



JBC PHNEK Preheater Set Instruction Manual

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JBC

JBC PHNEK Preheater Set



Product Information

The PHNEK Preheater Set is designed for PCBs up to 11x7cm/4x3. It is available in three different voltage options: PHNE-1KA (120V), PHNE-2KA (230V), and PHNE-9KA (100V). The set includes the following items:

- PHNE Preheater Unit – 1 unit
- PHNS Support – 1 unit (Ref. PHN-SA)
- Console – 1 unit
- RJ45 Cable – 1 unit (Ref. ACE-A)
- Power Cord – 1 unit (Ref. 0023715 for 120V, Ref. 0023714 for 230V, Ref. 0024092 for 100V)
- Kapton Tape – 1 unit
- Thermocouple – 2 units (Ref. PH217 and PH218)
- Manual – 1 unit (Ref. 0026989)

The preheater unit features a heating area and various connectors, including thermocouple connectors (Type K), RJ45 connector to the console, USB-B connector, and ESD safe connector. The console has a 2.8" color TFT screen, main switch, power socket, USB-A connector, start/stop button, pedal connector, and various control options.

Product Usage Instructions

Height Adjustment

The PHNS Support allows you to adjust the height between the PCB and the preheater heating area. It offers three positions for working height adjustment:

- Low level: 22 mm / 0.87 in
- Medium level: 45 mm / 1.77 in
- High level: 65 mm / 2.56 in

To change the height to the highest level, follow these steps:

1. Remove the 4 clamp knobs and the 4 black rubber caps.

2. Place the support guides and rubber cups.
3. Adjust the sliding clamp knobs again.

Fast PCB Replacement The PHNS Support allows for fast and easy replacement of PCBs from the same batch. Follow these steps:

- To remove a PCB, loosen one sliding guide, pull it back, and lift out the PCB.
- To place another PCB, position it and tighten the sliding guide knobs.
- Use the adjustable slot clamps for PCB fixation.
- The maximum PCB dimension between clamps is 11×7 cm / 4×3 in, with a thickness of 6 mm / 0.236 in.

Work Screen The console's user interface provides easy access to station parameters. It features a status bar, instant power supplied to the heater, thermocouple current temperature, power percentage, time, thermocouple indicators, status indicator, max heating rate, station information, menu options, graphics, files, available languages, system notifications, and error/failure descriptions.

This manual corresponds to the following references:

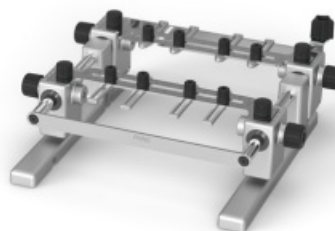
- PHNE-1KA (120V)
- PHNE-2KA (230V)
- PHNE-9KA (100V)

Packing List

The following items are included:



PHNE Preheater Unit1 unit



PHNS Support1 unit
Ref. PHN-SA



Console 1 unit
Ref. ACE-A



RJ45 Cable 1 unit
Ref. 0019914



Power Cord1 unit
Ref. 0023715 (120V)
0023714 (230V)
0024092 (100V)



