

Operation Manual



BLAR-202

Laboratory Refrigerator

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

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01 Installation

1.1 Safety Information

All electrical work must be executed by suitably qualified persons. When using any electrical appliance, safety precautions must always be observed.

- ◆ Do not use this appliance for other than its intended use. This product is intended for use as a beverage Medical Refrigerator. Consult your supplier for alternatives.
- ◆ Do not cover the front grille or block the rear air entry by placing object up against the cabinet.
- ◆ Please close attention, when used by or near children, infirm persons.
- ◆ Ensure adequate ventilation.
- ◆ Do not probe any openings.
- ◆ Do not touch any moving parts or hot surfaces.
- ◆ Regulations require that all electrical work be carried out by authorized persons. For your own safety and that of others please ensure this is done.
- ◆ Do not overload the power supply. Always ensure on the rating label. The rating label is located.

If have any problem, please consult a qualified electrician. Caution: Never use extension leads or multiple adaptors.

- ◆ If the mains supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified and skilled persons in order to avoid hazard.
- ◆ Disconnect the mains power supply before attempting any cleaning, removal of any covers, or maintenance work.
- ◆ Do not store explosive substances, such as aerosol cans with flammable propellant.
- ◆ Warning: Do not use mechanical devices or other means to accelerate the defrosting process. Defrosting is performed automatically.
- ◆ Warning: Do not damage the refrigeration circuit.
- ◆ Warning: Do not use electrical appliances inside the storage compartment of this appliance.

1.2 Assembly

- ◆ Remove the appliance from the packaging and peel off any protective film from all surfaces.
- ◆ Fit the shelf support clips onto the shelf support strips, making sure that the clips for each shelf are of the same height and that they are securely engaged on the support strip.
- ◆ Unwrapping each shelf carefully, to prevent damaging their protective coating or surface finish.
- ◆ Position the shelves onto the clips.



Please dispose of all waste packaging appropriately and in accordance with all local recycling laws.




WARNING Do not overload the power supply. Always ensure that the power supply is adequate for the electrical requirements specified on the rating label and never use extension leads or multiple adaptors.

1.3 Positioning the Medical Refrigerator


- ◆ Please position the cabinet carefully being careful not to bump it.
- ◆ The power supply flex exits the Medical Refrigerator at the bottom right hand side (as viewed from the front). For ease of access; the flex should be retrieved prior to positioning the Medical Refrigerator in its final location.
- ◆ The maximum recommended ambient temperature for this Medical Refrigerator is 32°C
- ◆ Avoid positioning the appliance in direct sunlight or damp areas.
- ◆ Allow adequate space for the door(s) to fully open.
- ◆ Ensure that this Medical Refrigerator is positioned on a level surface, so as to allow the door(s) to shut and seal correctly, as well as to allow proper drainage from the evaporator tray, to prevent any overflow. If necessary, adjust the screw feet of the appliance to make it level.

Note: If the unit has not been stored or moved in an upright position, let it stand upright for approximately 12 hours before operation.

1.4 Ventilation

- ◆ All models must have clear and unobstructed ventilation from the entire surface area of the front grille.
- ◆ The 2 and 3 door models may be built into an enclosure without the need for ventilation other than at the front.
- ◆ The single door of Medical Refrigerators must have a minimum ventilation space of 20mm at sides and rear.
- ◆ Dimensions of the space to be provided for the appliance are referenced on page 13 of this manual.
- ◆ Dimensions and position of the means for supporting and fixing the appliance within this space are referenced on page 13 of this manual.
- ◆ **WARNING:**  Failure to provide the minimum ventilation space will harm

the performance of your Medical Refrigerator could cause fire and will invalidate the warranty.

- ◆ **WARNING:**  Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building in.

