

JBC

www.jbctools.com

Product
webpage



INSTRUCTION MANUAL



HDE

Heavy Duty Control Unit

This manual corresponds to the following references:

HDE-9UD (100 V)

HDE-1UD (120 V)

HDE-2UD (230 V)

Packing List

The following items are included:

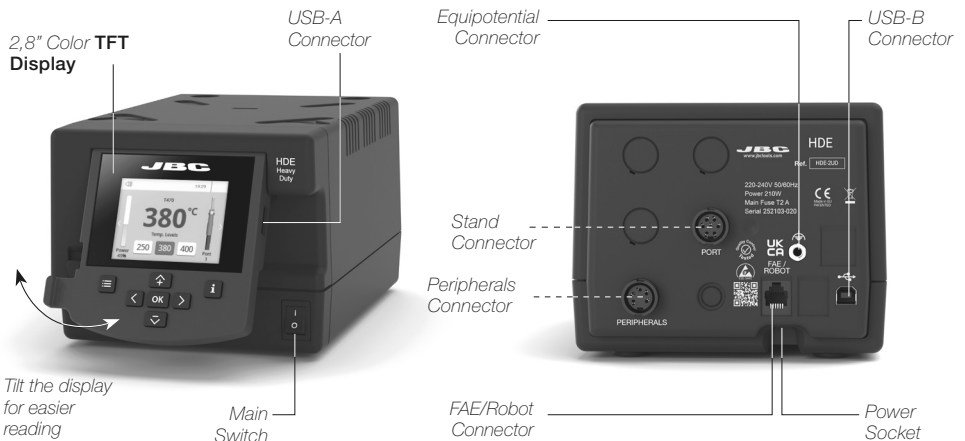


HDE Heavy Duty

| | | |
|----------------------------------|--------------------------------|----------------------------|
| Control Unit 1 unit | Power Cord 1 unit | Manual 1 unit |
| | Ref. 0024077 (100 V) | Ref. 0028871 |
| | 0023717 (120 V) | |
| | 0024080 (230 V) | |

