

**SOLDER POT**  
**POT-100C / 103C**  
**POT-200C / POT-202C**



**POT-203C**



**WARNING**

Read this Owner's Operation Manual before using your solder pot. Failure to follow the safety precautions and instructions in this manual could result in serious injury and property damage.

Thank you for buying a goot Solder Pot. Your new solder pot has been engineered and manufactured to the goot high standard for dependability, ease of operation, and operator safety. Please follow this operation manual for your continued safety and operational comfort.

**KEEP THIS MANUAL FOR FUTURE REFERENCE**

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## **SAFETY MARK DEFINITIONS**

The following marks of WARNING and CAUTION are defined below.  
Please make sure you fully understand the contents to ensure proper use and protection of operator and others from injury and damage.



### **WARNING**

Failure to obey a safety warning could result in serious injury or death to yourself or to others. Always follow the safety precautions to reduce the risk of electric shock, fire or personal injury.



### **CAUTION**

Failure to obey a safety caution could result in a minor or moderate injury to yourself or to others. Always follow the safety precautions to reduce the risk of electric shock, fire or personal injury.

### **NOTE**

A note or word of advice. Always follow as the note tells you.

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## 2. SAFETY INFORMATION

To assure safe operation, read and always follow the rules below.



### WARNING

Do not attempt to operate the unit before you have read thoroughly and understood completely all instructions, safety rules, etc. contained in this manual.



### WARNING

Make sure that the machine must be grounded at all times to prevent electrical shocks and static electricity. If it is not properly grounded, electrical shocks may occur.

### 1. KNOW YOUR SOLDER POT

Read the operation manual carefully. Safe operation of the unit requires that you read and understand this operation manual and all labels affixed to the unit. You should be alert to the possible dangers, application and usage restrictions on this unit.

### 2. DO NOT USE IN DANGEROUS ENVIRONMENTS

Do not use it in damp, humid or wet locations, or expose it to rain. Do not use outside. Never use it in a potentially explosive area. Ignition may occur through the heater. Keep the work area well lit.

### 3. KEEP CHILDREN AND BYSTANDERS AWAY FROM THE UNIT

Do not let bystanders touch the unit. All children and bystanders should be kept a safe distance from the work area.

### 4. USE CORRECTLY

Do not use this for any purpose other than dipping into solder. Do not touch any side of the solder pot when it is hot except the temperature control panel and the main power switch.

### 5. WEAR PROPER APPAREL AND SAFETY GLASSES

Do not wear loose clothing such as a necktie. Tie up long hair. Clothing or hair can be burnt by coming into the solder in the pot or surrounding heated parts.

### 6. CONNECT TO A CORRECT POWER SUPPLY

Do not use with any power voltage other than the indicated voltage.

### 7. DO NOT BEND THE POWER CORD

Keep the power cord away from heat, oil, and sharp edges. Requires periodic inspections.

### 8. BE CAREFUL ABOUT THE EROSION OF THE BATH

The pot will become corroded by the solder over long-term operation. This corrosion may cause a hole, and melted solder leakage. Thus, the bath needs to be replaced before solder corrodes bath surfaces.

| SOLDER                | Sn-Pb Eutectic solder |        | Sn-Ag-Cu Lead-free solder |         |
|-----------------------|-----------------------|--------|---------------------------|---------|
| Operating Temperature | 250°C                 | 350°C  | 270°C                     | 450°C   |
| POT-100C/200C         | 3 years               | 1 year | Not available             |         |
| POT-103C/203C         | 5 years more          |        | 5 years                   | 3 years |

This table compares the bath lives of goot POT-100C/200C and POT-103C/203C. It is only a guide. When using more chlor-flux, erosion is faster. And note that the chlorine will rust the bath surface.

### 3. SPECIFICATIONS

#### 3-1. Features

- Dual digital display shows set temperature and measured temperature visually.
- PID temperature control minimizes deviation between the actual solder temperature and the set temperature.
- Warning lamp to detect any deviance from set temperature range.
- Lead-free applicable (POT-103C/203C)

