

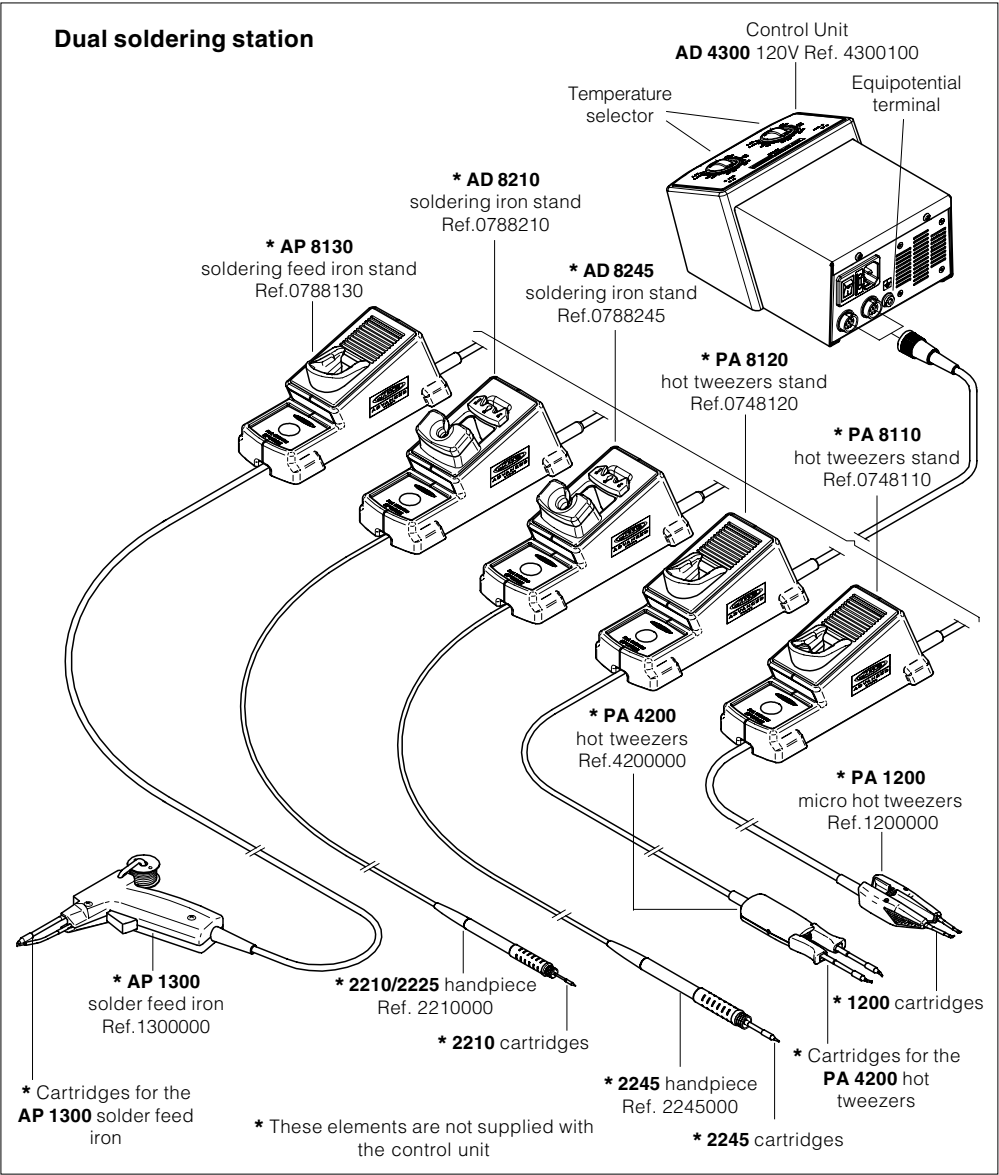


DUAL SOLDERING STATION

AD 4300

We appreciate the trust you have placed in JBC in purchasing this station. It is manufactured to the most stringent quality standards in order to give you the best possible service. Before turning on your station, we recommend you read these instructions carefully.

You have purchased an Advanced **AD 4300** control Unit.
In order to complete the soldering station you should choose the necessary elements for the task to carry out.



Structure of Advanced soldering stations system

The Advanced series has basic modules giving you full flexibility for choosing what you need for the work in hand, the modules being supplied separately.

Dual control unit

- **AD 4300** 120V Ref. 4300100

Model **AD 4300** can be used with two tools simultaneously, either handpieces, desoldering tweezers or the AP 1300 solder feed iron. All tools of the Advanced series can be connected to this station except from the desoldering iron.

Handpieces

- **2210/2225** Ref. 2210000
Power: 20W. For high precision work, SMD, etc.
- **2245** Ref. 2245000
Power: 50W. For general soldering work.

Solder feed iron

- **AP 1300** Ref. 1300000
Power: 50W. Especially advantageous in high volume soldering and wherever an extra hand is needed.

Hot tweezers

- **PA 1200** Ref. 1200000
For general precision desoldering with SMD components.
Power: 40W.
Effective power per cartridge fitted: 20W.
- **PA 4200** Ref. 4200000
For general desoldering and soldering work in professional electronics.
Power: 100W.
Effective power per cartridge fitted: 50W.

