

JBC

INSTRUCTION MANUAL



PHSE

Preheater for PCBs
up to 13x13cm/5x5"

This manual corresponds to the following references:

PHSE-9B (100V)

PHSE-1B (120V)

PHSE-2B (230V)

Packing List

The following items are included:



PHSE Preheater Unit 1 unit



Console 1 unit
Ref. ACE-A



RJ45 Cable 1 unit
Ref. 0019914



Power Cord 1 unit
Ref. 0024092 (100V)
0023715 (120V)
0023714 (230V)



Kapton Tape 1 unit
Ref. PH217



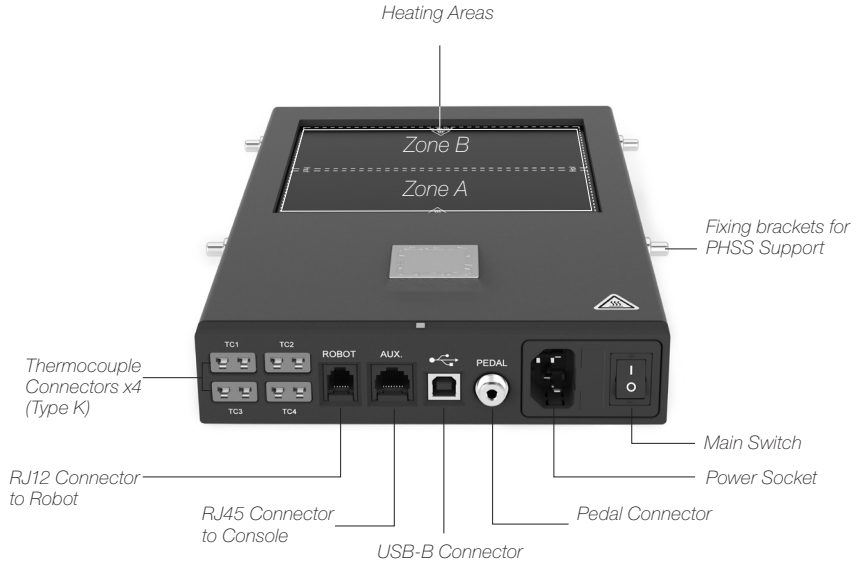
Thermocouple 2 unit
Ref. PH218



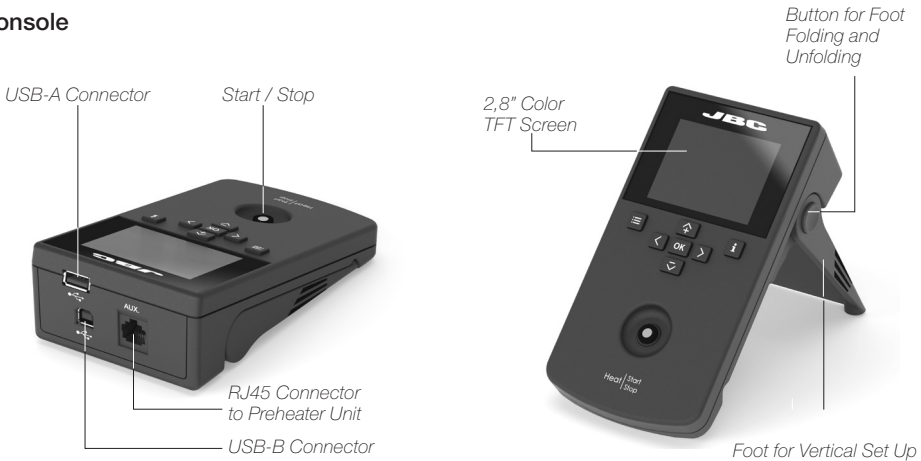
Manual 1 unit
Ref. 0026748

Features and Connections

Preheater Unit



Console



Work Display

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

The screenshot shows the JBC Work Display interface. At the top, the JBC logo is displayed. Below it, a status bar shows a speaker icon, the time 14:15, and a play button. The main display area shows a large temperature reading of 45°C for TC1, with a selected temperature of 120°C. To the right, the Max. Heating Rate is 1.6°C/s. Below this, three other thermocouples (TC2, TC3, TC4) are shown, each at 20°C with a protection mode 'P' and a limit of 100°C. At the bottom left, the Power is 45%. On the right side, there are icons for Control (C), Protection (P), and Info (I).

Labels pointing to the interface elements include:

- Status Bar
- Instant Power Supplied to Heater
- Thermocouple Current Temp.
- Status Indicator
- Max. Heating Rate
- TC1 Current and Selected Temperature
- Thermocouple Selected Temp. and Mode
- Control (C)
- Protection (P)
- Info (I)

The navigation buttons include a menu icon (three horizontal lines), a home icon (upward arrow), a back icon (left arrow), an OK button, a forward icon (right arrow), and an info icon (letter 'i').

Labels pointing to the buttons include:

- Menu Options
- Station Information

Original PIN: 0105

The menu options are represented by icons and text labels:

- General**: Icon of a monitor and gears.
- Work mode**: Icon of a flame and gears.
- Profile editor**: Icon of a graph and gears.
- Graphics**: Icon of a line graph.
- Files**: Icon of a folder.
- Reset**: Icon of a circular arrow.

System Notifications (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.

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.

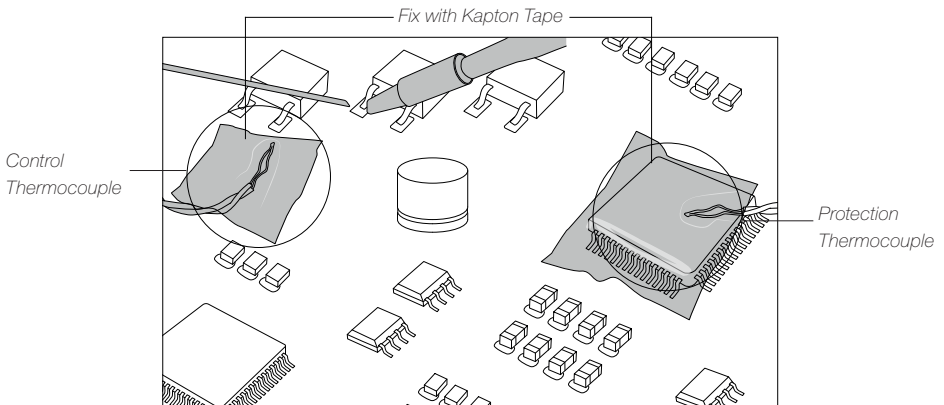
The thermocouples (TC) can work in three different ways depending on what is needed.