#### 3-2. Specifications

| MODEL              | POT-100C                                       | POT-103C                      | POT-200C                           | POT-203C                      |
|--------------------|--|-------------------------------|------------------------------------|-------------------------------|
| Voltage            | 110V, 120V, 130V, 220V, 230V, 240V, AC 50/60Hz |                               |                                    |                               |
| Power Consumption  | 440W   | 900W                          | 650W                               | 1400W                         |
| Max. Temperature   | 350°C  | 450°C                         | 400°C                              | 450°C                         |
| Control System     | PID Control                                    |                               |                                    |                               |
| Dimensions         | 220×380×124(H)mm                               |                               | 220×450×124(H)mm                   |                               |
| Bath Dimensions    | 91×135×60(D)mm                                 | 82×110×53(D)mm                | 130×180×60(D)mm                    | 108×170×53(D)mm               |
| Weight             | approx. 4.5kg                                  | approx. 8kg                   | approx. 6kg                        | approx. 11kg                  |
| Max. Solder Volume | approx. 4.5kg                                  | approx. 3.5kg                 | approx. 9.5kg                      | approx. 7kg                   |
| Bath Material      | SUS316   | Cast Iron                     | SUS316                             | Cast Iron                     |
| Temp. Accuracy     | ±[(1.25% of display temperature)+1°C]          |                               |                                    |                               |
| Power Cord         | 3-prong cord 1.3m<br>w/ground plug             | 3-prong cord 1.5m<br>w/o plug | 3-prong cord 1.3m<br>w/ground plug | 3-prong cord 1.5m<br>w/o plug |

#### NOTE

The PID controller is preset to the optimum temperature 270°C for dipping PCBs.

The ALM (alarm) lamp will light up when the temperature is 5°C higher or lower than the set temperature.

For further information about the temperature controller installed in the solder pot, please refer to the operation manual RB series(RKC INSTRUMENT INC.) included in the box.

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#### 4. PACKAGE CONTENTS

Make sure that all the items listed below are included. And store the packaging until making sure that the pot functions properly.

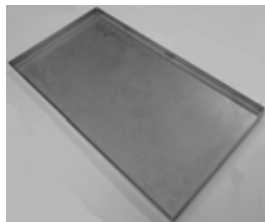
- Main unit



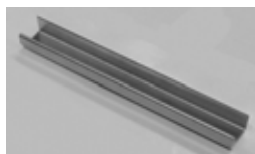
- Instruction manuals (for POT, RB series quick operation / Parameter)



- Tray



- Slag holder



- Slag remover



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## 5. HOW TO SET UP

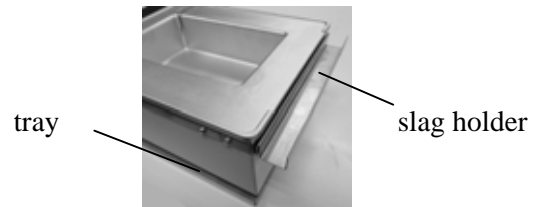


### WARNING

Be sure to install the solder pot on a firm metal bench. The solder pot becomes heavy with the solder. The solder pot and surroundings also become very hot. Handle with care to avoid fire or burning yourself.

### 5-1. Set up

1. Position the tray provided under the solder pot.



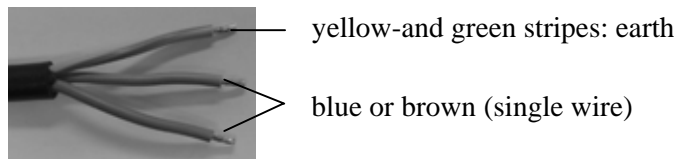
2. Hook the slag holder to the side of the top plate.

3. Check that the power switch is OFF (O side), and connect the power cord.

\*POT-100C/200C: Plug the power cord into an outlet.

\*POT-103C/203C: Connect the power cord to the switchboard.

(If using power plug, be careful about its power rating.)



4. Put the appropriate volume of solder into the bath. (See Max. solder volume in the specifications)  
The proper amount of melted solder is about 1cm below the rim of the pot.

5. Turn the main power switch ON (to I side).

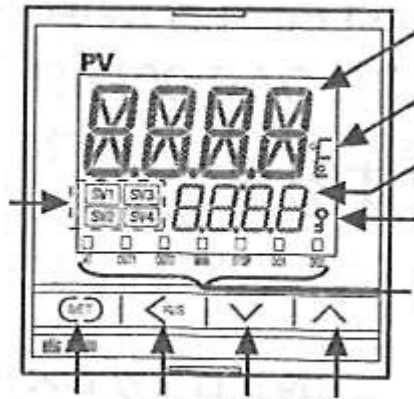
6. Set the temperature, following the setting procedures of the control panel explained in 5-3. The factory default temperature is 270°C.

7. After setting, the control output lamp (OUT1) of the control panel will light up, and temperature control will start. The solder melts in about 40-50 minutes. Remove the oxidized slag on the solder surface with the slag remover, and start dipping.

