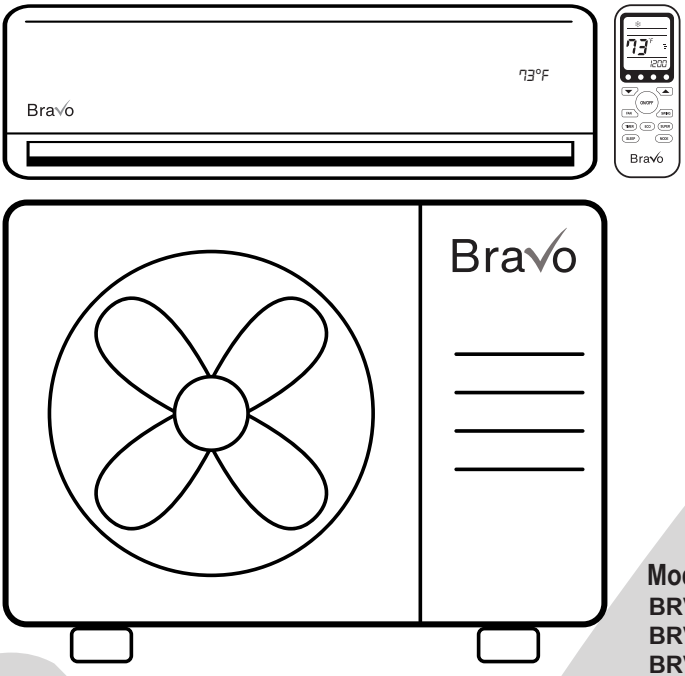
Bravo

MORE THAN A COMPLIMENT

ROMA

WALL MOUNTED MINI SPLIT AIR CONDITIONING SYSTEM

Installation Manual



R32

Models:

BRV-R12W-115VI
BRV-R12W-230VI
BRV-R18W-230VI
BRV-R24W-230VI
BRV-R36W-230VI

BRV-R12LS-115VO
BRV-R12LS-230VO
BRV-R18LS-230VO
BRV-R24LS-230VO
BRV-R36LS-230VO

BRAVO 28E REMOTE

IMPORTANT NOTE:
Thank you for purchasing our air conditioning system. Please read this manual carefully before operating your new air conditioning units. Make sure to save this manual for future reference.

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* The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details.
* The shape and position of buttons and indicators may vary according to the model, but their function are the same.

SAFETY PRECAUTIONS

SAFETY RULES AND RECOMMENDATIONS FOR THE INSTALLER

1. Read this guide before installing and using the appliance.
2. During the installation of the indoor and outdoor units, access to the working area should be forbidden to children. Unforeseeable accidents could happen.
3. Make sure that the base of the outdoor unit is firmly fixed.
4. Check that air cannot enter the refrigerant system and check for refrigerant leaks when moving the air conditioner.
5. Carry out a test cycle after installing the air conditioner and record the operating data.
6. Protect the indoor unit with a fuse of suitable capacity for the maximum input current or with another overload protection device.
7. Ensure that the mains voltage corresponds to that stamped on the rating plate. Keep the switch or power plug clean. Insert the power plug correctly and firmly into the socket, thereby avoiding the risk of electric shock or fire due to insufficient contact.
8. Check that the socket is suitable for the plug , otherwise have the socket changed.
9. The appliance must be fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under "over voltage category III conditions" and these means must be incorporated in the fixed wiring in accordance with the wiring rules.
10. The air conditioner must be installed by professional or qualified persons.
11. Do not install the appliance at a distance of less than 50 cm from inflammable substances (alcohol, etc.) Or from pressurized containers (e.g. spray cans).
12. If the appliance is used in areas without the possibility of ventilation, precautions must be taken to prevent any leaks of refrigerant gas from remaining in the environment and creating a danger of fire.
13. The packaging materials are recyclable and should be disposed of in the separate waste bins. Take the air conditioner at the end of its useful life to a special waste collection center for disposal.
14. Only use the air conditioner as instructed in this booklet. These instructions are not intended to cover every possible condition and situation. As with any electrical household appliance, common sense and caution are therefore always recommended for installation, operation and maintenance.
15. The appliance must be installed in accordance with applicable national regulations.
16. Before accessing the terminals, all the power circuits must be disconnected from the power supply.
17. The appliance shall be installed in accordance with national wiring regulations.
18. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

SAFETY PRECAUTIONS

SAFETY RULES AND RECOMMENDATIONS FOR THE INSTALLER

19. Do not try to install the conditioner alone, always contact specialized technical personnel.
20. Cleaning and maintenance must be carried out by specialized technical personnel. In any case disconnect the appliance from the mains electricity supply before carrying out any cleaning or maintenance.
21. Ensure that the mains voltage corresponds to that stamped on the rating plate. Keep the switch or power plug clean. Insert the power plug correctly and firmly into the socket, thereby avoiding the risk of electric shock or fire due to insufficient contact.
22. Do not pull out the plug to switch off the appliance when it is in operation, since this could Create a spark and cause a fire, etc.
23. This appliance has been made for air conditioning domestic environments and must not be used for any other purpose, such as for drying clothes, cooling food, etc.
24. Always use the appliance with the air filter mounted. The use of the conditioner without air filter could cause an excessive accumulation of dust or waste on the inner parts of the device with possible subsequent failures.
25. The user is responsible for having the appliance installed by a qualified technician, who must Check that earthing/grounding is done in accordance with current legislation and insert a Thermos magnetic circuit breaker.
26. The batteries in the remote controller must be recycled or disposed of properly. For disposal of scrap batteries, please discard the batteries as sorted municipal waste at the accessible collection point.
27. Never remain directly exposed to the flow of cold air for a long time. The direct and prolonged exposition to cold air could be dangerous for your health. Particular care should be taken in the rooms where there are children, old or sick people.
28. If the appliance gives off smoke or there is a smell of burning, immediately cut off the power supply and contact the Service Center.
29. The prolonged use of the device in such conditions could cause fire or electrocution.
30. Have repairs carried out only by an authorised Service Center of the manufacturer. Incorrect repair could expose the user to the risk of electric shock, etc.
31. Unhook the automatic switch if you foresee not to use the device for a long time. The airflow direction must be properly adjusted.
32. The flaps must be directed downwards in the heating mode and upwards in the cooling mode.
33. Ensure that the appliance is disconnected from the power supply when it will remain inoperative for a long period and before carrying out any cleaning or maintenance.
34. Selecting the most suitable temperature can prevent damage to the appliance.

