

# OWNER'S MANUAL

## *Middle Static Pressure Duct Type*

Thank you very much for purchasing our air conditioner.  
Before using your air conditioner, please read this manual carefully. Keep it for future reference.

**INDOOR UNIT**

**OUTDOOR UNIT**

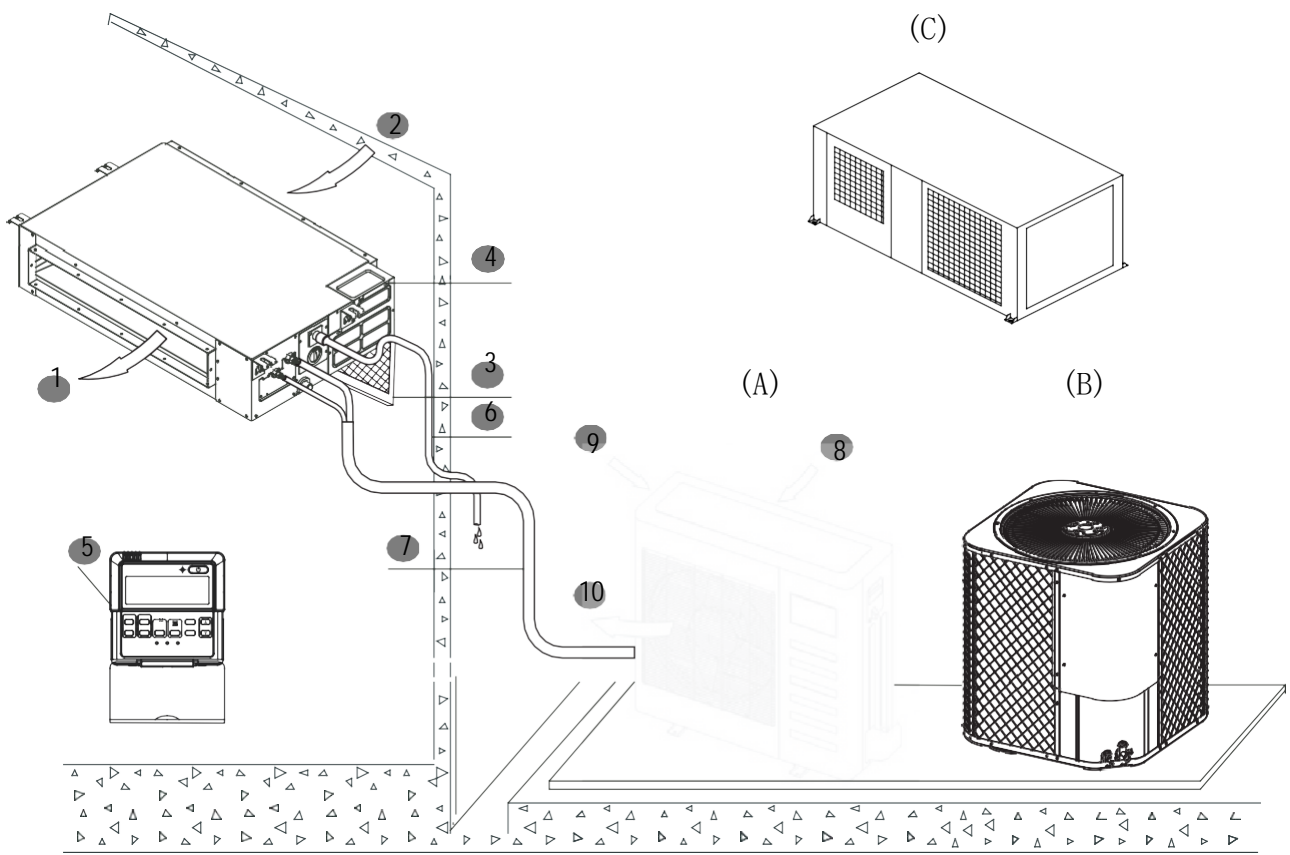


Fig.1

**INDOOR UNIT**

- ① Air outlet
- ② Air inlet
- ③ Air filter (on some models)
- ④ Electric control cabinet
- ⑤ Wire controller (on some models)
- ⑥ Drain pipe

**OUTDOOR UNIT (A,B,C)**

- ⑦ Connecting pipe
- ⑧ Air inlet
- ⑨ Air inlet (side and rear)
- ⑩ Air outlet



**NOTE**

All the pictures in this manual are for explanatory purposes only. They may be slightly different from the air conditioner you purchased (depend on model). The actual shape will remain the same.

