COMPACT 4-WAY CASSETTE

Q4AN-3-XY D15÷D63

MANUAL
FOR INSTALLATION, USE AND MAINTENANCE

M0Q400002-00 - 01/2024

Preface

Dear users,

Thank you for purchasing and using our product. Please read this manual carefully before you install, use, maintain or troubleshoot this product so that you can understand and use it correctly.

This manual is only applicable to the listed IDU models. For ODUs or other IDUs, please refer to the applicable installation & owner's manuals supplied with them.

For detailed operation of auxiliary control devices, such as wired, remote and centralized controllers, please refer to their instructions.

To ensure correct installation and use of the product, the following instructions are provided:

- To ensure the correct and safe use of the product, please strictly follow the requirements of this manual.
- All figures and contents in this manual are for reference only. Due to continuing product improvement, the specifications are subject to change without notice.
- Regular cleaning and maintenance of the product is required for intended performance and long service life. Each year before using the air conditioner, please contact your local after-sales personnel, and we will assign professionals to provide paid services of cleaning, maintenance, and check.
- Please keep this manual for future reference.

Contents

Please read thoroughly and fully understand the safety precautions (including the signs and symbols) in this manual, and follow relevant instructions during use to prevent damage to health or property.

Safety Warning

1 Warning Signs

Different marks are used to indicate the levels of hazard severity. Please follow the instructions and ensure safe operation.

[Danger]	Failure to observe will result in severe personal injury or death.
[Warning]	Failure to observe could result in severe personal injury or death, or property damage, or electrical or fire hazards.
[Caution]	Failure observe could result in minor personal injury, product or property damage, or other unsafe situations.
[Note]	Useful operation and maintenance information.

Warning signs

Ensure Proper Grounding

Professional Only

Prohibition signs

No Flammable Materials

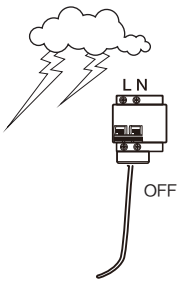
No Strong Current

No Open Fire

No Acid and Alkali Materials

2 Safety Precautions

[Danger]



In a thunderstorm, disconnect the main power switch. Otherwise, lightning may damage the unit.

In the event of refrigerant leakage, smoking or open flames are prohibited. Disconnect the main power switch immediately, open windows for ventilation, keep away from the leakage point, and contact your local dealer or service outlet to ask professionals for repair.

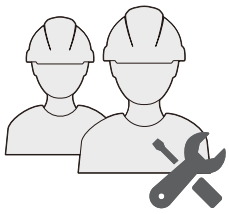
[Warning]

Air conditioner installation must comply with local standards and electrical codes, and relevant instructions in this manual.

Do not use liquid cleanser, liquefied cleanser, or corrosive cleanser to wipe this unit or spray water or other liquids to the unit. Otherwise, the plastic parts of the unit will be damaged and electric shock may occur. Disconnect the main power switch before cleaning and maintenance to avoid accidents.

Ask a professional to remove and reinstall the air conditioner.

Ask a professional for maintenance and repair.



[Caution]

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.

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. (Only European)

Children shall not play with the appliance. (Only European)

Cleaning and user maintenance shall not be made by children without supervision.(Only European)

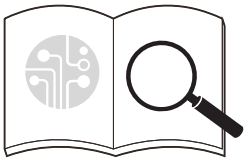
This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.(EN 60335-2-40:2003/A13:2012)

When the product is used for comercial application. This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons,the sound pressure level is below 70 dB(A).

The units <Four-way Cassette Air Conditioner> are partial unit air conditioners, complying with partial unit requirements of this International Standard, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of this International Standard.

3 Electric Safety Requirements

[Warning]



The air conditioner shall be installed according to the local wiring specifications.

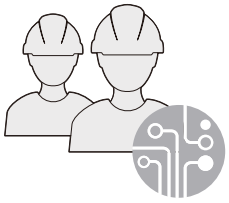
Wiring work must be done by authorized qualified electricians.

All wiring works must comply with electrical safety specifications.

