

Thermal Transfer Fluids

Only use distilled water blended with up to 40% glycol.

DO NOT USE

Silicone Oil

Mineral Oil

Tap Water

Deionized Water

Reverse Osmosis Water

Non-diluted Glycol

Using these fluids will VOID the warranty and/or damage the unit.

In the case of non-diluted glycol, the unit will not work correctly.

-USA LAB Team

Version : 2020

RECIRCULATING HEATER CHILLER



USA-RHC-7L



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Keep this manual on-hand so it can be used by all operators of the unit. Use the unit only in the way described in this manual. Failure to follow the instruction in this manual may cause wrong operation.

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1. GENERAL DESCRIPTION

Thank you for purchasing our product. We know that in today's competitive marketplace, customers have many choices when purchasing laboratory equipments.

We appreciate your choosing our quality product. We stand behind our products and want to let you know we are here if you need us.

Before you use the unit, read this entire manual carefully to understand how to install, operate and maintain the unit in a safe manner.

Your satisfaction with the unit will be maximized as you read this manual thoroughly.

Our capable products will satisfy you by the best performance with easy operation.

2. GRAPHIC SYMBOLS

BE SURE THAT YOU UNDERSTAND ALL OF THESE SYMBOLS
BEFORE OPERATING THE UNIT.



Important operating and / or maintenance instruction.
Read the accompanying text carefully.



This symbol indicates items and procedures that are **STRICTLY PROHIBITED** with regards to the unit.



Potential electrical hazards.



Explosive.



No disassemble.

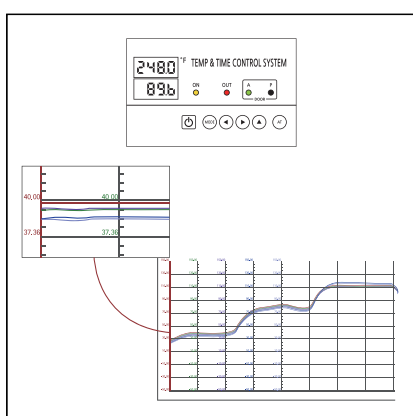


Flammable.

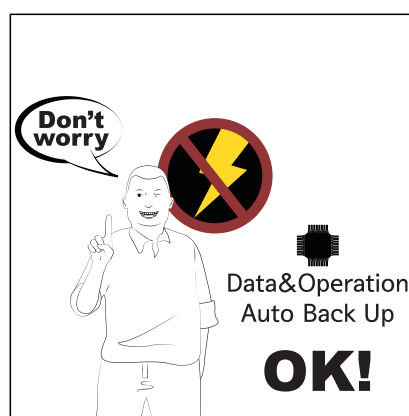


Hot surface or steam.

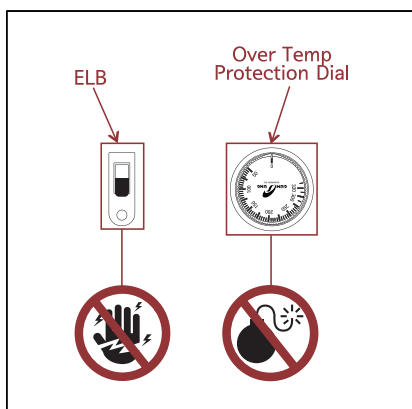
3. KEY FEATURES



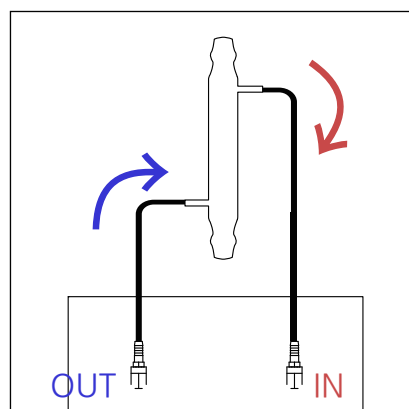
- Digital display of temp and time
- Multi key-in (100Ω (DIN Pt100Ω), KPt100Ω (JPt100Ω), K(CA))
- Precise temperature control
- Alarm when timer ends



