Laboratory Equipment Pty Ltd

INSTRUCTION MANUAL FOR REFRIGERATED INCUBATORS

Laboratory Equipment Pty Ltd
"Proudly Australian Owned and Operated."
26 Farr Street, Marrickville NSW 2204
Phone +61 02 95602811 Fax +61 02 95606131
www.labec.com.au

Refrigerated Incubator

B-ICBOD80/100/150/200/250/300/400

User Manual

Laboratory Equipment Pty Ltd

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Preface

Thank you for choosing a Labec product！

For your safe, convenient use and maintenance of this product, please read the instructions carefully before use and keep it for review.

Labec has no obligation and responsibility for any damage to the instrument or injury caused by personal failure to operate under the required Safety Notice.

Users must do the following three points in their use:

always uses protective equipment (including clothing, gloves, goggles, etc.);

always adopt good hygiene habits and strictly follow the product instructions.

Safety tips

Please read this manual carefully for the first use of this product.

Biochemical incubators can only be operated by trained and authorized personnel.

Maintenance of the equipment can only be done by the Labec's technical engineer or agents authorized by the Labec.

If the operator is not mentioned in this manual, please contact the technical engineer or an authorized agent of the Labec to ask for the correct treatment method.

Please use the accessories provided by LABEC and LABEC will not be responsible for adverse consequences, if users are using other accessories, but users can apply to LABEC to verify that the accessories meet LABEC requirements.

Biochemical incubators must be inspected and maintained at specified time intervals.

Biochemical incubator has achieved the purpose of cooling through front or left or right outer surfaces (condenser). In order to ensure the normal operation and ventilation of the machine, the back and left and right sides of the box are at least 30 cm away from the wall, and the air inlet and outlet shall not be blocked by obstacles.

If the temperature in the biochemical incubator will rise during machine failure or power failure. If it cannot be repaired in a short time, please remove the medium and transfer to other places that meet the temperature of the medium for storage, so as to avoid damage to the medium.

Where the equipment is bid with ⚠ symbols, consult this manual in order to identify the potential nature of the danger and the countermeasures that must be taken.

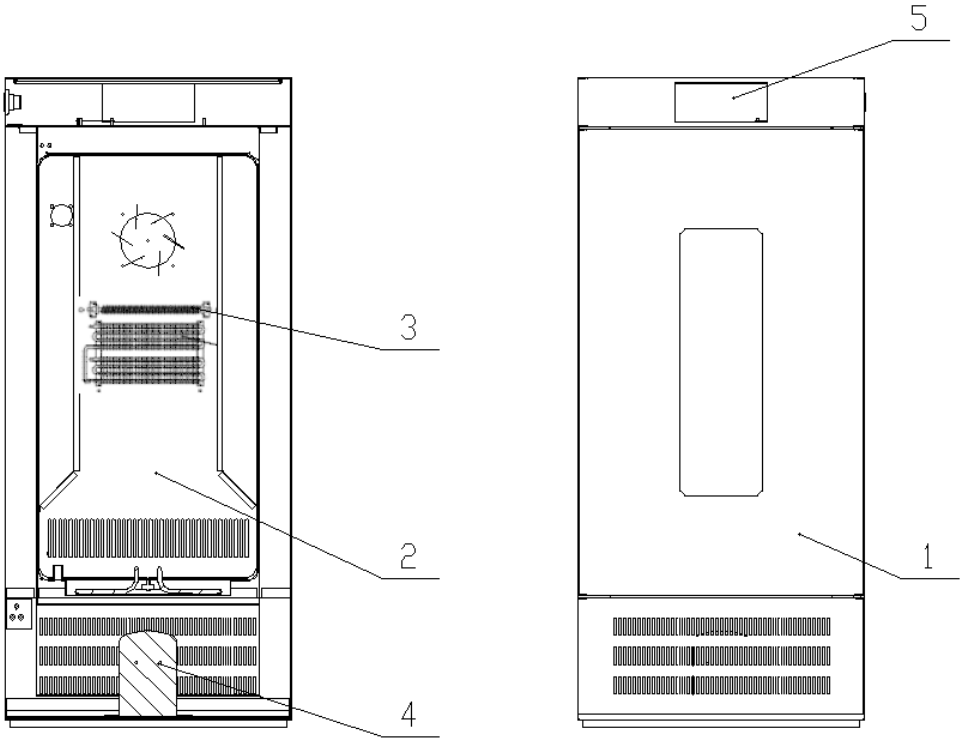
Please use the equipment as specified in this manual, and if not as specified by the manufacturer, it may damage the protection provided by the equipment.