It must be ensured that the air conditioner is well grounded, that is, the main switch of the air conditioner must have a reliable grounding cable.

Before contacting wiring devices, cut off all the power supplies.

The user is prohibited from disassembling and repairing the air conditioner. Otherwise, dangers may occur. In the event of a fault, immediately cut off the power and contact your local dealer or service outlet.

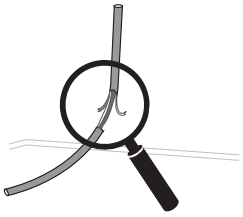


A separate power supply that meets the rated parameter values must be provided for the air conditioner.

The fixed wiring to which the air conditioner is connected must be equipped with a power cut-off device according to the wiring requirements.

To avoid danger, a damaged power cable must be replaced by professionals from the maintenance department or a similar department of the manufacturer.

[Caution]



Always ground the main power switch.

Do not use a damaged power cable and replace it if it is damaged.

When the air conditioner is used for the first time or is in a power-off state for a long time, it needs to be connected to the power supply and preheated for at least 12 hours before use.

Operation

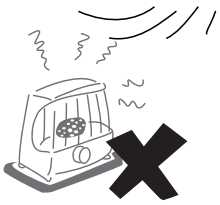
1 Precautions for Use

⚠ [Warning]

If the unit is not used for a long time, disconnect the main power switch. Otherwise, an accident may occur.

The installation height of the air conditioner shall be at least 2.5m above the ground to avoid the following risks:

1. *Non-professional touches moving or live parts, such as fans, motors, or louvers. Running parts may cause harm to you or transmission assemblies may get damaged.*
2. *Too close to the air conditioner may cause reduced comfort.*



When the product is used with a burning appliance, the room must be ventilated regularly. Otherwise, it may cause an insufficient oxygen supply.

Do not let children play with the air conditioner. Otherwise, an accident may occur.

Do not expose the IDUs and controller to moisture or water as this may cause a short circuit or even a fire.

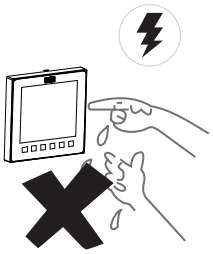
Do not place the burning appliance in the direct air supply of the air conditioner which will result in incomplete combustion of the burning appliance.

Do not use or store flammable gases or liquids such as natural gas, hair spray, paint or gasoline near the air conditioner. Otherwise, a fire may be caused.

Do not place animals and plants in the direct air supply of air conditioners to avoid damage to animals and plants.

In case of abnormal conditions such as abnormal noise, smell, smoke, temperature rise, and electric leakage, please cut off the power immediately, and then contact your local dealer or air conditioner customer service center. Do not repair the air conditioner by yourself.

Do not place the flammable sprayer near the air conditioner or spray it directly to the air conditioner. Otherwise, a fire may be caused.



Do not place a water container on the air conditioner. Water immersing in the air conditioner will weaken the electrical insulation, resulting in electric shock.

After long-term use, confirm whether the installation platform is worn. If it is worn, it will cause the unit to fall, causing personnel injury.

Do not operate the switch with wet hands, which may result in electric shock.

When servicing, be sure to stop running and cut off the power supply. Otherwise, the high speed operation of the internal wind wheel will cause injury.

It cannot be used to preserve food, animals and plants, precision instruments and works of art, etc., otherwise it may lead to quality degradation.

Do not use fuses like iron or copper wire other than the specified capacity. Otherwise, it will cause fire or malfunction. The power supply must use the special circuit of the air conditioner at rated voltage.

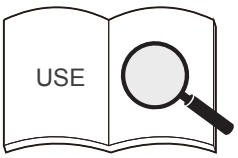
Do not place valuables under the air conditioner. The air conditioner may generate condensate water under certain failure conditions, which may damage the valuables under it.

When the air conditioner needs to be moved and re-installed, please entrust the local dealer or a professional technician to operate it.

Disposal: Do not dispose of this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available.
If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

[Caution]

In order to use the unit normally, please use the unit by following the “Operation” in this manual. Otherwise, the internal protection or dripping of the unit may occur or the cooling and heating effect may be impacted.

