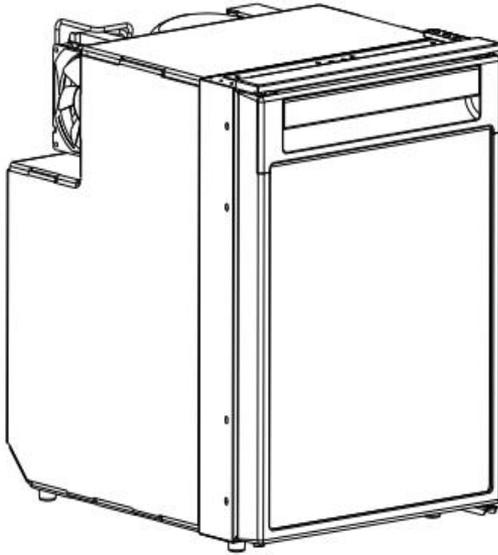


# **RV/YACHT DC FRIDGE**

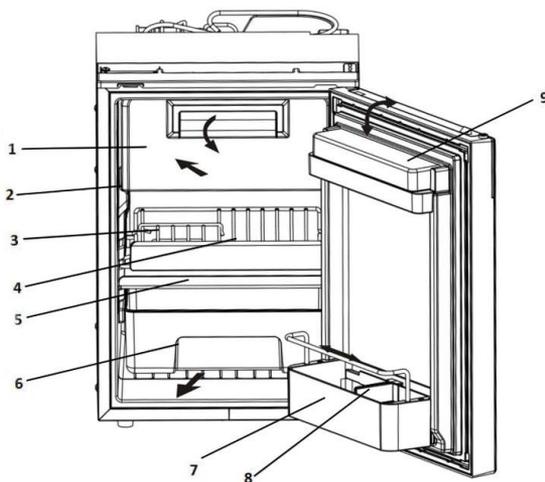
## **OPERATION MANUAL**



**QN37R/50R/QN85R**

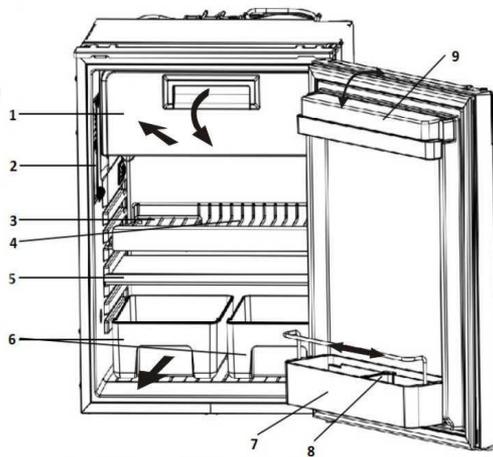
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QN37R,QN50R



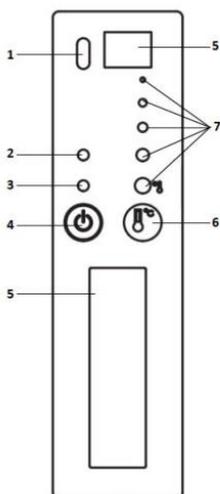
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QN85R

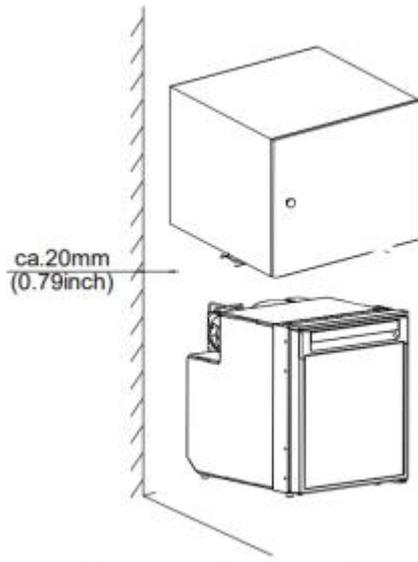
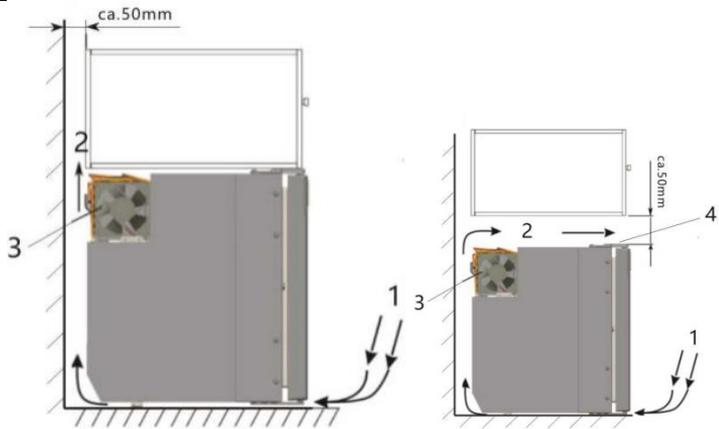


