

Blood Bank Refrigerator

Instruction Manual



SBR-208

·Please read the Instruction Manual carefully before use.

·Please keep properly for reference

Statement:

Thank you for choosing and using the product of STALWART. For your safe and convenient use and reasonable maintenance of the product, please read the Instruction Manual carefully and keep it properly for reference.

For damages of any instrument due to the fact that the user does not use the product according to the instrument operating environment declared in the Manual or injuries due to the fact that individual does not operate the product according to safety instructions, STALWART has no obligations and responsibilities to be in charge of them.

The user must accomplish the following three points when using the product:

1. Always use protective devices correctly (including clothes, gloves, goggles, etc.);
2. Always adopt good health habits and operate strictly according to the product instruction;
3. Everyone is obliged to be in charge of one' own safety.

Due to the fast product update of STALWART, there may be differences between function of the product you bought and the function mentioned in the instruction, please in kind prevail.

Safety Instruction:

- Please read the Manual carefully when using the machine for the first time.
- The Blood Bank Refrigerator can only be operated by trained and authorized personnel.
- The maintenance of the equipment can only be accomplished by STALWART or agents authorized by STALWART.
- If operator runs into conditions not mentioned in the instruction, please contact STALWART or agents authorized by STALWART for inquiring correct processing method.
- please use accessories provided by STALWART. if user uses other accessories, stalwart will not take charge of generated negative effects. however, the user can apply to STALWART to test and verify that whether the accessories accord with the requirements of STALWART.
- It is necessary to inspect and maintain the Blood Bank Refrigerator at specified time intervals.
- The Blood Bank Refrigerator is strictly prohibited to store living things or other goods which have strict temperature requirement and are unsuited for storage at constant temperature.
- The Blood Bank Refrigerator realizes refrigeration through the heat dissipation of the back surface 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 Blood Bank Refrigerator 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.

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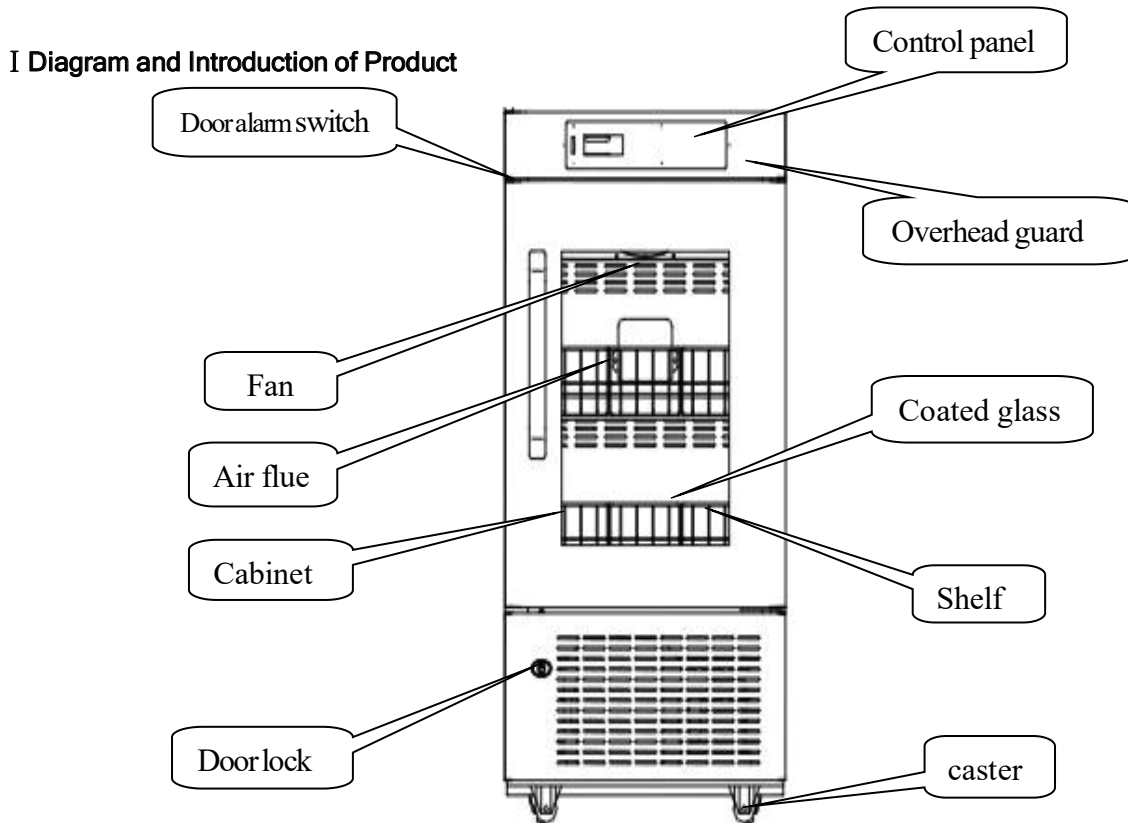


