HOT-AIR FLOW DESOLDERING STATION

JE 6050

We appreciate the confidence you have shown in JBC by purchasing this station. It has been manufactured with the highest standards of quality to ensure reliable service. Before starting up the apparatus, we suggest you to read through the following instructions carefully.

CHARACTERISTICS

Station comprises

JE 6050 230V~ 50Hz 170VA Ref. 6050200
JE 6050 120V~ 60Hz 170VA Ref. 6050100

- Antistatic digital control unit with heater.
- JS 1400 Soldering stand Ref. 0290140
- Instructions manual Ref. 0995423
- 4 nozzles: Ø 2 Ref. 0990330
  Ø 2,5 Ref. 0990350
  Ø 3 Ref. 0990370
  Ø 4 Ref. 0990410

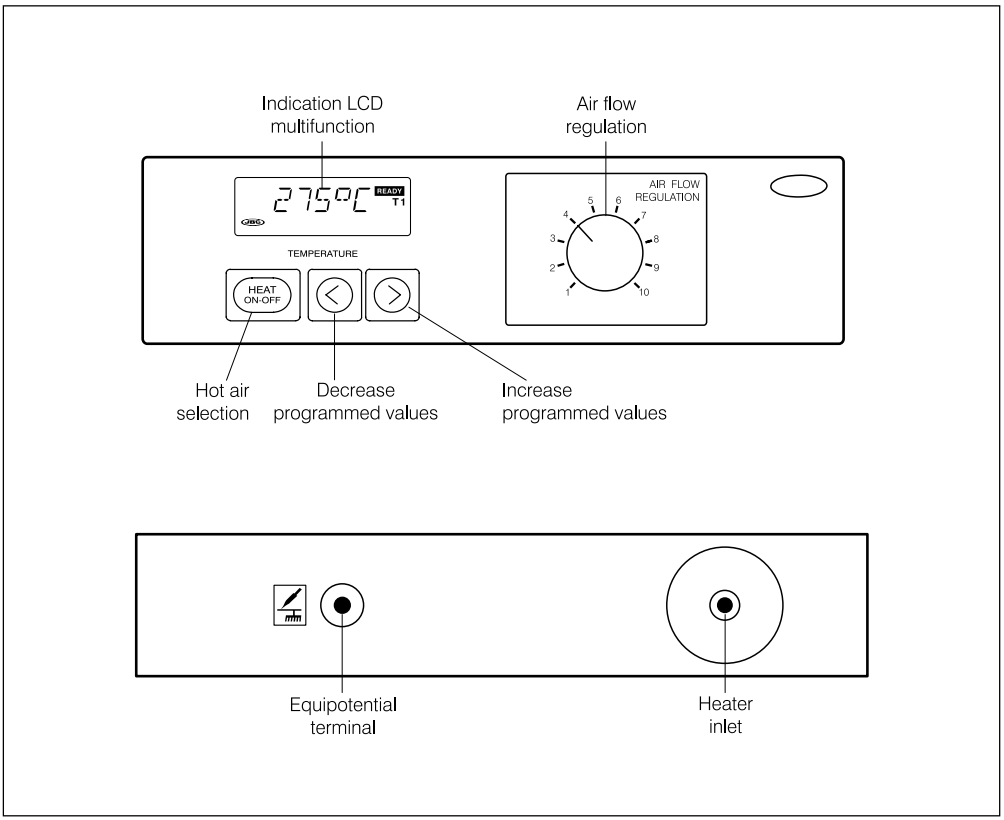
Weight of complete station, packaged: 5,5 kg

Control Unit technical data

The control unit contains the low-voltage electricity supply via a current-isolation transformer.

The electronic control system is governed by a micro-controller with an LCD display.

1. Temperature selection: 100...450°C.
2. Accuracy of programmed temperature ± 3%.
3. Air flowrate adjustable from 1 to 9 l/min.
4. Maximum power of heater 150W at 42V.
5. Air inlet filter accessible from outside.



