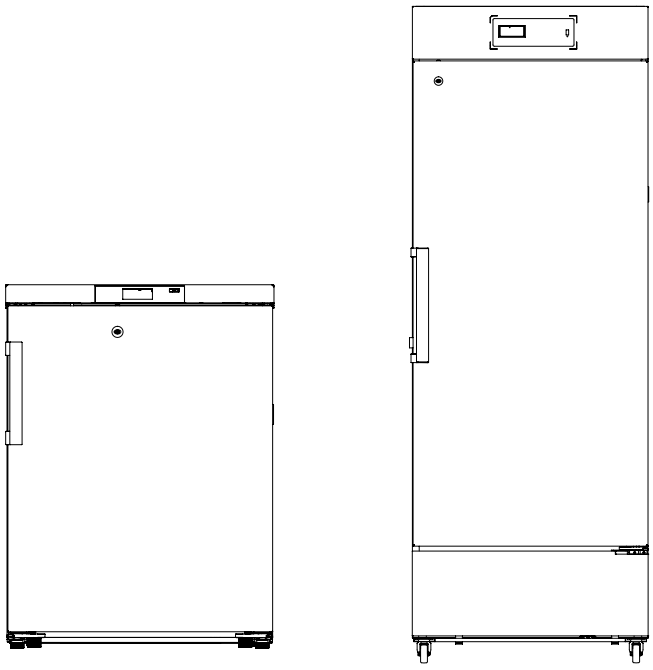
USER MANUAL

MEDICAL FREEZER

KoolMore Medical Freezer

Models: KM-PHF-4C | KM-PHF-10C



Before using, please read the operating instructions carefully to ensure proper application and achieve satisfactory results.

For any service-related issues, please contact us:

718-576-6342 support@koolmore.com

Stay informed with the latest information for your KoolMore Appliance.

If you need any assistance or have questions, our customer support team is here to help.

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Product Features

This product is mainly intended to keep drugs, vaccines, and reagents. It is applicable to hospitals, epidemic prevention stations, universities, scientific research institutes, and electronic chemical industry enterprise labs.

Product Functions

Accurate Temperature Control | Data Traceability

- Computer temperature control, with a display accuracy of 0.1°C
- The temperature in the biomedical freezer is uniform and controllable, the temperature range is adjustable to -13°F / -40°F, and the temperature control is accurate.
- Standard USB port and traceable temperature data; query and save temperature data at any time

Efficient Refrigeration | Effective Thermal Insulation

- High quality compressor and optimized refrigeration system provide strong refrigeration capacity, safety, and reliability
- High-performance thermal insulation layer has the good thermal insulation effect
- Multi-layer 3D seal design effectively reduces refrigerating capacity loss and frosting

Multiple Alarms | Safety and Stability

- Perfect acoustic and optical alarm function, allowing high- and low-temperature alarms, power off alarm, sensor fault alarm, etc., with alarm values adjustable on demand
- Design of safety door lock improves the safety level of sample management

User-Friendly Design

It can display the temperature inside the biomedical freezer and ambient temperature, and allows setting the high and low temperature alarm values and the biomedical freezer temperature highs and lows as required, with the function of fault inquiry and mute
Remote alarm function ensures real-time controllability and safe and stable operation of the equipment.