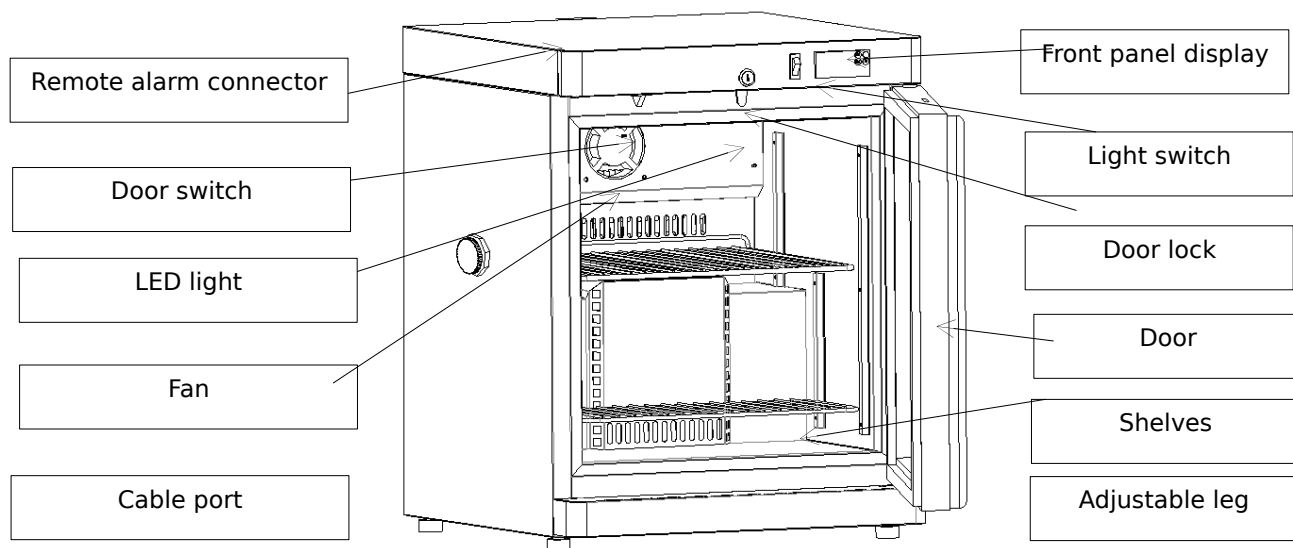
1.5 Power Supply

The Medical Refrigerator uses a three-pin plug which must be well grounded. Never ground the Medical Refrigerator through a gas pipe, tap water pipe OR the grounded wire of single-phase power supply etc. Never share same circuit with other appliances. Before plugging in your Medical Refrigerator for the first time make sure the power cable is free from damage and check that your voltage corresponds to that on the serial plate.

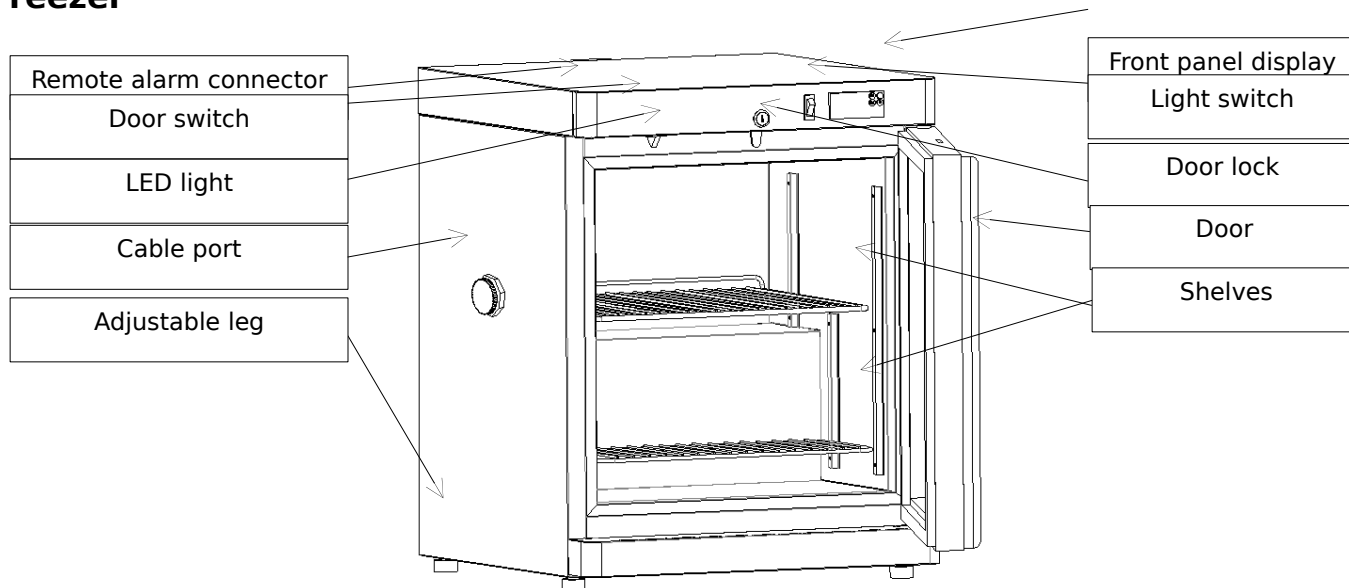
Once plugged in the display will show the temperature inside the Medical Refrigerator and the compressor will run late on (the indicator light of cooling will be on at the same time). This temperature is the actual temperature recorded by the probes inside the Medical Refrigerator and as the fridge cools to the set point so the number on the display will descend accordingly. If power is cut off, wait for at least 5 minutes before plugging the unit in again to avoid damaging the compressor.