Stands

- **AD 8210** Ref. 0788210
Stand for the **2210/2225** handpiece.
- **AD 8245** Ref. 0788245
Stand for the **2245** handpiece.
- **AP 8130** Ref. 0788130
Stand for the **AP 1300** solder feed iron.
- **PA 8110** Ref. 0748110
Stand for the **PA 1200** micro hot tweezers.
- **PA 8120** Ref. 0748120
Stand for the **PA 4200** hot tweezers.

For a dual soldering station work properly is necessary: the dual control unit, a handpiece or the hot tweezers, and the corresponding stand and cartridge.

AD 4300 dual control unit

The station is supplied with:

- Control unit.
- Connection cable to mains.
- Instructions manual.
- Transport packaging.

Technical specifications

- Temperature selection from 200 to 700°F ($\pm 5\%$).
- Power: 200W.
- Safety transformer, mains separator and double isolation, with integrated temperature protection fuse.
- Input: 120V 60Hz. Output: 24V.
- Total weight of unit: 12.5 lbs.
- ESD protected housing.
Typical surface resistance: 10^5 - 10^{11} Ohms/square.
- Equipotential connector and the tool tip are connected to station mains ground supply for ESD protection.

RECOMMENDATIONS FOR USE

For soldering and desoldering

- Clean the contacts and the printed circuit to be desoldered of dust or dirt.
- Preferably select a temperature below 662°F. Excess temperature may cause the printed circuit tracks to break loose.
- The tip must be well tinned for good heat conduction. If it has been inoperative for any length of time, it should be retinned.

Safety measures

- Incorrect use of this tool may cause fire.
- Be cautious when using the tool in places where inflammable products are stored.
- Heat can fire up inflammable products even when they are not at sight.
- Do not use when the atmosphere is explosive.
- Place the tool back on its stand in order to let it cool down before you store it.

OPERATION

LED lights

Red LED -ON- when lit, it indicates that the station is plugged in the mains.

Green LED -READY- when lit, it indicates that the system is ready and correctly set for working.

The green led light is on after a few seconds, is the time needed to carry on the self-checking system.

The green light is pulsing when the tool is in sleep mode.

If the green led is not lit, the reason why, will be one of the following:

1. The tool is not plugged in.
2. The maximum available power has been exceeded for too long - e.g. in a very thick soldering or desoldering at the high repetition rates.
3. The heating element has a short circuit or an open circuit.
4. When an AC 2600 console is connected to the station.
5. Any other trouble preventing the system from working properly.

If any of the above mentioned causes is corrected, the station will start working automatically, except if there is an excess in an energy supply. In this case, the station has to be switched off and restarted.

When pressing the button of the desoldering iron handle, one of the two leds in the area marked SUCTION will light up:

Green light -SUCTION- indicates the correct functioning of the desoldering iron.

Red light -SUCTION- indicates a blockade within the vacuum circuit.

This can be caused by the following:

- The tip of the desoldering iron is blocked.
- The solder tin deposit is full.
- The filter of the desoldering iron is dirty.
- The station's external desoldering air filter is dirty.

Only for users of AC 2600 console ref. 2600000.

If you lock the working temperature thanks to the console, the green LED -READY- will remain on while the dial is set at the locked temperature.

If the dial is not set at the locked temperature, the green LED -READY- will be blinking. The farther the dial will be set from the locked temperature the slower the blinking pace will be.

SLEEP FUNCTION

Tool in sleep mode

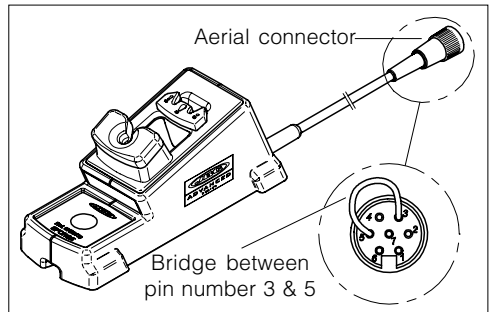
One of the Series Advanced features is that when the tool is placed in the holder, the temperature at the tip drops automatically to the sleep temperature (sleep). This function is only possible because of the quick response time which does not make the user realise the temperature rise to reach the selected temperature. Thanks to the sleep mode, oxidation levels at the tip are much lower and therefore tip life extended to 3 to 5 times under equal conditions of use.

To indicate that the tool is in sleep-mode, the green led starts pulsing.

These parameters can be modified using the **AC 2600 console** Ref. 2600000.

In order to take full advantage of the sleep function and as a security measure, it is necessary to place the tool in the stand when it is not being used.

When connecting an old version solder stand, it may happen that the sleep function does not work. To resolve this problem, you should make a bridge between pins number 3 and 5 from the aerial connector of the cable of the stand, that plugs in the station.



ADVANCED HANDPIECES RANGE

All the Advanced soldering handpieces range can be connected to the **AD 4300** station:

- **2210/2225** handpiece ref. 2210000. Power: 20W. For high precision work, SMD etc. Available **2210** cartridges: see page 16.
- **2245** handpiece ref. 2245000. Power: 50W. For general soldering work. Available **2245** cartridges: see page 14.

