AIR CONDITIONING SYSTEMS

Models

B2VI-09/B2VO-09
B2VI-12/B2VO-12

inventor®
Your-conditions

Wall Mounted Unit

Owner's Manual

inventor®
Your-conditions

Thank you for choosing INVENTOR air conditioning system. For correct use of this unit, please read this manual carefully and keep it for future reference.

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◆ CONTENTS

Operation and maintenance

Installation service

The figures in this manual may be different with the material objects, please refer to the material objects for reference.

This symbol stands for the items should be forbidden

This symbol stands for the items should be followed

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

◆ Notices for operation

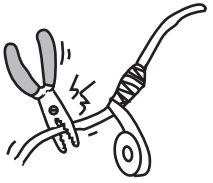
Please read the following carefully before operating

★ When the voltage is very high, the components would be easily damaged, when the voltage is very low, the compressor vibrates terribly and that the refrigerant system will be damaged, the compressor and electric components cannot work, the voltage should be stable; there shouldn't be big fluctuation.

★ Be sure to pull out the power plug as the air conditioner not in use for a long time.

Otherwise, the accumulated dusts that may cause over heating or fire.

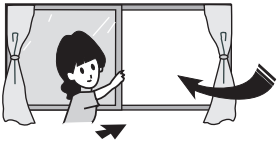
★ Never splice the power cord or use an extended cord.



It can cause overheating or fire.

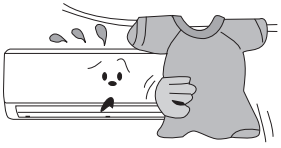
★ Don' t leave windows and doors open for a long time while operating the air conditioner.

It can decrease the air conditioning capacity.



★ Don't block the air intake or outlet vents of both the outdoor and indoor units.

It can decrease the air conditioning capacity or cause a malfunction.



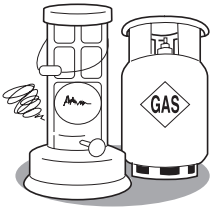
★ The power supply must adopt the special circuit that with air switch protection and assure it has enough capacity.

The unit will be turned on or off according to your requirement automatically, please do not turn on or turn off the unit frequently, otherwise disadvantage effect may be caused to the unit.

★ When having a burning smell or smoke, please turn off the power supply and contact with the service center.

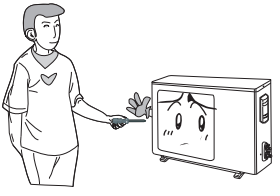
If the abnormity still exists, the unit may be damaged, and may cause electric shock or fire.

★Keep combustilble spray away from the units more than 1m.



It can cause a fire or explosion

★Don't attempt to repair the air conditioner by yourself.

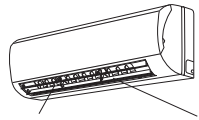


The wrong repair will lead to an electric shock or fire, so you should contact the service center to repair.

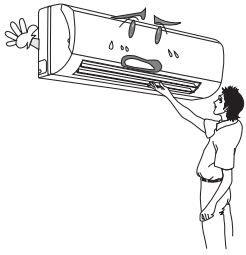
◆ Notices for operation

★Please don't cut off or damage the power cords and control cords.
If they are damaged, please ask the qualified personnel to change them.

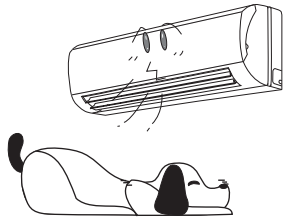
★ To adjust the airflow direction appropriately. When operating the unit, to adjust the vertical and lateral air flow direction by use of remote controller.



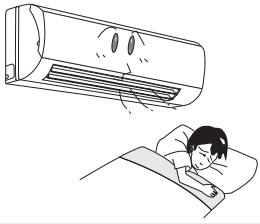
★ Don’t insert your hands or stick into the air intake or outlet vents.



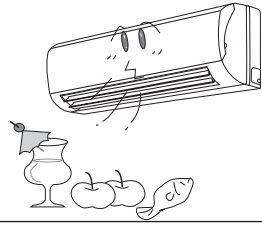
★ Don’t blow the wind to animals and plants directly. It can cause a bad influence to them.



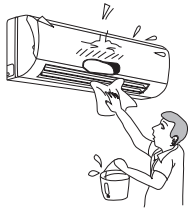
★ Don’t apply the cold wind to the body for a long time.
It can cause the health problems.



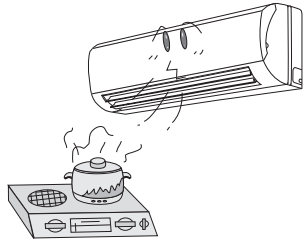
★ Don’t use the air conditioner for other purposes, such as drying clothes, preserving foods, etc.



★ Splashing water on the air conditioner can cause an electric shock and malfunction.



★Don’t place a space heater near the air conditioner.



◆ Notices for use

Working principle and special functions for cooling

Principle:

Air conditioner absorbs heat in the room and transmit to outdoor and discharged, so that indoor ambient temperature decreased, its cooling capacity will increase or decrease by outdoor ambient temperature.

Anti-freezing function:

If the unit is running in COOL mode and in low temperature, there will be frost formed on the heat exchanger, when indoor heat exchanger temperature decreased below 0℃, the indoor unit microcomputer will stop compressor running and protect the unit.