Content

I. Product structure and purpose

1.1 Product structure:

Biochemical incubator is mainly composed of an outer box (housing), inner bile, heating system, refrigeration system and display system, as shown in the figure below.



1. housing 2. internal bile 3. heating system 4. Refrigeration system 5. display system

diagram of biochemical incubator structure

1.2 Software introduction

Name of the software: biochemical incubator control software

Model specification: SHH (B) -D6000 (-T / TA)

No network connection, no electronic data exchange function.

1.3 Use and scope of application

Biochemical incubators are suitable for the cultivation of microbial samples of bacteria and mould in medical institutions.

II. Attention before use

2.1 Transportation and handling requirements

a) For long-distance transportation, wood support should be installed at the bottom of the equipment, add anti-collision angle lining around the equipment, increase direct sunlight exposure and rain-proof device, and lock the universal wheel with brakes;
b) Shall be lifted from the bottom in short distance, the inclined surface shall not be greater than 45 degrees, and shall not grasp the door body or lining port as the bearing part;
c) On a flat ground, you can directly push the biochemical incubator to move. When pushing the biochemical incubator, raise the brakes of the front wheels and pay attention to the casters not to damage the power cord. After completing the movement, lock the front wheel brakes to avoid random movement of the biochemical incubator.
d) This equipment has a refrigeration system, which should not be tilted when handling and moving, and shall be placed for at least 24 hours after unpacking. The indoor temperature should be kept at about 25℃ in summer. During continuous cooling, one heating must be done in about 7 days (50℃, 4 hours) for defrosting treatment.

2.2 Storage environment requirements

a) Indoor storage;
b) Storage ambient temperature: -10℃~30℃;
c) Storage environment relative humidity: ≤ 80%;
d) Shall not be placed at too high temperature and easy splashing water;
e) The placement surface must be solid, horizontal, non-burnable and can withstand the weight of the biochemical incubator;

2.3 Use environmental requirements

a) Ambient temperature: 18℃~30℃;
b) Ambient relative humidity: ≤ 80%;
c) Rated power supply voltage: 240VAC;
d) Rated voltage frequency: 50Hz;
e) Mounting surface must be solid, horizontal, non-burnable and ground that withstand the weight of the biochemical incubator;
f) Shall be used in place without direct sunlight and away from the heat source;
g) Requires more than 30cm of space around the biochemical incubator for easy ventilation and heat dissipation;
h) Shall not be placed at high temperature or splash water;
No strong vibration or corrosive gas;
g) Transient overpressure is the facility category (overpressure category) Ⅱ.

2.4 Safety precautions

a) Shall not grasp the door body or lining port as a force component;
b)Remove all packaging components (including protective foam and packaging base in the box) before use;
c)Before use, please check the random attachments and materials according to the packing list;
d)The product shall be cleaned once before use;
e)Power supply voltage: AC240V/50Hz. If the voltage is lower than 228V or higher than 242V, a suitable automatic voltage stabilizer must be installed for use;;
f)Using this biochemical incubator, the power supply is required to have a low-voltage air circuit breaker and a leakage protection device;
g)A special independent socket must be used and reliable grounding to ensure that the equipment is well connected, and shall not lengthen the power cord length of the line at will. If it is really necessary, use copper core wire above 2.5mm², and the sectional area of copper core wire in the wall

