

Vacc-Safe

USER MANUAL

Vacc-Safe

**PHARMACY
REFRIGERATOR**



Warning:
Before using this product,
please read this manual
carefully and keep it for
future reference. The design
and specifications are subject
to change without prior
notice for product
improvement.



Model: VS350

www.vaccsafe.com.au

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Safety warnings



Warning: Flammable refrigerant is adopted for the product.

- ❗ **WARNING:** Keep all ventilation openings in the enclosure or, in the structure for building-in, clear of obstruction.
- ❗ **WARNING:** Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- ❗ **WARNING:** Do not damage the refrigerant circuit.
- ❗ **WARNING:** In order to reduce flammability HAZARDS the installation of this equipment shall only be carried out by a suitably qualified person.
- ❗ **DANGER:** Risk Of Fire Or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing.
- ❗ **CAUTION:** Risk Of Fire Or Explosion. Flammable Refrigerant Used. Consult Repair Manual / Owner's Guide Before Attempting To Install Or Service This Equipment. All Safety Precautions Must be Followed.
- ❗ **CAUTION:** Risk Of Fire Or Explosion. Dispose Of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used.

This unit is intended for use in commercial, industrial, or institutional occupancies as defined in the Safety Standard for Refrigeration Systems, ANSI/ASHRAE 15”.

Replacement components and servicing.

The installation and operating instructions shall indicate that component parts shall be replaced with like components and that servicing shall be done by the manufacturer's authorised personnel, so as to minimize the RISK of possible ignition due to incorrect parts or improper service.

Product features

This product can be used to store human biological samples, medicines, vaccines, biological products, reagents, and materials that need to be stored at 2~8°C.

Product function

Accurate temperature control & traceable data

Microcomputer temperature control display with an accuracy of 0.1°C

Temperature can be set between 2°C to 8°C, and in the box, it fluctuates $\leq 2^\circ\text{C}$, adjustable and accurate.

Efficient refrigeration & energy saving mute

World-renowned compressor that focuses on energy saving, environmental protection, high efficiency and noise suppression.

High efficiency condenser fan and evaporator fan with vortex effect refrigeration is adopted with stable lasting performance and low noise.

Ensures that the temperature in the cabinet is more uniform and stable, and the cooling speed is more efficient.

Unique technologies of built-in air duct and air curtain are adopted.

Multiple alarms & safe and stable

Sound and light alarms with high and low temperature alarms, power failure alarm, sensor failure alarm and other functions. Alarm temperature value is set based on demand.

The design of safety door lock ensures the safety of samples in the box.

User-friendly design

Multi layer encryption shelf design and adjustable height can maximize the use of space.

The inner LED lights, bright and energy-saving, make the stuff in the box clear at a glance.


Precautions and safety measures

Dear users of Vacc-Safe:

Hi! Thank you for using a Vacc-Safe pharmacy refrigerator. For your convenience to understand this manual, use the product, and prevent personal injuries and goods damages, please read the following instructions thoroughly.




Failure in complying matters highlighted in warning signs may cause serious casualties.

 Actions or operations that must be prohibited




Failure in complying matters highlighted in warning signs may cause serious casualties, or damages to the pharmacy refrigerator and related property losses.

 Behavior or operation that must be observed




Product with the symbol that reads "prevent fire, stay away from fire sources".



 Please use a power socket with a ground wire to prevent electric shock.

If the power socket is not grounded, the grounding wire must be installed by professional technicians.

 Be sure to place the pharmacy refrigerator firmly on a solid and flat ground. If the ground is not stable or the place is not suitable, the pharmacy refrigerator might be overturned or people will be injured.