- Auto back up

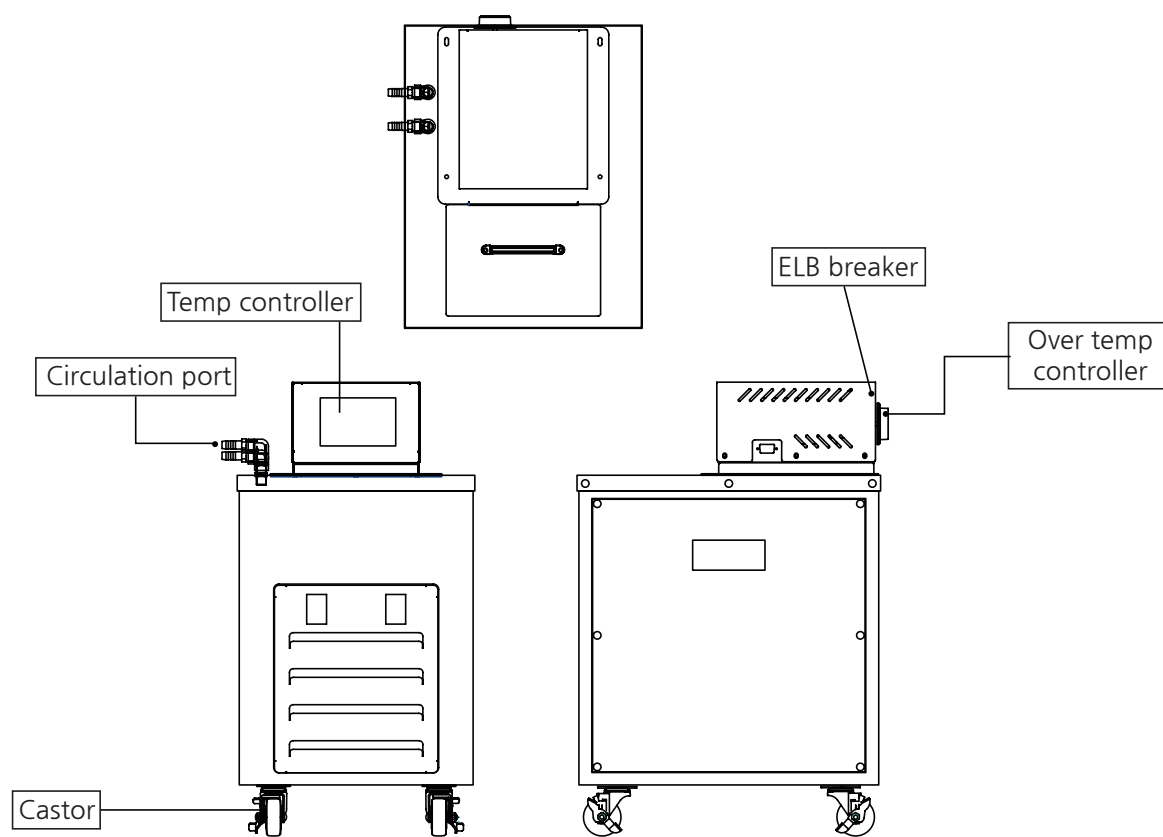


- Over-temperature protection function
- Over-current protection function



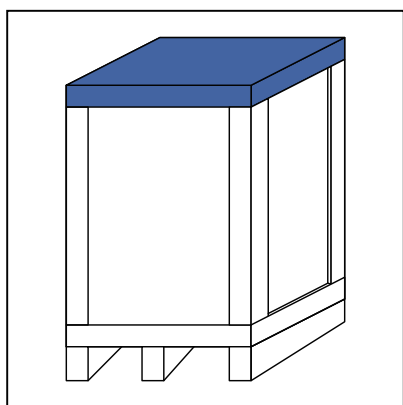
- Excellent heat exchanging

4. THE OUTWARD

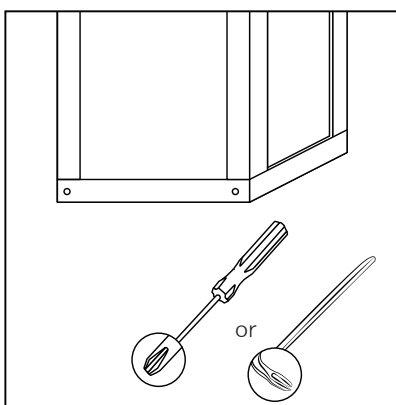


<USA-RHC-7L>

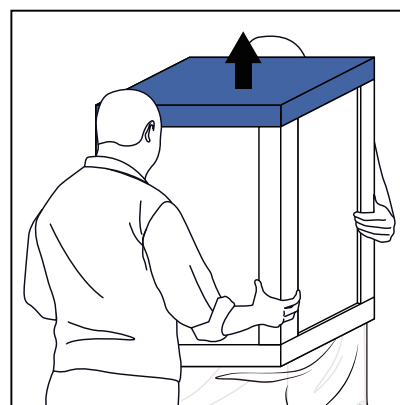
5. INSTALLATION



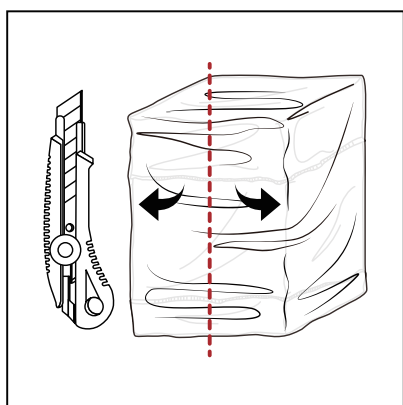
① Once the product is delivered, place the package on a flat location.