Kapton Tape 1 unit
Ref. PH217



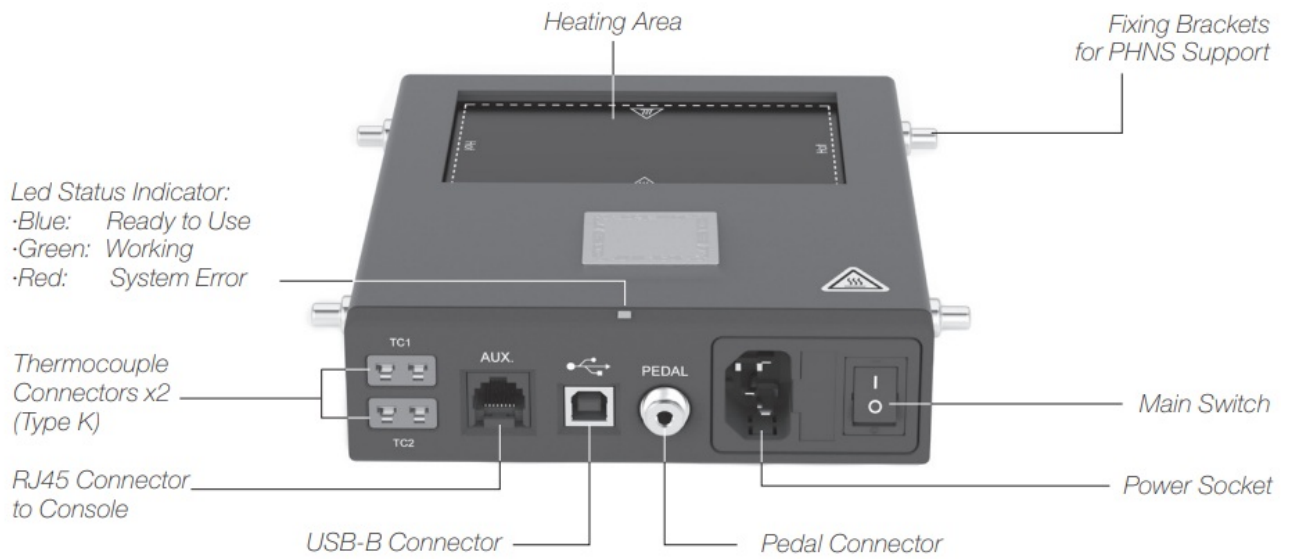
Thermocouple 2 unit
Ref. PH218



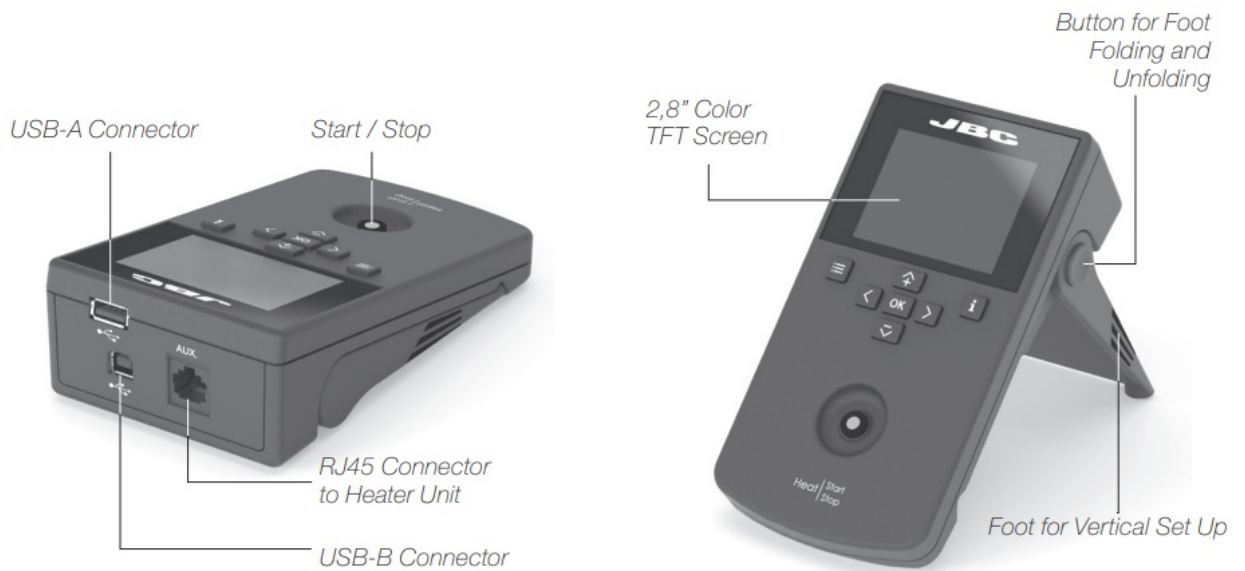
Manual 1 unit
Ref. 0026989

Features and Connections

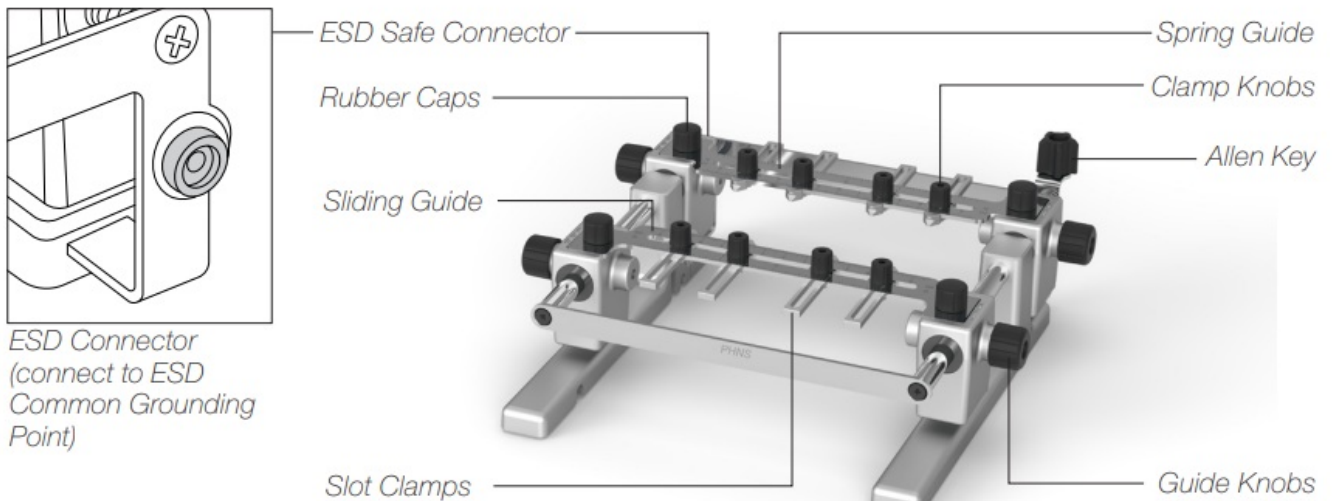
Preheater Unit



Console



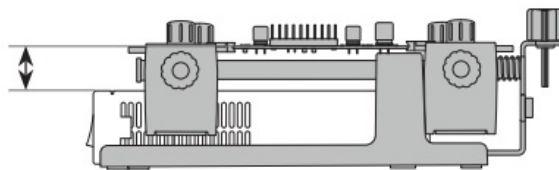
Support



Height Adjustment

PHNS Support allows changing the height between the PC and the preheater heating area. It can be chosen between 3 positions for the working height adjustment.

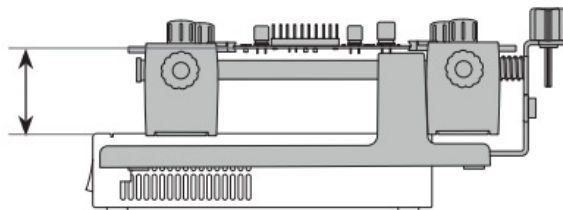
Low level
22 mm / 0.87 in



*Unscrew these knobs
to place the support in
the lowest level*



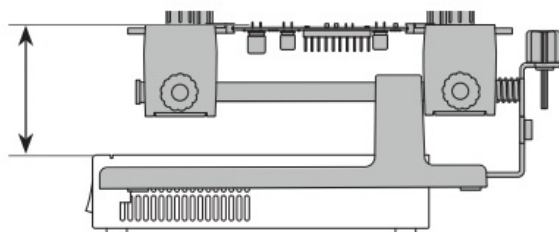
Medium level
45 mm / 1.77 in



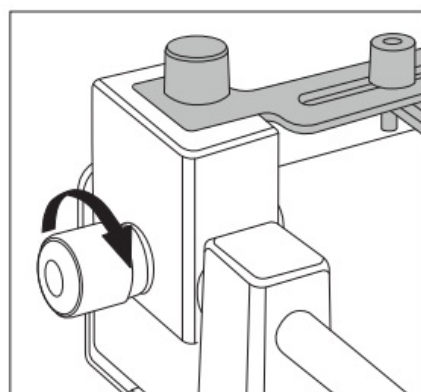
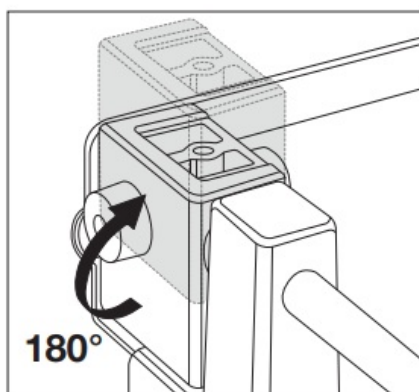
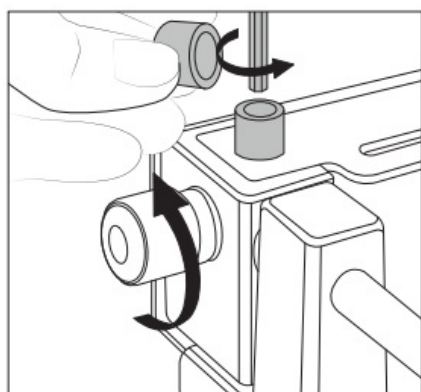
*Use the fixing brackets to
place the support in the
medium and the high level*



High level
65 mm / 2.56 in



To change the height to the highest level, proceed as follows:

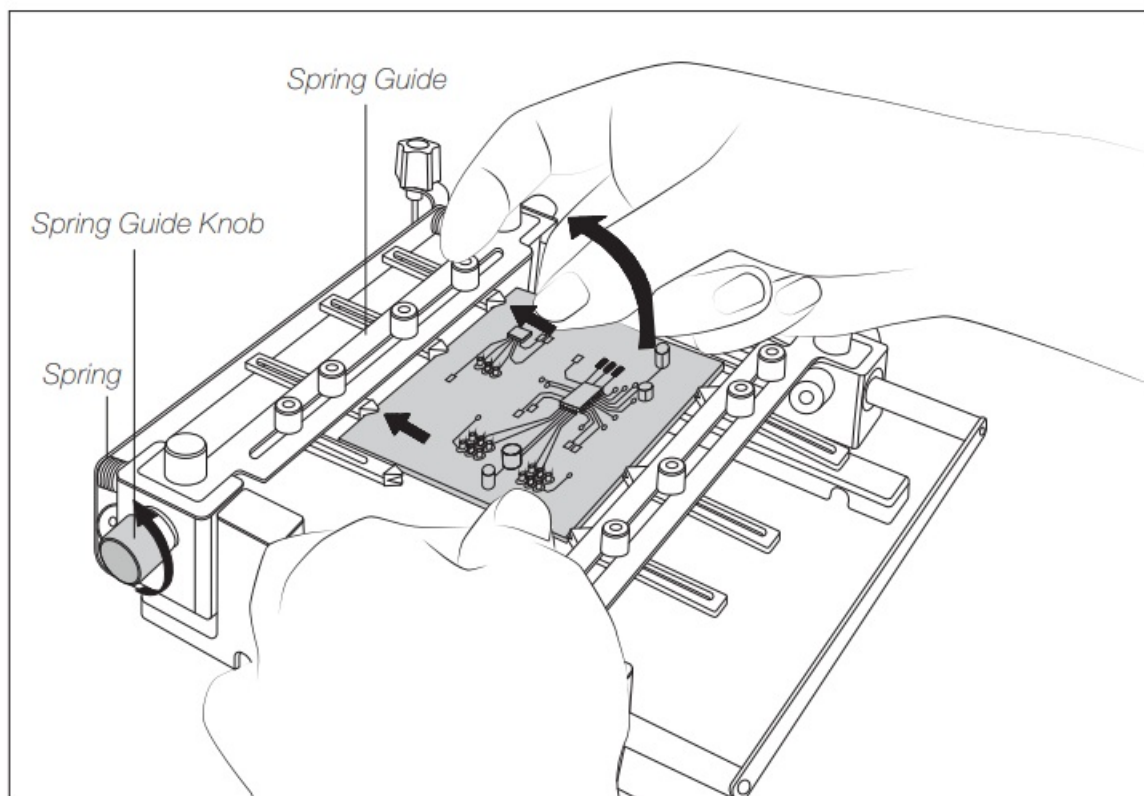


1. Remove the 4 clamp knobs and the 4 black rubber caps.
2. After removing both guides, turn 180° the guide supports.
3. Place the guides and the rubber cups and adjust the sliding clamp knobs again.

Fast PCB Replacement

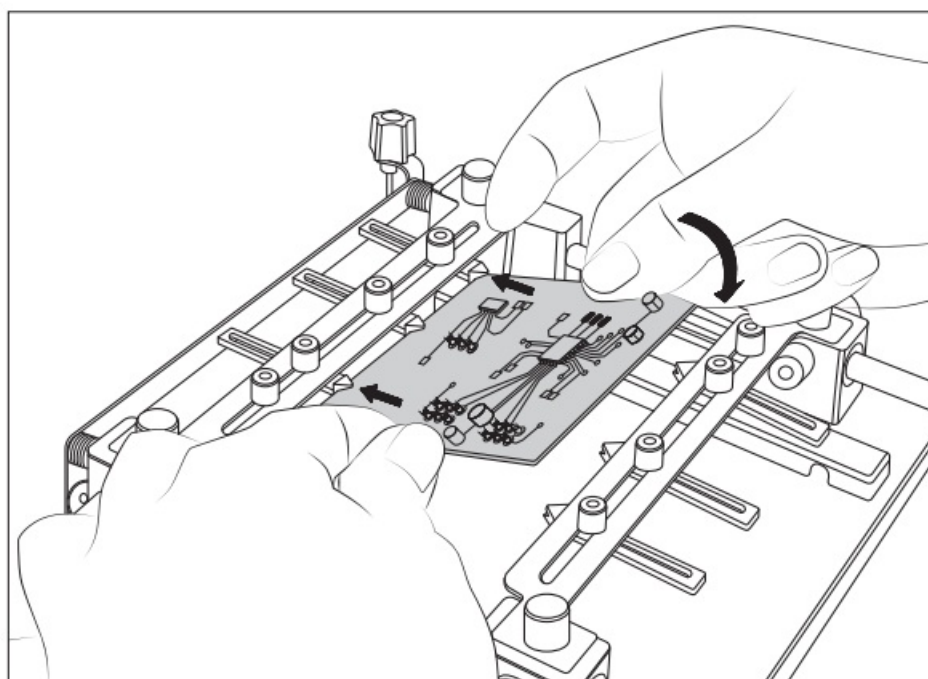
- PHNS Support lets you replace PCBs of the same batch fast and easily. Use the sliding guides to change the PCBs.

Removing PCB

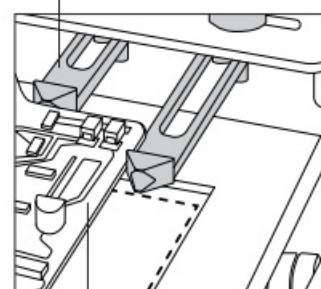


- Loosen one sliding guide, pull back and lift out the PCB.

Placing another PCB



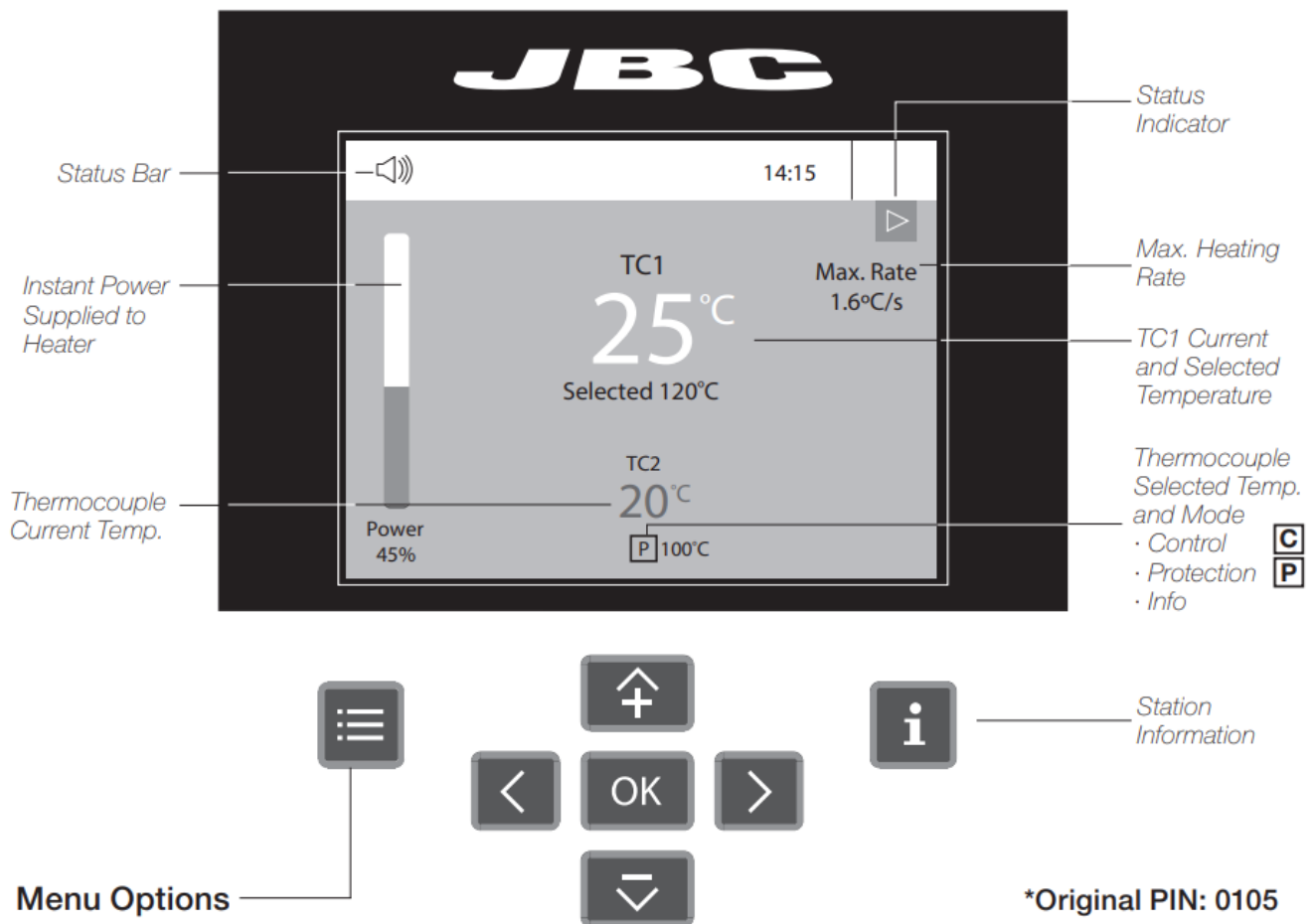
*Adjustable slot clamps
for PCB fixation.*



