


Version : 2020

Vacuum Oven



USA-VO-34-UL
USA-VO-90-UL



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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.

Vacuum Drying Oven is used for drying at a low temperatures by lowering the pressure. In addition, this unit dries samples without causing residues, scaling, or oxidation. Thus, this equipment widely used in laboratories and other related industries.

2. GRAPHIC SYMBOLS

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



Read this manual carefully.
Veillez lire attentivement ce manuel.



This symbol means that you should not do it.
Respectez les consignes des symboles d'attention particulière.



Be careful about voltage!
Vérifiez le voltage.



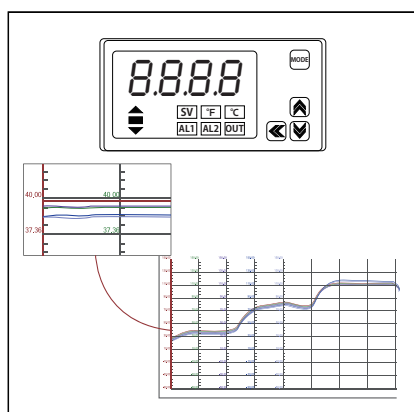
Hot surface or steam.
Surface Chaude ou vapeur chaude.

3. ENVIROMENTAL CONDITIONS

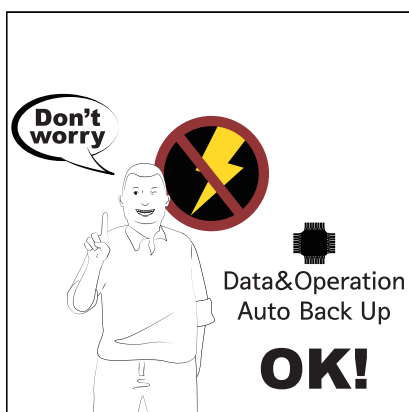
- Indoor use
- Altitude up to 2000m;
- Temperature 5°C to 40°C
- Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C;
- Mains supply voltage fluctuations up to $\pm 10\%$ of the nominal voltage;
- Transient over-voltages up to the levels of over-voltage category II
- Applicable pollution degree of the intended environment (pollution degree 2 in most cases).

**We are not responsible for any malfunction or defects caused by user's misoperation or improper environmental conditions.
And make sure of power requirement.**

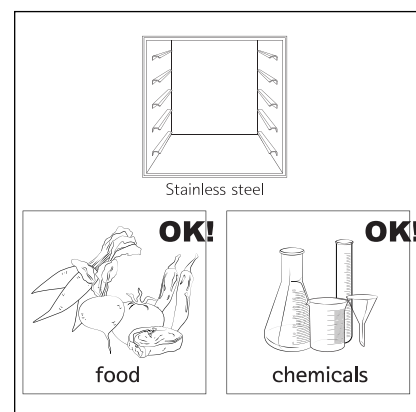
4. KEY FEATURE



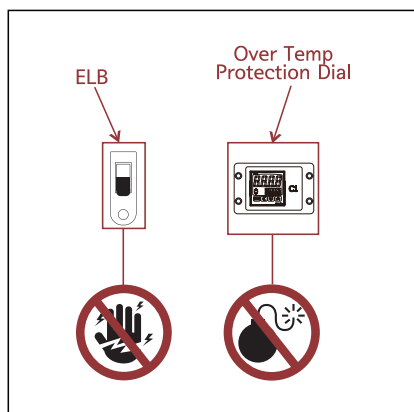
- Digital display of temp and time
- Multi key-in (100Ω(DIN Pt100Ω), KPt100Ω(JPt100Ω), K(CA))
- Precise temperature control