One version of **2245** handpiece covered with a heat insulator is available:

- **2245** Confort handpiece ref. 2245110.

The **2210** and **2245** handpieces and cartridges comply with the MIL-SPEC-2000 referring to the potential difference between the soldering tip and ground connection, must be less than 2 mV.

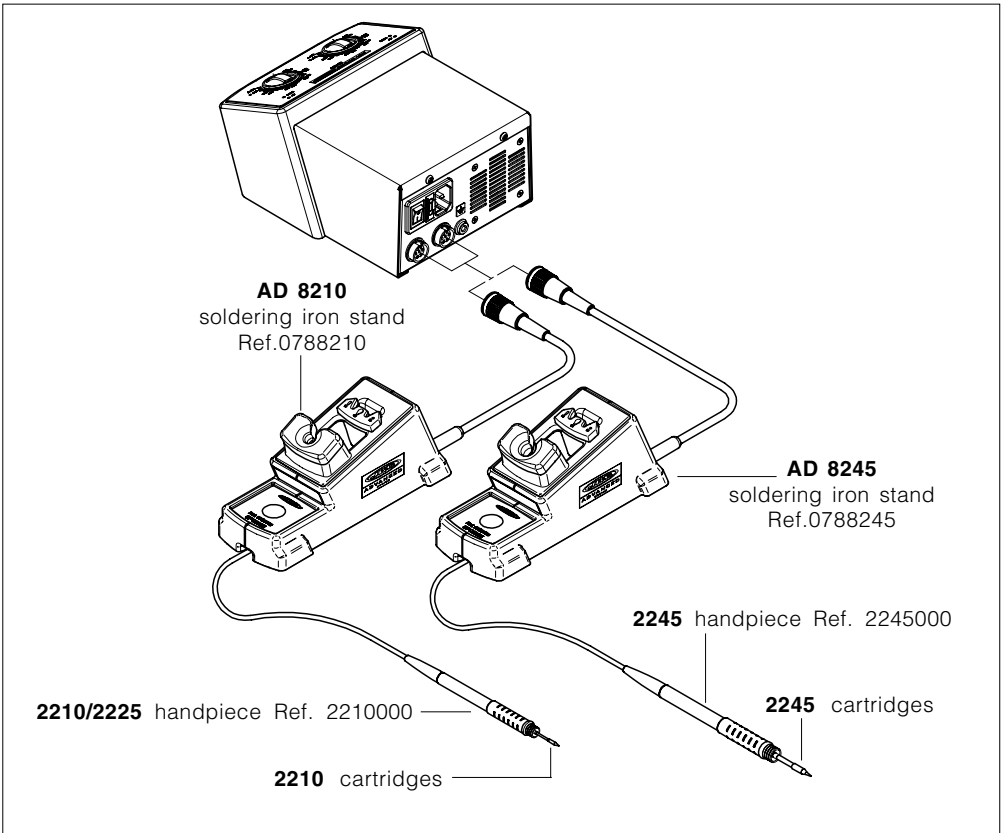
Stands

- **AD 8210** Ref. 0788210
stand for the **2210/2225** handpiece.
- **AD 8245** Ref. 0788245
stand for the **2245** handpiece.

These articles are not delivered with the station. For a soldering handpiece to work properly, the following components are required: the control unit, one handpiece and the corresponding and cartridge.

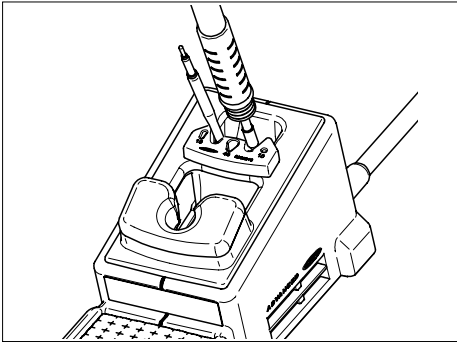
The soldering iron is connected to the station in the following way:

The cable connection of the soldering iron is connected to the plug in the soldering iron stand and the cable connection of the soldering iron stand is plugged into the terminal of the station. Please find the connection plan on figure.

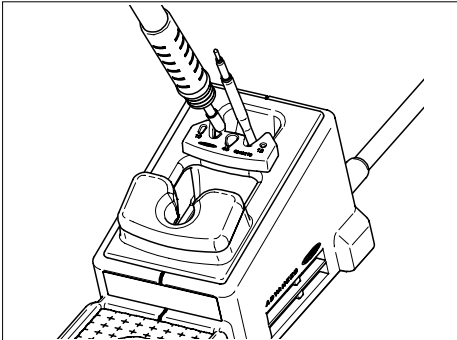


Changing the handpiece's cartridge

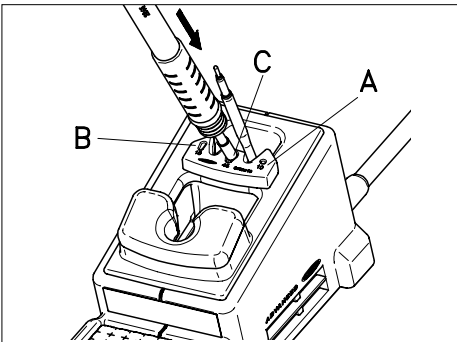
With the Advanced system, the cartridge can be changed quickly, without turning off the station, so you have two soldering irons in one. Here is what to do to change the cartridge:



1 - Place the handpiece and remove the cartridge.