connected to the power socket must also be guaranteed above 4mm²;
h)It is strictly prohibited to put inflammable and explosive dangerous goods and strongly corrosive acid and alkali substances in the biochemical incubator;
i)Do not connect the zero wire (N end) on the socket with the grounding wire (E end), otherwise the biochemical incubator shell will be charged and electric shock occurs;
j)Power cord cannot be tied, cannot be pressed under heavy objects, can not be close to the compressor and other heat sources;
k)Do not place the device in locations that are difficult to operate the disconnected device;
Note: Do not put culture medium in the biochemical incubator that has just been powered on. After the temperature of the incubator stabilizes, put the culture medium in the incubator for cultivation.

III. Product performance and main technical parameters

3.1 Applicable range

Biochemical incubator is suitable for environmental protection, medical treatment, health care, epidemic prevention, drug inspection, agriculture, livestock, aquatic products and other scientific research and production departments. It is a special constant temperature equipment for BOD determination of water analysis, culture and preservation of bacteria, mold and microorganisms, plant cultivation and breeding test.
Can not be used for the culture of human-derived samples.

3.2 Features

a) uses microcomputer technology to control the temperature, accurate and reliable, using LCD display, showing the current working status in the display screen.
b) light touch adjustment switch operation, light and flexible.Over-temperature alarm device is also provided.
c)The box is equipped with fans to form forced convection to make the average working temperature better.
d)The box is made of high quality steel plate and surface injection molding.The inner bile uses high-quality stainless steel plate.
e)The work room is equipped with a lighting device and a power interface.
f)In order to make the studio temperature less fluctuating and uniform, the studio box door adopts magnetic door seal, and equipped with hollow glass observation window.Good sealing, easy to close, you can observe the culture in the working room directly.
g)Refrigeration adopts a new fluorine-free design to ensure green and environmental protection.

3.3 Main technical parameters

Specifications	IC-BOD 400	IC-BOD 300	IC-BOD 250	IC-BOD 200	IC-BOD 150	IC-BOD 100	IC-BOD 80
Volume（L）	400	300	250	200	150	100	80
Dimension（cm）	72×76×180	66×70×170	62×70×160	59×66×153	59×63×138	54×58×122	54×58×110
Control room size（cm）	58×54×127	52×50×117	48×49×107	45×45×100	45×42×85	40×37×68	40×37×56
Package（cm）	85×88×197	79×83×187	75×83×177	72×79×170	72×76×155	67×71×139	67×71×127
Net weight / gross weight（kg）	135/170	115/157	105/145	95/138	90/120	70/90	65/85
Temperature control range（℃）	0～65						
Temperature fluctuation（℃）	±1						
Temperature uneven value（℃）	±2						
Time range（min）	0～9999min（h）						
Rated power（W）	1400	1400	1200	1200	1000	1000	1000
Refrigerator	R404a		R134a				
Power supply	～240V/50Hz						
Working hours	continuous						
Auxiliary socket input	240V 50Hz						
Auxiliary socket output	500VA 10A						
Auxiliary socket model	Typ1609						
Other	Performance parameter test under no-load condition, ambient temperature is 20℃; ambient humidity is 50%RH						