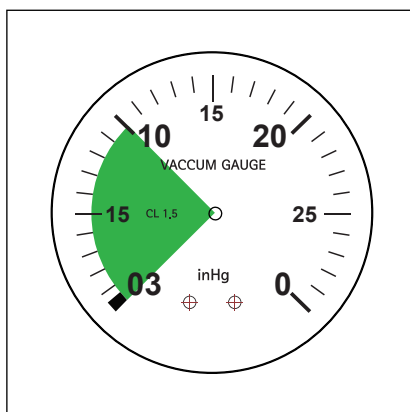
- Auto back up



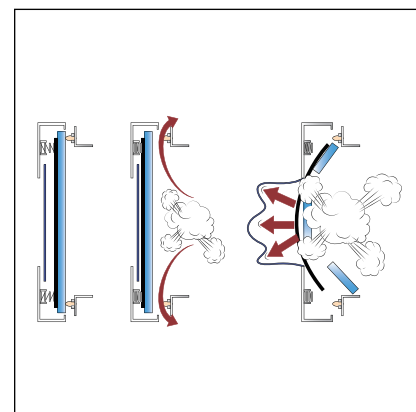
- Stainless steel interior



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

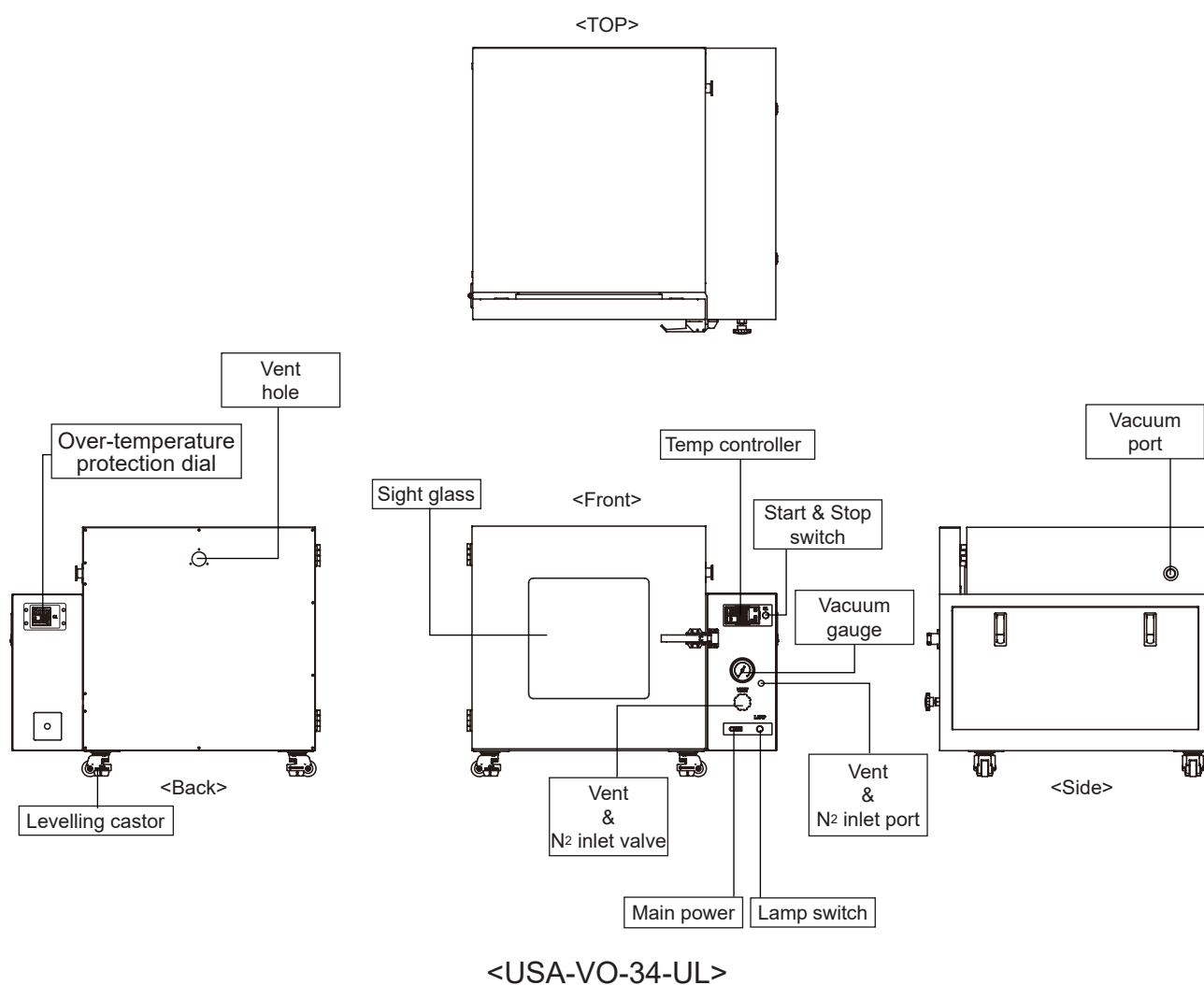


- Exclusive gauge design

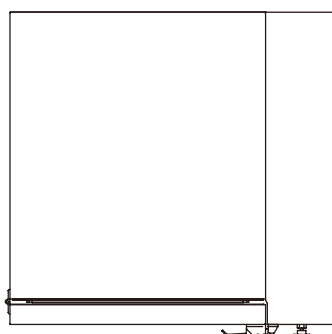


- Explosion safety door

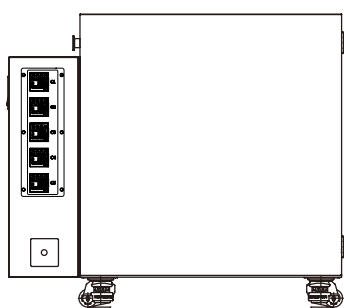
5. THE OUTWARD



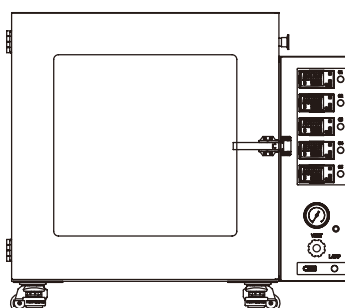
<TOP>



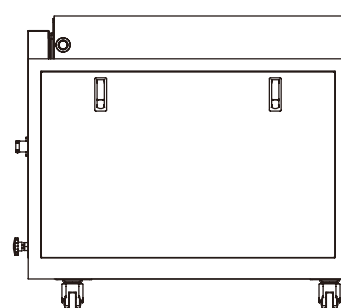
<Back>



<Front>



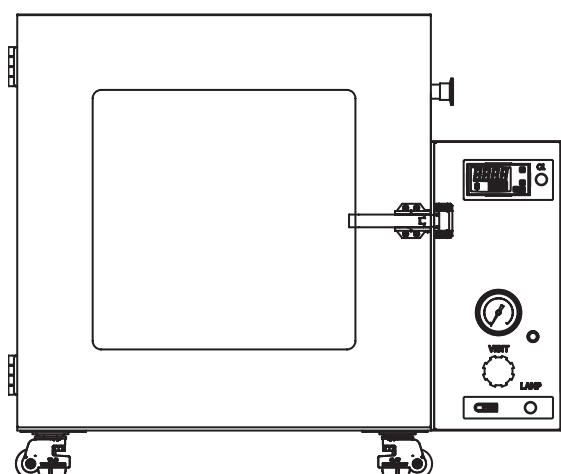
<Side>



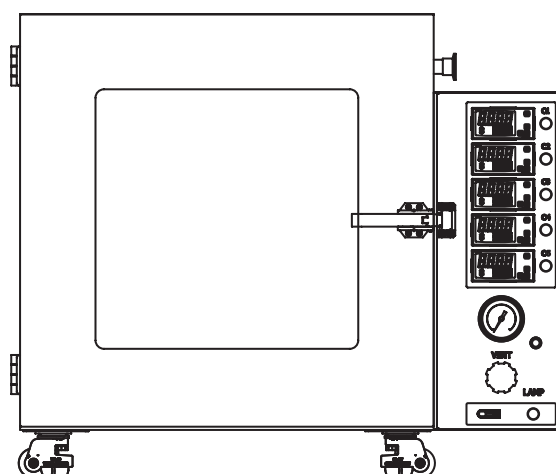
<USA-VO-90-UL>

6. BASIC PARTS

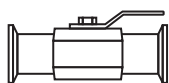
<USA-VO-34-UL>



<USA-VO-90-UL>



<Main unit>



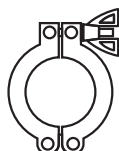
Vacuum valve : 1EA



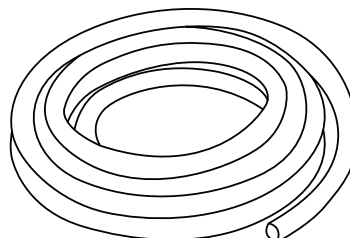
Hose barb : 1EA



L type pipe : 1EA



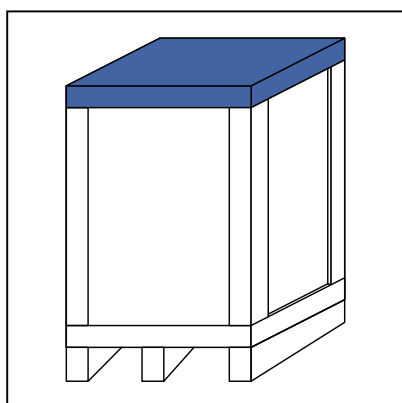
Clamp : 3EA



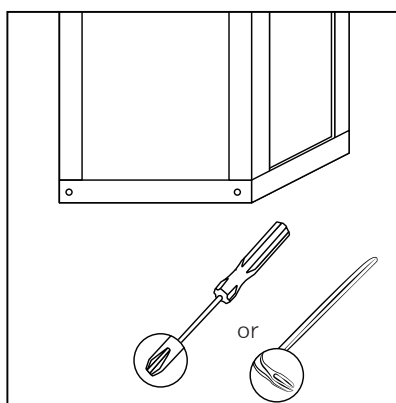
