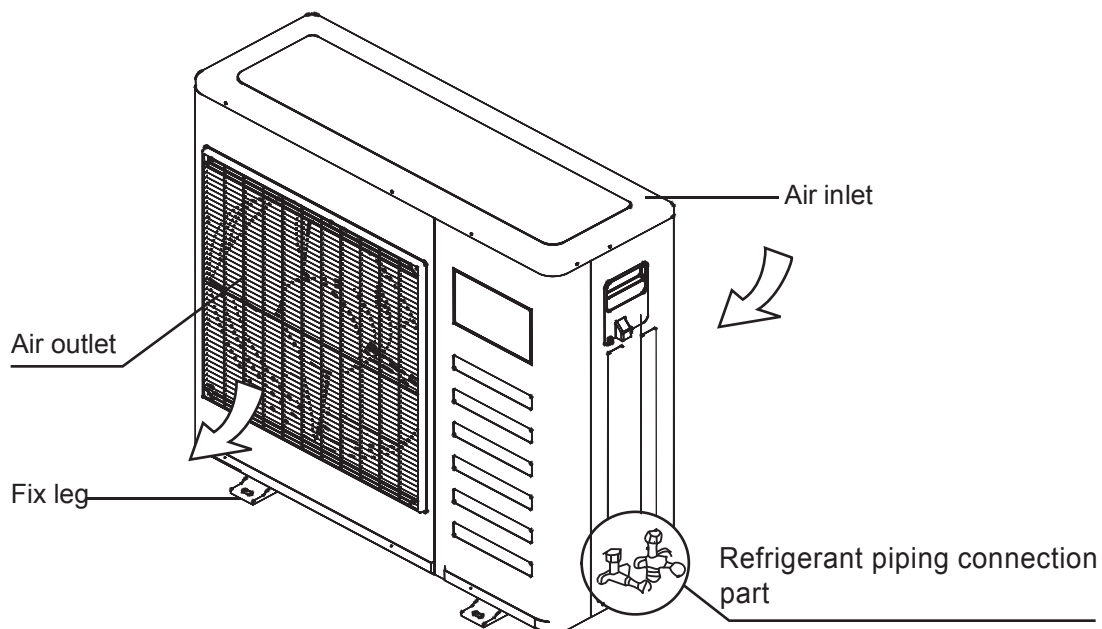


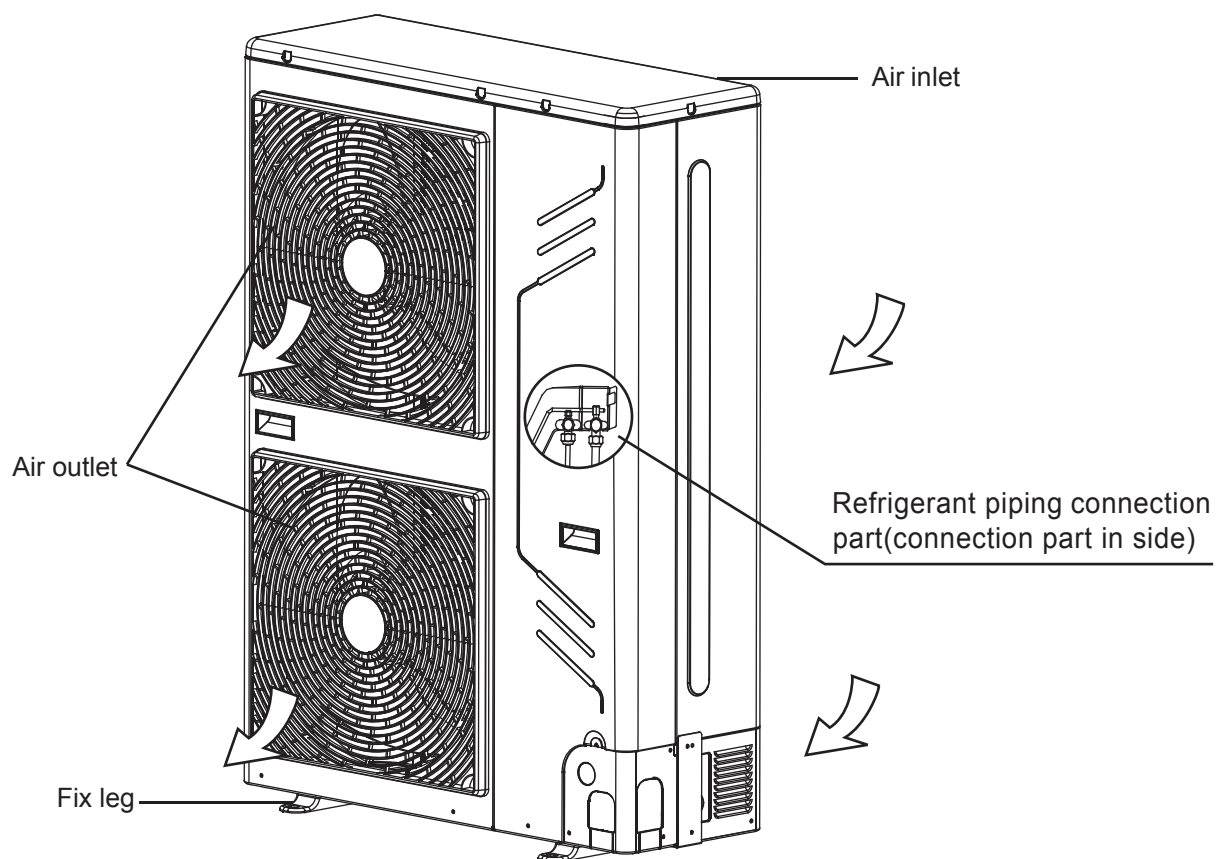
# OWNER'S MANUAL

*DC INVERTER*

Thank you very much for purchasing our product.  
Before using your unit, please read this manual carefully and keep it for future reference.



LRSJF-V80/N1-310-B



LRSJF-V120/SN1-610  
LRSJF-V140/SN1-610



#### NOTE

All the pictures in this manual are for explanation purpose only. They may be slightly different from the heat pump you purchased(depend on model). The actual shape shall prevail.




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## 1. IMPORTANT SAFETY INFORMATION

To prevent injury to the user or other people and property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

	<b>CAUTION</b>	You may be injured if you don't obey instructions.
	<b>WARNING</b>	You may be killed or seriously injured if you don't obey instructions.
	<b>DANGER</b>	You may be killed or seriously injured immediately if you don't obey instructions.



### WARNING

- Ask your dealer for installation of the heat pump. Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.
- Ask your dealer for improvement, repair, and maintenance. Incomplete improvement, repair, and maintenance may result in a water leakage, electric shock, and fire.
- In order to avoid electric shock, fire or injury, or if you detect any abnormality such as smell of fire, turn off the power supply and call your dealer for instructions.
- Never let the indoor unit or the remote controller get wet. It may cause an electric shock or a fire.
- Never press the button of the remote controller with a hard, pointed object. The remote controller may be damaged.
- Never replace a fuse with that of wrong rated current or other wires when a fuse blows out.

- Use of wire or copper wire may cause the unit to break down or cause a fire.
- It is not good for your health to expose your body to the air flow for a long time.
- Do not insert fingers, rods or other objects into the air inlet or outlet. When the fan is rotating at high speed, it will cause injury.
