R02

EYELA

Combining with
Rotary Evaporator

Oil Bath

Instruction Manual

OSB-2200　230V

This instruction manual is designed to use the product safely while keeping its best performance.

IMPORTANT **Be sure to read “Safety precautions” before use.**

Please keep this manual in a place easily accessible to every user.

Tokyo Rikakikai Co., Ltd.

Important Safety Notice

1. Warning Signal Word

The unit is not explosion-proof. Take extreme care no to spill any liquid when using a flammable specimen or organic solvent.
This product is designed to operate with the internal mechanism in the hot bath rotating due to its functionalities and features. Also, this product contains glass components and requires careful handling in order to avoid a personal injury or accidents. Most of such accidents can be prevented if such danger can be assumed beforehand.

To ensure the safety, this manual defines the information on such matters as requiring particular care in the safety for each danger and attaches the alert mark and signal word.
It is recommended to follow the instruction to ensure the safe use of the product.

Alert mark Signal word	Definition
⚠ Warning	Wrong handling can cause the possibility of the death or heavy injury of the user.
⚠ Caution	Wrong handling can to cause the risk of injury of the operator or physical damages to operators.

We have undertaken thorough verification concerning the possible occurrence of risk when using the product, but prediction of all and every kind of risk is extremely difficult. Namely, cautions contained in this manual are not necessarily all of possible risks.

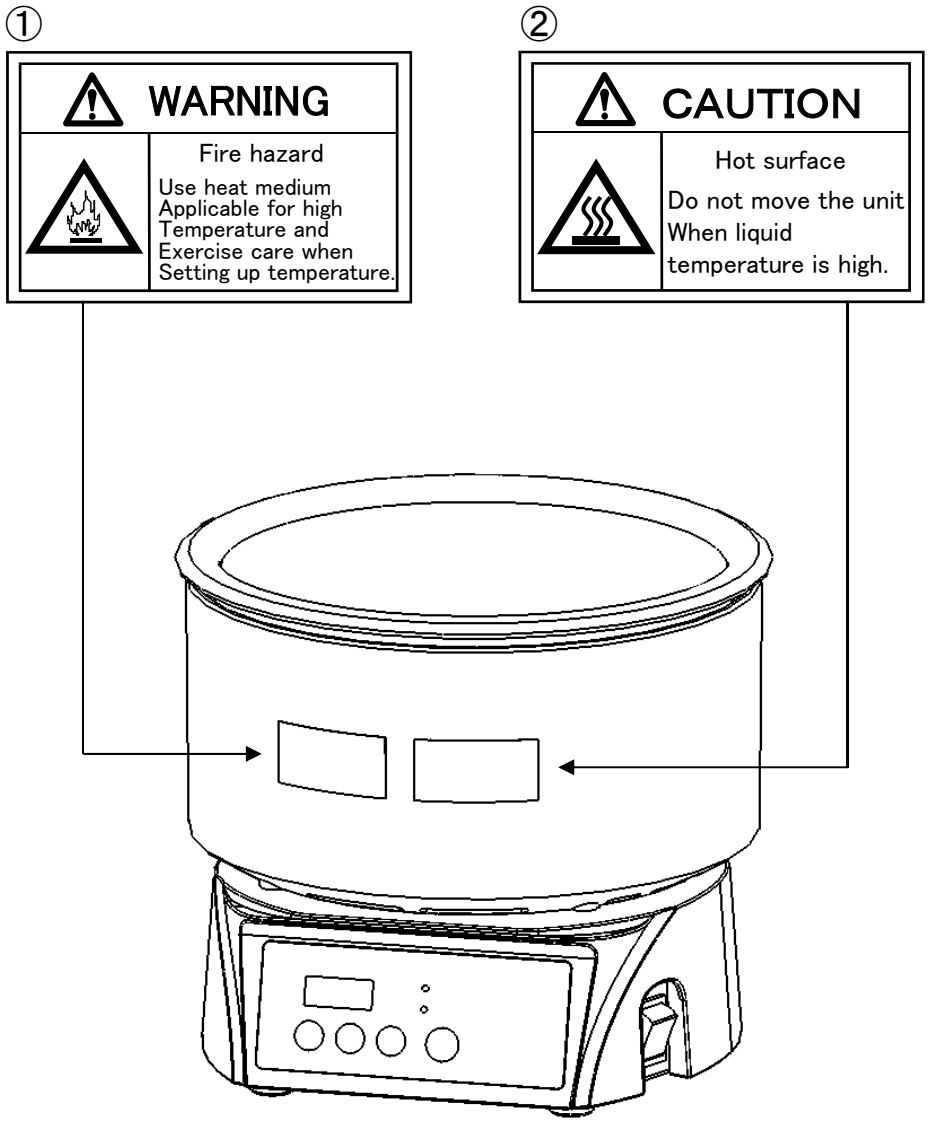
However, if the product is operated according to the procedure described in this manual, the safe operation and work is ensured. Be sure to pay utmost care during handling of the product to prevent accident or failure of the product.

2. Warning display on the product

For highly priority danger, warning label is attached on the machine body.
The position of the label is as below. Please read the instructions carefully whenever using the machine.

※ If you have any trouble reading the label because of damage and etc., please replace with new one.
Please contact us if your require new label.

Oil Bath (OSB-2200)



Thank you very much for purchasing

EYELA product.

Foreword

This instruction manual describes the procedure of set-up, operations, troubleshooting, maintenance, check-up, and disposal of OSB-2200, which is oil bath for rotary evaporator.

Be sure to carefully read this manual and understand its description before using this product.

Also refer to the instruction manuals for the rotary evaporator N-1300 series and N-1200 series when using this product.

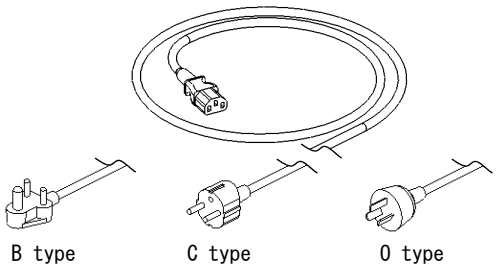
Contents

Package Contents

Be sure to check the types and quantity of parts before installing them.

Packaged items		Qty
1	Main unit	1
2	Power cord	1
3	Fuse 8A(spare)	2
4	Instruction manual	1

230V Power cord

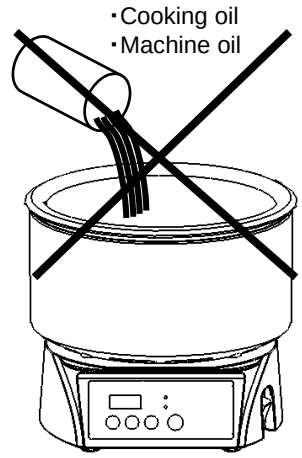


1 For safe operation

⚠ Warning

Use designated heat medium applicable to high temperature

Water and oil are available for this product. However, when using oil, please use designated heat medium applicable to high temperature. In the case of using undesignated liquid, it may cause you physical injury or burn yourself. Also, you can not get available temperature range in some cases.