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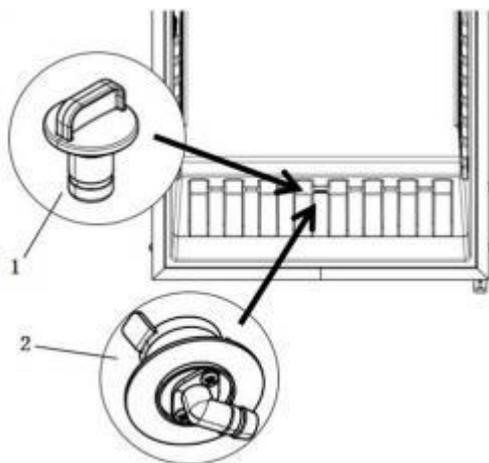
QN37R,QN50R,QN85R



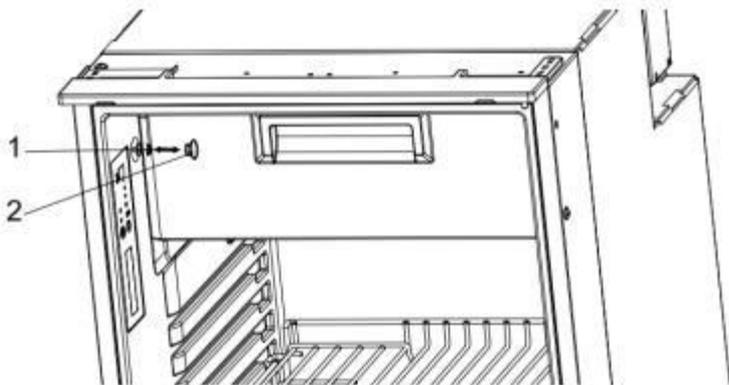
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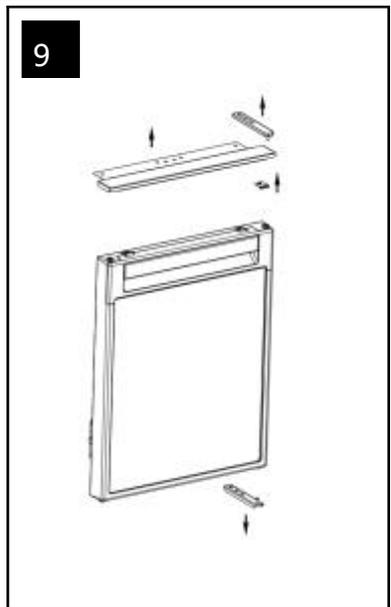
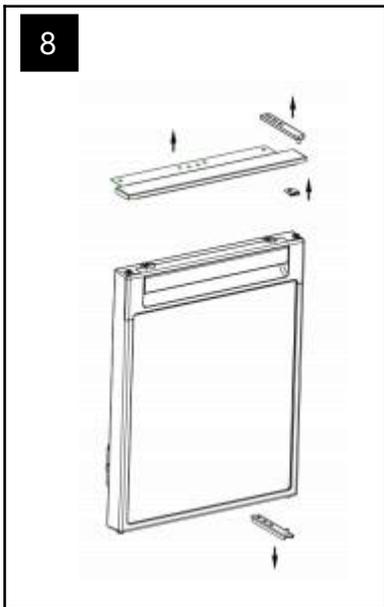
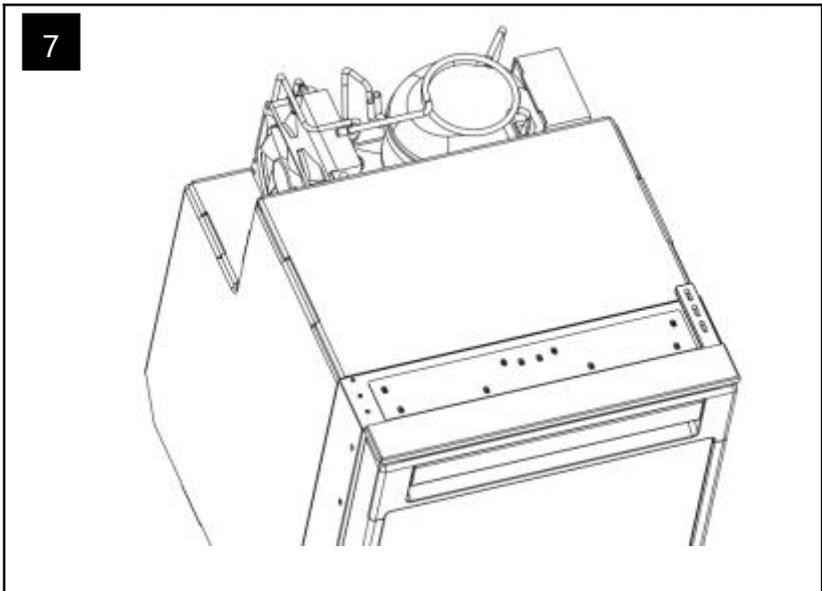


