

Operation Manual



BLAR-105

Laboratory Refrigerator

Thank you very much for Choosing Biolab products. Please read the "Operating Instructions" and "Warranty" before operating this unit to assure proper operation.

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Safe Notice

Please read this manual carefully when use our machine at the first time.

The one who operate blood bank refrigerator should be trained and authorized.

The better to use the original fittings

Should be check-up and maintenance to blood bank refrigerator at the stated time.

Blood bank refrigerator prohibit to storing alive life, flowers and others which not be fit for the low temperature.

When blood bank refrigerator working, the inner temperature is very low. So if not wear glove, Please don't touch the cover board.

If the power shut off, Please wait for 5 minutes. Can to connect again, to prevent the compressor damage.

01 Schematic Picture and Description



This series of refrigerator is designed to store materials under low temperature condition for hospital, epidemic station, blood bank, research institute, university, biological pharmaceutical industry and gene engineering, etc. The internal temperature in cabinet can be easily adjusted through keys in control panel. All operations are convenient and reliable.

02 Pre-Installation

How to transport: Pick up the unit from the bottom of tank and a slant plane within 45° is acceptable. All transportation should be done carefully.

Remove all wrappers.

Check accessories and documents according to package list.

Clean the unit thoroughly before any operation.

Installing location:

Do not position the unit in direct sunlight or near heating diffusers, radiators, or other sources of heat.

The ambient temperature should be limited from 18-28: Or else should open the air-condition

A minimum 30cm space on the sides, rear and top should be provided for better air circulation and heat discharge.

Location where is too cold and place with high humidity or can be easily splashed by water are forbidden.



Safety Introduction

1 Power supply: This freezer is designed operating under 220V/50HZ AC power supply. The unit can normally start under the voltage varying from 198V to 242V.

2 Must provide one single exclusive plug receptacle with credible grounding to unit. Don't lengthen the line randomly. If you need, Please use 2.5mm² copper line, you should keep 4mm² line to connect the electrical outlet.

3 Inflammable and explosive materials, as well as high corrosive acid and alkali must be strictly prohibited in cabinet.

4 Keep the key properly avoiding the children take it to open the back door which may result in unexpected injury.

5 Keep the lamp off in use for saving energy sources and stabilization temperature in cabinet.

The machine working condition:

The environment temperature: 18°C~28°C

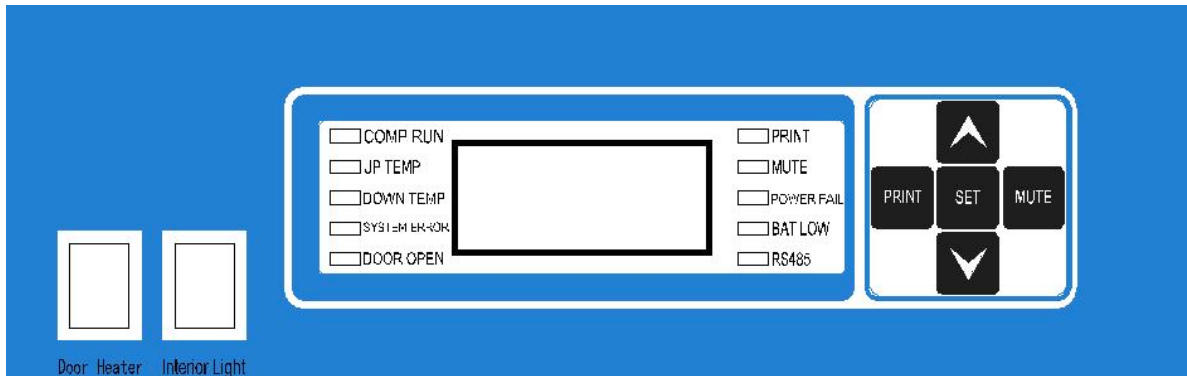
The relative humidity: ≤80%

No strong shake and causticity gas around.

No sunshine and other cold/hot power effect.

