

**Covered Model**  
**SWB-4 / SWB-6**

## Soxhlet Water Bath



Before operating this unit, please read and understand this manual completely and keep it for future reference.

# Soxhlet Water Bath

## Safety



Before starting the machine, please read this operation manual.



And, keep this guidance



### Safety Marks



 **Danger**

 **Warning**

 **Attention**

 <b>High Voltage</b>	 <b>Attention</b>
	Power off before the opening the lid.

 <b>Explosion</b>	 <b>Danger</b>
	Do not input the flammable, explosive materials,

 <b>Electric Shock</b>	 <b>Attention</b>
	Endure the ground connection.

# Soxhlet Water Bath

## Features

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- 1) Wire the ground connection.
- 2) Easy set the temperature and revolution, and high accuracy of the temp. control by digital PID controller.
- 3) The Opening Ring, Frame, Clamp are made of Stainless steel
- 4) Built-in the drain cock for drainage of bath

## Installation

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### **Attention**

Do not put on the top of machine heavy materials.  
Keep the insulation of electric wire & cable.

- 1) Away from heat, moisture, dust and vibration.
- 2) Keep the distance from wall for ventilation.
- 3) Set on solid floor, and keep the level of machine.

# Soxhlet Water Bath

## Notice

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### **Danger**

Do not input the flammable, explosive materials.



### **Attention**

- Keep away the flammable materials.
- Do not touch the electric cable by wet hands.
- Make sure to wire the ground connection.



### **Attention**

Make sure to supply the electric power of 220V,50 Hz.

Keep away from the instruments use much electric power,  
it may cause the malfunction of this machine

Do not use benzene, soap, detergent and hot water while cleaning.  
it causes the damage of parts and malfunction of instruments.

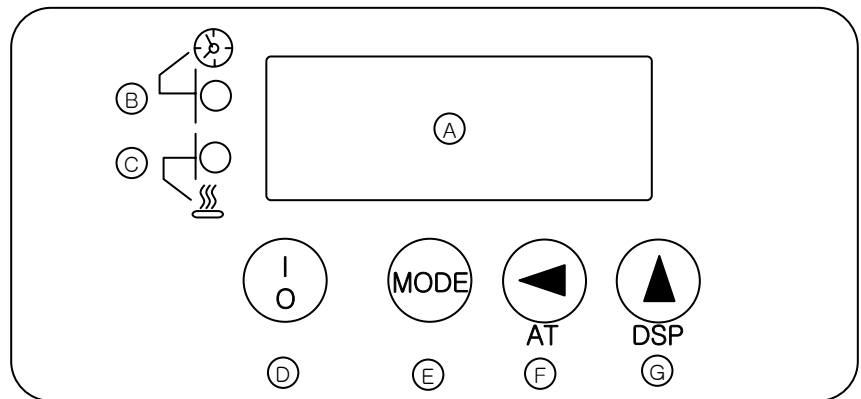
Keep cleaning by the water when use the neutral detergent.

Full out the electric plug when this machine do not operate for a long days.

Keep the insulation of all electric wire and cable.

## Operation Panel

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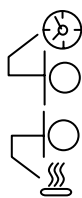
## Function and Name

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- |                                      |                                    |
|--------------------------------------|------------------------------------|
| (A) Display temperature and mode     | (E) Mode change button             |
| (B) Lamp of start and operation time | (F) Auto tuning & move left button |
| (C) Lamp of heater                   | (G) Display & Input data button    |
| (D) START/STOP button                |                                    |

## LAMP

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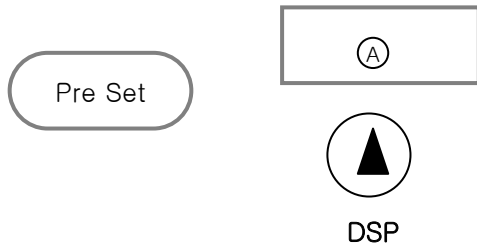
When the machine starts ,the lamp is on of light  
And the lamp is out of light to be the input time.  
If the time sets on 00 : 00, the lamp is off.

The heater powers on, then the lamp is on the light.

# Soxhlet Water Bath

## Operation

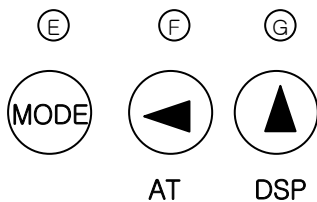
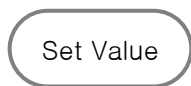
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When the electric power supply, (A) displays the current temperature of chamber.

(A) displays the remained time while pushing the "DSP" button.  
If the set time is 00 : 00, it displays as like as "--,--".  
The lamp of timer is out of light means the timer is "off".

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Change the mode of input temperature to push the "MODE" button.

It displays the current temperature, push the "MODE" button one more time and then the first digit is blinking to be ready for input value of temperature.