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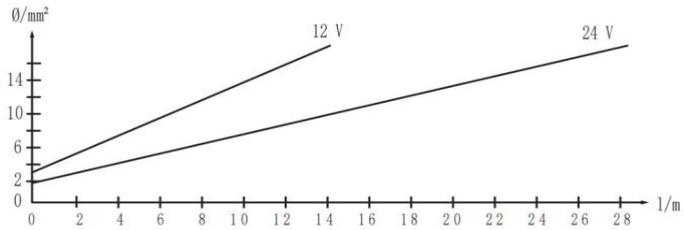


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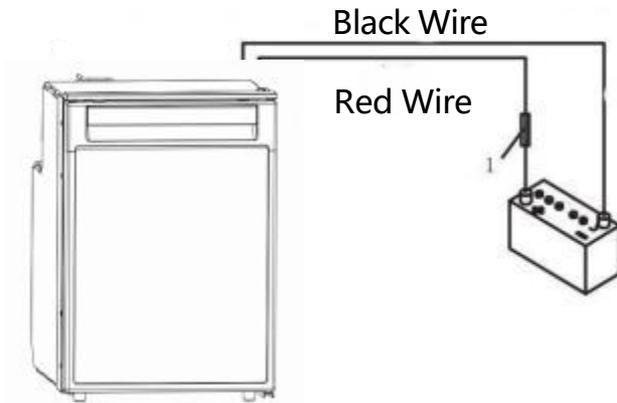




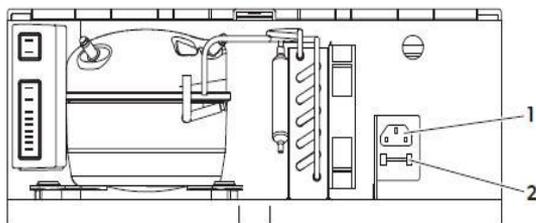
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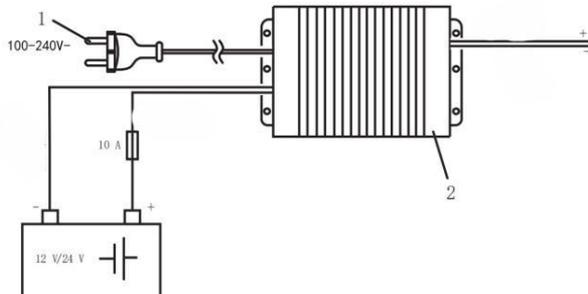
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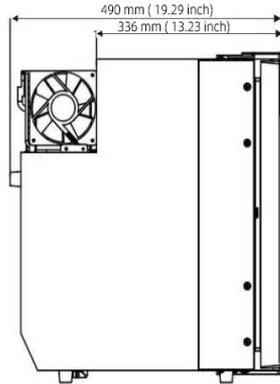
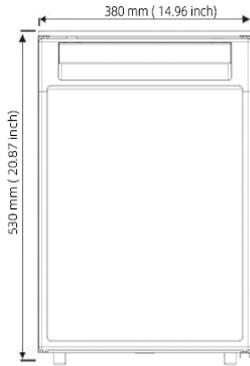