[Recommended oil]
Product of Shin-Etsu Chemical Co., Ltd.

Available range of temperature	Type of oil
80℃～120℃	KF-96-30
120℃～150℃	KF-96-50
150℃～170℃	KF-96-100
170℃～180℃	KF-54

※If some water gets into oil, which is over 100℃, it evaporates explosively and oil splashes hard. When using the unit at 100℃ or higher, use extreme care not to get any water into oil. When using silicon oil after using water, dry the unit well before filling the oil.

※Recommended oil does not insure safety.Ventilate well when using it.

⚠ Caution

Never use the bath with its cover placed

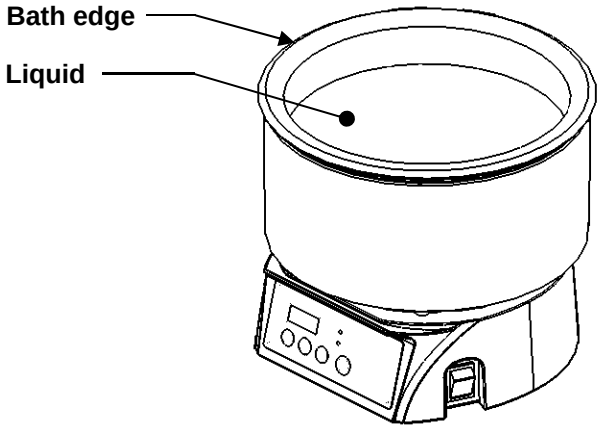
Using the bath with its cover placed will make the inside the bath heat up, causing the cover to melt or ignite resulting in a possible burning or a fire.

⚠ Caution

Do not transport the bath while its liquid temperature is still high.

The bath edge or liquid in the bath is hot during and for some time after use. Transporting the bath while these are still hot may cause burning with splashes of hot liquid or by touching the bath edge.

● Parts that will become extremely hot



2 Product Outline

2-1 Application

Warning

Never attempt to modify the product. Operate the unit for the specified purpose only.

An electric shock or a malfunction may result if the product is modified or used for any purposes other than that specified.

This product is dedicated for heating a specimen flask for effective condensation using a rotary evaporator and supports both an oil and water.

Warning

Be sure to use the specified heat medium for high temperatures.

When you use an oil, failure to use the specified heat medium for higher temperature might cause a personal injury or burning.
And the operating temperature range may not be attained.

2-2 How to use

The temperature of the bath can be set depending on purposes.
With using control panel, the temperature can be set.

Preset temperature can be changed and operation can be stopped if needed as long as the operation is underway.

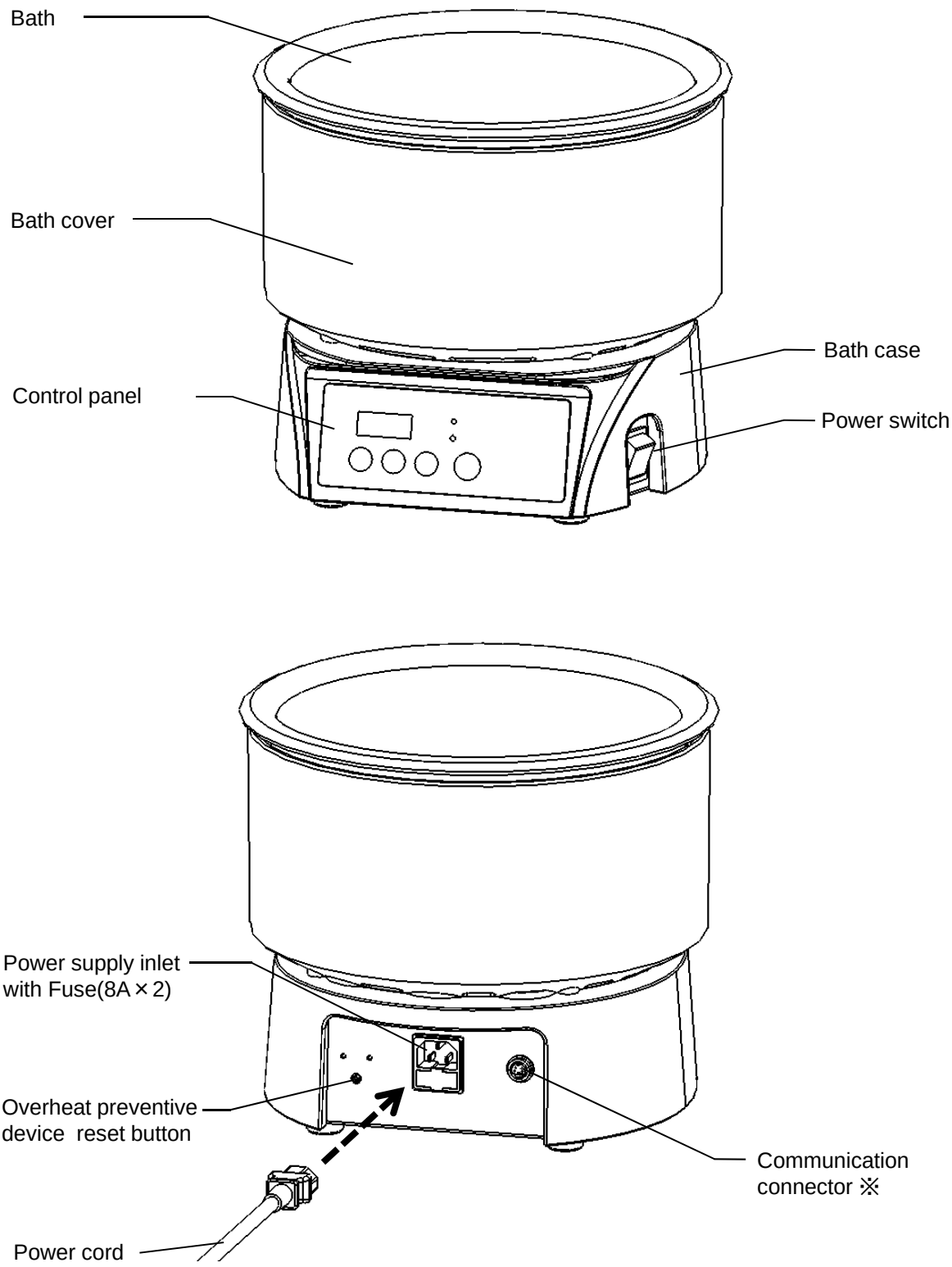
2-3 Specification

Product name		Constant temperature oil bath (oil bath)
Model		OSB-2200
Performance	Temperature control range	Room temp.+5℃～180℃（Oil） Room temp.+ 5℃～80℃（Water）
	Temperature control accuracy ※1	Oil：±3℃（during stirring） Water：±1.5℃（Up to 80℃・during stirring）
	Temperature display range	0～210℃
Functions	Temperature control	ON/OFF control
	Setting and displaying temperature	Digital display（Minimum digit1℃）・sheet key input
	Safety functions	・Overheat preventive device (fixed temperature・liquid bloating manual recovery type） ・Fuse ・Heat insulation protective bath cover ・Self diagnostics function Sensor disconnection/short-circuit alarm Outside the measurable temperature range alarm, upper limit alarm Power outage detection, watch dog
Configu-ration	Heater	1.4kW（For heating can body of the bath）
	Temperature sensor	Pt sensor
	Bath cover	PET（with glass fiber)
Standard	Material of bath	Aluminum, Teflon coating
	Bath capacity	Approx. 5ℓ
	Effective size in the bath	φ240×120H （mm）
	Container capacity	Max 3ℓ
Operating liquid temperature range		10～180℃
Operating environmental temperature range※2		5～35℃
External dimensions (including handle)		W282×D282×H244（mm）
Mass		4.5kg
Rated power supply・power input		AC230V 50Hz ・ 6A
Pollution degree		2
Over voltage category		Ⅱ
Operation at a terrestrial altitude		Max2000m above sea level