8. Be sure to turn OFF the main power switch when solder pot is not in use, and when stepping away from the unit.

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## **5-2. Functions of Control Panel**



1. **PRESENT VALUE (PV) DISPLAY**  
Displays the actual measured value (PV) and each parameter.
2. **INDICATION OF MEASUREMENT UNITS**  
Displays the unit of temperature(°C or °F), or manipulated value(MV) or each parameter.
3. **SETTING VALUE (SV) DISPLAY**  
Displays the manipulated value(MV) or each parameter.
4. **KEY LOCK LAMP**  
Lights up when the unit is in Key Lock mode.
5. **AT LAMP**  
Flashes during the Auto-Tuning mode (AT).  
OUTPUT LAMP OUT1: Lights up when OUT1 is ON.  
OUTPUT LAMP OUT2: Lights up when OUT2 is ON.  
MAN LAMP: Lights up when manual (MAN) mode.  
STOP LAMP: Lights up when in control stopped.  
DO OUTPUT: LAMP Lights up when each event output (DO1-DO4) is ON.
6. **STEP VALUE LAMP**  
Lights up the lamp which meets the setting value (SV1-SV4) in use when using step SV function or timer function.
7. **SET KEY**  
Use to call up the parameter or set the value.
8. **SHIFT KEY**  
Use to shift the digits for setting change.
9. **DOWN KEY**  
Use to decrease the setting value.
10. **UP KEY**  
Use to increase the setting value.



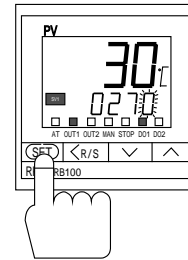
### 5-3. How to set the value

Example: Inputting 400°C as the set value (SV) (PV value: 30°C).

#### [Enter the setting mode]

Press the **SET** key to enter the SV setting mode.

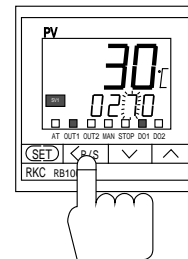
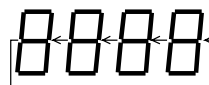
The lowest digit in the SV display will flash.



#### [Digit shifting]

Press the **<R/S** key and shift the flashing digit to the ten's digit.

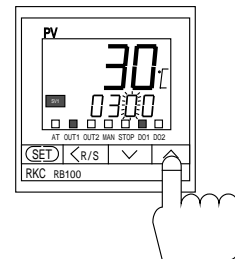
Every pressing of the **<R/S** key will shift the flashing digit as shown right.



#### [Increase/decrease the value]

Press **Δ** key and display the number "0".

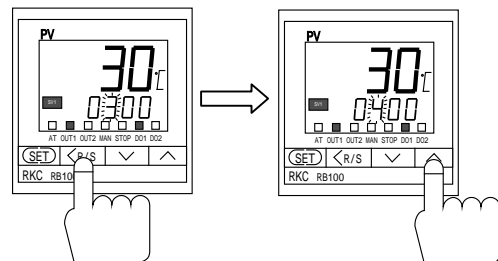
**Δ** key increases the value, and **∇** key decreases the value.



#### [Digit shifting]

Press the **<R/S** key and shift the flashing digit to the hundred's digit.

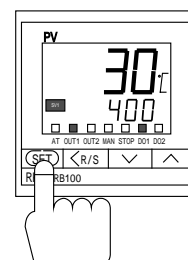
And press the **Δ** key to select the number "4".



#### [Registering the set value]

After finishing the settings, press the **SET** key.

The display stops flashing the set value, and shows PV SV mode.



#### NOTE

The setting value cannot be set above the max operating temperature. See max operating temperature in the 3-2.specifications.

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## 6. MAINTENANCE

- Make sure that the tip of the sensor is always in the melted solder. Always keep the melted solder volume at about 1cm below the rim of the pot.
- When using the solder pot for long periods, oxidized dross may accumulate around the walls of the solder bath. This can cause poor heat transmission from the heater, overheating and insufficient heating of the solder. Periodically scrape the walls of the solder bath with the spatula included with the unit to remove oxidized dross. And handle with care to avoid fire or burning yourself.

## 7. IN THE EVENT OF A FAILURE

Proceed with the following steps if you have any problems.

1. Check that the power cord is plugged in, and the circuit breaker is set to the ON position.
2. Check that the power cord is not damaged. If you notice any signs of damage, please contact your distributor.
3. Check that the fuse has not blown out. If the fuse has blown out, please replace it (POT-100C/200C/103C).
4. On POT-203C the main power switch has a built-in breaker function. If the main power switch does not turn ON, this situation may cause a leak current and/or short-circuit. Unplug the power cord and contact your distributor.