*Max. PCB dimension
between clamps:
11x7 cm / 4x3 in,
thickness 6 mm / 0.236 in.*

- Position it and tighten the sliding guide knobs.

Work Screen



- The Console offers an intuitive user interface, which provides quick access to station parameters.

System Notifications (Status Bar)

- USB flash drive is connected.
- The station is controlled by a PC.
- The station is controlled by a robot.
- Station software update.
- Press INFO to start the process.
- Warning.
- Press INFO for failure description.

Error. Press INFO for failure description, the type of error and how to proceed.

Features



General



Work mode



Profile editor



Graphics



Files



Reset

Available languages: English, Spanish, German, French, Italian, Portuguese, Japanese, Chinese, Russian and Korean.

Troubleshooting

Station troubleshooting is available on the product page at www.jbctools.com

Setting Thermocouples Function

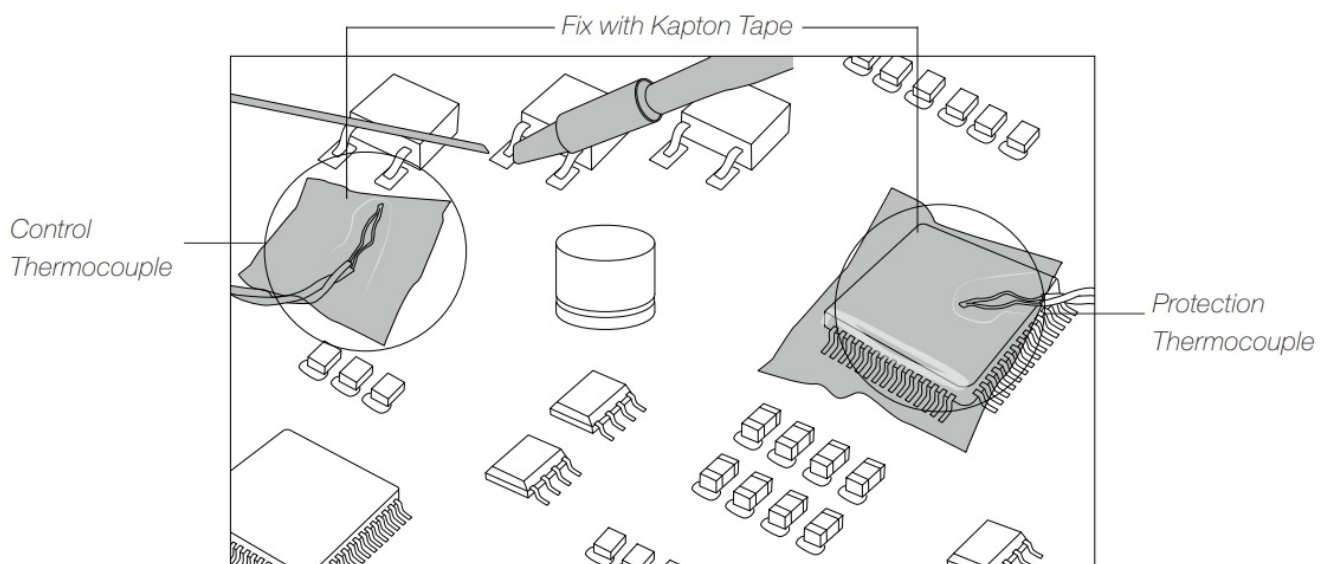
Select Thermocouples from the Work mode menu to set them up.

The thermocouples (TC) can work in three different ways depending on what is needed.

- **C. Control:** the unit maintains the selected temperature.
- **P. Protection:** the Heater Unit stops if the TC reaches the selected temperature.
- **Info:** the TC temperature is shown on the work screen.

Recommended Guidelines

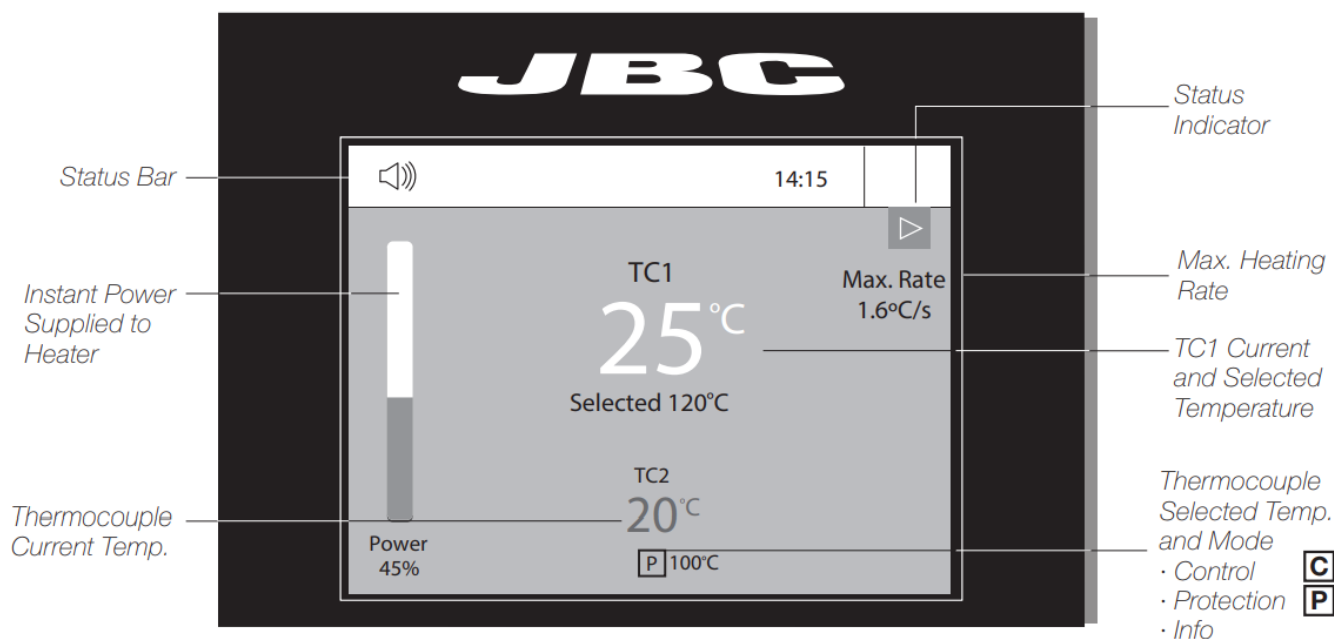
1. Place the control thermocouple as near as possible to the component being worked on.