※1 Performances have been measured room temperature of 20℃; rated power voltage, 50Hz, no-load, during stirring (1L flask)

※2 Use the unit at an environment of room temperature：20℃±5℃; humidity：60% or lower when a cool water（5℃ or higher）. Allow the inside of the unit to completely dry after use.

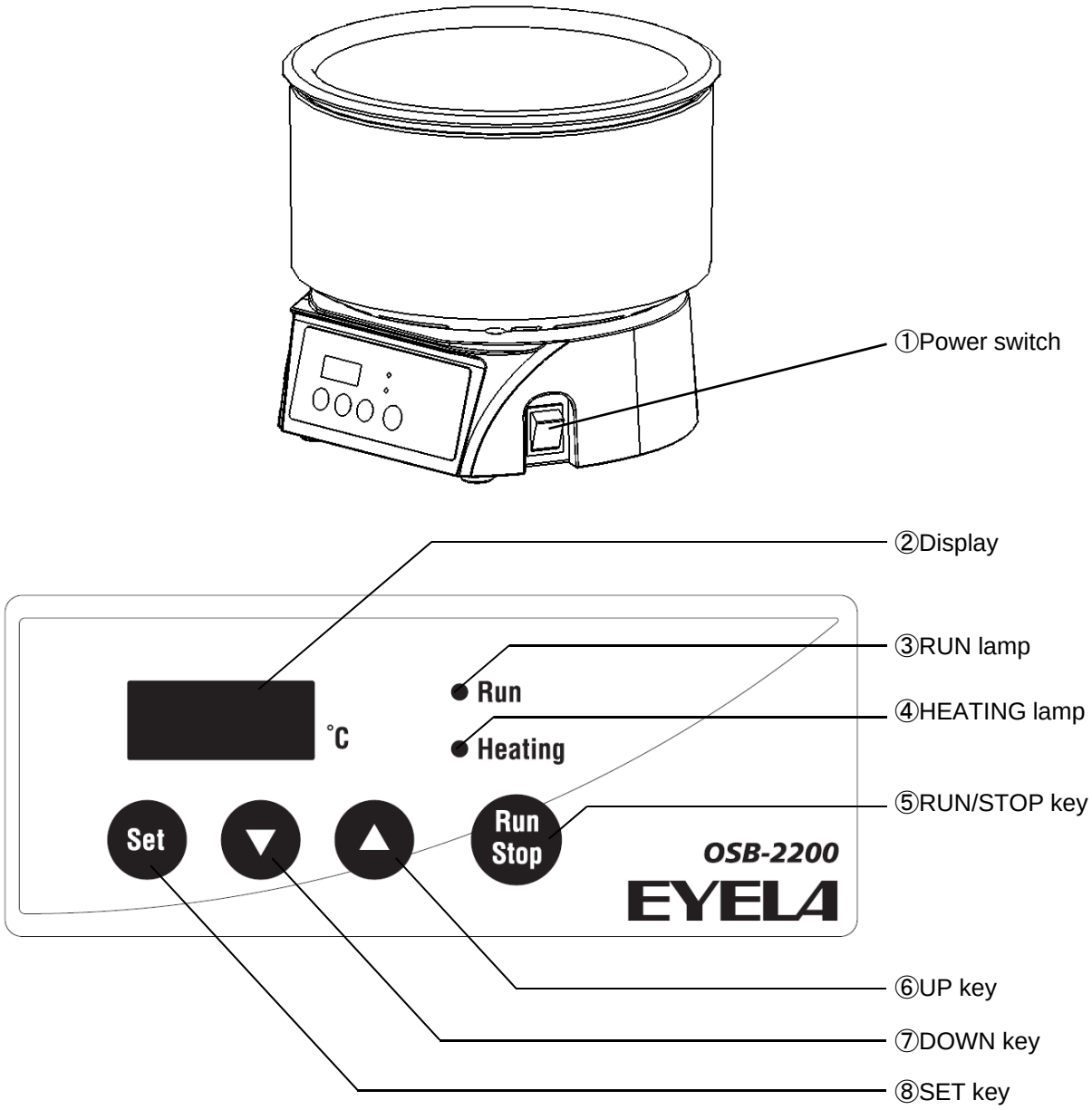
2-4 Names of parts



※A special communication cable is used for connection with the vacuum control unit model NVC-3000.

3 Names and functions of control assembly

3-1 Control panel



No	Name	Function
①	Power switch	Turning this switch ON will turn power ON.
②	Display	The presented measured temperature of the bath, or the set temperature in the temperature setting mode is displayed. Alarm is displayed when an abnormal condition occurs.
③	RUN lamp	Comes on when temperature control is started.
④	HEATING lamp	Comes on while the heater is supplied with power.
⑤	RUN/STOP key	Used to switch start/stop of temperature control.
⑥	UP key	Each time this key is pressed, the set temperature will rise by 1℃. The value increments continuously if it is kept pressed.
⑦	DOWN key	Each time this key is pressed, the set temperature will goes down by 1℃. The value decrements continuously if it is kept pressed.
⑧	SET key	Used to switch between the temperature setting and the measurement modes.

3-2 Alarm functions

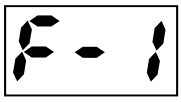
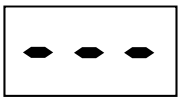
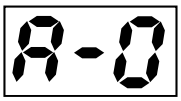
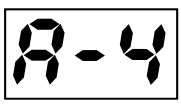
The product has the following safety functions.
If you encounter with an abnormality, take appropriate measures referring to P.14“Possible causes of troubles and solutions”.

Safety functions

Safety unit	Operation	Causes	How to recover
Fuse	The fuse will blow to shut off power when overcurrent flows.	The power circuit was short-circuited or was subjected to overcurrent.	See P15 “7-2 How to replace fuses”.
Over heat preventive device (high limiter)	Shuts off power to stop control when the temperature in the bath reaches the set temperature for the overheat preventive unit.	The unit is heating without any load. The temperature controller was malfunctioning and the temperature in the bath rose above the set temperature of the overheat preventive unit.	See P13 “5-4 How to recover the overheat preventive unit”.

