

Hisense

USE AND INSTALLATION INSTRUCTIONS




Factory model
AKT-09UR4RK8
AKT-12UR4RK8
AKT-18UR4RK8

Market model
AKT-25UR4RK8
AKT-35UR4RK8
AKT-50UR4RK8

Thank you very much for purchasing this Air Conditioner. Please read this **use and installation instructions** carefully before installing and using this appliance and keep this manual for future reference.

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Alert Symbols:

-  **DANGER** : The symbol refers to a hazard which can result in severe personal injury or death.
-  **WARNING** : The symbol refers to a hazard or an unsafe practice which may result in severe personal injury or death.
-  **CAUTION** : The symbol refers to a hazard or an unsafe practice which may result in personal injury, product or property damage.
- NOTE** : It refers to the remarks and instruction to the operation, maintenance, and service.

- This air-conditioner should be installed properly by qualified personnel in accordance with the installation instructions provided with the unit.
- Before installation, check if the voltage of the power supply at installation site is the same as the voltage shown on the nameplate.

 **DANGER**

- You must not carry on any transformation to this product, otherwise, it may cause water leakage, breakdown, short-circuit, electric shock, fire, and so on.
- Piping, welding and other such works should be carried out far away from the flammable explosive material vessels, including the air-conditioner refrigerant, to guarantee the security of the site.
- To protect the air-conditioner from heavy corrosion, avoid installing the outdoor unit where sea water can splash directly onto it or in sulphurous air near a spa. Do not install the air-conditioner where excessively high heat-generating objects are placed.

 **WARNING**

- If the supply cord is damaged, it must be replaced by the factory or its service department in case of danger.
- The place where this product is installed must have the reliable electrical grounding facility and protection. Please do not connect the grounding of this product to various kinds of air-feeding ducts, drain piping, lightning protection facility as well as other piping lines to avoid receiving an electric shock and damages caused by other factors.
- Wiring must be done by a qualified electrician. All the wiring must comply with the local electrical codes.
- Consider the capacity of the electric current of your electrical meter and socket before installation.
- The power wire where this product is installed is supposed to have the independent leakage protective device and the electric current over-load protection device which are provided for this product.
- 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.
- Means for disconnection, which can provide full disconnection in all poles, must be incorporated in the fixed wiring in accordance with the wiring rules.

- **Read this manual carefully before using this air-conditioner. If you still have any difficulties or problems, consult your dealer for help.**
- **The air-conditioner is designed to provide you with comfortable room conditions. Use this unit only for its intended purpose as described in this instruction manual.**

CAUTION Statements

WARNING

- Never use gasoline or other inflammable gas near the air-conditioner, which is very dangerous.
- When the air conditioner operation is abnormal, such as burnt smell, deformation, fire, smoke, and so on, it is forbidden to continue using the air conditioner, the main power switch of the air conditioner must be cut off immediately and the agent must be contacted.

CAUTION

- Do not turn the air-conditioner on or off from the main power switch. Use the ON/OFF operation button.
- Do not stick anything into the air inlet and air outlet of both the indoor and outdoor units. This is dangerous because the fan is rotating at a high speed.
- Do not cool or heat the room too much if babies or invalids are present.
- The method of connection of the appliance to the electrical supply and interconnection of separate components, and the wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord are detailed in below parts.
- The cord of the H07RN-F type or the electrically equivalent type must be used for power connection and interconnection between outdoor unit and indoor unit. The size of the cord is detailed in outdoor instruction manual.
- Type and rating of circuit breakers / ELB are detailed in outdoor instruction manual.
- The information of dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures is detailed in below parts.

NOTE:

- **Storage condition:** Temperature -25~60°C
Humidity 30%~80%
- Heating and electric heater function are not available for cooling only models.

Precautions for using R32 refrigerant

The basic installation work procedures are the same as the conventional refrigerant (R22 or R410A). However, pay attention to the following points:

WARNING

1. Transport of equipment containing flammable refrigerants.

Attention is drawn to the fact that additional transportation regulations may exist with respect to equipment containing flammable gas. The maximum number of pieces of equipment or the configuration of the equipment, permitted to be transported together will be determined by the applicable transport regulations.

2. Marking of equipment using signs

Signs for similar appliances (containing flammable refrigerants) used in a work area generally are addressed by local regulations and give the minimum requirements for the provision of safety and/or health signs for a work location. All required signs are to be maintained and employers should ensure that employees receive suitable and sufficient instruction and training on the meaning of appropriate safety signs and the actions that need to be taken in connection with these signs. The effectiveness of signs should not be diminished by too many signs being placed together. Any pictograms used should be as simple as possible and contain only essential details.

3. Disposal of equipment using flammable refrigerants

Compliance with national regulations

4. Storage of equipment/appliances

The storage of equipment should be in accordance with the manufacturer's instructions.

5. Storage of packed (unsold) equipment

- Storage package protection should be constructed such that mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge.
- The maximum number of pieces of equipment permitted to be stored together will be determined by local regulations.

6. Information on servicing

6-1 Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following precautions should be complied with prior to conducting work on the system.

6-2 Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of flammable gas or vapour being present while the work is being performed.

6-3 General work area

- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.
- The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

6-4 Checking for presence of refrigerant

- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.
- Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

6-5 Presence of fire extinguisher

- If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand.
- Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

6-6 No ignition sources

- No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion.
- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space.
- Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

6-7 Ventilated area

- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work.
- A degree of ventilation shall continue during the period that the work is carried out.
- The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

6-8 Checks to the refrigeration equipment

- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification.
- At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.

WARNING

- The following checks shall be applied to installations using flammable refrigerants:
 - The charge size is in accordance with the room size within which the refrigerant containing parts are installed;
 - The ventilation machinery and outlets are operating adequately and are not obstructed;
 - If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
 - Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
 - Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

6-9 Checks to electrical devices

- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.
- If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.
- If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used.
- This shall be reported to the owner of the equipment so all parties are advised.
- Initial safety checks shall include:
 - That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
 - That there no live electrical components and wiring are exposed while charging, recovering or purging the system;
 - That there is continuity of earth bonding.

7. Repairs to sealed components

- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.
- If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected.
- This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
- Ensure that apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
- Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE: The use of silicon sealants may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

8. Repair to intrinsically safe components

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer.
- Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

9. Cabling

- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.
- The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

WARNING

10. **Detection of flammable refrigerants**

- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.
- A halide torch (or any other detector using a naked flame) shall not be used.

11. **Leak detection methods**

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants:

- Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)
- Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
- Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.
- Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
- If a leak is suspected, all naked flames shall be removed/ extinguished.
- If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.
- Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

12. **Removal and evacuation**

- When breaking into the refrigerant circuit to make repairs – or for any other purpose –conventional procedures shall be used.
- However, it is important that best practice is followed since flammability is a consideration.
- The following procedure shall be adhered to:
 - Remove refrigerant;
 - Purge the circuit with inert gas;
 - Evacuate;
 - Purge again with inert gas;
 - Open the circuit by cutting or brazing.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
- The system shall be “flushed” with OFN to render the unit safe.
- This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for this task.
- Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.
- This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- This operation is absolutely vital if brazing operations on the pipe-work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

13. **Charging procedures**

- In addition to conventional charging procedures, the following requirements shall be followed:
 - Ensure that contamination of different refrigerants does not occur when using charging equipment.
 - Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
 - Cylinders shall be kept upright.
 - Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
 - Label the system when charging is complete (if not already).
 - Extreme care shall be taken not to overfill the refrigeration system.
 - Prior to recharging the system it shall be pressure tested with OFN.
- The system shall be leak tested on completion of charging but prior to commissioning.
- A follow up leak test shall be carried out prior to leaving the site.

14. **Decommissioning**

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail.
It is recommended good practice that all refrigerants are recovered safely.

WARNING

Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.
- c) Before attempting the procedure ensure that:
 - Mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - All personal protective equipment is available and being used correctly;
 - The recovery process is supervised at all times by a competent person;
 - Recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with manufacturer's instructions.
- h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

15. Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant.

The label shall be dated and signed.

Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

16. Recovery

- When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.
- Ensure that the correct number of cylinders for holding the total system charge is available.
- All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).
- Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.
- Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants.
- In addition, a set of calibrated weighing scales shall be available and in good working order.
- Hoses shall be complete with leak-free disconnect couplings and in good condition.
- Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release.
- Consult manufacturer if in doubt.
- The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged.
- Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
- The evacuation process shall be carried out prior to returning the compressor to the suppliers.
- Only electric heating to the compressor body shall be employed to accelerate this process.
- When oil is drained from a system, it shall be carried out safely.





⚠ **WARNING**

- Appliance shall be installed, operated and stored in a room with a floor area larger than X (X see below).
- The installation of pipe-work shall be kept to a room with a floor area larger than X (X see below).
- The pipe-work shall be complied with national gas regulations.
- When moving or relocating the air conditioner, consult experienced service technicians for disconnection and reinstallation of the unit.
- Do not place any other electrical products or household belongings under indoor unit or outdoor unit.
- Condensation dripping from the unit might get them wet, and may cause damage or malfunction of your property.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- To keep ventilation openings clear of obstruction.
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- The appliance shall be stored in a room without continuously operating open flames (for example an operating gas appliance) and ignition sources (for example an operating electric heater).
- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.
- Servicing shall only be performed as recommended by the equipment manufacturer.
- Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
- The appliance shall be installed and stored so as to prevent mechanical damage from occurring.
- Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated.
- The installation of pipe-work shall be kept to a minimum.
- Mechanical connections shall be accessible for maintenance purposes.

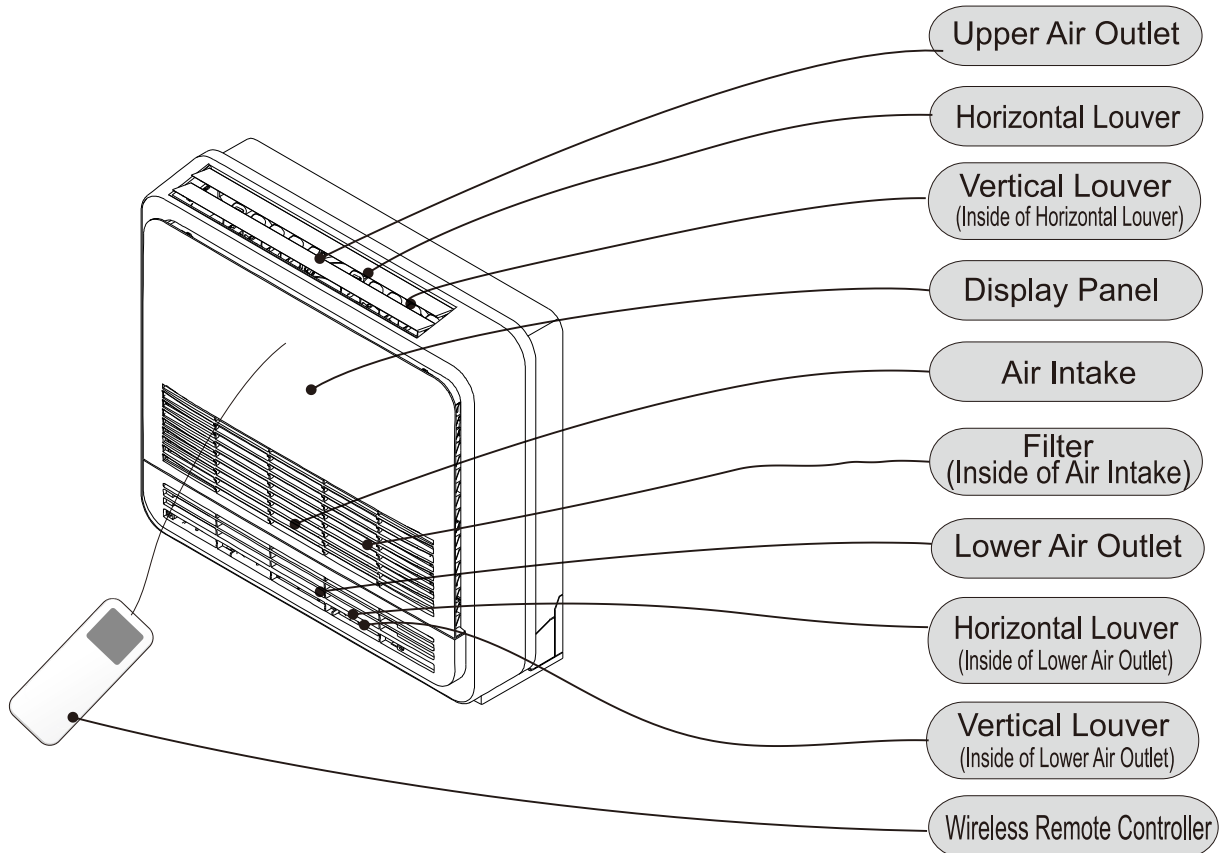
Required minimum room area X (m²)

Series	Model Capacity (Btu/h)	Installation height (m)			
		0.6	1.0	1.8	2.2
Multi-split	9K~18K	111.0	40.0	12.0	8.0
Split	9K/12K	13.3	4.8	1.5	1.0
	14K/18K	30.2	10.9	3.4	2.2

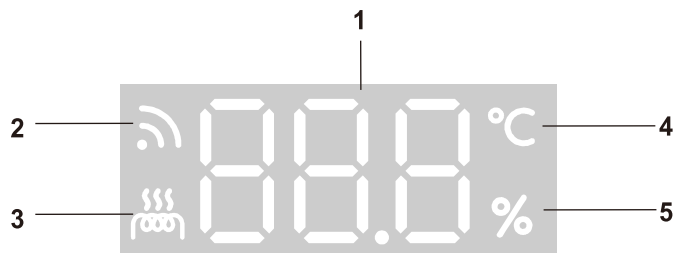
Explanation of symbols displayed on the indoor unit or outdoor unit.

	WARNING	This symbol shows that this appliance uses a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.
	CAUTION	This symbol shows that the operation manual should be read carefully.
	CAUTION	This symbol shows that a service personnel should be handling this equipment with reference to the installation manual.
	CAUTION	This symbol shows that information is available such as the operating manual or installation manual.

Indoor Unit



Display Panel



1 Temperature/humidity indicator

Display indoor set temperature or indoor temperature; Display indoor humidity (models without a humidity sensor display "—").

2 Wi-Fi receiver

It lights up when Wi-Fi is connected. It stops lighting when Wi-Fi is disconnected.

3 Electric heater indicator (It is only valid for the air conditioner with electric heater function.)

It lights up during heating mode when electric heater is on. It stops lighting when heater is completed.

4 Temperature Unit (°C) indicator

It lights up when the air conditioner displays with Celsius temperature, and stops lighting when it is displays with Fahrenheit temperature.

5 Humidity indicator

It lights up when display humidity.

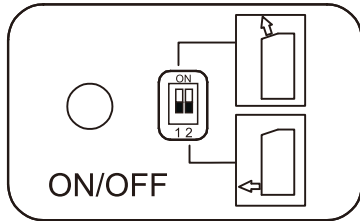
Notes:

Figures in the manual are only simple representation of the appliance, the shape may not comply with the appearance of the air conditioner you purchased.

Changing air flow dipswitch

Change the air flow dipswitch to ON to limit the air flow direction.

- 1) Remove the front grille.
- 2) Switch the dipswitch on right side of the panel to ON.



Switch setting	Air flow	
	Cooling	Heating
ON 1 2		
ON 1 2		
ON 1 2		
ON 1 2		

Note: Air conditioner automatically decides the appropriate blowing pattern.

☑ • The figures in this manual are based on the external view of a standard model. Consequently, the shape may differ from that of the air conditioner you have selected.