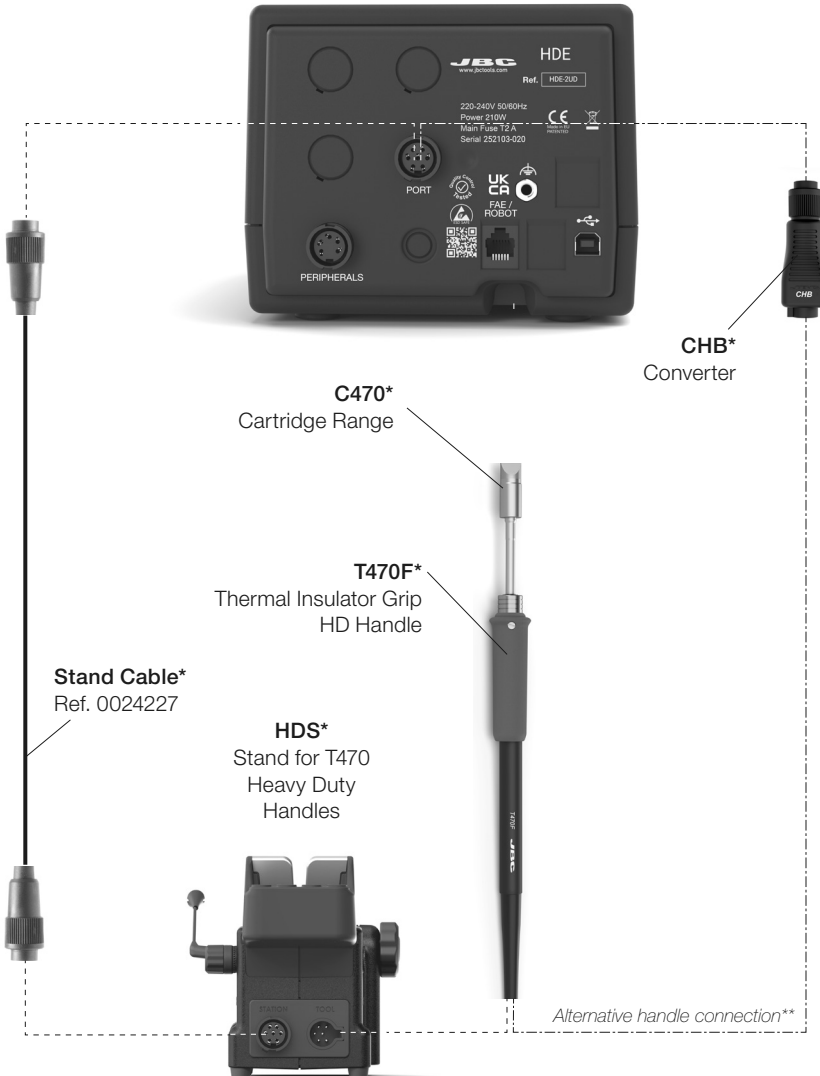
Features

HDE ensures high efficiency and increased performance on soldering applications that require large amounts of heat.



Connection Example - Heavy Duty Handle

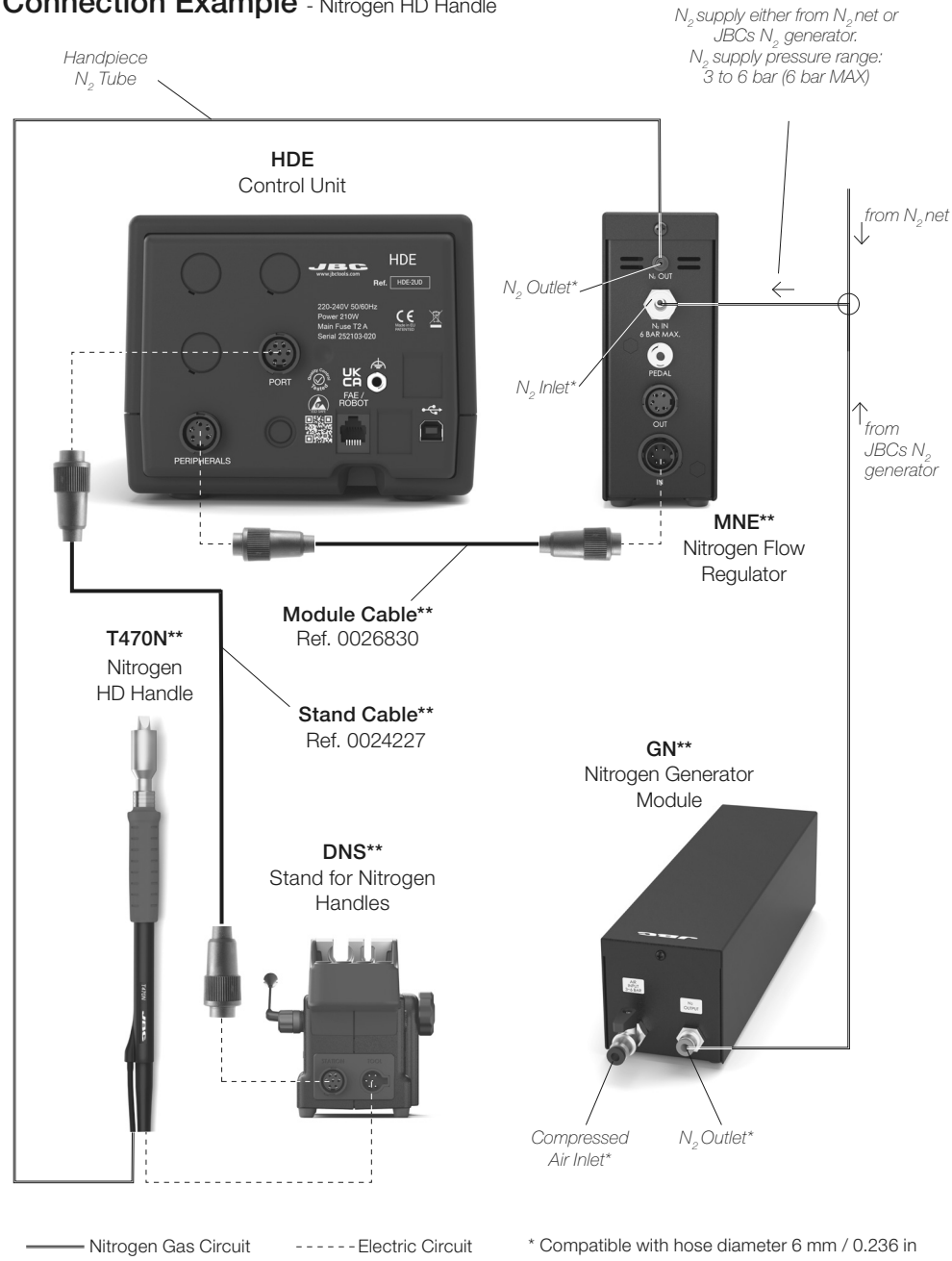
HDE Heavy Duty Control Unit



* Not included, sold separately.

