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...Líder en Equipos Médicos...!

**REFRIGERADORA
PARA VACUNAS
BDF-40H100**

Chapter1. Product appearance and overview

1.1 Safety Instruction

Please read the handbook carefully when using the machine for the first time.

- The deep freezer manual can only be operated by trained and authorized personnel.
- The maintenance of the equipment can only be accomplished by our company or agents authorized by our company.
- If operator runs into conditions not mentioned in the instruction, please contact our company or agents authorized by our company for inquiring correct processing method.
- Please use accessories provided by our company. If user uses other accessories, our company will not take charge of generated negative effects. However, the user can apply to our company to test and verify that whether the accessories accord with the requirements of our company.
- It is necessary to inspect and maintain the deep freezer manual at specified time intervals.
- The deep freezer manual is strictly prohibited to store living things or other goods which have strict temperature requirement and are unsuited for storage at constant temperature.

The deep freezer manual realizes refrigeration through the heat dissipation of the back surface (condenser). In order to ensure normal operation and ventilation and heat

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- dissipation, the back and the left and right sides of the refrigerator body should be at least 30cm away from the wall and no barriers are allowed to block the air inlet and the air outlet.
 - In case of machine fault or power failure, the temperature in the deep freezer manual will rise. If the machine cannot be repaired in short period, please take out the stored goods and transfer them to other place where accords with the storing temperature to avoid damages.

1.2 Diagram and Introduction



Due to the improvement and various models of products, the actual product may be different from the diagram, please in kind prevail !

deep freezer manual series products are applied to places needing storage at constant temperature, such as hospitals, epidemic prevention stations, blood banks, scientific research institutions, colleges and universities, biological pharmacies, genetic engineering, entrepreneurs, etc. The storing temperature in the body can set by the temperature button on the control panel. The application is convenient and the performance is reliable.

Chapter 2.Preparation and Attention before Use

- Transport: the refrigerator should be uplifted from the bottom and carried and put down lightly. The inclined plane should be no larger than 45 degrees.
- Do not hold the door or the lining port as stressed member.
- Dismantle all package components (including protection foam in the refrigerator body).
- Please check accessories and data according to the packing list.
- Please clean the product before use.

Operating environment requirements:

- a) For indoor use only;
- b) The mounting surface must be fixed, horizontal and incombustible and be able to bear weight during the operation of the deep freezer manual;
- c) To be placed away from direct glare of sunshine and heat and the environmental temperature should be not higher than 32°C.

Space of above 30cm is required to be left around the deep freezer manual for

d) ventilation and heat dissipation;

e) Not allowed to be placed in the environment under 10°C;

f) Not allowed to be placed at places with heavy moisture or easy-splashing water.

- On flat ground, the deep freezer manual can be directly pushed to move.

! Notes: please note that do not let the power line be damaged by trundles when pushing the deep freezer manual.

! Notes: be sure to take off the packaging pedestal on the bottom of the deep freezer manual.

! Notes: Do not put goods into the deep freezer manual which is just plugged in. Let the empty body run for a while (about 12 hours) and then put the goods to be refrigerated into the refrigerator.

Normal operating condition of the equipment:

a) Environmental temperature: 10°C~32°C;

b) Relative humidity: ≤80%;

c) There is no strong sharp pounding and corrosive gas around;

d) There are no effects of direct radiation of sunshine and other cold and heat sources.

Working system of the deep freezer manual: intermittent running

Chapter 3. Safety precautions

- Supply voltage: the equipment needs 220V/50Hz alternating current power supply. If the service voltage is lower than 187V or higher than 242V, it is necessary to add a proper automatic voltage regulator to be used cooperatively;
- When the deep freezer manual is used, the power supply is required to be equipped with a lower voltage air circuit breaker and a leakage protection device;
- It is necessary to use a dedicated independent socket which is grounded reliably. The length of the power line cannot be lengthened at randomly. If it really needs to be lengthened, be sure to use a copper core conductor which is larger than 2.5mm². And the cross area of the copper core conductor which is in the wall and connected with the power socket must be above 4mm²;
- Inflammable and explosive dangerous goods and goods of acid and alkali etc. with strong corrosiveness are not allowed to be put into the deep freezer manual;
- Keys should be kept properly to avoid accidents that will happen if children get the key to open the door;

The zero line (N end) of the socket cannot be connected with the ground lead (B end).