Working principle and special functions for heating

Principle:

* Air conditioner absorbs heat from outdoor and transmits to indoor, in this way to increase room temperature. This is the heat pump heating principle, its heating capacity will be reduced due to outdoor temperature decrease.
* If outdoor temperature becomes very low, please operate with other heating equipments.

Defrosting:

* When outdoor temperature is low but high humidity, after a long while running, frost will form on outdoor unit, that will effect the heating effect, at this time, the auto defrosting function will act, the heat running will stop for 8-10mins.
* During the auto defrosting, the fan motors of indoor unit and outdoor unit will stop.
* During the defrosting, the indoor indicator flashes, the outdoor unit may emit vapor. This is due to the defrosting, it isn't malfunction.
* After defrosting finished,the heating will recover automatically.

Anti-cool wind function:

In "Heat" mode, under the following three kinds of state, if indoor heat exchanger doesn't arrive at certain temp., indoor fan will not act, in order to prevent cool wind blowing(within 2 mins):

1. Heating starts. 2.After Auto Defrost finished. 3.Heating under the low temperature.

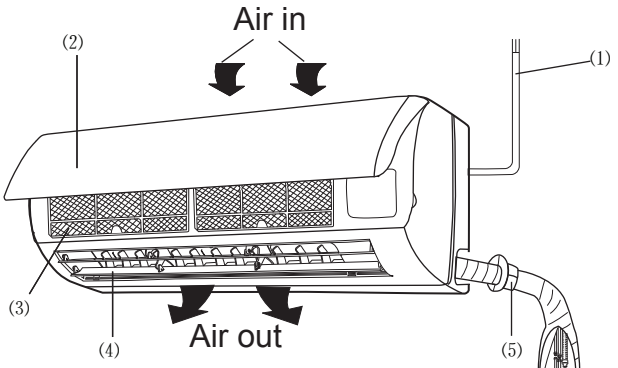
※ Working temperature range

	Indoor sideDB/WB(°C)	Outdoor sideDB/WB(°C)
Maximum cooling	32/23	43/26
Minimum cooling	21/15	21/
Maximum heating	27/—	24/18
Minimum heating	20/—	-5/-6

The operating temperature range (outdoor temperature) for cooling unit is -7℃~43℃; for cooling and heating unit is -7~43℃.

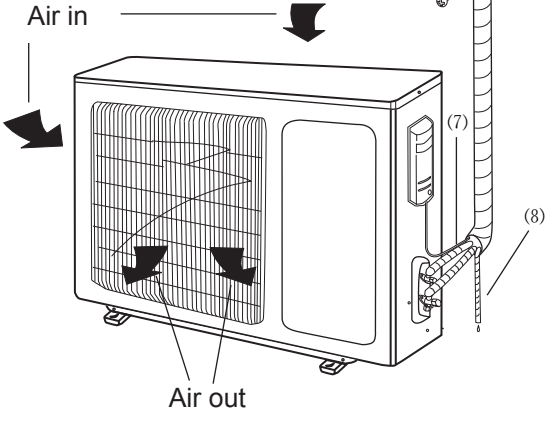
◆ Names and functions of each part

Indoor unit



(1) Power cable
(2) Front panel
(3) Filter
(4) Guide louver
(5) Wall pipe
(6) Bind tape
(7) Connection wire
(8) Drainage pipe
(9) Remote control

Outdoor unit



◆ Operation of Remote Controller

Remote Controller Description

1 ON/OFF
Press it to start or stop operation

2 MODE
Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT)

3 + : Press it to increase temperature setting

4 — : Press it to decrease temperature setting

5 FAN
Press it to set fan speed

6
Press it to set swing angle

7 TIMER ON
Press it to set auto-on timer

8 TIMER OFF
Press it to set auto-off timer

9 CLOCK
Press it to set clock

10 X-FAN (page 8)
(NOTE:X-FAN is the alternative expression of BLOW for the purpose of understanding.)

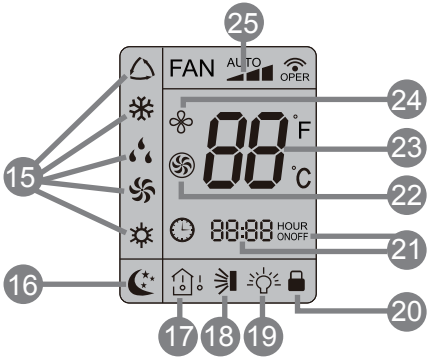
11 TEMP (page 8)

12 TURBO(page 8)

13 SLEEP(page 8)

14 LIGHT
Press it to turn on/off the light.

◆ Operation of Remote Controller



15 MODE icon:
If MODE button is pressed, current operation mode icon △(AUTO), ❄ (COOL), 💧 (DRY), 🌀 (FAN) or ☼ (HEAT is only for heat pump models) will show.

16 SLEEP icon :
☾ is displayed by pressing the SLEEP button. Press this button again to clear the display.

17 TEMP icon:
Pressing TEMP button, ⌂ (set temperature), ⌂ (indoor ambient temperature) ⌂ (outdoor ambient temperature) and blank is displayed circularly.

18 Up & down swing icon:
is displayed when pressing the up & down swing button. Press this button again to clear the display.