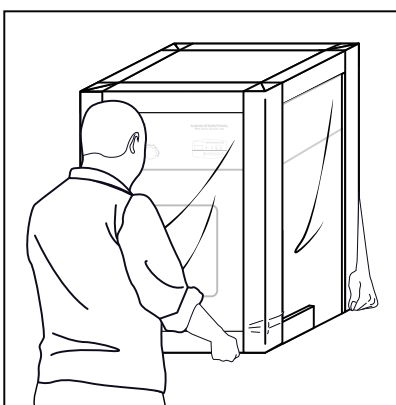
② Unscrew the bottom of the box.



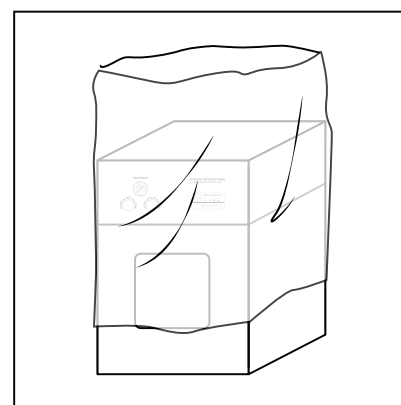
③ Lift the box as shown in the picture.



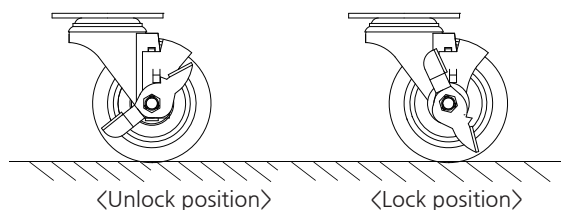
④ Unwrap the bag.



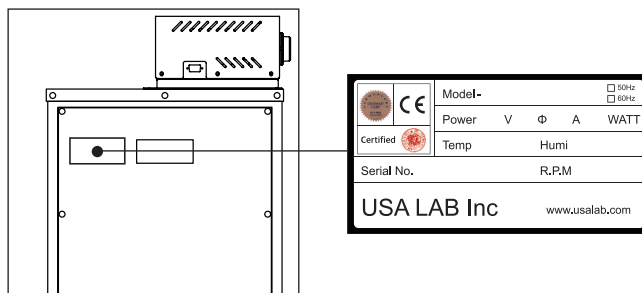
⑤ Place the equipment on your desired location.



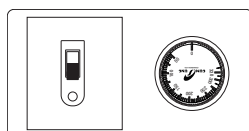
⑥ Lift the remaining plastic up.



Make sure if castor is unlocked while moving.