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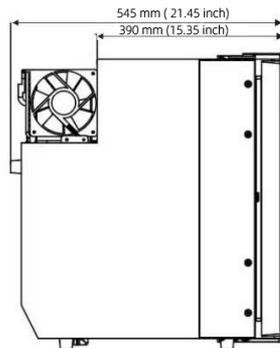
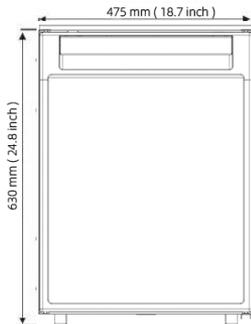
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QN37R, QN50R



15

QN85R



For your safe and convenient use and reasonable maintenance of this product, please Read this manual carefully before use and keep it properly for inspection.

## Manual

1.Attention .....	12
2.Safety instructions .....	13
2.1 General safety instructions .....	13
2.2 Safe operation of refrigerator .....	17
3.Intended use .....	20
4.Technical Instruction .....	20

4.1 Control elements .....	21
4.2 Control element.....	23
5. installation and connection.....	23
5.1 Installation of safety instructions on board.....	24
5.2 Installation Instructions .....	25
5.3 Install the drain joint (Option) .....	26
5.4 Fridge Installation.....	27
5.5 Change door hinge .....	28
5.6 Connection to DC Power.....	28
5.7 Connection to AC Power.....	30
6.Fridge Operation .....	31
6.1 Energy saving.....	33
6.2 Fridge Turn On... ..	34
6.3 Temperature Setting.....	34

6.4 Foodstorage.....	35
6.5 Turn OFF and Fridge preservation .....	37
7.Cleaning and maintenance .....	38
8.Troubleshooting .....	40
9.Technical Data .....	45

# 1 . Attention



Dangerous!

Safety note: failure to comply with this instruction will result in death or serious injury.



Warning!

Safety note: failure to comply with this warning can result in injury.



Cautious!

Safety note: failure to comply with this instruction may result in property damage and damage harm the function of the product.



Be Careful!

Failure to comply with this instruction may result in product damage.



Note!  
Additional instructions for product operation.

## 2 . Safety instructions

The company is not responsible for the safety accidents caused by the following operations:

- Wrong assembly or connection
- Damage to products caused by mechanical influence and over voltage
- Make changes to the product without the manufacturer's express permission
- Use for purposes other than those specified in the operation manual

### 2.1 General safety instructions



Dangerous!

- When installing on board: if the refrigerator is powered by power supply, make sure that the power supply has a residual current circuit breaker.



## Warning!

- In a humid room, it must be done by professional technicians Install.
- Do not operate the refrigerator if there is obvious damage.
- If the power cord of the refrigerator is damaged and needs to be replaced, it must be made by the manufacturer.
- This equipment can only be maintained by professional personnel, otherwise it may cause serious danger.
- Children aged 8 and above, people with physiological, sensory or mental reasons or lack of experience or knowledge can use the refrigerator if they have been supervised, or have been taught to use the refrigerator safely or are aware of the risks.

- Children are not allowed to clean and maintain this product without adult supervision.
- The device should be kept out of reach of children under 8 years old.
- Do not store any explosive materials, such as spray tank propellant.



Be careful!

- Be careful of crushing! Do not put your fingers in the hinge.
- Food can only be stored in the original packaging or suitable containers.



Attention!