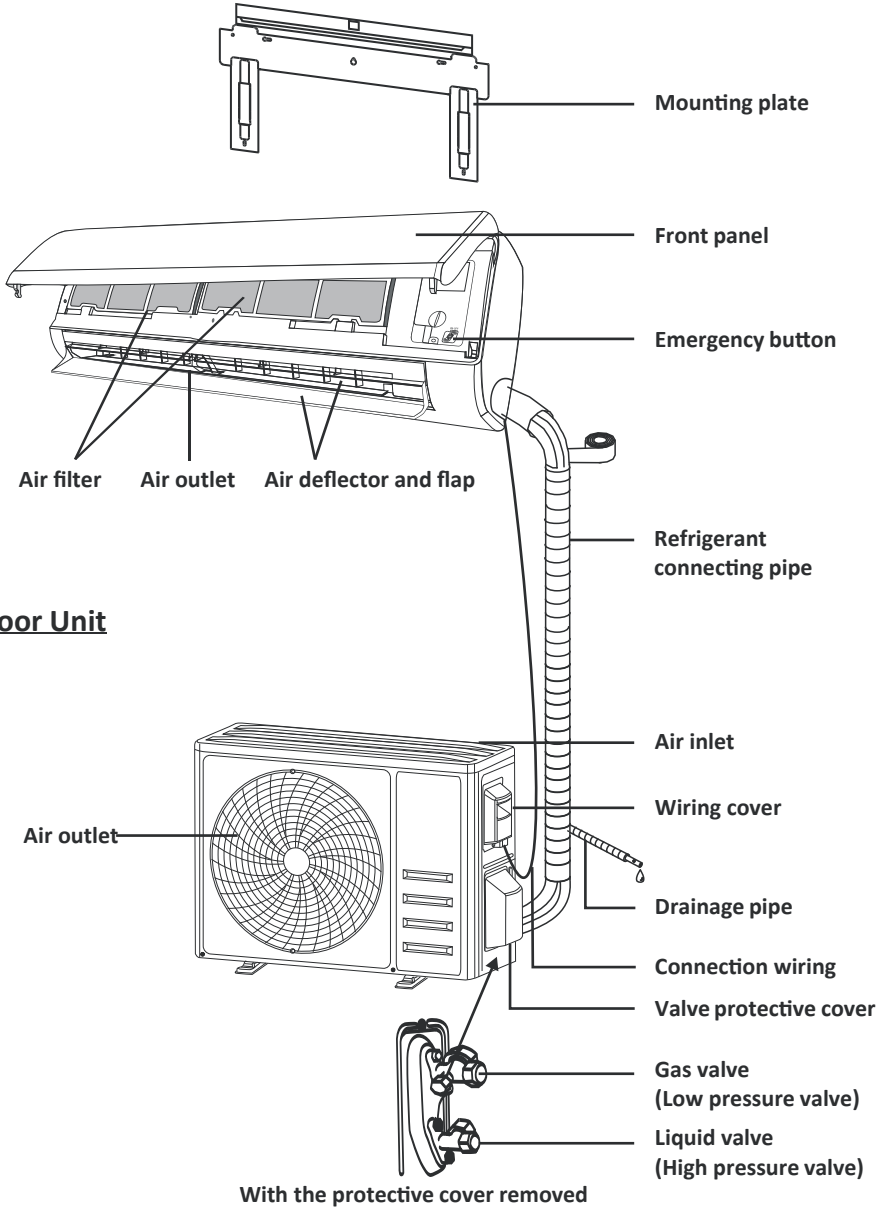
SAFETY PRECAUTIONS

SAFETY RULES AND PROHIBITIONS

1. Do not bend, tug or compress the power cord since this could damage it. Electrical shocks or fire are probably due to a damaged power cord. Specialized technical personnel only must replace a damaged power cord.
2. Do not use extensions or gang modules.
3. Do not touch the appliance when barefoot or parts of the body are wet or damp.
4. Do not obstruct the air inlet or outlet of the indoor or the outdoor unit. The obstruction of these openings causes a reduction in the operative efficiency of the conditioner with possible consequent failures or damages.
5. In no way alter the characteristics of the appliance.
6. Do not install the appliance in environments where the air could contain gas, oil or sulphur or near sources of heat.
7. 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.
8. Do not climb onto or place any heavy or hot objects on top of the appliance.
9. Do not leave windows or doors open for long when the air conditioner is operating.
10. Do not direct the airflow onto plants or animals.
11. A long direct exposition to the flow of cold air of the conditioner could have negative effects on plants and animals.
12. Do not put the conditioner in contact with water. The electrical insulation could be damaged and thus causing electrocution.
13. Do not climb onto or place any objects on the outdoor unit.
14. Never insert a stick or similar object into the appliance. It could cause injury.
15. hildren should be supervised to ensure that they do not play with the appliance. 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.

NAME OF PARTS

Indoor Unit

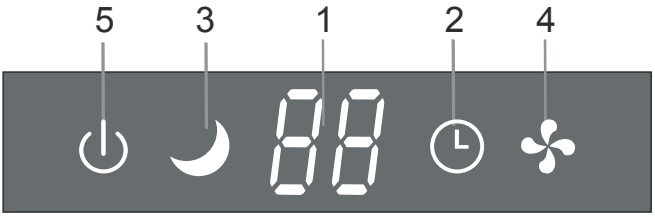


Outdoor Unit

Note: This figure shown may be different from the actual object. Please take the latter as the standard.

NAME OF PARTS

Indoor Display



No.	LED	Function
1		Indicator for Timer, temperature and Error codes.
2		Lights up during Timer operation.
3		SLEEP mode
4		The symbol appears when the unit is turned on, and disappear when the unit is turned off.
5		The symbol appears when power on.

⚠ The shape and position of switches and indicators may be different according to the model, But their function is the same.

REMOTE CONTROL

Remote control DISPLAY

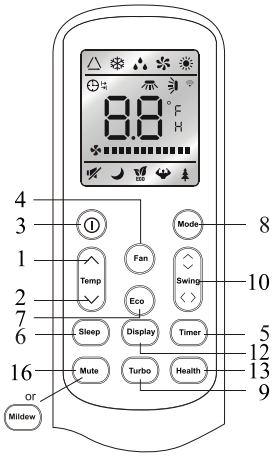
No.	Button	Function
1	▲ (TEMP UP)	Press it to increase temperature / time setting.
2	▼ (TEMP DN)	Press it to decrease temperature/ time setting.
3	ON/OFF	Press it to start or stop operation.
4	FAN	To select the fan speed of auto/low/mid/high.
5	TIMER	Press it to set auto-off timer.
6	SLEEP	To activate the function "SLEEP".
7	ECO	In cooling mode,press this button ,the temperature will increase 2℃ on the base of setting temperature. In heating mode, press this button, the temperature will decrease 2℃ on the base of setting temperature.
8	MODE	To select the mode of operation.
9	SUPER or TURBO	Press this button to activate / deactivate the Super function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will give the maximum cooling temperature with 16℃,high fan speed. In HEAT ode, the unit will give the maximum heating temperature with 31℃,high fan speed.
10	SWING	To activate or deactivate of the movement of the deflectors.
11	CLOCK	When you press this button,the time will be flickering;then through"▲"and "▼",you can adjust the time(one time you press,one minute you adjust; and if you continue to press,the time change rapidly), after adjusting to your required time, please press this button again to fix the time.
12	DISPLAY	To switch on/off the LED display.
13	HEALTHY	To switch - on /off HEALTHY funtion. It is a button which controls the ionizer or plasma genera for available model only.
14	3D	When you press "3D", the horizontal and vertical vanes will swing together at the same time.
15	RESET	To restart REMOTE CONTROLLER.
16	ANTI-MILDEW or Mute	To activate the function ANTI-MILDEW or To activate the function of Mute.

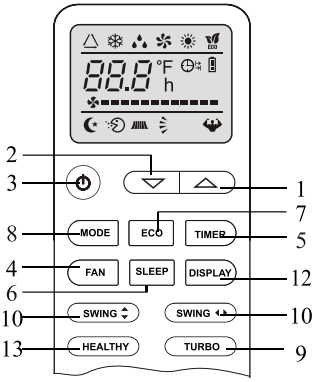
⚠ *The out looking and some function of remote controller maybe difference.*

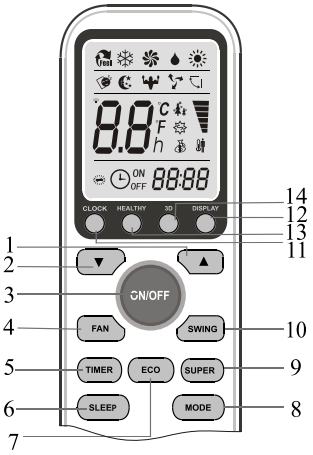
⚠ *The shape and position of buttons and indicators maybe difference according to the model, but their function is the same.*

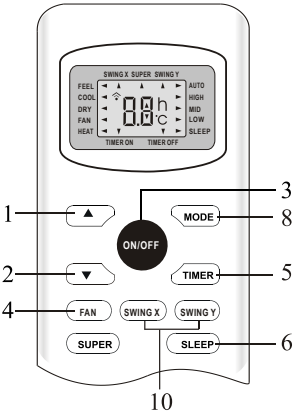
⚠ *The unit confirms the correct reception of each press button with a beep.*

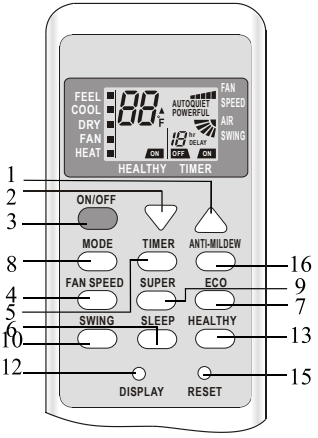
REMOTE CONTROLLER

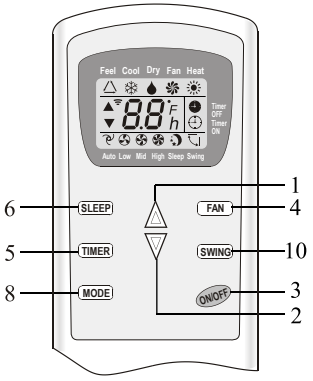












⚠ ***The out looking and some function of remote controller maybe difference.***

⚠ ***The shape and position of buttons and indicators maybe difference according to the model, but their function is the same.***