- Never use a flammable spray such as hair spray, lacquer or paint near the unit. It may cause a fire.
- Never touch the air outlet or the horizontal blades while the swing flap is in operation. Fingers may become caught or the unit may break down.
- Never put any objects into the air inlet or outlet. Objects touching the fan at high speed can be dangerous.
- Never inspect or service the unit by yourself. Ask a qualified service person to perform this work.
- Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary. Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.
- Contact you local government for information regarding the connection systems available.



- If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.
- To prevent refrigerant leak, contact your dealer. When the system is installed and runs in a small room, it is required to keep the concentration of the refrigerant, if by any chance coming out, below the limit. Otherwise, oxygen in the room may be affected, resulting in a serious accident.
- The refrigerant in the heat pump is safe and normally does not leak. If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in a harmful gas.
- Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit. Do not use the heat pump until a service person confirms that the portion where the refrigerant leaks is repaired.
- Change the electric heating belt of the chassis every two years, for avoiding the aging of the electric heating belt will cause the abnormal operation of the belt, even cause electric leakage.



### CAUTION

- Do not use the heat pump for other purposes. In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art.
- Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord. Otherwise, an electric shock and injury may result.
- In order to avoid electric shock or fire, make sure that an earth leak detector is installed.
- Be sure the heat pump is grounded. In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning conductor or telephone earth wire.