3/8" silicone tubing(6.5ft)
: 1EA

7. INSTALLATION

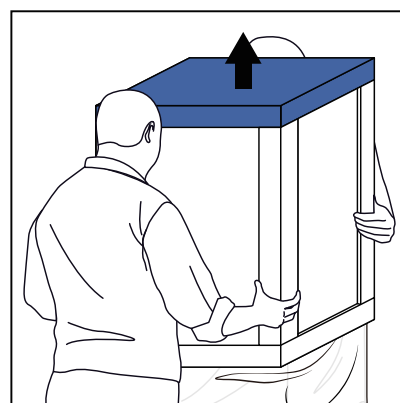
Please carry the equipment safely with a lifting device.
Do not try to lift the equipment alone or without gloves.
And the equipment should be mounted on non-flammable surface material.



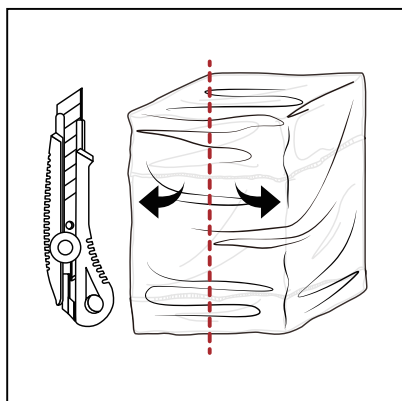
① Once the product is delivered, place the package on a flat location.



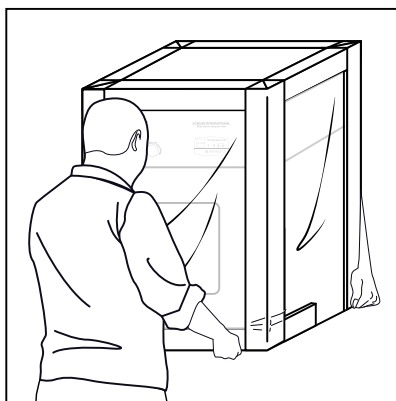
② Unscrew the bottom of the box.



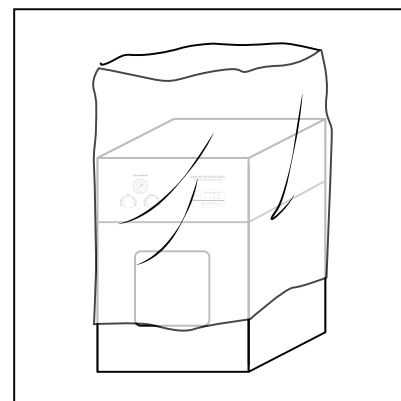
③ Lift the box as shown in the picture.



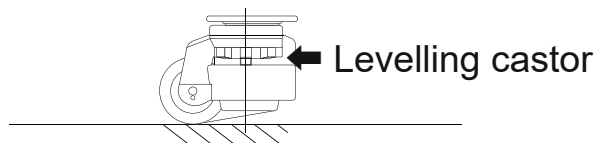
④ Unwrap the bag.



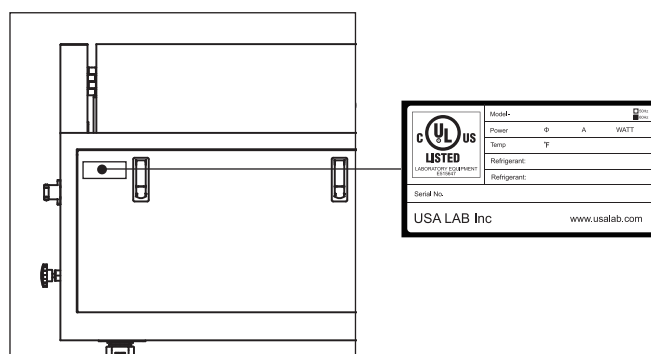
⑤ Place the equipment on your desired location.



⑥ Lift the remaining plastic up.

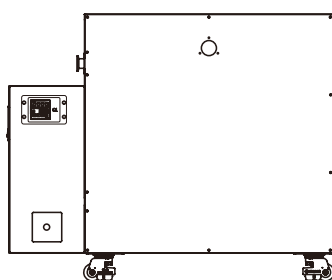


Turn the levelling castor clockwise or counter clockwise to be flat.



Turn on the power according to the electric specification in the label.