- Otherwise, the housing of the deep freezer manual may be electrified and electric shock accidents may be caused;
- The power line cannot be bundled up, pressed under weight and next to heat sources of

compressor, etc.

Chapter 4. Instructions

4.1 First use

After being unpacked, the deep freezer manual should be placed well to according to the service environment requirement;

Although the refrigerator has been cleaned inside when leaving factory, it is advised to scrub the deep freezer manual with warm water added with a little neutral detergent and then scrub it with clean water and wipe it up (electrical system cannot be cleaned but scrubbed with dry cloth);

Set the temperature controller of the deep freezer manual at -36°C and turn on the power.

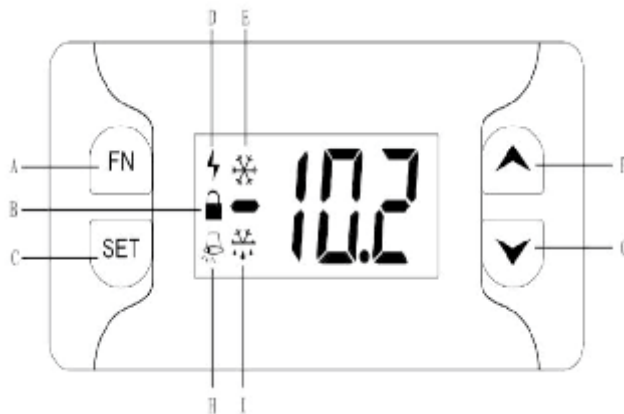
After 3 minutes, the compressor is started. After 30 minutes, the temperature inside the deep freezer manual decreases obviously. It means the refrigerating system is operating smoothly and the machine test is finished;

For first use, it is advised to put the goods to be stored in the refrigerator after the inside temperature falls to the operating temperature. If there are too much goods to be stored, it is advised to store separately for three times. When the inside temperature of the refrigerator falls to the set temperature after the storage of the last time, store the goods for the second time. Storing too much goods at one time may cause that the refrigerator cannot fall to the set temperature for a long time, thereby causing damages of goods;

In order to save electrical energy, please try to reduce door-opening frequency and open

4.2 Temperature regulation

4.2.1 Key function



A-Function keys B-locking C-Set D-The power E-refrigeration

F-Up-regulation G-Down-regulation H- temperature warning mark I-Defrost

When the freezer is in normal service condition, it is advised not to regulate the set temperature randomly. You can press the Mute key to cancel alarming voice prompt if necessary. But the alarm light and alarm codes will always display until the alarm status is released. If needing special regulation, please call at after-service phone or resort to professional maintenance personnel. Random regulation of the set temperature may cause high temperature (AH) of product or constant temperature (AL) alarm. Right now, please regulate the high and constant temperature values (AH, AL) simultaneously. Notes: the general high and low temperature alarm values are within the set temperature range of

-41°C~-31°C.

4.2.2 Parameter setting method

When the power of the deep freezer manual is on, the display screen shows the inside current temperature value. If the set temperature has to be readjusted, for example, the original set temperature is -36°C which now has to be adjusted to -30°C, please operate according to the following steps:

Serial No.	Keys Operation	Display
1		Displays the inside temperature
2	Press the SET and FN key for 3 seconds	🔒 on the display disappear
3	Press the SET key for 3 seconds	Displays the initial set temp -36°C and flashing
4	Press the ▼ key to set (▲Up-regulation key)	Set temp changed to -30°C
5	Press the ⏸ key for 3 seconds	Saves the user settings and displays the inside temperature

Alarm code

Alarm code		Description
1	Lo	Low temperature alarm
2	Hi	High temperature alarm
3	Pd	Power failure alarm

After the power is switched off, the control function of the controller fails and the back-up source is used for displaying. If the back-up source is charged for more than 10 hours, the power failure symbol “Pd”, the current inside temperature and the alarm display alternatively for one time and then display again after 30 seconds’ stop for cycle operation. After 8 hours, the nixie tube stops displaying. The high temperature alarm mark light will twinkle continuously until the electric quantity of the back-up source is used up. The inside temperature can be continuously displayed during the power failure. Please pay attention to this and take relevant measures to avoid damage.