- 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 display.

The TC1 is always working in Control mode for the *Temperature* mode as well as for *Profiles* mode. The temperature of each TC can also be selected from the work display.

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.

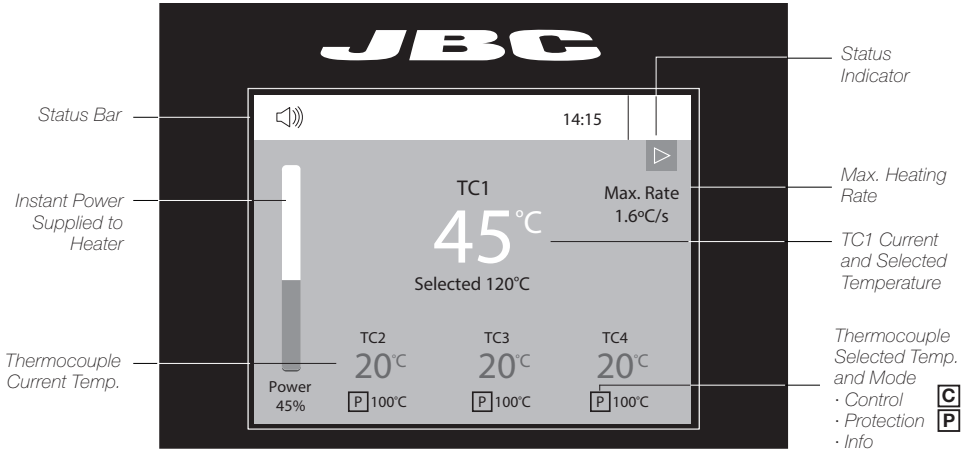


3. We don't recommend exceeding ramp-up rates over 3 - 4 °C / sec (5 - 7 °F / sec) so as to reduce the risk of thermal stress on the PCB.

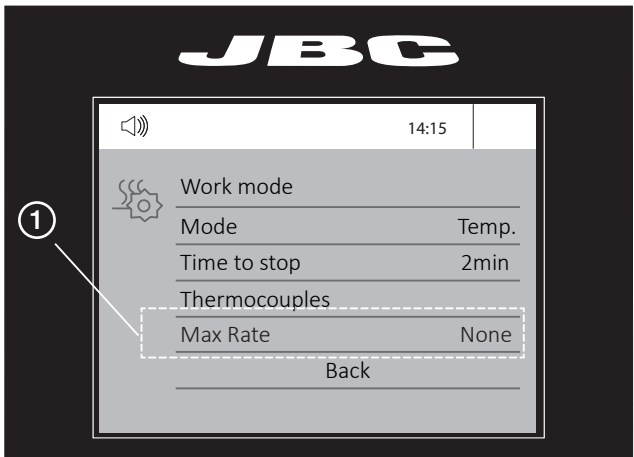
Work Mode

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.

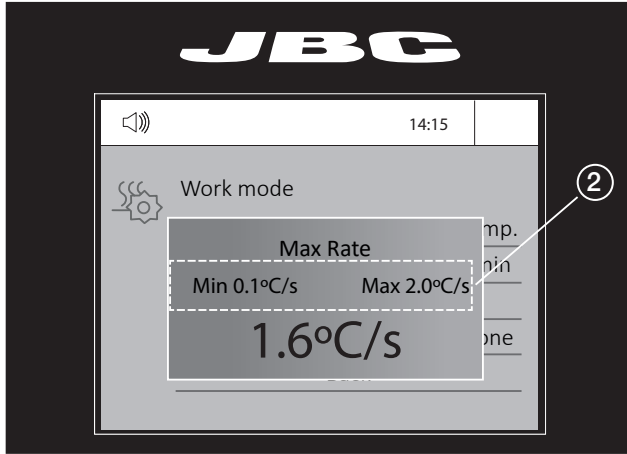


Working within the Temperature Mode the maximum heating rate value (*Max Rate*) can be defined (1).



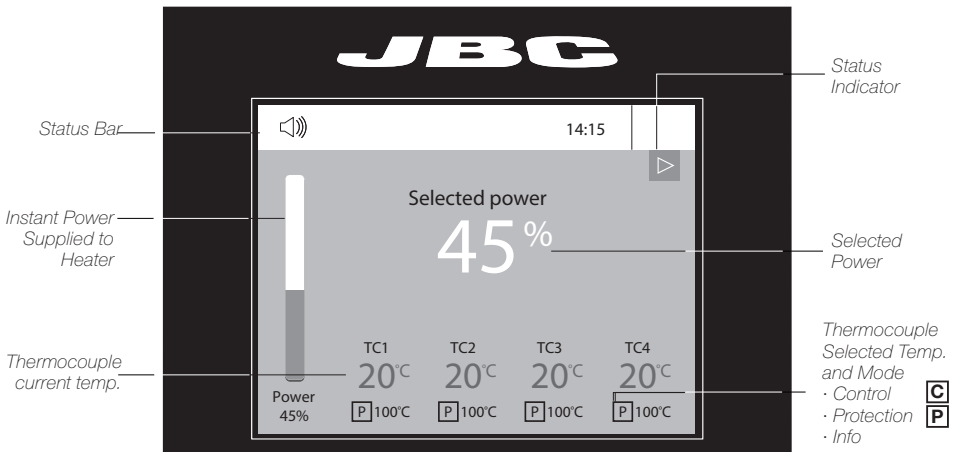
This function allows you to set a maximum value for the temperature increase per second when heating.

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.