Special Remarks

- **3-minute protection after compressor stop**
To protect compressor, it will be off continuously for at least 3 minutes once it has stopped.
- **5-minute protection**
Compressor must run for at least 5 minutes once it has operated. During the 5 minutes, compressor will not stop even that the room temperature reaches the set temperature point unless you use remote controller to turn off the unit (all indoor units can be turned off by user).
- **Cooling operation**
The fan of the indoor unit will never stop running in cooling operation. It continues to operate even if the compressor stops working.
- **Heating operation**
Heating capacity depends on external factors like outdoor unit temperature. Heating capacity might decrease if outdoor ambient temperature is too low.
- **Anti-freezing function during cooling**
When the temperature of the air from the indoor outlet is too low, the unit will run for some time under the ventilating mode, to avoid frost or ice forming on the indoor heat exchanger.
- **Anti cold air function**
When heating, in order to prevent the indoor unit from blowing cold air, the fan speed is controlled at low speed air or stopped in heating mode, and the fan speed is set according to the indoor coil temperature.
- **Defrosting**
When the outdoor temperature is too low, frost or ice may form on the outdoor heat exchanger, reducing heating performance. When this happens, the defrosting system of the air conditioner will operate. At the same time the fan in the indoor unit stops (or runs at a very low speed in some cases), to prevent cold draft. After defrosting is over, the heating operation and the fan speed resume.
- **Blowing out the residual heating air**
When stopping the air conditioner in normal operation, the fan motor will run with low speed for a while to blow out the residual heating air.
- **Auto restart from power break**
When the power supply is recovered after power break, all presets are still effective and the air conditioner will run according to the previous setting.

Trouble Shooting



If the trouble still exists even after checking the following, contact your dealer and inform them of the following items.

1. If Trouble still exists

- (1) Unit Model Name
- (2) Content of Trouble

2. No Operation

Check whether the SET TEMP is set at the correct temperature.

3. Not Cooling or Heating Properly

- Check for obstruction of air flow in outdoor or indoor units.
- Check if there are too many heating sources in the room.
- Check if the air filter is clogged with dust.
- Check if the doors or windows are open.
- Check if the temperature condition is within the operation range.

4. This is Not Abnormal

- **Odour from Indoor Unit**
Unpleasant odour diffuses from indoor unit after a long period of time. Clean the air filter and panels or allow a good ventilation.
- **Sound from Deforming Parts**
During system starting or stopping, a sound might be heard. However, this is due to thermal deformation of plastic parts. It is not abnormal.
- **Steam from Outdoor Heat Exchanger**
During defrosting operation, ice on the outdoor heat exchanger melts resulting in steam.
- **Dew on Air Panel**
When the cooling operation continues for a long period of time under high humidity conditions, dew can form on the air panel.
- **Refrigerant Flow Sound**
While the system is being started or stopped, the refrigerant flow sound may be heard.

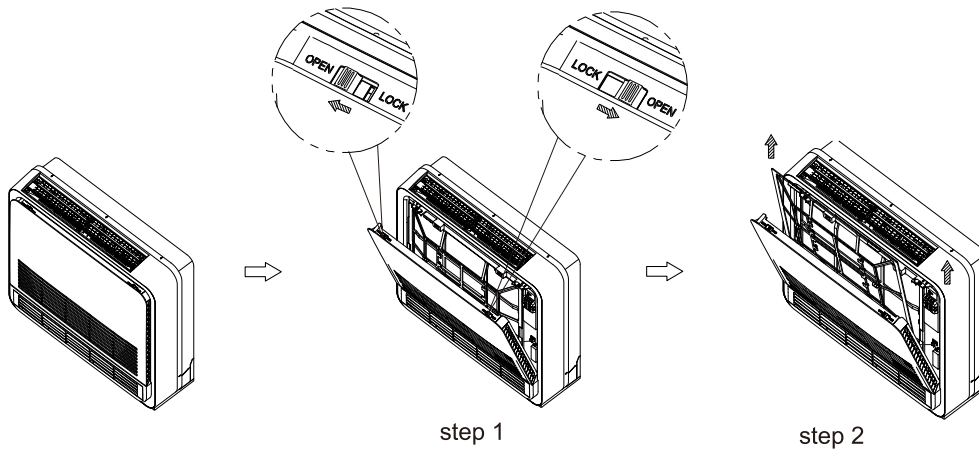
5. Filter Removing and Installing

● Removal method

Take out the air filter according to the following steps.

Step1: Slide until the 2 stoppers click into place as shown.

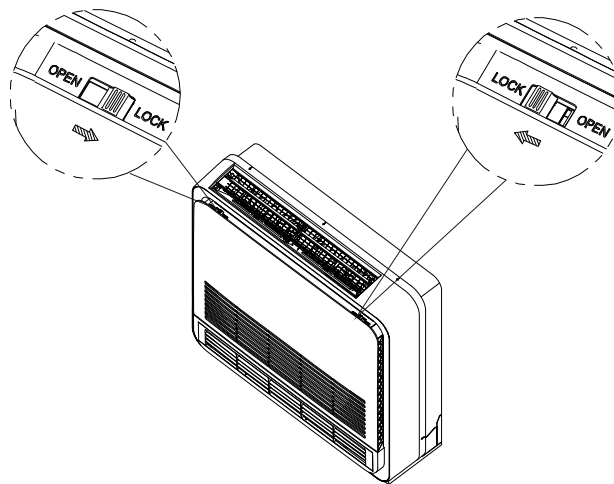
Step2: Open the front grille to an angle of more than 30° and take out the air filter from the front panel.



● Installation method

Step1: Insert the filter to the panel and aim the bottom hooks. Pay attention to top hooks is locked .

Step2: Close the front grille and slide until the 2 stoppers click into place as shown.



6. Mode Interfere(for multi-split)

Multi-zone outdoor units can only support a single mode at one time (cooling or heating).

When the mode set at one or more indoor unit is different from the mode that outdoor unit is using, mode interfere will occur.

	cooling	dry	heating	fan	
Cooling	✓	✓	×	✓	✓ --- Normal
Dry	✓	✓	×	✓	×
Heating	×	×	✓	×	×
Fan	✓	✓	×	✓	×

Outdoor units always use the mode of the first indoor unit that started operation. When mode interfere occurs, the unit in interference will emit 3 beeps and turn off automatically.

1. Safety Notice

WARNING

- Installation should be performed by a qualified personnel. (Improper installation may cause water leakage, electrical shock or fire.)
- Install the unit according to the instructions given in this manual. (Incomplete installation may cause water leakage, electrical shock or fire).
- Be sure to use the supplied or specified installation parts. (Use of other parts may cause the unit to loosen, water leakage, electrical shock or fire).
- Install the air conditioner on a solid base that can support the unit weight. (An inadequate base or incomplete installation may cause injury if it falls off the base).
- Electrical work should be carried out in accordance with the installation manual along with local and national electrical wiring rules or code of practice.
(Insufficient capacity or incomplete electrical work may cause electrical shock or fire).
- Be sure to use a dedicated power circuit. (Never use a power supply shared by another appliance).
- For wiring, use a cable long enough to cover the entire distance, do not use an extension cord.
- Do not put other loads on the power supply, use a dedicated power circuit.
- Use the specified types of wires for electrical connections between the indoor and outdoor units. (Firmly clamp the interconnecting wires so that the terminals receive no external stress).
- Incomplete connections or clamping may cause terminal overheating or fire.
- After establishing connection between all the wires be sure to fix the cables so that they do not put undue force on the electrical covers or panels. (Install covers over the wires, incomplete cover installation may cause terminal overheating, electrical shock or fire).
- When installing or relocating the system, be sure to keep the refrigerant circuit free from substances (such as air) other than the specified refrigerant. (Any presence of air or other foreign substance in the refrigerant circuit causes an abnormal pressure rise or rupture, resulting in injury).
- If any refrigerant has leaked out during the installation work, ventilate the room.
- After all installation is complete, check to make sure that there is no refrigerant leakage. (The refrigerant produces a toxic gas if exposed to flames).
- When carrying out piping connection, do not to let air substances other than the specified refrigerant enter the refrigeration cycle. (Otherwise, it will cause lower performance, abnormal high pressure in the refrigeration cycle, explosion and injury).
- Make sure the installation has a proper earth connection. Do not earth the unit to a utility pipe, arrester, or telephone grounding. Incomplete grounding may cause electrical shock. (A high surge current from lightning or other sources may damage the air conditioner).
- An earth leakage circuit breaker may be required depending on the site condition to prevent electrical shock.
- Disconnect the power supply before wiring, piping, or checking the unit.
- When moving the indoor unit and outdoor unit, please be careful, do not make the outdoor unit incline over 45 degree. Pay attention to the sharp edges of the air conditioner to avoid any injury.
- During wired controller installation, ensure that the length of the wire between the indoor unit and wired controller is within 40 meters.