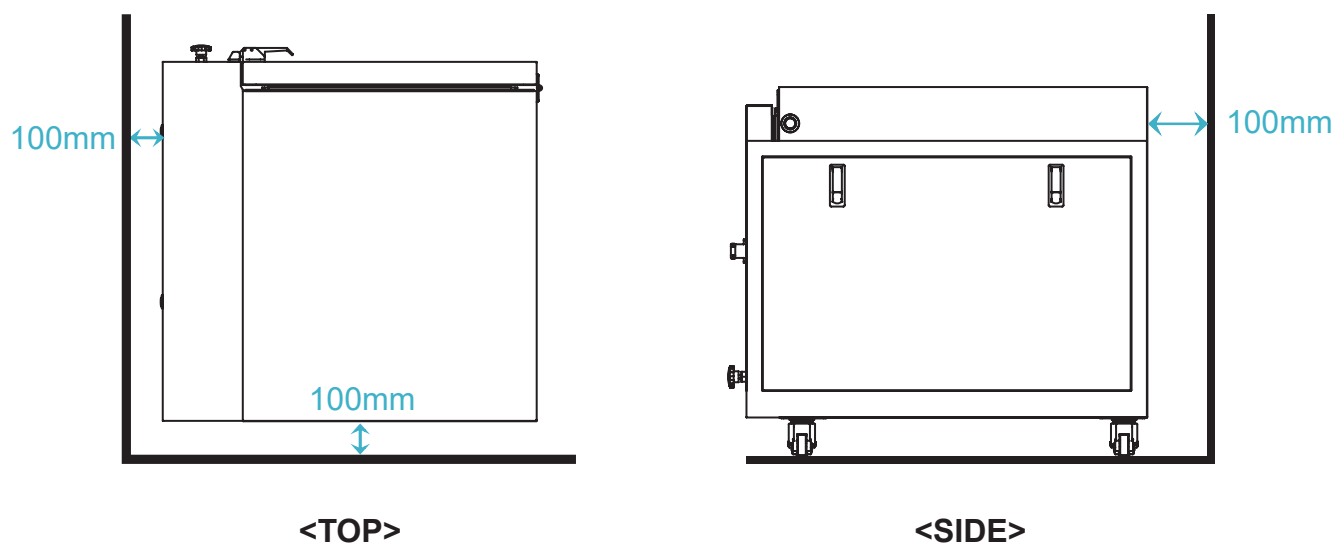
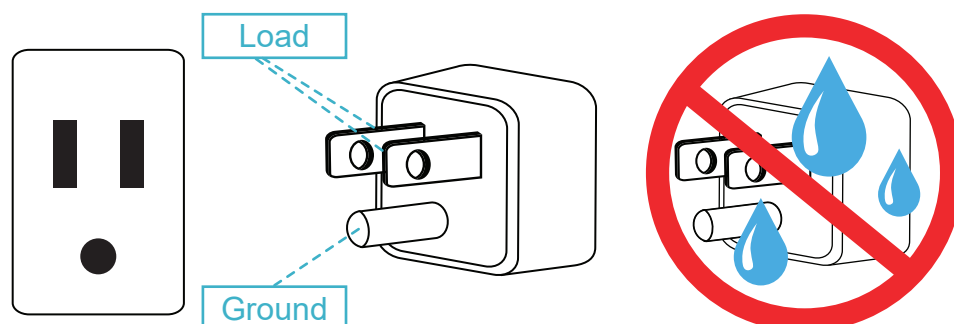
L 'alimentation électrique de votre équipement doit être faite conformément aux spécifications indiquées sur l'appareil.



<Position of OVER TEMP>

OVER TEMP should be set at least 30°C higher than the target set temp.

Please make sure of the safe power supply.