Safety

- Please use a power socket with a grounding wire to prevent electric shock.
- If the power socket is not grounded, the grounding wire must be installed by a professional electrician.
- This biomedical freezer must be firmly placed on a solid, flat surface, and proper care must be taken to prevent it from tipping over.
- If the floor is not level or the biomedical freezer is placed in an improper location, it may tip over and cause injury.
- If the power cord needs to be extended, the cross-sectional area of the extension cord should be at least 14 AWG, and the length should not exceed 10 feet. Otherwise, it may cause a fire or electric shock.
- Only professional technicians or maintenance personnel for after-sales support can disassemble and assemble the biomedical freezer. Otherwise, it may cause electric shock, leading to fire or injury.
- Please use the special power supply indicated on the nameplate of the biomedical freezer; otherwise, it may cause a fire or electric shock.
- If the applied voltage is lower than 103V or higher than 126V, an automatic voltage stabilizer of more than 4000W suitable for motor load needs to be installed for assistance.
- The power cord of this biomedical freezer is equipped with a three-prong (grounded) plug to match a standard three-prong (grounded) outlet of 10A. Do not remove the grounding pin of the power cord under any circumstances. Make sure that the power plug and the outlet are connected firmly and reliably; otherwise, it may cause a fire.
- When the plug is removed from the power socket, it should be held tightly, and the wire of the plug shall not be pulled. If the wire is pulled, electric shock or fire due to a short circuit may be caused.
- If the biomedical freezer is not operating properly, unplug the power plug. Continued operation under abnormal conditions may cause electric shock or fire.
- Before any repair or maintenance of the biomedical freezer, always disconnect the biomedical freezer from the power supply to prevent electric shocks or personal injuries.
- Make sure that the drugs or suspended particles inside and around the biomedical freezer will not be inhaled during repairs and maintenance, as it may cause harm to human health.
- When storing toxic, harmful, or radioactive substances, please use the biomedical freezer in a safe area. Improper use may cause harm to health or the environment.
- Disconnect the power plug when the biomedical freezer is not in use for a long period, so as to prevent electric shock, electric leakage, or fire due to the deterioration of the power cord.
- If the biomedical freezer is to be stored unused in an unsupervised area for a long period, ensure that children do not have access to the biomedical freezer. The door to the biomedical freezer shall be accomplished by the appropriate personnel. Doors shall be removed to prevent accidents such as suffocation.
- Connect to remote alarm port and USB port: SELV 30Vdc 2A Max.
- The equipment power disconnection is a plug. Place the equipment in a location where it is easy to disconnect the power.
- Never store corrosive substances such as acids or alkalis in the biomedical freezer. Otherwise, these substances may cause damage to internal components or electrical parts of the biomedical freezer.
- Never store flammable, explosive, or volatile substances in the biomedical freezer or use flammable sprays near the biomedical freezer; otherwise, it may cause an explosion or fire.
- Do not leave the plastic packing bags in a place where they can be reached by small children as this may result in suffocation accidents.

- Do not climb on the biomedical freezer or put any objects on the biomedical freezer; otherwise, the biomedical freezer may fall and cause injuries or damage to the biomedical freezer.
- Do not use the biomedical freezer outdoors. Exposure to rain may cause an electric leakage or electric shock.
- Do not place the biomedical freezer in a humid location or a place where the biomedical freezer is likely to be splashed with water. Otherwise, electric leakage or electric shock will be caused due to degradation of insulation.
- Do not pour water directly onto the biomedical freezer; otherwise, it may cause an electric shock or a short circuit.
- Never disassemble, repair, or modify the biomedical freezer yourself. Otherwise, it may cause fire or personal injury due to improper operation.
- Do not connect the grounding wire to a gas pipe, power supply pipe, telephone line, or lightning rod when grounding the biomedical freezer. The above grounding may cause electric shock or other hazards.
- Do not touch any electrical parts such as the power plug or operate any switch with a wet hand; otherwise, it may cause an electric shock.
- Do not put water containers or heavy objects on the biomedical freezer. Falling objects may cause personal injuries, and spilled water may cause degradation of insulation, resulting in an electric leakage or electric shock.
- Do not insert metal objects such as iron nails and wires into any vent, gap, or air outlet of the biomedical freezer. This may cause electric shocks or injuries by accidental contact of these objects with moving parts.
- It is not allowed to tie, drag, pull, wind, or bind the power cord or damage it when moving the plug. Damaged power cords or plugs may cause fire or electric shock.
- Using a power cord with a loose plug is not allowed, because it may cause fire or electric shock.
- It is not allowed to put glass bottles or canned items in the biomedical freezer, which may be frozen and cracked, causing injury to personnel.
- Keep the biomedical freezer clear of obstructions around it to ensure smooth ventilation.
- When it needs to be restarted after being unplugged or after a power interruption, check the settings of the biomedical freezer. Changes in settings may defeat the stored items.
- If the biomedical freezer is unplugged or the power to the biomedical freezer is interrupted, do not restart the biomedical freezer for at least 5 minutes to avoid damage to the compressor or system.
- The filter screen should be checked in time and cleaned. Dust-laden filter screens can cause a temperature rise or failure in the biomedical freezer.
- If the power plug has dust, it needs to be cleaned in time. Improper connection or a plug filled with dust may cause heating or ignition.
- After the power is cut off or the power switch is off, the setpoint should be checked when the power switch is restarted; otherwise, the stored items may be damaged due to setting changes.
- Wear gloves during maintenance to avoid personal injuries caused by touching sharp edges or corners.
- The stored items should not be contacted directly by hand. Direct contact with the frozen items or the inner wall of the biomedical freezer may cause frostbite.
- Hold the handle to close the chamber door so that the door does not pinch fingers.
- Tilt the biomedical freezer for 30° when handling or moving it.
- Be careful not to trip over the biomedical freezer when handling it, to prevent damage to the biomedical freezer or personal injuries.
- Do not use door handles to lift or carry equipment to prevent damage to the biomedical freezer or personal injuries.
- Do not damage the refrigeration circuit.
- Do not use electrical appliances inside the storage compartment of the biomedical freezer unless they are of the type recommended by the manufacturer.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Precautions for Use