IMPORTANT SAFETY INFORMATION.....	1
PARTS' NAMES.....	2
AIR CONDITIONER OPERATIONS AND PERFORMANCE.....	3
HINTS FOR ECONOMICAL OPERATION.....	3
MAINTENANCE.....	3
THE FOLLOWING SYMPTOMS ARE NOT AIR CONDITIONER PROBLEMS.....	5
TROUBLESHOOTING.....	6

## 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 ignorance of instructions may cause harm or damage.

The safety precautions listed here are divided into two categories. In either case, important safety information is listed which must be read carefully.



### WARNING

The appliance shall be installed in accordance with national wiring regulations. Failure to observe a warning may result in injury or death.



### CAUTION

Failure to observe a caution may result in injury or damage to the equipment.



### WARNING

**Ask your dealer for installation of the air conditioner.**

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 smoke or fire, turn off the power and call your dealer for instructions.**

**Never let the indoor unit or the remote controller get wet.**

This 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 one of inadequate voltage, or use other wires when a fuse blows out.**

Use of wire or copper wire may cause the unit to break down, or start a fire.

**It is not good for your health to expose yourself to the air flow for extended periods of time.**

**Do not insert fingers, rods, or any other objects into the air inlet or outlet.**

If the fan is rotating at high speed, this could cause injury.

**Never use a flammable spray such as hair spray, lacquer, or paint near the unit.**

This 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.**

It's dangerous for objects to touch the fan at high speeds.

**Never inspect or service the unit by yourself.**

Always ask qualified service personnel to perform this job.

**Do not dispose this product as unsorted municipal waste. This product needs to be collected separately for special disposal.**

Do not dispose of electrical appliances in the same manner as unsorted municipal waste; use separate collection facilities. Contact your local government for information regarding the relevant waste collection programs.

**If electrical appliances are disposed of in landfills or dumps, dangerous substances can leak into the ground and enter the food chain, damaging the environment and creating health hazards.**

**To prevent refrigerant leak, contact your dealer.**

When the system is installed and runs in a small room, it is important to keep the concentration of the refrigerant below the limit (if it is being released for some reason.) Otherwise, oxygen in the room may be contaminated, resulting in a serious accident.

**The refrigerant in the air conditioner is safe and does not normally leak.**

However, if the refrigerant leaks in the room, contact with the flame of a burner, heater or cooker may result in harmful gas.

**Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.**

Do not use the air conditioner until a service person confirms that the section with the refrigerant leak has been repaired.



### CAUTION

**Do not use the air conditioner for other purposes.**

In order to avoid any decrease in performance quality, do not use the unit for cooling precision instruments, food, plants, animals, or works of art.

**Before cleaning, be sure to turn the air conditioner and breaker off, or pull out the supply cord.**

Otherwise, 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 air conditioner 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 pipes, lightning conductors or telephone earth wires.

**In order to avoid injury, do not remove the outdoor unit's fan guard.**

**Do not operate the air conditioner with wet hands.**  
Electric shock may occur.

**Do not touch the heat exchanger's fins.**  
These fins are sharp and could inflict injuries.

**Do not place items that could be damaged by moisture under the indoor unit.**  
Condensation may form if the humidity is above 80%, if the drain outlet is blocked, or if the filter is polluted.

**After prolonged use, check the unit stand and fitting for damage.**  
If damaged, the unit may fall and cause an injury.

**To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used at the same time as the air conditioner.**

**Arrange the drain hose to ensure smooth drainage.**  
Incorrect drainage may wet the floor, furniture, walls, etc.

**Never touch the internal parts of the controller.**  
Do not remove the front panel. Parts inside should not be touched; malfunction of the machinery may occur.