** To save space, the handle can be connected directly to the control unit with the CHB Converter.

Connection Example - Nitrogen HD Handle



Connecting to FAE

HDE can be connected to FAE1 and FAE2 fume extractors. To do so, the HDE control unit must be updated with program version 8886784 (or later versions), which can be downloaded from JBC's website at <https://www.jbctools.com/software.html>.

Once the station is updated, connect it to the fume extractor with the RJ12 cable, provided with FAE1 and FAE2. Use the "FAE/Robot" connector on the control unit and any "Station" connector on the fume extractors.

The setting of the fume extractor must be done from the FAE's own interface.



HDE
Control Unit

RJ12 Cable
Ref. 0019751
Supplied with FAE1/FAE2



FAE1 Connectors

FAE2 Connectors

Compatibility

Choose the equipment that best suits your soldering or desoldering needs.

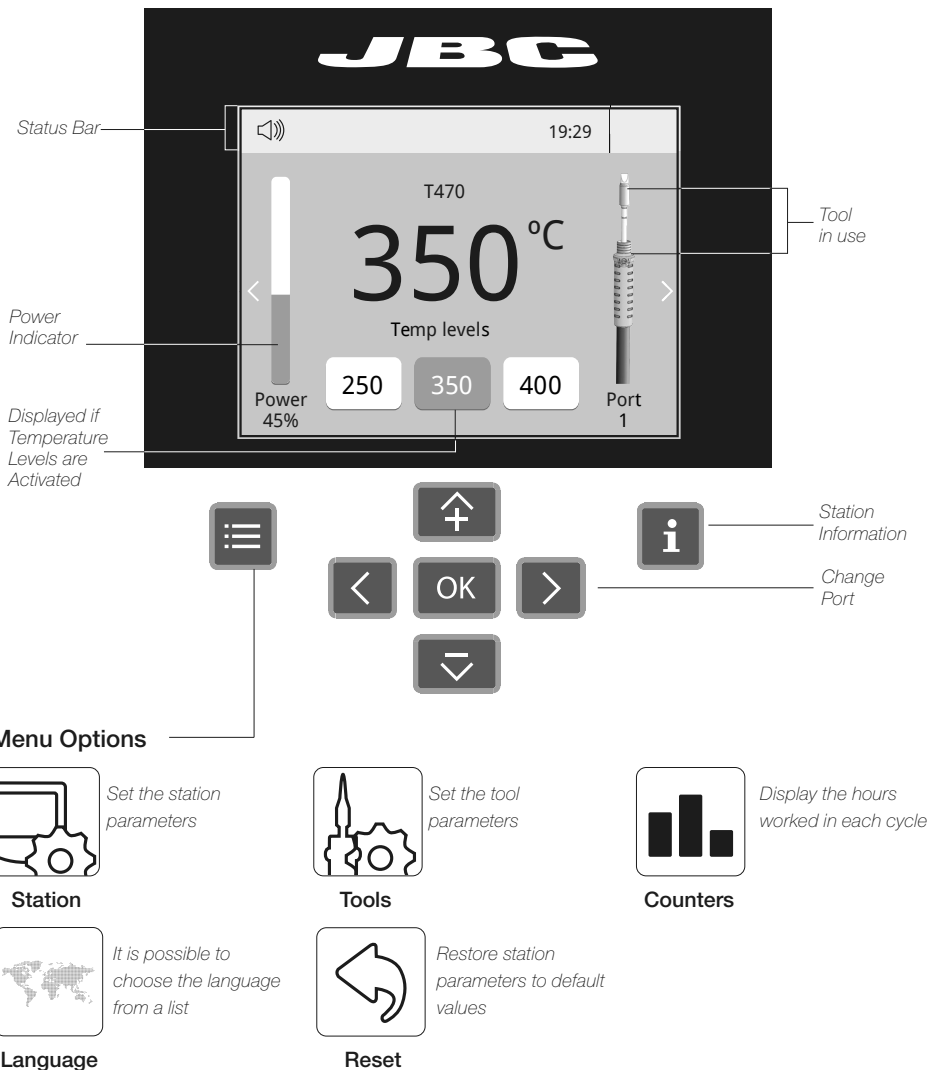
| Control Unit | Tool | Stand | Cartridge Range | MNE | P-005 |
|--------------|--------|-------|-----------------|-----|-------|
| HDE | T470 | HDS | C470 | | |
| | T470S | | | | |
| | T470Z | | | | |
| | T470F | | | | |
| | HT470* | HDTS | | | |
| | T470N | DNS | | ● | ● |