19 LIGHT icon:
☼ is displayed by pressing the LIGHT button.Press LIGHT button again to clear the display.

20 LOCK icon:
🔒 is displayed by pressing "+" and "-" buttons simultaneously.Press them again to clear the display.

21 SET TIME display:
After pressing TIMER button, ON or OFF will blink.This area will show the set time.

22 TURBO icon:
is displayed when pressing the TURBO button.Press this button again to clear the display.

23 DIGITAL display:
This area will show the set temperature. In SAVE mode,"SE" will be displayed. During defrosting operation, "H1" will be displayed.

24 X-FAN icon:
is displayed when pressing the X-FAN button. Press this button again to clear the display.

25 FAN SPEED display:
Press FAN button to select the desired fan speed setting(AUTO-Low-Med-High).Your selection will be displayed in the LCD windows, except the AUTO fan speed.

◆ Operation of Remote Controller

Remote Controller Description

1 ON/OFF :

Press this button to turn on the unit. Press this button again to turn off the unit.

2 MODE :

Each time you press this button,a mode is selected in a sequence that goes from AUTO, COOL,DRY, FAN, and HEAT *, as the following:

*Note: Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable.

3 + :

Press this button to increase set temperature. Hold it down for above 2 seconds to rapidly increase set temperature. In AUTO mode, set temperature is not adjustable.

4 —:

Press this button to decrease set temperature. Hold it down for above 2 seconds to rapidly decrease set temperature. In AUTO mode, set temperature is not adjustable.

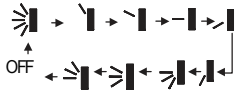
5 FAN :

This button is used for setting fan speed in the sequence that goes from AUTO, , , to , then back to Auto.

Low speed Medium speed High speed

6 :

Press this button to set up & down swing angle, which circularly changes as below:



This remote controller is universal. If any command , or is sent out, the unit will carry out the command as

indicates the guide louver swings as:

◆ Operation of Remote Controller

7 TIMER ON:

Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.

After pressing this button, disappears and "ON "blinks. 00:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 seconds after setting, press TIMER ON button to confirm.

8 TIMER OFF:

Press this button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again.TIMER OFF setting is the same as TIMER ON.

9 CLOCK:

Pressing CLOCK button, blinks. Within 5 seconds, pressing + or - button adjusts the present time. Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press CLOCK button again to confirm the setting, and then will be constantly displayed.

10 X-FAN:

Pressing X-FAN button in COOL or DRY mode,the icon is displayed and the indoor fan will continue operation for 10 minutes in order to dry the indoor unit even though you have turned off the unit.

After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.

11 TEMP:

Press this button, could select displaying the indoor setting temperature or indoor ambient temperature.When the indoor unit firstly power on it will display the setting temperature, if the temperature's displaying status is changed from other status to" ",displays the ambient temperature, 5s later or within 5s, it receives other remote control signal that will return to display the setting temperature. if the users haven't set up the temperature displaying status,that will display the setting temperature.

12 TURBO:

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed. (This function is not applicable for some models).

13 SLEEP:

Press this button to go into the SLEEP operation mode. Press it again to cancel this function. This function is available in COOL, HEAT (Only for models with heating function) or DRY mode to maintain the most comfortable temperature for you.

◆ Operation of Remote Controller

14 LIGHT:

Press LIGHT button to turn on the display's light and press this button again to turn off the display's light. If the light is turned on , is displayed. If the light is tunrned off, disappears.

15 Combination of "+" and "-" buttons: About lock

Press **"+ "** and **"-"** buttons simultaneously to lock or unlock the keypad. If the remote controller is locked, is displayed. In this case, pressing any button, blinks three times.

16 Combination of "MODE" and "-" buttons: About switch between Fahrenheit and Centigrade

At unit OFF, press **"MODE"** and **"- "** buttons simultaneously to switch between ℃ and℉.

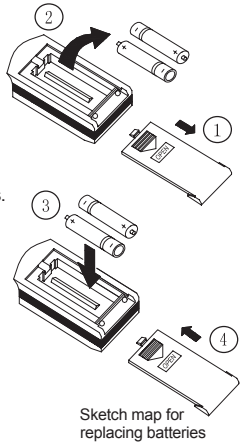
Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller. (As shown in the figure)

2.Take out the old batteries.

3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.

4. Reinstall the battery cover plate.



Sketch map for replacing batteries

★ Notes:

- When replacing the batteries, do not use old or different types of batteries. Otherwise, it may cause malfunction.
- If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.
- The operation should be performed in its receiving range.
- It should be kept 1m away from the TV set or stereo sound sets.
- If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds. If it still can't operate properly, replace the batteries.

Emergency Operation

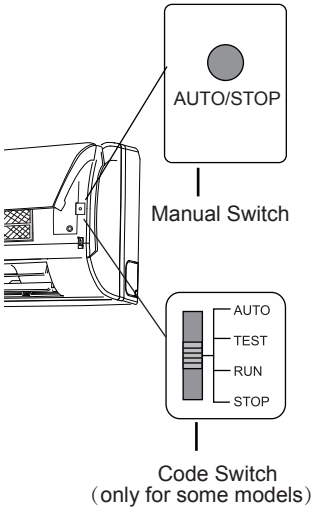
When the wireless remote control is lost or damaged, please use the manual switch, at this time, it is running in Auto Run mode that will not change the temperature setting value and fan speed.

The manual switch can be operated as follow:

- At operation: When the unit stopped running, press ON/OFF button, unit will enter into AUTO RUN mode. The microcomputer will accord to the room temperature to select the (COOL, HEAT, FAN) mode automatically, to obtain the comfortable effect.
- At stopping: When the unit is running, press the ON/OFF button of the manual switch, the unit will stop work.