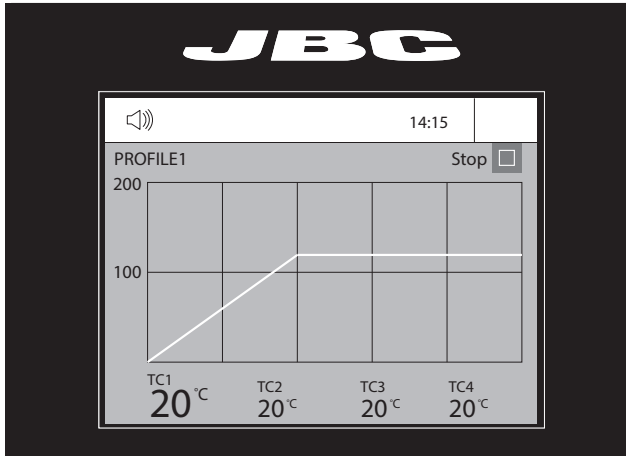
Power Mode:

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 TCs do not reach the control/protection temperature limit.



Teach Profile

For repetitive jobs it is also possible to run customized 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. The first time, the thermocouple must be connected. 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 which 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, the user can choose between the 3 JBC-preset profiles, or create and save up to 22 new profiles.

Profile Name

Data for these Points

Menu Options

- Add Point
- Delete Point
- Load Profile
- Save Profile
- Exit

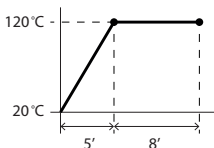
JBC Predefined Profiles

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.

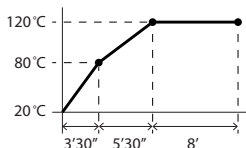
Predefined profiles use the low position of the Support.

These profiles are not modifiable but they can be used as templates to create your own profiles.

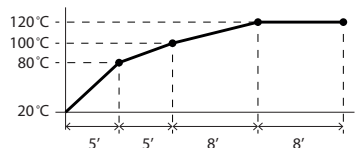
JBC-A
2 steps



JBC-B
3 steps



JBC-C
4 steps



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

FR4 1,6mm thick and 6 layers.

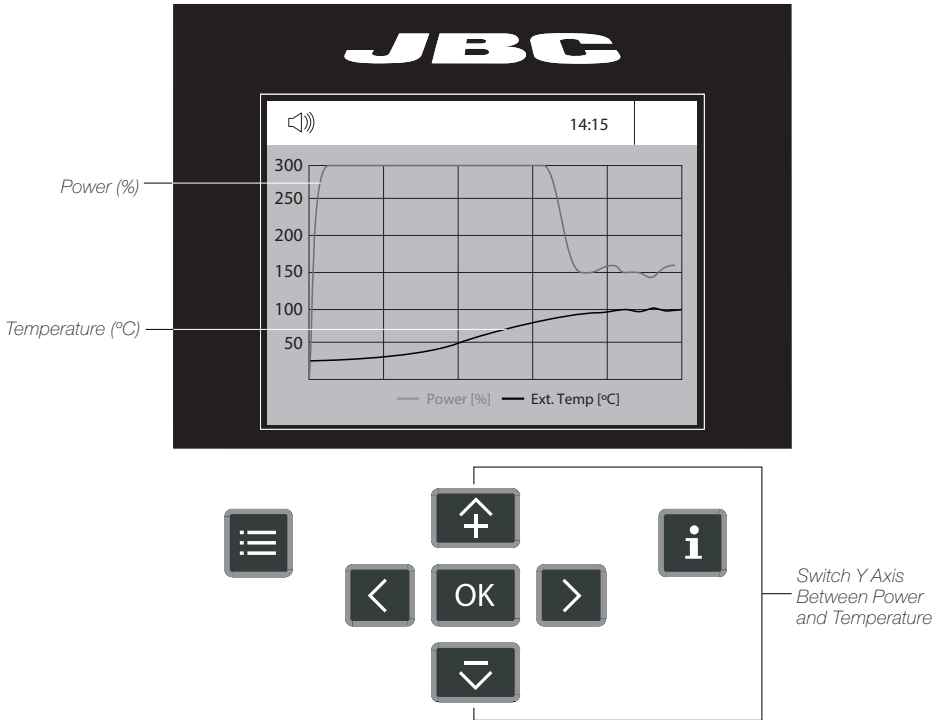
FR4 2,2mm thick and 6 layers.

Process Analysis



Graphics

By pressing **Graphics** in the main MENU, the temperature of 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.



Device software update.
Press INFO to start the process.



Device is controlled by a PC.



Warning.
Press INFO for failure description.



Device is controlled by a robot.



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

Files



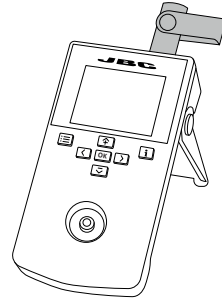
Files

Export Graphics

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


Export / Import Profiles

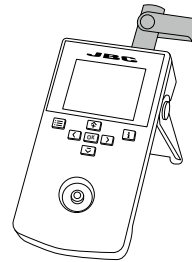
Insert a USB flash drive into the USB-A connector to export/import profiles.



Update the Station Software

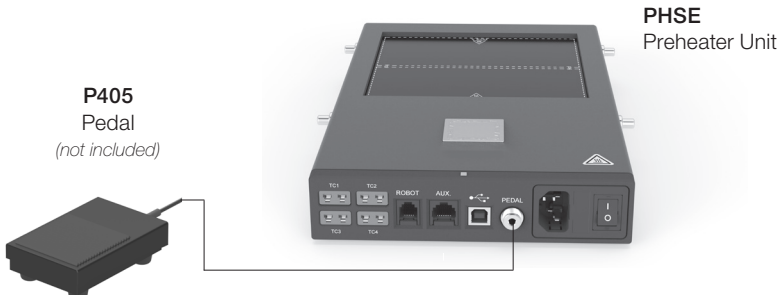
1. Download the JBC Update File from www.jbctools.com/software.html and save it on a USB flash drive. (Preferably one with no other files).