CAUTION

- Do not install the air conditioner in a place where there is danger of exposure to inflammable gas leakage. (If the gas leaks and builds up around the unit, it may catch fire).
- Establish drain piping according to the instructions in this manual. (Inadequate piping may cause flooding).
- Tighten the flare nut according to the torque specifications with a torque wrench. (If the flare nut is tightened too hard, the flare nut may crack after a long time and cause refrigerant leakage).

2. The Tools and Instruments for Installation

Number	Tool	Number	Tool
1	Standard screwdriver	8	Knife or wire stripper
2	Refrigerant vacuum pump	9	Level
3	Charge hose	10	Hammer
4	Pipe bender	11	Drill
5	Adjustable wrench	12	Flaring kit
6	Pipe cutter	13	Inner hexagon spanner and torque wrench
7	Cross head screwdriver	14	Measuring Tape

3. The Installation of the Indoor Unit

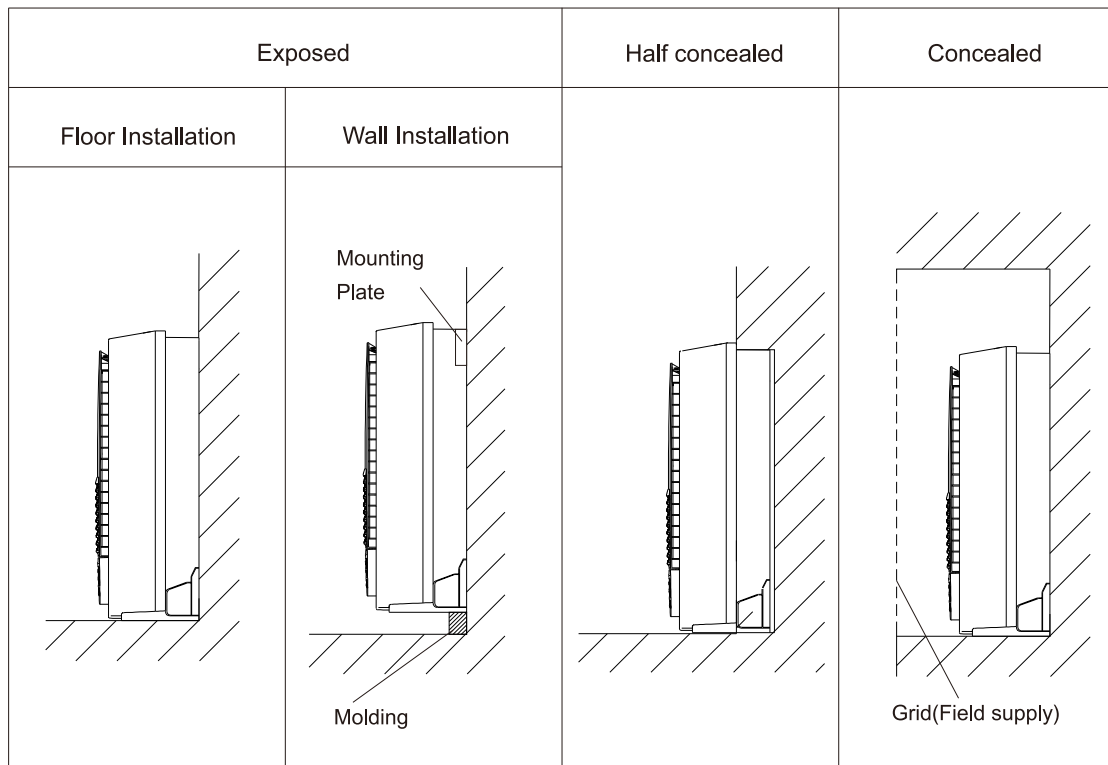


During installation, do not damage the insulation material on the surface of the indoor unit.

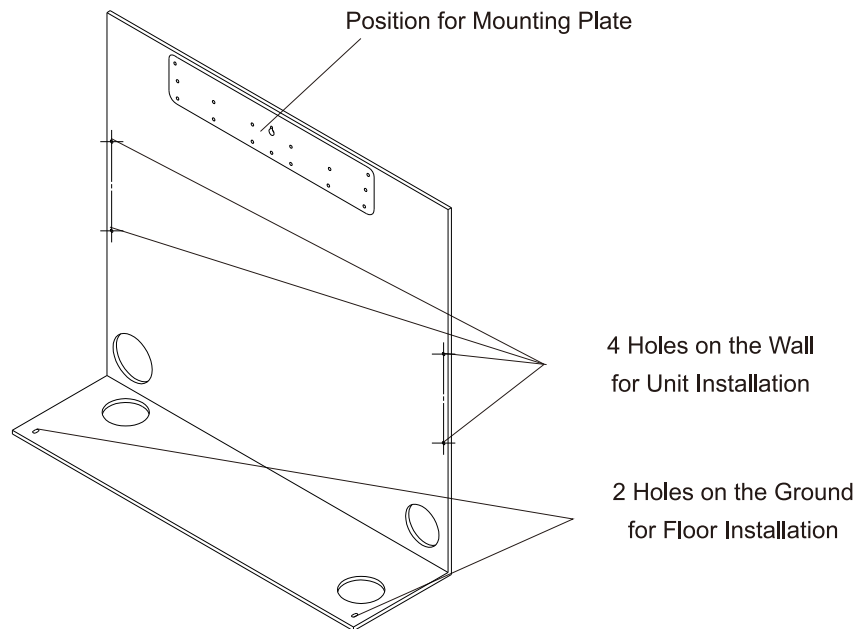
3.1 Before installation

- Wear protective gears when installing the unit.
- Install correctly according to the installation manual.
- Confirm the following points:
 - Unit type/Power supply specification
 - Pipes/Wires/Small parts
 - Accessory items

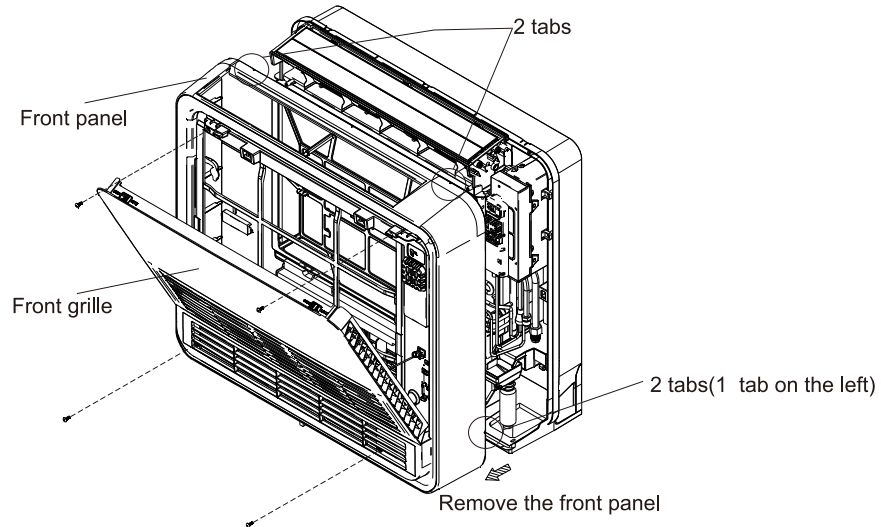
- the indoor unit may be mounted in any of the three styles shown below:



- Location for securing the installation template.