6. Abides the CE standards for electrical security, electromagnetical compatibility and antistatic protection.

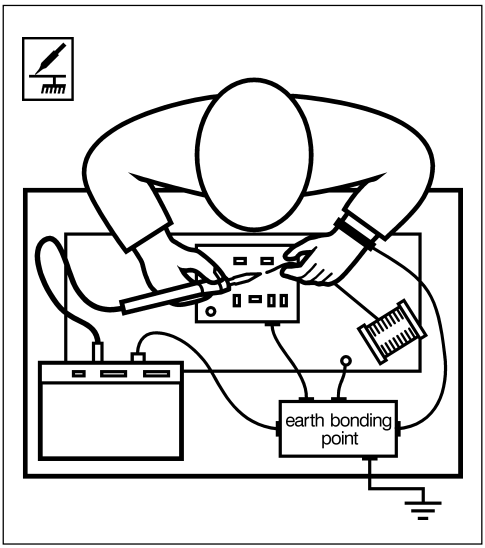
7. Equipotencial connection:

   This unit has a connector on the front which, when connected as shown in figure, creates a circuit to protect the components to be soldered against electrostatic discharge.

   It must be connected to a common (equipotential) point: to the work surface, the soldering station and, by means of an armband, to the operator.

   This provides a voltage reference point, ensuring a common voltage throughout the work area.

   The point should not be branched to earth as this would cancel out the protection. For safety's sake, the operator should be fully insulated from earth.



OPERATION

Start-up

The appliance is switched on with a switch located at the back. An automatic check is performed and if operation is correct, the software version will be displayed and the screen will be rested on **OFF**.

Keys functions

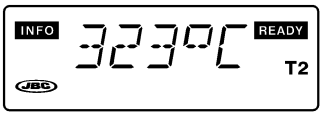
For every pressure, it alternates the **ON** and **OFF** status of the heater.

To decrease the temperature.

To increase the temperature.

The temperature selected is displayed if either of the anterior keys is pressed. If the relevant key is then held down, the temperature changes.

INFO indicates the temperature selected.

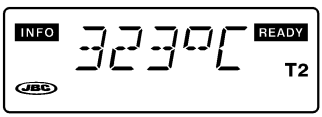


Description of the Program

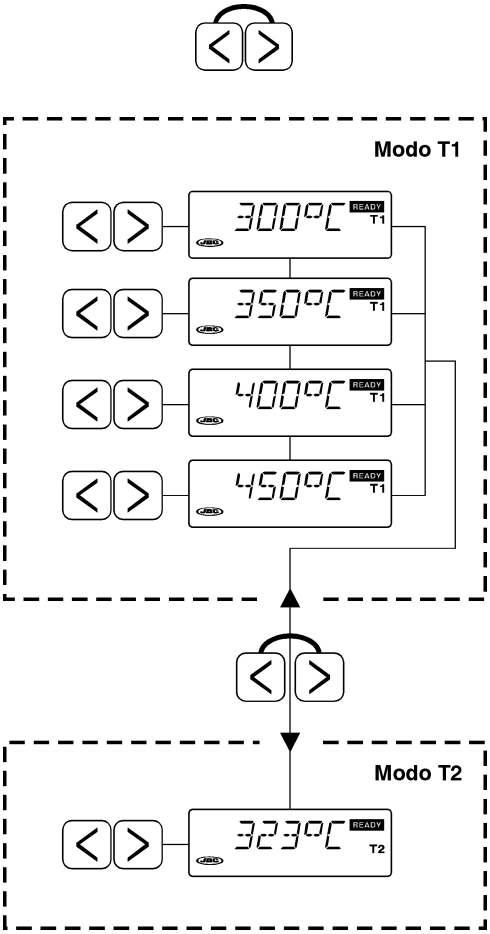
It comprises two work modes:

Mode T1- 4 fixed temperatures set at 300-350-400 - 450°C, which are changed simply by pressing the keys **<** and **>**.

Mode T2 - Enables temperature to be changed in one-degree steps between 100 and 450°C, using the keys **<** and **>** to increase or decrease the temperature.



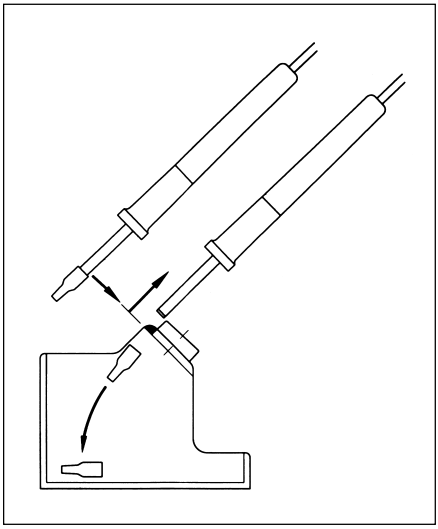
To switch from mode T1 to mode T2 or vice versa, press the two keys **<** and **>** at the same time, and hold them down for one second.