* It works with **two HDE Control Units**.

HDE Work Screen

HDE offers an intuitive user interface which provides quick access to station parameters.

Default PIN: 0105



Troubleshooting

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

Advanced Functionalities



Graphics

It provides detailed graphics of tip temperature and power delivery in real time during solder joint formation for analysis purposes. This helps you decide how to adjust your process or which tip to use to obtain the best quality soldering.



Profiles

Designed to avoid thermal shock when soldering Ceramic Chip components like MLCC, this new and unique feature allows controlling the heating rate to gradually increase the temperature of the component through all the phases of the soldering process. Up to 25 fully configurable soldering profiles can be stored.



Files

Export graphics

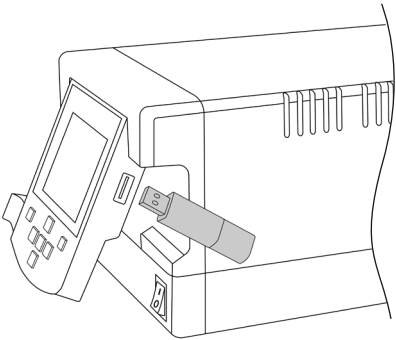
Insert a USB flash drive into the USB-A connector to save your soldering process in csv format.



Update

Station update

Download the JBC Update File from www.jbctools.com/software.html
Insert the USB flash drive with the file downloaded to the station.



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 down-loaded to the station.



Station software update. Press INFO to start the process.



Warning. Press INFO for failure description.

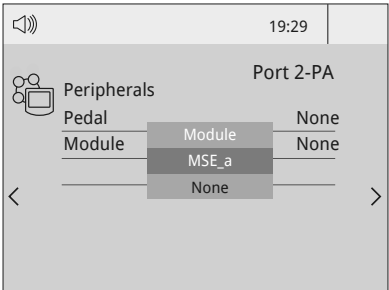


Error. Press INFO for failure description, the type of error and how to proceed.

Peripherals Set Up

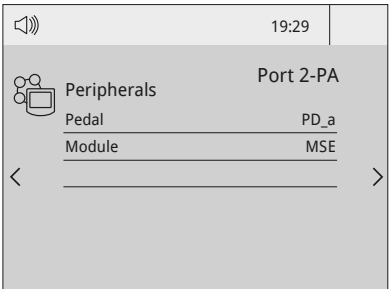
Module Set Up

1. After connecting the module, enter the Peripherals Menu and select the port which you want to join with the module.
2. Select the module from the list of peripheral connections. Remember your first connection is denoted as “a”, the second being “b”, etc. (e.g. MS_a, MS_b,...).
3. Press Menu or Back to save changes.

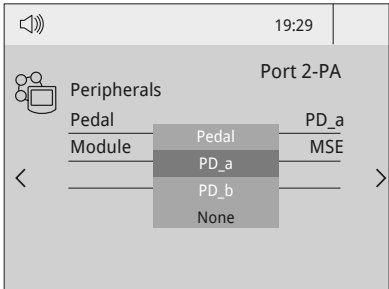


Pedal Set Up

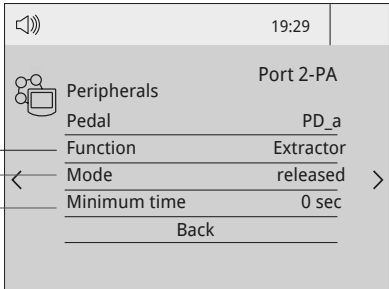
1. Enter the **Peripherals** Menu and **select the port** which you want to join to the pedal.