Input the value to push (E) button.

(E) is for use for moving to the digit.

Every pushing the button (G) is added 0 to 9 in a circle.

Push one more time the "MODE" button after inputting the value of temperature.

Push the "MODE" button one more time, then the first digit is blinking to be ready for input value of time.

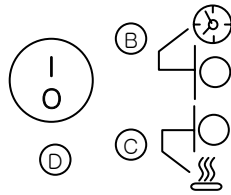
The input value can be possible to 99hr 59sec.

Push the "MODE" button again, and it displays the value of temperature.

## Process

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Start



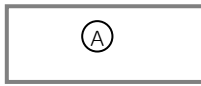
Push the start button **D** , then the lamp of timer **B** is blinking is showing below the set temperature. At this time, the timer don't act on it.

Increasing the temperature, the lamp of timer is on the light, and the timer acts on it.

The lamp of timer **B** acts for the lamp of start in case. the timer has no input value and/or the set value is 00 : 00.

The lamp of heater **C** is on the light when starting the temp. control.

End



When the time is over, the LED **A** display "END" with blink.

While the start button **D** push in a few seconds. the LED display the current temperature after sound alike "Bee---".

At this moment, the timer and heater stops to act themselves.

AUTO TUNING



This auto tuning function measure and set automatically the value to fit for P.I.D. and ARW (Anti Rest Wind-Up).

This function can acts at any time while heating up and/or stabile running.

The auto tuning starts to push the "AT" button 5 seconds later while the buzzer sounds alike "bee---".

If it will stop this function, then push the "AT" button while 5 seconds. Then, the lamp of AT is out of light, and release this function.

This auto tuning function is pre-set, and no need set process.

In case, this function is not stabile, please try to do it.

### NOTICE

\* The "AT" function acts while the temp. mode to push the button 5 sec. later.

\* The "DSP" function uses the selection of TEMP/RPM/TIME without "INPUT MODE".

# Soxhlet Water Bath

## Maintenance

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### Warning

Power off before cleaning the machine.



### Attention

Disconnect the electric plug.

Do not use benzene, soap, detergent and hot water while cleaning. It causes the damage of parts and malfunction of instruments

#### 1) Cleaning the interior

- . Disconnect the electric plug.
- . Remove the selves and self hangers.
- . Clean the dirty by brush or cleaner.

#### 2) Cleaning the exterior

- . Wipe the rug or sponge wetted by neutral detergent,
- . Polish by dried woven fabric.
- . Do not use organic solvent.

#### 3) Cleaning the electric components

- . Use the dried woven fabric.

#### 4) Stand by for a long time

- . Disconnect the electric power source.
- . Wipe the exterior and interior of machine
- . Warp the machine and store it.



# Soxhlet Water Bath

## Trouble Shooting & Repair



### Warning

Switch off the main power when repair the machine.  
Do not disassembly, repair and transform the machine  
except service engineers.

Trouble	Remedy
Do not start the machine	<ul style="list-style-type: none"><li>- Check the power cable to connect or not.</li><li>- Make sure the power switch "ON"</li></ul>
Low capacity of heater	<ul style="list-style-type: none"><li>- Check the condition of heater is good or not.</li></ul>
Low temperature	<ul style="list-style-type: none"><li>- Check the set temperature.</li><li>- Check the set value of over temp protection.</li><li>- Check the heater is "ON".</li></ul>
Malfunction of Controller	<ul style="list-style-type: none"><li>- Keep away from the machine the instrument use large capacity of electric power.</li></ul>

## After Service

- 1) We guarantee 24 months in conditions of normal operation.  
However, the machine or component were occurred the trouble,  
then please let us know the details of as under;
  - Detailed description of trouble and parts
  - Machine Model.
  - Manufacture or Purchase date.
- 2) We cannot guarantee the trouble occurred by as under;
  - Mis-operation, unreasonable repairing and transform of machine by user.
  - Transfer and handle roughly of the machine.
  - Natural disaster and over current , voltage and frequency.
  - Trouble occurred by mistake of operation.
- 3) Please let us know any furthers of this machine.

## Soxhlet Water Bath

### Technical data

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Temp	Range	Amb. to 100°C
	Controller	Electronic controller
		Digital PID controller (SWB-D type)
	Sensor	PT-100 Ohm
Material	Bath	Stainless steel
	Out	Steel plate with powder coating
	Heater	Stainless steel
Safety		Over current glass fuse
Power		AC 220V, 50 Hz, 1 Ø

### Specification

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Model	SWB-4	SWB-D-4	SWB-6	SWB-D-6
Type	4Hole opening		6 Hole opening	
Capacity	11Liter		14Liter	
Bath Size (W×D×H)mm	330×320×100		890×150×100	
Out Size (W×D×H)mm	365×340×290		920×180×190	
Heater Capacity	1,000W		1,500W	



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