2. Insert the USB flash drive into the console. The icon  is displayed while updating.



Working with Pedal

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

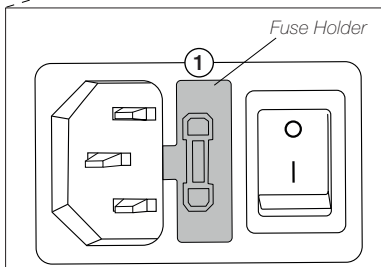
- Before carrying out maintenance or storage, always allow the equipment to cool down.
- Check periodically that the equipment is clean.
- Use a damp cloth when cleaning. Alcohol can only be used to clean the metal parts.
- Only if it is absolutely necessary and if cleaning with isopropyl alcohol (IPA) 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.
- A blown fuse can be replaced by the user itself.

Clean periodically

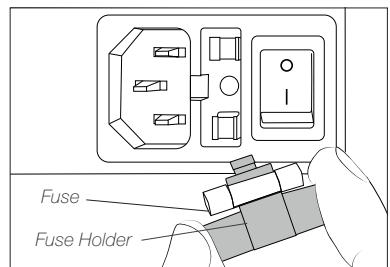


The fuse is located between the power supply connector and the on/off switch (1). To replace a blown fuse, proceed as described below.

⚠ Important: make sure that the preheater is disconnected from the power supply.



Pull out the fuse holder, if necessary use a tool to lever it off.



Take the blown fuse out and press the new one into the fuse holder. Finally clip the fuse holder back into place.

Reference for Replacement Fuse:

- PHSE-9B (100V), fuse T10A Ref. **0032666**
- PHSE-1B (120V), fuse T10A Ref. **0032666**
- PHSE-2B (230V), fuse T5A Ref. **0032687**

Safety



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.

JBC

INSTRUCTION MANUAL



RHS

Articulated Hand Rest
for PHSEK Preheater Set

This manual corresponds to the following reference:

RHS-A

Packing List

The following items are included:



Articulated Hand Rest Arm 1 unit



Height Adj. Flangew. 1 unit
Ref. 0023991



Shaft 1 unit
Ref. 0024007



Base PHSE compatible 1 unit



Headless Screw 1 unit
Ref. 0017057

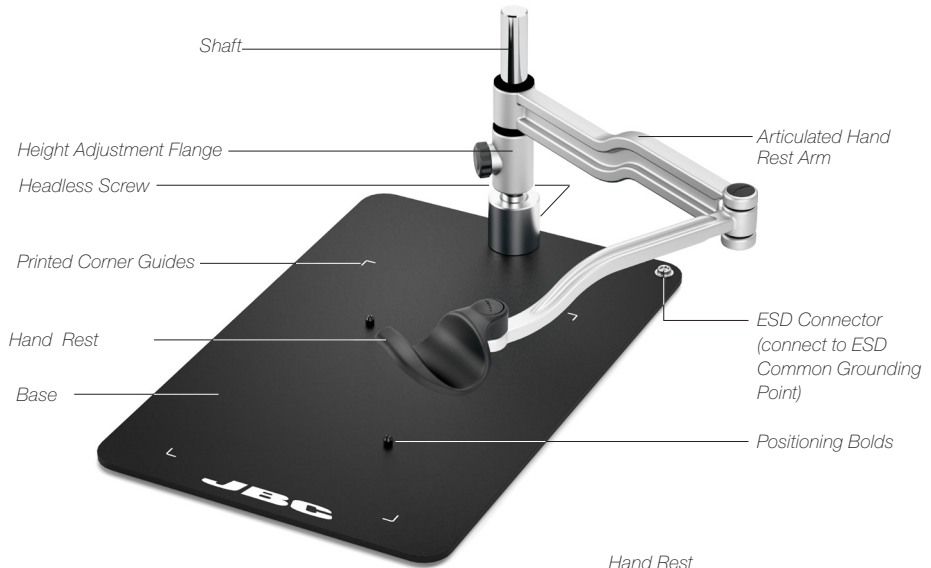


Allen key 1 unit
Ref. 0013609



Manual 1 unit
Ref. 0028766

Features

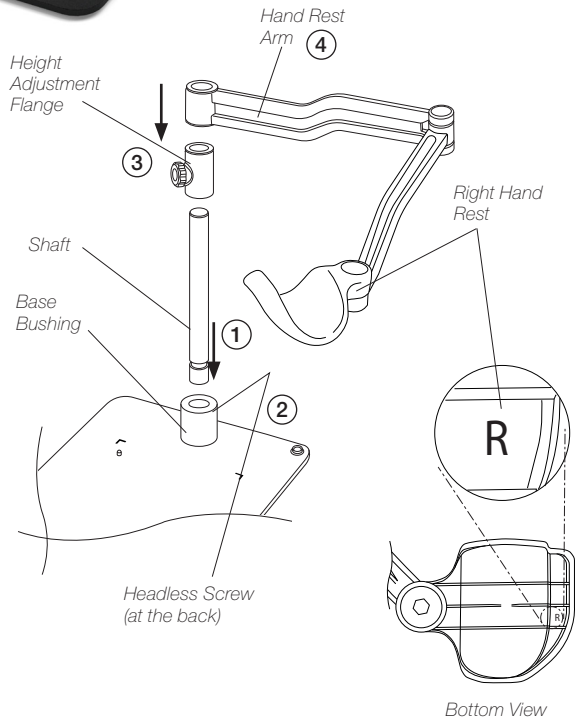


Assembly

Setting up the Articulated Hand Rest

Fit the shaft into the base bushing (1) and tighten the headless screw (2). Then assemble first the height adjustment flange (3) and finally the hand rest arm (4) onto the shaft.

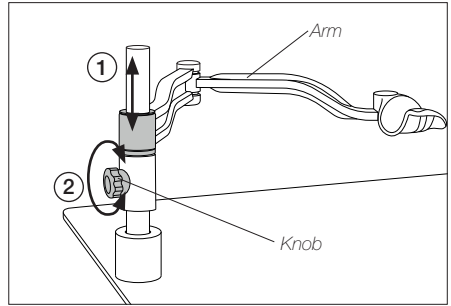
The hand rest arm position should be as shown in the image. The right hand rest is marked at its bottom side with the letter "R".