## 8. REPLACEMENT PARTS

### 8-1. Replacement procedures



#### WARNING

Turn off the main power switch and unplug the power cord before changing the solder bath, heater or sensor. Do not start replacing work until the unit has completely cooled down.

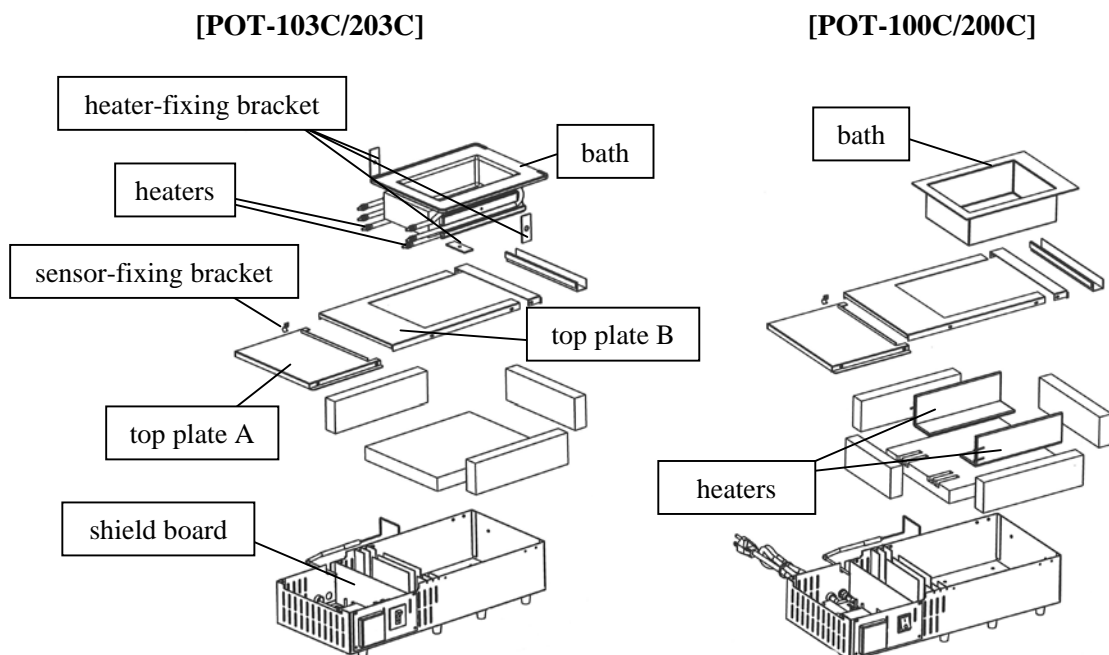
#### Heater Replacement

##### POT-100C/200C

1. Turn off the main power switch and unplug the power cord. Wait till the bath has completely cooled down.
2. Remove the sensor-fixing bracket. Take out the bath and sensor from the solder POT unit. Handle with special care not to damage the sensor.
3. Dismount the top plates A & B.
4. Take out the shield board.
5. Remove the nuts (2 locations) which fix the heater-lead wire. Be careful not to loosen the bottom nuts.
6. Remove the nuts which fix the ground wire.
7. Pull out the bath only.
8. Take out the heaters.
9. Reassemble with new heaters, reversing these steps.

##### POT-103C/203C

1. The same steps as the procedure of Heater Replacement POT-100C/200C 1-5.
2. Remove the screws which fix the ground wire.
3. Pull out the bath with the front heat insulation board.
4. Remove the screws which fix the fixing bracket. Take out the heaters A & B, and dismount the heat insulation board.
5. Remove the nuts (2 locations) and take out the heater lead wire.
6. Fix the heater lead wire to new heaters with the nuts (2 locations).
7. Reassemble with new heaters, reversing these steps.



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## Bath Replacement

### POT-100C/200C

1. The same steps as the procedure of Heater Replacement POT-100C/200C 1-2.
2. Pull out the bath.
3. Mount a new bath.

### POT-103C/203C

1. The same steps as the procedure of Heater Replacement POT-103C/203C 1-4.
2. Remove the screws and take out the ground wire.
3. Fix the ground wire to a new bath with the screws.
4. Reassemble with new heaters, reversing these steps.