IV. Description of product use

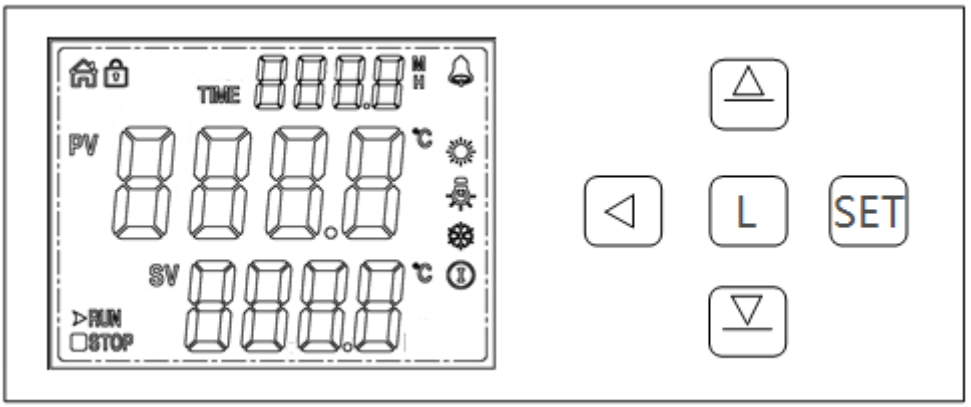
4.1 Safety Notes

a)After dismantling the biochemical incubator, place the biochemical incubator according to the use

environment, lock the front casters to make the box flat;
b)The box has been cleaned when leaving the factory, but it is still recommended to use warm water with a small amount of neutral detergent to scrub the low temperature preservation box, and then scrub with clear water, and dry (electrical parts can not be cleaned and can only be wiped with dry cloth);
c)Connect the power cord before, insert one end of the power cord into the power outlet in the lower right corner (rear) of the device and the other end into a three-hole outlet with voltage 240V/50Hz with protective grounding, and shall be reliably grounded.Turn on the ship switch in the lower right corner (front) of the equipment, when the equipment is in standby display works normally, the display interface is shown in the figure, showing the display temperature of the equipment before operation.
d)(Optional)A waterproof socket is set on the right side of the fan in the internal cavity of the equipment, which can supply the equipment in the inner cavity (such as ultraviolet lamp, shock plate, etc.) and the user controls the power supply of the waterproof outlet through the socket key on the display screen.

The equipment power used on the socket shall not exceed 500VA, current should not exceed 10A, voltage shall not exceed 240V, connected appliances must have good grounding;

4.2 Instructions for the main interface of the display



a) Indicator lamp definition:
1.【 】Indicator: illuminated in normal operation (not set) and turned off.
2.【RUN】Indicator: The light is off at the end of the timing, or otherwise.
3.【STOP】Indicator: on at the end of the timing and off.
4.【 】Indicator lamp: the light is on when there is temperature deviation alarm or abnormal temperature measurement, when there is temperature deviation alarm, and the light goes off in normal operating state.
5.【 】Indicator: This light is on with heating output and off.
6.【 】Indicator: when refrigeration output, flashing during the start delay, and turning off.
7.【 】Indicator: when there is light output, otherwise off.
8.【 】Indicator: light on when the frost solenoid valve output and off.**(Note: SHH (B) -D6000 without this function)**
b)**The controller is electrified, the second row of the display window displays [scale number and instrument model], and the third row displays [version number] for about 3 seconds after entering the normal display state.**
c)**Reference and setting of temperature and time**
Description: The timing function and timing mode (positive / countdown) are optional, see the

values of parameters ndt and ndE in Internal Parameters Table-2.

1）If there is no fixed function: click [Settings] to enter the temperature setting status. The second row of the display window "SP", third row displays the temperature setting value, which can be modified by [increase], [decrease] and [shift] keys; click [Set] to exit this setting status, and save the modified set value automatically.

2）If there is a timing function: click [set] key to enter the temperature setting status, the second row of display window display prompt "SP", third row display temperature set value, the modification method is the same; click [set] key to enter the time setting status, the second row display prompt "ST", first row display time set value; then click [set] key to exit this setting status and allow the modified set value to be automatically saved.