The code switch can be operated as follow:

- At operation: When the unit is stopped running, adjust the code switch to AUTO, the unit will enter into AUTO RUN mode. The microcomputer will accord to the room temperature to select the (COOL, HEAT, FAN) mode automatically, to obtain the comfortable effect.
- At stopping: When the unit is running, adjusts the code switch to STOP position, the unit will stop work.



◆ Care and Cleaning

Caution

- Disconnect the power supply before cleaning and maintenance.
- Do not splash water on the units for cleaning, as electric shocks may occur.
- Wipe the units with a dry soft cloth, or a cloth slightly moistened with water or cleaner (not with volatile liquid such as thinner or gasoline).

Cleaning the Front Panel

Remove the front panel. Dip a piece of cloth into the water colder than 45 ℃ and dry it. Then wipe the dirty part of front panel.

Note: Do not immerse the front panel into water so as to protect microprocessor components and circuit diagram on the front panel.

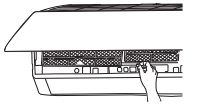
Cleaning the Air Filter (every 3 months)

Note:Do not touch the fin of indoor unit during cleaning to avoid personal injury.

① Take down the air filter

Lift up the front panel.
Pull the air filter downwards to take it off, as shown in Fig.(a,b).

(Fig. a)

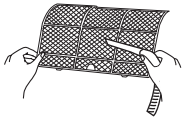


(Fig. b)

② Clean the air filter

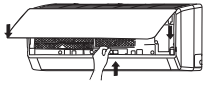
Use a vacuum cleaner to remove dust.
If the filters are dirty, wash them with warm water and mild detergent.
Dry the filters in the shade.

Note: Never use water above 45℃ to clean the air filter as it may cause deformation or discoloration.



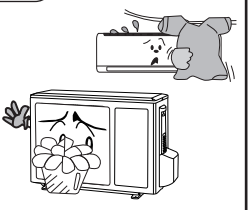
③ Reinstall the air filter

Reinstall the filters along the direction of arrowhead.
Close the panel.



Care and Cleaning

Check before Use



① Be sure that nothing obstructs the air outlet and inlet.

② Check if the batteries of remote controller are replaced.

③ Check if the installation stand of the outdoor unit is damaged. If damaged, consult the technicians.

Maintenance after Use

① Switch off the power supply.

② Clean the filters and bodies of indoor and outdoor units.

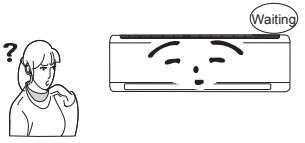
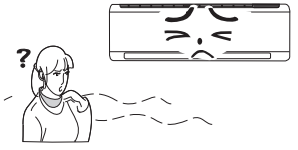
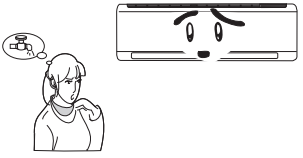
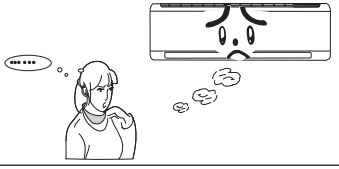
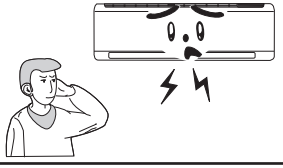
③ Clear obstructions from the outdoor unit.

④ Repaint the rubiginous place on the outdoor unit to prevent it from spreading.

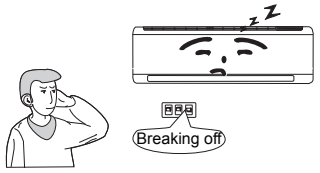
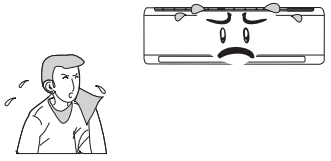
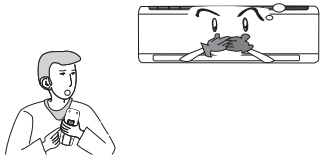
◆ Troubleshooting

CAUTION

The air conditioner is not expected to be serviced by users. Incorrect repair may cause electric shock or fire, so please contact an authorized service center for professional service. The following checks prior to contact may save your time and money.

Phenomenon	Troubleshooting
The unit does not operate: 	• The unit does not operate if it is turned on immediately after being turned off. This is to protect the unit. You are expected to wait for about 3 minutes.
Odours are emitted: 	• Some odours may be emitted from the indoor unit. This is the result of room smells (such as furniture, tobacco, ect.) which have been taken into the air conditioner. • Consult authorized service center for cleaning if the odours still exist.
"Water flowing" noise: 	• The swishing noise like water flowing is the sound of refrigerant flowing inside the unit.
Mist is emitted in COOL mode 	• During cooling operation, a thin mist may be seen emitted from the indoor unit due to high room temperature and humidity. After a period of time,the mist will disappear with the decrease of room temperature and humidity.
Cracking noise: 	• This is the sound of friction caused by expansion and/or contraction of panel or other parts due to the change of temperature.