Diagram I : Structural diagram

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

Blood Bank Refrigerator 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 be regulated by the temperature button on the control panel. The application is convenient and the performance is reliable.

III 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 Blood Bank Refrigerator.
- c) To be placed away from direct glare of sunshine and heat and the environmental temperature should be not higher than 32°C.
- d) Space of above 30cm is required to be left around the Blood Bank Refrigerator for ventilation and heat dissipation.

- e) Not allowed to be placed in the environment under 0°C.
- f) Not allowed to be placed at places with heavy moisture or easy-splashing water.

·On flat ground, the Blood Bank Refrigerator can be directly pushed to move.

! Notes: please note that do not let the power line be damaged by trundles when pushing the Blood Bank Refrigerator.

! Notes: be sure to take off the packaging pedestal on the bottom of the Blood Bank Refrigerator.

! Notes: Do not put goods into the Blood Bank Refrigerator 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 Blood Bank Refrigerator: intermittent running

Safety precautions

·Supply voltage: the equipment needs 220V~240V/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 Blood Bank Refrigerator 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 cooper core conductor which is larger than 2.5mm². And the cross area of the cooper 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 Blood Bank Refrigerator.

·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 Blood Bank Refrigerator 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.

III Instructions

3.1 First use

·After being unpacked, the Blood Bank Refrigerator 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 Blood Bank Refrigerator 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 Blood Bank Refrigerator at 4°C and turn on the power. After 3 minutes, the compressor is started. After 30 minutes, the temperature inside the Blood Bank Refrigerator

decreases obviously. It means the refrigerating system is operating smoothly and the machine test is finished.

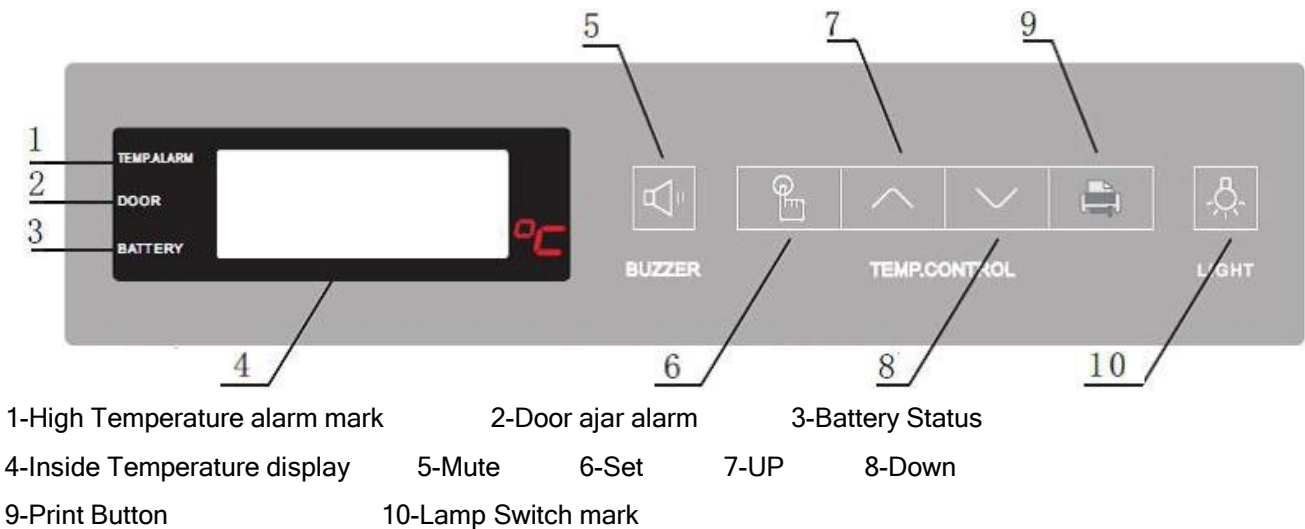
·For first time use, it is advised to put the goods to be stored in the refrigerator after the inside temperature falls to the operating temperature. If there are too much goods to be stored, it is advised to store separately for three times. When the inside temperature of the refrigerator falls to the 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 time.