Overheat preventive device activates at approx. 277℃ (no-liquid heating)

Alarm functions

Name / (operation)	Display	Causes and how to recover
Temperature sensor alarm (control stop)		・The temperature sensor in the product short-circuited or had a disconnection. When this alarm is displayed, immediately stop operating the unit and contact your dealer or the nearest service center.
Outside the measurable temperature range alarm (control stop)		Measured temperature is below the lower limit of the measurable temperature range (0℃). Measured temperature exceeds the upper limit of the measurable temperature range (210℃). Remove any causes or heating or cooling in the unit. Then check the liquid temperature and the environmental temperature and take care to keep the temperature in the safety range. You can clear the display with the SET key if the measured temperature is within the safe temperature range（0～210℃). If you cannot release the alarm or the measured temperature is obviously far different from the actual temperature, immediately stop operation and contact your dealer or the nearest service center.
Temperature upper limit alarm (control stop)	 Appears alternately with the liquid temperature 	・The measured temperature exceeds the upper limit setting of the temperature. Check the upper limit temperature setting by referring to “P11 5.3 How to set the alarm function”. You clear the display with the SET key if the measured temperature is below the setting. If you cannot release the alarm, stop operation and contact your dealer or the nearest service center.
Power outage recovery alarm （Differs depending on the A-4 setting）	 Appears alternately with the liquid temperature 	・Power was shut off during temperature control and power was turned on again. You can clear the display with the SET key. You can set whether temperature control is stopped or continued during alarm display by setting ON/OFF for the power outage recovery function (See “P11 5.3 Setting the alarm function”). When you cannot clear the display with the SET key or the ON/OFF setting of the power outage recovery function is not apparently reflected, stop operation and contact your dealer or the nearest service center.

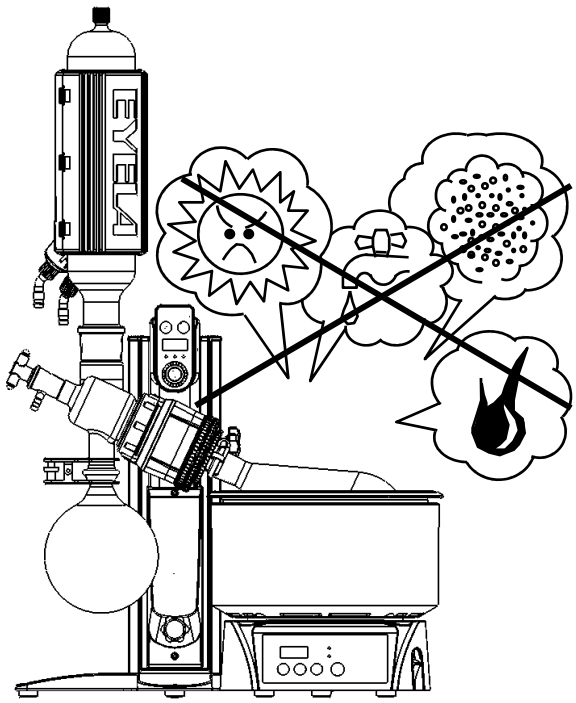
4 Installation

4-1 Installation environment

Warning

Never install the product in a potentially hazardous atmosphere.

The product is not explosion-proof. Use in a potentially hazardous atmosphere may cause a fire or other accidents.



Select a place that meets the conditions below for installing this product:

- Place that the driving assembly or glass parts will not come into contact if the evaporator jack is lowered.
- Place free of flammable gas, liquid, or solid materials in the vicinity of the product.
- Place where the ambient temperature can be kept within a range of 5～35℃.
- Place free from condensation
- Place with less humidity and free from splashing water
- Place with minimum dust.
- Place free from direct sunshine
- Place where airy or well-ventilated.
- Level, stable, and firm place

4-2 Connecting utilities

Warning

Confirm the voltage, phase, capacity, and the type of receptacle of power supply.

Wrong connection of power supply may cause fire or electric shock

Warning

Do not use the branching socket or table tap.

Over-current may cause cable burn, fire.

Warning

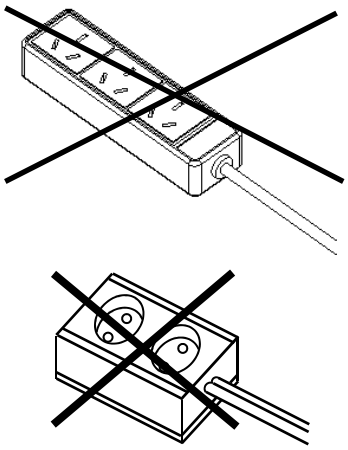
Connect the ground wire correctly.

Never connect the ground wire to a gas pipe or a water pipe to avoid an electrical shock .

(1) Check the product type as well as the voltage, phase, and capacity of power supply to be connected. Power supply to be connected to the product is as shown in the right.

Power supply to connect	
Voltage	Capacity
AC230V	8A

(2) Check the receptacle of installation place. Prepare an outlet with a ground terminal.



* At this time, do not connect the power plug.
* When connecting to the power supply, do not use a branch socket or table tap.
* Make sure that the sleeve of power cord is not damaged. Such damage may cause electric shock.
* Use attached power cord. Otherwise, lack of capacity, etc. may cause fire or electric shock.

Specification of Power Cord

Name	Code No	Cable		Cros-sectional area of cable(AWG)	Region covered
		Length	Thickness (Outer dia.)		
230V Power Cord B Type	245373	Approx.2.0m	Approx.6.9mm	1.25mm^2(AWG16)	India
230V Power Cord C Type	245372	Approx.2.0m	Approx.6.9mm	1.25mm^2(AWG16)	Europe
230V Power Cord O Type	245371	Approx.2.0m	Approx.6.9mm	1.25mm^2(AWG16)	Oceania

5 Operation

5-1 Preparation for operation

Warning

Use designated heat medium applicable to high temperature.

If you do not use designated heat medium that is applicable to high temperature when using oil, you may get burned.
Also, you can not get the available temperature range in some cases.

※Please also refer to instruction manual of Rotary Evaporator ((N-1300,1200)

1. Installation of the bath

(1)Raise the evaporator jack to the highest point.

(2)Place the bath so that the specimen flask of the evaporator is at the center of the bath.