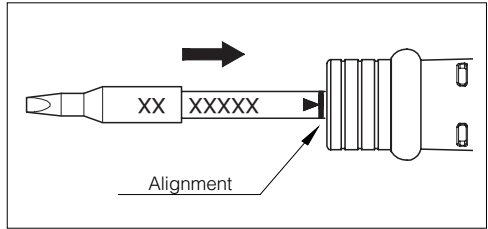


2 - Place the handpiece on top of the new cartridge, press it slightly down and remove the handpiece.



3 - Press the cartridge into the opening A, B or C:

- A. For straight 2210 cartridges.
- B. For curved 2210 cartridges.
- C. For 2245 cartridges.



Important.

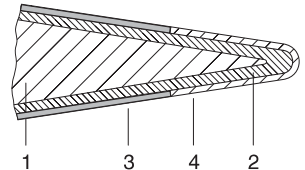
- It is essential to insert the cartridge till the end for a good connection. Take the mark ► as reference.

Advanced series cartridge

The cartridge is made of the heating element which has the heating system, a temperature sensor and a long life tip.

The long-life tip is basically made of:

- 1 Copper
- 2 Iron
- 3 Chromium
- 4 Tin plate



Tip care recommendations

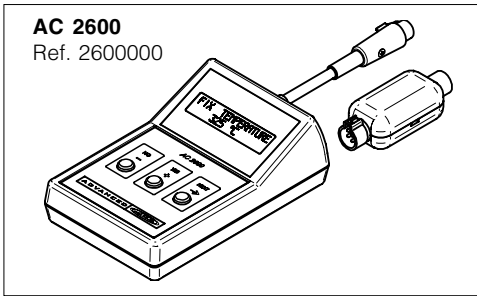
Except for the copper core, the rest of metals are placed galvanically on relatively thin layers, therefore it is necessary to avoid anything which could cause their destruction.

To clean the tips, use the sponge included with the stand and check that it is slightly moisted.

Only deionised water (car battery water) should be used in order to wet the sponge. If normal water was to be used, it is very likely that the tip will become dirty due to the salts dissolved within the water.

To re-tin the soldering tips, we recommend using the TT 9400 tip tinner/cleaner ref. 9400000.

AC 2600 console



The **AC 2600** console is designed for modifying the original regulation program parameters of the following Advanced control units:

- **AD 2000, AD 2200 and AD 2700 (**)** soldering stations.
- **DI 3000** digital soldering station (**).
- **AD 4200, AD 4300 and DD 5700 (**)** dual soldering stations.
- **AR 5500, AR 5800 (*)** and **DS 5300 (*)** desoldering stations.
- **AM 6000 and AM 6500 (*)** rework stations.
- **DM 6700** polystation (**).
- **AL 2500** solder feed system (**).

(*) These stations need a console whose program version is 4.0 or higher.

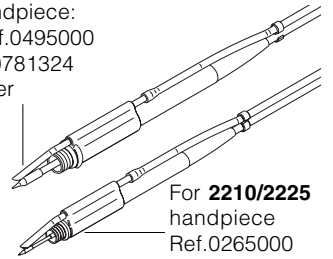
(**) These stations need a console whose program version is 5.01 or higher.

Changes available to perform:

- Fixing the the working temperature.
- Selection of temperature units in Celsius grades -°C- or Fahrenheit -°F-.
- Modification of sleep temperatures and standby times.
- Adjustment of temperature.
- Set the parameters back to the original parameters.
- Read-out data:
 - Working hours.
 - Sleep cycles and sleep hours.
 - Cartridge and iron changes.
 - Program version.

Fume extractor accessories

For **2245** handpiece:
Standard Ref.0495000
Confort Ref.0781324
+20mm longer
Ref.0455002



Specially designed for the Advanced Series 2210/2225 and 2245 handpieces. Easily clips onto the handpiece and can be quickly removed for easy maintenance.