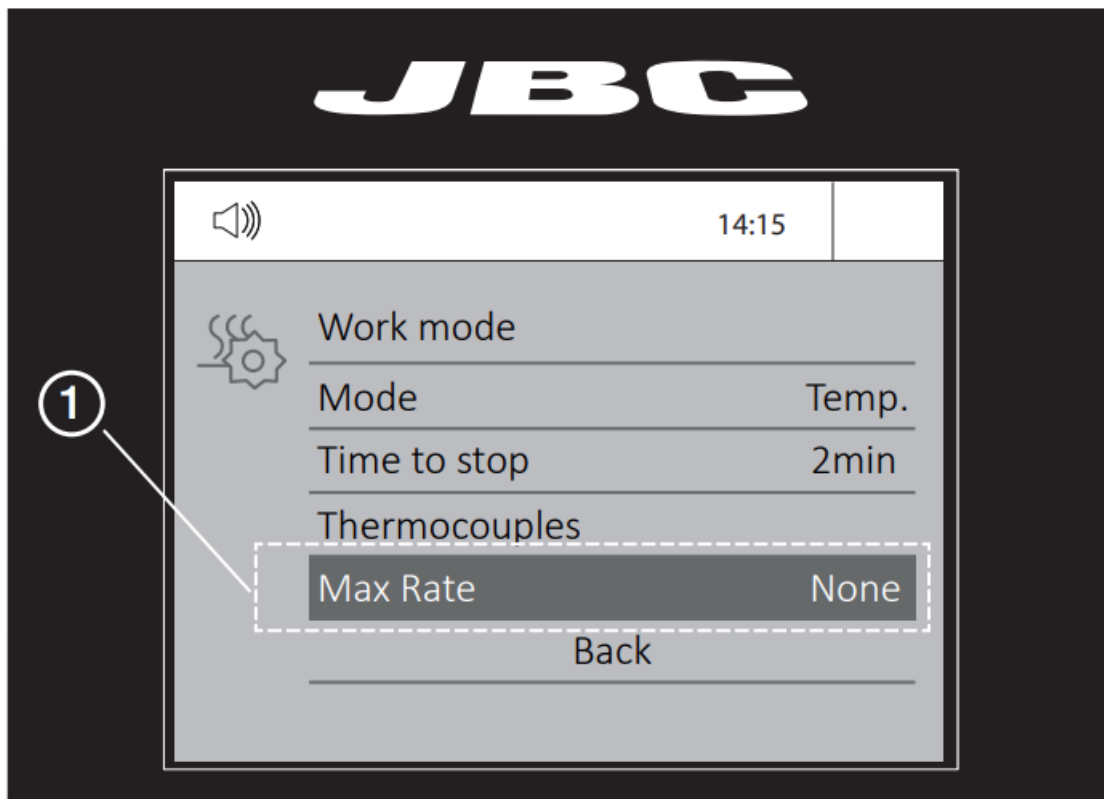
2. If there are any sensitive components, use a thermocouple as protection. You can select the protection temperature in the thermocouples menu. If the selected temperature is reached, the Heater Unit will stop the process and a warning message will be shown.
3. We don't recommend exceeding ramp-up rates over 3 – 4 °C / sec (5 – 7 °F / sec) so as to reduce the risk of thermal stress on the PCB.

Work Mode

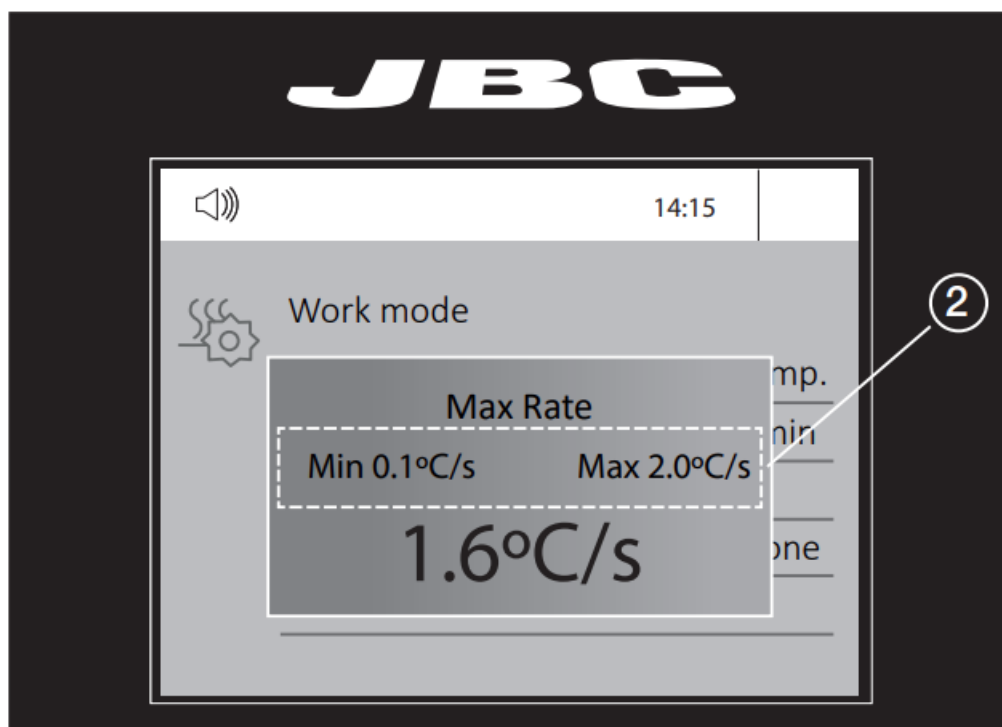
Temperature Mode



- Select Temp. mode from the Work mode menu. In this mode, the heater unit maintains the selected temperature for the TC1 thermocouple as long as the other TC's do not reach the control/protection temperature limit.