- In order to avoid injury, do not remove the fan guard of the outdoor unit.
- Do not operate the heat pump with a wet hand. An electric shock may happen.
- Do not touch the heat exchanger fins. These fins are sharp and could result in cutting injuries.
- Do not place items which might be damaged by moisture under the indoor unit. Condensation may form if the humidity is above 80%, the drain outlet is blocked or the filter is polluted.
- After a long use, check the unit stand and fitting for damage. If damaged, the unit may fall and result in injury.
- To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the heat pump.
- Arrange the drain hose to ensure smooth drainage. Incomplete drainage may cause wetting of the building, furniture etc.
- Never touch the internal parts of the controller. Do not remove the front panel. Some parts inside are dangerous to touch, and a machine trouble may happen.
- Never expose little children, plants or animals directly to the air flow. Adverse influence to little children, animals and plants may result.
- Do not allow a child to mount on the outdoor unit or avoid placing any object on it. Falling or tumbling may result in injury.
- Do not operate the heat pump when using a room fumigation - type insecticide. Failure to observe could cause the chemicals to become deposited in the unit, which could endanger the health of those who are hypersensitive to chemicals.
- Do not place appliances which produce open fire in places exposed to the air flow from the unit or under the indoor unit. It may cause incomplete combustion or deformation of the unit due to the heat.
- Do not install the heat pump at any place where flammable gas may leak out. If the gas leaks out and stays around the heat pump, a fire may break out.
- The appliance is not intended for use by young children or infirm persons without supervision.
- Young children should be supervised to ensure that they do not play with the appliance.
- The outdoor unit window-shades should be periodic cleaning in case of being jammed. This window-shades is heat dissipation outlet of components, if being jammed will cause the components shorten their service life spans because of overheated for a long time.
- The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

## 2. BUTTON FUNCTIONS

The heat pump consists of the indoor unit, the outdoor unit, the connecting pipe.

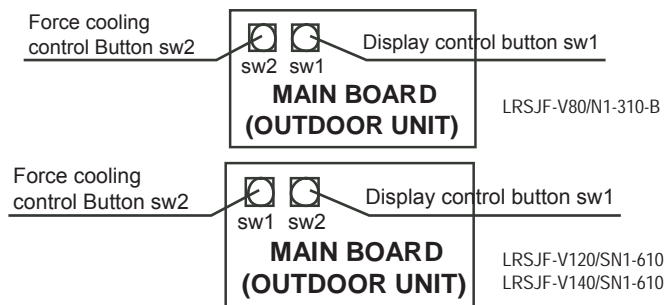


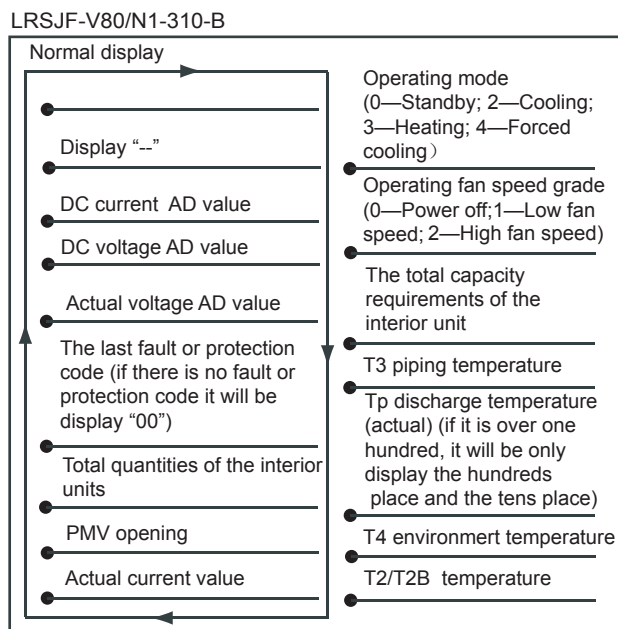
Fig.2-1

### 2.1 Force Cooling Control

Force cooling control of outdoor unit be pressed once that a order to force cooling in indoor unit. When the frequency of outdoor unit change to 62Hz (LRSJF-V80/N1-310-B) or 44Hz(LRSJF-V120/SN1-610 and LRSJF-V140/SN1-610) then running it; indoor fan run in high speed. Press the button again will exit the Force Cooling Control.

### 2.2 Display function

The function of text run circulate as follwing.