**Never expose little children, plants, or animals directly to the air flow.**  
This could have negative effects.

**Do not allow a child to climb on top of the outdoor unit.**  
**Avoid placing objects on it.**  
Falling from the unit may result in injury.

**Do not operate the air conditioner when fumigating the room or using an insecticide.**  
This could cause hazardous chemicals to fall into the unit, which could endanger the health of those who are hypersensitive to chemicals.

**Do not allow open flames in places exposed to the air flow from the unit, or under the indoor unit.**  
It may cause incomplete combustion, or damage to the unit due to the heat.

**Do not install the air conditioner in any place where flammable gases may leak out.**  
Fire may occur.

**Do not operate your air conditioner in a wet room, (such as a bathroom or laundry room.)**

**This appliance is not intended for use by young children or the disabled without supervision.**

**This appliance can be used by children aged 8 and above and persons with reduced physical, sensory, or mental capabilities, but only if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children must not play with the appliance. Cleaning and maintenance shall not be made by children without supervision.**

Children should be supervised to ensure that they do not play with the appliance.

If the power supply cord is damaged, it must be replaced by the manufacturer, a service agent, or similarly qualified personnel in order to avoid a hazard.

## 2. PART NAMES

**The air conditioner consists of the indoor unit, the outdoor unit, the connecting pipe and the remote controller.**

(Refer to Fig.2-1)

### Function indicators on indoor unit display panel

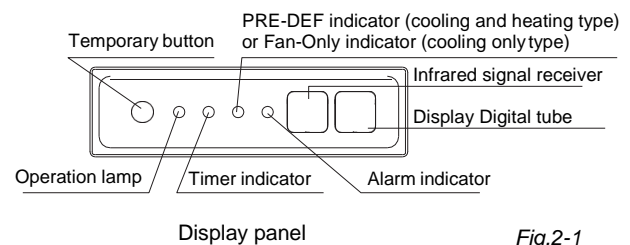


Fig.2-1

For inverter type, this switch is used for after-sales service purpose only. The user should not push it.

For fixed-frequency type, this function is used to operate the unit temporarily in case you misplace the remote controller or its batteries are exhausted. Two modes including FORCED AUTO and FORCED COOL can be selected through the TEMPORARY BUTTON on the air-in grille control box of the indoor unit. Once you push this button, the air conditioner will run in such order: FORCED AUTO, FORCED COOL, OFF, and back to FORCED.

- 1 **FORCED AUTO**  
The OPERATION lamp is lit. The air conditioner will run under FORCED AUTO mode. Use of the remote controller is enabled so it can operate according to the received signal.
- 2 **FORCED COOL**  
The OPERATION lamp flashes. The air conditioner will turn to FORCED AUTO after it is enforced to cool with a wind speed of HIGH for 30 minutes. Use of the remote controller's operation is disabled.
- 3 **OFF**  
The OPERATION lamp goes off. The air conditioner is OFF, but use of the remote controller is enabled.



### NOTE

This manual does not include Remote Controller Operations. See the Remote Controller Owner's manual packed with the unit for more details.

### 3. AIR CONDITIONER OPERATIONS AND PERFORMANCE

Use the system in the following table for safe and effective operation. Max operation temperature for the air conditioner (Cooling/Heating):

Table 2-1

Temperature Mode	Outdoor temperature	temperature
Cooling operation	0°C ~ 50°C / 32 °F~122°F	17°C~32°C (62°F ~90°F)
	-15°C~50°C/5°F~122°F (for models with low temperature cooling system)	
Heating operation (cooling-only type excepted)	-15°C ~ 24°C / 5 °F~76°F	0°C~30°C (32°F~86°F)
Dry operation	0°C ~ 50°C / 32 °F~122°F	17°C~32°C (62°F ~90°F)



#### NOTE

- 1 If air conditioner is used outside of the above temperatures, it may cause the unit to malfunction.
- 2 It's normal if water condenses in the surface of the air conditioner unit when room humidity is high. Please close the door and window. Optimum performance will be achieved within this operating temperature range.
- 3

#### Three-minute protection feature

A protection feature prevents the air conditioner from being activated for approximately 3 minutes when it is restarted immediately after operation.