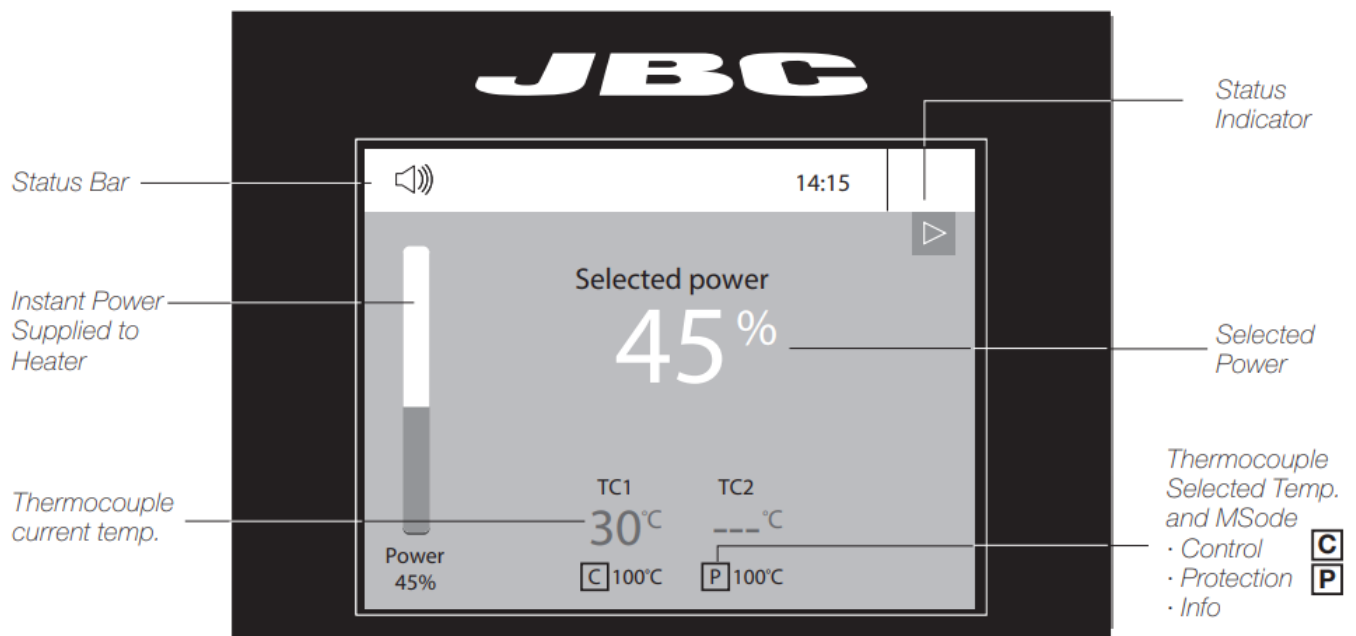


- Working within the Temperature Mode the maximum heating rate value (Max Rate) can be defined (1).



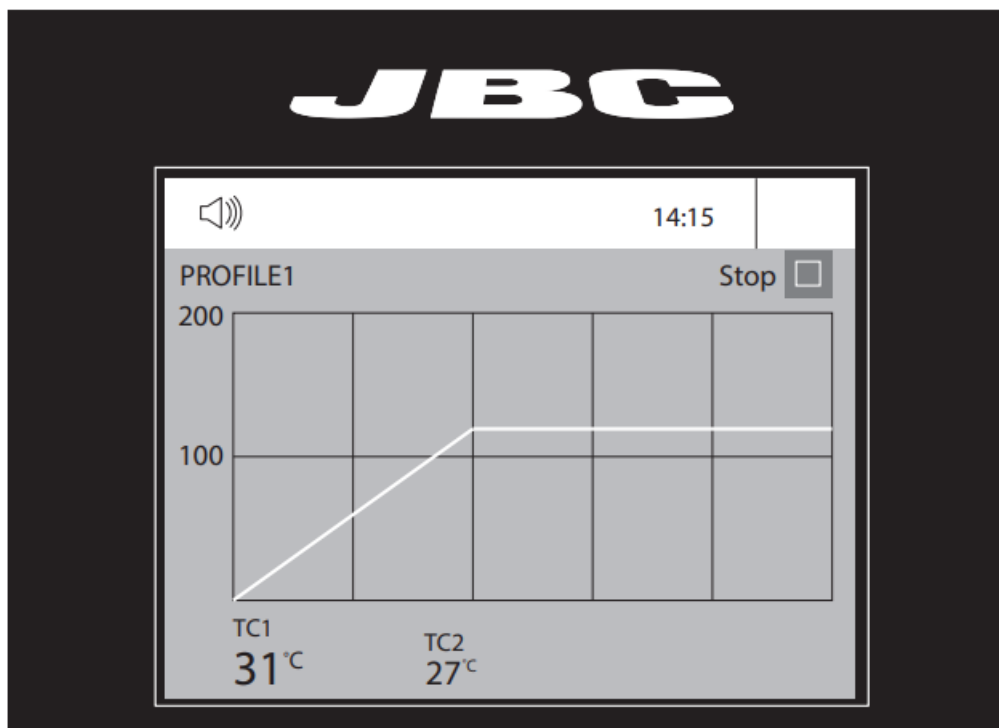
- This function allows you to set a maximum value for the temperature increase per second when heating
- The maximum heating rate value can be set between 0.1°C/s and 2.0°C/s (2) or “None” if this function is not desired.

Power Mode



- Select Power mode from the Work mode menu. In this mode, the heater unit maintains the selected power as long as the thermocouples do not reach the control/protection temperature limit.

Profile Modes



- Select Profile Mode from the Work Mode Menu. In this mode the heater unit regulates the temperature of the TC1 thermocouple according to the selected profile as long as the other Cs do not reach the control/protection temperature limit.

Teach Profile

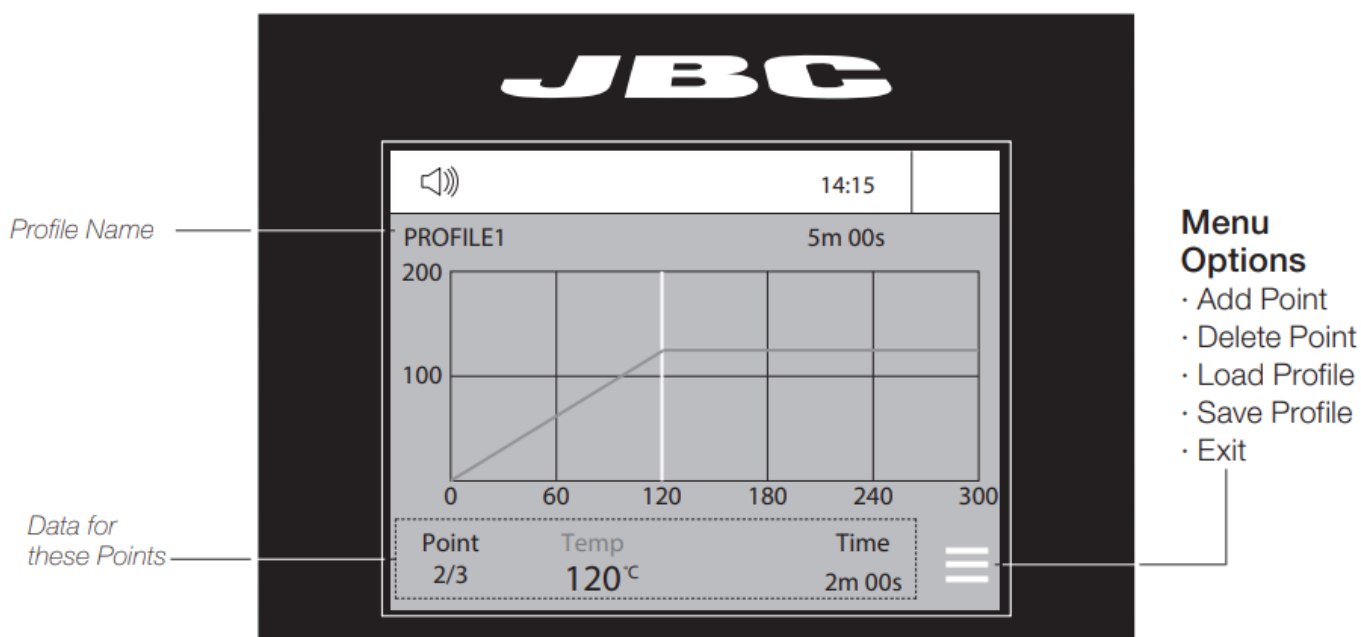
- For repetitive jobs you running profiles without the thermocouple (TC). In order to do so, the Teach profile mode has to be executed before running any profile. It can be executed from the Work mode menu if the Profiles

