time until the solder portion on the workpiece reaches 200°C is measured for 10 points. 0.6 mm dia. on the copper plate of 1.5 mm Workpiece Set temp. : 350°C : Lead-free solder (Sn/Aq/Cu) Solder



### Tips for any soldering at various scenes

The well-selected line-up of soldering tips. Soldering that was previously impossible or time-consuming can be improved with the tips in new shapes

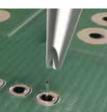








T39-BCR1235





T39-DS32

T39-DR16







High visible display



It shows information such as set temperature, tip's sensor temperature, and preset setting, clearly and widely.

The viewing angle is wide, and the high-brightness display provides high visibility

Tip sensor temperature Preset number and temperature **P**3

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### Intuitive operation

Various settings can be easily configured using four buttons.











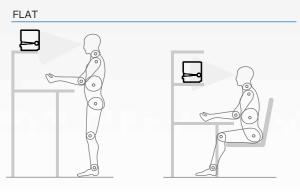


### Adjustable display angle for better visibility and operation

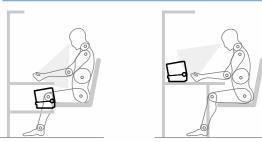


Tilt mechanism for easy viewing and operation of the screen display depending on the installation location, e.g., on or under the workbench or on the rack.





TILT







### Infrared communication

Automatic calibration and correction can be completed by sending the measured temperature value of the thermometer (FG-100B/FG-101B), via infrared.



\*Photo is FG-100B.



Iron holder

Software

human error.



**...** 

The newly designed iron holder allows easy and safe tip replacement with a tip removing attachment and tip insertion holder.

By connecting the station to the PC, the tip set temperature,

calibration/correction and the temperature history of the tip during

operation are recorded on the PC, enabling management with zero

350."



### FX-972

### 200W 2-port multi-station

Useful 2-port type. Other than using 8 different applications, it has functions to improve work efficiency at various scenes.

HAKCO

EX-97:

Multi-connection support

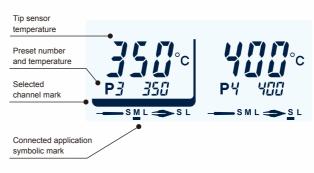


8 different applications can be used without specifying the connecting port.

Large display with information



The large display shows the tip sensor temperature, the preset temperature, and the connected application for each of the two ports.





The built-in sensor of the tip inside makes it possible to use auto-sleep and auto-shutoff functions without connecting the station and the iron holder, and it helps to lay out the station and iron holder freely in the working space.

Auto-sleep

Auto-shutoff



### **Priority channel**



A built-in sensor detects the handpiece in use and automatically switches channels. The unused handpiece stands by at the set temperature.





FX-9701 Soldering iron FX-9702 N2 soldering iron





T39-BCR1235



### Tip for any soldering at various scenes

The well-selected line-up of soldering tips. Soldering that was previously impossible or time-consuming can be improved with the tips in new shapes.

### Soldering iron working with N2 system

Most soldering tips in the T39 series can be used for both regular type iron and N2 type iron commonly. There is no need to keep and use a different tip by a same shape.

### Iron holder

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Stable die-cast iron holder. The soldering tip can be attached or detached safely.



### FX-9703 Micro soldering iron FX-9704 Micro N2 soldering iron

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### Fine soldering tips with high power

Output power 70W is the best in its class. The new heater achieves an instant startup in 3 seconds after being powered on for immediate work. Heat damage can be avoided by using N2 gas.

#### Specialized in precise soldering

The distance from the tip end to the handle is only 27mm. Gripping the handpiece like a pencil makes it easy to approach fine

components with high precision.



T50-J01



The cable diameter is 3.6mm, and the weight of the handpiece is only 14 grams. You can enjoy stress-free soldering work due to easy handling.



FX-9707Heavy-duty soldering ironFX-9708Heavy-duty N2 soldering iron

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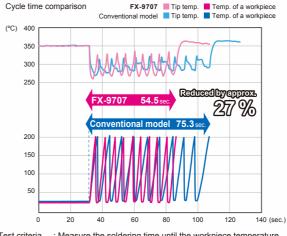


### Heavy-duty and high power

High power 200W is the best for heat absorbing work such as significant components like a shield case and coil or multilayered P.W.B.

#### Cycle time reduced by approx. 27%

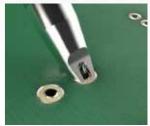
In addition to the increased power to 200 W, the synergistic effect of the new heater construction and the newly designed tip shapes help to reduce the cycle time by approximately 27% and improves work efficiency.



 Test criteria
 : Measure the soldering time until the workpiece temperature reaches 200°C at 10 soldered points.

 Workpiece
 : diameter 12mm, thickness 1.5mm copper plate

 Temperature setting : 350°C
 Solder
 : Lead-free solder (Sn-Ag-Cu)



T53-BCR1645

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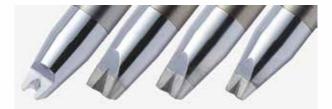


### Shorter cycle time

Thermal characteristics have been improved by approx. 27% compared to the conventional models.

### Flow-up effective soldering tip with V-groove

New 4 kinds of soldering tips with V-groove added, making 14 kinds of tips line-up in total. It contributes to improving solder flow-up with wider contact area to the lands or leaded parts.



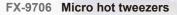
### Easy handling

The cable diameter is only 4.4mm. The handle part is thinner and lighter than the conventional model and it brings stress-free work for heavy-duty use type handpiece.





















High power 140 W (70 W x 2) It is useful for the fine components such as 0402 chips with a quick action.

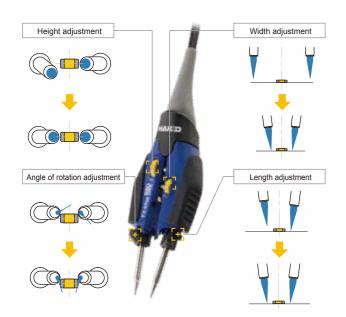
### /PES ALIGNMENT

### Accurate contact with micro-components

Accurate contact with components improves heat transfer and workability.

#### 4 adjustment mechanisms

Height, width, angle of rotation and length can be adjusted.



### Improved operability

The asymmetrical design fits the handle and provides stability. The heat-resistant cover reduces operator strain, and its compact design makes operation easy.



### Iron holder

Stable die-cast iron holder. The soldering tip can be detached safely. Both cleaning sponge and cleaning brush are on the iron holder.







FX-9705 Hot tweezers

### **...**

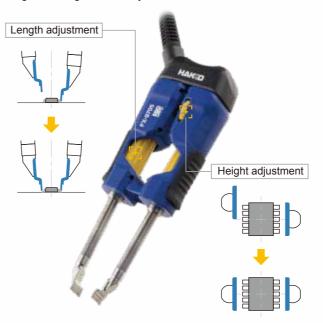


### High power

190 W (95 W x 2) It is useful for 1005 chips as well as the SOP components with a quick action.

### 2 adjustment mechanisms

Height and length can be adjusted.





T51-L3



T51-LA6



### Accurate contact with components

The new tip shapes in the line-up allow two different handling styles.

### Improved operability

Handle design that fits the hand and provides stability. With the two different ways of handling, precise contact with the component is possible.





#### Iron holder

Stable die-cast iron holder. The soldering tip can be detached safely. Both cleaning sponge and cleaning

wire are on the iron holder.