Height Adjustment

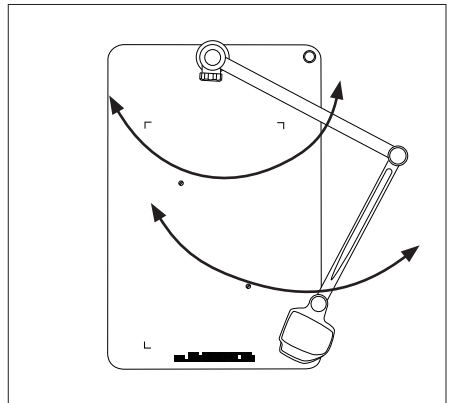
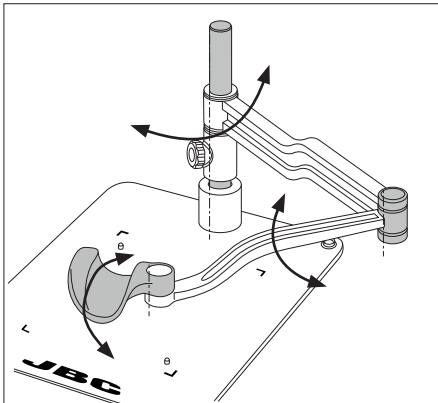
According to your work needs the articulated hand rest allows adjustment for different heights through the vertical axis.

Slide the arm to the appropriate height (1) and secure it by tightening the knob (2) to guarantee stability.



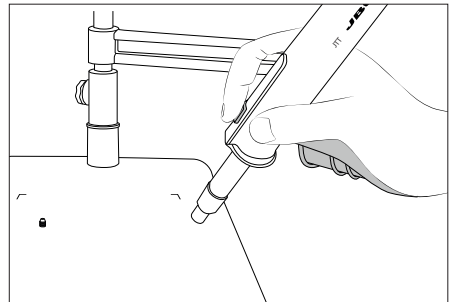
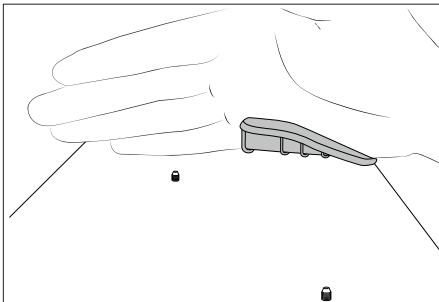
Work Position Adjustment

RHN arm allows adjustment for different positions according to your work needs. The articulated arm covers all work areas.



Position the arm and tighten the knobs.

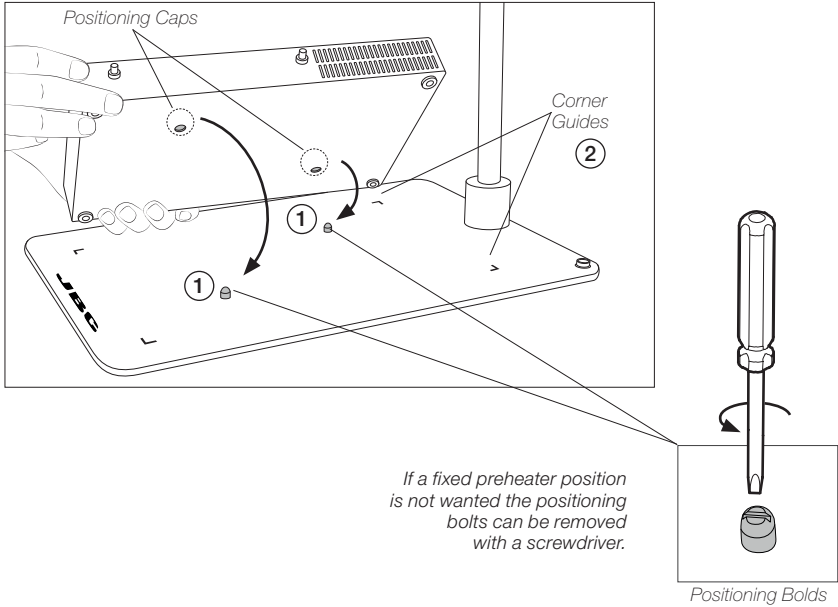
The correct hand work position is shown in the following images:



Preheater Positioning

RHS has been designed to work together with PHS

Fit PHSE onto the positioning bolts (1) for proper alignment. The four corner guides (2) help to place the heater unit in its position.



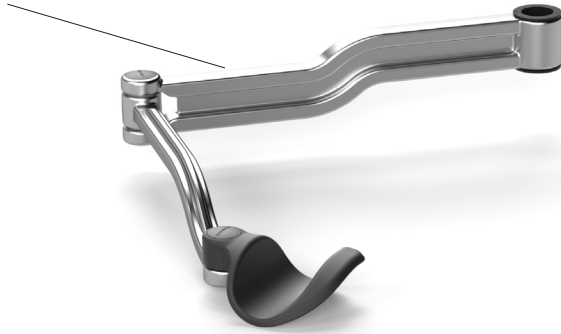
Note: for each preheater size, there are different articulated hand rests with different base dimensions available.