LRSJF-V120/SN1-610、LRSJF-V140/SN1-610

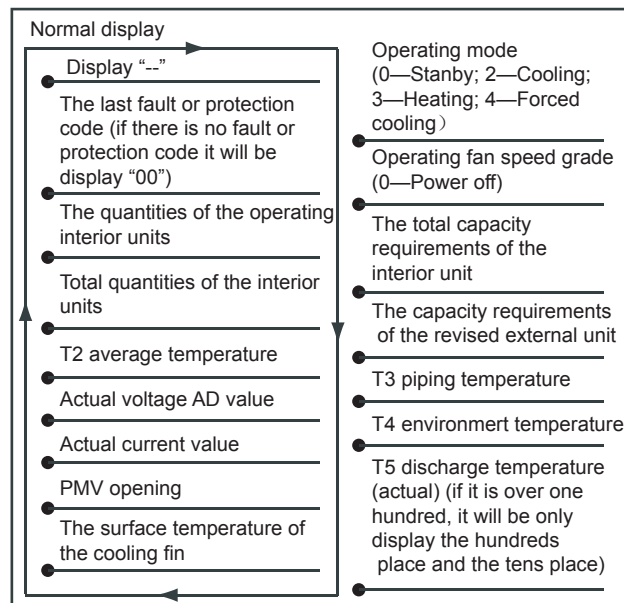


Fig.2-2



#### NOTE

- 12 hours preheating is imperative after turn on the power switch. Please do not shut down the power when the unit is supposed to stop running in 24h or shorter time. (This is to warm the crankcase heat box to avoid compulsive start of condenser.)
- Pay attention not to block the air inlet and outlet. Blocks may decrease the efficiency of the unit or startup the protector, which will stop running.

## 3. OPERATION RANGE

Use the system in the following temperature for safe and effective operation. The Max operation temperature for the heat pump. (Cooling/Heating)

Table 3-1

Mode \ Temperature	Outdoor temperature	Water temperature
Cooling operation	15°C ~ 43°C	7°C ~ 22°C
Heating operating	-20°C ~ 43°C	15°C ~ 55°C



#### NOTE

- If heat pump is used outside the above conditions, it may cause the unit to function abnormally.
- The phenomenon is normal that the surface of indoor unit may condense water when the relative larger humidity in room, please close the door and window.
- Optimum performance will be achieved within these operating temperature range.

## 4. OPERATION AND PERFORMANCE

### 4.1 Protection Equipment

This Protection Equipment will enable the Heat Pump to stop when the Heat Pump is to be directed running compulsively.

When the Protection Equipment is activated, the Operation Indicator still lights while the Heat Pump is not running. But the Check Indicator Lights.

The protection equipment may be activated in following conditions:

#### 1) Cooling Operation

- The air inlet or air outlet of outdoor unit is blocked.
- Strong wind is Continuously blowing to the air outlet of the outdoor unit.

#### 2) Heating Operation

- Too much rubbish adhere to the filter in the indoor unit.
- The air outlet of indoor unit is choked.

- Mishandling in operation:  
If mishandling happens because of lighting or mobile wireless, please shut off the manual power switch, and turn on again, then push the ON/OFF button.



#### NOTE

When the protection equipment starts, please shut down the manual power switch, and restart operation after problem is solved.

### 4.2 About power cut

If power is cut during operation, stop all the operation immediately. Power comes again. The lamp on the display panel of indoor unit flashes. And then unit will auto-restart.

### 4.3 Heating capacity

- 1) The heating operation is a heat-pump process that heat will be absorbed from outdoor air and released to indoor water. Once the outdoor temperature is decreased, heating capacity decreased correspondingly.
- 2) Other heating equipment is suggested to be used together when outdoor temperature is too low.
- 3) In some extreme cold upland that buy another indoor unit equipped electrical heater will obtain better performance. (Refer to indoor unit owner's manual for details).



#### NOTE

- The motor in Indoor Unit will continue running for 20~30 seconds for to remove residual heat when the Indoor Unit receiving OFF command during heating operation.
- If the heat pump malfunction occurs because of disturb, please reconnect the heat pump to power, then turn on it again.

### 4.4 Three-minute protection feature

A protection feature prevents the heat pump from being activated for approximately 3 minutes when it restarts immediately after operation.

### 4.5 Cooling and heating operation

The indoor unit in the same system can not run cooling and heating at the same time.