REMOTE CONTROL

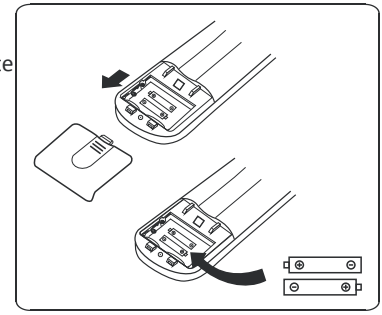
Remote controller DISPLAY
Meaning of symbols on the liquid crystal display

No.	Symbols	Meaning
1	or FEEL	FEEL mode indicator
2		COOLING indicator
3	or	DEHUMIDIFYING indicator
4		FAN ONLY OPERATION indicator
5		HEATING indicator
6	or	SIGNAL RECEPTION indicator
7	or OFF TIMER or OFF or	TIMER OFF indicator
8	or ON TIMER or ON or	TIMER ON indicator
9	AUTO or or or (FLASH) or (FLASH)	AUTO FAN indicator
10	or or or or	LOW FAN SPEED indicator
11	or or or or	MIDDLE FAN SPEED indicator
12	or or or or	HIGH FAN SPEED indicator
13	QUIET or or or or	SLEEP indicator
14		COMFORTABLE SLEEP indicator (optional)
15		FEEL indicator(optional)
16	or or or	FLAP SWING indicator
17		FLAP and Deflectors SWING indicator
18	or TURBO or POWERFUL	SUPER indicator
19	or ON HEALTHY or	HEALTHY indicator
20	or ECO or ECO	ECO indicator
21		ANTI-MILDEW indicator
22	or	BATTERY indicator
23	88:88	CLOCK indicator
24		Mute indicator

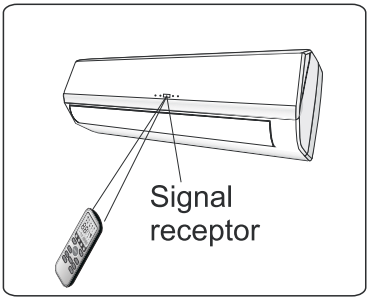
REMOTE CONTROL

Replacement of Batteries

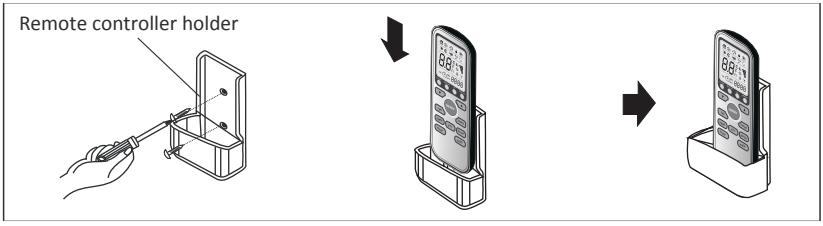
Remove the battery cover plate from the rear of the remote Controller by sliding it in the direction of the arrow. Install the batteries according the direction (+ and -)shown on the Remote Controller.
Reinstall the battery cover by sliding it into place.



⚠ 1 . Direct the remote controller toward the Air conditioner.
2 . Check that there are no objects between the remote control and the Signal receptor in the indoor unit.
3 . Never leave the remote controller exposed to the rays of the sun.
4 . Keep the remote controller at a distance of at least 1 m from the television or other electrical appliances.



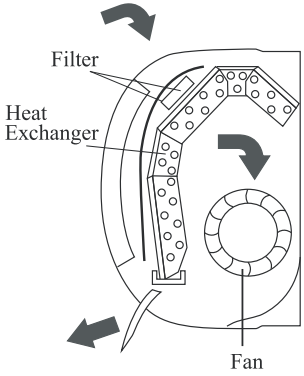
Recommendations for locating and using the remote controller holder (if present)
The remote controller be kept in a wall - mounted holder



OPERATING INSTRUCTIONS

The air sucked by the fan enters from the grill and passes through the filter then it is cooled / dehumidified or heated through the heat exchanger.

The direction of the air outlet is motorized up and down by flaps and manually moved right and left by the vertical deflectors for some models the vertical deflectors could be controlled by motor as well.



" SWING "CONTROL OF THE AIR FLOW

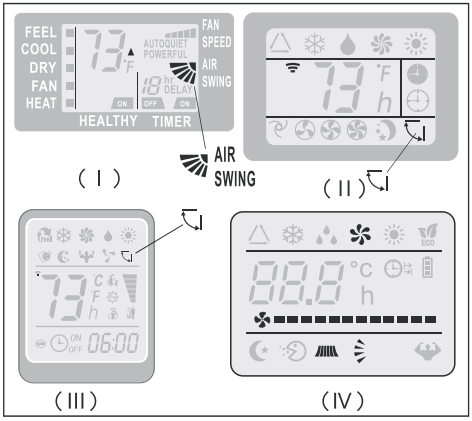
- The air outlet flow is uniformly dist - ributed in the room.
- It is possible to position the direction of the air in the optimal.

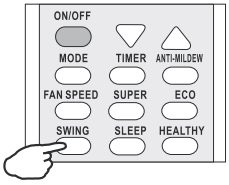
The key (SWING) or (SWING ⇕) activates the "FLAP". the air flow is directed alternatively from up to down. In order to guarantee an even diffusion of the air in the room.

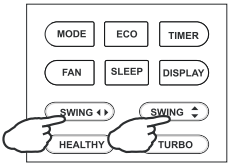
The key (SWING ◄►) activates the motorized" deflectors", the air flow is directed alternatively from left to right. (Optional function depends on the models)

- In cooling mode orient the flaps in horizontal direction;
- In heating mode orient the flaps downward as the warm air tends to rise.

der the flaps. They allow to direct the air flow rightw- ard or leftward.



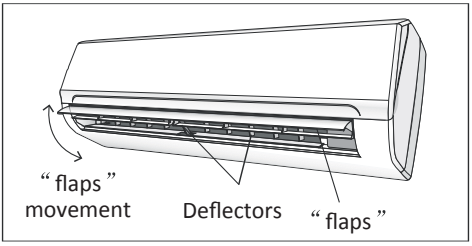




⚠ This adjustment must be done while the appliance is switched off.

⚠ Never position " Flaps " manually the delicate mech - anism might seriously damaged!

⚠ Never poke fingers sticks or other objects in the air jinlet or outlet vents . Such accidental contact with live pants might cause unforeseeable damage or hurt .



OPERATING INSTRUCT

COOLING MODE

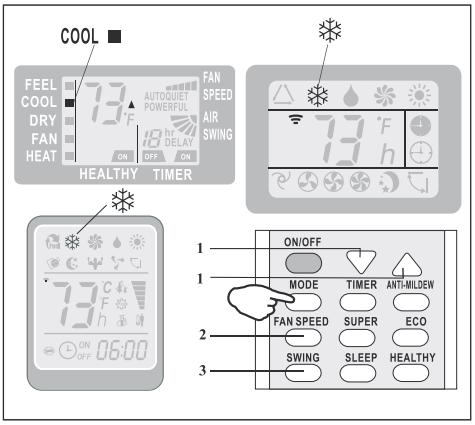
COOL ■ ❄

The cooling function allows the air condit - ioner to cool the room and at the same time reduces Air humidity.

To activate the cooling function (COOL), press the MODE button until the symbol ❄ (COOL ■) appears on the display.

The cooling function is activated by setting the button ▲ or ▼ at a temperature lower than that of the room.

To optimize the function of the Air conditioner, adjust the temperature (1), the speed (2) and the direction of the air flow (3) by pressing the button indicated.



HEATING MODE

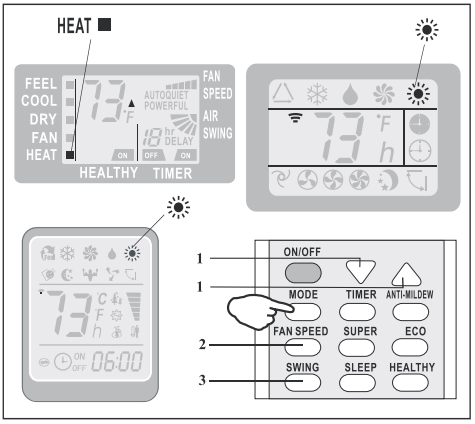
HEAT ■ ☀

The heating function allows the air conditioner to heat the room.

To activate the cooling function (HEAT), press the MODE button until the symbol ☀ (HEAT ■) appears on the display.

The cooling function is activated by setting the button ▲ or ▼ at a temperature higher than that of the room.

To optimize the function of the Air conditioner, adjust the temperature (1), the speed (2) and the direction of the air flow (3) by pressing the button indicated.



⚠ If the appliance is fitted with a electrical heater, which delays appliance to startup in a few secondsto ensure an immediate output of hot air (Optional depends on the model).