HOT TWEEZERS

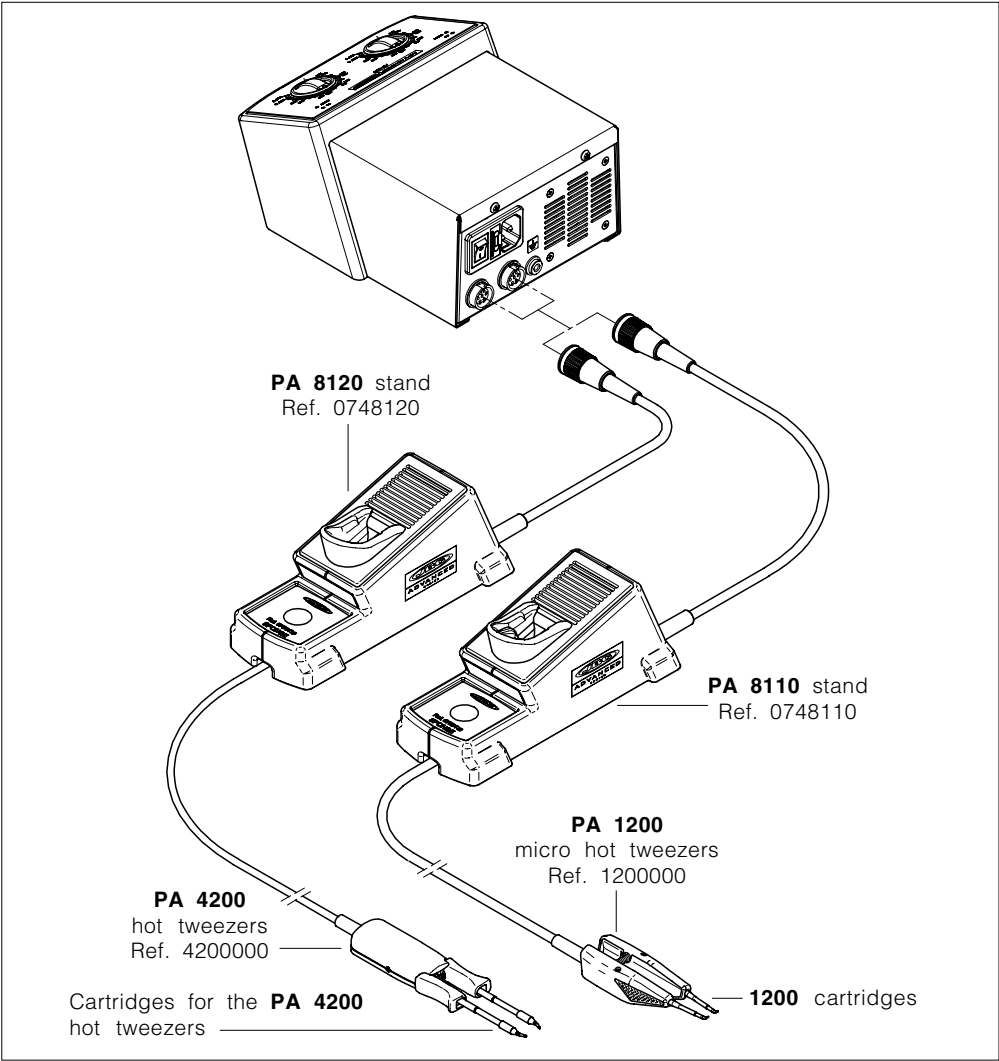
AD 4300 station allows to connect two different models of tweezers, each one with its respective range of cartridges and stand:

- **PA 1200** micro hot tweezers ref. 1200000.
- **PA 4200** hot tweezers ref. 4200000.

For tweezers to work properly, the following components are required: control unit, hot tweezers, a stand and a set of cartridges corresponding to the chosen tweezer.

The tweezers are connected to the station in the following way:

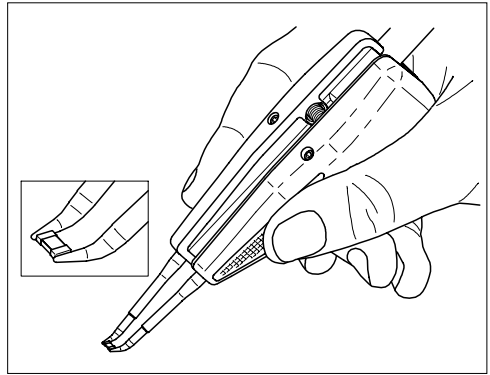
The cable connector of the tweezers is plugged into the connector of the stand. The cable connector of the stand is connected to the terminal of the station. Please find the connection plan on figure.



PA 1200 MICRO HOT TWEEZERS

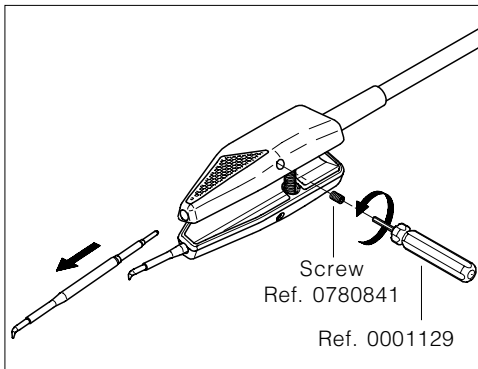
For micro hot tweezers to work properly, the following components are required:

- Control unit.
- **PA 1200** micro hot tweezers ref. 1200000.
For general precision desoldering with SMD components.
Power: 40W.
Effective power per cartridge fitted: 20W.
- **PA 8110** stand ref. 0748110.
- A set of cartridges (see range).



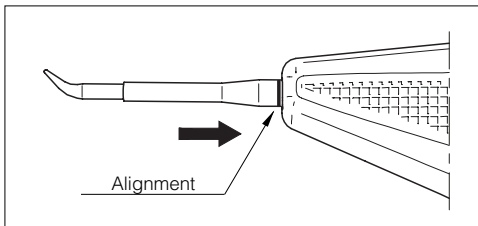
Changing the cartridge

To extract the cartridge the screw needs to be unfastened and the cartridge pulled out. Insert the new cartridge and push it thoroughly. Then check that both tips of the tweezers coincide and screw it.