2. Select the pedal from the list (*Note that your first connection is denoted as “a”, the second being “b”, etc. (e.g. PD_a, PD_b,...).*)



3. Set the pedal function according to your work needs:



Select how the pedal acts:
as **Sleep**, **Extractor** (hibernation) or
as a **module** switch.

Select the activating
mode of the pedal
(**pressed/released**)

Set the duration of the activation time when
pressing the pedal once*. For continuous
functioning keep the pedal pressed.

***Note:** The pedal function can be used in reverse. This means that holding the pedal down deactivates the function and releasing the pedal activates the function.

Peripherals Set Up - continuation

Fume Extractor Set Up

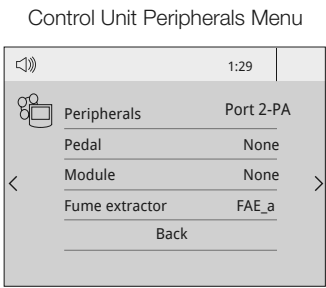
JBC control units feature a connector that allows connecting them to the fume extractor using an RJ12 cable. This way, the fume extractor automatically starts extraction when the soldering tool is in use.

From software version 8886887 (DDE, HDE) on, the connected fume extractor can be configured and controlled through the Peripherals menu of the control unit.



Connect up to 4 control units (connector FAE/ROBOT) to the fume extractor connectors (STATION 1, STATION 2, ...). Each tool connected to these control units can start and stop the fume extractor.

Each control unit detects the fume extractor as “FAE_a”. The tool that should activate the fume extraction needs to be configured through the peripheral menu option on the control unit menu.



Note: To ensure correct operation, always update the control units with the latest available software version. The minimum required version is 8886160 for DDE, HDE and NAE control units and 8886162 for DME control units.

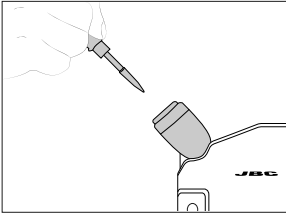
The latest software version can be downloaded from the JBC website jbctools.com/software.html.

Operation

JBC's Most Efficient Soldering System

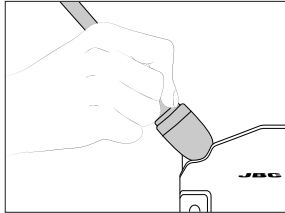
Our revolutionary technology is able to recover tip temperature extremely quickly. It means the user can work at a lower temperature and improve the soldering quality. The tip temperature is further reduced thanks to the Sleep and Hibernation modes which increase up to 5 times the life of the tip.

1. Work



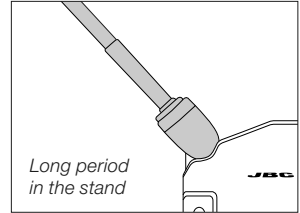
When the tool is lifted from the stand the tip will heat up to the selected Work temperature.

2. Sleep

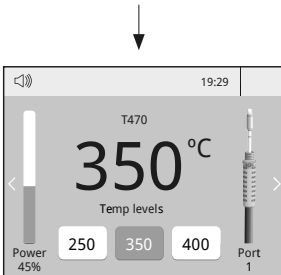


When the tool is in the stand, the temperature falls to the preset Sleep temperature.

3. Hibernation



After longer periods of inactivity, the power is cut off and the tool cools down to room temperature.




Tool Settings:
· Work Temp.

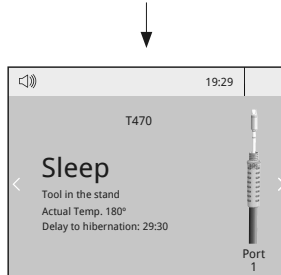
Change Work temperature from 90 to 450 °C.

⬆ or ⬇ steps of ± 5 °C / °F

Tool Settings:
· Temp. Levels

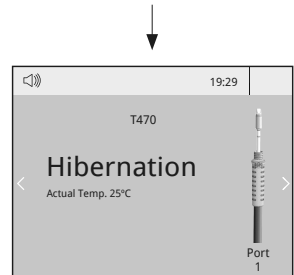
Press , select *Tool Settings* and activate the *Temp. Levels* option.