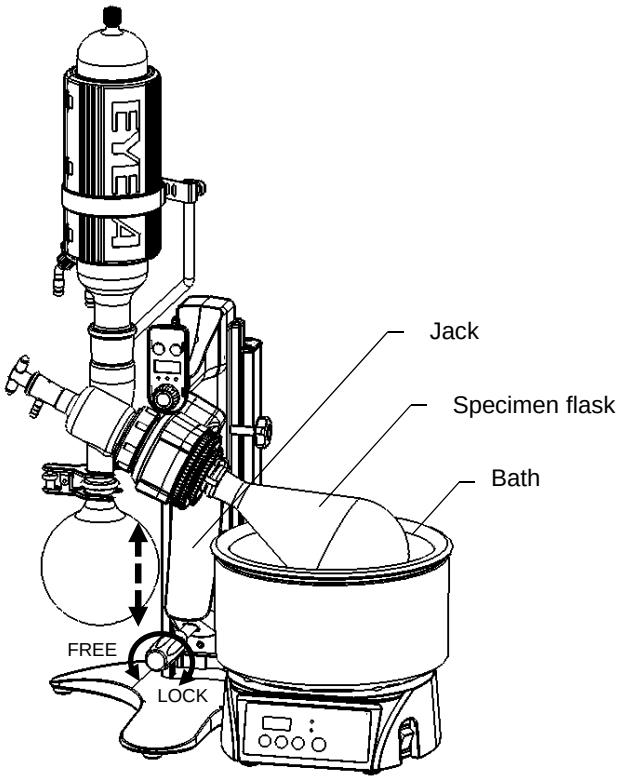
(3)Slowly lower the evaporator jack to determine a point where the flask, the rotary joint or the joint clip does not come into contact with the bath. (Turn the flask by hand to make sure that it does not come into contact with any part.)

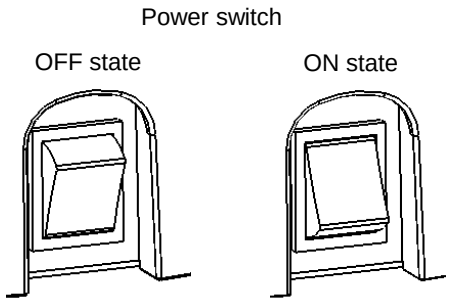
(4)Pour liquid to the correct level appropriate for the capacity of the specimen flask, which is placed in the bath. Keep the liquid level at least 2cm below the edge of the bath.

When the amount of liquid is insufficient, replenish liquid little by little taking care liquid will not spill over the flask.

※Pour oil less than the maximum level to account for possible increase in volume by 10 to 20% when it is heated. Adjust the oil amount by confirming the operating temperature and the thermal expansion rate of the oil.

(5)Raise the evaporator jack to the highest point.

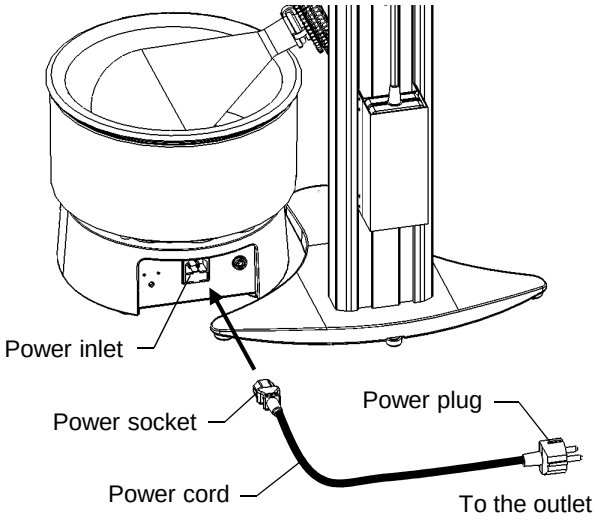




2. Connecting the power cord

(1)Insert the power socket into the power inlet at the back of the bath.

(2)Make sure that the power switch at the side of the bath is OFF and then insert the power plug into the outlet.



5-2 Operating procedures

Caution

Stop using the product if you find any trouble.

When you face the trouble, turn off the power switch immediately and refer to "6.Troubleshooting"on page14

Caution

Do not touch the hot part during use and for a while after use.

Bath and flask for specimen are in hot temperature during use and for a while after use. Touching these parts may burn yourself.

Caution

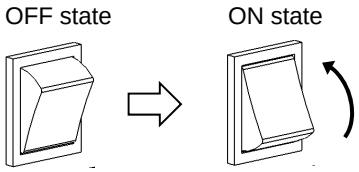
Completely allow the inside of the unit to dry after using water of a temperature below the room temperature.

Use the unit under the environment below when you are going to use the unit with cool water (5℃ or higher) below the room temperature.
Completely allow the inside of the unit to dry after using cool water.

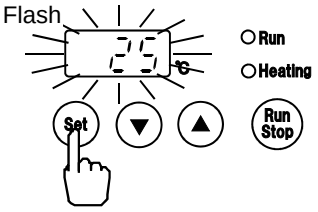
<Use environment> Room temperature：20℃±5℃; humidity：60% or less

※When cool water is used, condensation water may drip from inside the unit onto the experiment table.

※Make sure that a correct amount of water is in the bath.



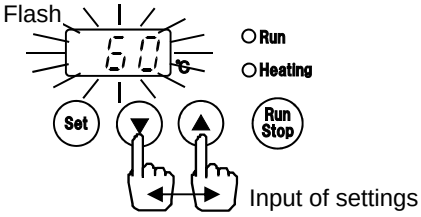
(1) Turn the power switch ON.
The whole display comes on, indicates the model [oSb], the mode switches to the measurement mode and displays the present liquid temperature.
(Temperature indication on)



(2) Pressing the SET key switches to the setting input mode.
(Temperature indication flashes)

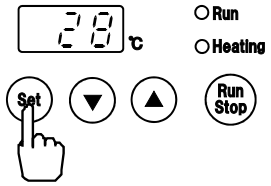
※ The temperature is set to "25" at the time of factory shipping.

※ The setting in the last session, if any, will be displayed.

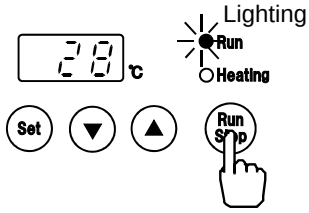


(3) Use the UP key and the DOWN key to set a temperature.
Each press of the UP key increases the set temperature by 1℃ and each press of the DOWN key decreases it by 1℃.
(Keeping them pressed will continually increase or decrease the value.)

※ When any key operations are made for 10 seconds or more in the setting input mode, the set temperature indicated at that time will be input and the mode will switch to the measurement mode.



(4) Pressing the SET key switches to the measurement mode and the temperature setting is completed. The display will show the current liquid temperature.
(Temperature indication on)



(5) Pressing the RUN/STOP keys start temperature control at the set temperature.
(RUN lamp on)

(6) When the liquid temperature in the bath has been stable, press the power key of the evaporator to turn it to ON, lower the jack slowly to soak the specimen flask in the liquid.
Take extreme care not to make the liquid spill over.
When the amount of liquid is insufficient, replenish liquid little by little taking care liquid will not spill over the flask.

※ When the liquid spills over the bath and enters the unit, an electric leak or an electric shock may result.
If the liquid should spill over, completely wipe any liquid on the bath body and completely allow to dry at a well-ventilated place before using it again. When oil has spilt over, contact the nearest service center.