- Check whether the voltage specification on the nameplate matches the power supply.
- Do not pull the plug out of the socket by pulling the connecting wire.

- If the refrigerator is connected to a DC outlet: disconnect the refrigerator power or battery before connecting the fast charging device.
- If the refrigerator is connected to a DC outlet: when you turn off the engine, turn off the power or switch. Otherwise, the battery will discharge.
- Refrigerators are not suitable for storing corrosive substances or solvents containing corrosive properties.
- Keep the drain outlet clean at all times.
- Do not open the refrigerant circuit under any circumstances.
- Do not move the equipment horizontally to avoid oil leakage from the compressor.
- Make sure that the refrigerant circuit of the refrigerator is not damaged during transportation. The refrigerant in the refrigeration system of refrigerator is flammable at high temperature.
- In case of any damage to the refrigerant circuit:

—Avoid open flames and sparks.

—Ventilate the room.

- Keep the refrigerator in a dry place to prevent moisture.

## 2.2 Safe operation of refrigerator



Dangerous!

- Do not touch exposed cables with bare hands. Especially when the refrigerator works under AC power.



Attention!

- Make sure the power line and plug are dry before starting the device.
- If you connect the device to the battery, make sure the food is not in contact with the battery acid.



### Attention!

- Do not use electrical devices inside the refrigerator unless they are recommended by the manufacturer for this purpose.
- Do not place it near open fire or other heat sources ((heater, direct sunlight, gas stove, etc.)
- Danger of overheating!
- Always ensure adequate ventilation so that the heat generated can be dissipated. Make sure the equipment is far enough away from walls and other objects to allow air circulation.
- Make sure the vents are not covered.
- Do not fill the pack with ice or liquid.
- Don't immerse the refrigerator in water.
- Protect appliances and cables from heat and moisture.
- Make sure the food does not touch any wall of the cooling zone.

# 3 . Technical Instruction

This product can cool the product and keep it cool.  
The product can be deep frozen in the freezer.

All materials used in refrigerators are food grade.  
Maintenance free refrigerant circuit.

When the maximum inclination angle of the ship is  
30 degrees, the refrigerator can also work normally.

The temperature in the refrigerator is set by the  
control panel on the left side of the refrigerator.

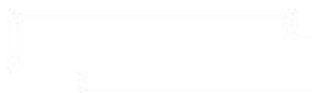
QN37R,Q50R,QN85R

Five temperature ranges from  
+ 5 ° C to + 15 ° C can be selected.

## 4.1 Control elements in refrigerator

The internal structure of the refrigerator is shown in the figure below

- QN37R, QN50R: Photo 1 , Page 1
- QN85R: Photo 2 , Page 1



Item	Instruction
1	Freezer (detachable)

2	control panel
3	Small grid (detachable, can be put into the refrigerator)
4	Big grid (detachable, can be put into the refrigerator)
5	Moving partition
6	Fruit basin
7	Storage box
8	Bottle stopper (fixing bottle in door)
9	Egg box with lid (movable)

## 4.2 Control element

Photo 3 (Page 2) Number Description	
Item	Instruction
1	IR sensor for switching interior lights
2	Fault indicator

3	LED Blue: compressor running LED Orange: compressor off
4	On / off button
5	Interior lighting
6	Temperature selection button
7	LED:Temperature range

## 5 .Refrigerator installation and connection

### 5.1 Installation of safety instructions on board

Please pay attention to the following instructions when installing on board:



**Dangerous!**

If the refrigerator uses AC power supply, please ensure that the power supply voltage is equipped with leakage breaker.



### Attention!

- The maximum tilt angle of refrigerator is 30 degrees. When installing the refrigerator, be sure to fix it firmly.
- If you have any questions about the installation, please consult your dealer.
- Install the refrigerator in a suitable position to ensure that the hot air generated can be released quickly (from the top or both sides of the refrigerator).
- The ambient temperature of refrigerator is + 16 ° C to + 43 ° C.