Important.

- It is essential to insert the cartridge till the end for a good connection. Take the mark **I** as reference and check that both parts of the tweezers coincide.

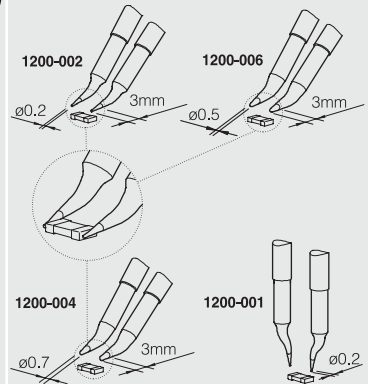


RANGE OF CARTRIDGES

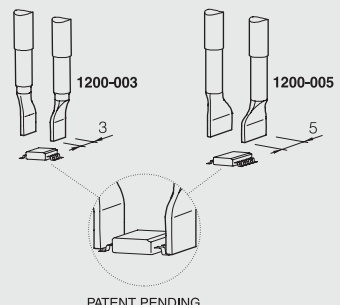
PA 1200 has an individual temperature control for each cartridge so it is supplied individually.

1200

CHIP COMPONENTS



IC COMPONENTS



PATENT PENDING

All the cartridges shown are actual size.

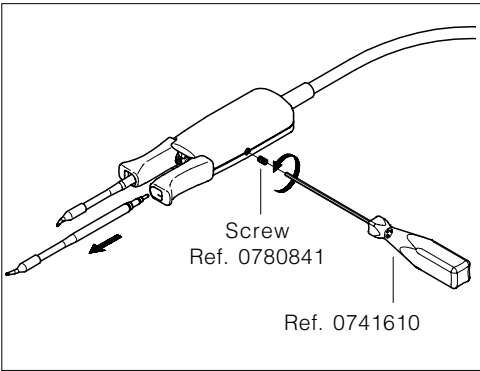
PA 4200 HOT TWEEZERS

For hot tweezers to work properly, the following components are required:

- Control unit.
- **PA 4200** hot tweezers ref. 4200000. For general desoldering and soldering work in professional electronics.
Power: 100W.
Effective power per cartridge fitted: 50W.
- **PA 8120** stand ref. 0748120.
- A set of cartridges (see range).

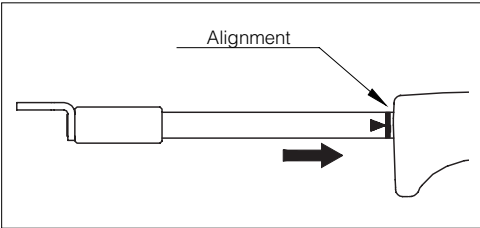
Changing the cartridge

To extract the cartridge the screw needs to be unfastened and the cartridge pulled out. Insert the new cartridge and push it thoroughly. Then check that both tips of the tweezers coincide and screw it.



Important.

- It is essential to insert the cartridge till the end for a good connection. Take the mark ► as reference and check that both parts of the tweezer coincide.



JBC reserves the right to make technical changes without prior notification.

RANGE OF CARTRIDGES

PA 4200 has an individual temperature control for each cartridge so it is supplied individually.

Chip components

Ref.	A mm
2245-271	1,5
2245-272	2,5

Dual in line IC

Ref.	A mm
2245-273	4,0
2245-274	6,0
2245-275	8,0
2245-276	10,0
2245-277	15,0
2245-278	20,0

QFP and PLCC

Ref.	A mm
2245-279	8,0
2245-280	11,0

Cable stripper

Ref.	A mm
2245-281	3,5 max
2245-282	

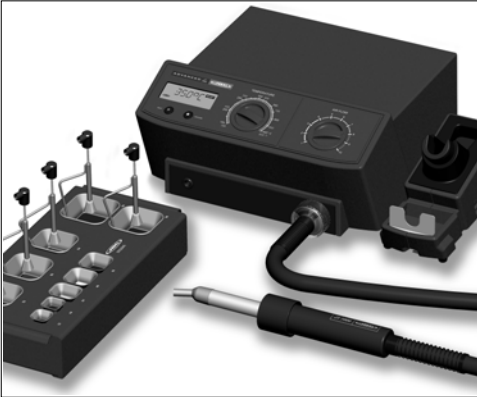
Blade type

Ref.	A mm
2245-283	50

PATENT PENDING

JBC

advanced series



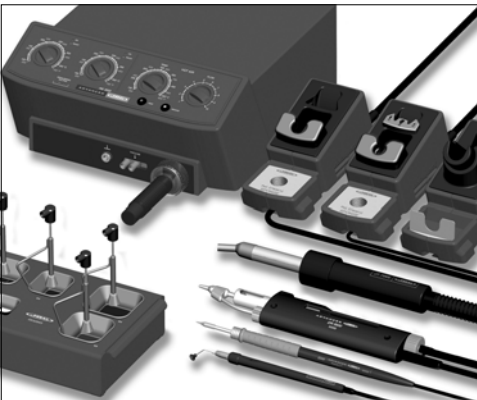
JT 7000

Hot-air flow repair station for desoldering all types of SMD's particularly QFPs and PLCCs of any size.