◆ Troubleshooting

Phenomenon	Troubleshooting
The unit can not be started up: 	• Is the power cut off? • Is the power plug loose? (If applicable) • Is the circuit protection device tripped off? • Is voltage higher or lower? (Tested by professionals) • Is the TIMER correctly used?
Cooling/Heating effect is poor: 	• Is temperature setting appropriate? • Is the inlet or outlet blocked? • Is the filter dirty? • Is the window or the door open? • Is low fan speed set? • Are there heat sources in the room?
Remote controller is not available: 	• Check if there is magnetic or electrical interference near the unit that may affecting operation of the controller. In this case, pull the plug out and reinsert it. • Is the remote controller within its operating range or obstructed? Check the condition of the batteries and replace them if necessary. • Check if the remote controller is damaged.
Water leakage of indoor unit :	• The humidity is high. • Condensate overflows. • Drain hose is loose.
Water leakage of outdoor unit :	• During cooling operation, condensate is generated around the pipes and connection joints. • During defrosting operation, the thaw water flows out. • During heating operation, the water on the heat exchanger drips out.
Noise from indoor unit .	• The noise emitted when the fan or compressor relay is switching on or off. • When the defrosting operation is started or stopped, there is a sound of refrigerant flowing in the reverse direction.

◆ Troubleshooting

Phenomenon	Troubleshooting
Indoor unit can not blow air:	• In HEAT mode, when the temperature of indoor heat exchanger is very low, air flow is stopped in order to prevent cold air. (Within 2minutes) • In HEAT mode, when the outdoor temperature is low or humidity is high, frost will be formed on the outdoor heat exchanger. The unit will defrost automatically and indoor unit will stop blowing air for 3-12minutes. • During defrosting operation, water or vapour may be emitted. • In DRY mode, the indoor fan will stop blowing air for 3-12 minutes in order to avoid condensate being vaporised again.
Moisture on air outlet :	• If the unit operates at high humidity for a long time, moisture will be generated on the air outlet grill and then drip off.
C5: Malfunction of connector jumper:	• Check if the connector jumper contacts properly. If the PCB is to be replaced, please take off the old for the new PCB.
F1: Malfunction of indoor ambient temperature sensor	• Check if indoor room temperature sensor is connected properly.
F2: Malfunction of evaporator temperature sensor	• Check if the evaporator temperature is connected properly.
H1: Defrosting	• It is normal.

If any one of the following situations occurs, immediately stop all operations, cut off the power supply, and contact the authorized personnel

- There is harsh sound during operation.
- Strong odours are emitted during operation.
- Water is leaking from the unit.
- The air switch or protection switch often trips.
- Water or other liquid is splashed into the unit.
- Power cord and power plug is overheating.

▶ Stop operation and cut off the power supply.

Notices for Installation

Caution

1. The unit should be installed only by authorized service center according to local or government regulations and in compliance with this manual.
2. Before installing, please contact with local authorized maintenance center. If the unit is not installed by the authorized service center, the malfunction may not be solved due to incovenient contact between the user and the service personnel.
3. When removing the unit to the other place, please firstly contact with the local authorized service center.
4. Warning: Before obtaining access to terminals, all supply circuits must be disconnected.
5. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
6. The appliance must be positioned so that the plug is accessible.
7. The temperature of refrigerant line will be high; please keep the interconnection cable away from the copper tube.
8. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

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

Installation Site Instructions

Proper installation site is vital for correct and efficient operation of the unit. Avoid the following sites where:

- Strong heat sources, vapours, flammable gas or volatile liquids are emitted.
- High-frequency electro-magnetic waves are generated by radio equipment, welders and medical equipment.
- Salt-laden air prevails (such as close to coastal areas).
- The air is contaminated with industrial vapours and oils.
- The air contains sulphures gas such as in hot spring zones.
- Corrosion or poor air quality exists.

Notices for Installation

Installation Site of Indoor Unit

1. The air inlet and outlet should be away from the obstructions. Ensure the air can be blown through the whole room.
2. Select a site where the condensate can be easily drained out, and where it is easily connected to outdoor unit.
3. Select a place where it is out of reach of children.
4. Select a place where the wall is strong enough to withstand the full weight and vibration of the unit.
5. Be sure to leave enough space to allow access for routine maintenance. The installation site should be 250cm or more above the floor.
6. Select a place about 1m or more away from TV set or any other electric appliance.
7. Select a place where the filter can be easily taken out.
8. Make sure that the indoor unit is installed in accordance with installation dimension instructions.
9. Do not use the unit in the laundry or by swimming pool etc.

Installation Site of Outdoor Unit

1. Select a site where noise and outflow air emitted by the unit will not annoy neighbors.
2. Select a site where there is sufficient ventilation.
3. Select a site where there is no obstruction blocking the inlet and outlet.
4. The site should be able to withstand the full weight and vibration.
5. Select a dry place, but do not expose the unit to direct sunlight or strong wind.
6. Make sure that the outdoor unit is installed in accordance with the installation instructions, and is convenient for maintenance and repair.
7. The height difference between indoor and outdoor units is within 5 m, and the length of the connecting tubing does not exceed 10 m.
8. Select a place where it is out of reach of children.
9. Select a place where the unit does not have negative impact on pedestrians or on the city.

Safety Precautions for Electric Appliances

1. A dedicated power supply circuit should be used in accordance with local electrical safety regulations.
2. Don't drag the power cord with excessive force.
3. The unit should be reliably earthed and connected to an exclusive earth device by the professionals.
4. The air switch must have the functions of magnetic tripping and heat tripping to prevent short circuit and overload.
5. The minimum distance between the unit and combustive surface is 1.5m.
6. The appliance shall be installed in accordance with national wiring regulations.
7. An all-pole disconnection switch with a contact separation of at least 3mm in all poles should be connected in fixed wiring.