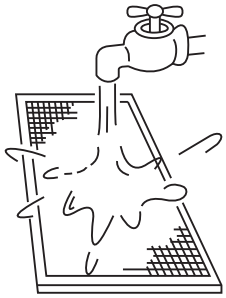


The room temperature should be set properly, especially when there are elderly, children, or patients in the room.

Lightning or the start and stop of large electrical equipment in nearby factories may cause misoperation of the air conditioner. Please turn off the main power switch for a few seconds, and then restart the air conditioner.

In order to avoid the danger of accidental resetting of the thermal circuit breaker, the air conditioner cannot be powered by an external switching device such as a timer or connected to a circuit that is turned on and off by a common component timer.

Check whether the air filter is installed properly. Confirm that the inlet and outlet ports of the IDU/ODU are not blocked.



If the air conditioner is not to be used for a long time, please clean the air filter before you can start the air conditioner. Otherwise, dust and mould on the filter will cause air pollution or peculiar smell. For details, please refer to the section “Cleaning and Maintenance”.

When using the air conditioner for the first time or replacing the filter screen, set the wired controller as follows:

1. *Use the wired controller to reset the initial static pressure, or perform a test run of the ODU (by the installer), to set the current status to a reference state for determining filter blockage. (For details, see "Application Control" in the installation part.)*
2. *Set the difference between the initial resistance and end resistance of the filter. (For details, see the instruction manual of wired controller.)*

Without the above operations, the detected degree of filter blockage may be inaccurate.

2 Optimum Operation

According to the characteristics of cold air sinking and hot air rising, in order to improve the cooling and heating effect, it is recommended to have an air outlet direction of 40° to 70° from the ceiling during cooling and heating operation.

[Caution]

Long-term outlet air at 40° angle may cause condensation on the surface of the louver. It is recommended to turn on the anti-condensation function through the wired controller to alleviate this situation.

Operating range

To maintain good performance, operate the air conditioner under the following temperature conditions:

Cooling operation	Indoor temperature	16-30°C
	Indoor humidity	≤ 80% (When the humidity exceeds 80%, long-time operation of the IDU may cause dew condensation on the surface of the IDU or generate mist-like cold air from the air outlet.)
Heating operation	Indoor temperature	17-30°C

[Caution]

The IDU operates stably within the temperature range given in the table above. If it exceeds this normal operating range, the IDU may stop running and display an error code.

3 Symptoms That Are Not Faults

Common Normal Protection of Air Conditioner

During operation, the following phenomena are normal and do not require maintenance.

Protection	When the power switch is on, if you start the system right after it is stopped, it is normal that the ODU does not operate for about four minutes as frequent compressor start/stop is not supported.
Anti-cold air protection (Cooling and heating type)	In heating mode (including heating in automatic mode), when the indoor heat exchanger does not reach a certain temperature, the indoor fan is temporarily off, or runs in Low mode until the heat exchanger heats up to prevent the blow of cold air.
Defrosting (Cooling and heating type)	When the outdoor temperature is low and the humidity is high, the IDU's heat exchanger may be frosted, which may reduce the heating capacity of the air conditioner. In this case, the air conditioner will stop heating, enter automatic defrosting mode, and return to heating mode after defrosting has been completed. During the defrosting, the outdoor fan stops running and the indoor fan runs based on the anti-cold breeze protection function. The defrosting operation time varies depending on the outdoor temperature and the degree of frosting. It generally takes 2 to 10 minutes. During the defrosting process, the ODU may emit steam due to the rapid defrosting, which is a normal phenomenon.
Anti-condensation	When the IDU detects high humidity, the air conditioner will adjust the louver angle and the fan speed to prevent condensation and avoid dripping. (If a third-party panel is selected, the secondary function is not available.)

Normal Phenomenon that Are Not Air Conditioner Faults

The following phenomena are normal during operation of the air conditioner. They can be solved according to the instructions below or do not need to be solved.