Preheater	Articulated Hand Rest	Base Dimension
PHNE	RHN	310 x 239 mm / 12.20 x 9.41 in
PHSE	RHS	410 x 270 mm / 16.14 x 10.63 in
PHBE	RHB	550 x 480 mm / 21.65 x 18.90 in

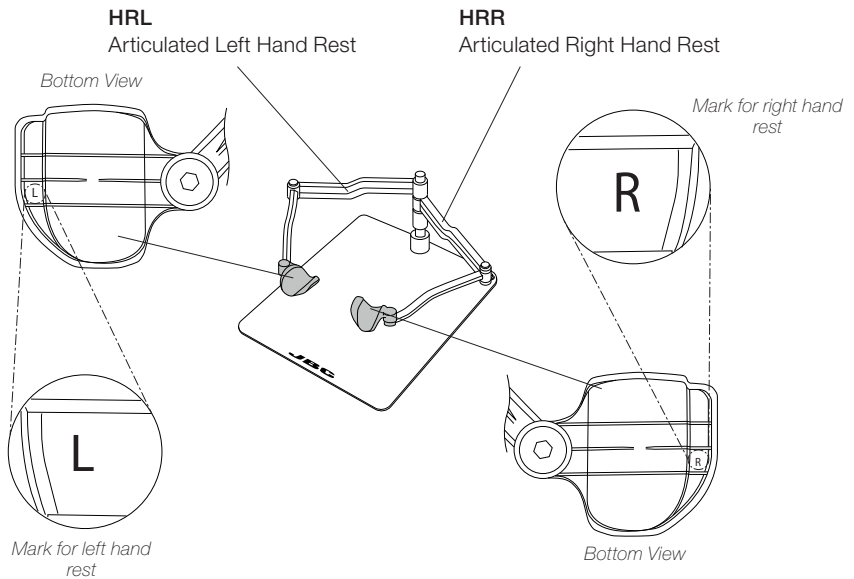
Accessories*

If a second hand rest is needed, Articulated Left Hand Rest HRL is available. HRL also allows adjustment for different positions.

HRL
Articulated Left Hand Rest



In the case of using both left and right arms, assemble both as shown in the illustration according to the letters on the back of the hand rest, to keep the hand supports at the same level. The right hand rest should be assembled below the left hand rest.

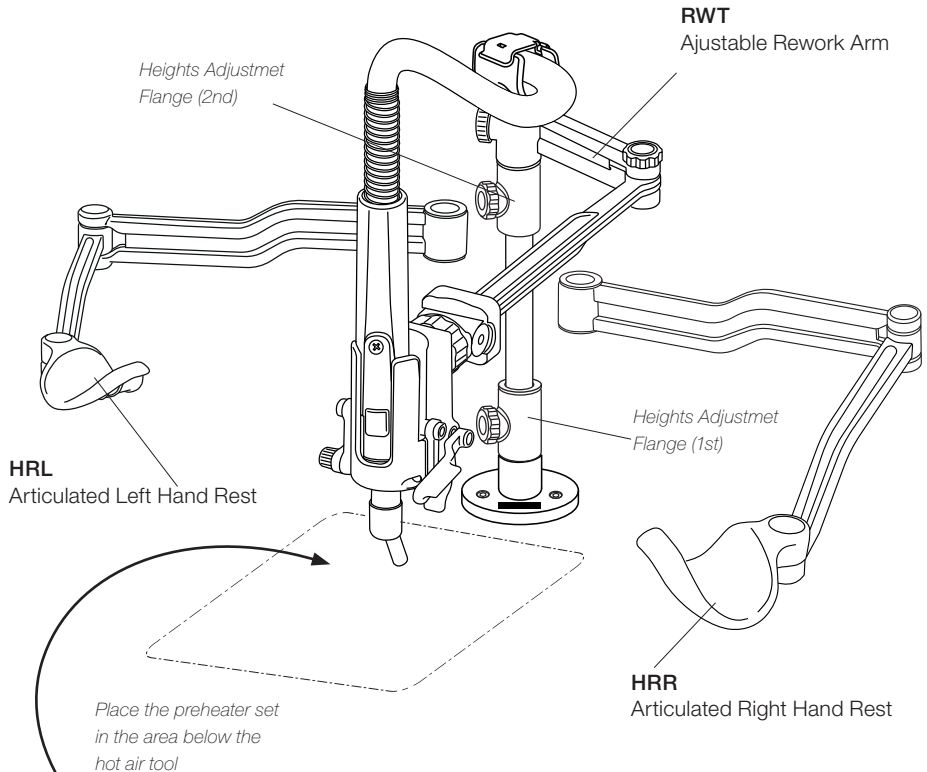


* Not included, sold separately.

Compatible JBC Articles*

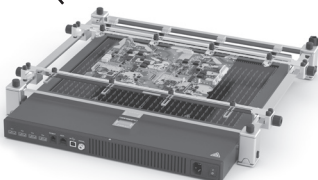
HRR and HRL can be combined with:
RWT Adjustable Rework Arm,
RWS Adjustable Rework Arm for PHSE and
RWB Adjustable Rework Arm for PHBE.

Assemble first the height adjustment flange (1), then the HRR (2) and afterward the HRL (3). Assemble the second height adjustment flange (4) and finally the RWT (5).



4 different sizes for PCB Supports are available:

- PHNS Support for PCBs up to 11x7 cm / 4x3"
- PHSS Support for PCBs up to 13x13 cm / 5x5"
- PHBS Support for PCBs up to 36x28 cm / 14x11"
- PHXLS Support for PCBs up to 51x61 cm / 20x24"



* Not included, sold separately.

Maintenance

- Check periodically that RHS is clean, especially the sliding parts and the shaft.
- Use a damp cloth when cleaning. Alcohol can only be used to clean the metal parts.
- Replace any defective damaged parts. Use original JBC spare parts only.



Do not leave HRR over the preheater when the preheater is working.

Safety

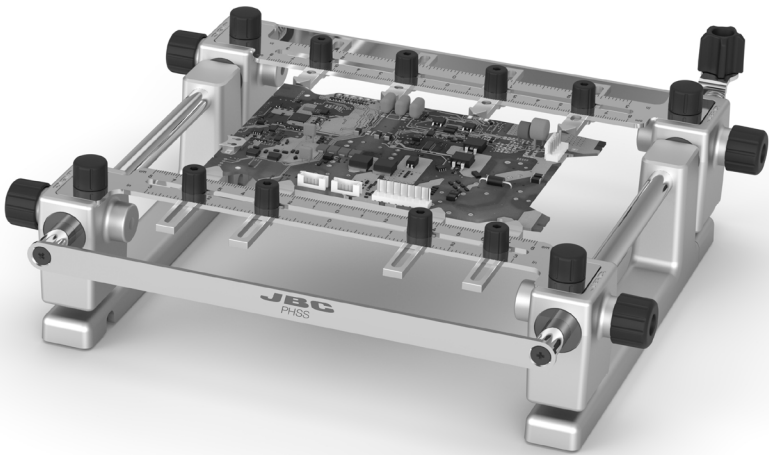


It is imperative to follow safety guidelines to prevent electric shock, injury, fire or explosions.