Note:

- Make sure the live wire, neutral wire and earth wire in the family power socket are properly connected. There should be reliable circuit in the diagram.
- Inadequate or incorrect electrical connections may cause electric shock or fire.

◆ Notices for Installation

Earthing Requirements

1. Air conditioner is type I electric appliance. Please ensure that the unit is reliably earthed.
2. The yellow-green wire in air conditioner is the earthing wire which can not be used for other purposes. Improper earthing may cause electric shock.
3. The earth resistance should accord to the national criterion.
4. The power must have reliable earthing terminal. Please do not connect the earthing wire with the following:

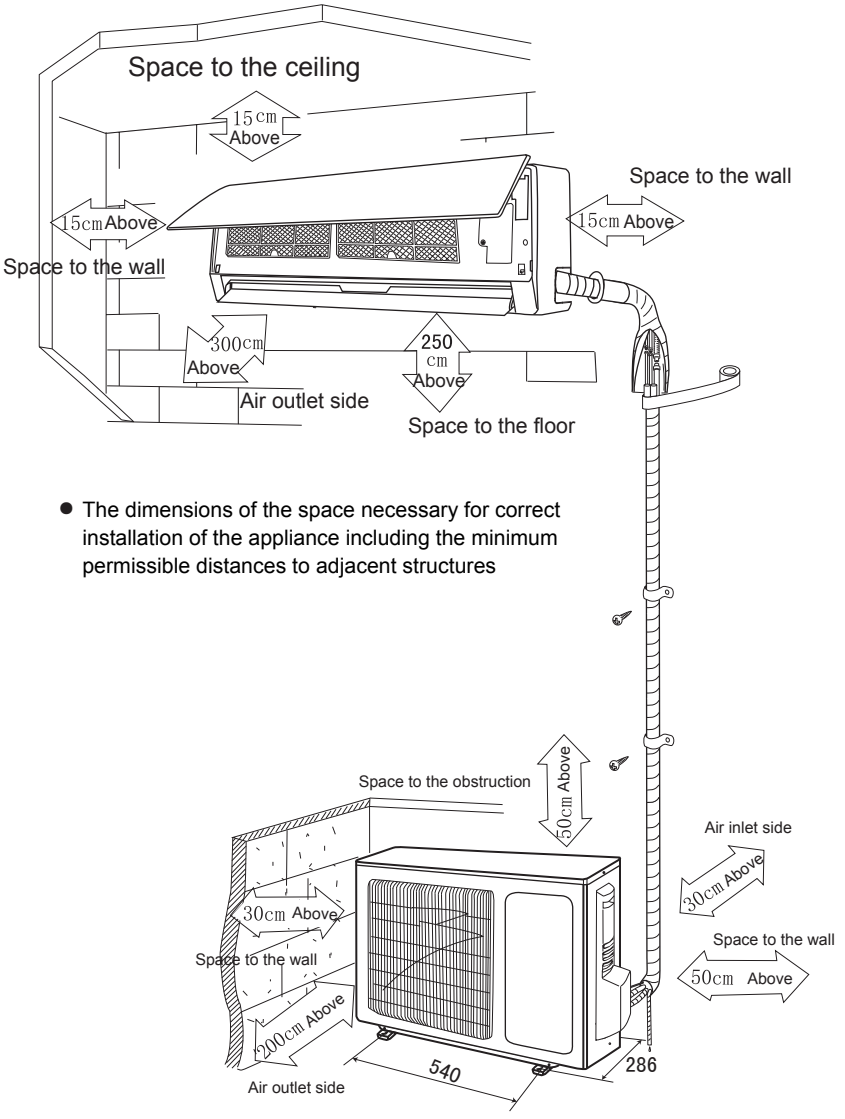
   ① Water pipe ② Gas pipe ③ Contamination pipe

   ④ Other place that professional personnel consider is unreliable
5. Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner (W)	Air switch capacity
09K、12K	10A

◆ Installation dimension diagram

Installation dimension diagram



- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures

◆ Install indoor unit

Install the rear panel

1.Always mount the rear panel horizontally. Due to the water tray of indoor unit has been adopted the both-way drainage design, the outlet of water tray should be adjusted slightly down when installing, that is taking the outlet of the water tray as the center of a circle, the included angle between the evaporator and level should be 0 or more, that is good for condensing water drainage.

2.Fix the rear panel on the wall with screws. (Where is pre-covered with plastic granula)

3.Be sure that the rear panel has been fixed firmly enough to withstand the weight of an adult of 60kg, further more, the weight should be evenly shared by each screw.

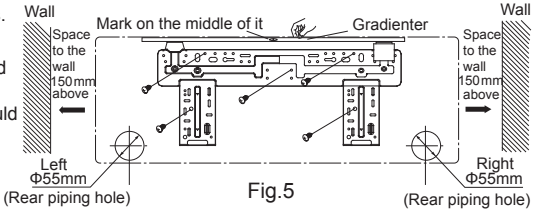
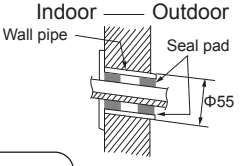


Fig.5

Install the piping hole

1.Make the piping hole (Φ55) in the wall at a slight downward slant to the outdoor side.