RECOMMENDATIONS FOR SOLDERING AND DESOLDERING

In hot-air soldering and desoldering processes, melting point is reached as a result of the heat applied, the function of the air being to bring the required heat to bear on the components. It is therefore very important to select the lowest possible air flow, and we recommend that the heater be used without a nozzle whenever possible, thus avoiding components being shifted and solder being driven out.

The nozzles are removed from the heather through the special bushing on the stand.



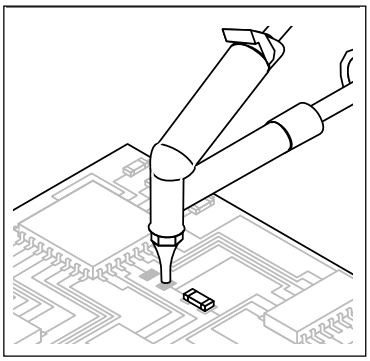
The following values are show as a guide for each application:

	Temp.	Air Flow
Soldering small components	300°C	1 - 2
Soldering medium and large comp.	350°C	1 - 7
Desoldering small components	300°C or 350°C	1 - 4
Desoldering medium and large comp.	400°C or 450°C	7 or Maximum

For soldering

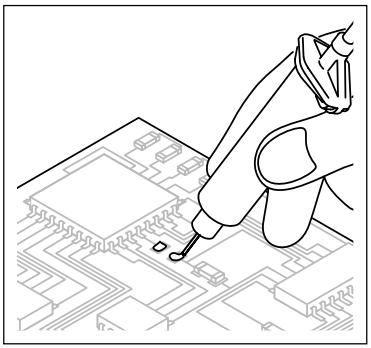
Process for small SMD components of two or three pins such as heating elements, capacitors, transistors, etc:

1) If the component has been desoldered previously, any traces of solder left on the circuit pads must be cleaned up by desoldering-iron suction. We recommend any of our desoldering stations, such as the **RA 5150,** the **RP 5100** or the **TA 5120**.



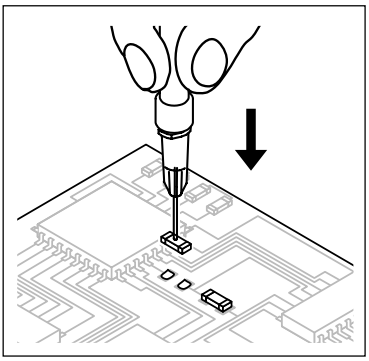
2) Temperature 300°C, air flowrate 1-2.

3) Apply soldering cream (*) for SMD on the circuit pad. For application we recommend our model **DP 6070** dispenser or any other available on the market.

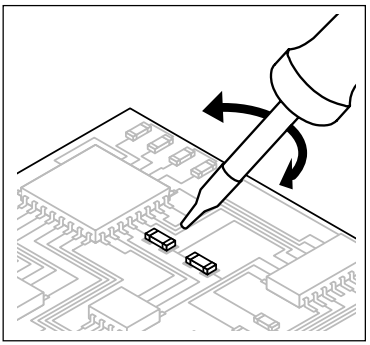


The amount of cream used for each soldering operation should be just sufficient to cover the trace of the component pin. Any excess cream may extend over the circuit on melting and cause short-circuits.

4) Take the component with a JBC **PK 6060** or **DP 6070** Pick & Place or otherwise with fine pincers, place it in position on the circuit and hold it in place.

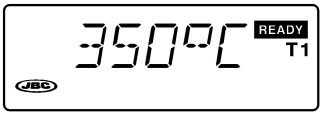


5) Move the nozzle tip to about 15-20 mm from the component terminal and direct the hot air flow against it. Wait for a few seconds until the cream flux liquefies. During this time the terminal will be preheated to about 100°C. Move the tip closer to 8-10 mm and hold it just until the tin alloy melts. Immediately remove the heater. If the solder area is over-heated, it oxidizes making soldering difficult and there is a risk of damaging the component or the printed circuit copper adhesive.

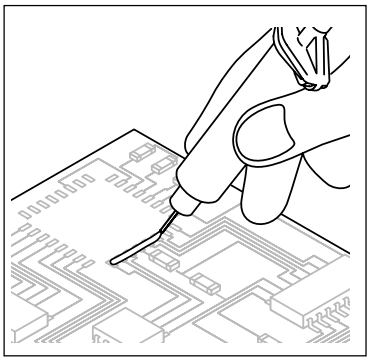


Process for printed circuits in PLCC, QFP, SO encapsulations:

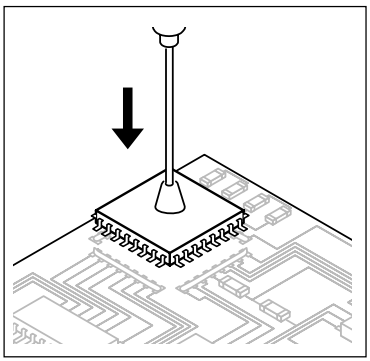
1) Temperature of about 350°C, air flowrate 1-7.