mode is selected. Once the profile has been run to the end, the system has all the process data which you can save.

- Once it is saved, you can run this profile without connecting the thermocouple (TC). The heating process will be the same as long as the same working conditions are respected.
- The profiles that already have the data from the Teach profile are marked with this symbol
- These profiles can be run either with or without the Thermocouples. It can be chosen from the Profiles mode work screen:

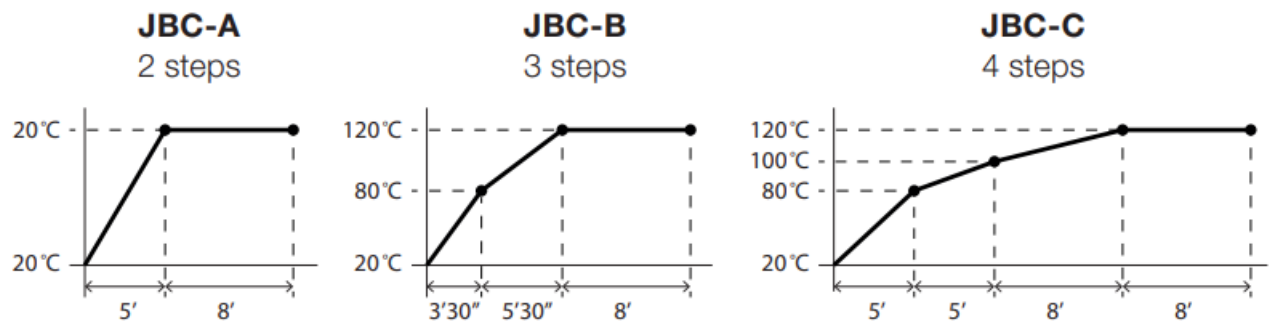


Profile Editor



- **Profile Editor** The Profile editor can be opened from the main menu or from the Profiles mode work screen by pressing the 'OK' button.
- In this mode, you can edit as many as 25 profiles of temperature.

JBC Set Profiles



PCB Reference Specifications: FR4 1,6mm thick and 2 layers.

FR4 1,6mm thick and 6 layers.

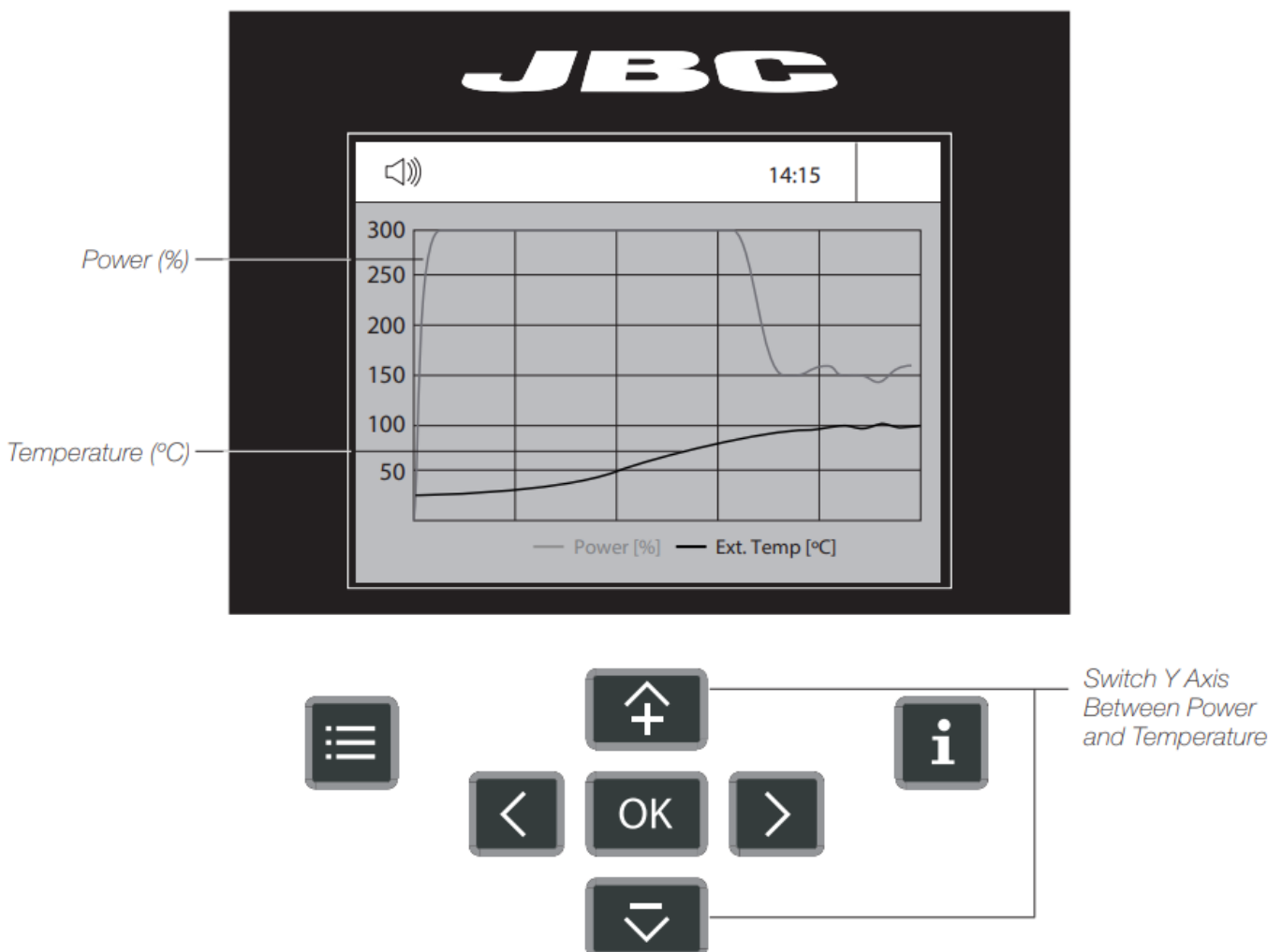
FR4 2,2mm thick and 6 layers.