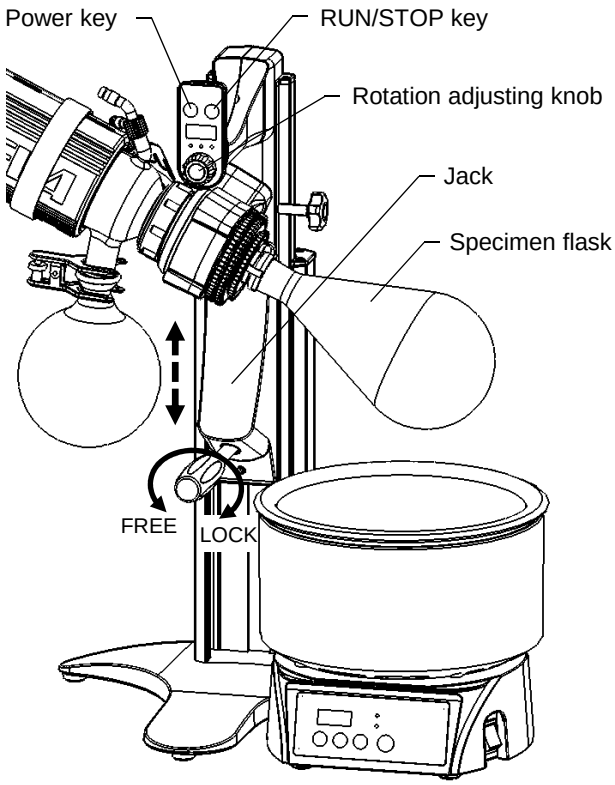
(7) Rotate the specimen flask to start condensation.

※ Raise the rotation speed only slowly to avoid the liquid from spilling over or ruffling.

※ Take care not to burn yourself since hot liquid may ruffle while the flask is rotating.

※ Do not put the cover on the bath.
The cover may burn from the heater heat. And overheating may cause inside the bath hot and a malfunction may result.

(8) To finish operating, stop the evaporator rotation, raise the jack, release vacuum, press the RUN/STOP key to stop temperature control and then turn all power OFF.



※ Be sure to press the RUN/STOP key to stop temperature control before turning the power switch OFF.
This product has an automatic recovery function (power outage recovery function).
Turning the power switch OFF in the RUN state will turn the heater on at the same time as power and an accident may result.

Procedures after operation

If you are not going to use the product for a long time, turn the power switch OFF and remove the power cord out of the outlet.

※Liquid entering inside the unit may cause an electric leak or an electric shock.
Be sure to remove the power cord before starting draining or cleaning.

5-3 How to set the alarm function

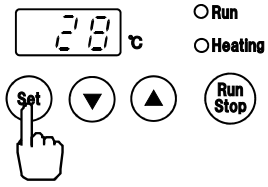
You can set the upper temperature for the upper temperature limit alarm [A-0] or the power outage recovery function in the setting of the alarm function.

※You cannot set the sensor alarm [F-1] or the outside the measurable temperature range alarm [---].

＊Shifting to the alarm function setting mode

(1) Press the SET key longer in the measurement (current temperature indication on).

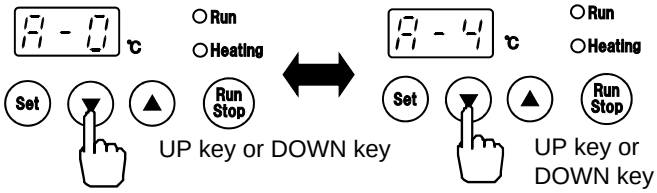
(2) Pressing long for about 5 seconds switches to the alarm function setting mode.
([A-0] indication on)



Keep pressed longer for about 5 sec.

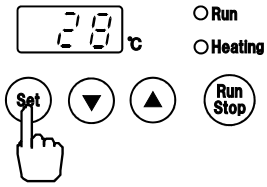
(3) Use the UP key and the DOWM key to switch the items for the alarm function setting.

[A-0]…Setting of the upper temperature limit alarm function
[A-4]…Setting the power outage recovery function



＊Returning to the measurement mode

Pressing the SET key long for about 5 seconds during the alarm function setting mode ([A-4] or [A-0] indication on)
Pressing the SET key long for about 5 seconds returns you to the measurement mode.
(current temperature indication on)



Keep pressed longer for about 5 sec.

1. Setting the upper temperature limit alarm

(1) Pressing the SET key in the alarm function setting mode ([A-0] indication on) will indicate the setting for the upper temperature limit. (Upper temperature limit setting flashes)

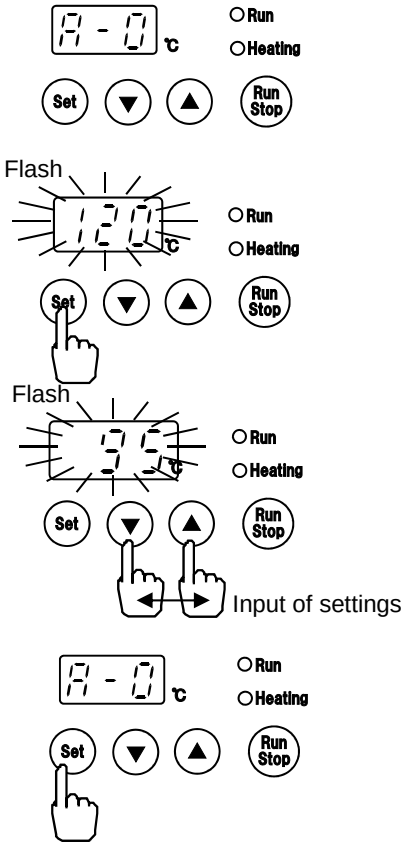
(2) Use the UP key and the DOWN key to set the upper temperature limit.
Each press of the UP key increases the set temperature by 1℃ and each press of the DOWN key decreases it by 1℃.
(Keeping them pressed will continually increase or decrease the value.)

※Upper temperature limit setting range：+10℃～200℃

※The temperature is set at the upper limit temperature "200℃" at the time of factory shipping.

(5) Pressing the SET key switches to the alarm function setting mode and the setting of the upper temperature limit is completed.
([A-0] indication on)

(6) Press the SET key long for about 5 seconds to return to the measurement mode.



2. Setting the power outage recovery function

You can set whether temperature control will be resumed when power is turned on again after power outage during temperature control by setting ON/OFF of the power outage recovery function.

- When the power outage recovery function is ON…Temperature control resumes after power recovery in the state immediately before the recovery.
- When the power outage recovery function is OFF…After power recovery, temperature control stops irrespective of the state immediately before power outage.

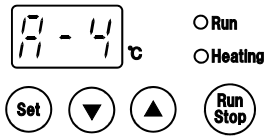
※ When power outage occurred during temperature control, [A-4] and the measured temperature will appear alternately after recover irrespective of the setting for the power outage recovery function. Press the SET key to clear the indication.

(1) Pressing the SET key in the alarm function setting mode ([A-4] indication on) will indicate the current state of the power outage recovery function.

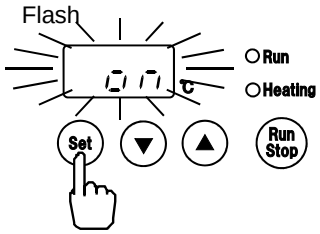
[on]…Power outage recovery function ON
: Temperature control starts at the set temperature on recovery from power outage.