The IDU emits white mist

1. In an environment where the indoor relative humidity is too high, when the IDU runs in the cooling mode, white mist may appear due to the humidity and the temperature difference between the air inlet and outlet.
2. When the air conditioner is switched to heating mode after the defrosting operation, the IDU discharges the moisture generated defrosting as steam.

The IDU blows dust

When the air conditioner has not been used for a long time or is used for the first time, dust that has entered the IDU is blown out.

The IDU emits odor

The IDU absorbs the odors of rooms, furniture or cigarettes and others, and disperses the odors during operation.

Water drips on the air conditioner surface

When the indoor relative humidity is high, it is normal for condensation or slight water blowing to occur on the surface of the air conditioner.

“Self-cleaning” sound of icing

During self-cleaning, there may be a slight "click" sound for about 10 minutes, indicating that the IDU is freezing, which is a normal phenomenon.

The air conditioner makes low noise

1. When the air conditioner is in "Auto", "Cool", "Dry", and "Heat" modes, it may emit a low continuous "hissing" sound, which is caused by the refrigerant flowing between the IDU and the ODU.
2. A "hissing" sound may be heard for a short time after the air conditioner stops operation or during "defrosting" operation, which is caused when the refrigerant stops flowing or changes the flow.
3. When the air conditioner is in Cool mode or Dry mode, a small and continuous rustling sound can be heard, which is caused by the running of the drain pump.
4. When the air conditioner starts or stops running, you may hear squeak sound which is produced by expansion or shrinkage of parts or decoration materials around due to temperature change. The sound will disappear when the air conditioner is running normally.

Switching from cooling/heating (not available for single chiller) mode to fan mode only

When the IDU reaches the set temperature, the air conditioner controller automatically stops the compressor operation and switches to the Fan mode only. When the room temperature rises (in Cool mode) or falls (in Heat mode) to a certain extent, the compressor is restarted, the cooling or heating operation is resumed.

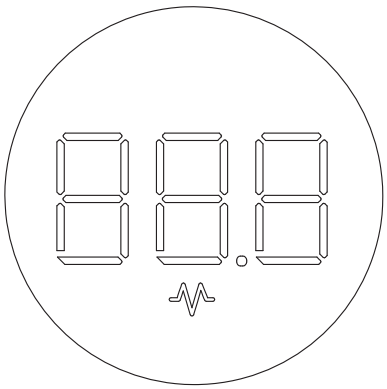
In winter, the outdoor temperature is low, and the heating effect may be decreased

1. During the heating operation of the cooling and heating type air conditioner, the air conditioner absorbs heat from the outdoor air and releases it to heat the indoor air. This is the heat pump heating principle of the air conditioner.
2. When the heat pump runs in heating mode, the ODU blows out cold air, causing the outdoor temperature to drop. In this case, the heating capability of the air conditioner drops as well. You are advised to use other heating devices for heating.

No hot or cold options

All IDUs in the same air conditioning system can only operate in the same mode, for example, cooling, heating or others. Inconsistent mode of IDUs will cause mode conflict. Only the IDU that is first started up can determine the operating mode, and those started after it can only follow the operating mode of the first IDU. To change the operating mode, you need to turn off all the IDUs. The operating mode of all IDUs must be the same.

4 Display Panel Description



Display functions:

1. In Standby mode, the main interface displays "---".
2. In Cooling or Heating mode after startup, the main interface displays the set temperature; In Fan mode, the main interface displays the indoor temperature. In Dry mode, the main interface displays the set temperature, and when the humidity is set, the set humidity value is displayed on the wired controller.
3. The light display on the main interface can be set to "Off" through the remote control or wired controller.
4. When the system fails or runs in a special mode, the main interface displays the error code or the special mode running code. For details, see the section "Error Codes and Meanings".

[Caution]

Some display functions are available only to certain ODU models and IDU configurations (including the wired controller and display).

Installation

Carefully read this manual before installing the IDU.

1 Installation Precautions

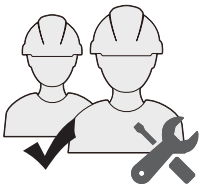
Qualification and Safety Regulation Requirements

⚠ [Warning]

Please carry out the installation according to local standards!