 Serial label shows the electric power specification of the unit.
Connect power and turn on the main switch (E.L.B)

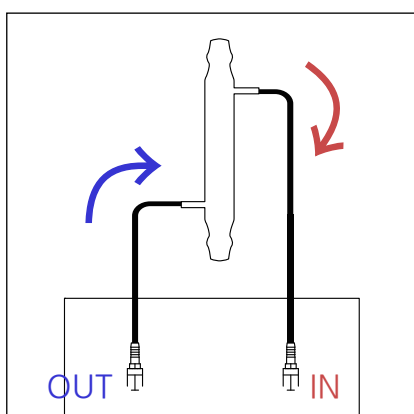


<OVER TEMP Controller>

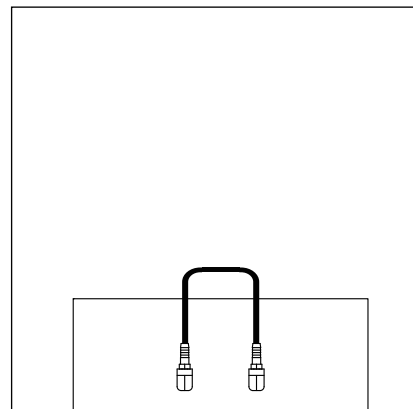
OVER TEMP Controller's positioned on back side of unit.

The OVER TEMP Controller's default value is 212°F (100°C).

Dual application



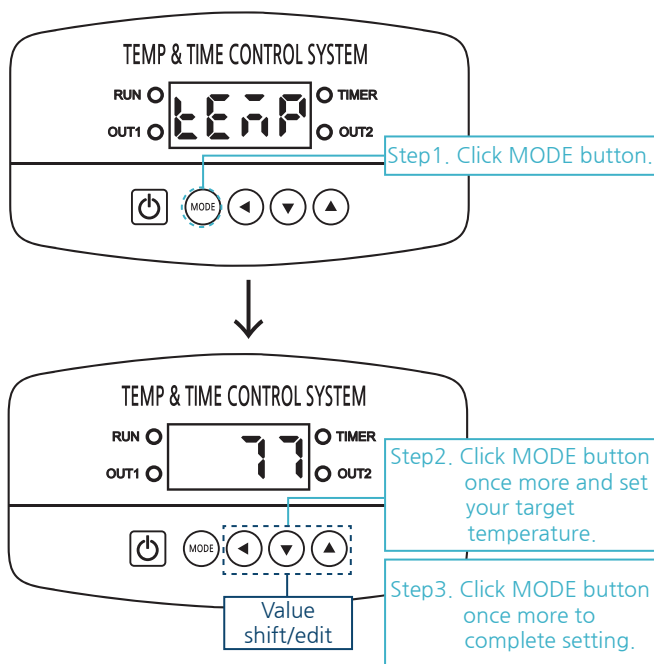
In case of connecting with other device.



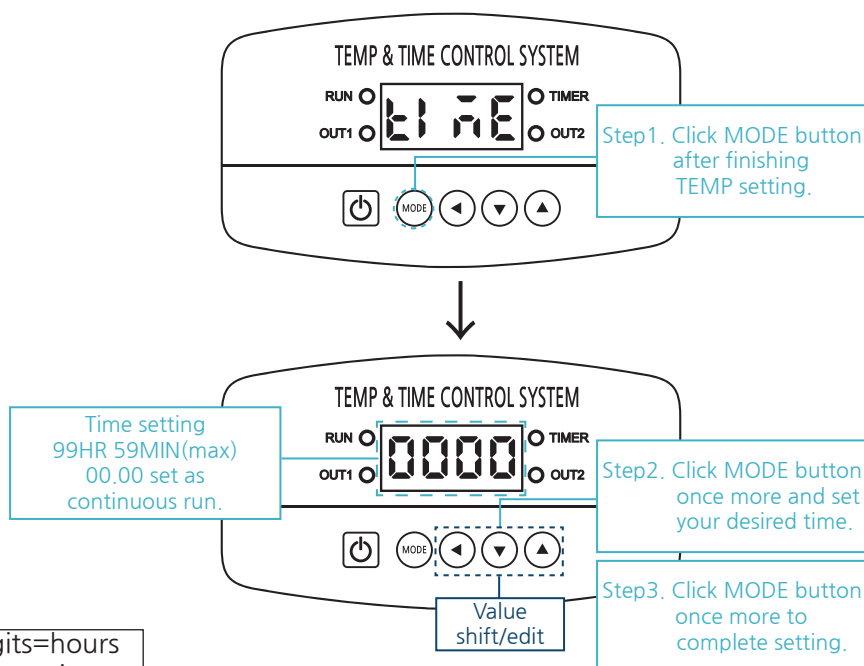
In case of connecting itself.