2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

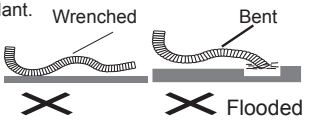


Install the water drainage pipe

1.For well draining, the drain hose should be placed at a downward slant.

2.Do not wrench or bend the drain hose or flood its end by water.

3.When the long drainage hose passing through indoor, should wrap the insulation materials.



Connect indoor and outdoor electric wires

1.Open the surface panel.
2.Remove the wiring cover Fig6, and then take off wire clamp.
3.Route the power connection cord from the back of the indoor unit and pull it toward the front through the wiring hole for connection.
4.Connect the power connection cord to the terminal block, and then fix the cord with wire clamp.
5.Reassemble the clamp and the wiring cover.
6.Recover the surface panel.

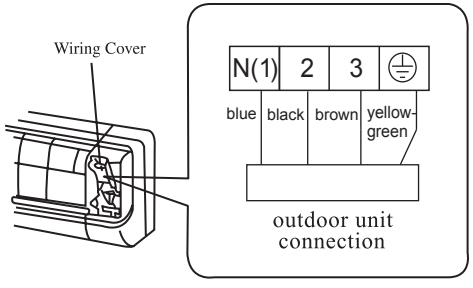


Fig.6

◆ Install indoor unit

NOTE:

When connecting the electric wire if the wire length is not enough, please contact with the authorized service shop to buy a exclusive electric wire that is long enough and the joint on the wire are not allowed.

- The electric wiring must be correctly connected, wrong connection may cause spare parts malfunction.
- Tighten the terminal screw in order to prevent loose.
- After tighten the screw, slight pull the wire and confirm whether is it firm or not.
- If the earth wire is wrong connection, that may cause electric shock.
- The cover plate must be fixed, and tighten the connection wire, if it is poor installed, that the dust, moisture may enter in or the connection terminal will be affected by outside force, and will cause fire or electric shock.

Install the indoor unit

- The piping can be lead out from right, right rear, left left rear.

1. When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis in necessary(Show in Fig.7)
   (1) Cut off the tailings 1 when routing the wiring only;
   (2) Cut off the tailings 1 and tailings 2 when routing both the wiring and piping.
2. Take out the piping from body case, wrap the piping electric wire, water pipe with tape and pull them through the piping hole (As show in Fig.8)
3. Hange the mounting slots of the indoor unit on the upper tabs of the rear panel and check if it is firm enough.(As show in Fig.9)
4. The height of the installed location should be 2.5m or more from the floor.

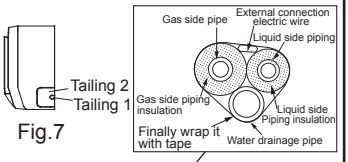


Fig.7

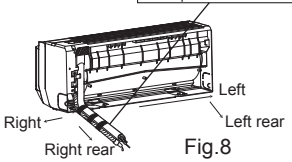


Fig.8

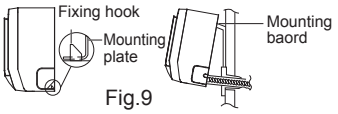
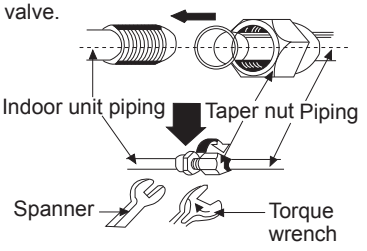


Fig.9

Install the connection pipe

1. Align the center of the piping flare with the relevant valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench refer to the following:

Hex nut diameter	Tightening torque (N • m)
Φ6	15～20
Φ 9. 52	31～35
Φ 12	50～55
Φ 16	60～65
Φ 19	70～75

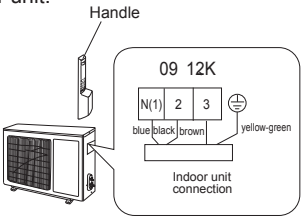


NOTE: Firstly connect the connection pipe to indoor unit, then to outdoor unit; pay attention to the piping bending, do not damage the connection pipe; the joint nut couldn't tighten too much, otherwise it may cause leakage.

◆ Installation of Outdoor Unit

Electric Wiring

1. Remove the handle on the right side plate of outdoor unit.
2. Take off wire clamp. Connect the power connection cord to the terminal block. Wiring should fit that of indoor unit.
3. Fix the power connection cord with wire clamp.
4. Confirm if the wire has been fixed properly.
5. Reinstall the handle.



NOTE:

- Incorrect wiring may cause malfunction of spare part.
- After the wire has been fixed, ensure there is free space between the connection and fixing places on the lead wire.

Schematic diagram being reference only, please refer to real product for authentic information.

Air Purging and Leakage Test

1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves must be tightly shut).
2. Connect joint of charging hose to vacuum pump.
3. Fully open the handle of Lo manifold valve.
4. Open the vacuum pump for vacuumization. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside (If noise of vacuum pump has been changed, the reading of multimeter is 0). Then tighten the nut.
5. Keep vacuuming for more than 15mins and make sure the reading of multi-meter is -1.0×10^5pa (-76cmHg).
6. Fully open high/low pressure valves.
7. Remove charging hose from charging end of low pressure valve.
8. Tighten lid of low pressure valve. (As shown in Fig.10)

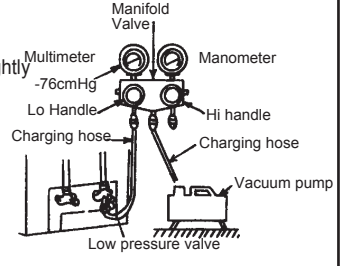
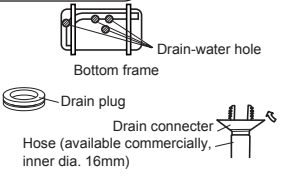


Fig.10

Outdoor Condensate Drainage (only for Heat pump unit)

During heating operation, the condensate and defrosting water should be drained out reliably through the drain hose.