- The OPERATION lamp on the indoor unit will start flashing when power is restored.
- To restart operation, push the ON/OFF button on the remote controller.
- Lightning or a car wireless telephone operating nearby may cause the unit to malfunction.

Disconnect the unit from power source. Reconnect the unit with the power again. Push the ON/OFF button on the remote controller to restart operations.

#### Refrigerant Leakage Detection(optional):

With this new technology, the display area will show EC<sup>1</sup> (if applicable). The LED indication lamps will flash when the outdoor unit detects refrigerant leakage.

### 4. HINTS FOR ECONOMICAL OPERATION

The following hints should be observed to ensure economical operation. Refer to corresponding chapters for details.

- Adjust the air flow direction properly to avoid too much air near your body.
- Adjust the room temperature properly to achieve comfort and to avoid excessive cooling and/or heating.
- While cooling, close the curtains to avoid direct sunlight.
- To maintain cool or warm air in the room, don't open doors or windows more often than necessary.
- Set the timer for the desired operating time.
- Never put obstructions near the air outlet or the air inlet. This could cause lower efficiency, or even a sudden stop of operations.
- If you don't plan to use the unit for a long time, please disconnect it from the power source and remove the batteries from the remote controller.
- When the power switch is connected, some energy will be consumed, even if the air conditioner isn't in operation. Disconnect the power entirely to save energy.
- Switch the power on 12 hours before you restart the unit to ensure a smooth operation.
- A clogged air filter will reduce cooling or heating efficiency. Please clean it at least once every two weeks.

### 5. MAINTENANCE



#### CAUTION

Before you clean the air conditioner, be sure the power supply is off.

Check that the wiring is not broken or disconnected.

Use a dry cloth to wipe the indoor unit and remote controller.

A wet cloth may be used to clean the indoor unit if it is very dirty.

Never use a damp cloth on the remote controller.

Do not use a chemically-treated duster for wiping or leave such material on the unit for long. It may damage or cause fading in the surface of the unit.

Do not use benzene, thinner, polishing powder, or similar solvents for cleaning. These may cause the plastic surface to crack or become damaged.

## ■ Maintenance after a long stop period

(eg. at the beginning of the season)

Check and remove everything that might be blocking the inlet and outlet vents of indoor units and outdoor units.

Clean air filters and casings of indoor units. Refer to "Cleaning the Air Filter" for details on how to proceed. Make sure to re-install clean air filters back in the same position.

Turn on power at least 12 hours before operating the unit in order to ensure smooth operation. As soon as the power is turned on, the remote controller's display will appear.

## ■ Maintenance before a long stop period

(eg. at the end of the season)

Let the indoor units run in fan-only operation for about half a day in order to dry the interior of the units.

Clean air filters and casings of indoor units. Refer to "Cleaning the Air Filter" for details on how to proceed. Make sure to re-install clean air filters back in the same position.

## ■ Cleaning the air filter (on some models)

The air filter can prevent dust or other particles from going inside the unit. If the filter gets blocked, the air conditioner's efficiency may greatly decrease. Therefore, the filter must be cleaned once every two weeks during long time usage.

If the air conditioner is installed in a dusty place, clean the air filter frequently.

If the accumulated dust is too much to be cleaned, please replace the filter with a new one (a replaceable air filter is an optional fitting).

Cleaning of filters should be performed by a suitable service provider.

- If your purchasing unit is a rear ventilated one, please remove the two (2) filter-fixed screws and take down the filter from the unit.