6. SETTING AND OPERATION

(1) TEMP mode



(2) TIME mode



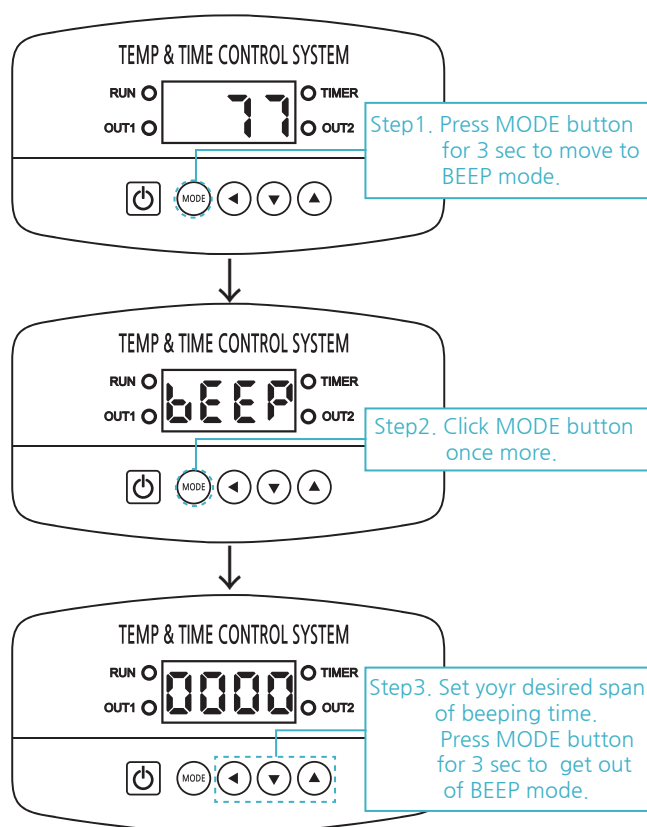
※The first 2 digits=hours
The last 2 digits=minutes

If you want a minute-second or day-hour time combination instead, feel free to contact your supplier.

※Be aware that 00.00 means infinite value.

The unit will continue to run until the user manually turns it off.

(3) BEEP mode

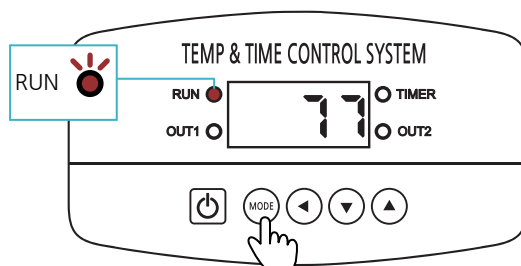




The span of time set under beep mode is the duration of the beeping once the set operating time has been finished.




1 buzzer sound/sec.

The BEEP timer will only operate once TIME mode is set.

(4) Start / Stop the unit



Press  for 3 sec and the unit will start running with RUN lamp on.
Press  for 3 sec and the unit will stop running with RUN lamp off.

-  OUT1 lamp will be on or blinking during the unit runs.
-  TIMER lamp will be blinking and it will be on when the set temp is reached.
-  OUT2 is nothing to do with this product.

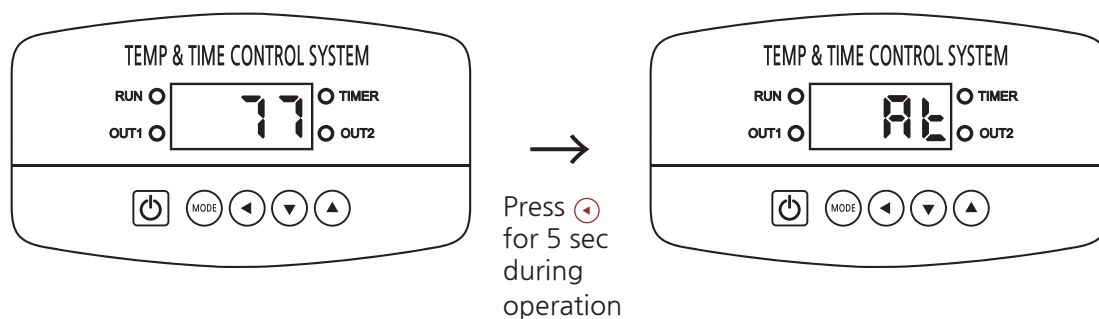
(5) Auto Tuning(AT)