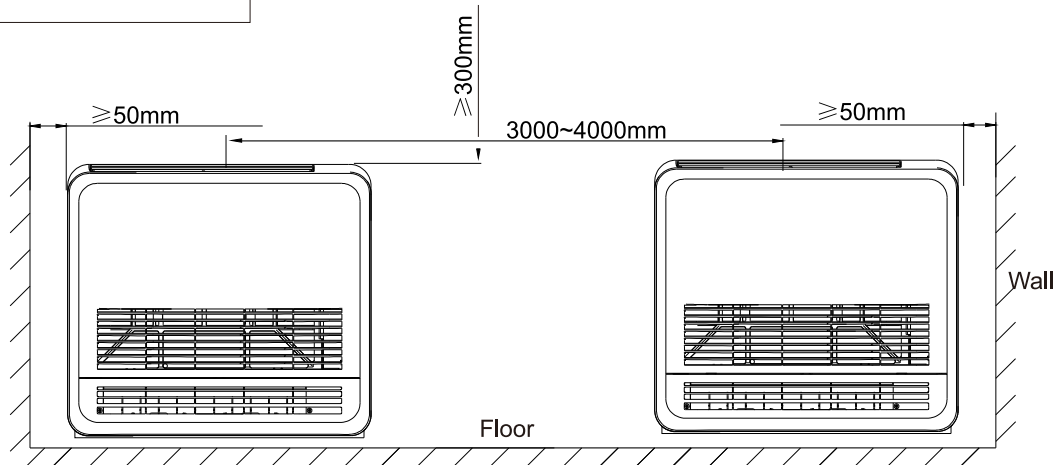
- Removing and installing front panel
- Removal method: Open the front grille. Remove the 4 screws and remove the front panel while pulling it forward(4 tabs indicated by “▼”).
- Installation method: Secure the front panel with the 4 installation screws(4 tabs) .Return the front grille to the original position.



3.2 Installation location

- Select the suitable areas to install the unit under approval of the user.
- The air passage is not blocked.
- Condensate can drain properly.
- The wall is strong enough to bear the weight of the indoor unit. If there is a risk that the wall is not strong enough, reinforce the wall before installing the unit.
- Sufficient clearance for maintenance and servicing is ensured.
- Piping between the indoor and outdoor units is within the allowable limits. (refer to the installation of the outdoor unit)
- The indoor unit, outdoor unit, power supply wiring and transmission wiring is at least 1 meter away from televisions and radio, this prevents image inter-ference and noise in electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if a one-meter allowance is maintained.)
- If there are 2 units of wireless type, keep them away for more than 6m to avoid malfunction due to cross communication.
- When plural indoor units are installed nearby, keep them away for more than 3-4m.

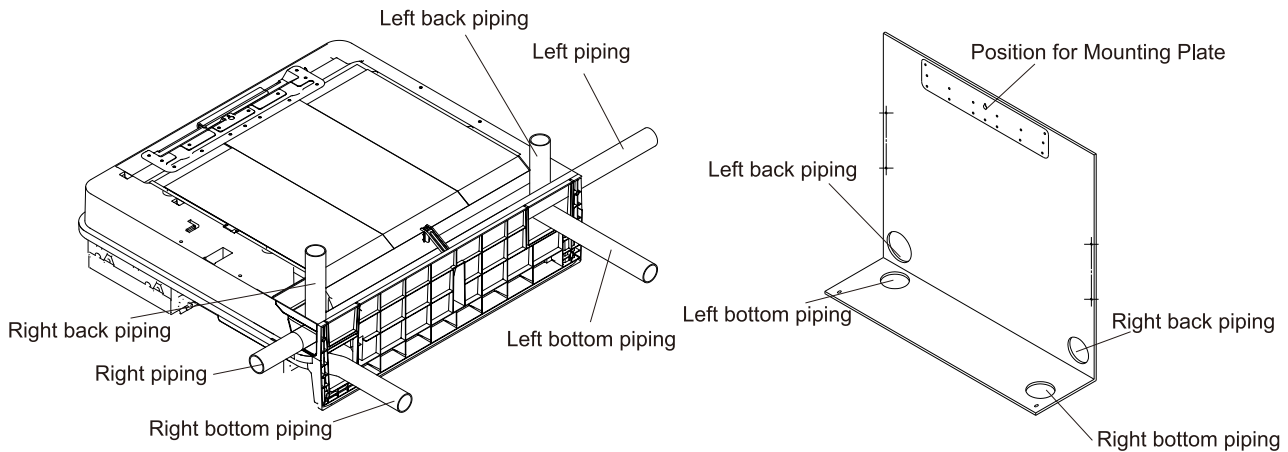
Space for installation and service



3.3 Exposed Installation

3.3.1 Refrigerant piping

- (1) Drill a hole (65mm in diameter) in the spot indicated by "○" symbol in installation template as below.
- (2) The location of the hole is different depending on which side of the pipe is taken out.
- (3) For piping, see **3.3.5 Connecting the refrigerant pipe**.
- (4) Allow space around the pipe for a easier indoor unit pipe connection.

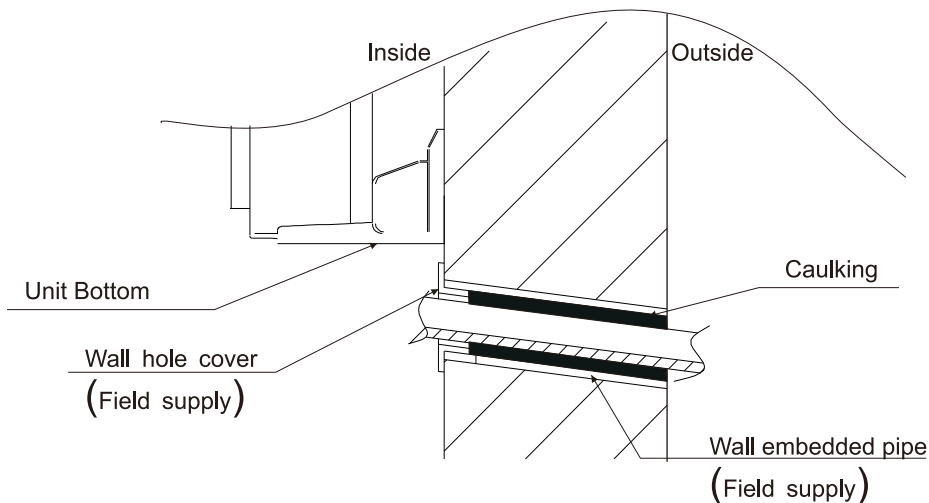


CAUTION

After completing refrigerant piping, wiring, and drain piping, for the indoor unit, caulk the gap between the unit bottom and the pipe with putty, insulation or else to prevent people insert hands into the unit.

3.3.2 Boring a wall hole and installing wall embedded pipe

- For walls containing metal frame or metal board, be sure to use a wall embedded pipe and wall cover in the feed-through hole to prevent possible heat, electrical shock, or fire.
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.
 - (1) Bore a feed-through hole of 65mm in the wall so it has a down slope toward the outside.
 - (2) Insert a wall pipe into the hole.
 - (3) Insert a wall cover into wall pipe.
 - (4) After completing refrigerant piping, wiring, and drain piping, caulk pipe hole gap with putty.



3.3.3 Drain piping

- (1) Use commercial rigid polyvinyl chloride pipe (outdoor diameter 26mm, inner diameter 20mm) for drain pipe.
- (2) The drain hose (315mm long) and water pipe (2000mm long) are supplied with the indoor unit. Prepare the drain pipe picture below position.
- (3) The drain pipe should be inclined downward at a gradient at least 1/100 so that water will flow smoothly without any accumulation. (Should not be trap.)
- (4) Insert the drain hose to this depth (50mm or more) so it won't be pulled out of the drain pipe.
- (5) Insulate the indoor drain pipe with 10mm or more of insulation material to prevent condensation.
- (6) Remove the air filters and pour some water (approximately 1000cc) into the drain pan to check the water flows smoothly.



CAUTION

- . Water accumulating in the drain piping can cause the drain to clog.
- . Do not twist or bend the drain hose, so that excessive force is not applied to it. Failure to do so may cause water leakage.

3.3.4 Installing indoor unit

3.3.4.1 Preparation

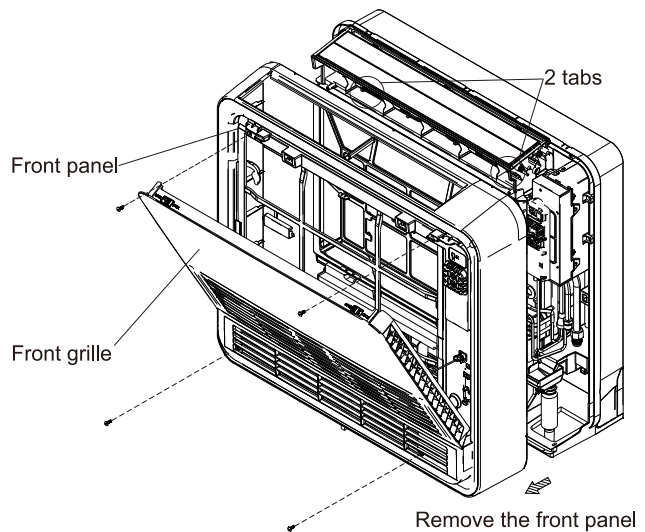
- . Open the front grille, remove the 4 screws and dismount the front panel while pulling it forward.
- . Follow the procedure below when removing the slit portions.