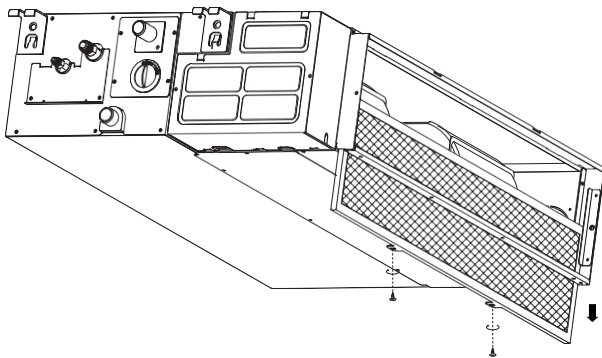


Fig.5-1

- If your purchasing unit is a descensional ventilated one (?), please push the filter up slightly to let the positional retainer escape away from the flange-fixed holes. Take off the filter following the directional arrows shown in the following fig.

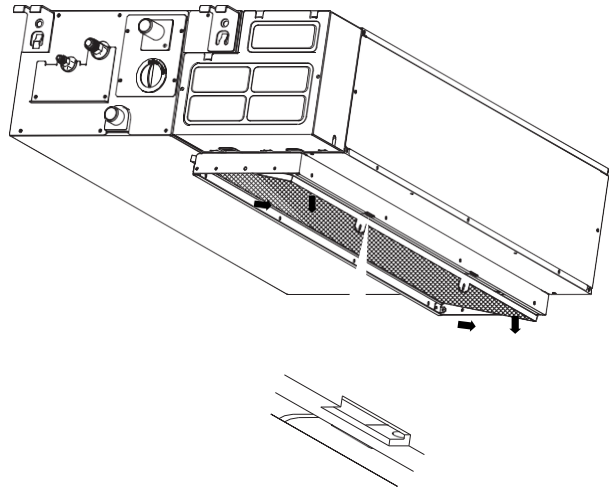


Fig.5-2

- Clean the air filter. A vacuum cleaner or water may be used. If too much dust has accumulated, please use soft brush and mild detergent to clean it. Dry it out in a cool place.

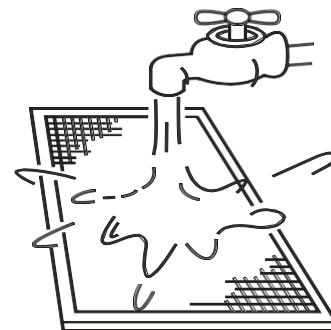


Fig.5-3

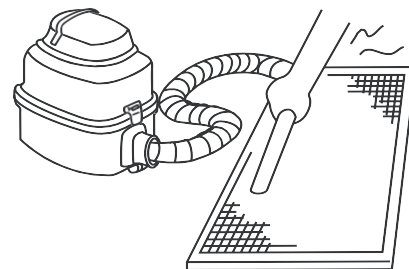


Fig.5-4

The air-in side should face up when using vacuum cleaner.  
(Refer to Fig.5-4)  
The air-in side should face down when using water. (Refer to Fig.5-3)



## CAUTION

Do not try to dry the air filter using direct sunshine or fire.

5. Re-install the air filter.
6. Install and close the air-in grille in the reverse order of step 1 and 2. Connect the control box cables to the corresponding terminals of the main body .

## 6. FOLLOWING SYMPTOMS ARE NOT AIR CONDITIONER TROUBLES

### Symptom 1: The system does not operate

- The air conditioner 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 air conditioner waits 3 minutes after it is turned ON to start.
- If the operation lamp and the PRE-DEF indicator (cooling and heating type) or Fan-Only indicator (cooling only type) light up, it means you choose the heating model. When just starting, if the compressor has not started, the indoor unit shows "anti cold wind" protection because of the low outlet temperature.

### Symptom 2: System changes into fan mode during cooling mode

- In order to prevent the indoor evaporator frosting, the system will change into fan mode automatically, but will return to cooling mode before long.
- When the room temperature drops to the desired temperature, the compressor goes off and the indoor unit changes to fan mode. When the temperature rises up, the compressor starts again. The same happens in heating mode.

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

#### Symptom 3.1: Indoor unit

- If the interior of an indoor unit is extremely contaminated, the temperature distribution inside a room becomes uneven when humidity is high. It is necessary to clean the interior of the indoor unit. Ask your dealer for details on cleaning the unit. This operation requires qualified service personnel.