[oFF]… Power outage recovery function OFF
: Temperature control will not start even on recovery from power outage.

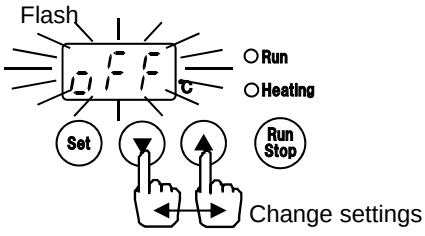
※The setting is [on] at the factory shipping.



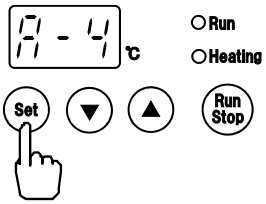
(2) Use the UP key and the DOWN key to set ON/OFF for the power outage recovery function.



(3) Pressing the SET key switches to the alarm function setting mode and the setting of the power outage recovery function is completed. ([A-4] indication on)



(4) Press the SET key long for about 5 seconds to return to the measurement mode.



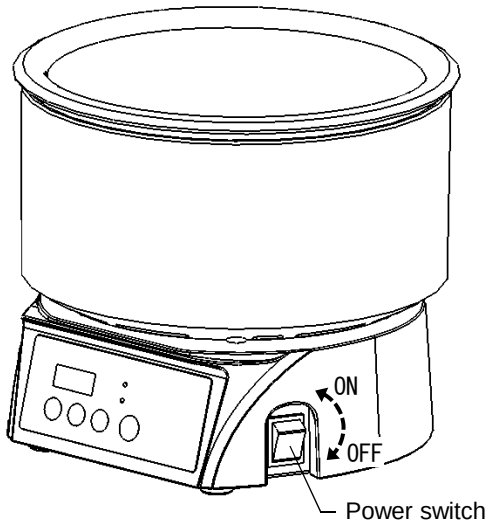
5-4 How to recover over heat protector

Caution

Hot surface

In case that over heat protector does not recover even after pressing reset switch, the temperature in the bath is still hot. For preventing physical injury and etc., do not put your hands into the bath. Press the switch after the temperature falls.

※ When the overheat preventive unit is activated, the power switch is ON but the display is off.



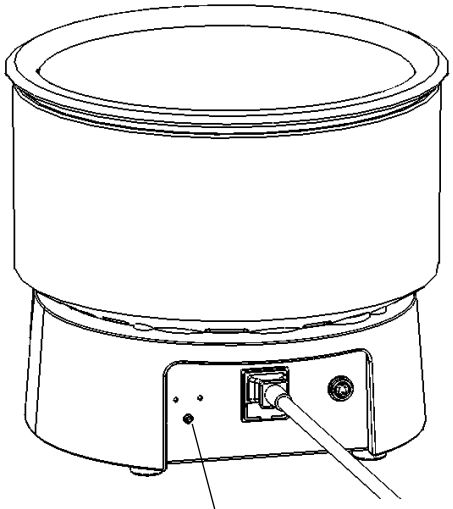
Recovery procedures

(1) Turn the power switch OFF.

(2) Confirm the suspected causes for the overheat preventive unit to have activated (liquid amount is sufficient or not, or the operating environmental temperature is 35℃ or below), make sure that the inside of the bath has sufficiently cooled down and then press the reset button of the overheat preventive unit.

(3) Turn the power switch ON.

(4) The display comes on again and temperature control starts. (RUN lamp on)



※ If the temperature in the bath when the power is turned on by turning the power switch ON after resetting the overheat preventive unit, the heater will be activated automatically (power outage recovery mode) and you should take care for possible burning or no-liquid heating.

※ If the over heat protector still works after proceeding above-mentioned instructions,stop operation immediately and call your local dealer or closest customer service center.

6 Causes of troubles and solutions

Contact your dealer or the nearest service center for troubles not listed here.

Symptom	Possible causes	Solutions
The display will not come on even if the power switch is turned ON.	The power plug has come off the outlet. Or is not inserted securely.	Turn the power switch OFF and securely insert the power plug into the outlet.
	The power plug has come off the inlet. Or is not inserted securely.	Turn the power switch OFF and securely insert the power cord into the inlet.
	Power is not supplied.	Turn the ELB on the distribution board ON.
	The overheat preventive unit (high limiter) has activated.	Recover the overheat preventive unit by referring to “P13 How to recover the overheat preventive unit”.
	The power switch is malfunctioning.	Immediately stop operation and contact your dealer or the nearest service center.
	The temperature controller is malfunctioning.	
	The inlet fuse has blown. (Overcurrent has flown.)	Replace the fuse by referring to “P15 Replacing the fuse”. If the same symptom repeats after replacement, confirm the surrounding state and contact your dealer or the nearest service center.
Power is not supplied to the outlet.	The power plug has come off the outlet. Or is not inserted securely.	Turn the power switch OFF and securely insert the power plug into the outlet.
	The power plug has come off the inlet. Or is not inserted securely.	Turn the power switch OFF and securely insert the power cord into the inlet.
	The outlet fuse has blown. (Overcurrent has flown.)	The outlet of this product is dedicated for the evaporator N series. Never connect any devices other than above.
		Replace the fuse by referring to “P15 Replacing the fuse”. If the same symptom repeats after replacement, confirm the surrounding state and contact your dealer or the nearest service center.
Temperature will not increase. (RUN lamp is on and HEATING lamp is off)	Temperature is not set.	Check the set temperature.
	The set temperature is lower than the liquid temperature.	
Temperature will not increase. (RUN lamp is off and HEATING lamp is on)	The RUN/STOP key is not pressed.	Press the RUN/STOP key to start temperature control.
Temperature increases. (HEATING lamp is off)	Set temperature is low.	Set the temperature to a temperature higher than the room temperature by 5℃.
	The environmental temperature is high.	Use the product at a set temperature higher than the environmental temperature (5～35℃).
	SSR is malfunctioning.	Immediately stop operation and contact your dealer or the nearest service center.
Temperature will not increase. (HEATING lamp is on)	The heater is disconnected.	
	SSR is malfunctioning.	
	The temperature controller is malfunctioning.	
Sensor disconnection/short-circuited alarm [F-1] is displayed.	The temperature control sensor is short-circuited.	
	The temperature sensor is disconnected.	
Out of the measurable temperature range alarm [---] is displayed.	The measured value exceeds the upper limit of display (210℃).	Stir the liquid in the bath . If the symptom remains after stirring, immediately stop operating the product and contact your dealer or the nearest service center.
	The environmental temperature is 0℃ or below.	Use the product at an environmental temperature of 5～35℃.
	The measured value exceeds the lower limit of display (0℃).	Immediately stop operation and contact your dealer or the nearest service center.
The upper temperature limit alarm ([A-0][Liquid temperature] is displayed alternately) is displayed.	The measured value exceeds the upper limit temperature.	Check the upper temperature limit by referring to “P11.5-3 How to set the alarm function”. Adjust the liquid temperature and the environmental temperature so that the measured temperature will meet the upper temperature limit.
	The heater is disconnected.	Immediately stop operation and contact your dealer or the nearest service center.
	SSR is malfunctioning.	
	The temperature controller is malfunctioning.	
The indication [888] flashes repeatedly on power on and the measured temperature will not appear.	The temperature controller is malfunctioning.	Immediately stop operation and contact your dealer or the nearest service center.