- ❗ If the power cord needs to be lengthened, the sectional area of the lengthened cord shall not be less than 2.5mm². At the same time, the length is not longer than 3 m. Otherwise, it may cause a fire or electric shock.
- ❗ In case of flammable gas leakage, it is necessary to close the gas leakage valve and open doors/windows, for ventilation. Do not open any electrical switch, and do not plug in or pull out the power plug of the pharmacy refrigerator, otherwise it may cause explosions and fires.
- ❗ Only professional technicians or after-sales maintenance personnel can disassemble the pharmacy refrigerator, otherwise it may cause fires or electric shock.
- ❗ Please use the special power supply indicated on the nameplate of the pharmacy refrigerator, otherwise it may cause fire or electric shock.
- ❗ If the voltage is lower than 187 V or higher than 242 V, it is necessary to install more than 4000 W automatic voltage regulator suitable for motor load.
- ❗ The power cord of this pharmacy refrigerator is equipped with a three-wire (grounded) plug, which meets the standard three-wire (grounded) socket of 10 A.
- ❗ Under no circumstances should the grounding pin of the power cord be removed. Make sure that the power plug and socket are plugged firmly and reliably, otherwise it may lead to fires.
- ❗ When unplugging from the power socket, hold the power plug firmly and remove it. Do not pull the wires of the power plug directly. If you pull the wire by hand, it may cause electric shock or fires due to short circuit.

- ❗ If the pharmacy refrigerator is not working properly, please unplug the power plug. It may cause electric shock or fires if it continues to operate under abnormal conditions.
- ❗ Before any repair or maintenance of the pharmacy refrigerator, always disconnect the power supply of the pharmacy refrigerator to prevent electric shock or personal injuries.
- ❗ Make sure that the medicine or suspended particles inside and around the pharmacy refrigerator will not be inhaled during maintenance, otherwise it may be harmful to health.
- ❗ When storing toxic, harmful, or radioactive materials, please use a pharmacy refrigerator in a safe area. Improper use may cause harm to human health or the environment.
- ❗ When the pharmacy refrigerator is not used for a long time, unplug the power plug to prevent electric shock, leakage or fires caused by the aging power cord.
- ❗ If the pharmacy refrigerator is idle for a long time in an unsupervised area, make sure that children do not approach the pharmacy refrigerator and that the disposal of the pharmacy refrigerator is to be carried out by the appropriate personnel. The door should be removed to prevent accidents such as suffocation.
- ❗ No flammable, explosive, dangerous or volatile substances should be stored in pharmacy refrigerator. Do not use combustible sprays near the pharmacy refrigerator, otherwise it may cause explosions or fires.
- ⊘ Do not store corrosives such as acids and alkalis in the pharmacy refrigerator. The internal components or electrical parts of the pharmacy refrigerator may be damaged.
- ⊘ Packaging plastic bags should not be placed where children can reach them, because plastic bags may cause suffocation.

- ⊘ Do not climb on the pharmacy refrigerator or put anything on the pharmacy refrigerator, otherwise it may fall over and cause personal injuries or damages to the pharmacy refrigerator.
- ⊘ Don't use the pharmacy refrigerator in the open air. When the pharmacy refrigerator is wet by rain, it may cause electric leakage or electric shock.
- ⊘ Pharmacy refrigerator should not be placed in damp places or places vulnerable to splashing water. Otherwise, electric leakage or electric shock will be caused due to insulation reduction.
- ⊘ Do not pour water directly on the pharmacy refrigerator, otherwise it may cause electric shock or short circuit.
- ⊘ Users are not allowed to disassemble, repair or modify the pharmacy refrigerator by themselves. Otherwise, it may cause fires or personal injuries due to improper operations.
- ⊘ Do not ground the pharmacy refrigerator through gas pipe, power supply pipe, telephone line or lightning rod. The above grounding may cause electric shock or other hazards.
- ⊘ Do not touch any electrical parts such as power plug or any switch with wet hands, otherwise electric shock may be caused.
- ⊘ Do not put containers or heavy objects containing water on the pharmacy refrigerator. If the object falls, it may cause personal injuries, and the outflow of water will reduce the insulation and cause leakage or electric shock.
- ⊘ Do not insert metal objects such as nails or wires into any openings and gaps of the pharmacy refrigerator or into any vent used for internal air circulation, otherwise electric shock or injury may be caused by the above objects contacting with moving parts.