- Do not use the equipment for any purpose other than PCB rework.
- The temperature of accessible surfaces may remain high after the unit is turned off. Handle with care.
- Be careful with the fumes produced when soldering.
- Keep your workplace clean and tidy. Wear appropriate protection glasses and gloves when working to avoid personal harm.
- Do not leave up the arms directly above heat surfaces.
- Utmost care must be taken with liquid tin waste which can cause burns.
- 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.

JBC

INSTRUCTION MANUAL



PHSS

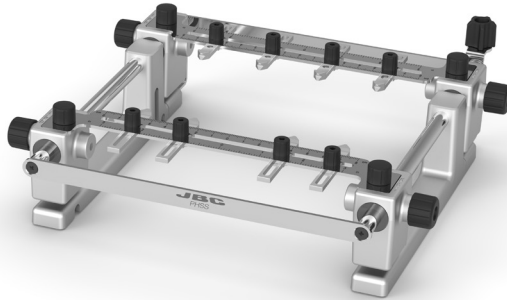
Support for PCBs
up to 13x13cm/5x5"

This manual corresponds to the following reference:

PHS-SA

Packing List

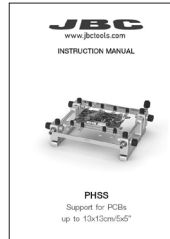
The following items are included:



PHSS Support 1 unit

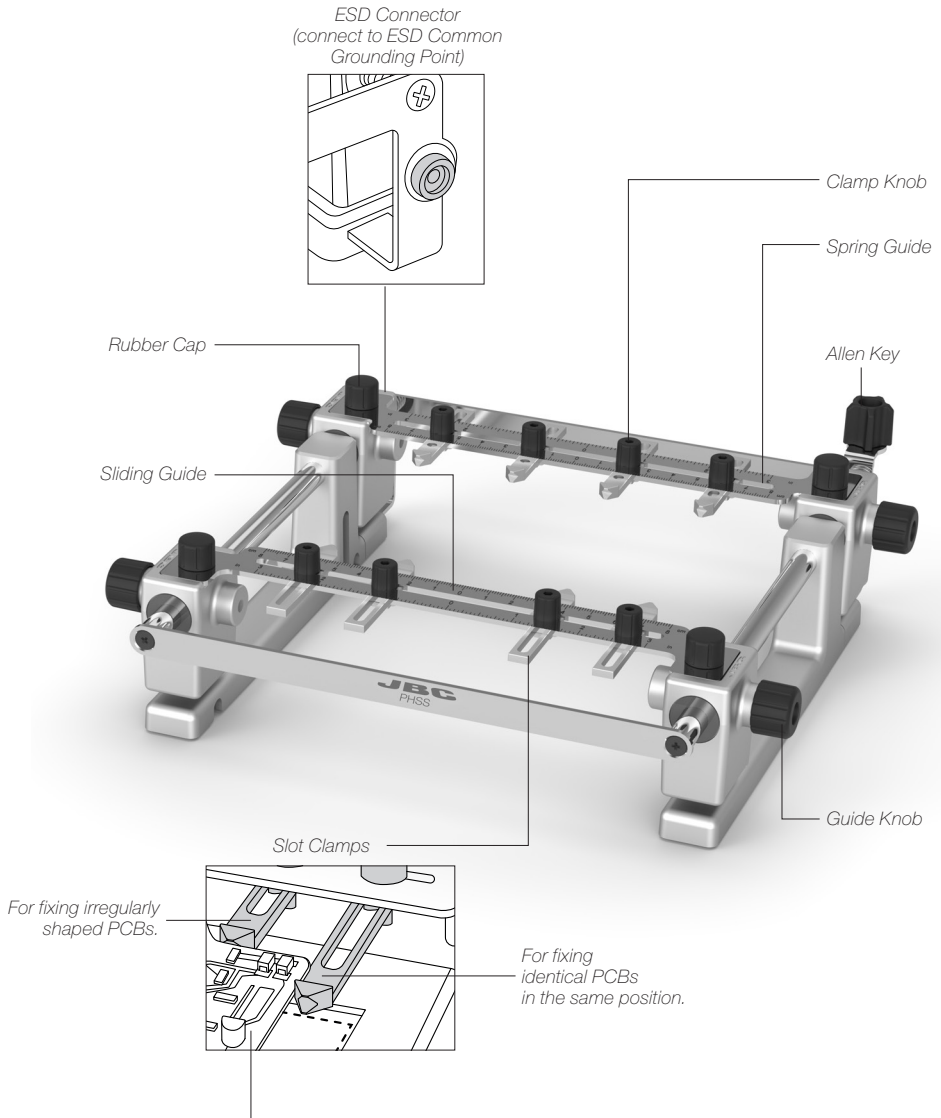


Allen key 1 unit
Ref. 0013754



Manual 1 unit
Ref. 0026994

Features and Connections



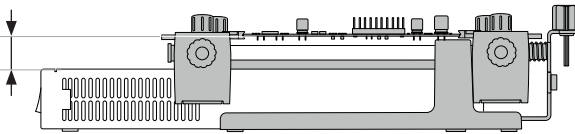
Max. PCB dimension (between clamps):
13x13 cm / 5x5 in, Thickness 6 mm / 0.236 in

