

OPERATION MANUAL

Biomedical Freezer

STF-100C

STF-190C

STF-285C

STF-370C

STF-470C



Effective Models

This user's manual is applicable to the following models.

Model	Voltage and Frequency	
STF-100C	220V	50Hz
STF-190C	220V	50Hz
STF-285C	220V	50Hz
STF-370C	220V	50Hz
STF-470C	220V	50Hz

The operating instructions should always be available and accessible for the person who use the -25°C Biomedical Freezer.

The product complies with CE marking regulation, Directives and relative standards. Low Voltage Directive 2006/95/EC & 2014/35/EU and Medical devices Directive 93/42/EEC&2007/47/EC. Electromagnetic Compatibility Directive 2014/108/EC&2014/30/EU.

Warning

- As the freezer contains refrigerant which are flammable, it is essential to ensure that the freezer is far away from any heat source.
- Keep clear of all obstacles surrounding the freezer, and place the freezer in a well-ventilated area.
- Do not store any material that is inflammable, explosive and corrosive inside of the freezer
- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- Do not damage the refrigeration circuit by yourselves.
- Do not put electrical devices inside the compartments of the freezer, unless they are of the type recommended by the manufacturer.
- This freezer is not intended for use by young children or infirm person unless they have been adequately supervised by a responsible person to ensure they can use the freezer safely. Young children should be supervised to ensure that they do not play with the freezer.
- Keep always the keys in a separate place and out of reach of children.
- Never place containers with liquids, especially fizzy drinks, in the freezer. The liquid may cause an explosion during the freezing process.
- Never touch the refrigerating surfaces with bare hands. Always wear gloves to open the freezer and load/unload the frozen items to prevent cold injury.