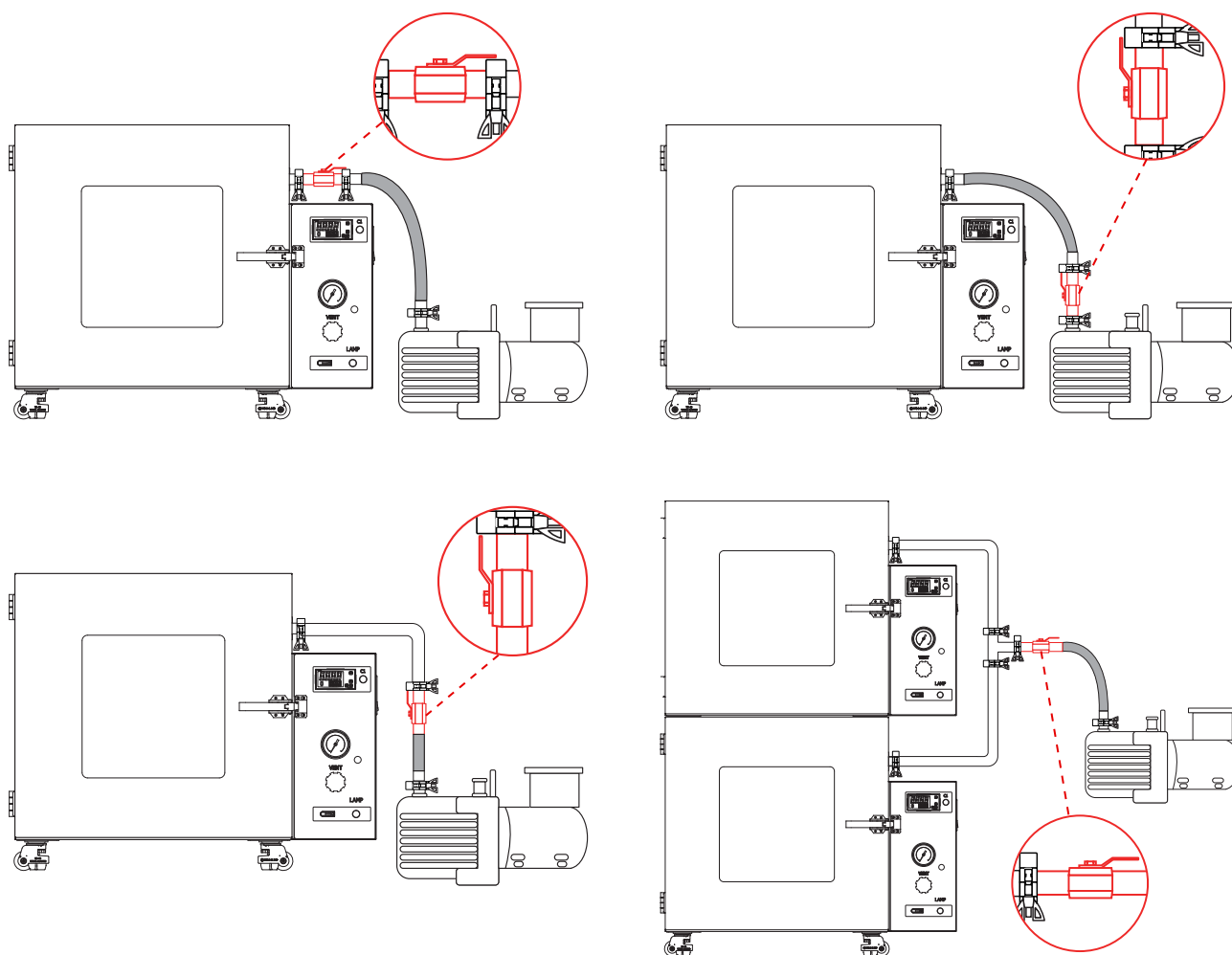


Please pay attention to good ventilation.
Please secure enough space to take the power plug off from the power outlet easily.

Oven and Pump connection

1. Install the vacuum valve at your preferred position.
2. Before operating, ensure that the vent valve and vacuum valve are closed.
3. Connect the KF clamps and KF O-rings to the oven and to the vacuum pump.
4. When operating, strictly follow these procedures step by step:
 - 1) Turn on the vacuum pump.
 - 2) Open the vacuum valve.
 - 3) In order to end operation, close vacuum valve.
 - 4) Turn off the vacuum pump.
 - 5) Open the vent valve.

-Example of vacuum valve position



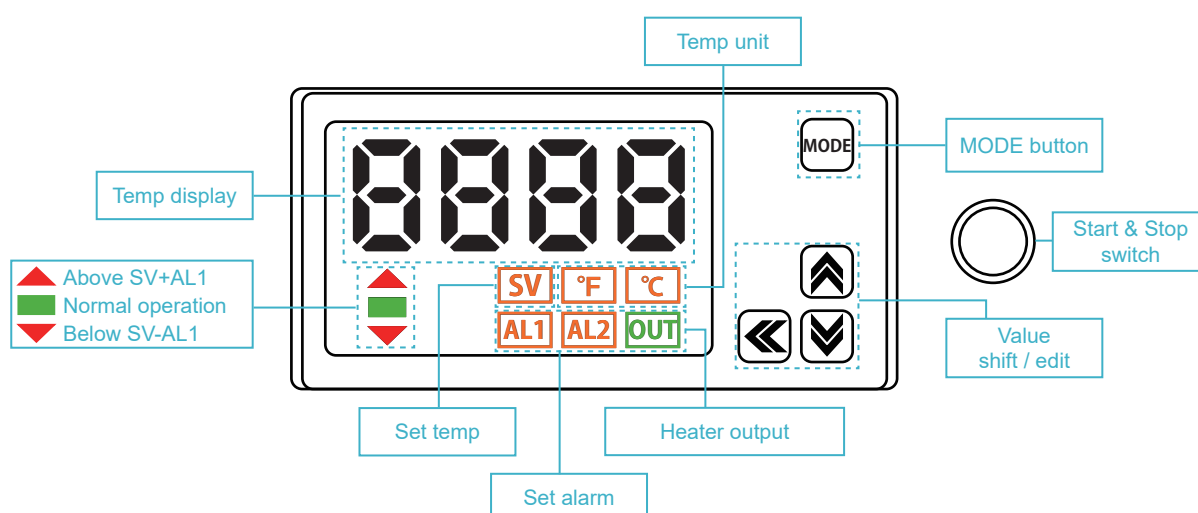
8. SETTING AND OPERATION

Use a dry cloth to clean shelves and internal chamber after operation.




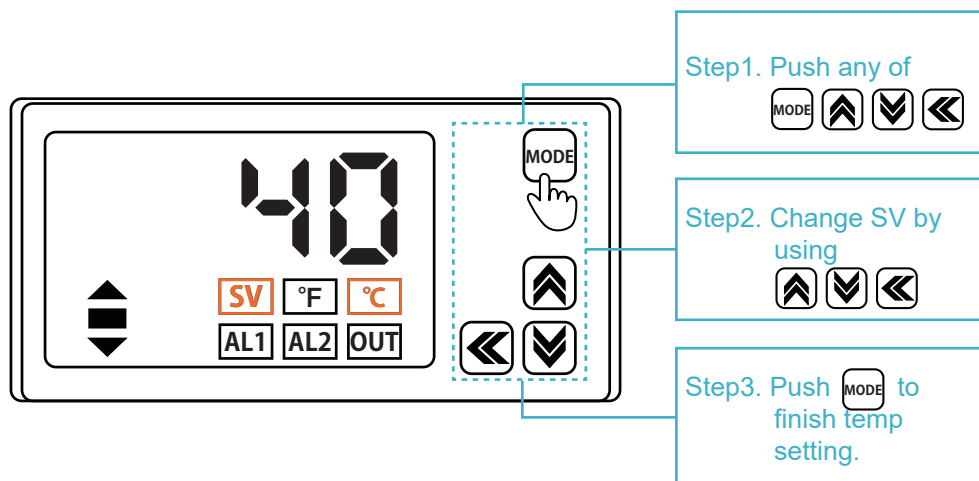
It is prohibited to use wet cloth for cleaning or decontamination, which will cause rust or oxidation.

(1) Controller overview

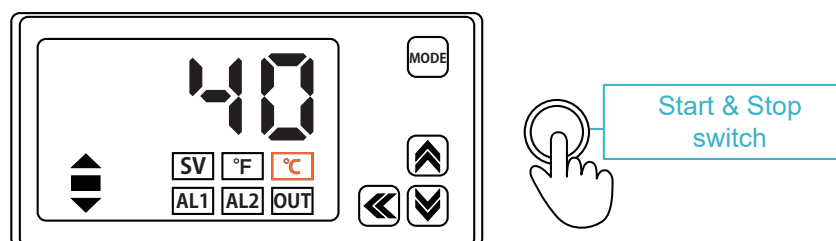



(2) Temp setting

Turn on  to make controller on.