## Sensor Replacement



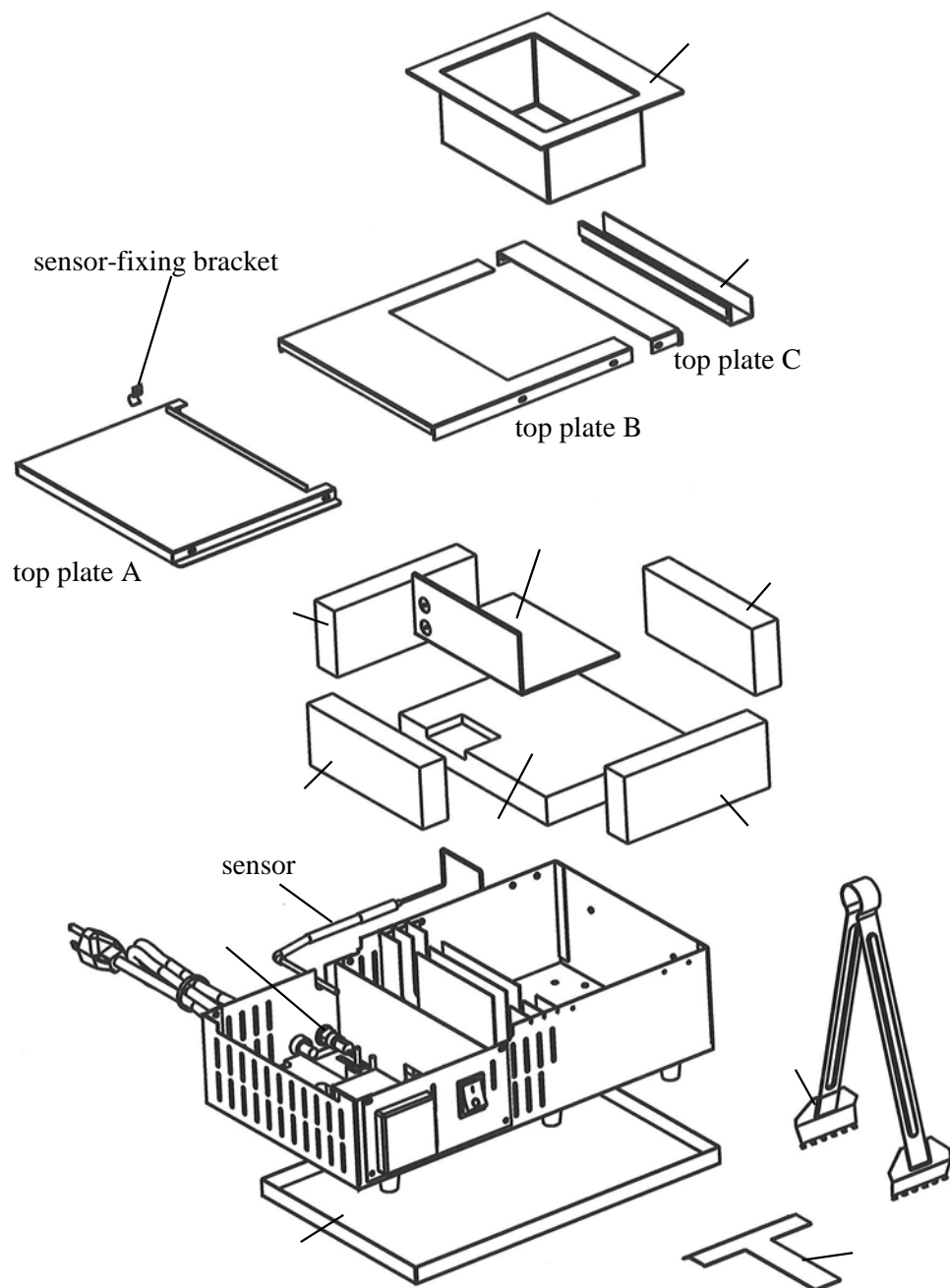
### WARNING

Sensor replacement must be done in melted solder. It is very dangerous. Contact your nearest distributor