○ For Moldings

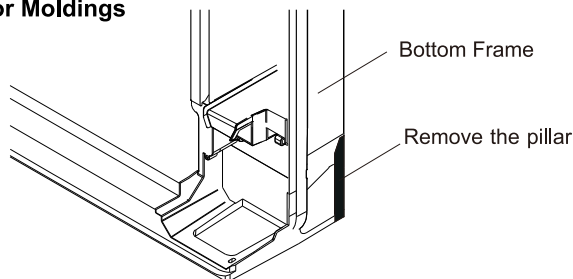
- . Remove the pillars. (Remove the slit portions on the bottom frame using nippers.)

○ For Side Piping

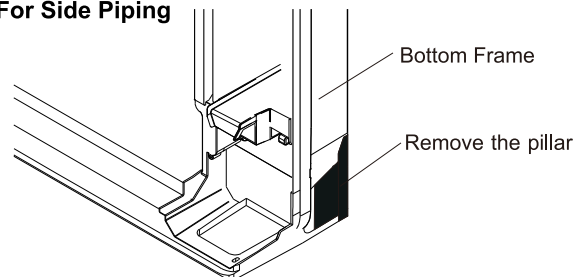
- . Remove the slit portions on the bottom frame using nippers.



For Moldings



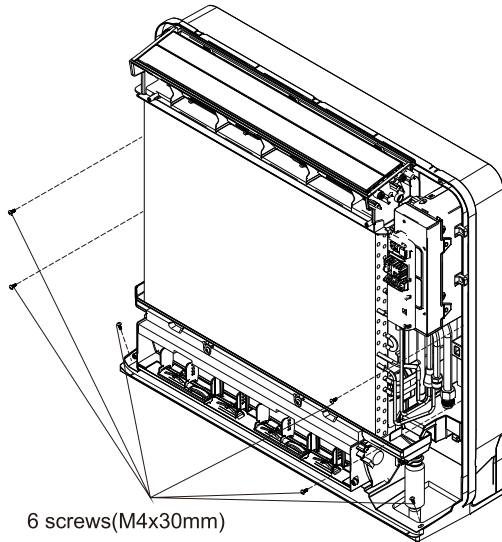
For Side Piping



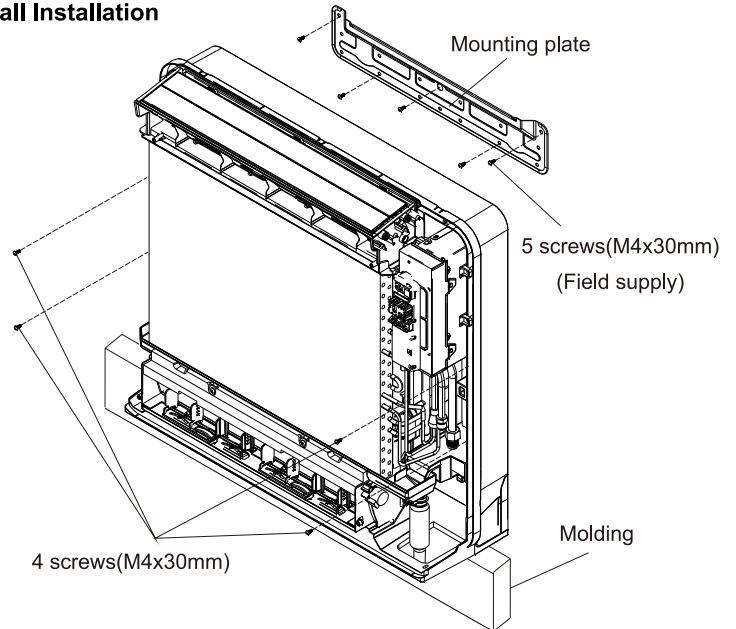
3.3.4.2 Installation

- Secure using 6 screws for floor installations.(Do not forget to secure to the rear wall.)
 - For wall installation, secure the mounting plate using 5 screws and the indoor unit using 4 screws.
 - The mounting plate should be installed on a wall which can support the weight of the indoor unit.
- (1) Temporarily secure the mounting plate to the wall, make sure that the panel is completely level, and mark the boring points on the wall.
 - (2) Secure the mounting plate to the wall with screws.

Floor Installation



Wall Installation



- (3) Once refrigerant piping and drain piping connections are complete, fill in the gap of the through hole with putty. A gap can lead to condensation on the refrigerant pipe, and drain pipe, and the entry of insects into the pipes.
- (4) Attach the front panel and front grille in the original positions once all connections are complete.

3.3.5 Connecting the refrigerant pipe

⚠ DANGER

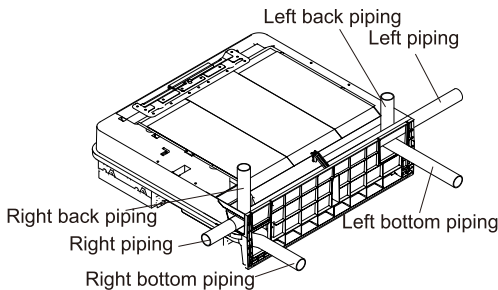
When carrying on the leakage check and test, do not mix in the oxygen, the acetylene and flammable and the virulent gas, for these gases are quite dangerous, and may possibly cause explosion. It is suggested that the compressed air, the nitrogen or the refrigerant be used to perform these experiments.

3.3.5.1 The Pipe Material

- (1) Prepare the copper pipe on the spot.
- (2) Choose dustless, non-humid, clean copper pipe. Before installing the pipe, use nitrogen or dry air to blow away the tube dust and impurity.
- (3) Choose the copper pipe according to the table.

3.3.5.2 The Connection of the Pipe

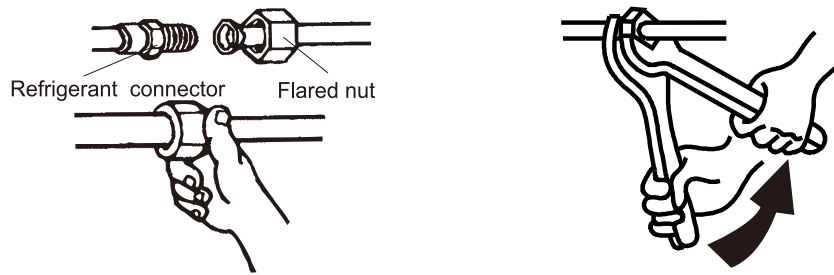
- (1) The connection positions of the pipe are shown as below.



Capacity (Btu/h)	Gas pipe	Liquid pipe
9K/12K	φ9.52	φ 6.35
14K/18K	φ 12.7	φ 6.35

Installation and Maintenance

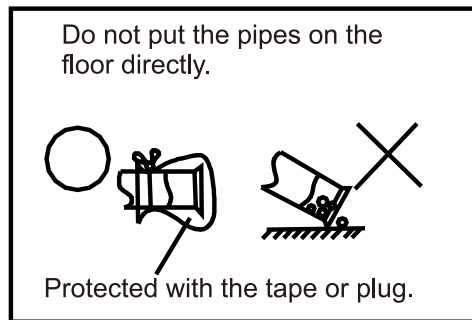
(2) As shown, align the centres of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches. Screw up the nuts with 2 spanners.



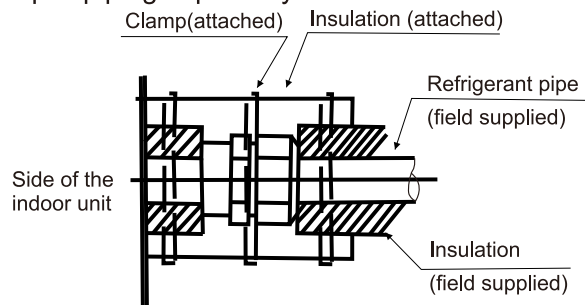
Pipe size	Torque (N.m)
φ 6.35mm	20
φ 9.52mm	40
φ 12.7mm	60

CAUTION

- The pipe go through the hole with the seal.
- Protect the open end of the pipe against dust and moisture.
- All pipe bends should be as gentle as possible. Use a pipe bender for bending.
- Do not put the pipes on the floor directly.