AR 5800

Desoldering station which enable the rapid desoldering of all kinds of insertion components.



AM 6500

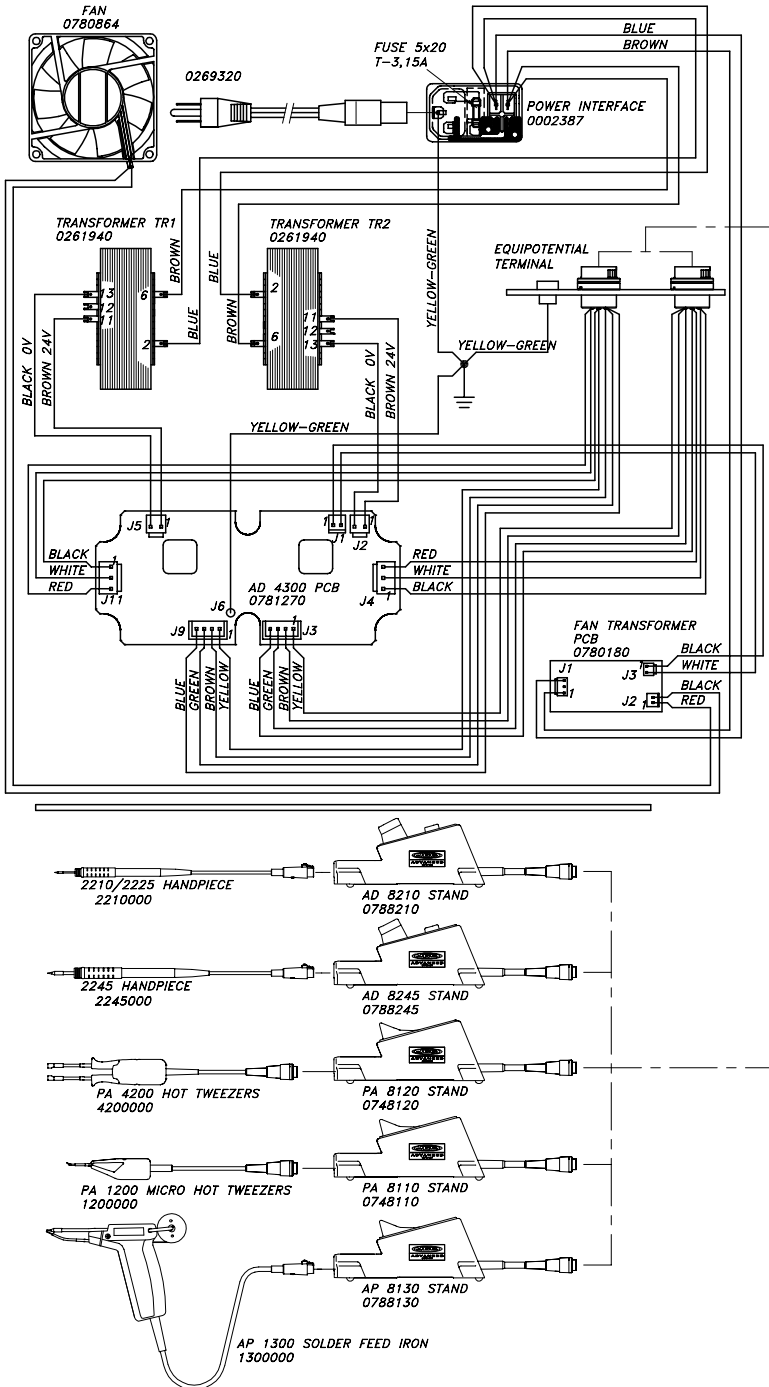
Station for rework and repair of through-hole and SMT boards.

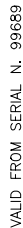


TE 5000

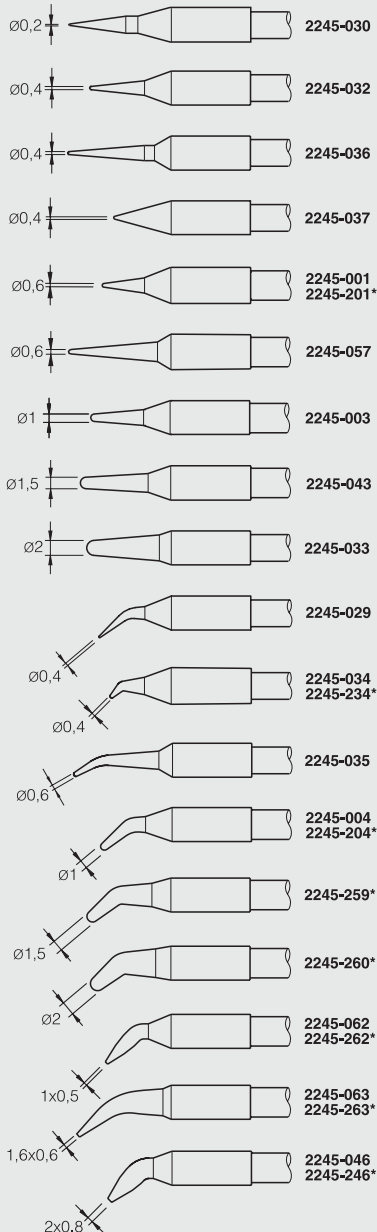
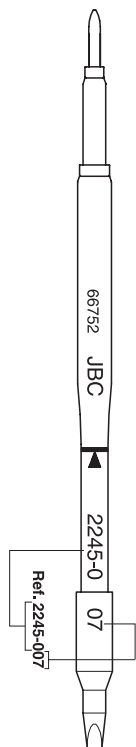
Hot-air flow repair station designed for soldering and desoldering small and medium-sized SMDs.