⚠ In HEATING operation the appliance can automatically activate a defrost cycle which is essential to clean the frost on the condenser so as to recover its heat exchange function. This procedure usually lasts for 2 -10 minutes during defrosting indoor unit fan stop operation. After defrosting it resumes to HEATING mode automatically.

OPERATING INSTRUCTIONS

TIMER MODE----TIMER ON

To set the time of the air conditioner

To program the automatical switching - on time, the appliance should be power off.

Press TIMER at the first time, set the temperature with pressing the button ▲ or ▼ ;

Press TIMER at the second time, set the rest time with pressing the button ▲ or ▼ ;

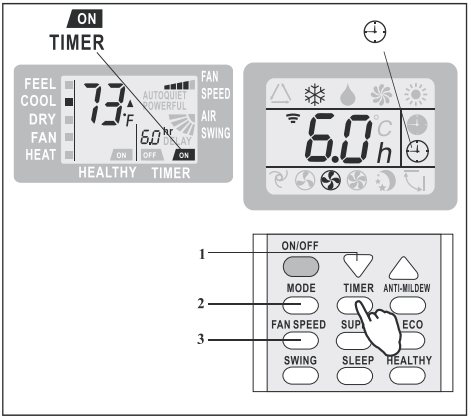
Press TIMER at the third time, confirm the setting, then the rest time to next automatical switching - on could be read on the display .

NOTE!

Before proceeding with the time : program the wor - king mode with the button MODE (2) and the fan speed with the button FAN (3). Switch the conditioner off (with the key ON / OFF).

Note : To change 1 of the set function press the TIMER button again.

Note : In case of power off, it is necessary to set TIMER ON again.



Indoor display

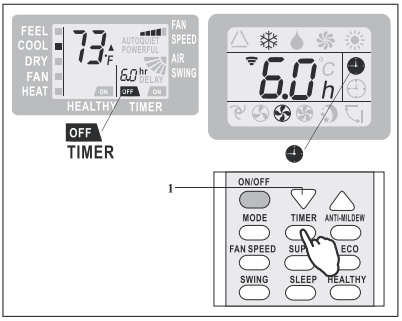
TIMER MODE----TIMER OFF

To set the automatic switching - off of the air conditioner

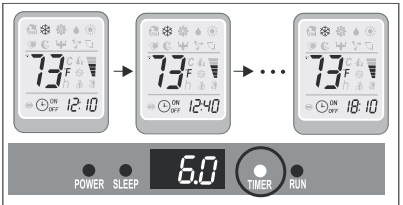
The timed stop is programmed by pressing TIMER , Set the rest time by pressing the button ▲ or ▼ until the rest time displayed is to your demand then press TIMER again.

Note : To cance 1 the setted function press the TIMER button again.

Note : In case of power off, it is necessary to set TIMER OFF again.



Indoor display



Indoor display

⚠ **Note** : The TIMER function can be set at half - hour intervals.

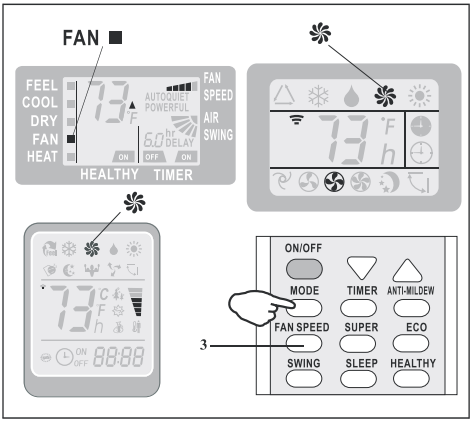
OPERATING INSTRUCTIONS

FAN MODE

The conditioner works in only ventilation

To set the FAN mode, Press MODE untill (FAN) appears in the display.

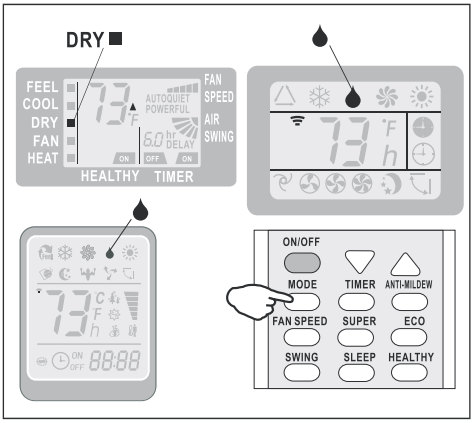
Whith pressing FAN button the speed changes in the following sequence : LOW / MEDIUM / HIGH / AUTO in FAN mode.
The remote control also stores the speed that was set in the previous mode of operation.
In FEEL mode (automatic) the air conditioner auto - matically chooses the fan speed and the mode of operation (COOLING or HEATING).



DRY MODE

This function reduces the humid - ity of the air to make the room more comfortable.

To set the DRY mode Press MODE untill (DRY) appears in the display . An automatic function of alternating cooling cycles and air fan is activated.



OPERATING INSTRUCTIONS

FEEL MODE

FEEL ■ △ Feel

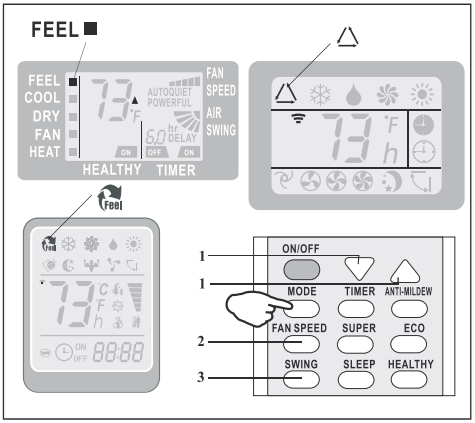
Automatic mode

To activate the FEEL (automatic) mode of operation press the MODE button on the remote controller until the symbol △ (FEEL ■) appears on the display.

In FEEL mode the fan speed and the temperature are set automatically according to the room temperature (tested by the temperature sensor which is incorporated in the indoor unit).

Ambient temp	Operation mode	Auto temp
< 20 ℃	HEATING (FOR HEAT PUMP TYPE) FAN (FOR COOL ONLY TYPE)	23 ℃
20 ℃~26 ℃	DRY	23 ℃
> 26 ℃	COOL	18 ℃

To optimize the function of the air conditioner, adjust the temperature (only ± 2 ℃) (1) , the speed (2) and the direction of the air flow (3) by pressing the buttons indicated



SLEEP MODE

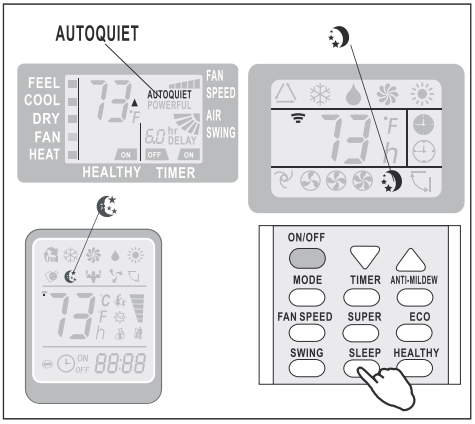
AUTO QUIET

To activate the SLEEP mode of operation, press the SLEEP button on the remote controller until the symbol (AUTOQUIET) appears on the display.

The function " SLEEP " automatically adjusts the temperature to make the room more comfortable during the night. In cooling or dry mode, the set temperature will automatically raise by 1° every 60 minutes to achieve a total rise of 2° during the first 2 hours of operation.

In heating mode the set temperature is gradually decreased by 2° during the first 2 hours of operation.

After 10 hours running in sleep mode, the air conditioner will change to the previous setting mode.



Indoor display

OPERATION INSTRUCTIONS

❗ Attempt to use the air conditioner under the temperature beyond the specified range may cause the air conditioner protection device to start and the air conditioner may fail to operate. Therefore, try to use the air conditioner in the following temperature conditions.

Fixed air conditioner:

MODE / Temperature	Heating	Cooling	Dry
Room temperature	32°F~80°F	63°F~90°F	
Outdoor temperature	19°F~75°F	T1 climate: 59°F~109°F	
		T3 climate: 59°F~125°F	

Inverter air conditioner:

MODE / Temperature	Heating	Cooling	Dry
Room temperature	32 °F~80°F	63°F~90°F	
Outdoor temperature	5 °F~75°F Low temperature heating: -4 °F~75°F	T1 climate: 59°F~122°F Low temperature cooling: 5 °F~122°F	
		T3 climate: 59°F~131°F	

With the power supply connected, restart the air conditioner after shutdown, or switch it to other mode during operation, and the air conditioner protection device will start. The compressor will resume operation after 3 minutes.