## 8-2. Replacement / Option parts

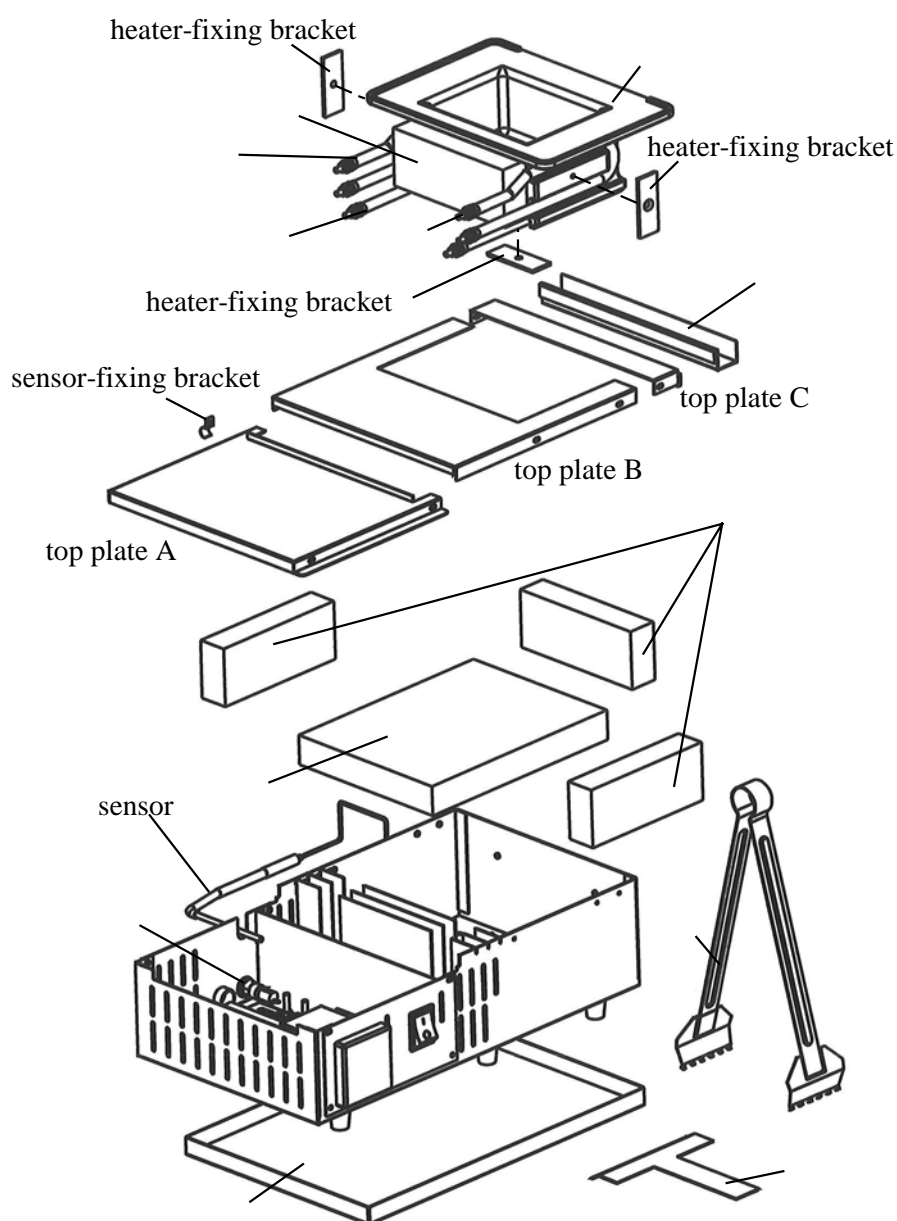
### POT-100C

| NO. | ITEM   |
|-----|--|
| 1   | Heater [POT-100CH]   |
| 2   | Bath [POT-100CP]   |
| 3   | Fuse 250V 8A for the 110-130V model<br>Fuse 250V 4A for the 220-240V model |
| 4-6 | Heat insulation board set (Only available as a set)                        |
| 7   | Tray for POT-100C/103C   |
| 8   | Slag remover for POT-100C/103C/200C/203C                                   |
| 9   | Slag holder for POT-100C/103C/200C/203C                                    |
| 10  | PCB holder for dipping (Option)  |