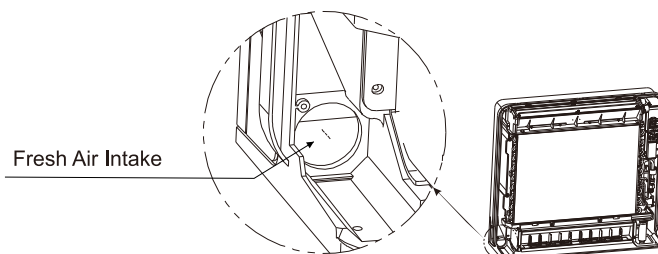


(3) After finishing connecting the refrigerant pipes, keep it warm with the insulation material. Be sure to insulate both the gas and liquid piping separately.



3.3.6 Fresh Air Intake

The unit refreshes your house with a pipe through the Fresh Air Intake.



3.3.7 Electrical wiring

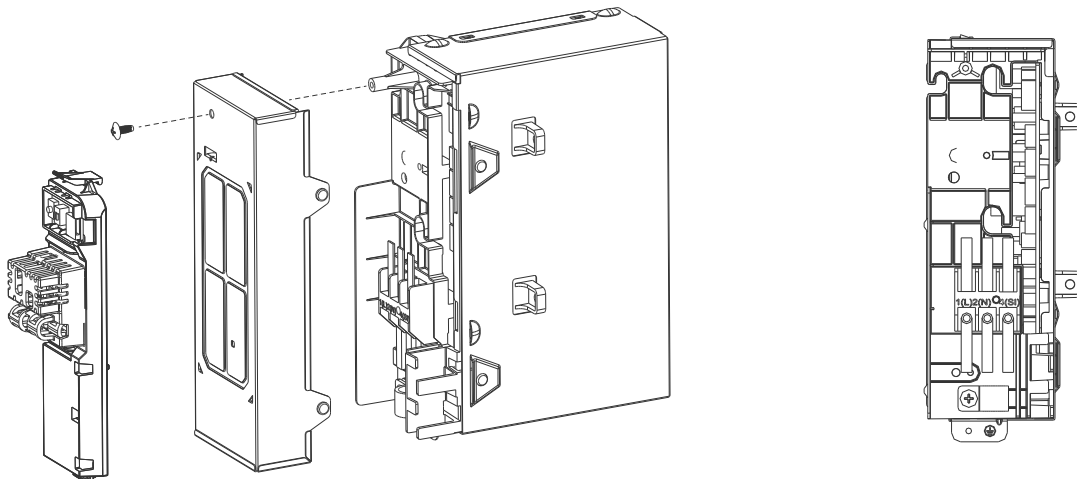
3.3.7.1 General check



- When clamping the wiring, use the included clamping material to prevent outside pressure being exerted on the wiring connections and clamp firmly.
- When doing the wiring, make sure the wiring is neat and does not cause the control box lid to stick up, then close the cover firmly. When attaching the control lid, make sure you do not pinch any wires.
- Outside the machine, separate the weak wiring (remote controller and transmission wiring) and strong wiring (earth and power supply wiring) at least 50 mm so that they do not pass through the same place together. Proximity may cause electrical interference, Malfunction, and breakage.

3.3.7.2 Wiring

- Live the sensor cover, remove the front metal plate cover (1 screw), and connect the branch wiring to the terminal block.
 - (1) Strip wire ends. (15mm)
 - (2) Match wires with terminal numbers on indoor and outdoor unit's terminal blocks and firmly screw wires to the corresponding terminals according to the electric wiring diagram.
 - (3) Connect the power wire to the main terminal.
 - (4) Connect the earth wire to the hole with a symbol “⊕”.
 - (5) Connect the remote control wire to the subsidiary terminal box according to electric wiring diagram.
 - (4) Pull wires to make sure that they are securely latched up, then retain wires with wire holder.
 - (5) Make sure that the wires do not come in contact with the metal conduit for the heat exchanger.



Note: A cable is connected with the terminal for the factory default. Remove the cable before wiring.



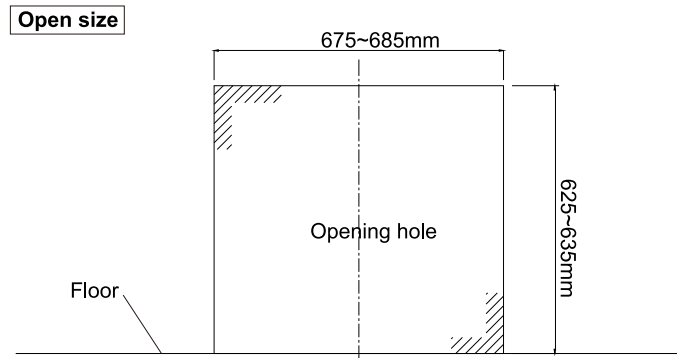
- If the fuses burn up, please call the service agency to instead it. Please do not instead by yourself, or else may result in accident, for example shock.
- Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain power, etc., from the terminal block.) Doing so may cause electric shock or fire.

3.4 Half Concealed Installation

Only items peculiar to this installation method are given here. See **3.3 Exposed Installation** for additional instructions.

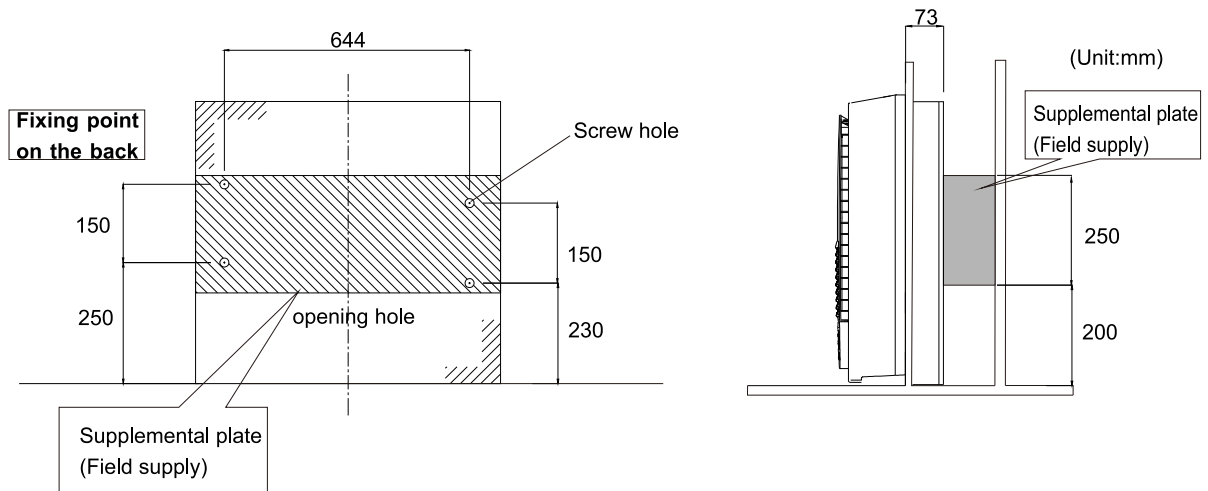
3.4.1 Wall hole

- Drill a wall hole of the size shown in the illustration on the right.



3.4.2 Installation of supplemental plate for attaching main unit

- The rear of the unit can be fixed with screws at the points shown in the illustration as below. Be sure to install the supplemental plate in accordance with the depth of the inner wall.



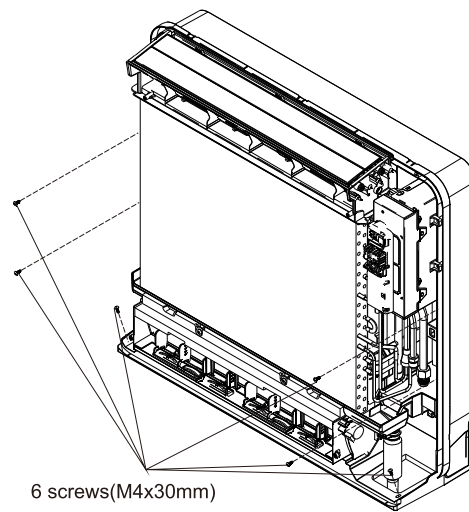
- The supplemental plate for installing the main unit must be used, or there will be a gap between the unit and the wall.