AT is recommended under 2 cases.

case1. When the change of current temp is fluctuating more than $\pm 0.1^{\circ}\text{C}$.




case2. When the unit can not reach at the set temp.

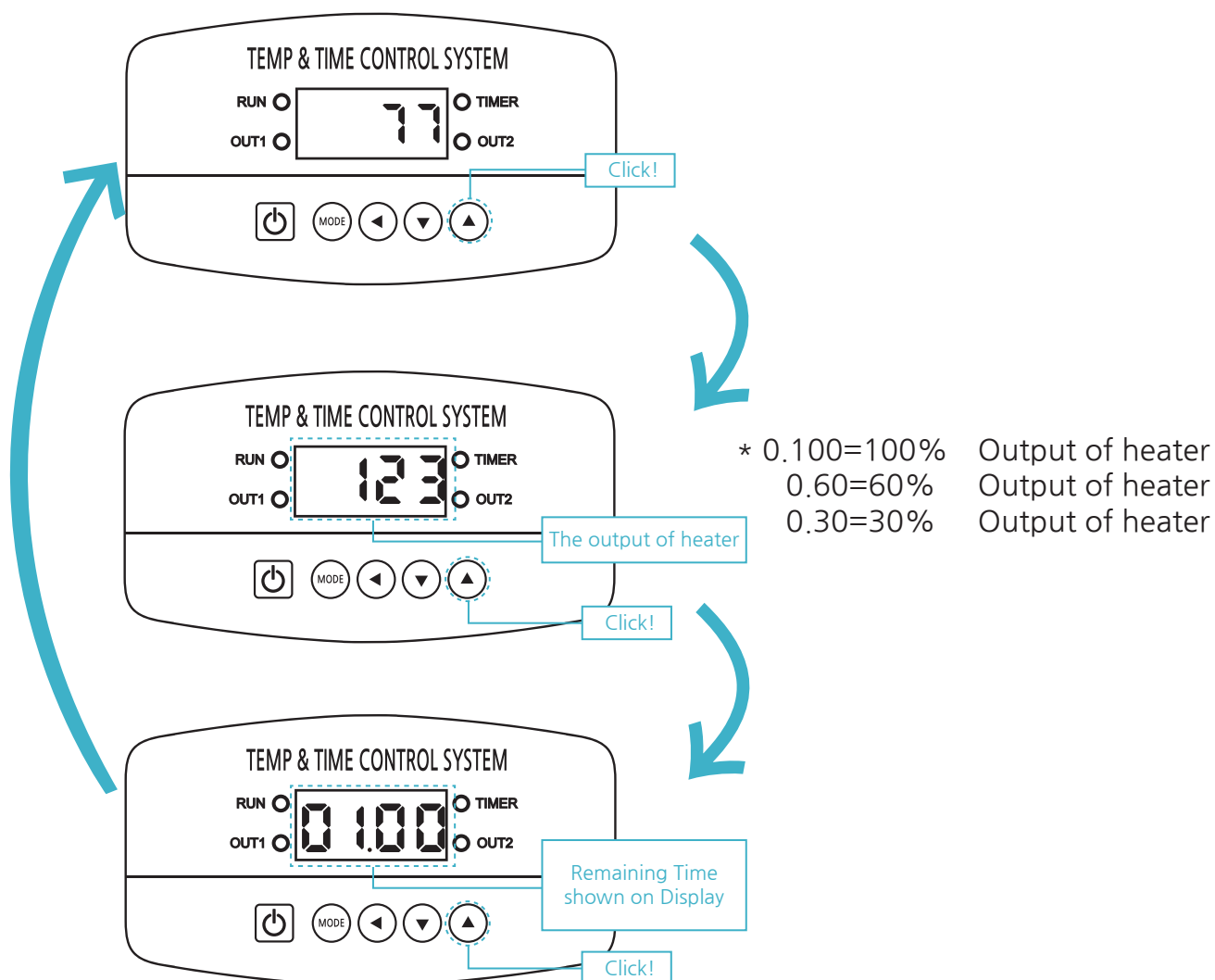
You can enter / quit AT mode by pressing  for 5 sec when the unit runs.