Height Adjustment

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

Low level

22 mm /
0.87 in

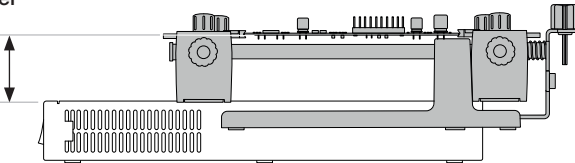


Unscrew these knobs to place the support in the lowest level



Medium level

45 mm /
1.77 in

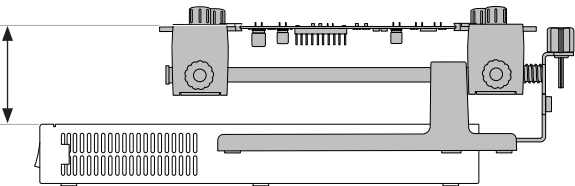


Use the fixing brackets to place the support in the medium and the high level

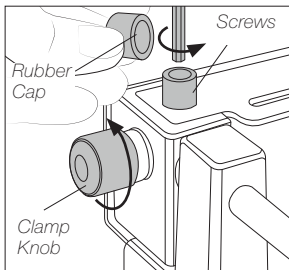


High level

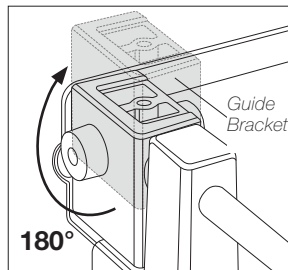
65 mm /
2.56 in



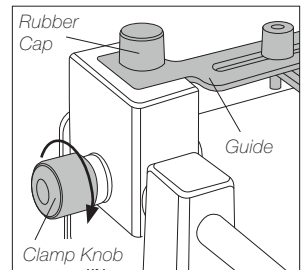
To change the height to the highest level, proceed as follows:



Remove the 4 clamp knobs and the 4 black rubber caps. Then remove the screws with an allen key (n° 3).



After removing both guides, rotate the guide brackets 180°.



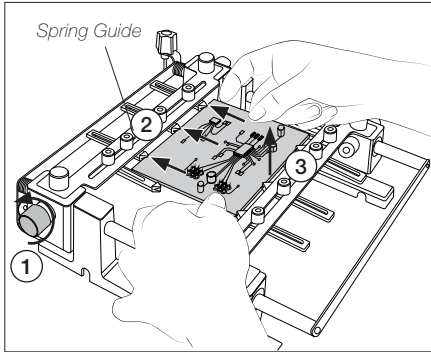
Place the guides, secure them with the screws, place the rubber caps and fix the clamp knobs.

Fast PCB Replacement

Move the spring guide backward to change PCBs of the same batch fast and easily.

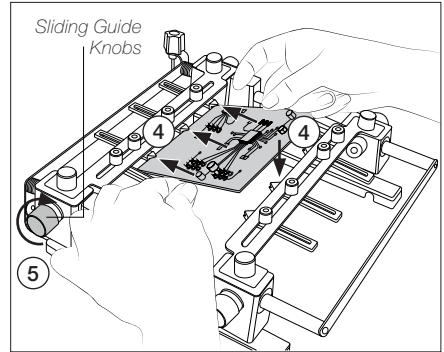
Removing the PCB

Loosen the spring guide (1), push the PCB against the spring guide (2) and lift it out (3).



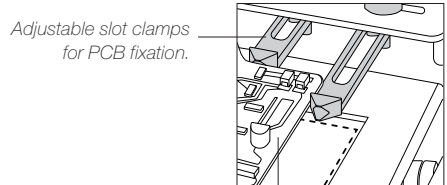
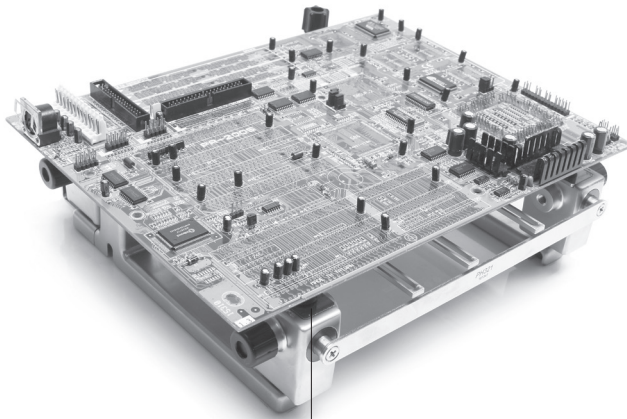
Placing another PCB

Position the new PCB (4) and tighten the spring guide knobs (5).

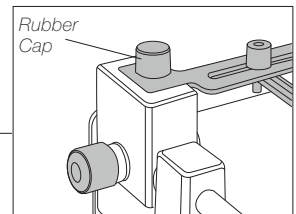


Reworking large PCBs

PCBs larger than the support can be placed onto the 4 rubber caps



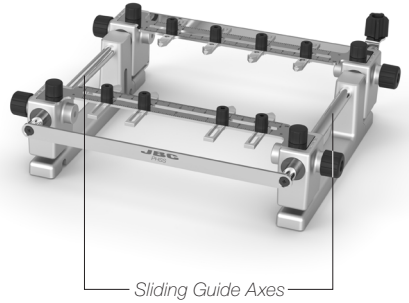
Max. PCB dimension between clamps:
13x13 cm / 5x5 in,
thickness 6 mm / 0.236 in.



Maintenance

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

- Check periodically that the Support is clean, especially the sliding guide axes.
- Use a damp cloth when cleaning. Alcohol can only be used to clean the metal parts
- Replace any defective or damaged piece. Use original JBC spare parts only.
- Repairs should only be performed by a JBC authorized technical service.



Safety



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

- When using the support with a preheater unit, the temperature of accessible surfaces may remain high after the unit is turned off. Handle with care.
- 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

PHSS

Support for PCBs up to 13x13cm / 5x5"

Ref. PHS-SA

- | | |
|--|--|
| - Support Dimensions (Low Position):
(L x W x H) | 267 x 259 x 75 mm
10.5 x 10.2 x 3 in |
| - Support Dimensions (High Position):
(L x W x H) | 267 x 259 x 96 mm
10.5 x 10.2 x 3.8 in |
| - Max. PCB Dimensions (Between Clamps): | 13 x 13 cm / 5 x 5 in
Thickness 6 mm / 0.236 in |
| - Total Net Weight: | 2 kg / 4.4 lb |
| - Total Package Dimensions / Weight:
(L x W x H) | 368 x 368 x 125 mm / 2.7 kg
14.49 x 14.49 x 4.92 in / 5.95 lb |

Complies with CE standards.
ESD safe.

JBC

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.



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.