03 Operation Direction

3.1 Function Introduction for Display Panel



1. 4.2 with unit under normal running condition and display different hint string under set condition: (Refer follows for details).
2. Comp RUN when compressor running, will light.
3. UP TEMP: for up room sensor temperature
4. DOWN TEMP: for down room sensor temperature
5. SYSTEM ALARM: when system abnormal, will alarm
6. DOOR OPEN: when door open more than one minute, will alarm
- PRINT: When have printer, will work normally.
8. Mute: when alarm, please press "MUTE", will keep alarm sound as mute.
9. Power failure: when power cut, will alarm.
10. BAT LOW: when printer battery low, will alarm
11. RS485: for remote alarm.
12. "▲", "▼": Function adjustment pads
13. "SET": Press this key to set the function adjustment parameter;

3.2 First Use

1. Connect the power supply and switch the on-off on the back of freezer working status.
2. Set temperature: the default temperature is set as 4°C in factory. Please don't set any other temperature value.
3. "LTL": When the actual temperature is lower 2°C than the low temperature limit (LTL) setting, The code is LO

4. "HTL": When the actual temperature is higher 7°C than the low temperature limit (LTL) setting, The code is HI. (During the initial start-up, a "HTL" alarm is normal operation. After the temperature is stabilized and the "HTL" alarm stops you can put goods in your freezer);
5. upper Probe: show the upper cabinet temperature.
6. Lower probe: show the lower cabinet temperature.
7. Interior light
8. Sensor failure: Any sensor temperature \leq or ≥ 50 , Show E1SYSTEM, ERROR will light.
9. When the rechargeable battery existences, when the power source supply disruption, the screen still lightened, showed the real-time cabinet temperature, recorded the number of door opening, LTL and HTL alarm. But the ventilator, the lamp and the refrigeration system does not work. (If the freezer has not been used for long time, the battery does not have electric quantity, it is normal that the window have no display. When freezer power source puts through, electrification completes automatically.)



please close the power switch on the back of the box when the power cut for a long time (longer than three hours), otherwise the electric quantity loses and affects the battery service life!

3.3 Functions Setting

1: Time set: Press SET, Will show time set. N07 mean year 2007, then press "▲" or "▼" 1 time to add or down the time (range from 01-99) SET confirmed and then show Y01, mean month 01, range from 01~12, Analogy like date R01, range from 01~29, S01 mean time 01, range from 01~12, F01 mean minute, range from 00~60 .

2. Auto print:

Press the "Print" key, the system switches to auto print mode. Now AUTO displays in the LCD window and the print indicator lamp changes into normally bright. Under this mode press the print key of printer to automatically print recorded data. All data are printed per 5 miniatures with a format as "Year, Month, Day, Time, temperature. When the print finishes, the buzzer buzzes for 5 seconds, then the system exits the print mode. To cancel print midway, press "Print" again.


3. Manual print:

Press "Print" twice within 3 seconds, the system switches to manual print mode. Now the display window shows "----1" and the print indicator lights. Then press the print key of printer to print the current recorded data. Press "▲" once to print the data of previous day and the display window shows "----2". Similarly, the recorded data of others days can be printed manually. All data are printed at an interval of 5 miniatures in a format as "Year, Moth, Day, Time, Temperature". When the print completes, the buzzer buzzes for 5 seconds, then the system exits the print mode. To cancel print midway, press "Print" again.

4. Set work temperature:


Press the "Set" key one time, will come to temperature set status. The Numeral tube display the

current temperature (Normally is 5.0°C), Use "▼", "▲" to adjust (Range from 0 to 10°C, for this type refrigerator, please not set the temperature below 2°C). Then press the "SET" to make the data be effective, the Numeral tube will show "High alarm set" status, Use "▼", "▲" to adjust (Normally is 5.0°C, range from 2-5°C), confirmed by press "Set". Now will display "low alarm set" status, the same method and temperature range. The next step is time set.

 Please don't place the goods to wall up the fan wind hole, Or else will effect the chamber temperature.


04 Defrost-Maintenance

1. There will be some frost on the surfaces of chamber for a long time running which may decrease the performance of freezer. If the thickness of frost is more than 10mm, some defrost operations are recommended.
2. Cut off the power, Open the door, and move the goods to shade.
3. Use shovel to clean the surface frost.
4. To quicken the process of defrost, You can put the 50°C water container in the freezer.
5. **Note:** Any electric heater, metal tool or edge tool CAN NOT be used during defrost operation.
6. Then to clean the water with dry cloth, Block the drain lid.
7. Connect the power supply after defrost is completed to run your freezer.
8. To put the goods in the freezer after finish all steps.
9. Can not put the heavy goods in the freezer, prevent to press the body.
10. Should clean the freezer at regulary. (for safe, please draw the power pin at first)
11. Use the soft and warm cloth to clean the freezer surface and inner.
12. If dirty, Please use the scour to wipe, then clean it with soft cloth.
13. Once the freezer is running, The best is to use it continuously.