When the time is set to "0", it indicates that there is no timing function, the instrument runs continuously; when the set time is not "0" and "time unit starts," time time "flashes, operation ends, the first row of the display window shows" End", buzzer intermittent call EST seconds (see internal Parameters table-2 for details) after stop calling.After the timing run, press [Reduce] for 3 seconds to restart the operation.

d)**Excnormal temperature measurement alarm:** If the second row of the display window displays "- - - -", indicating the temperature sensor fault or the temperature exceeds the measurement range or the controller itself is fault, the controller automatically disconnects the heating output, the buzzer calls continuously, and the alarm light is always on, carefully check the temperature sensor and its wiring.

e)**When the upper deviation over temperature alarm,**The buzzer beep and beep, "□" alarm lamp turns on, turn off the heating output; when the lower deviation over temperature alarm, the buzzer beep and "□" alarm light flashes; if the over temperature alarm occurs due to changing the temperature setting value, "□" The alarm light is not on and the buzzer does not ring.

f)Under normal display state, the additional button can be manually locked by pressing the additional button for 2 seconds, and the additional button can unlock the lock screen; or locked automatically after no key operation for a certain time (see internal parameter table-1 parameter Lct for details)。**6 . When the buzzer calls, you can press any key to silence it.**

g)**Reference and setting of the internal parameters**

In normal display state, press [Settings] for 3 seconds and the second row of the display window displays the password prompt "Lc", third row displays password value, modify to the required password value by [increase], [decrease] and [shift].Click [Settings] key again. If the password value is not correct, the controller will automatically return to the normal display state. If the password value is correct, then enter the internal parameter set state. Then click [Settings] key to modify each parameter in turn.Press [Settings] again for 3 seconds to exit this state, and the parameter value is automatically saved.See the following table for details:**Internal Parameters Table-1**

Parameter indication	**Parameter name**	**Parameter function description**	**(Scope) Factory value**
Lc	password	You can view and modify the parameter values at Lc=3.	0
ALH	Upper deviation Ultra temperature alarm	When "temperature measurement> temperature setting value +ALH", there is an upper deviation over temperature alarm (see 5.4)。	(0～50.0℃) 5.0

ALL	Lower deviation Ultra temperature alarm	When "temperature measurement <temperature setting value +ALL", there is a lower deviation over temperature alarm (see 5.4)。**Description: The lower deviation alarm is invalid when "ALL=0".**	(-50.0～0℃) 0
Lct	Lock screen time	Automatic lock screen time, no automatic lock screen at 0, -no lock screen function at 1.	(-1~999 sec) 0
Ct	Compressor Start delay	The compressor starts to delay protection time, the minimum time interval of the compressor from stop to restart.	(0～600sec)120
FIL	Filter coefficient	Filter coefficient of the temperature measurements.	(1～200) 50
Lt	Lighting lamp Close the delay	When the lamp is on, automatically after the delay Lt time. If "Lt=0" the delay is invalid, manually	(0～30min)2
Cnd	Compressor Start and stop mode	Effective only if the compressor works intermittently! 0: Automatic start-stop compressor (automatically judged by the controller) 1: Manual start-stop compressor (using uP and dn values)	(0～1)0
uP	Compressor Start valve value	**Effective only if the compressor works intermittently and "Cnd=1"!**If the "Temperature measurement value ≥ temperature setting value is +uP" and the compressor start delay time arrives, start the compressor. If "Temperature measurement <temperature setting +dn", turn off the compressor.	(-10.0～10.0℃)0.4
dn	Compressor Close the valve value		(-10.0℃～uP)0.4
P	proportional band	Time ratio action regulation.	(0.1～80.0℃) 8
I	integration time	Integration-action regulation.	(1～2000sec) 350
d	rate time	Differ Of differential regulation.	(0～1000sec) 150
T	control cycle	Heating control cycle.	(1～60sec) 5
Pb	Measure the temperature deviation correction	It is commonly used to correct for the errors generated during low-temperature measurements. Pb= Actual temperature value-instrument measurement value	(-50.0～50.0℃) 0
PL	Measure the temperature slope correction	It is commonly used to correct for errors arising during high-temperature measurements. PL= 1000 * (Actual temperature-instrument measurement) ÷ instrument measurement	(-999～999) 0
Adr	postal address	Local communication address.	(1～32) 1

Internal parameter table -2

Parameter indication	Parameter name	Parameter function description	(Scope) Factory value
Lc	password	Parameter values can be viewed and modified at the Lc=567 time.	0
rST	Restore Ex-factory value	0: Cancel restore factory value; 1: Confirm the recovery of the factory value.	(0～1) 0

4.3 Temperature check / calibration

Temperature check method: put the measured thermometer into the center of the box and close the outer door. After the temperature stabilizes for 30 min, observe the difference between the thermometer display temperature and the box display display temperature through the perspective window. If it exceeds ± 1.0°C, contact the after-sales engineer for temperature calibration.