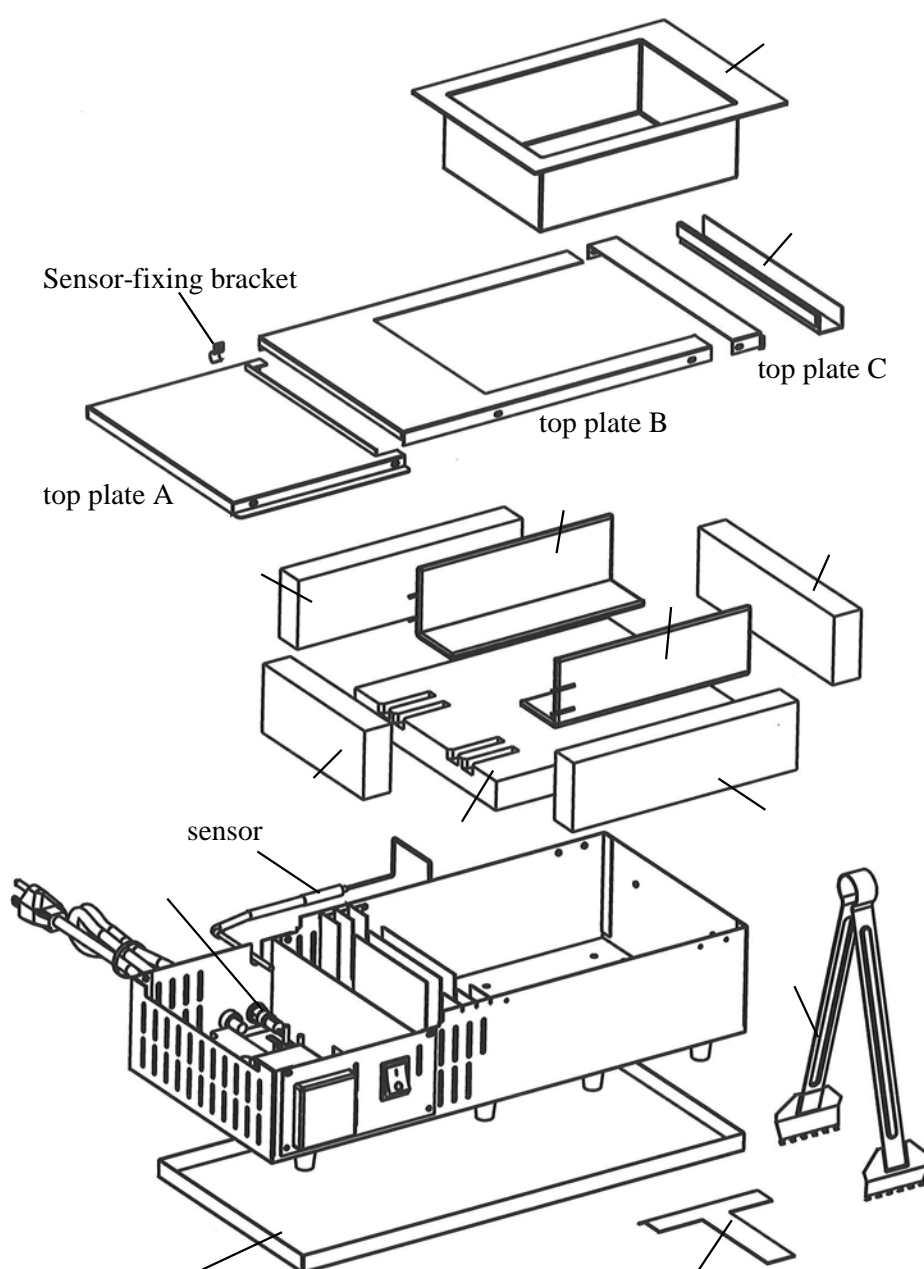
## POT-103C

| NO. | ITEM  |
|-----|---|
| 1   | Heater at bottom face [POT-103CHA]  |
| 2   | Heater at side face [POT-103CHB]  |
| 3   | Bath [POT-103CP]  |
| 4   | Fuse 250V 8A for the 110-130V model<br>Fuse 250V 4A for the 220-240 model |
| 5-7 | Heat insulation board set (Only available as a set)                       |
| 8   | Tray for POT-100C/103C  |
| 9   | Slag remover for POT-100C/103C/200C/203C                                  |
| 10  | Slag holder for POT-100C/103C/200C/203C                                   |
| 11  | PCB holder for dipping (Option)   |