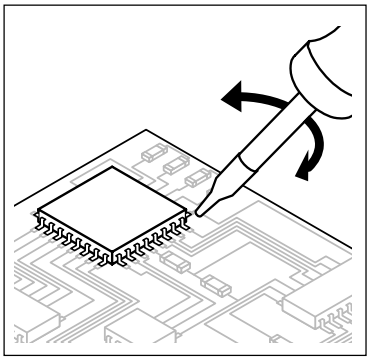
2) Apply soldering cream (*) for SMD on the circuit pads, forming a bead transverse to the direction of the tracks. In this operation, it is vital not to apply too much cream, since any excess may lead to solder cross-connections being formed between the component's pins.



3) Take the component with a **PT 6080** positioner or JBC **PK 6060** or **DP 6070** Pick & Place, place it in position on the circuit and hold it in place.



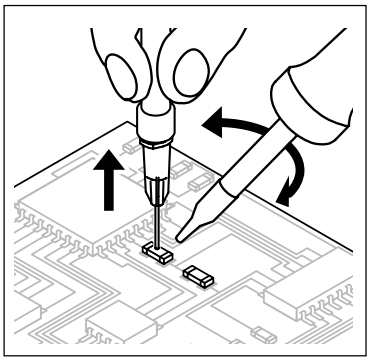
3) Use the heater like the previous case, advancing slowly from one extreme to another of the pins line.



For desoldering

1) Temperature from 400 to 450°C, an air flowrate from 7 to maximum, depending on the size of the component.

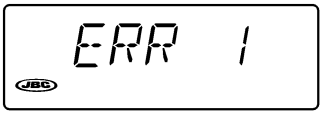
2) Aim the airstream at the component's pins, keeping it moving around the component, in order to achieve an even temperature in the entire area around the chip. Wait until the solder melts, which is indicated by the component moving when subjected to **slight sideways pressure**, in order to avoid pulling off the circuit pads. When it has melted, the component can be removed.



(*) Alloy 62 Sn/36 Pb/2 Ag type RMA/CMA.

TECHNICAL SERVICE

Error messages and remedies



When an error message **ERR** appears, the heating element is completely switched off. To switch on again, use the general start-up switch.

The following messages will be displayed:

- BLANK SCREEN
  Check whether the fuse located at the back of the housing (T800mA) has blown.
  There are other fuses inside the box.
- ERR 1
  The temperature does not rise. Possible causes: heating element fused, heating element supply cable cut, faulty triac. Check and replace as required.
- ERR 2
  The temperature rises out of control or the air flowrate is too low. Possible causes: triac short-circuited, broken or obstructed air conduits. Check and replace as required.
- ERR 3
  There is no thermocouple reading. Possible causes: thermocouple fused, thermocouple cable connection is broken. Replace as required.
- ERR 4
  Thermocouple readings irregular. Possible causes: thermocouple or connections in bad condition. Check thermocouple cable connection and thermocouple. Replace as required.
- ERR 5
  The permanent memory does not operate. It has not been possible to save or retrieve the information. Replace the E2 ROM memory and recalibrate or the complete circuit.

To recuperate any of these errors actuate the general switch at the back of the station.

WARRANTY

ENGLISH

The JBC 6 months, warranty guarantees this equipment against all manufacturing defects, covering the replacement of defective parts and all necessary labour.

Malfunctions caused by misuse are not covered.

In order for the warranty to be valid, equipment must be returned, postage paid, to the dealer where it was purchased enclosing this, fully filled in, sheet.

SERIAL Nº
STAMP OF DEALER SELLO DEL DISTRIBUIDOR CACHET DU DISTRIBUTEUR STEMPEL DES HÄNDLERS TIMBRO DEL DISTRIBUTORE
DATE OF PURCHASE FECHA DE COMPRA DATE D'ACHAT KAUFDATUM DATA DI ACQUISTO

MANUFACTURED BY
Industrias JBC, S.A.
Ramón y Cajal, 3 - 08750 MOLINS DE REI - SPAIN
Tel.: 93-325 32 00 - Fax: 93-680 49 70
www.jbctools.com - info@jbctools.com

0935400-3