Error display

- When faults of the medical deep freezer temperature display sensor including short circuit, open circuit, malfunction and incorrect connection appear, “Err” is displayed. At the same time, the buzzer of the temperature controller will give out alarm and the display screen displays corresponding alarm parameters (Err、Ehi、Elo)and alarm indicator.After the power off, the screen becomes dark, but still display the temperature

inside the box, please pay attention to, and take appropriate measures to avoid damage.

- **Suggest:** If you judge that the temperature sensor goes wrong, you should cut off the power and first check whether the connecting wire of the sensor is loose. Please contact professional after-sales service or distributor of us for processing.

Tips: if internal code appears when user regulates the temperature controller, the user should wait for 1 minute and then operate it till the inside temperature is displayed to avoid fault of the deep freezer caused by the changing of the control parameter.

- When the medical medical deep freezer stops temporarily due to power failure or other faults, the inside temperature of the medical medical deep freezer will rise from -40°C to -10°C within 8 hour. If power cannot be supplied in short time, the user should consider taking out the stored goods and putting them into other normal medical medical deep freezers for storing to avoid losses caused by the damage of the stored goods.
- Before putting goods into the medical medical deep freezer to be stored, the user should confirm in advance that whether inside temperature of the medical medical deep freezer is in accordance with the set temperature for storing to avoid losses caused by goods damage due to the improper temperature.
- Due to the refrigeration inertia, the medical medical deep freezer cannot be kept at constant temperature. And there is certain up and down difference between the inside

temperature and the set temperature. The inside temperature varies with the changing of the environmental conditions and the temperature set. It belongs to normal phenomenon.

- **Tips: if internal code appears when user regulates the temperature controller, the user should wait for 1 minute and then operate it till the inside temperature is displayed to avoid fault of the deep freezer manual caused by the change of the control parameter.**

When the deep freezer manual stalls temporarily due to power failure or other faults, the inside temperature of the deep freezer manual will rise from 5°C to 15°C within 1 hour. If power cannot be supplied in short time, the user should consider taking out the stored goods and putting them into other normal deep freezer manual for storing to avoid losses caused by the damages of the stored goods.

Before putting goods into the deep freezer manual to be stored, the user should confirm in advance that whether inside temperature of the deep freezer manual is in accordance with the set temperature for storing to avoid losses caused by goods damages due to the improper temperature.

Due to the refrigeration inertia, the deep freezer manual cannot be kept at constant temperature. And there is certain up and down difference between the inside temperature and the set temperature. The inside temperature varies with the change of the service

environment and the set temperature. It belongs to normal phenomenon.

Chapter 5. Routine Maintenance

In routine maintenance, in order to prevent electric shock or personnel injuries, be sure to cut off the power before repairing or maintaining the equipment and do not inhale drugs or particulate matters surrounding the equipment when maintaining the equipment. It is necessary to dry wet gloves to protect your hands. Otherwise, your hands may be cut by edges or corners of the refrigerator body.

5.1 Clean of incubator

- The deep freezer manual should be cleaned once every month. Regular cleaning may keep the appearance of the incubator new;
- Use dry cloth to wipe off a small amount of dust on the housing, the inner chamber and all accessories of the deep freezer manual. If the deep freezer manual is very dirty, it is advised to use neutral detergent for cleaning;
- After cleaning, use cloth which has been soaked in clean water to wipe off the detergent;
- Do not pour water on the housing or in the preserve room of the deep freezer manual.

Otherwise, the electrical insulation may be damaged, thereby causing faults.


- During the rainy season, vapors may be easily condensed on the surface of the glass door of the refrigerator. In serious condition, water may drip. Please use dry cloth to wipe it dry in due time. Normal use will not be affected.

5.2 Defrost

Frost may be appeared on the internal wall and may possibly cause gap between the cabinet and door seal. It will lead to a bad performance. Please remove frost after cutting off the power supply. It is advised to wipe it dry with dry cloth.