If the Heat Pump Administrator has set running mode, then the heat pump can not run on modes other than the preset. Standby or No Priority will be displayed in the Control Panel.

### 4.6 Features of heating operation

Water will not become hot immediately at the beginning of the heating operation, 3~5 minutes later (depends on the indoor and outdoor temperature), until the indoor heat exchanger become hot, then becomes hot.

During operation, the fan motor in the outdoor unit may stop running under high temperature.

### 4.7 Defrost in the heating operation

During heating operation, outdoor unit sometimes will frost. To increase efficiency, the unit will start defrosting automatically (about 2~10 minutes), and then water will be drained out from outdoor unit. During defrosting, the fan motors in the outdoor unit will stop running.

## 5. MALFUNCTION CODE OF OUTDOOR UNIT

Table 5-1

Display	Malfunction or Protection	
Model	LRSJF-V120/SN1-610、LRSJF-V140/SN1-610	LRSJF-V80/N1-310-B
E0	EEPROM error	
E2	Communication error of the outdoor chip and the indoor chip	
E3	Communication error of main control board and IR341	Communication error of outdoor chip and DSP
E4	T3, T4 sensor error	Outdoor temperature sensor error
E5	Voltage protection error	
E6	Direct-current fan error	_____
E7	Heating fan error in the area A lasts for 5 minutes	_____
E8	There are two times E6 error in 10 minutes (recovery will be after power off)	_____
P0	The cooling fin high temperature protection	_____
P1	High pressure protection	
P2	Low pressure protection	
P3	Compressor current protection	
P4	Discharge temperature protection	
P5	Outdoor condenser T3 high temperature protection	
P6	IPDU modules protection	Module protection
P7	Evaporator T2 high temperature protection	
P8	Typhoon protection	Environment T4 low temperature protection
P9	Environment T4 low temperature protection	_____
H0	_____	Do not match with the indoor and outdoor units
<b>Display Function Instruction:</b> 1. When stand by, LED displaying the amount of indoor units online which communicate with outdoor units. 2. When operation, LED displaying frequency value of compressor. 3. When defrost, LED displaying "dF".		

## 6. FOLLOWING SYMPTOMS ARE NOT HEAT PUMP TROUBLES

### Symptom 1: The system does not operate

- 1) The heat pump does not start immediately after the ON/OFF button on the remote controller is pressed. If the operation lamp lights, the system is in normal condition. To prevent overloading of the compressor motor, the heat pump starts 3 minutes after it is turned ON.
- 2) If the operation lamp and the "PRE-DEF indicator(cooling and heating type) or fan only indicator(cooling only type)" light, it means you choose the heating model.

### Symptom 2: Change into the Pump mode during heating mode

When the outlet water temperature drops to the set temperature, the compressor goes off and the indoor unit changes to pump mode; when the temperature rises up, the compressor starts again. It is same in the heating mode.

### Symptom 3: White mist comes out of outdoor unit

- 1) Symptom 3.1: Outdoor unit

When the system is changed over to heating operation after defrost operation Moisture generated by defrost becomes steam and is exhausted.

### Symptom 4: Noise of heat pump's cooling

- 1) Symptom 4.1: Outdoor unit

- A continuous low hissing sound is heard when the system is in operation. This is the sound of refrigerant gas flowing through both indoor and outdoor units.
- A hissing sound which is heard at the start or immediately after stopping operation or defrost operation. This is the noise of refrigerant caused by flow stop or flow change.
- When the tone of operating noise changes. This noise is caused by the change of frequency.



## Symptom 5: Dust comes out of the unit

When the unit is used for the first time in a long time.  
This is because dust has gotten into the unit.

## Symptom 6: The units can give off odours

The unit can absorb the smell of rooms, furniture, cigarettes, etc., and then emit it again.

## Symptom 7: The outdoor unit fan does not spin.

During operation. The speed of the fan is controlled in order to optimize product operation.

# 7. TROUBLESHOOTING

## 7.1 Troubles and causes of heat pump

If one of the following malfunctions occur, stop operation, shut off the power, and contact with your dealer.