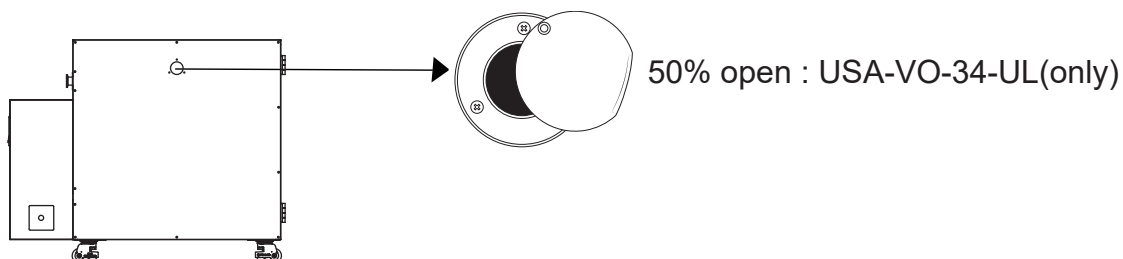


(3) Start / Stop the unit

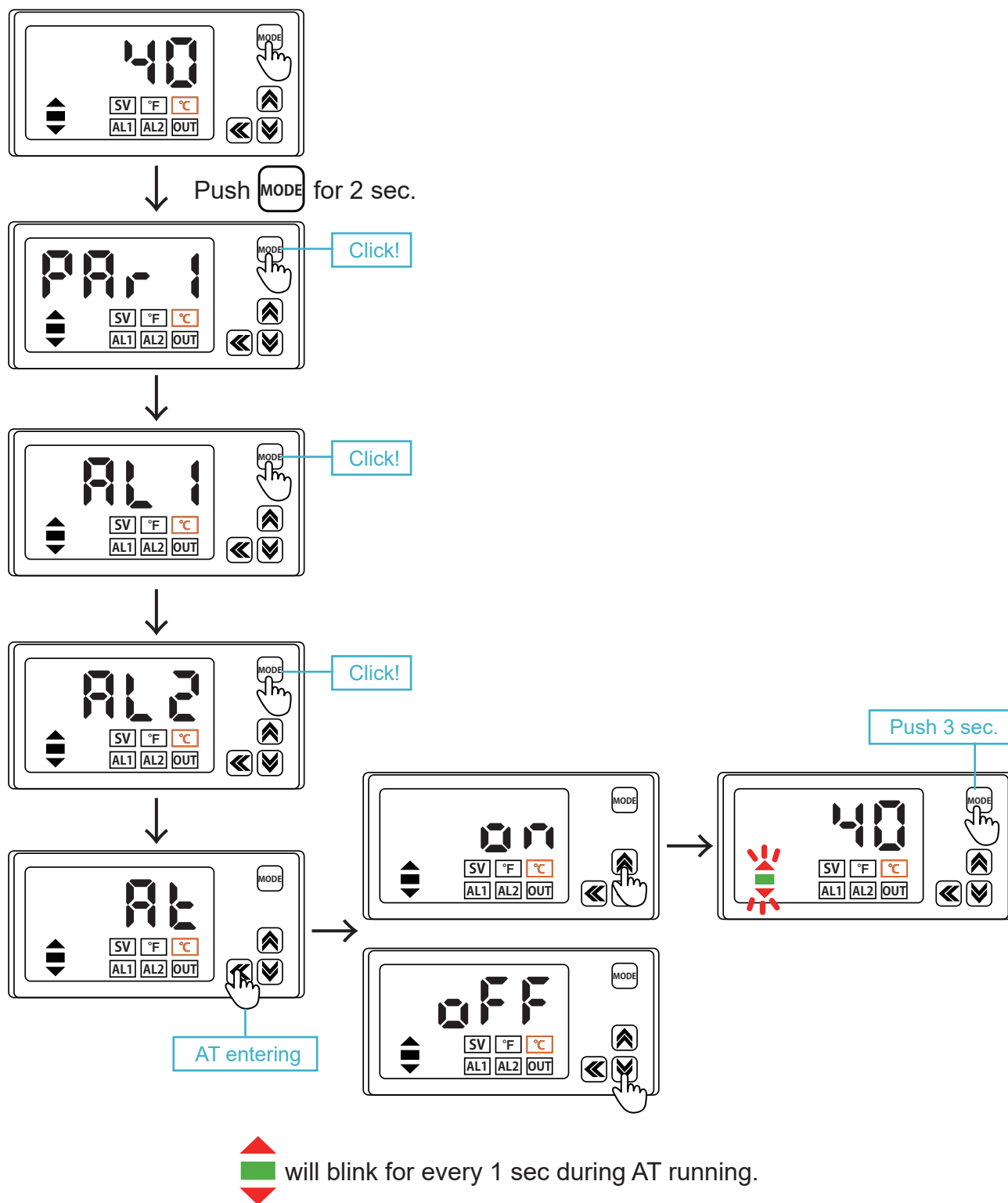


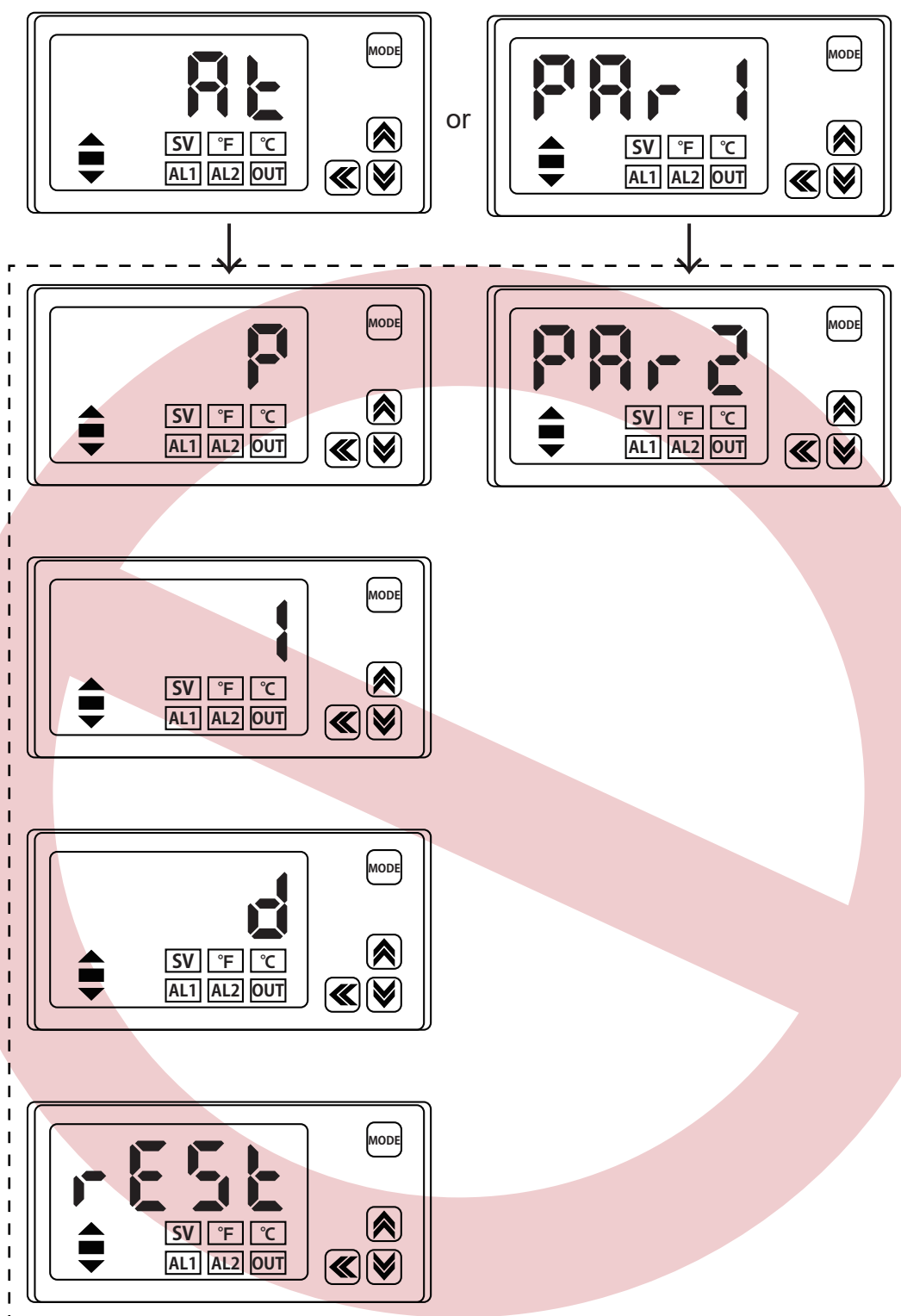
Push  to start or stop the unit.

The optimal open area ratio of each vent hole is already set when delivered but if the cover has been accidentally closed, the user can reset as shown in the guide below:



(4) Auto Tuning(AT) setting



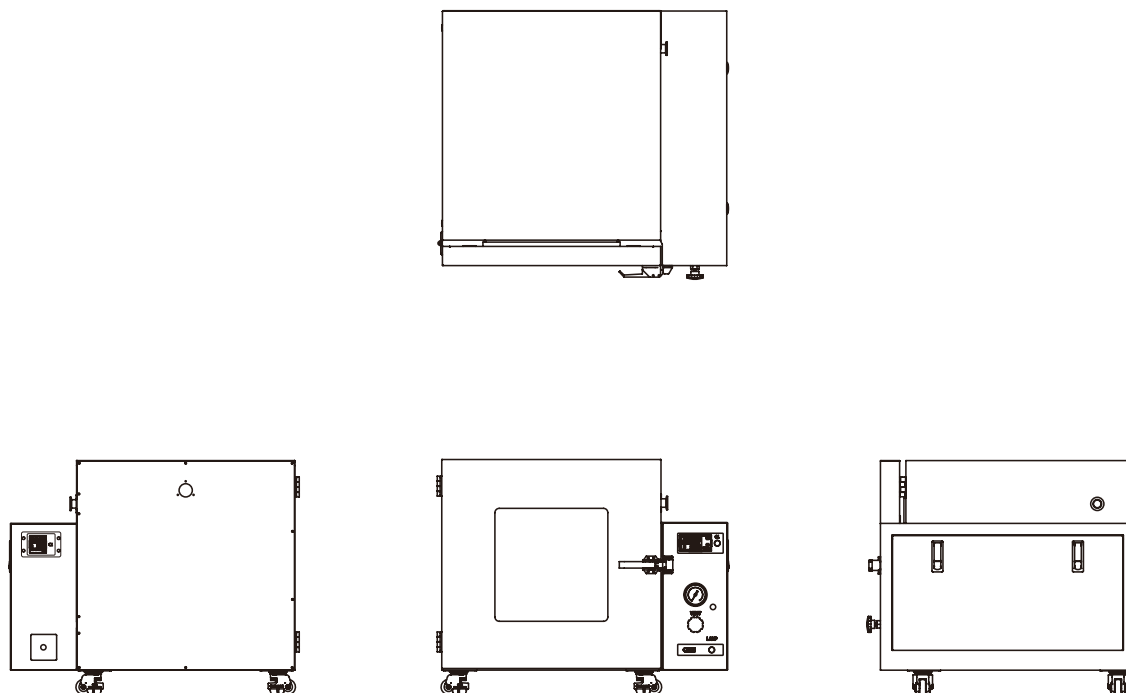


Steps in the circle are engineering mode.
Les étapes du cercle sont le mode d'ingénierie.
 Please do not enter into engineering mode.
Merci de ne pas entrer en mode ingénierie.

and get out by push **MODE** for 3 sec.