AT will be finished automatically when it is done.

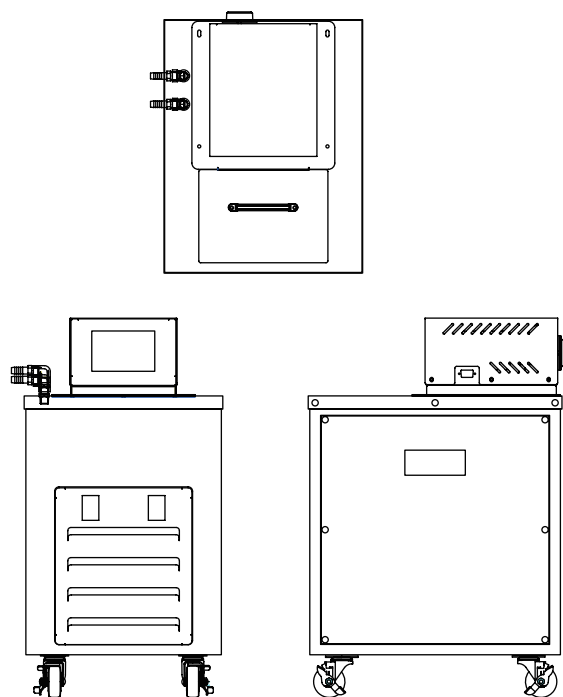
(6) Checking the remaining operation time and the output of heater

- ➔ You can check the output of heater by clicking  button for 1 sec.
- ➔ You can check the remaining operating time by clicking  button one more time.
- ➔ You can return to the original display by clicking  button one more time.







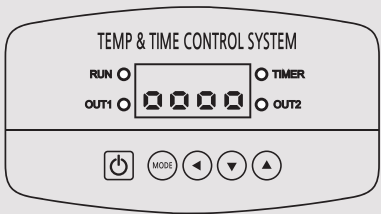

7. SPECIFICATIONS

RECIRCULATING HEATER CHILLER - USA-RHC-7L



Model	USA-RHC-7L
Temp Range	-20°C to 150°C (Option : -40°C Cool Down System)
Temp Controller	Microprocessor membrane Digital PID Controller
Time Range	00.00 to 99HR 59MIN (MIN SEC) Selectable Digital Counter
Capa	6.8 L
Heater Capa	1.5 KW
Dimension Internal (W×D×H)	150x300x150mm
	5.91x11.81x5.90"
Dimension External (W×D×H)	320x405x610mm
	12.60x15.94x24.02"
Top Open (W×D)	150x120mm
	5.91x4.72"
Net weight	44 Kg
Material Internal	Stainless Steel
Material External	Steel Plate With Powder Heating Coated
Electrical Requirements 110V ,60Hz, 1Φ	3.25 A

8. TROUBLESHOOTING

Symptom	Proposed Solution
Unit does not work	Check power plug is connected correctly.
	If RUN lamp is off, press  for 3 sec.
Temperature does not rise	Press  for 3 sec.
	Check OVER TEMP set value.
Temperature does not cool down	Check if RUN and OUT lamp are on. If RUN and OUT lamp are off, press  for 3 sec.
	Check the condition of installation environment. * Recommended ambient temperature: 20°C ~ 25°C * Recommended humidity: under 80%
	Check the distance between wall and air ventilation of unit. - Recommended distance is longer than 10cm.
Operating Temp.fluctuates	Execute AT(Auto Tuning) by pressing  for 5 sec.
	Check if RUN and OUT lamp are on. If RUN and OUT lamp are off, press  for 3 sec.
	Check the connection condition of temperature sensor and replace sensor.

Memo



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