Install the outdoor drain connector in a Ø 42 hole on the base plate and attach the drain hose to the connector so that the waste water formed in the outdoor unit can be drained out .The hole diameter 42 must be plugged.



Whether to plug other holes will be determined by the dealers according to actual conditions.

◆ Check after Installation and Operation Test

Check after Installation

Items to be checked	Possible malfunction
Has the unit been fixed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling(heating)
Is thermal insulation sufficient?	It may cause condensation.
Is water drainage satisfactory?	It may cause water leakage.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the unit.
Is the electric wiring or piping connection installed correctly and securely?	It may cause electric malfunction or damage the parts.
Has the unit been securely earthed?	It may cause electrical leakage.
Is the power cord specified?	It may cause electric malfunction or damage the parts.
Is the inlet or outlet blocked?	It may cause insufficient cooling(heating)
Is the length of connection pipes and refrigerant capacity recorded?	The refrigerant capacity is not accurate.

Operation Test

1. Before Operation Test
   (1) Do not switch on power before installation is finished completely.
   (2) Electric wiring must be connected correctly and securely.
   (3) Cut-off valves of the connection pipes should be opened.
   (4) All the impurities such as scraps and thrums must be cleared from the unit.
2. Operation Test Method
   (1) Switch on power and press "ON/OFF" button on the remote controller to start operation.
   (2) Press MODE button to select the COOL, HEAT (Not available for cooling only unit), FAN to check whether the operation is normal or not.

◆ Installation and Maintenance of Healthy Filter(Optional)

Installation of Healthy Filter

1. Lift up the front panel from its two ends, as shown by the arrow direction, and then remove the air filter. (as shown in Fig.a)

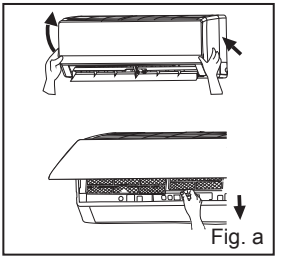


Fig. a

2. Attach the healthy filter onto the air filter, (as shown in Fig.b).

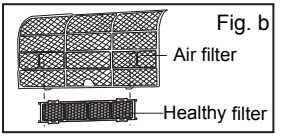


Fig. b

3. Install the air filter properly along the arrow direction in Fig.c, and then close the panel .

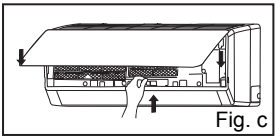


Fig. c

Cleaning and Maintenance

Remove the healthy filter and reinstall it after cleaning according to the installation instruction. Do not use brush or hard objects to clean the filter. After cleaning, be sure to dry it in the shade.

Service Life

The general service life for the healthy filter is about one year under normal condition. As for silver ion filter, it is ineffective when its surface becomes black (green).

- This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein are different from the actual product, please refer to the actual product. The quantity of healthy filters is based on the actual delivery.

◆ Configuration of connection pipe and additional volume of refrigerant

1. Standard length of connection pipe
   5m、7.5m、8m
2. Min length of connection pipe
   For the unit with standard connection pipe of 5m, there is no limitation for the min length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.
3. Max length of connection pipe

Sheet 1 Max length of connection pipe Unit: m

Capacity	Max length of connection pipe		Capacity	Max length of connection pipe
5000 Btu/h（1465 W）	15		24000 Btu/h（7032 W）	25
7000 Btu/h（2051 W）	15		28000 Btu/h（8204 W）	30
9000 Btu/h（2637 W）	15		36000 Btu/h（10548 W）	30
12000 Btu/h（3516 W）	20		42000 Btu/h（12306 W）	30
18000 Btu/h（5274 W）	25		48000 Btu/h（14064 W）	30

4. The calculation method of additional refrigerant oil and refrigerant charging amount after prolonging connection pipe
   After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
   The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
   (1) Additional refrigerant charging amount= prolonged length of liquid pipe × additional refrigerant charging amount per meter
   (2) When the length of connection pipe is above 5m, add refrigerant according to the prolonged length of liquid pipe. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See Sheet 2.

◆ Configuration of connection pipe and additional volume of refrigerant

Sheet 2. Additional refrigerant charging amount for R22, R407C, R410A and R134a

Diameter of connection pipe mm		Indoor unit throttle	Outdoor unit throttle	
Liquid pipe	Gas pipe	Cooling only, cooling and heating (g / m)	Cooling only (g / m)	Cooling and heating (g / m)
Φ6	Φ9.5 or Φ12	20	15	20
Φ6 or Φ9.5	Φ16 or Φ19	50	15	50
Φ12	Φ19 or Φ22.2	100	30	120
Φ16	Φ25.4 or Φ31.8	170	60	120
Φ19	-	250	250	250
Φ22.2	-	350	350	350

Note: The additional refrigerant charging amount in Sheet 2 is recommended value, not compulsory.