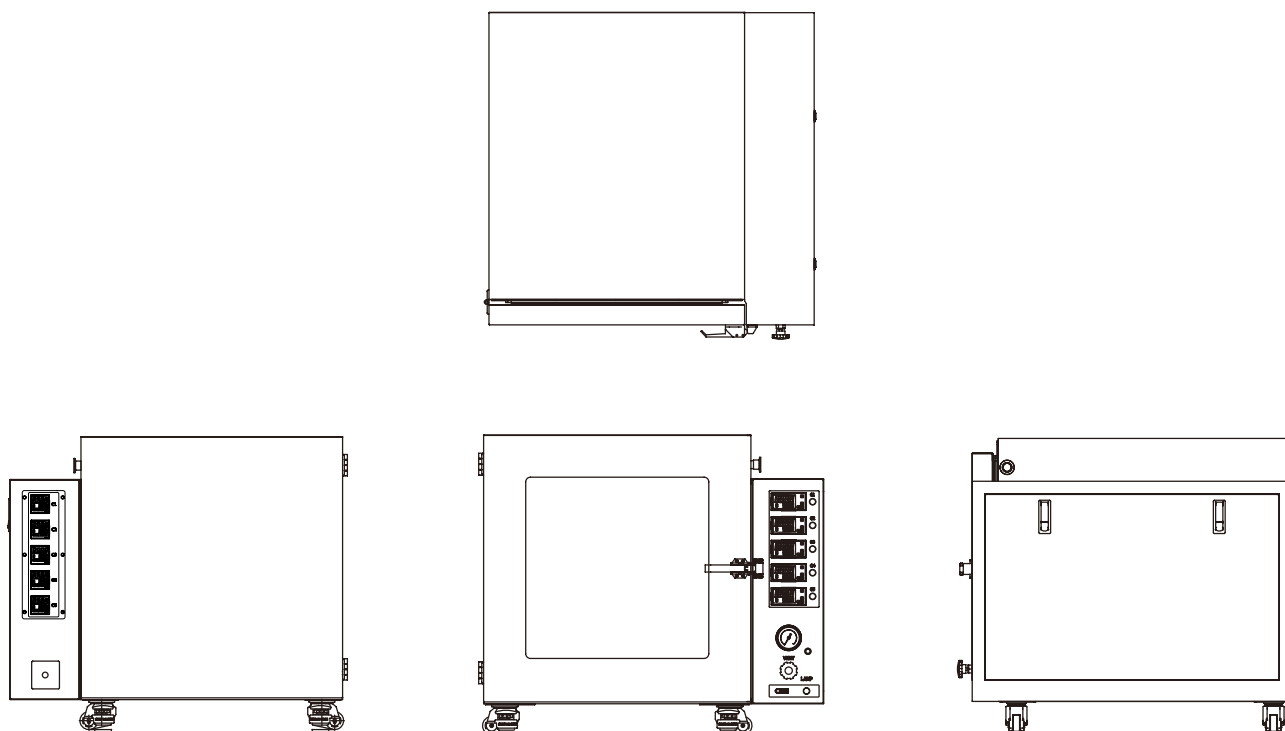
9. SPECIFICATIONS

USA LAB 3.4 cu ft - USA-VO-34-UL



Model	USA-VO-34-UL
Temp Range	Ambient + 9°F to 302°F (Ambient +5°C to 150°C)
Vacuum Resistance	0 to 76 cmHg (0 to 0.1MPa)
Temp &Time controller	Microprocess PID Membrane Touch Digital controller
Heater capa	1.35 KW
Dimension Internal (W×D×H)	400×600×400(mm) 15.74x23.62x15.74(inch)
Dimension External (W×D×H)	879×820×708(mm) 34.60x32.28x27.87(inch)
Net weight	116 kg
Capa	96 L
Material Internal	Stainless Steel
Material External	Steel Plate With Powder Heating Coated
Material Packing	Silicon Rubber Packing
View Window	Tempered Glass
Shelves	10 EA
Electrical Requirements 110V~, 50/60Hz, 1Φ (UL)	12.3 A
Electrical Requirements 230V~, 50/60Hz, 1Φ (Non UL)	6 A

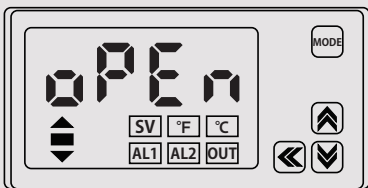
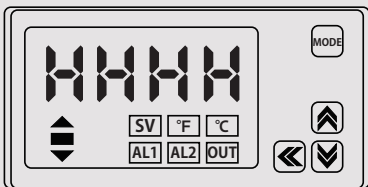
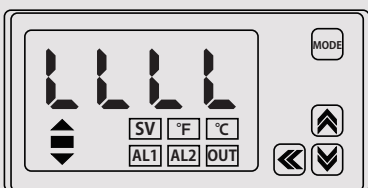
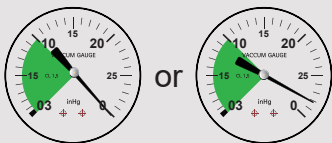
USA LAB 9 cu ft - USA-VO-90-UL



Model	USA-VO-90-UL
Temp Range	Ambient + 9°F to 302°F (Ambient +5°C to 150°C)
Vacuum Resistance	0 to 76 cmHg (0 to 0.1MPa)
Temp &Time controller	Microprocess PID Membrane Touch Digital controller
Heater capa	1.5 KW
Dimension Internal (W×D×H)	600×700×600(mm) 23.62x27.55x23.62(inch)
Dimension External (W×D×H)	953×947×822(mm) 37.51x37.28x32.36(inch)
Net weight	252 Kg
Capa	252 L
Material Internal	Stainless Steel
Material External	Steel Plate With Powder Heating Coated
Material Packing	Silicon Rubber Packing
View Window	Tempered Glass
Shelves	5 EA
Electrical Requirements 110V~ ,50/60Hz, 1Φ (UL)	13.6 A
Electrical Requirements 230V~ ,50/60Hz, 1Φ (Non UL)	6.52 A

10. EQUIPMENT MAINTENANCE AND SERVICE

- Please perform no-load operation for 30 min as commissioning running, which will help the equipment run staly and get rid of any moisture inside chamber.
- For safe operation as long as possible, it is recommended to clean shelves and internal chamber monthly and to check the sealong gasket regularly if there is a crack or deformation.
- It is recommended to perform Drying-out (no load operation for 30min) at least a month while the equipment is not used.

Symptom	Passible Causes of Problem
Unit does not work	Check power is connected well.
Temperature does not rise	Push Start & Stop switch.
	Run AT.
	Check OVER TEMP set value.
Operating Temp.fluctuates	Run AT.
	Sensor problem.
	Controller problem.
	
Vacuum does not work 	Check whether vacuum valve is open. Check whether vacuum pump is on. Check whether vent valve is closed.



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