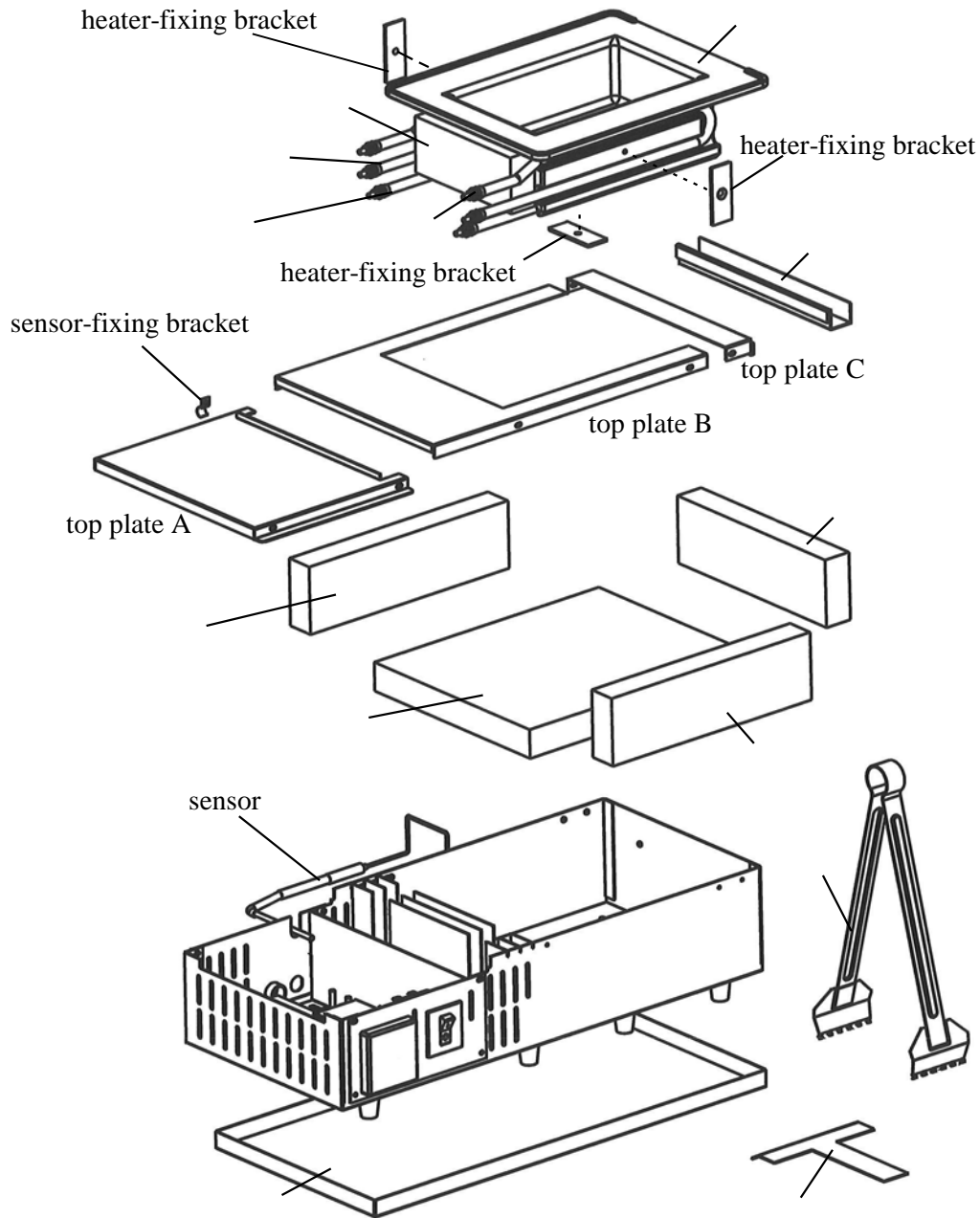
## POT-200C

| NO. | ITEM  |                         |
|-----|---|-------------------------|
| 1   | Heater at right side [POT-200CHR]   | Heater set [POT-200CHS] |
| 2   | Heater at left side [POT-200CHL]  |                         |
| 3   | Bath [POT-200CP]  |                         |
| 4   | Fuse 250V 8A for the 110-130V model<br>Fuse 250V 4A for the 220-240 model |                         |
| 5-8 | Heat insulation board set (Only available as a set)                       |                         |
| 9   | Tray for POT-200C/203C  |                         |
| 10  | Slag remover for POT-100C/103C/200C/203C                                  |                         |
| 11  | Slag holder for POT-100C/103C/200C/203C                                   |                         |
| 12  | PCB holder for dipping (Option)   |                         |



POT-203C

| NO. | ITEM  |
|-----|---|
| 1   | Heater at bottom face [POT-203CHA]                  |
| 2   | Heater at side face [POT-203CHB]                    |
| 3   | Bath [POT-203CP]                                    |
| 4-7 | Heat insulation board set (Only available as a set) |
| 8   | Tray for POT-200C/203C                              |
| 9   | Slag remover for POT-100C/103C/200C/203C            |
| 10  | Slag holder for POT-100C/103C/200C/203C             |
| 11  | PCB holder for dipping (Option)                     |



|   |  |  |
|---|--|--|
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Printed in Japan MARCH 2012 A4330BA00