❗ **Characteristics of heating operation (applicable to Heat pump models)**

Preheating:

When the heating function is enabled, the indoor unit will take 2~5 minutes for preheating, after that the air conditioner will start heating and blows warm air.

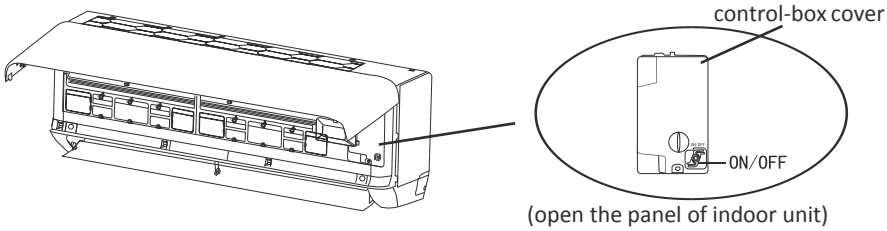
Defrosting:

During heating, when the outdoor unit frosted, the air conditioner will enable the automatic defrosting function to improve the heating effect. During defrosting, the indoor and outdoor fans stop running. The air conditioner will resume heating automatically after defrosting finish.

❗ **Emergency button:**

Open the panel and find the emergency button on the electronic control box when the remote controller fails . (Always press the emergency button with insulation material.)

Current status	Operation	Respond	Enter mode
Standby	Press the emergency button once	It beeps briefly once.	Cooling mode
Standby (Only for Heatpump models)	Press the emergency button twice in 3 seconds	It beeps briefly twice.	Heating mode
Running	Press the emergency button once	It keeps beeping for a while	Off mode



(open the panel of indoor unit)

INSTALLATION PRECAUTIONS(R32)

Installation Safety Principles

1. Site Safety

Open Flames Prohibited

Ventilation Necessary

2. Operation Safety

Must wear protective clothing

and anti-static gloves

Don't use mobile phone

3. Installation Safety

- Refrigerant Leak Detector
- Appropriate Installation Location

The left picture is the schematic diagram of a refrigerant leak detector.

Please note that:

1. The installation site should be well-ventilated.
2. The sites for installing and maintaining an air conditioner using Refrigerant R32 should be free from open fire or welding, smoking, drying oven or any other heat source higher than 548 which easily produces open fire.
3. When installing an air conditioner, it is necessary to take appropriate anti-static measures such as wear anti-static clothing and/or gloves.
4. It is necessary to choose the site convenient for installation or maintenance wherein the air inlets and outlets of the indoor and outdoor units should be not surrounded by obstacles or close to any heat source or combustible and/or explosive environment.

5. If the indoor unit suffers refrigerant leak during the installation, it is necessary to immediately turn off the valve of the outdoor unit and all the personnel should go out till the refrigerant leaks completely for 15 minutes. If the product is damaged, it is a must to carry such damaged product back to the maintenance station and it is prohibited to weld the refrigerant pipe or conduct other operations on the user's site.
6. It is necessary to choose the place where the inlet and outlet air of the indoor unit is even.
7. It is necessary to avoid the places where there are other electrical products, power switch plugs and sockets, kitchen cabinet, bed, sofa and other valuables right under the lines on two sides of the indoor unit.

Suggested Tools

Tool	Picture	Tool	Picture	Tool	Picture
Standard Wrench		Pipe Cutter		Vacuum Pump	
Adjustable/ Crescent Wrench		Screw drivers (Phillips & Flat blade)		Safety Glasses	
Torque Wrench		Manifold and Gauges		Work Gloves	
Hex Keys or Allen Wrenches		Level		Refrigerant Scale	
Drill & Drill Bits		Flaring tool		Micron Gauge	
Hole Saw		Clamp on Amp Meter			

INSTALLATION PRECAUTIONS

Pipe Length and Additional Refrigerant

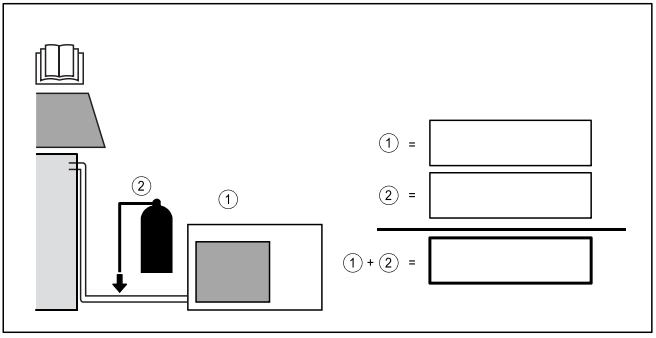
InverterM odelsCap acity(Bt u/h)	9K-12K		18K-24K		30K-36K	
Length of pipe with standard charge	5m/16ft	5m/16ft	5m/16ft	5m/16ft	5m/16ft	5m/16ft
Length of pipe with standard charge (Like: North American, etc.)	7.5m/24ft	7.5m/24ft	7.5m/24ft	7.5m/24ft	7.5m/24ft	7.5m/24ft
Maximum distance between indoor and outdoor unit	15m/49ft	15m/49ft	20m/65ft	20m/65ft	30m/98ft	30m/98ft
Additional refrigerant charge	20g/m	10g/m	30g/m	10g/m	30g/m	10g/m
Max difference in level between indoor and outdoor unit	10m/32ft	10m/32ft	15m/48ft	15m/48ft	20m/65ft	20m/65ft
Type of refrigerant	R22/R410A	R32	R22/R410A	R32	R22/R410A	R32

Torque Parameters

PIPE Size	Newtonmeter [N x m]	Pound-forcefoot (Ibf-ft)	Kilogram-force meter (kgf-m)
1/4 " (ϕ 6.35)	15 - 20	11.1- 14.8	1.5 - 2.0
3/8 " (ϕ 9.52)	31 - 35	22.9- 25.8	3.2 - 3.6
1/2" (ϕ 12)	45 - 50	33.2- 36.9	4.6 - 5.1
5/8 " (ϕ 15.88)	60 - 65	44.3- 48.0	6.1 - 6.6

⚠ **Note: This table is only for reference, the installation shall meet the requirements of local laws and regulations.**

REFRIGERANT CHARGE



Key

Example 1 REFRIGERANT CHARGE of the precharged part of the appliance

Example 2 REFRIGERANT CHARGE added during installation

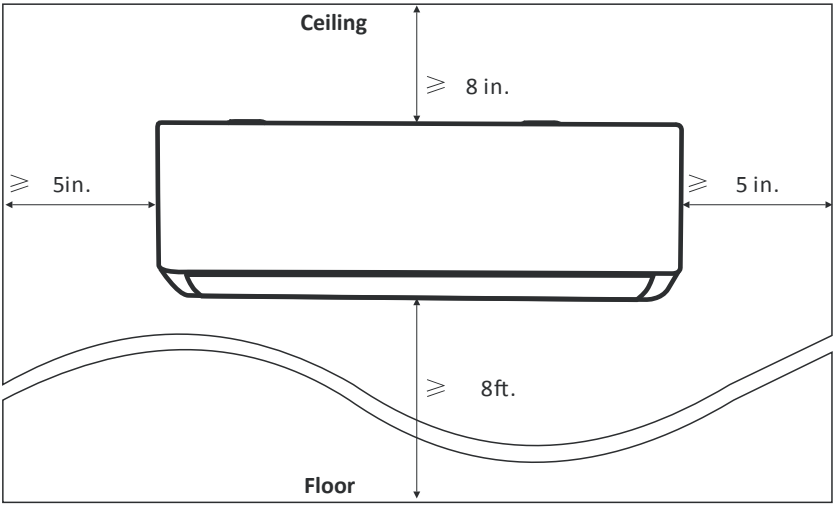
Example of label for field charged units

INDOOR UNIT INSTALLATION

Step1: Select Installation location

1.1 Ensure the installation complies with the installation minimum dimensions (defined below) and meets the minimum and maximum connecting piping length and maximum change in elevation as defined in the System Requirements section.
1.2 Air inlet and outlet will be clear of obstructions, ensuring proper airflow throughout the room.
1.3 Condensate can be easily and safely drained.
1.4 All connections can be easily made to outdoor unit.
1.5 Indoor unit is out of reach of children.
1.6 A mounting wall strong enough to withstand four times the full weight and vibration of the unit.
1.7 Filter can be easily accessed for cleaning.
1.8 Leave enough free space to allow access for routine maintenance.
1.9 Install at least 10 ft. away from the antenna of TV set or radio. Operation of the air conditioner may interfere with radio or TV reception in areas where reception is weak. An amplifier may be required for the affected device.
1.10 Do not install in a laundry room or by a swimming pool due to the corrosive environment.
1.11 For ETL certification area, Caution: Mount with the lowest moving parts at least 8 ft. above Floor or grade level.