3.2 Temperature regulation

3.2.1 Key function





The electric temperature controller is installed on the control panel of the Blood Bank Refrigerator. When power is on, the digital display screen can display the actual temperature inside the refrigerator. The control panel of the temperature controller is illustrated by the following diagram:




When the refrigerator 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 2°C~6°C.

3.2.2 Parameter setting method



When the power of the Blood Bank Refrigerator is on, the display screen displays the inside current temperature value. If the set temperature has to be readjusted, for example, the original set temperature is 2°C which now has to be adjusted to 4°C, please operate according to the following steps:


Serial No.	Keys Operation	Display
1		Displays the inside temperature
2	Press the Set key  for 3 seconds	Displays that the initial set value is 2°C and twinkles
3	Press the Up-regulation key 	Figure increases
4	Press the Down-regulation key 	Figure decreases
5		Figure is 4°C
6	Press the Set key  for 3 seconds	Saves the user settings and displays the inside temperature

Print button

When operate normally, Press printer  exceeds to 5 seconds, Could print current temperature.

When operate normally, Press the button  and  for 3seconds simultaneously, Could check the time.

When Check the time, Press the button  and  for 1second simultaneously, and return normally display

When setting value, if parameter more than 250, press , the value could plus 10 or 100.


Notes: If there is indeed parameter change requirement, please contact the after-sale and distributors STALWART for setting.

3.2.3 Error display

When faults of the refrigerator temperature display probe including short circuit, open circuit, malfunction and incorrect connection appear, “E0” is displayed. When faults of the refrigerator temperature control probe including short circuit, open circuit, malfunction and incorrect connection appear, “E1” is displayed. At the same time, the buzzer of the temperature controller will give out alarm and the display screen displays corresponding alarm parameters (E0、E1).

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 damages.

Suggest: If you judge that the temperature sensing probe goes wrong, you should cut off the power and first check whether the connecting wire of the temperature sensing probe is loose. Please contact professional after-sale personnel or distributor of ANTECH 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 Blood Bank Refrigerator caused by the change of the control parameter.**

When the Blood Bank Refrigerator stalls temporarily due to power failure or other faults, the inside temperature of the Blood Bank Refrigerator will rise from 4°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 Blood Bank Refrigerators for storing to avoid losses caused by the damages of the stored goods.

Before putting goods into the Blood Bank Refrigerator to be stored, the user should confirm in advance that whether inside temperature of the Blood Bank Refrigerator 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 Blood Bank Refrigerator 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.

IV 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.

4.1 Clean of incubator

·The Blood Bank Refrigerator 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 Blood Bank Refrigerator. If the Blood Bank Refrigerator 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 Blood Bank Refrigerator. 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.

4.2 Defrost

The Blood Bank Refrigerator belongs to air cooling frost free refrigerator which needs no defrosting. In summer with high environment humidity, condensation may appear on the buccal frame of the Blood Bank Refrigerator. This is normal. It is advised to wipe it dry with dry cloth.

4.3 Care and maintenance

·No heavy things are allowed to be placed on the door or the header of the Blood Bank Refrigerator to avoid deformation of the door body or the header caused by the press.