## 5.2 Installation instructions

Pay attention to the following items when installing the refrigerator:

Install the refrigerator in a suitable position to ensure that the generated hot air can be released quickly (from the top or both sides of the refrigerator, as shown in [Figure 4](#), page 3)

Item	Instruction
1	Cold air inlet
2	Hot air outlet
3	Condenser
4	Keep the space above the refrigerator so that it can circulate air through the top or both sides when there is not enough air

Product Dimension: (W\*H\*D)

QN37R: 380\*539\*400mm QN50R:

380\*530\*490mm QN85R:

475\*630\*545mm Installation

Dimension: (W\*H\*D) QN37R:

390\*540\*450mm QN50R:

390\*540\*540mm QN85R:

485\*640\*595mm

- When the refrigerator is installed indoors or in the installation structure, keep the ventilation channel unobstructed (such as ventilation trough, etc.)
- Under normal circumstances, the use of the refrigerator will produce condensate. You can wipe the condensate on the bottom of the refrigerator regularly, or drain it through an outlet on the bottom of the refrigerator (see "installing drain connection (optional)" (page 10)).

### 5.3 Install drain connection (optional)

- Connect a 10 mm inner diameter hose (not included in the delivery list) to the drain outlet.
- Put the refrigerator on the side so that it can approach the bottom.
- Install the drain joint in the required direction. (see Figure 6)
- Pull out the drain plug in the refrigerator. (see Figure 6)

## 5.4 Refrigerator Installation

Follow below steps to install the refrigerator:

- If you want to drain condensate through a hose:
  - As "installing drain joint (optional)" for installation of drain joint.
- Open the refrigerator door.
- Remove the screw plug. (see Figure 7, page 4)
- Push the refrigerator into the groove.
- Fix the refrigerator with suitable screws (Fig. 7, page 4).
- Press the screw plug (Fig. 7, page 4) into the opening.

## 5.5 Change door hinge

You can change the door hinge so that it opens from the left, not necessarily the right.

- Change the hinge according to figure 8-9, page 5.

## 5.6 Connect the refrigerator to a DC power supply



### Attention!

In order to avoid voltage drop and performance loss, please use shorter cables and avoid crossing. So avoid extra switches, plugs or power bars.

Before connecting the fast charging device, disconnect the refrigerator and other electrical loads from the battery. Over voltage will damage the electronic components of the device.

The refrigerator can be powered by 12V or 24V DC.

For safety, the refrigerator is also equipped with an electronic system to prevent polarity reversal. The device of refrigerator can protect the battery from polarity reversal and short circuit.

If the voltage is insufficient, the refrigerator will automatically shut down in order to protect the battery (see the table below).

	12V	24V
--	-----	-----

OFF	10.4V	22.8V
Start-up	11.7V	24.2V

➤ Determine the required cable section and cable length according to figure 10, page 6.

Axis	Meaning	unit
L	Cable length	m
$\varphi$	Cable section	mm <sup>2</sup>



## Attention!

Make sure the polarity is correct.

➤ Before starting the equipment for the first time, check whether the working voltage of the refrigerator matches the battery voltage (see the nameplate).

➤ The refrigerator is connected to a socket with at least 15 A (12 V) or 7.5 a (24 V) fuse protection. (see Figure 11, page 6)

➤ The red cable (Figure 11, page 6) connects to the positive pole of the battery.

- The black cable (as shown in **Figure 11**, page 6) connects to the negative pole of the battery.

## 5.7 Refrigerator connected to AC voltage



**Danger! Fatal danger!**

- If the refrigerator with AC power interface is operated on board, you must install a leakage circuit breaker between the AC power supply and the refrigerator. Specific operation content can consult relevant professionals.

### **QN35RACDA, QN50RACDC, QN85RACDC**

When you connect the refrigerator to AC power supply, please follow the following steps:

- Connect the plug to the AC power socket (as shown in **Figure 12-1**, page 7).

### **QN35RACDC, QN50RACDC, QN85RACDC**

With the adapter (accessory), the refrigerator can work at AC voltage of 100 to 240V.

When the refrigerator is connected to AC voltage, please follow the following methods:

- Place the adapter on the back of the refrigerator.
- As shown in Figure 13, page 7, connect the adapter.
- The refrigerator is connected to the adapter (as shown in Figure 13, page 7): red cable: positive battery; black cable: negative battery
- Plug the connector into the AC power socket (as shown in Figure 13, page 7).