- There are 3 profiles predefined by JBC: A, B and C. The difference between them is the number of steps: 2, 3 or 4. The thicker your PCB is and the more layers it contains, the more steps are needed to obtain gradual warming.
- These profiles are not modifiable but can be used as a template to create your own profiles.

Process Analysis









Graphics Graphics



- By pressing Graphics in the main MENU, the temperature of the TC1 thermocouple and power figures in real time are displayed.

System Notifications

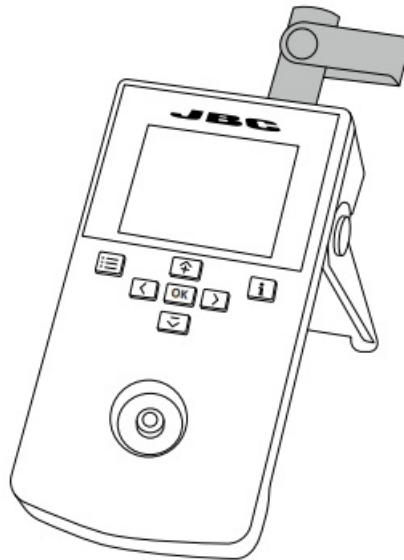
The following icons will be displayed on the screen's status bar.

-  USB flash drive is connected
-  Station is controlled by a PC.
-  Station is controlled by a robot.
-  Station software update.
 - Press INFO to start the process.
-  **Warning:** Press INFO for failure description.
-  **Error:** Press INFO for failure description, the type of error and how to proceed.

Files



Files **Files**



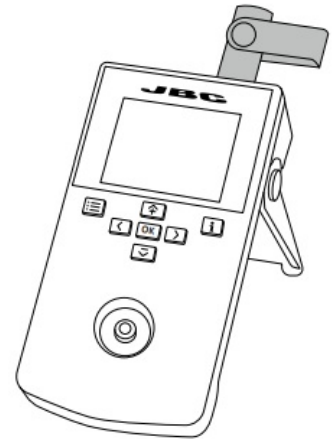
Export Graphics

- Insert a USB flash drive into the USB-A connector to save your soldering process in CSV format.

Export / Import Profiles

- Insert a USB flash drive into the USB-A connector to export/import profiles.

Update the Station Software



1. Download the JBC Update File from www.jbctools.com/software.html and save it on a USB flash drive.
(Preferably one with no other files).
2. Insert the USB flash drive into the console.
 - The icon is displayed while updating.

Working with Pedal

Pedal
Ref. P-405
(not included)



PHNE Preheater Unit

- Press the pedal to start heating and press again to stop as if it were the button on the console.
- Once the Work Mode is set, the Heater Unit can work without the console using the pedal.

Maintenance

Before carrying out maintenance or storage, always allow the equipment and the support to cool down.

- Check periodically that the Pre Heater and the Support are clean.
- Use a damp cloth when cleaning. Alcohol can only be used to clean the metal parts.
- Only if it is absolutely necessary and if cleaning with isopropyl alcohol (IPA) is not enough, it is recommended to use a scraper to remove dirt in the glass area.
- Replace any defective or damaged parts. Use original JBC spare parts only.

- Repairs should only be performed by a JBC authorized technical service.

Safety

Warning: It is imperative to follow safety guidelines to prevent electric shock, injury, fire or explosion.

- Do not use the units for any purpose other than PCB preheating. Incorrect use may cause a fire.
- The mains cable must be plugged into approved bases. Make sure that it is properly grounded before use.
When unplugging it, hold the plug, not the wire.
- The temperature of accessible surfaces may remain high after the unit is turned off. Handle with care.
- Do not leave the appliance unattended when it is on.
- Do not cover the ventilation grills. Heat can cause inflammable products to ignite.
- Heat can cause inflammable products to ignite even when out of sight.
- Be careful with the remains of liquid tin. In contact with the skin, it can cause burns.
- Avoid flux coming into contact with skin or eyes to prevent irritation.
- Be careful with the smoke produced when soldering.
- Keep your workplace clean and tidy. Wear appropriate protection glasses and gloves when working to avoid personal harm.
- This appliance can be used by children over the age of eight as well as persons with reduced physical, sensory or mental capabilities or lacking experience provided that they have been given adequate supervision or instruction concerning the use of the appliance and understand the hazards involved. Children must not play with the appliance.
- Maintenance must not be carried out by children unless supervised.

Specifications

PHNEK

Preheater Set for PCBs up to 11 x 7 cm / 4 x 3"

- **Ref.:** PHNE-9KA 100V. Input 100V 50/60Hz: Fuse 4A
- **Ref.:** PHNE-1KA 120V. Input 120V 50/60Hz: Fuse 4A
- **Ref.:** PHNE-2KA 230V. Input 230V 50/60Hz: Fuse 2A
- **Total Net Weight:** 3.1 kg / 6.83 lb
- **Total Package Dimensions / Weight:** (L x W x H): 280 x 280 x 164 mm / 4.2 kg
 - 11.02 x 11.02 x 6.45 in / 9.3 lb

Preheater Unit

- **Maximum Power:** 300 W
- **Heating Area (L x W):** 108 x 70 mm / 4.25 x 2.75 in (1 zone)
- **Ambient Operating Temperature:** 10 – 50 °C / 50 – 122 °F
- **Temperature Range:** 50 – 250 °C / 120 – 482 °F
- **Temperature Measurement:** Thermocouple type K

- **JBC Set Temperature Profiles:** 3 profiles (2, 3 or 4 steps)
- **User Profiles:** 20 (up to 6 steps for each)
- **Maximum Work Time:** 600 min or indefinite
- **Dimensions / Weight: (Lx W xH):** 179 x 165 x 41.5 mm / 1.2 kg
 - 7.04 x 6.5 x 1.63 in / 2.6 lb

PCB Support

- **Weight:** 1.9 kg / 4.2 lb
- **Dimensions (Low Position):** [LX W x H): 238 x 237 x 75 mm
 - 9.4 x 9.3 x 3 in
- **Dimensions (High Position):** [LX Wx H): 238 x 237 x 96 mm
 - 9.4 x 9.3 x 3.8 in

Complies with CE standards.
ESD safe.

Warranty

JBC's 2 year warranty covers this equipment against all manufacturing defects, including the replacement of defective parts and labour. Warranty does not cover product wear or misuse. In order for the warranty to be valid, equipment must be returned, postage paid, to the dealer where it was purchased.


Get 1 extra year JBC warranty by registering here: <https://www.jbctools.com/productregistration/> within 30 days of purchase.

This product should not be thrown in the garbage. In accordance with the European directive 2012/19/EU, electronic equipment at the end of its life must be collected and returned to an authorized recycling facility.

www.jbctools.com




Documents / Resources

 <p>JBC www.jbctools.com INSTRUCTION MANUAL</p> <p>PHNEK Preheater Set for PCBs up to 11x7cm/4x3"</p>	<p>JBC PHNEK Preheater Set [pdf] Instruction Manual PHNEK Preheater Set, PHNEK, Preheater Set, Set</p>
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References

-  [JBC Soldering and Rework equipment for electronics](#)

-  [DOWNLOAD SOFTWARE](#)
-  [Warranty Extension](#)

Manuals+.