ELECTRIC WIRING DIAGRAM



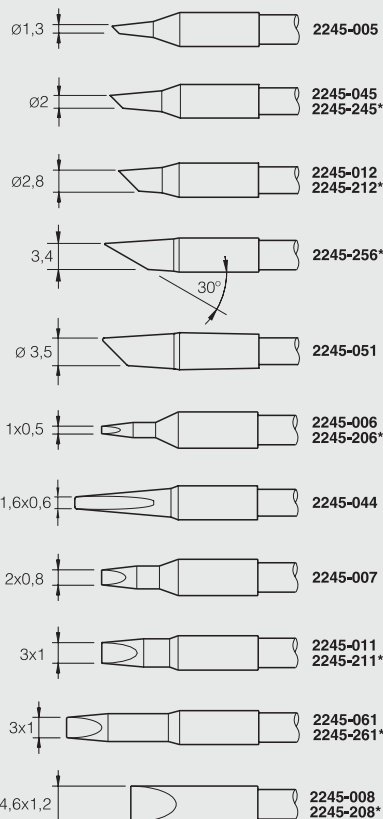


2245

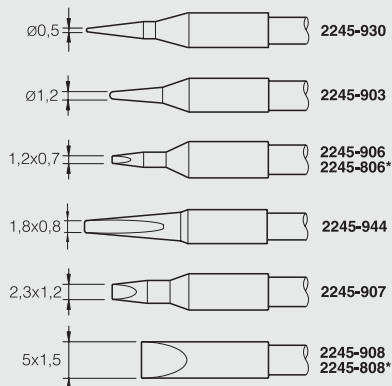


* These cartridges have a total length of 20mm longer than the normal cartridges, allowing them to reach places with difficult access and cartridges 2245-XXX are compatible with the AP 1300 solder feed iron.

All the cartridges shown are actual size.



LEAD-FREE CARTRIDGES



These cartridges are made to last longer in lead-free processes because of their extra tough plating.

PATENT PENDING

TO SOLDER SMT IC

4,5x1,8

2245-009
QFP

4,5x1,8

2245-010
PLCC

MINI SPOON

ØA

Ref.	ØA
2245-065	1,8
2245-031	2,5
2245-038	3,5

BEVEL EDGE TIP

6

0,2

2245-039

13

0,3

2245-055

FOR CHIP COMPONENTS

A

Ref.	A
2245-016	1,9
2245-017	2,2
2245-018	3,4
2245-019	4,5

**TUNNEL TYPE
FOR DUAL IN LINE IC**

A

A

B

Ref.	A	B
2245-220	5,9	6,0
2245-250	5,9	8,0
2245-221	5,9	10,0
2245-222	7,5	12,0
2245-215	9,6	18,0
2245-226	14,6	28,4

FOR IC'S: QFP AND PLCC

A

A

B

Ref.	A x B
2245-223	8,5 x 8,5
2245-224	12,0 x 12,0
2245-228	12,4 x 15,0
2245-227	17,5 x 17,5

BLADE TYPE

A

Ref.	A
2245-014	10
2245-013	21
2245-049	32
2245-283 *	50

A

* This cartridge has been especially designed for the PA 4200 tweezers.

FOR PLCC SOCKETS

B

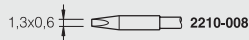
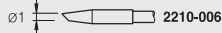
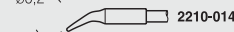
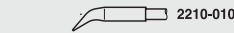
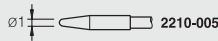
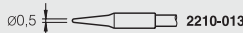
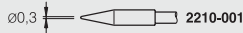
A

Ref.	NUMBER OF CONTACT POSITIONS	A	B
2245-248	32	11,9	14,5
2245-247	44	17,0	17,0

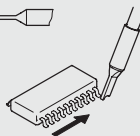
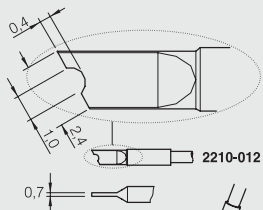
CARTRIDGE RANGE

2210

Ref. 2210-001



FINE PITCH



WARRANTY ENGLISH

The JBC 2 years warranty, guarantees this equipment against all manufacturing defects, covering the replacement of defective parts and all necessary labour.

Warranty does not cover product wear due to use or mis-use.

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 N°

STAMP OF DEALER

DATE OF PURCHASE

MANUFACTURED BY
JBC Industrias, S.A.
Ramón y Cajal, 3 - 08750 MOLINS DE REI
BARCELONA - SPAIN
Tel.: +34 93 325 32 00 - Fax: +34 93 680 49 70
<http://www.jbctools.com> e-mail: info@jbctools.com