5.3 Care and maintenance

- No heavy things are allowed to be placed on the door or the header of the deep freezer manual to avoid deformation of the door body or the header caused by the press.
- The deep freezer manual should be cleaned and maintained every once in a while.
- Use warm wet soft cloth to wipe the inner and outer surfaces of the deep freezer manual.
- When serious dirt appears, use neutral detergent for washing tableware to wipe and then use cleaned soft cloth to wipe out the water spots.
- Once starting the deep freezer manual, you'd better keep it running continuously.

 Notes: be sure not to sprinkle water directly on the deep freezer manual to avoid performance reduction and metal rust of electrical components. Be sure not to clean the deep freezer manual with hot water and corrosive detergent or organic solvent. Also do not clean the deep freezer manual with scrubbing brush and wire brush. Children are not allowed to play games with the deep freezer manual.

Chapter 6. Clearing of Fault and Maintenance Service

Some abnormal conditions of the deep freezer manual are caused by misuse. Before you commit maintenance, please compare with the following table for self inspection and exclusion.

Problems	Reasons and Solving Measures
deep freezer manual does not work	<ul style="list-style-type: none"> ·If the power socket has electricity? ·If the power socket is plugged or loosened? ·If the power fuse is disconnected? ·If the supply voltage is too low or too high?
Compressor breaks down	<ul style="list-style-type: none"> ·If the temperature setting is right?
Temperature goes on decreasing after reaching to the set value	<ul style="list-style-type: none"> ·If the temperature setting is right?
Temperature cannot reach the set value	<ul style="list-style-type: none"> ·If the fan stops running? ·If the door is not closed tight or opened too frequently? ·If too many goods are put in at one time and if the air channel is blocked off? ·If the environment temperature is too high?
Too much noise	<ul style="list-style-type: none"> ·If the refrigerator body is placed at the flat ground? ·If the refrigerator body touches the wall? ·If the incubator immediately enters operating state after being started?

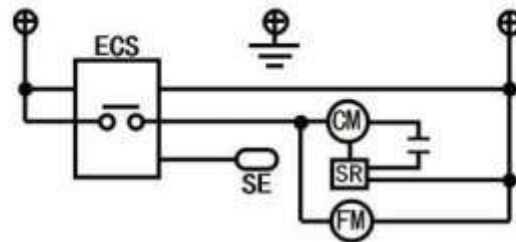
If you cannot judge the fault cause or debug, please contact the local or nearby appointed service center according to the instruction of the warranty certificate (standard accessory) and tell use your name, address, phone number, type of the deep freezer manual, purchase time, fault phenomenon, etc. Professional engineer will offer warmhearted service to you.

Chapter 7. Main Performance Index

7.1 Main technical parameters

Model	Temp (°C)	Volum	Power	Refrigeran	Dimension
		e	supply		
		(L)	(V~)	t	W*D*H mm
BDF-40H100	-10~-40	105	220V/50Hz	R290	680*580*935

7.2 Electrical schematic diagram



FM=Condensing fan

CM=Compressor

ECS=Thermostat

SE=probe

SR=starter

Packing list

Model	Operation instruction	Door handle	Snow shovel	Power line	Screwed	Screwdriver
BDF-40H100	1	1	1	1	4	1

Chapter 8.Warranty

1. User can enjoy one years' free warranty for the complete machine since the purchase date which bases on the drawn purchase effective receipt.

2. The warranty depends on the certificate and the purchase effective receipt. And during the warranty, the certificate and the purchase effective receipt should be shown simultaneously (customers who are outside the region and need maintenance service should send the certificate and the purchase effective receipt together to our company).

3. The following conditions are not covered under warranty. For these conditions, we only offer maintenance service and charge labor cost and normal fees.

(1) All damages caused by human factors, including operation under improper working environment, damages caused by use not according to the instruction book and malfunction, etc.

(2) Disassembly, maintenance and modification without permission, maintenance made by unit having no certificate of incumbency of our company and lack of warranty card and

effective receipt.

(3) Damages caused by poor transport of oneself or other irresistible factors (such as flood, fire, lightning stroke and earthquake, etc.) after the purchase.