Note

- ! There should be no obstruction around the pharmacy refrigerator and the ventilation should be smooth. It is necessary to check the pharmacy refrigerator setting when restarting the pharmacy refrigerator after power failure or power off.
- ! Changes in settings may damage stored items.
- ! Once the power of the pharmacy refrigerator is cut off, it will take more than five minutes to turn it on again to avoid damages to the compressor or system.
- ! Gloves should be worn during maintenance to avoid touching the sharp edges or corners and injuries to personnel.
- ! Hold the handle to close the door so that the door will not catch your fingers.
- ! When moving pharmacy refrigerators, the inclination angle should not be more than 45 degrees.
- ⊘ When transporting the pharmacy refrigerator, be careful not to trip over pharmacy refrigerator to prevent damages to pharmacy refrigerator or personal injuries.
- ⊘ Please do not use the door handle to lift or carry the device, in case of damages to the pharmacy refrigerator or personal injuries.
- ⊘ The refrigeration circuit must not be damaged.
- ⊘ Do not use electrical appliances in the storage room of pharmacy refrigerators except for those recommended by the manufacturer.

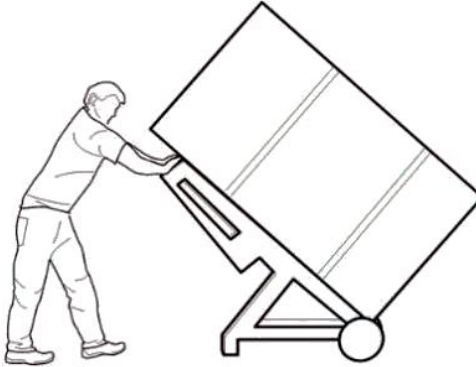
Precautions for use

- ★ Before putting items into the device, please make sure that the internal temperature in the cabinet has reached the set temperature, and then put the items into the pharmacy refrigerator in batches. The volume of the articles in the box should not exceed 1/4 of its volume at a time to prevent the temperature from rising too much.
- ★ The temperature display value of the device is to show the temperature at the temperature sensor in the storage room. There is a certain difference between the displayed temperature and the actual temperature at the center of the device when the device just starts. As the device enters a stable state, the displayed temperature will gradually reach the actual temperature.
- ★ The device box body is provided with a detection hole so as to lead out the test line in the box during the test. After the test line is led out, it is necessary to plug the test hole with insulating material again, otherwise the temperature in the box may not reach the set temperature value, and condensation will appear around the outside of the through hole.
- ★ Please use diluted neutral cleaner to clean the device. Do not use brushes, acid, gasoline, soap powder, polishing agent or hot water to clean the device, otherwise the painted surface and plastic rubber parts may be damaged. Attention: Do not use volatile solvents such as gasoline to clean plastic and rubber parts.
- ★ When the device is not in use for a long time, cut off the power supply and turn off the battery.
- ★ Each time you access the items, please try to reduce the time to open the door to avoid large fluctuations in temperature and humidity inside the box.
- ★ After the door is opened, the temperature inside the box will rise sharply in a short time. This is normal, and the situation will be restored within 1 hour after the door is closed.
- ★ Under high temperature and high humidity environment, glass door may condense, which is normal phenomenon and does not affect the storage temperature in the box.

Product installation

Product handling -----

1. Protect the pharmacy refrigerator when moving it, same as shown as below photo, please move it by handcart with cushion.
2. Remove all packing materials and bottom cushion, then move into position for placement.
3. After moving it to appropriate location, wait for 2 hours before powering on.



Installation environment -----

- ★ The pharmacy refrigerator is only for indoor use, with second pollution level and second type of over-voltage
- ★ ambient temperature tolerance is within 16°C-32°C, and recommended temperature is within 18°C-25°C. If necessary, air conditioning system should be used. Environmental humidity: lower than 80%Rh.
- ★ Avoid heavy dust.
- ★ Avoid mechanical sway or vibration.
- ★ The altitude of working position of refrigerator is lower than 2000m .
- ★ Input voltage: between 187v~242v
- ★ Ingress protection: PX0.
- ★ The pharmacy

As aforesaid, the pharmacy refrigerator can't operate normally. Please improve the environment before use.

- ★ It is prohibited to install the pharmacy refrigerator in an open environment. When the pharmacy refrigerator is wet by rain, it may cause electric leakage or electric shock.