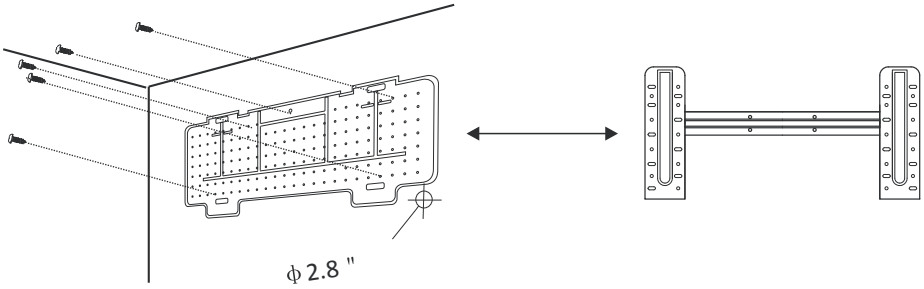
Minimum Indoor Clearances



INDOOR UNIT INSTALLATION

Step2: Install Mounting Plate

2.1 Take the mounting plate from the back of indoor unit.
2.2 Ensure to meet the minimum installation dimension requirements as step 1, according to the size of mounting plate, determine the position and stick the mounting plate close to the wall.
2.3 Adjust the mounting plate to a horizontal state with a spirit level, then mark out the screw hole positions on the wall.
2.4 Put down the mounting plate and drill holes in the marked positions with drill.
2.5 Insert expansion rubber plugs into the holes, then hang the mounting plate and fix it with screws.

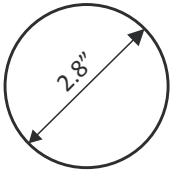


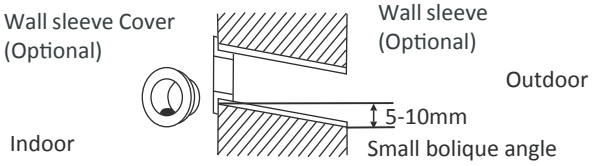
Note:
(I) Make sure the mounting plate is firm enough and flat against the wall after installation.
(II) This figure shown may be different from the actual object, please take the latter as the standard.

Step3: Drill Wall Hole

A hole in the wall should be drilled for refrigerant piping ,the drainage pipe, and connecting cables.
3.1 Determine the location of wall hole base on the position of mounting plate.
3.2 The hole should be have a 2.8” diameter at least and a small oblique angle to facilitate drainage.
3.3 Drill the wall hole with 2.8” core drill and with small oblique angle lower than the indoor end about 0.20” to 0.40”.
3.4 Place the wall sleeve and wall sleeve cover(both are optional parts) to protect the connection parts.

Caution:
When drill the wall hole, maker sure to avoid wires, plumbing and other sensitive components.

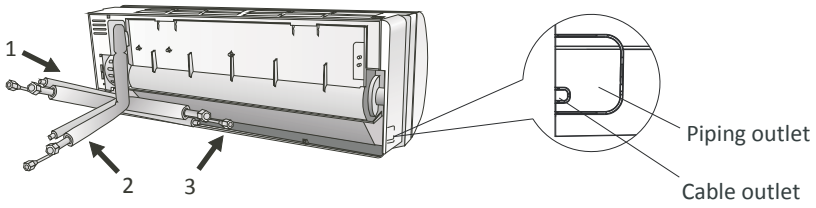




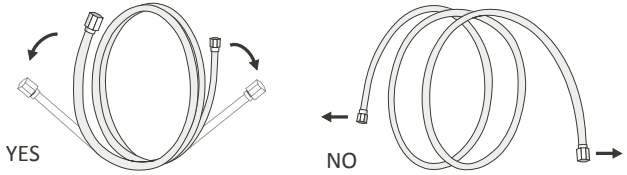
Step4: Connecting Refrigerant Pipe

4.1 According to the wall hole position, select the appropriate piping mode.
There are three optional piping modes for indoor units as shown in the figure below:
In Piping Mode 1 or Piping Mode 3, a notch should be made by using scissors to cut the plastic sheet of piping outlet and cable outlet on the corresponding side of the indoor unit.

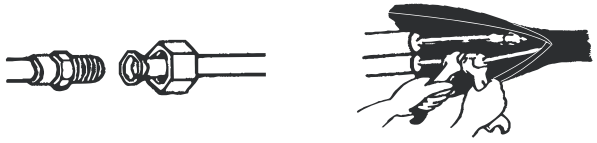
Note: When cutting off the plastic sheet at the outlet, the cut should be trimmed to smooth.



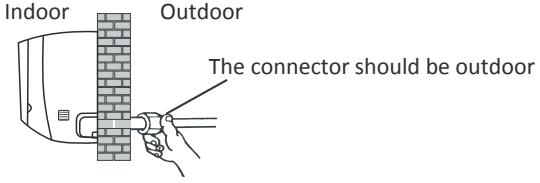
4.2 Bending the connecting pipes with the port facing up as shown in the figure.



4.3 Take off the plastic cover in the pipe ports and take off the protective cover on the end of piping Connectors.
4.4 Check whether there is any sundry on the port of the connecting pipe and make ensure the port Is clean.
4.5 After align the center, rotate the nut of the connecting pipe to tighten the nut as tightly as possible by hand.
4.6 Use a torque wrench to tighten it according to the torque values in the torque requirements table; (Refer to the torque requirements table on section **INSTALLATION PRECAUTIONS**)
4.7 Wrap the joint with the insulation pipe.



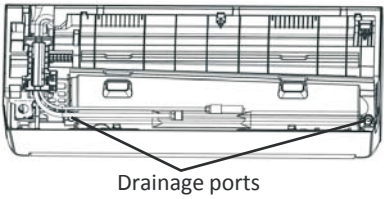
Note: When flared joints are reused indoors, the flare part shall be re-fabricated.



Step5: Connect Drainage Hose

5.1 Adjust the drainage hose(if applicable)

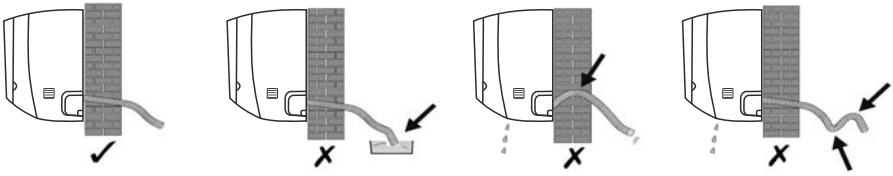
In some model, both sides of the indoor unit are provided with drainage ports, you can choose one of them to attache the drainage hose. And plug the unused drain port with the rubber attached in one of the ports.



5.2 Connect the drainage hose to the drainage port, ensure the joint is firm and the sealing effect is good.

5.3 Wrap the joint firmly with teflon tape to ensure no leaks.

Note: Make sure there is no twists or dents, and the pipes should be placed obliquely downward to avoid blockage, to ensure proper drainage.



Step6: Connect Wiring

6.1 Choose the right cables size determined by the maximum operating current on the nameplate. (Check the cables size refer to section **INSTALLATION PRECAUTIONS)**

6.2 Open the front panel of indoor unit.

6.3 Use a screwdriver, open the electric control box cover, to reveal the terminal block.

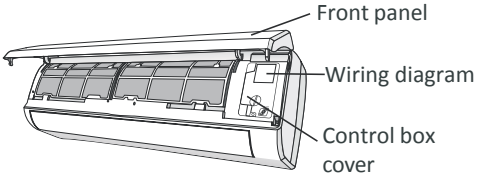
6.4 Unscrew the cable clamp.

6.5 Insert one end of the cable into the position of control box from the back of the right end of the indoor unit.

6.6 Connect the wires to corresponding terminal according to the wiring diagram on the electric control box cover. And make sure that they are well connected.

6.7 Screw the cable clamp to fasten the cables.

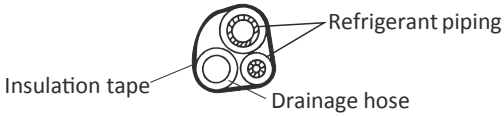
6.8 Reinstall the electric control box cover and front panel.