3.4.3 Refrigerant piping

- See 3.3.1 Refrigerant piping under 3.3 Exposed Unit Installation.

3.4.4 Installing indoor unit

- (1) Remove the front panel
- (2) Attach the indoor unit to the wall and secure using screws in 6 locations (M4x30mm).



CAUTION

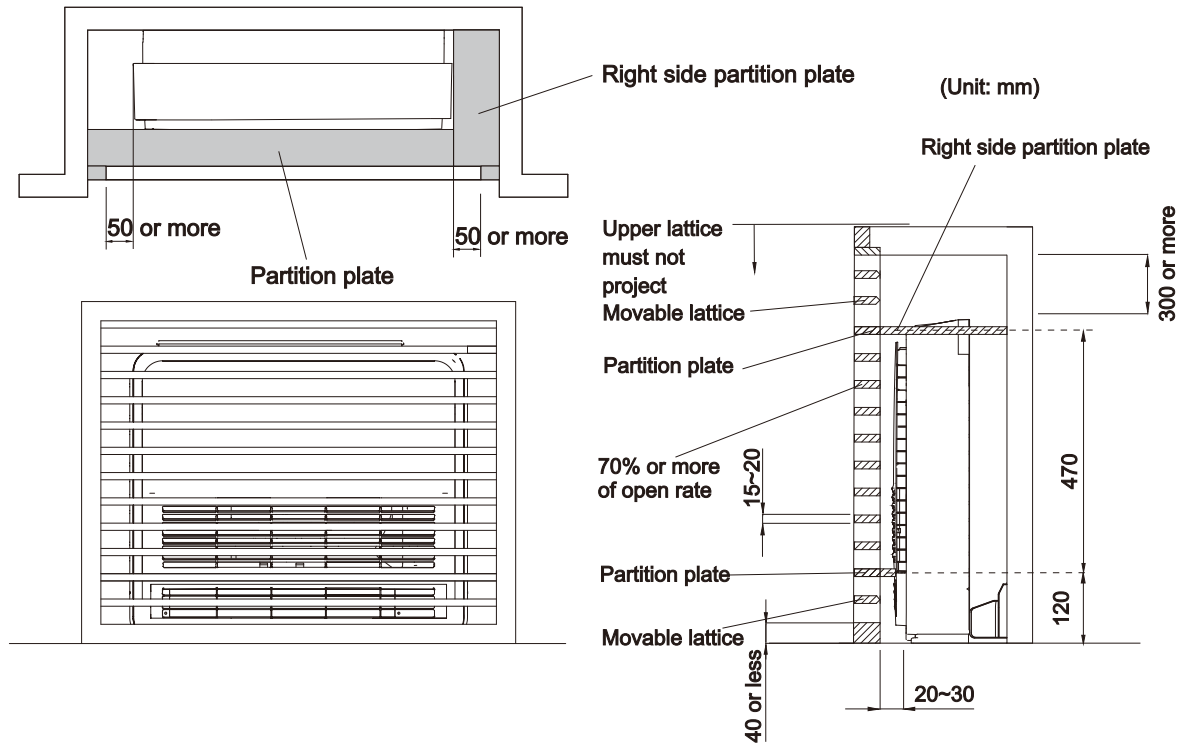
- Use drain pan edge for horizontal projection of the indoor unit.
- Install the indoor unit flush against wall.

3.5 Concealed Installation

Only items peculiar to this installation method are given here. See **3.3 Exposed Installation** for additional instructions.

Install the unit according to the instructions below. Failure to do so may cause lead to both cooling and heating failure and the condensation inside the house.

- (1) Allow enough space between the main unit and ceiling not to obstruct the flow of cool/warm air.
- (2) Place a partition plate between outlet and inlet sections.
- (3) Place a partition plate on the right side.
- (4) Change the upward-blow limit switch.
- (5) Use a movable lattice at the air outlet to allow the adjustment of cool/warm air flow direction.
- (6) Lattice size should be 70% or more of open rate.



3.5.1 Wall hole

- See 3.3.1 Refrigerant piping under 3.3 Exposed Unit Installation.

3.5.2 Changing upward air flow dipswitch

- Change the upward air flow dipswitch to ON to limit the upward air flow.
- (1) Remove the front grille.
 - (2) Switch the dipswitch on the PCB in the electrical equipment box to ON.



Be sure to turn on the upward air flow switch. Failure to do so may cause incomplete cooling/heating and formation of condensation inside the house.

4. Electrical wiring

4.1 General Check

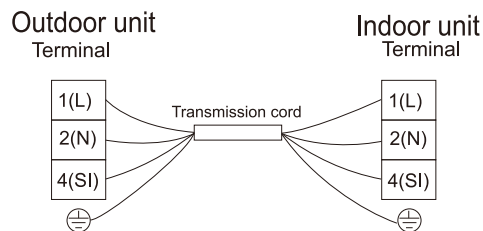


- When clamping the wiring, to prevent external pressure being exerted on the wiring connections, use the clamping material and fix firmly.
- When performing the wiring work, ensure that the wiring is proper and does not cause the control box lid to open up, if so close the cover firmly. When attaching the control lid, make sure that the wires are not affected.
- Outside the unit, keep the weak wiring (remote controller and transmission wiring) and strong wiring (earth and power supply wiring) at least 50 mm away so that they do not pass through the same place together. Proximity may cause electrical interference malfunction and breakage.



- If the fuses blow, please call the service dealer. Please do not replace them by yourself, as it may lead to electric shock and other injuries.
- (1) Remove the screws on the control box.
 - (2) Connect the power cord and earth wire to the main terminal.
 - (3) Connect the remote control wire to the subsidiary terminal box according to electric wiring diagram.
 - (4) Connect the power supply of the indoor and outdoor units to the main terminal.
 - (5) Tie the wire in the control box with the clamp tightly.
 - (6) After completing the wiring, seal the wiring hole with the sealing material (with the lid) to prevent the condensed water and insects entering the wiring space.

4.2 Electrical Wiring Diagram



4.3 Electrical Data

Model Capacity(Btu/h)	Transmitting Cable Size
9K~18K	4 × 1.5mm ²

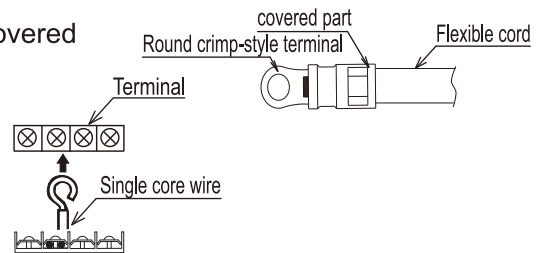
NOTES:

- 1) Follow national and local codes when selecting sizing field wiring, and all the above are the minimum wire sizes.
- 2) The wire sizes marked in the table are selected at the maximum current of the unit according to EN 60335-1 or regional standards. Use the wires which are not lighter than the ordinary polychloroprene sheathed flexible cord (code designation H07RN-F).

When connecting the terminal block using flexible cord, make sure to use the round crimp-style terminal for connection to the power supply terminal block.

Place the round crimp-style terminals on the wires up to the covered part and secure in place.

When connecting the terminal block using a single core wire, be sure to perform curing.



- 3) When the transmission cable exceeds 15 meters, a larger wire size should be selected.
- 4) Use a shielded cable for the transmission circuit and connect it to ground.
- 5) In the case that power cables are connected in series, add each unit maximum current and select wires below.

Selection According to EN60335-1

Current i(A)	Wire Size(mm ²)
$i \leq 6$	0.75
$6 < i \leq 10$	1
$10 < i \leq 16$	1.5
$16 < i \leq 25$	2.5
$25 < i \leq 32$	4
$32 < i \leq 40$	6
$40 < i \leq 63$	10
$63 < i$	*

*In the case that current exceeds 63A, do not connect cables in series.

5. Test Run

Please perform test run according to outdoor unit installation manual.



Correct Disposal of this product

This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.