## 6 . Refrigerator Use

Refrigerators keep fresh food. Frozen food and frozen fresh food are stored in the freezer.



### Attention!

- Do not place any electrical appliances in the refrigerator except those approved by the manufacturer.
- Make sure that the food or liquid in the glass container is not over frozen. The liquid will expand when it is frozen, so it may damage the glass container

- It is best to store the food in its original package or in a suitable container.

Make sure that the temperature you choose is suitable for the temperature of the object you put in.



#### Attention!

- Before starting the refrigerator for the first time, for the sake of hygiene, wipe the inside and outside of the refrigerator with a wet cloth (please also refer to page 16 of "cleaning and maintenance").
- Do not press the freezer flap hard.
- If there is ice in the freezer, do not pull out the partition.
- When operating the refrigerator, do not tear off the operating panel sticker.

## 6.1 Energy saving skills

- Place the refrigerator in a well ventilated place away from direct sunlight.
- Let the hot food cool before putting it in the refrigerator.
- Don't open the refrigerator frequently. If the refrigerator door is open for more than 5 minutes, the lights in the refrigerator start to flash.
- Don't leave the refrigerator door open for a long time unless necessary.
- Defrost the refrigerator as soon as possible if it freezes.
- Avoid unnecessary low temperature settings.
- Clean the dust and dirt on the condenser regularly.

## 6.2 Refrigerator on

- Start the machine by the switch button on the refrigerator



**Attention!**

After opening, the refrigerator compressor needs a period of time to start.

## 6.3 Temperature Setting

➤ Press the temperature selection button to set the temperature to one of the five gears between "cold" and "very cold". The number of LED on the temperature selection button can display the temperature range:

➤ Press the temperature selection button again to shift from gear 5 to gear 1.



Attention!

The cooling performance is affected by the following factors:

- Ambient temperature
- Quantity of food store
- How often do you open the door

If the ambient temperature is between 16 ° C and 20 ° C, the refrigerator should be set at least two gears.

## 6.4 Preserving food



Attention!

- Don't put hot food in the refrigerator.
- Do not put the glass container containing liquid into the cold room of refrigerator.



Attention!

Foods that are easy to give off taste and smell, and liquid products with high alcohol content should be sealed.

The shelf life of food stored in the refrigerator is usually indicated on the package.

The refrigerator is divided into different areas with different temperatures

- The cooler area is just above the fruit and vegetable drawer, near the back wall.
- Observe the shelf life and storage temperature of food package.

- Pay attention to the following when using the refrigerator:

Do not thaw products that have begun thawing or thawed; eat them as soon as possible. Wrapping food in aluminum foil or plastic wrap and putting it in an airtight can helps preserve the taste, shape and freshness of the food.

## 6.5 Refrigerator defrosting



### **Attention!**

Do not use mechanical tools or remove all parts of the equipment to remove ice. Unless it is a tool provided or approved by the manufacturer.

Please defrost the refrigerator as follows:

- Empty the inside of the refrigerator.

- If necessary, place them in another cooling unit to cool.
- Press the button until the refrigerator is closed.
- Close the refrigerator door correctly.

## 6.6 Shut down and store refrigerator

If you plan not to use the refrigerator for a long time, please follow the steps below:

- Press the switch button until the refrigerator is closed.
- Disconnect the power supply.
- Clean the refrigerator.
- Opening the door can prevent the refrigerator from generating odor inside.



## 7. Cleaning and maintenance

### Attention!

- Do not use abrasive detergent or hard objects in the cleaning process to avoid damaging the refrigerator.
- Do not use hard or sharp tools for defrosting.

- Only when the power supply is disconnected can the equipment be cleaned.
- Clean the refrigerator regularly with a wet rag.
- When cleaning, make sure that water drops do not enter the seal to avoid damage to electronic components.
- After cleaning the refrigerator, wipe it with a dry towel.
- Clean the condenser regularly to prevent ash accumulation.

# 9 . Troubleshooting

## Red light indication

The red light flashes several times to indicate the error information in the refrigerator operation, and the number of flashes depends on the type of fault. Each flash lasts for a quarter of a second. There is a pause after a series of flashes, as shown in the table below. The fault flashes repeatedly every four seconds in sequence.