02 Product Description

Refrigerator



Freezer



03 Temperature controller

1.5 Description





Digital controller is used for medical and laboratory uses to design for simple refrigeration equipment controller. It measures the temperature in the cabinet, with temperature control (can be set to cooling or heating mode), the defrost control, over-temperature alarm, power failure detection alarm, remote alarm, maximum and minimum temperature records and other functions.






FIG 1

3.1.1 Indicator light status description


Indicator Light	Symbol	Status	Meaning
Setting	Set	ON	Parameter setting
		OFF	Status of temperature measuring and controlling
Refrigeration	❄️	ON	Refrigeration work
		OFF	Refrigeration stop

		FLASH	Refrigeration time delay
Defrost		ON	Defrost work
		OFF	Defrost stop
Fan		ON	Fan work
		OFF	Fan stop
Defrost dripping	drip	ON	Start defrost dripping
		OFF	Stop defrost dripping
Door switch		ON	Cabinet door open
		OFF	Cabinet door close
Off power detection		ON	Controller power off

3.1.2 Button Description


Button	Function
Set	Enter the status of parameter setting
	Switch between menu and parameter
	Adjust menu and parameter
	Remote alarm
	Adjust menu and parameters
	Press more than 10s to execute parameter one-key recovery
	View evaporator sensor temperature
	Exit from parameter setting
	Exit from one key recovery status
	Press 3s forced switch between refrigeration, defrost/defrost delay. Defrost dripping

Functions and Parameters


- 1.5.1** In the status of temperature measuring and controlling, press Set key for 3s to enter user menu, it display the code St, then press Set key again, display the value of St. it could be modified by pressing the key ▲ or ↘.
- When it display the code St, press the key ▲, display the code Po, then press Set key, display 00, at this time, press ▲ or ↘ to input the password of administrator menu. Press set key again to confirm the password input, and the controller will automatically verify the correctness of password. When it passes, it could select parameter items St, Po, C1, C2.....Cd3(that is any parameter items both in the administrator menu and user manuals) by pressing the key ▲ or ↘. Or else, only the parameters items St and Po available, others could not be displayed.
- When the parameter item is selected, press Set key to enter to the setting of the current item, press ▲ or ↘ to modify the value, and then press Set key to return to the menu.
- Under the status of parameter setting, press  key or no key operation within 30s, it will exit from parameter setting and automatically save the current parameter value.
- Note: The password input of administrator menu only is valid for single entering. After

exit from the parameter setting by pressing  , it need to input the correct password again for next parameter adjustment.




1.5.2 Temperature viewing

In the status of temperature measuring and controlling, press  to view the current evaporator sensor measured temperature value(note: evaporator sensor is enabled and works properly).

1.5.3 Manually forced operation

In the status of temperature measuring and controlling, press  for 3s to force the switch between refrigeration, defrost/defrost delay, defrost dripping.

1.5.4 Parameter recovery

In the status of temperature measuring and controlling, Press the key  for 10s, it display the code H0 and enter to the operation of one-key recovery. It could continue to select the parameter recovery items by pressing  key, and the selection range is H0 to H7, and press the key  to execute the parameter recovery and then exit. If there is no parameter recovery operation within 30s, it will automatically exit from the mode without recovery of parameters.

Note: this operation needs a stable power supply. If the power supply is abnormal, it needs to re-electrify the controller with stable power supply and execute the one-key recovery again.