Check cycle: In normal use, no temperature calibration is required to ensure that the test data is prepared weekly or before each test.

Ⅴ. Maintenance overhaul

5.1 Studio internal cavity and sealing strip cleaning

Clean the entire inner cavity and sealing strip with cotton cloth or towel soaked in distilled water, wipe the contaminated inner cavity and sealing strip surface with medical alcohol (alcohol concentration), wipe all foreign bodies clean, then clean the water on the inner cavity and sealing strip with a clean dry cotton cloth or towel, and stand it for half an hour for normal use.

⚠ **Use protective equipment (including clothing, gloves, goggles, etc.) when cleaning with alcohol;**

Please use the specified reagents to clean, do not use a hazardous detergent or disinfectant caused by a chemical reaction with the materials contained in the equipment parts or equipment, if there are questions about the compatibility of the disinfectant or detergent and the materials contained in the equipment, please contact the technical engineer or agent dealer;

If the hazardous material leaks on the surface or inside the equipment, it shall be fully cleaned with medical alcohol and drained of residual moisture with a clean cotton cloth or towel before further use.

5.2 Exterior surface and glass door cleaning

After cleaning the contaminated surface with medical alcohol or dilute, clean with soft cotton or towel.

5.3 Full maintenance cycle

Comprehensive maintenance cycle is recommended for one week or 100 working hours.

5.4 Maintenance methods

a)for daily or weekly maintenance

Disinfection and cleaning of the operation area (refer to Article 1);

Clean the exterior surface and glass doors around the operation area (refer to Article 2);

Check the various functions of the equipment for any abnormality;

Keep this maintenance on record;

is maintained monthly

Cleaning of exterior surfaces and glass doors (refer to Article 1);

The inner cavity surface of the equipment (excluding fan net) and the inner surface of the glass door

must be wiped with 75% medical alcohol. The cotton cloth soaked in distilled water is cleaned twice. After cleaning, dry residual water with dry cotton.
Check the various functions of the equipment for any abnormality;
Keep this maintenance on record.

5.5 Annual maintenance

a) Check that the front glass door hinge height remains consistent;
b) Check for no fluorine leakage in the compressor lines;
c) Check for leakage or blockage at the biochemical incubator for water leakage pipeline and interface;
d) put this maintenance on record.

⚠ **Move the box for 24 h before normal use.**

⚠ **Each movement of the box, the box remains as parallel to the ground as possible and a tilt angle shall not be greater than 45.**

Ⅵ. Common fault analysis and parts replacement

Abnormalities in the biochemical incubator, some due to improper use.Before entrusting maintenance, please check and troubleshoot yourself according to the table below. Please confirm whether the power supply is well connected, whether the power cord is obviously damaged, and whether the insurance pipe is good.

6.1 Troubleshooting

Fault	Reason	Analysis
1. NO Power	1.The socket has no power supply	1.Check the socket
	2.Plug is not plugged in or disconnected	2.Plug in or wire
	3.The circuit breaker opens the way	3.Replace the fuse pipe of the same type
	4.The power switch is not closed	4.Close the power switch
2.The temperature error is large	1.The sensor is damaged	1. Replace the sensor
	2.The fan is damaged	2.Change fan
	3.The instrument is not modified	3.Correction (see instrument specification)
3.The temperature does not rise or drop	1.The setting temperature is wrong	1.Adjust the setting temperature
	2.The temperature control instrument is damaged	2.Switch the temperature control meter
	3.The connecting line is loose	3.Tighten the connection line
	4.Wrong timing time was set	4.Reset or cancel

⚠ Note: The above maintenance operations should be performed by qualified personnel. **Please**

Turn off the power when carrying out maintenance !