Installation site-----

- ★ Do not install the device in a narrow and confined space and install it in a place that can ensure its normal access, to avoid damage to storage goods by maintenance difficulties and delayed repair in case of device failure.
- ★ The installation floor must be solid, flat, non-combustible and able to bear the weight of the device during operation.
- ★ Provide good ventilation and avoid direct sunlight.
- ★ Each device needs a separate power outlet, please ensure that the power outlet should withstand a current of ≥ 10 A. The plug and socket are firmly connected.
- ★ Check the working voltage before use. In areas with unstable voltage, a voltage stabilizer suitable for device load should be considered for voltage stabilization, and the power of the voltage stabilizer should be greater than 4000 W to ensure that the input voltage requirements in the installation environment can be met.
- ★ Device shall be reliably grounded. If the power cord socket is equipped with grounding wire, check whether the grounding is good before use. If the socket is not grounded, it must be installed by professional engineers and technicians.



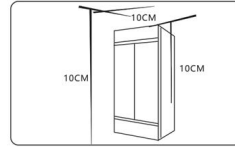
- ★ Do not ground the refrigerator through gas pipe, water supply pipe, telephone line or lightning rod, which may cause electric shock.
- ★ After installation, the power plug must be accessible, so that the power cord can be unplugged in time in case of emergency. Nothing should cover the vent of the refrigerator.



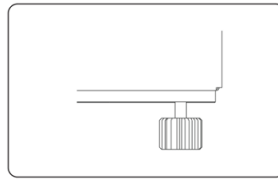
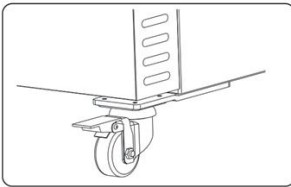
- ★ As the ambient temperature has a great impact on the device, if the above environmental requirements cannot be met, the device may not be able to operate normally. Please improve the environment before using the device; the device is an intermittent operation working system.
- ★ Ambient storage and transportation temperature: $-40^{\circ}\text{C}\sim+60^{\circ}\text{C}$, relative humidity: 10%~90%.

Preparation before use -----

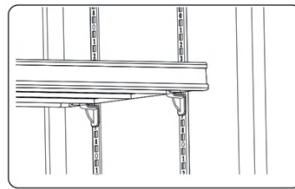
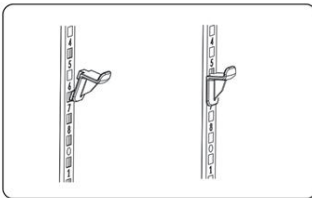
1. Remove the outer packaging of all products (including the protective foam in the packing box).
2. Check the accessories; please check the contents in the box according to the packing list. If there is any discrepancy, please contact the after-sales service immediately.
3. Placement conditions: a gap of at least 10 cm should be left around the pharmacy refrigerator to facilitate ventilation and heat dissipation.



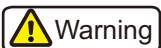
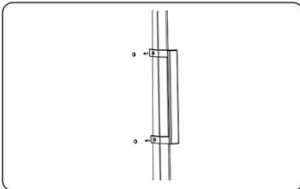
4. Lock the front casters, and adjust the adjustable feet (optional)
Please rotate the adjustable feet clockwise to extend it downward and make it firmly stand on floor, to ensure the pharmacy refrigerator stands steady in daily use.



5. Adjust the layers space to install shelves according to the actual needs.



6. Install door handle (optional).



Warning

- ★ Don't put the plastic bags in the place where children come into contact, so as to prevent suffocation accidents.



A special person shall be responsible for the operation of this product, and check and record it every day. If the temperature in the cabinet is too high or too low, the goods shall be transferred to other pharmacy refrigerator, and the goods shall not be stored again until the fault is eliminated.

This product is a pharmacy refrigerator, and the temperature in the pharmacy refrigerator ranges from 2°C to 8°C. Please make sure that the stored items are consistent with the environment in the pharmacy refrigerator, so as to avoid damage to the items and economic losses.

Due to the refrigeration inertia, the display temperature and humidity of this product are different from the actual temperature and humidity in the box, which is a normal phenomenon.

Please don't place items in the space between the bottom of the inner tank of the pharmacy refrigerator and the bottom shelf, so as not to block the air duct.