Flash times	Possible causes	Solution
1	Line voltage	The power supply voltage is out of the set range.
2	Fan over current	The current in the fan load circuit exceeds 1A.

3	Compressor does not start	The differential pressure in the cooling system is too high (> 5 bar).
4	The speed is too low	If the cooling system is overloaded, the motor cannot maintain a minimum speed of 1850 rpm.
5	The circuit is overheated	If the cooling system is overloaded or the temperature is set too high, the circuit will overheat
	NTC Error	NTC with problem

### Compressor not running (battery connected)

Problem	Possible Cause	Solution
U <sub>KL</sub> = 0V	The connection between the battery and the circuit is broken	Reconnecting
	Main switch fault (if installed)	Replace the main switch

	Additional supply line fuse blown (if installed)	Replace the power supply line fuse
$U_{KL} \leq U_{ON}$	Low battery voltage	Charge the battery
Try to start $U_{KL}$ $\leq U_{OFF}$	Loose wire, poor contact	Reconnecting
	Low battery capacity	Change the Battery
	Wire cross section too small	Replace the wire (as shown in Figure 11)
Try to start $U_{KL}$ $\geq U_{ON}$	The ambient temp is too high	
	Poor ventilation	Move the refrigerator to a well ventilated place
	The condenser is dirty	Clean Condenser
Compressor Pin disconnected	Compressor Problem	Change the compressor

$U_{KL}$  Circuit positive terminal and negative terminal voltage

$U_{ON}$  Circuit starting voltage

$U_{OFF}$  Circuit break voltage

**Compressor not running (connected to AC power supply)**

Problem	Possible Cause	Solution
No Voltage	The power cord is disconnected	Re-connect
	Main switch fault (if installed)	Replace the main switch
	Additional supply line fuse blown (if installed)	Replace the power supply line fuse
There is voltage, but the compressor is not running	The ambient temperature is too high	--
	Poor ventilation	Move the refrigerator to a well ventilated place
	The condenser is dirty	Clean Condenser

Compressor Pin disconnected	Compressor Problem	Change the Compressor
-----------------------------	--------------------	-----------------------

The cooling effect is poor and the internal temperature rises

Problem	Cause Possible	Solution
Long time/ continuous operation of compressor	The ambient temp is too high	
	Poor ventilation	Move the refrigerator to a well ventilated place
	The condenser is dirty	Clean Condenser
	Fan with problem	Change the Fan
Abnormal operation of compressor	Low battery voltage	Battery charging

### Special sound

Problem	Possible Cause	Solution
---------	----------------	----------

With Noise	A part of the refrigeration system cannot move freely (near the wall)	Remove the part carefully
	There's a foreign object stuck between the cooler and the wall	Take out the foreign matter
	Fan Noise	

## 10. Technical Parameter

	QN37R	QN50R	QN85R
AC/DC:	QN37RACDC	QN50RACDC	QN85RACDC
DC:	QN37RDC	QN50RDC	QN85RDC
Net volume of refrigerator:	32L	40L	70L
Net volume of freezer:	3L	6L	8L
Net Volume:	35L	46L	78L

Voltage:	DC12/24V		
	AC100-240V		
Power Consumption(AC):	40W	40W	48W
Rated Current			
12 V:	5.0A	5.0A	5.6A
24 V:	2.6A	2.6A	2.8A
100 V:	1.1A	1.1A	1.22A
240 V:	0.54A	0.54A	0.6A
<b>Tem Range</b>			
Fridge:	-5°C~+15°C		
Freezer:	-18°C		
Climate type:	N or T		
relative humidity:	Max 90%		
Inclination:	Max 30°		
Maximum pressure:	LP 11bar/HP 25 bar		

Foaming agent :	C <sub>5</sub> H <sub>10</sub>		
Cryogen:	R134a/R1234YF		
Refrigerant consumption:	36g	36g	40g
Size mm (W*H*D):	Fig14 , Pag 8	Fig14 , Pag 8	Fig 15 , Pag 8
Weight:	14kg	17kg	21kg
Inspection:			