### Symptom 3.2: Indoor unit, outdoor unit

- When the system changes over to heating operation after defrosting operation, moisture generated by the defrosting becomes steam and is released.

## Symptom 4: Noise of air conditioner cooling

### Symptom 4.1: Indoor unit

- A continuous low sound is heard when the system is in cooling operation, or off. This noise is heard when the drain pump (an optional accessory) is in operation.  
  
A squeaking sound is heard when the system stops after heating operation. This noise is caused by the expansion and contraction of plastic parts due to temperature change.

### Symptom 4.2: Indoor unit, outdoor unit

- A continuous low hissing sound is heard when the system is in operation. This is the noise of refrigerant gas flowing through both indoor and outdoor units.
- A hissing sound is heard at the start or immediately after stopping operation or defrosting operation. This is the noise of refrigerant caused by changes in air flow.

### Symptom 4.3: Outdoor unit

- The tone of operating noise changes. This noise is caused by the change of frequency.

### Symptom 5: Dust comes out of the unit

- Dust is released when the unit is used for the first time in a long time.

### Symptom 6: Unit can give off odors

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

### Symptom 7: The outdoor unit's fan does not Spin

- During operation, the fan's speed is controlled in order to optimize product operation.

## 7. TROUBLESHOOTING

### 7.1. Troubles and causes of air conditioner

**If one of the following malfunctions occurs, stop operation, turn off the power, and contact your dealer.**

- If the operation lamp is flashing rapidly (5Hz). This lamp is still flashing rapidly after the power is turned off and on again. (Refer to Table 7-1 and Table 7-2)
- If the remote controller receives damage, or buttons aren't functioning.
- If a safety device such as a fuse or a breaker frequently malfunctions.
- If obstacles or water enter the unit.
- If water leaks from indoor unit.
- Other malfunctions.

**If the system does not properly function and the above mentioned situations aren't apparent, inspect the system according to the following procedures:** (Refer to Table 7-3)



#### **CAUTION**

---

**Please cut off the power supply during the above malfunctions. Check if the voltage provided is out of range. Check if the installation of air-conditioner is correct, then turn power on again after 3 minutes. If the problem persists, please contact the local service station or the equipment provider.**

---



Table 7-1

NO.	Malfunction	display (nixie tube)	timer lamp	running lamp (flashes per second)
1	Indoor EEPROM error	E0	OFF	1
2	Communication malfunction between indoor and outdoor units	E1	OFF	2
3	Indoor fan speed malfunction	E3	OFF	4
4	Indoor room temperature sensor open circuit or short circuit	E4	OFF	5
5	Evaporator coil temperature sensor open circuit or short circuit	E5	OFF	6
6	Refrigerant leakage detection malfunction	EC	OFF	7
7	Water-level alarm malfunction	EE	OFF	8
8	Communication malfunction between two indoor units (for twins model)	E8	OFF	9
9	Other malfunction of twins model	E9	OFF	10
10	Current overload protection	F0	ON	1
11	Outdoor room temperature sensor open circuit or short circuit	F1	ON	2
12	Outdoor condenser pipe temperature sensor error	F2	ON	3
13	Discharged air temperature sensor error	F3	ON	4
14	Outdoor EEPROM error	F4	ON	5
15	Outdoor fan speed malfunction (Only for DC fan motor)	F5	ON	6
16	T2b sensor error	F6	ON	7
17	Inverter module IPM protection	P0	Flash	1
18	High/Low voltage protection	P1	Flash	2
19	High temperature protection of compressor top	P2	Flash	3
20	Outdoor low temp. protection	P3	Flash	4
21	Compressor drive error	P4	Flash	5
22	Mode conflict	P5	Flash	6