All pharmacy refrigerators are for preservation. Hence, it is strictly forbidden to put too many relatively hot items at one time, which will cause the compressor not to stop for a long time, the temperature drops slowly and affects the service life of the compressor. Items must be put in batches, and the temperature should be lowered step by step until it falls to the required temperature!

The refrigeration circuit shall not be damaged.

Unlicensed electrical appliances are not allowed to use inside the pharmacy refrigerator.

Initial start-up -----

Please observe the following rules when conducting initial start-up:

1. Under no-load condition, please connect the power plug to right plugboard, and the plugboard should not be shared with other appliances.
2. After turning on the power supply, turn on the battery switch of the device, check if the inner LED light works properly.
3. Set parameter of cabinet temperature, high(low) temperature alarm deviation, etc according to actual need. Default setting temperature is 5°C, high temperature alarm is 8°C and the low temperature alarm is 2°C, please refer to the operation instructions below for details.
4. "H1" alarm occurs at the initial operation stage, indicates the temperature in cabinet is high. The alarm will stop when the temperature in cabinet drops to the set temperature.
5. Observe equipment operation for more than 3 hours, ensure equipment runs stably, store items in cabinet in batches.

Operation after power failure -----

The device has the memory function for the set value. When the power is restored after the power failure, the device will continue the operation before the power failure.



Warning

- ★ Once the power of the refrigerator is cut off, it will take more than five minutes to turn it on again to avoid damages to the compressor or system.
- ★ When the refrigerator is not used for a long time, unplug the power plug and turn off the battery switch (applicable to battery items) to prevent electric shock, leakage or fire caused by aging of the power cord.
- ★ If the refrigerator is left idle for a long time in an unsupervised area, please ensure that children do not approach the refrigerator and the door cannot be completely closed.

Product Components and Overview

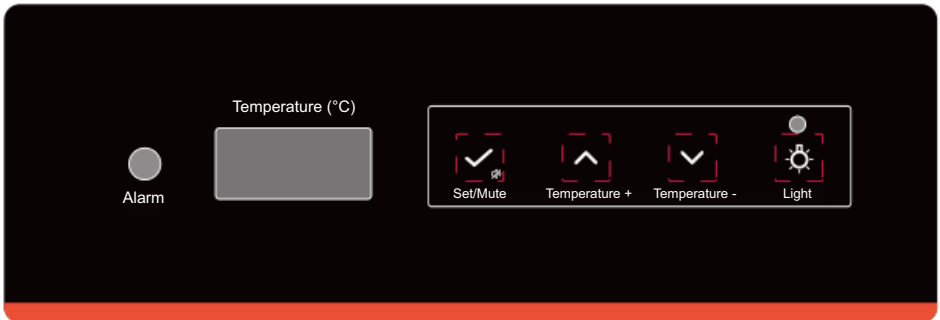


Schematic Diagram VS350

Due to the improvement of the product and different models, the actual product may be different from the diagram. Please refer to the actual product! The diagram is only for the description of functional parts.

Operating Instruction

Operation and display panel







Description of digital tube display

Under normal circumstances, the display board displays the actual temperature in the refrigerator;

During parameter setting, the display board flashes at an interval of 1 second to display the set temperature value;

When a fault occurs, the display board will display the fault code, and if there are multiple faults, the fault codes will be displayed alternately. If the complete machine status is abnormal, the red LED on the left side of the display board will be on, and the green LED will be on after the fault is removed.

Key symbol	
	Set/Mute multi-plex key
	Up key
	Down key
	Light switch

		Instruction	
		Short press	Long press (5s)
Single key	Set/Mute multiplex key	Enter/Exit the parameter setting	-
	Up key	Plus 0.1	-
	Down key	Reduce 0.1	-
	Light switch	Turn on/off the light	-
Combination key	Set/Mute + Up key	-	Lock, unlock

- Note: 1. When a fault alarm is generated, press any key to mute.
2. Short press: the key value takes effect when it is lifted; long press: the key value takes effect when it is kept pressed.
3. Press and hold the Up or Down key, and the temperature adjustment value can jump quickly.

In normal operation mode, the display board shows the temperature in the Pharmacy refrigerator chamber.

