## Optional tips - No offset required

### Temperature accuracy ±1°C without offset

The highest quality of products are selected and refined using advanced technology and stringent inspection processes to ensure high-precision performance. The HAKKO FX-951 is the standard model for lead-free soldering, which includes a complete set of tools and accessories designed for professional use.

### Hakko FX-951 Soldering Station

The Hakko FX-951 soldering station is equipped with advanced features such as a high-precision temperature control system, ensuring consistent and accurate soldering results. It is designed to meet the needs of professional users in various industries.

### Hakko Tips

Hakko's range of tips includes various shapes and sizes, making it possible to choose the right tool for every application. The tips are specifically designed for high-quality soldering, ensuring a strong and reliable bond.

### Hakko Accessories

Hakko offers a wide range of accessories to complement the FX-951 soldering station, including quick-action tips, desoldering tools, and cleaning solutions. These accessories are designed to enhance the efficiency and effectiveness of the soldering process.

### Hakko Soldering Tips

Hakko's soldering tips are precision-engineered to provide a wide range of options for different soldering needs. They are made from high-quality materials to ensure durability and performance.

### Hakko Desoldering Tools

Hakko's desoldering tools are specifically designed to remove solder from difficult areas, making it easier to perform precise repairs. They are built to withstand heavy use and provide excellent performance.

### Hakko Cleaning Solutions

Hakko's cleaning solutions are formulated to remove flux residue and solder from tips, ensuring they remain clean and efficient. These solutions are designed to extend the life of your tools and maintain their performance.

### Hakko Calibration and Testing

Hakko offers calibration and testing services to ensure the accuracy of your tools and the quality of your soldering work. They provide a range of services, from basic calibration to comprehensive testing, to meet the needs of professional users.

### Hakko Customer Support

Hakko provides excellent customer support to help you find the right tool for your application. Their knowledgeable staff can answer your questions and help you select the best tools for your project.

### Hakko Soldering Tips Information

- **T10-05 Shaped L**: 5-shaped L: 5
- **T10-06 Shaped L**: 5-shaped L: 6
- **T10-09 Shaped L**: 9-shaped L: 9
- **T10-11 Shaped L**: 11-shaped L: 11
- **T10-15 Shaped L**: 15-shaped L: 15
- **T10-17 Shaped L**: 17-shaped L: 17

### Hakko Desoldering Tools Information

- **T10-28**: 28-shaped T: 28
- **T10-32**: 32-shaped T: 32

### Hakko Cleaning Solutions Information

- **T10-12**: 12-shaped L: 12
- **T10-18**: 18-shaped L: 18

### Hakko Calibration and Testing Information

- **T10-03**: 3-shaped L: 3
- **T10-07**: 7-shaped L: 7

### Hakko Customer Support Information

- **T10-04**: 4-shaped L: 4
- **T10-08**: 8-shaped L: 8

### Hakko Soldering Tips and Desoldering Tools

Hakko's soldering tips and desoldering tools are specifically designed for professional use. They come in a variety of shapes and sizes, ensuring you have the right tool for every application.

### Hakko Cleaning Solutions and Calibration

Hakko's cleaning solutions and calibration services ensure your tools remain efficient and effective. They offer a range of services to meet your needs, from basic cleaning to comprehensive testing.

### Hakko Customer Support and Assistance

Hakko's customer support team is available to help you find the right tool for your project. They can answer your questions and provide advice to ensure you get the best results.

### Hakko Soldering Tips and Desoldering Tools

- **T10-03**: 3-shaped L: 3
- **T10-07**: 7-shaped L: 7

### Hakko Cleaning Solutions and Calibration

- **T10-12**: 12-shaped L: 12
- **T10-18**: 18-shaped L: 18

### Hakko Customer Support and Assistance

- **T10-04**: 4-shaped L: 4
- **T10-08**: 8-shaped L: 8

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**Please access the following for the other sales affiliates and distributors:**

http://www.hakko.com

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HAKKO’s advanced lead-free soldering model added safe function and upgrading performance.

**Excellent thermal control**
- Shows great thermal recovery and thermal accuracy
- The composite tip combining heating element and sensor allows great thermal recovery and thermal accuracy.

**User-friendly design**
- Space-saving vertical design allows more space on the work bench.
  - The neat and compact design conforms to the work space more easily. Dimensions: 90(W) x 130 (H) x 131 (D) mm
- User-friendly iron holder
  - The angle can be adjusted to suit the individual working style.
  - The unit can be used with HAKKO 3902 instead of a cleaning sponge.
  - No water is required.
- Thermal control function
  - The temperature setting can be locked with the control card.
  - An alarm can be set to inform reaching the preset lower limit.
  - The digital display makes it easier to offset the temperature.
- Safe design
  - ESD safe by design.
  - Various kinds of information by a buzzer or display.

**Specifications**
- HAKKO FX-451 soldering station
  - Power consumption: 19 W
  - Temperature range: 200–500°C
  - Temperature stability: ±1°C
- Station
  - Output: 24V
  - Dimensions: 90(W) x 130(H) x 131(D) mm
  - Weight: 1.25 kg
- HAKKO FM-2028 soldering iron
  - Tip diameter: 1.6 mm
  - Tip length: 100 mm
  - Tip type: Soldering iron
  - Tip material: Barber-Colman

**Packing List**
- Station: 1
- Iron: 1
- Power cord: 1
- Connecting cable: 1
- Iron holder (FH-200): 1
- Heat resistant pad: 1

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**No offset required**
New series of tip for excellent temperature accuracy ±1°C without offset.

**Sleeve assembly in 4-color**
- Yellow, blue, orange and green color sleeve assemblies are available.
- Workability increases if sleeves are changed according to the tip shape and job application.

**Sleep function to minimize oxidation of tip**
The sleep function operates while being linked to the iron holder. After the iron is inserted into the iron holder, the sleep function activates for an arbitrarily set time (0 to 29 min.) and the tip temperature will decrease to 200°C.

**Auto power shut off function**
The auto power shut off function operates while being linked to the iron holder. Auto power shut off activates 30 minutes after the iron is inserted into the iron holder.

**Solder-splashing prevention**
A higher side plate of the iron holder prevents solder from splashing when placing the tip.