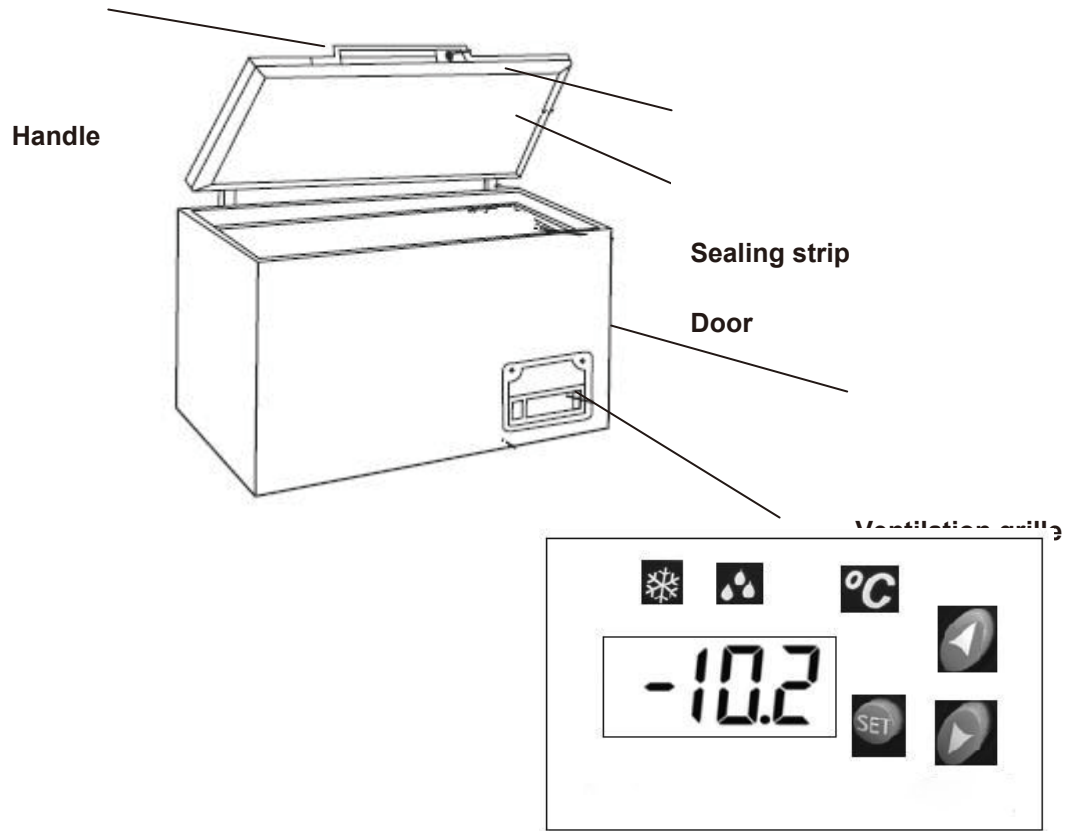
Before Use

- Before operating the freezer, please read the following instructions carefully as they contain important information on safety, installation, operation and maintenance. Please keep the instructions at your hands for future possible usage.
- While unpacking the freezer, please check to ensure the freezer has not been damaged and have all accessories packed well.
- Transportation damage should be reported to the local distributor before the freezer is put into use.
- Remove all the packaging material, and position the freezer in a stable, level and dry place.
- Before the 1st time use, the freezer should be stood for at least 12 hours.

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Get to know your freezer



Electronic control panel

Fig.2

Installation and Start-up

Placement

For safe and operational reasons, the freezer must not be installed outdoors.

The freezer should be placed on a stable, level surface in a dry, well-ventilated room (max. 75% relative air humidity).

Never place the freezer close to heat sources such as cookers or radiators, and avoid placing it in direct sunlight.

Standard EN378 specifies that the room in which you install your freezer must have a volume of 1m³ per 8 g of hydrocarbon refrigerant used in the products, so as to avoid the formation of inflammable gas/air mixtures in the room where the freezer is located in the event of a leakage in the refrigeration circuit.

Room temperature

The freezer is designed to operate at limited ambient temperatures according to the climatic category specified below.

Climate class optimum room temperature

N : +16 °C to +32 °C

Ventilation

It is important that the freezer is installed at a ventilated place and fresh air can circulate unhindered above, below and around it. The freezer requires at least 20cm free space at all around it.

Electrical Connection

Data regarding voltage, power and current are given on the nameplate which is at the back of the freezer.

Electrical connection must be made in accordance with the local regulations.

Warning!

This freezer must be earthed.

If the socket and the plug are not the same type, please have the plug or socket replaced by a qualified electrician.

Do under no circumstances use extension lead or adaptor.

If the power cord is damaged, it must be replaced by the manufacturer, or service provider, or a qualified electrician in order to avoid a hazard.

Operation and Function

The freezer is equipped with the electronic controller (fig.3).



Fig.3

For operation of the electronic controller, a separate instruction manual is enclosed and packed as accessory in the freezer.

Defrosting

Items stored in the freezer and humidity of the surrounding air might gradually form frost and ice inside the freezer. A thin layer of the frost or ice will not affect the freezer performance, but if the frost and ice are getting more and more, the energy consumption will get higher. Small amount of loose frost or ice can be removed by a plastic shovel.

Never use electrical or sharp tools as these may damage the inside chamber or shelves of the freezer.

When the frost or ice is accumulated too much, the freezer should be completely defrosted. It is recommended that defrosting is carried out after all stored items are moved out of the freezer.

Defrosting process as follows:

1. Power off the freezer, and leave all the freezer doors open to let the ice melt.
2. Use a soft dry cloth to wipe off the water inside of the freezer
3. Ensure the freezer inside clean and dry before powering on again.
4. Move items back to the freezer when the set temperature has been reached.

Cleaning and Maintenance

Cleaning

- Before cleaning, cut off the power supply and remove all the stored items out of the freezer
- The freezer is best cleaned by a clean, soft and dry cloth using mild water, if needed, neutral detergent can be used to clean the freezer. Never to scour the whole unit for cleaning. After cleaning, make sure the freezer get dried before powering on again. And please be careful to prevent water entering the control panel.
- The sealing gaskets are recommended to clean regularly to prevent degradation and extend its span life. The sealing gaskets shall be cleaned by soft cloth with clean water.
- If possible, it is also recommended that the tubular condenser in the refrigeration cabin to be cleaned in a regular basis to prevent too much dust and dirt affecting the refrigeration performance.
- The ventilation grill also needs to be away from dust and dirt, and it is recommended to be cleaned with a vacuum cleaner in a regular basis.
- If the freezer is not used for a long time, please switch off, empty and clean the unit before storage.