In the case of unlocking,

- 1) Press and hold the "SET" key for 3s, and the digital tube flashes (1s interval) and displays the "SET" parameter number, indicating entering the user menu;
- 2) Short press the "SET" key to display the parameter value;
- 3) Press the "UP" or "DOWN" key to amend the parameter value;
- 4) Short press the "SET" key to temporarily store the new value of the parameter, and display the parameter number again;
- 5) If it is necessary to amend other parameter values (see the parameter table below), press the "UP" or "DOWN" key to switch other parameter numbers and repeat step 2-4;
- 6) Press and hold the "SET" key for 5s to exit the user menu and save the amended parameter values.

User parameter table

Parameter number	Description	Scope	Note
SEt	Set the temperature of Pharmacy refrigerator chamber	2-8 °C	Default 5.0°C
H1	High temperature alarm value	0.0~10.0 °C 0.0 Cancel the alarm	Default 3.0
L1	Low temperature alarm value	0.0~10.0 °C 0.0 Cancel the alarm	Default 3.0

The set temperature range of the Pharmacy refrigerator chamber is 2-8°C. When the set range exceeds the limit, a "beep" prompt tone will be generated.

Note: 1. When the parameter number is displayed in the user menu, press the "UP" or "DOWN" key to display the parameter number circularly.

For example: press the "DOWN" key to display "SEt -> H1 -> L1 -> SEt" the parameter numbers in sequence, and press the "UP" key to cycle in the reverse direction.

2. Under the user menu, if there is no key operation within 10s, the user menu is automatically exited and the amended parameter values are saved.

2. Door switch function

When the door switch is opened and lasts for more than 1 minute, the door opening alarm will be prompted. At this time, the buzzer will buzz at an interval of 1 second/time, and the display board will display the "do" code. When the door switch is closed, the fault will be removed and the buzzer and the display of fault code will be canceled.

Note: Press any key to mute, and the fault code will still be displayed.

3. Lighting function

Short press the "Light on/off" key to turn on the "Light" indicator light of the display and control board and the lighting light of the refrigerator compartment; then short press the "Light on/off" key to turn off the "Light" indicator light of the display and control board and the lighting light of the refrigerator compartment.

Note: The lighting function is independent and is not affected by key lock and temperature sensor fault.

4. Alarm description

In case of sensor failure, communication failure, high and low temperature alarm or door switch alarm in the refrigerator chamber, the display board will display the fault code, and the buzzer will "beep" at an interval of 1 second. Press any key to mute, but the fault code will not disappear until the fault is removed. The fault code and description are shown in the following table:

S/N	Alarm code	Alarm description
1	H1	Alarm for high temperature inside the refrigerator
2	L1	Alarm for low temperature inside the refrigerator
3	do	Door opening alarm
4	E1	Fault alarm of control sensor
5	E2	Fault alarm of display temperature sensor
6	E4	Fault alarm of defrosting sensor
7	E5	Fault alarm of ambient temperature sensor
8	E6	Communication fault alarm

Note: If the alarm cannot be recovered, please call the after-sales.

Tips: There are differences in the product function configuration. Please refer to the actual configuration.

5. Key lock/unlock

Press and hold the combination keys "Set/Mute" and "Up key" simultaneously for 5 seconds. After the buzzer "beeps" once, the keys will be unlocked or locked.

When the key is locked, the buzzer will beep.

When the key is unlocked, the key will be locked automatically without key operation for 30 seconds (except the light key).

Maintenance and care

Warning

- ★ To prevent electric shock or personal injuries, please make sure that power is disconnected before having any repairs or maintenance on the device.
- ★ When maintaining the device, make sure that you do not inhale surrounding medications or suspended particles that could damage your health.

Note

- ★ Do not directly sprinkle water on the box, so as to avoid the decline of insulation performance of electrical components and rust of metal parts.
- ★ Do not use hot water, corrosive detergent or organic solvent to clean the cabinet.
 - Do not put heavy objects on the top of the device to avoid deformation of the device under pressure.

Device maintenance

Defrosting: The device will automatically defrost during the working process, which is convenient to use.

Cleaning and maintenance:

The device shall be cleaned once a month. Regular cleanings can keep the pharmacy refrigerator fresh.