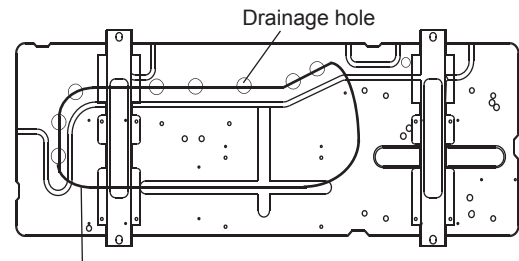
- 1) The operation lamp is flashing rapidly (twice every second)  
This lamp is still flashing rapidly after turn off the power and turn on again.
- 2) Remote controller receives malfunction or the button does not work well.
- 3) A safety device such as a fuse, a breaker frequently actuates.
- 4) Obstacles and water enter the unit.
- 5) Water leaks from indoor unit.
- 6) Other malfunctions.

If the system does not properly operate except the above mentioned cases or the above mentioned malfunctions is evident, investigate the system according to the following procedures.  
(see in Table 7-1).

# 8. CHANGE THE ELECTRIC HEATING BELT OF THE CHASSIS

For the normal operation of the unit and the deicing effect of the chassis, change the electric heating belt every two years.  
Steps:

- 1) Take down the top cover,the front plate, front side plate and the right back side plate;
- 2) Pull out the plug of electric heating belt, cut the seal belt, and loose the iron bar on the chassis, and then pull out the electric heating belt;
- 3) Change the new electric heating belt and be fixed by the iron bar, then plugged in;
- 4) Install the metal plate.



Electric heating belt of the chassis

Fig.8-1



## WARNING

- The electric heating belt of the chassis needs to be installed by the professionals.
- The electric heating belt of the chassis should choose the specified model , otherwise,it may cause safety danger.
- No electric heating changing for a long term will cause the electric heating failure, even will cause electric leakage danger.
- The figure is only for hint, please use the actual installation shall prevail.

Table 7-1

Symptoms	Causes	Solution
Unit does not start	<ul style="list-style-type: none"><li>• Power failure.</li><li>• Power switch is off.</li><li>• Fuse of power switch may have burned.</li><li>• Batteries of remote controller exhausted or other problem of controller.</li></ul>	<ul style="list-style-type: none"><li>• Wait for the comeback of power.</li><li>• Switch on the power.</li><li>• ReplLocation:</li><li>• Replace the batterises or check the controller.</li></ul>
Water flowing normally but completely can't cooling	<ul style="list-style-type: none"><li>• Temperature is not set correctly.</li><li>• Be in 3 minutes protection of compressor.</li></ul>	<ul style="list-style-type: none"><li>• Set the temperature properly.</li><li>• Wait.</li></ul>
Units start or stop frequently	<ul style="list-style-type: none"><li>• Refrigerant is too little or too much.</li><li>• Air or no concreting gas in the refrigerating circuit.</li><li>• Compressor is malfunction.</li><li>• Voltage is too high or too low.</li><li>• System circuit is blocked.</li></ul>	<ul style="list-style-type: none"><li>• Check leakage, and rightly recharge refrigerant.</li><li>• Vacuum and recharge refrigerant.</li><li>• Maintenance or change compressor.</li><li>• Install manostat.</li><li>• Find reasons and solution.</li></ul>
Low cooling effect	<ul style="list-style-type: none"><li>• Outdoor unit and indoor unit heat exchanger is dirty.</li><li>• The water filter is dirty.</li><li>• Inlet/outlet of indoor/outdoor units is blocked.</li><li>• Sunlight directly shine.</li><li>• Too much heat resource.</li><li>• Outdoor temp. is too high.</li><li>• Leakage of refrigerant or lack of refrigerant.</li></ul>	<ul style="list-style-type: none"><li>• Clean the heat exchanger.</li><li>• Clean the water filter.</li><li>• Eliminate all dirties and make air smooth.</li><li>• Make curtains in order to shelter from sunshine.</li><li>• Reduce heat source.</li><li>• AC cooling capacity reduces (normal).</li><li>• Check leakage and rightly recharge refrigerant.</li></ul>
Low heating effect	<ul style="list-style-type: none"><li>• Outdoor temperature is lower than 7 ℃</li><li>• Leakage of refrigerant or lack of refrigerant.</li></ul>	<ul style="list-style-type: none"><li>• Use heating device.</li><li>• Check leakage and rightly recharge refrigerant.</li></ul>





更改记录表（仅做说明用，不做菲林）

版本升级	更改人	更改日期	更改主要内容	更改页码 印刷页（或默认页码）
C-D	罗静	12. 5. 12	删除带美的的内容	P5 (P7)