Ask your local dealer or professionals to install the product.
This unit must be installed by professional technicians with relevant specialized knowledge. Users are not allowed to install the unit themselves; otherwise, faulty operations will cause the risks of fire, electric shock, injury, or leakage, which may bring harm to you or others or damage the air conditioner.

Never modify or repair the unit on your own.
Otherwise, a fire, electric shock, injury or water leakage may occur. Get your local dealer or a professional to do so.

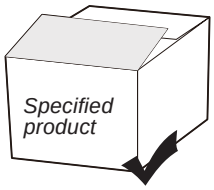


Ensure that the residual current device (RCD) is installed.
The RCD must be installed. Failure to install it may result in electric shock.

When powering the unit, follow the regulations of the local electric company.
Make sure that the unit is grounded reliably in accordance with laws. If the grounding is not perfect, it may cause electric shock.

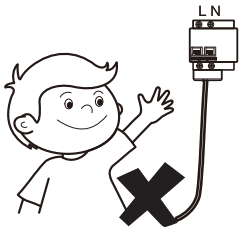
When moving, disassembling or reinstalling the air conditioner, get your local dealer or a professional to do so.
If installed improperly, fire, electric shock, injury, or water leakage may occur.

For optional accessories and accessories that are sold separately, use only the products specified by Midea.
The installation of these accessories must be carried out by professionals. Improper installation may cause fire, electric shock, water leakage and other hazards.

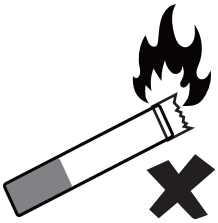


Use only power supply and communication cables that fulfil the specifications. Properly connect all the wiring to make sure that no external forces are acting on the terminals, power supply and communication cables. Improper wiring or installation may cause a fire.

The air conditioner must be grounded. Check whether the earth line is securely connected or broken. Do not connect the ground line to gas cans, water piping, lightning rods or telephone earth lines.
The main power switch of the air conditioner should be put in a position that is out of the reach of children.

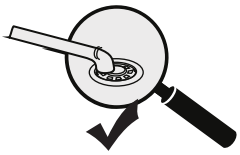


It should not be obstructed by flammable objects such as curtains.
Open flames are prohibited when refrigerant leaks.
Air conditioner not cooling/heating may be caused by refrigerant leak. In this case, contact your local dealer or a professional. The refrigerant in the air conditioner is safe, and usually does not leak.
In case of refrigerant leakage in the room, it is easy to cause a fire after contact with the fireworks of the heater/electric stove/stove. Please put out the fire of the burning appliance, and open the windows and doors of the room for ventilation to ensure that the concentration of refrigerant leakage in the room does not exceed the critical level, and keep away from the leak point, and contact the dealer or professional personnel.



After the refrigerant leakage is repaired, do not start the product until the maintenance personnel confirms that the leakage is well repaired.

Before and after installation, exposing the unit to water or moisture will cause electric part short-circuit.
Do not store the unit in a humid basement or expose it to rain or water.



Make sure the installation base and lifting are robust and reliable;
I*nsecure installation of the base may cause the air conditioner to drop leading to accidents. Take into full consideration the effects of strong winds, typhoons and earthquakes, and reinforce the installation.*

Check whether the drainage pipe can drain the water smoothly.
Improper installation of the pipeline may lead to water leakage, damages to furniture, electric appliance, and the carpet.

After the installation, check whether the refrigerant leaks.

Do not install the product to where there is a danger of flammable gas leakages.
In case of leakage of combustible gas, the combustible gas surrounding the IDU may cause a fire.

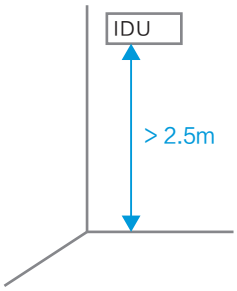
[Caution]

Keep the IDU, ODU, power cable, and connecting wires at least 1m away from the high-power radio equipment, to prevent electromagnetic interference and noise.
For some equipment, it is not enough to prevent noise even if it is more than 1m away.