·The Blood Bank Refrigerator should be cleaned and maintained every once in a while.

·Use warm wet soft cloth to wipe the inner and outer surfaces of the Blood Bank Refrigerator.

·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 Blood Bank Refrigerator, you'd better keep it running continuously.

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

V Clearing of Fault and Maintenance Service

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

Problems	Reasons and Solving Measures
Blood Bank Refrigerator 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?

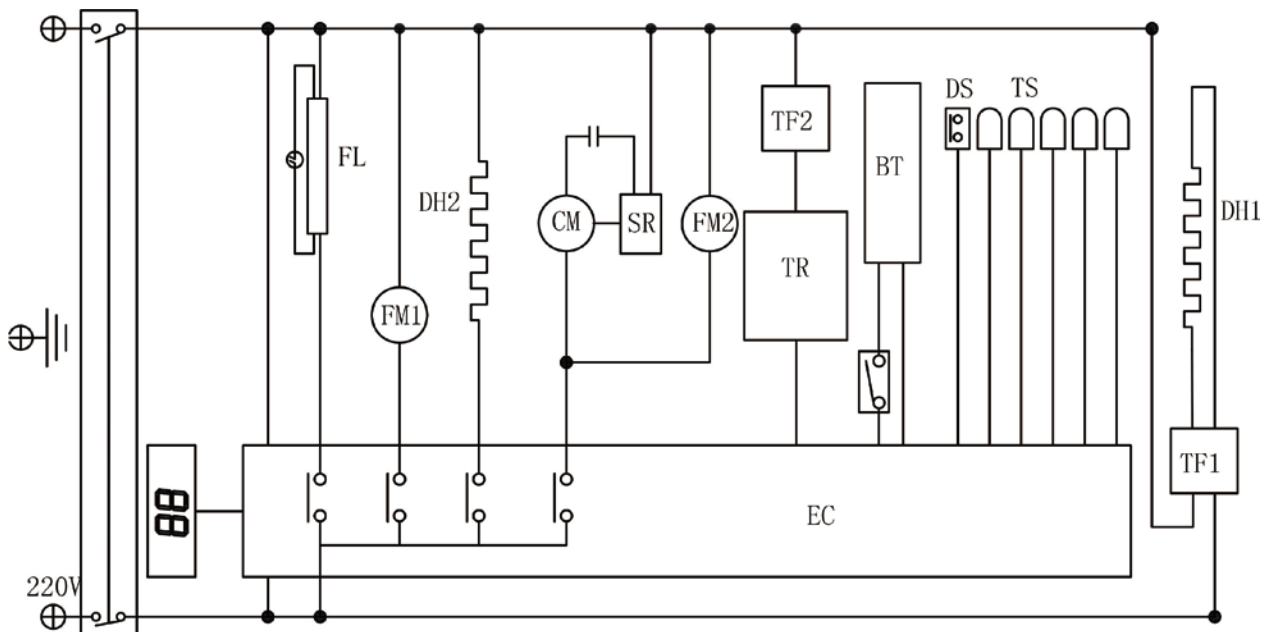
If you cannot judge the fault cause or debug, please contact the local or nearby appointed service center according to the instruction of the warranty certificate (standard accessory) and tell use your name, address, phone number, type of the Blood Bank Refrigerator, purchase time, fault phenomenon,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

VI Main Performance Index

6.1 Main technical parameters

Model	Climate type	Cabinet temperature (°C)	Effective Capacity (L)	Rated Voltage (V~)	Frequency (Hz)	Refrigerant	External size
							(W*D*H)
SBR-208	N	4±1	208	220~240	50	R134a	522×600×1550

6.2 Electrical schematic diagram



FL=Fluorescent lamp BT=Battery DS=Door switch CM=Compressor TR=Printer
 FM1= Evaporating fan FM2= Condensing fan TF2=Switch power supply DH1= Heater for door
 TS= Temperature sensor EC=Temperature controller SR=Start-up relay TF1= Transformer

Packing list

Name	Instruction Manual	Keys	Shelf	Buckle	Blood basket
Quantity	1	2	4	16	12