3.2.5 Temperature parameter setting

Parameters	Description	Min	Max	Unit	R	F
St	Temperature set value	r1	r2	°C/°F	4	-20
C5	Set Minimum temperature	-50	r2	°C/°F	2	-20
C6	Set Maximum temperature	r1	85	°C/°F	8	-10
C1	Temperature difference	1	18	°C/°F	3	1
A9	Over temperature alarm upper deviation	1	30	°C/°F	10	10
A10	Over temperature alarm lower deviation	1	30	°C/°F	5	5

Parameter description:

St Set temperature

User set the shutdown point temperature.

C5The minimum set temperature

Permissible the minimum set temperature (St)

C6 The maximum set temperature

Permissible the maximum set temperature (St)

C1 Difference in temperature

When the temperature <= St, the compressor stops working; when the temperature > = St + C1, The compressor work.

3.2.6 Defrost

This equipment has an automatic defrost function

3.2.7 Remote alarm

When the controller power outage or have other alarm, the remote alarm control the relay pull, can remote power outage alarm. When all alarms stopped, the remote alarm control relay disconnect, stop the remote alarm.

3.2.9 Low-power mode (Power failure alarm mode)

When the controller power outage, the backup battery to provide power for the controller, the controller through the buzzer for audible alarm

3.2.10 Alarm Code

Alarm code	Fault Description
E1	Control sensor failure
E2	Evaporator sensor failure
rH	High temperature alarm
rL	Low temperature alarm

04 Operation

This product is designed to operate at a recommended ambient temperature not more than 32°C.

4.1 Access to power

Close the door of the appliance.

4.2 Setting Temperature

Press down to decrease the set temperature.


Press up to increase the set temperature.

4.3 Turn on/off the light

The light will turn on while the door is opened and will turn off while the closed.

If you want to turn on the light while you do not open the door, you can turn on the switch.

05 Cleaning and maintenance


- ◆ **WARNING:**  You must disconnect the plug before cleaning or maintenance.
- ◆ Do not use abrasive cleaning agents which may scratch and harm the delicate interior finishes of your appliance.
- ◆ Always wipe dry after cleaning.
- ◆ An agent or qualified technician must carry out repair if required.

1.6 Clean the filter of single door Medical Refrigerator

- ◆ The filter must be kept clean and free of dust at all times. It is recommended that the cleaning routine be conducted at interval appropriate to the speed of accretion of dust on the filter and in any event at least every month. Failure to keep the filter clean will damage the refrigeration system and invalidate the warranty.
- ◆ Pull the filter upwards to remove it from its locating place under the glass door.
- ◆ Use a vacuum cleaner, preferably with a rush attachment, to remove built up dust.
- ◆ Refit the filter to its original location to ensure continual efficient operation is maintained.

1.7 Clean the condenser

- ◆ The condenser must be kept clean and free of dust at all times. It is recommended that the cleaning routine be conducted at interval appropriate to the speed of accretion of dust on the condenser. Failure to keep the condenser clean will damage the refrigeration system and invalidate the warranty.

WARNING:  The condenser is a delicate component and is easily damaged. Never use a stiff brush or sharp objects to clean it. Never use water.

Maintenance

If your appliance develops a fault, please check the following table before making a call to the helpline.

Fault	Possible Cause	Action
The appliance is not working	The unit is plugged in correctly	Check the unit is plugged in correctly
	Plug or lead is damaged	Call Our agent or qualified technician
	Power supply	Check power supply
	Internal wiring fault	Call Our agent or qualified technician
The appliance turns on, but the temperature is too high or too low	Filter or condenser blocked with dust	Clean filter or condenser
	Doors are not shut properly	Check doors are shut and seal are not damaged
	Appliance is located near a heat source or air flow to the condenser is being interrupted	Move the appliance to a more suitable location
	Ambient temperature is too high	Increase ventilation or move appliance to a Medical Refrigerator position
	Insufficient airflow to the fans	Remove any blockages to the fans
	Appliance is overloaded	Reduce the amount stored in the appliance
	Factory default parameters adjusted	Call Our agent or qualified technician
The LED lights not working	Led light short Leaded damage	Call Our agent or qualified technician
The appliance appear BT alarm	See description below	See description below
The appliance is unusually loud	The appliance is touching a neighboring object	Check installation position and change if necessary
	The appliance has not been installed in a level or stable position	Check installation position and change if necessary

06 Disposal

If in any doubt, please consult your Local Authority, contact us or contact the reseller from whom you purchased the appliance.



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