⚠ **The operation of the above electrical parts must be carried out by qualified electricians under safe conditions (cut off), and other parts are not allowed to be dismantled by themselves. Without the consent of the technical engineer or the agent dealer, the Labec will not be responsible for the adverse consequences;**

If the equipment is not the above fault, please notify the maintenance department of our Labec immediately, for your safety, please do not repair the equipment by yourself;

If you need to order parts to look for our technical services department, please indicate the model and number of the biochemical incubator you purchased.Note: if the user cannot judge the fault, please contact the acting engineer as soon as possible, do not deal with it by yourself, otherwise the warranty will not be granted.

6.2 Simple accessories replacement

a) Replacement of insurance fuse (Fuse)

The safety hose is located below the right side of the incubator, When replacement, Power off first and unplug, Press the bumper seat counterclockwise using the cross screwdriver, Remove the fuse in the safety pipe seat and replace the new safety pipe fuse, Then press the tube seat clockwise; The fire line is located below the right side of the incubator, Use a one-word screwdriver to open the tube seat and replace a new pipe fuse, Then press back (power socket zero line fuse rating and characteristics: F10AL250V, Power socket Firewire fuse rating and characteristics: F10AL250V, Rating value and characteristics of zero-wire fuse of auxiliary socket: F3.15AL250V, Rating value and characteristics of firewire fuse of auxiliary socket: F3.15AL250V)

b)Replacing the print paper (optional)

The printer is located on the right side of the display. When replacing the printing paper, use a one-word screwdriver to open the printer cover and remove the print paper wheel, then put the new print paper, and finally turn off the printer cover.

⚠**Except for the printing paper and the fuse, the rest of the parts are not allowed to be**

replaced by the user. If you need to replace other parts, please contact the technical engineer or the agent dealer for replacement.

Ⅶ. Matters needing attention

1. **Dangerous (potentially serious property damage or human casualties)**

a) This product must be reliably grounded and away from electromagnetic interference sources .

b) Please use the power supply consistent with the electrical parameters indicated in the equipment nameplate.

c) Shall not insert metal objects such as iron nails or wire into any holes and gaps of the device or any vent for internal air circulation, otherwise electric shock or injury results from accidental contact between the objects and moving parts.

d) Does not allow the product to unplug or plug without turning off the power switch in operation.

e) Damage or damage to the power plug or power wire shall not be used. If you pull the plug from the power socket, hold the power plug and do not pull the power plug wire. If the plug connection is loose, do not use the power plug, do not allow it to connect long or cut the power wire at will, otherwise it may cause fire or electric shock.

f) Users shall not remove, repair, or modify the equipment by themselves. If any of the above work is performed by unauthorized personnel, a fire or personal injury may be caused by improper operation.

g) No volatile or flammable items shall be stored in this equipment. Otherwise, it could cause an explosion or a fire.

h) Objects shall not block the air duct circulation hole or make the air duct circulation poor.

2. Warning (possible property damage or personal injury)

a) Must be fully read and understood before the product specification.

b) 304 stainless steel internal bile is not acid resistant, do not use acid media such as sulfuric acid in the box.

c) Must pull off the product power wire for the following operations:

1 Replace the circuit breaker;

2 Product failure is scheduled to be inspected and repaired;

3 Product is of use for a long time;

4 Move the product.

d) Use a power socket with cable to prevent electric shock.If the power socket is not grounded, it must be installed by qualified engineers.

e) products should be placed on the workbench and fix the foot of the box to avoid moving and falling damaged products and causing personal injury accidents.