- When the biomedical freezer is running, the left and right side walls of the biomedical freezer may be heated, which is not a fault. In order to prevent condensation around the biomedical freezer housing, the space is filled.
- Before putting items into the equipment, confirm that the temperature in the storage chamber has reached the set temperature, and then load items in batches. Do not put in items for more than 1/3 of the volume of the chamber at a time to prevent its temperature from rising too much.
- The equipment temperature display is the temperature at the temperature sensor in the storage chamber. When the equipment is initially running, the displayed temperature is somewhat different from the actual temperature at the center of the equipment. However, as the equipment operates to a stable state, the displayed temperature will gradually approach the actual temperature.
- The equipment chamber is designed with a testing hole so that the items inside the chamber can be led out for testing. After the testing line is pulled out, it is necessary to plug the testing hole again with thermal insulation material; otherwise, the temperature inside the biomedical freezer may not reach the set temperature and cause condensation around the outside of the hole (applicable to biomedical freezers with testing holes).
- Please use diluted neutral cleaner to clean the equipment. Do not use brushes, acid, gasoline, soap powder, polish, or hot water to clean this equipment, otherwise it may damage the painted surface and plastic rubber parts. Special care must be taken not to use volatile solvents such as gasoline to wipe plastic and rubber parts.
- When the biomedical freezer is not in use for a long period, cut off the power supply and turn off the battery switch.
- If the biomedical freezer is not started again for a long time, a low battery level may occur. After the battery switch is placed at "ON", the battery can be charged, and the biomedical freezer can run continuously for about one week to charge the battery (applicable to models with batteries).
- Please minimize the times of opening the door during each access to the items, so as not to cause great fluctuations in the temperature and humidity in the chamber.
- After the door is opened, the temperature in the biomedical freezer will rise sharply in a short time, which is normal, and it will return to the set temperature after the door is closed.
- After the biomedical freezer has been running for a period of time, a layer of frost may form on the inner wall, caused by sharp tools such as an ice pick, knife, or screwdriver. The inner wall shall not be scratched or damaged, or the biomedical freezer will fail.
- Before defrosting, the frozen items in the biomedical freezer shall be taken out and placed in an appropriate suitable format for storage, so as not to damage the items due to an increase in temperature.
- There are many refrigeration coils in the biomedical freezer. The frost that forms on these coils should be removed by sharp tools such as an ice pick, knife, or screwdriver. The inner wall shall not be scratched or damaged, or the biomedical freezer will fail.