 DO NOT sprinkle water on the faces of cabinets, which may decrease insulating property of electric parts and rust metal parts.

 DO NOT use hot water, corrosive cleanser and organic solvent!

Note: Prohibit the children to playing games around the freezer.

 Environment Temperature: -40°C~+55°C, Relative humidity: 10%~90%.

05 Service After Sale

Some unexpected failures may arise during running. Please pay attention to the running status of your ULT freezer. If any exceptional case arises, please check and solve it according to the following introductions. If the problem is not solved well, please contact our service center for details.

Problem	Possible Cause
ULT freezer does not operate	Power outage has occurred. The plug is bad or not securely plugged-in. Fuse is blown. Voltage is too low or too high.
Compressor does not work	Power in control panel is off. Temperature setting is wrong
Temperature is higher than setting	Frost in inner wall is too thick The door is not closed properly or is opened too frequently. Overfull materials are put into chamber. Ambient temperature is too high.
Too great noise	Freezer is not leveled well. Freezer leans upon the wall.

Below are normal operation:

- 1 There are some light clashes when the compressor starts up and stops.
- 2 During rainy and watery season some frost may accumulate on the surfaces of cabinets. Please clean it with dry rag.

DO NOT open the door twice within 5 minutes. This may lead the hot air into the interior of freezer and the door may be difficult to open because of a negative pressure due to a sharp decrease of temperature of this part air.

06 Main Function

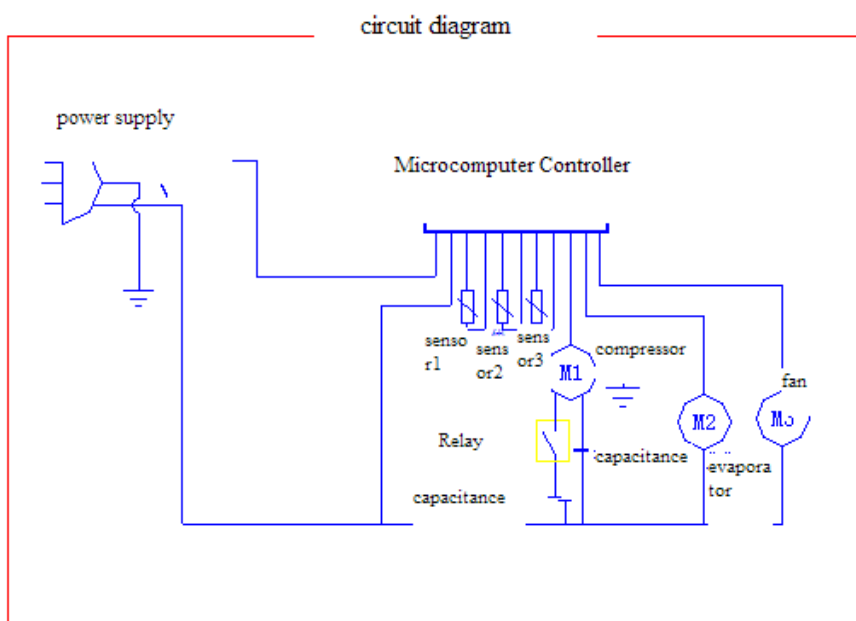
6.1 The mainly technical parameter

Model	BLAR-105	The facility safe types	I Kind B Type
Climatic type	10~30°C	Input power (W)	700
Storing temperature	2~8°C	Refrigeration	R134a
Valid capacity(L)	1500	Size (DxWxH)(mm)	1200×740×1920
Rating vlotage(V~)	220	Rating frequency (HZ)	50

6.2 The encasement list

Item	Operation Manual	Key	Defrost shovel
Qty	1	2	1

6.3 Circuit Diagram



All technical parameters and circuit diagram in nameplate are final ones for your units.



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