Use a dry cloth to wipe off a small amount of dust outside and inside of the pharmacy refrigerator as well as that on all accessories. If the pharmacy refrigerator is dirty, use a cleaning cloth soaked with neutral detergent to remove the dirt, wipe off the residual detergent with a wet cloth, and then wipe it again with a dry cloth.

Do not dump water on the shell of the pharmacy refrigerator or inside the pharmacy refrigerator, otherwise the insulation of electrical appliances may be damaged and faults may occur.

The compressor and other mechanical parts are completely sealed without lubrication.

Device deactivation

Deactivation: If the device is stored in an unsupervised area for a long time and is not used, the power supply should be cut off and the inner and outer surfaces of the box should be wiped clean with a warm and wet soft cloth, and then dried and sealed; It is necessary to ensure that the device is locked, and that children cannot open the door to prevent accidents such as suffocation.

End-of-life period: When the device reaches the end of its service life, it should be scrapped and must be handed over to qualified professional recycling organizations for scrapping and disposal in accordance with local regulations and ordinances; non-professionals should not disassemble or decompose the device without authorization; Scrapped device should be placed in designated areas that are inaccessible to children to avoid danger.

Specifications

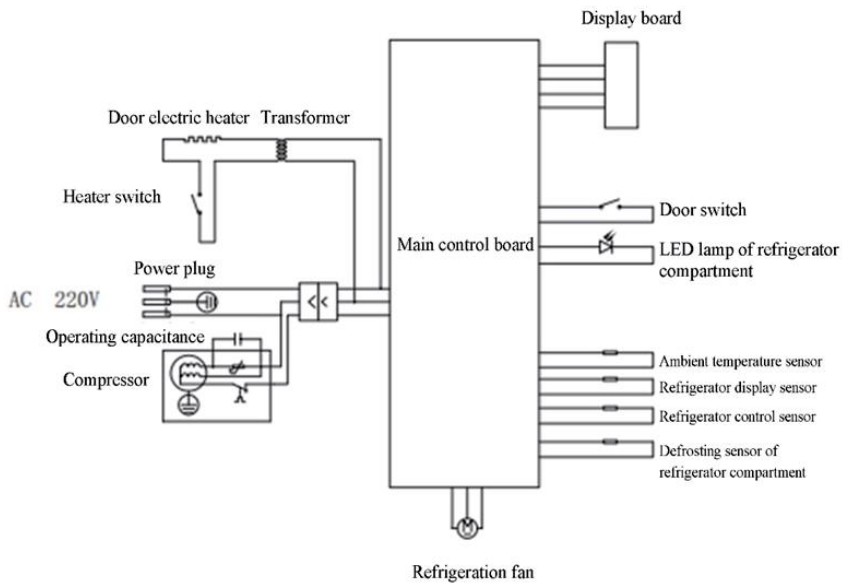
Name	Pharmacy Refrigerator
Model number	VS350
External Dimensions(wxdxh)(mm)	595*603*1920
Internal Dimensions(wxdxh)(mm)	500*464*1343
Fridge Storage Volume	316L
Door body	Transparent glass door/Frameless glass door
Foaming Agent	Cyclopentane
Shelf	5 plastic-dipping steel wire shelves
Cooling Type	Forced air cooling
External Material/Inner Material	Spraying steel plate/HIPS plate
Condenser/Evaporator	Micro-channel/Fin
Controller	Microprocessor
Refrigerant, Amount(g)	R600a,36g
Light	LED light
Net weight	68kg
Rated Supply Voltage	220-240V~/50Hz
Rated Power/Current	190W/1.0A
Protection Against Electric Shock	I
Power connection mode	Y
Pollution Degree	(2)
Over voltage category	II
Sound Level (dB)	≤ 45dB
Battery	12V1.3A/20HR

Packing list

Model number	Instruction	Key	Accessory bag	Steel wire shelf with installation buckles	Price list
MC-5L316B	1	2	1	5	5

*The warranty card and certificate are included in the instruction and the specific packing list shall prevail in accordance with the real product.

Electrical schematic diagram



Operating capacitance is optional, depending on compressor selection

Electrical schematic diagram of VS350