⬆ or ⬇ steps of ± 5 °C / °F.



Tool Settings:
· Sleep

Change Sleep temperature and set Sleep delay from 0 to 9 min or no Sleep.



Tool Settings:
· Hibernation

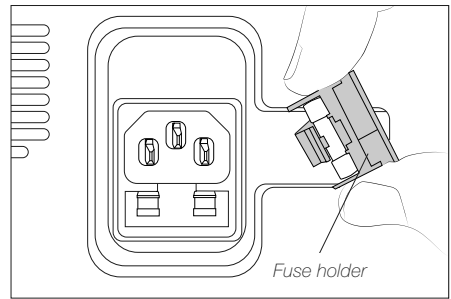
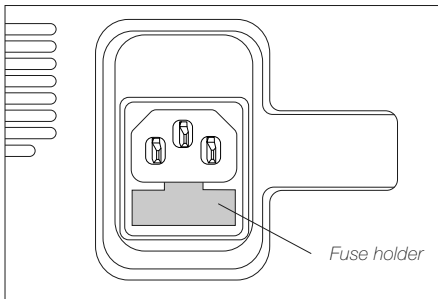
Change Hibernation delay from 0 to 60 min or no Hibernation.

Maintenance

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

- Clean the station screen with a glass cleaner or a damp cloth.
- Use a damp cloth to clean the casing and the tool. Alcohol can only be used to clean the metal parts.
- Periodically check that the metal parts of the tool and stand are clean so that the station can detect the tool status.
- Maintain tip surface clean and tinned prior to storage in order to avoid tip oxidation. Rusty and dirty surfaces reduce heat transfer to the solder joint.
- Periodically check all cables and tubes.
- Replace a blown fuse as follows:

Clean periodically



1. Pull off the fuse holder and remove the fuse. If necessary use a tool to lever it off.
 2. Press the new fuse into the fuse holder and replace it in the station.
- Replace any defective or damaged pieces. 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.

- Do not use the units for any purpose other than soldering or rework. Incorrect use may cause a fire.
- The power cord must be plugged into approved bases. Be sure that it is properly grounded before use. When unplugging it, hold the plug, not the wire.
- Do not work on electrically live parts.
- The tool should be placed in the stand when not in use in order to activate the sleep mode. The soldering tip or nozzle, the metal part of the tool and the stand may still be hot even when the station is turned off. Handle with care, including when adjusting the stand position.
- Do not leave the appliance unattended when it is on.
- Do not cover the ventilation grills. Heat can cause inflammable products to ignite.
- Avoid flux coming into contact with skin or eyes to prevent irritation.
- 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.
- 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 and also people with reduced physical, sensory or mental capabilities or lack of 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.

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Specifications

HDE

Heavy Duty Control Unit

Ref. **HDE-9UD** 100 V 50/60 Hz. Input fuse: 4 A. Output: 42 V.

Ref. **HDE-1UD** 120 V 50/60 Hz. Input fuse: 4 A. Output: 42 V.

Ref. **HDE-2UD** 230 V 50/60 Hz. Input fuse: 2 A. Output: 42 V.

- Nominal Power: 300 W
- Peak Power (Tool): 250 W
- Selectable Temperature: 90 - 500 °C / 190 - 932 °F
- Idle Temp. Stability (still air): ± 1.5 °C / ± 3 °F (Meets and exceeds IPC J-STD-001F)
- Temp accuracy: $\pm 3\%$ (using reference cartridge)
- Temp adjustment: ± 50 °C / ± 90 °F Through station menu settings
- Tip to Ground Voltage/Resistance: Meets and exceeds
ANSI/ESD S20.20-2014 IPC J-STD-001F
- Ambient Operating Temp.: 10 - 50 °C / 50 - 122 °F
- Connections: USB-A / USB-B / Peripherals connectors
RJ12 connector
- Control Unit Dimensions: 232 x 148 x 120 mm / 9.13 x 5.83 x 4.72 in
- Total Net Weight: 2.63 kg / 5.79 lb

- Total Package Dimensions/Weight: 258 x 328 x 208 mm / 3.72 kg
(L x W x H) 10.16 x 12.91 x 8.19 in / 8.21 lb

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 labor.

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.

If you register, you will receive e-mail notifications about new software updates for your registered product.



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.