7 Maintenance・check-up

7-1 Cleaning and caring the product

Warning

Never attempt to disassemble the product.

The unit contains parts with high voltage applied or may become hot, and disassembly may cause an electrical shock or an injury.

Caution

Do not clean and care the product while it is still hot.

Cleaning and caring the product while it is still hot may burn yourself.

Caution

Use appropriate product for cleaning and caring the unit in proper way.

When cleaning and caring the product, do not pour water directly on the external and internal portion, and also do not use cleanser, thinner, petrol, lamp oil, acid and related products. These products may cause electric shock or damage the unit.

Caution

Remove the scale on the bath immediately

Continuing use with a stone may cause overheat of the bath bottom and damage the product.

Caution

Do not scratch the bath.

Inner surface of the bath is Teflon coated for being cleaned efficiently.
Scratching the inner surface may damage the product.

(1) Make sure that the RUN lamp is off.

(2) Make sure the liquid temperature has sufficiently cooled down, turn the power switch OFF and remove the power plug out of the outlet.

(3) Drain the liquid in the bath.

(4) Use a tightly wrung off soft cloth for cleaning. Use mild detergent for stubborn dirt and completely remove any remaining detergent.

7-2 Replacing the fuse

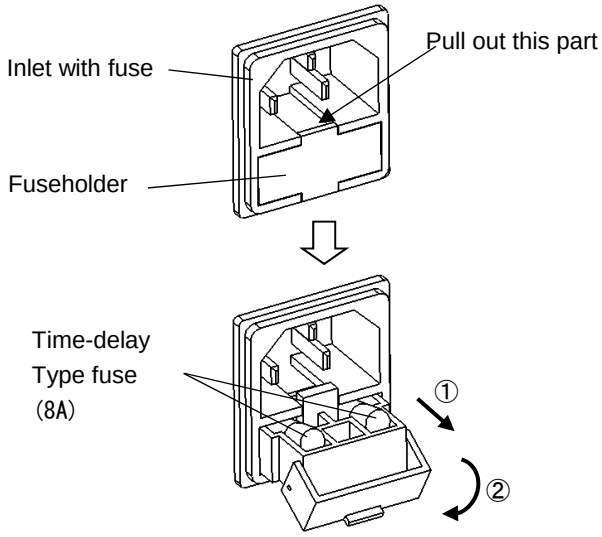
(1) Turn the power switch OFF and pull out the power cord from inlet with fuse.

(2) Use a small flat-head screwdriver or the like to remove the fuseholder.

(3) Replace the 2 fuses with new ones at the same time.

(4) After replacement, push the fuseholder to the end.

※ When the inlet fuse is blown while the unit is in operation, take care for burning or a no-liquid heating because the heater will automatically turn on (power outage recovery mode) at powering on if the temperature in the bath is below the set temperature for checking the display.



※Only use a fuse with the same standard and the capacity as the old one.

Specification	Capacity
Slow blow type, ϕ 5.2 × 20	T8A

8 Disposal of Products

Disposal of product or part must be done according to the specified disposal method.

Principal components parts and disposal method

Components	Model	Weight	External dimensions (Including handle)	How to discard
Main body	OSB-2200	Approx.4.5kg	282(W)×282(D)×244(H)	Request the disposal operator for disposal.

Components	Major materials
Heater integrated bath	Aluminum, ceramics
Bath cover	PET（containing glass fibers）
Body case	PBT（containing glass fibers）
Metal sheet	Aluminum, iron, stainless steel

＊We ask you to discard packing materials after classifying them by material types.

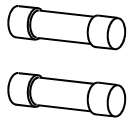
9 After-sale Services

1. In case the product does not function satisfactorily, check first by referring to the page on troubleshooting to see if this is actually a trouble.
2. If the product remains unsatisfactory even after checking, contact the shop from which the user has purchased the product or the service center described in the manual and request repair.
3. Repair during the guarantee period will be made according to the guarantee stipulations.
4. After expiration of the guarantee period, the charged repair will be made at the customer's request.

10 List of consumable & replacement parts/optional parts

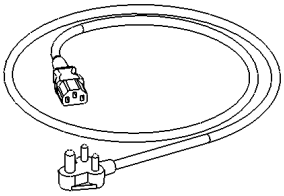
10-1 Consumable & replacement parts

① Time-delay Fuse



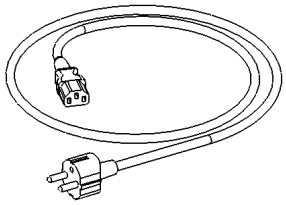
No.	Code No.	Std.	Qty
1	241088	8A	2

② 230V Power Cord B Type



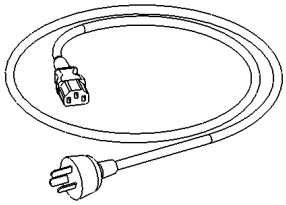
No.	Code No.	Std.	Qty
2	245373	10A	1

③ 230V Power Cord C Type



No.	Code No.	Std.	Qty
3	245372	10A	1

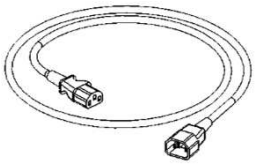
④ 230V Power Cord O Type



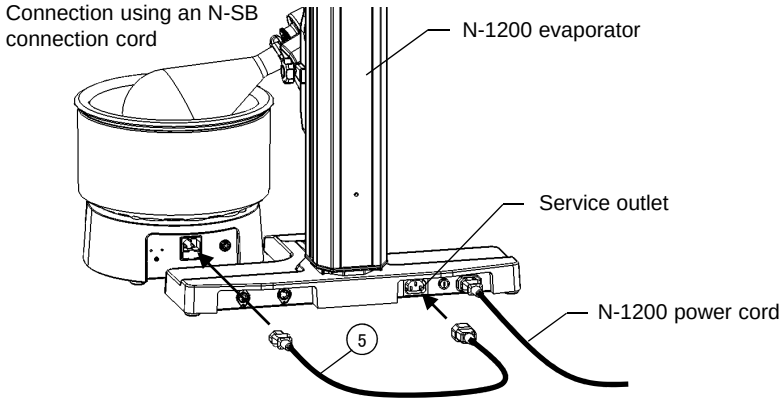
No.	Code No.	Std.	Qty
4	245371	10A	1

10-2 Optional parts

⑤ N-SB connection cord only 230V



No.	Code No.	Std.	Qty
5	242518	10A	1



※use of an N-SB connection cord can minimize the length of the power cord.
※The N-SB connection cord is dedicated for connecting with “N-1200”.
It cannot be used for connecting with other evaporators.