3. Note (may cause the product to work properly or affect service life)

a) Products should be careful to avoid damage to other vulnerable parts such as display screens.

b) This equipment shall be installed on solid ground to remain level.If the ground is not solid enough or the installation site is not suitable, the injury may be caused by the overturning or overturning of the equipment.

c) Products shall dry internal bile moisture after each test to avoid internal bile corrosion affecting service life.

d) Do not open / close the product box door by gravity, otherwise it will easily cause the box door loss and product damage.

e) Do not apply the glass door with extra pressure or scratch the glass surface with sharp objects, otherwise it will easily lead to glass breakage or scratches.

f) Do not place water containing containers or heavy objects on the product, to avoid water splashing causing short circuit on the product or electric shock risk, or heavy objects slide damage;

g) This product shall not be placed for outdoor use;

h) The incubator shall be used for 24h still after installation and movement;

i) products shall not tilt angle greater than 5 when moving or handling.

4. Installation position

a) A site that is not directly affected by direct sunlight or the flow of air from the air conditioner.
b) A site far away from the heat source.
c) A site with a solid and flat ground.
d) A site where no combustible or corrosive gas exists.
e) A dry place to avoid splashing into the water.
f) A place where high humidity is not easy.
g) is a site without a combustible or volatile gas.

5. Using environment

a) Avoids high temperature and high wetland points

High temperatures and high wetland sites are avoided, as more bacteria exist in the air at such sites than in the normal ambient air.Install air conditioning in the room if necessary to keep the ambient temperature at around 18~30 C.

b) Avoid over ventilated locations and where many people pass

Avoid locations close to doors, air conditioners, fans, etc., as a breeze in such locations may make bacteria easily accessible to the incubator.

c) Installed in sterile chamber

For better culture results, place the equipment in a sterile room.

d) Use clean containers

Pollution is mainly caused by containers such as dishes or bottles stored in boxes, making sure to keep them clean.

e) Ensure the airflow circulation around the product

To ensure the airflow circulation around the instrument, at least 30 cm gaps shall be left at the rear and on the side.

6. **Special attentions**

Cells should be put into the medium after reaching the corresponding temperature environment of the incubator!

a) Please turn off the light without lighting in the box, so as not to affect the upper temperature. Please switch off the power supply when changing the lamp pipe.

b) The shell of the equipment shall be reliably grounded and placed in a cool and ventilated place. The distance between the equipment shall be more than 30CM from the wall.Care should be taken when handling, and the horizontal angle with the ground shall not be less than 45.

c)There is an outlet pipe behind the equipment, with a small amount of water discharge when the use temperature is low. Please access the container or sewer.

d)To keep the equipment beautiful, please do not wipe the surface with acid or alkali and other corrosive items, the box can be regularly cleaned with dry cloth.

e)When the setting temperature is below room temperature, a long open door time will also produce an over temperature alarm, not a fault.

f) Operating room is equipped with air fans.Note, do not plug the fingers or foreign bodies into the cover, so as not to damage the fan, and cause safety accidents.Turn off the power supply when switching.

g) See details in " III, Product Performance and Main Technical Parameters on the nameplate.

h) Note: When the box temperature setting point <starting point runs continuously, when the box temperature setting point> starting point sets, the compressor starts the operation mode.When the compressor continuous operation mode is selected and the low temperature conditions in the box, the refrigeration system will freeze, which will not affect the control of the temperature in the initial stage; affect the temperature control in the box, the culture should be removed, set the temperature is

20℃ above the ambient temperature, and then run the low temperature after frost.The length of time period when freezing affects the temperature control in the box varies due to the local temperature and humidity situation and the length of switch door and opening time during the experiment.
i)Please turn off the power switch when stopping use.

Ⅷ. Tags description

1、Labec logo (Figure 1)

LABEC

Figure 1

2、Fuses (fuse pipe) label (Figure 2)

Figure 2

3、Grounding tag (Figure 3)

Figure 3

4、Ship Type Switch (Figure 4)

Figure 4

I: power on O: power off

Ⅸ. Warranty

1. Warranty period is 12 months from the date of purchase (excluding fuses, glass products, tubes / racks, heating pipes).
2. Equipment failure due to improper use excludes Labec from any warranty obligations.