Step7: Wrap Piping and Cable

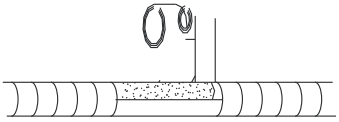
After the refrigerant pipes, drainage hose is istalled, in order to save space, protect and insulate them, It must be bundle with insulating tape before passing them through the wall hole.

7.1 Arrange the pipes ,cables and drainage hose well as the following picture.



Note: (I) Make sure the drainage hose is at the bottom.
(II) Avoid crossing and bending of parts.

7.2 Using the insulating tape wrap the refrigerant pipes, connecting wires and drainage hose together tightly.



Step8: Mount Indoor Unit

8.1 Slowly pass the refrigerant pipes, connecting wires and drainage hose wrapped bundle through the wall hole.
8.2 Hook the top of indoor unit on the mounting plate.
8.3 Apply slight pressure to the left and right sides of the indoor unit, make sure the indoor unit is hooked firmly.
8.4 Push down the bottom of indoor unit to let the snaps onto the hooks of the mounting plate, and make sure it is hooked firmly.

Sometimes, if the refrigerant pipes were already embedded in the wall, or if you want to connect the pipes and wires on the wall, do as below:
(I) Hook the top of the indoor unit on the mounting plate without piping and wiring.
(II) Lift the indoor unit opposite the wall, unfold the bracket on the mounting plate, and use this bracket to prop up the indoor unit, there will be a big space for operation.
(III) Do the refrigerant piping, wiring, connect drainage hose, and wrap them as **Step 4 to 7**.

OUTDOOR UNIT INSTALLATION

Step1: Select Installation Location

Select a site that allows for the following:

1.1 Do not install the outdoor unit near sources of heat, steam or flammable gas.

1.2 Do not install the unit in too windy or dusty places.

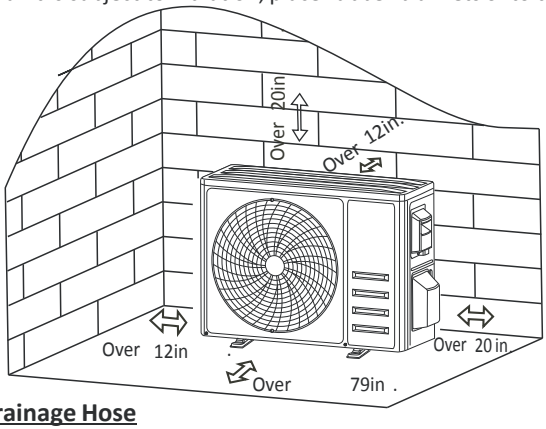
1.3 Do not install the unit where people often pass. Select a place where the air discharge and operating sound will not disturb the neighbors.

1.4 Avoid installing the unit where it will be exposed to direct sunlight (other wise use a protection, if necessary, that should not interfere with the air flow).

1.5 Reserve the spaces as shown in the picture for the air to circulate freely.

1.6 Install the outdoor unit in a safe and solid place.

1.7 If the outdoor unit is subject to vibration, place rubber blankets onto the feet of the unit.

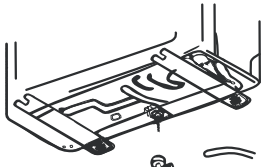


Step2: Install Drainage Hose

2.1 This step only for heat pump models or RCACs.

2.2 Insert the drainage joint to the hole at the bottom of the outdoor unit.

2.3 Connect the drainage hose to the joint and make the connection well enough.



Drainage joint Drainage hose

Step3: Fix Outdoor Unit

3.1 According to the outdoor unit installation dimensions to mark the installation position for expansion bolts .

3.2 Drill holes and clean the concrete dust and place the bolts .

3.3 If applicable install 4 rubber blankets on the hole before place the outdoor unit (Optional). This will reduce vibrations and noise.

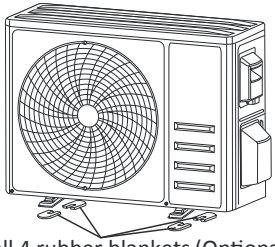
3.4 Place the outdoor unit base on the bolts and pre-drilled holes.

3.5 Use wrench to fix the outdoor unit firmly with bolts.

Note:

The outdoor unit can be fixed on a wall-mounting bracket. Follow the instruction of the wall-mounting bracket to fix the wall-mounting bracket on the wall, and then fasten the outdoor unit on it and keep it horizontal.

The wall-mounting bracket must be able to support at least 4 times of the weight of outdoor unit.

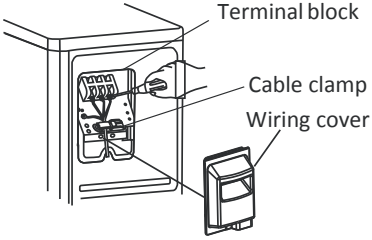


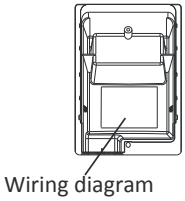
Install 4 rubber blankets (Optional)

OUTDOOR UNIT INSTALLATION

Step4: Install Wiring

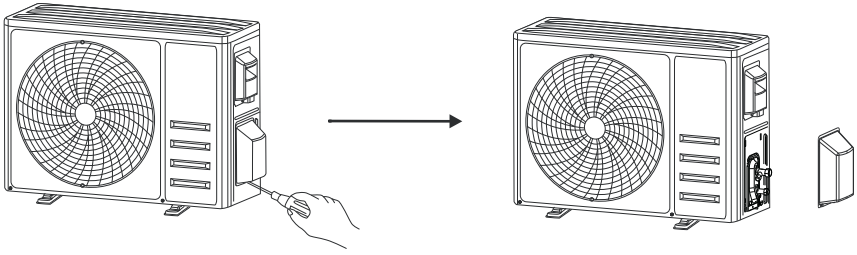
4.1 Use a phillips screwdriver to unscrew wiring cover,grasp and press it down gently to take it down.
4.2 Unscrew the cable clamp and take it down.
4.3 According to the wiring diagram pasted inside the wiring cover, connect the connecting wires to the corresponding terminals, and ensure all connections are firmly and securely.
4.4 Reinstall the cable clamp and wiring cover.
Note: When connecting the wires of indoor and outdoor units, the power should be cut off.

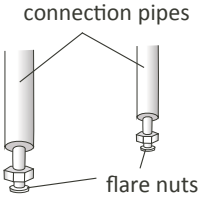


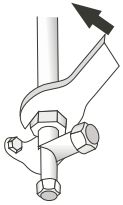


Step5:Connecting Refrigerant Pipe

5.1 Unscrew the valve cover, grasp and press it down gently to take it down(if the valve cover is applicable).
5.2 Remove the protective caps from the end of valves.
5.3 Take off the plastic cover in the pipe ports and check whether there is any sundry on the port of the connecting pipe and make ensure the port is clean.
5.4 After aligning the center, rotate the flare nut of the connecting pipe to tighten the nut as tightly as possible by hand.
5.5 Use a spanner to hold the body of the valve and use a torque wrench to tighten the flare nut according to the torque values in the torque requirements table.
(Refer to the torque requirements table on section **INSTALLATION PRECAUTIONS**)







Step6: Vacuum Pumping

6.1 Use a spanner to take down the protective caps from the service port, low pressure valve and high pressure valve of the outdoor unit.

6.2 Connect the pressure hose of manifold gauge to the service port on the outdoor unit low pressure valve.

6.3 Connect the charge hose from the manifold gauge to the vacuum pump.

6.4 Open the low pressure valve of the manifold gauge and close the high pressure valve.

6.5 Turn on the vacuum pump to vacuum the system.

6.6 The vacuum time should not be less than 15 minutes, or make sure the compound gauge indicates -0.1 MPa (-76 cmHg)

6.7 Close the low pressure valve of the manifold gauge and turn off the vacuum.

6.8 Hold the pressure for 5 minutes, make sure that the rebound of compound gauge pointer does not exceed 0.005 MPa.

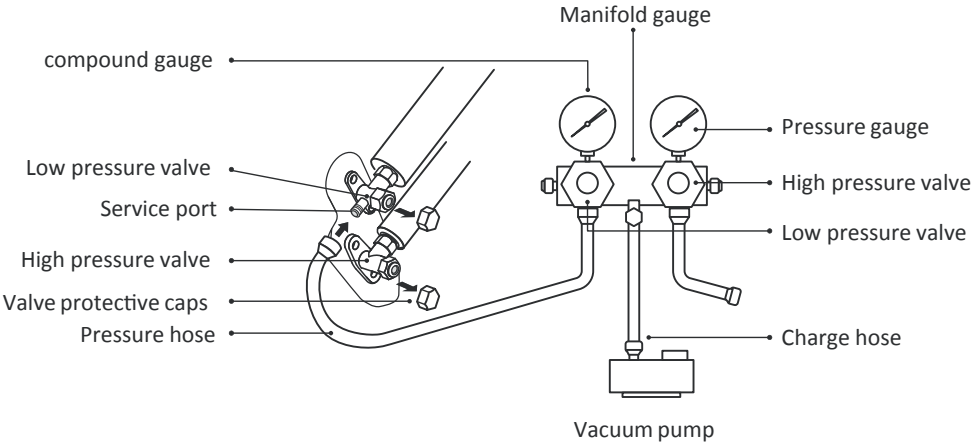
6.9 Open the low pressure valve counterclockwise for 1/4 turn with hexagonal wrench to let a little Refrigerant fill in the system, and close the low pressure valve after 5 seconds and quickly Remove the pressure hose.