Table 7-2

Symptoms	Causes	Solution
<b>Unit does not start</b>	<ul style="list-style-type: none"> <li>Power failure.</li> <li>Power switch is off.</li> <li>The power switch's fuse has burned.</li> <li>The remote controller's batteries are dead, or other controller's problems.</li> </ul>	<ul style="list-style-type: none"> <li>Wait for power to return.</li> <li>Switch on the power.</li> <li>Replace the fuse.</li> <li>Replace the batteries, or check the controller.</li> </ul>
<b>Air flowing normally but can't cool completely</b>	<ul style="list-style-type: none"> <li>Temperature is not set correctly.</li> <li>It's within 3 minutes of start-up (due to protection of compressor.)</li> </ul>	<ul style="list-style-type: none"> <li>Set the temperature properly.</li> <li>Wait.</li> </ul>
	<ul style="list-style-type: none"> <li>Refrigerant is too little or too much.</li> <li>Air or no gas in the refrigerating circuit.</li> <li>Compressor is malfunctioning.</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 recharge refrigerant as needed.</li> <li>Vacuum and recharge refrigerant.</li> <li>Clean or change compressor.</li> <li>Install Thermostat.</li> <li>Find reasons and solution.</li> </ul>
<b>Low cooling effect</b>	<ul style="list-style-type: none"> <li>Outdoor unit and indoor unit heat exchanger is dirty.</li> <li>The air filter is dirty.</li> <li>Inlet/outlet of indoor/outdoor units is blocked.</li> <li>Doors and windows are open</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 air filter.</li> <li>Eliminate all dirt and make air smooth.</li> <li>Close doors and windows.</li> <li>Make curtains in order to keep away from sunshine.</li> <li>Reduce heat source.</li> <li>AC cooling capacity reduced. Check leak, recharge refrigerant as needed.</li> </ul>
<b>Low heating effect</b>	<ul style="list-style-type: none"> <li>Outdoor temperature is lower than 7 °C</li> <li>Doors and windows not completely closed.</li> <li>Leakage of refrigerant or lack of refrigerant.</li> </ul>	<ul style="list-style-type: none"> <li>Use heating device.</li> <li>Close doors and windows.</li> <li>Check leakage and recharge refrigerant as needed.</li> </ul>

## 7.2.Troubles with remote controller, and causes

Before asking for service or repairs, check the following points. (Refer to Table 7-3)

Table 7-3

Symptoms	Solution	Causes
The fan speed can not be changed.	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is "AUTO"</li> </ul>	When the automatic mode is selected, the air conditioner will automatically change the fan speed.
	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is "DRY"</li> </ul>	When dry operation is selected, the air conditioner automatically changes the fan speed. The fan speed can be selected during "COOL", "FAN ONLY", and "HEAT"
The controller's signal is not transmitted even when the ON/OFF button is pushed.	<ul style="list-style-type: none"> <li>● Check whether the signal transmitter of the controller is properly directed to the infrared signal receiver of the indoor unit.</li> </ul>	The power supply is off.
The TEMP. indicator does not come on.	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is FAN ONLY.</li> </ul>	The temperature cannot be set during FAN mode.
The indication on the display disappears after a lapse of time.	<ul style="list-style-type: none"> <li>● Check whether the timer operation has come to an end when the TIMER OFF is indicated on the display.</li> </ul>	The air conditioner operation will stop, until the set time.
The TIMER ON indicator goes off after a lapse of certain time.	<ul style="list-style-type: none"> <li>● Check whether the timer operation is started when the TIMER ON is indicated on the display.</li> </ul>	Up to the set time, the air conditioner will automatically start and the appropriate indicator will go off.
No receiving tone comes from the indoor unit even when the ON/OFF button is pressed.	<ul style="list-style-type: none"> <li>● Check whether the signal transmitter of the controller is properly directed to the infrared signal receiver of the indoor unit when the ON/OFF button is pressed.</li> </ul>	Directly transmit the signal transmitter of the controller to the infrared signal receiver of the indoor unit, and then repeatedly push the ON/OFF button twice.

QSBPT2U-021AEN

Design and specifications are subject to change without prior notice in order to improve product.  
Consult with the sales agency or manufacturer for details.

16123000000011  
20150327