Energy saving

- Keep the inner doors closed as always
- Make sure the inner doors and outer door closed properly after opening the freezer
- Position the freezer in a cooler (min. 5°C), well-ventilated room.
- Defrost the freezer at a regular time to prevent ice accumulating too much

Fault Finding

Fault	Possible causes	Remedy
No control lamps are lit.	The freezer is switched off. Power failure; the fuse is burned; the freezer is not plugged correctly.	Check the plug and the socket. Check the power is connected correctly. Reset the fuse.
Temperature in freezer too high.	The ventilation grill is blocked by dust and dirt. The inner doors and outer door are not closed properly. Too much items are placed into the freezer at a time. Too much frost and ice. The thermostat is set as a high point.	Clean the grill to ensure unhindered air circulation. Close the inner doors and outer door properly and wait for a few hours. Wait a few hours to see if the temperature can reach the set point Defrost the freezer. Set the thermostat to a lower point.
Temperature in freezer too low	The thermostat is set as a low point. The inner doors are prevented from closing tightly by items stored in the freezer.	Set the thermostat to a higher point. Reposition items inside the freezer and make sure the inner doors are closed tightly.
The doors cannot be opened.	Vacuum pressure in freezer.	Wait 2-3 minutes until the vacuum pressure has been equalized and try again.
Vibration and unusual noise.	The freezer is not placed on a stable and level surface. The freezer is placed too close to other equipments Fan is not run in a proper way	Position the freezer on a flat, level and stable surface. Move other equipments away from the freezer Open the cabin and check if the fan is lack of lubricating oil

Spare Parts

When ordering spare parts, please clarify the type and serial number of your freezer (see fig. 1 and fig. 2). This information is given on the nameplate at the back of the unit.

Note

Always select qualified service technicians when your freezer needs to be repaired or replaced!

Important

Please note that unauthorized changes on the configuration of the freezer or changes to the components of the freezer will invalidate the warranty and the product liability. Please DO NOT disassemble the refrigeration system randomly unless authorized by the manufacturer or carried out by a qualified service provider.

Safeguarding on the Environment

Packing

The packaging material is entirely recyclable, and marked with recycling symbol. Please follow the local regulations for scrapping.

Product


The freezer is made of recyclable material, while the refrigeration system is charged by flammable gases. Disposal of the entire freezer should be in according with the local environmental regulations and relative standards. Make sure the product is disposed by a qualified authority for recycling both freezer bodies and refrigerants.

Disposal

Disposal of the freezer must comply with the local environmental regulations. Please contact your local authorities who shall guide you how to dispose or scrap it.

This product is marked in accordance with EU Directive 2002/96/EC on waste electrical and electronic equipment (WEEE).

Ensuring the product is disposed in a correct way helps prevent potential negative impacts on the environment and human health.

The  symbol on the product or its accompanying documents means the product must not be disposed together with household refuse. Instead, it must be disposed at a proper recycling station.

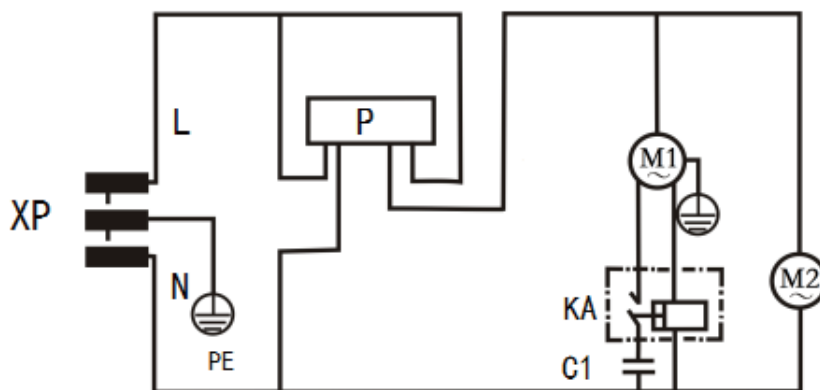
The product must be disposed in accordance with the current environmental regulations of the disposal of waste.

For further information on the handling, recycling and reuse of this product, please contact your local authorities, qualified service providers, or the dealer from whom you bought the product.

Technical Parameters/Accessories/Circuit Diagram

Model	STF-100C	STF-190C	STF-285C	STF-370C	STF-470C
Inner Temp(℃)	-10~-40	-10~-40	-10~-40	-10~-40	-10~-40
Anti-electric shock	I	I	I	I	I
Capacity(L)	100	200	300	400	500
Rated Power(V)	220	220	220	220	220
Rated Frequency(Hz)	50	50	50	50	50
Input Power(W)	150	200	250	300	300

Items	Operation manual	Temperature controller specification	Defrost shovel	Key	Basket
Qty	1	1	1	2	2



P: Temperature controller M1: Compressor

M2: Fan XP: Power Plug KA:Start relay C1: Starting capacitor

Fig.4