6.10 Check all indoor and outdoor joints for leakage with soapy water or leak detector.

6.11 Fully open the low pressure valve and high pressure valve of the outdoor unit with hexagonal wrench.

6.12 Reinstall the protective caps of the service port, low pressure valve and high pressure valve of the outdoor unit.

6.13 Reinstall the valve cover.



TEST OPERATION

Inspections Before Test Run

Do the following checks before test run.

Description	Inspection method
Electrical safety inspection	• Check whether the power supply voltage complies with specification. • Check whether there is any wrong or missing connection between the power lines, signal line and earth wires. • Check whether the earth resistance and insulation resistance comply with requirements.
Installation safety inspection	• Confirm the direction and smoothness of drainage pipe. • Confirm that the joint of refrigerant pipe is installed completely. • Confirm the safety of outdoor unit, mounting plate and indoor unit installation. • Confirm that the valves are fully open. • Confirm that there are no foreign objects or tools left inside the unit. • Complete installation of indoor unit air inlet grille and panel.
Refrigerant leakage detection	• The piping joint, the connector of the two valves of the outdoor unit, the valve spool, the welding port, etc., where leakage may occur. • Foam detection method: Apply soapy water or foam evenly on the parts where leakage may occur, and observe whether bubbles appear or not, if not, it indicates that the leakage detection result is safe. • Leak detector method: Use a professional leak detector and read the instruction of operation, detect at the position where leakage may occur. • The duration of leak detection for each position should last for 3 minutes or more; If the test result shows that there is leakage, the nut should be tightened and tested again until there is no leakage; After the leak detection is completed, wrap the exposed pipe connector of indoor unit with thermal insulation material and wrap with insulation tape.

TEST OPERATION

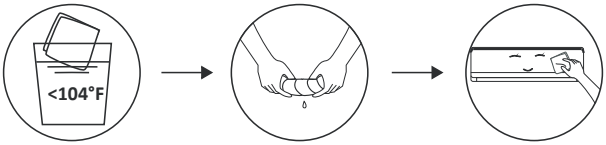
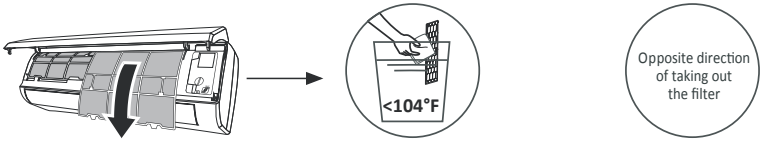
Test Run Instruction

1. Turn on the power supply.
2. Press the ON/OFF button on the remote controller to turn on the air conditioner.
3. Press the Mode button to switch the mode COOLING and HEATING.
   In each mode set as below:
   COOLING -Set the lowest temperature
   HEATING-Set the highest temperature
4. Run about 8 minutes in each mode and check all functions are properly run and respond the remote controller. Functions check as recommended:
   4.1 If the outlet air temperature responds to the cooling and heating modes
   4.2 If the water drains properly from the drainage hose
   4.3 If the Louver and deflectors(optional) rotate properly
5. Observe the test run state of the air conditioner at least 30 minutes.
6. After the successfully test run, return the normal setting and press ON/OFF button on the remote controller to turn off the unit.
7. Inform the user to read this manual carefully before use, and demonstrate to the user how to use the air conditioner, the necessary knowledge for service and maintenance, and the reminder for storage of accessories.

Note:

If the ambient temperature exceeds the range mentioned in the section OPERATION INSTRUCTIONS, and it can not run COOLING or HEATING mode, lift the front panel and refer to the emergency button operation to run the COOLING and HEATING mode.

MAINTENANCE

⚠ **Warning**	• When cleaning, you must shut down the machine and cutoff the power supply for more than 5 minutes. • Under no circumstances should the air conditioner be flushed with water. • Volatile liquid (e.g. thinner or gasoline) will damage the air conditioner, so only use soft dry cloth or wet cloth dipped with neutral detergent to clean the air conditioner. • Pay attention to cleaning the filter screen regularly to avoid dust covering which will affect the filter screen effect.When the operating environment is dusty, the cleaning frequency should be increased appropriately. • After removing the filter screen, do not touch the fins of the indoor unit to avoid scratching.
Clean the unit	 Wring it dry and gently wipe the surface of the unit Tip: Wipe frequently to keep air conditioner clean and good appearance .
Clean the filter	 Take out the filter from the unit Clean the filter with soapy water and air dry it Replace the filter Tip: When you find accumulated dust in the filter, please clean the filter in time to ensure the clean, healthy and efficient operation inside the air conditioner.
Service and maintenance	• When the air conditioner is not in use for a longtime, do the following work: Take out the batteries of the remote controller and disconnect the power supply of the air conditioner. • When starting to use after long-term shutdown: 1. Clean the unit and filter screen; 2. Check whether there are obstacles at the air inlet and outlet of indoor and outdoor units; 3. Check whether the drain pipe is unobstructed; Install the batteries of the remote controller and check whether the power is on.

TROUBLESHOOTING

MALFUNCTION	POSSIBLE CAUSES
The appliance does not operate	Power failure/plug pulled out.
	Damaged indoor/outdoor unit fan motor.
	Faulty compressor thermomagnetic circuit breaker.
	Faulty protective device or fuses.
	Loose connections or plug pulled out.
	It sometimes stops operating to protect the appliance.
	Voltage higher or lower than the voltage range.
	Active TIMER-ON function.
	Damaged electronic control board.
Strange odor	Dirty air filter.
Noise of running water	Back flow of liquid in the refrigerant circulation.
A fine mist comes from the air outlet	This occurs when the air in the room becomes very cold, for example in the “COOLING” or “DEHUMIDIFYING/DRY” modes.
A strange noise can be heard	This noise is made by the expansion or contraction of the front panel due to variations in temperature and does not indicate a problem.
Insufficient airflow, eitherhot or cold	Unsuitable temperature setting.
	Obstructed air conditioner intakes and outlets.
	Dirty air filter.
	Fan speed set at minimum.
	Other sources of heat in the room.
	No refrigerant.
The appliance does not respond to commands	Remote control is not close enough to indoor unit.
	The batteries of remote control need to be replaced.
	Obstacles between remote control and signal receiver in indoor unit.
The display is off	Active DISPLAY function.
	Power failure.
Switch off the air conditioner immediately and cut off the power supply in the event of:	Strange noises during operation.
	Faulty electronic control board.
	Faulty fuses or switches.
	Spraying water or objects inside the appliance.
	Overheated cables or plugs.
	Very strong smells coming from the appliance.

TROUBLESHOOTING

ERROR CODE ON THE DISPLAY

In case of error, the display on the indoor unit shown the following error codes:

Display	Description of the trouble
E1	Indoor room temperature sensor fault
E2	Indoor pipe temperature sensor fault
E3	Outdoor pipe temperature sensor fault
E4	Refrigerantsystem leakage or fault
E6	Malfunction of indoor fan motor
E7	Outdoor ambient temperature sensor fault
E0	Indoor and outdoor communication fault
E8	Outdoor discharge temperature sensor fault
E9	Outdoor IPM module fault
EA	Outdoor current detect fault
EE	Outdoor PCB EEPROM fault
EF	Outdoor fan motor fault
EH	Outdoor suction temperature sensor fault

DISPOSAL GUIDELINE

This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance,the law requires special collection and treatment. **DO NOT** dispose of this product as household waste or unsorted municipal waste.

When disposing of this appliance, you have the following options:

- Dispose of the appliance at designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will take back the old appliance free of charge.
- The manufacturer will also take back the old appliance free of charge.
- Sell the appliance to certifid scrap metal dealers.
- Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.

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MORE THAN A COMPLIMENT

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