In a room equipped with fluorescent lamps (rectifier types or fast start type), the signal transmission distance of the remote controller (wireless) may not reach the predetermined value. Install the IDU as far away from the fluorescent lamp as possible.

Do not touch the fins of the heat exchanger as improper touch may cause injury.

For safety, please discard the packing materials.
Nails and other packaging materials may cause personal injury or other risks. Tear up the plastic packaging bag and throw it away to prevent children from playing with it, and leading to suffocation.



Do not cut off the power supply immediately after the IDU stops running.
Some parts of the IDU like the valve body and water pump are still in operation. Please wait for at least 5 minutes before cutting off the power supply. Otherwise, water leakage and other faults may occur.

The IDU shall be placed at a height not accessible to children, at least 2.5m above the ground.

The appliance shall not be installed in the laundry.

Precautions for carrying and lifting the air conditioner

1. Before carrying the air conditioner, determine the route to move it to the installation site.
2. Do not unseal the air conditioner until it is moved to the installation site.
3. When unpacking and moving the air conditioner, you must hold the hanger seat and do not apply force to other parts, especially the refrigerant piping, drainage pipe and plastic accessories, so as to avoid damaging the air conditioner and causing personal injury.
4. Before installing the air conditioner, make sure that the refrigerant specified on the nameplate is used. For the installation of the ODU, refer to the Installation Instruction in the Installation & Owner's Manual attached with the ODU.

Forbidden Installation Sites

[Warning]

Do not install or use the air conditioner in the following places:

- ☒ A place filled with mineral oil, fumes or mist, like a kitchen.
  Plastic parts will age and the heat exchanger will be dirty, eventually causing the air conditioner to fall or leak water.
- ☒ A place where there are corrosive gases, such as acid or alkaline gases.
  Copper pipes and copper welds will be corroded, resulting in refrigerant leakage.

- ☒ A place exposed to combustible gases and using volatile combustible gases such as diluent or gasoline.
  The electronics in the air conditioner may cause the surrounding gas to ignite.
- ☒ A place where there is equipment emitting electromagnetic radiation.
  The control system will fail and the air conditioner will not function properly.
- ☒ A place where there is a high salt content in the air like a coast.

- ☒ Do not use the air conditioner in an environment where an explosion may occur.
- ☒ Places like in vehicles or cabin rooms.
- ☒ Factories with major voltage fluctuations in the power supplies.
- ☒ Other special environmental conditions.

[Note]

Units of this series are comfortable air conditioners. Do not use them in equipment rooms or rooms with precision instruments, food, plants, animals, or works of art.

Recommended Installation Sites

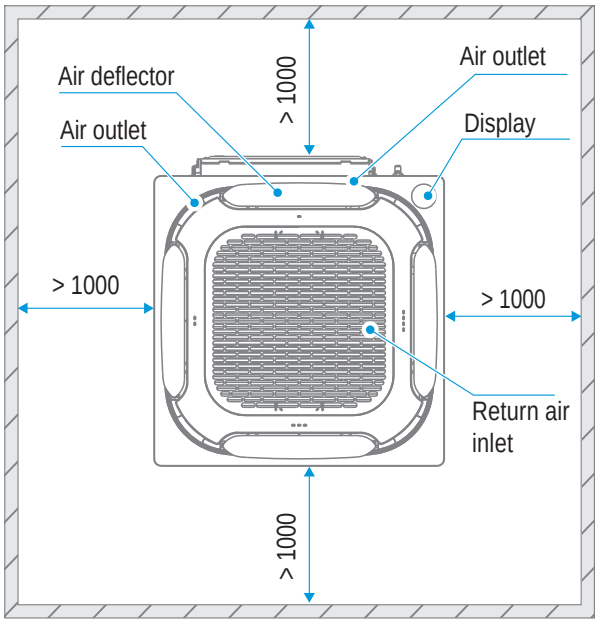
It is recommended to install the air conditioner according to the design drawing of the HVAC engineer. The selection principle of installation site is as follows:

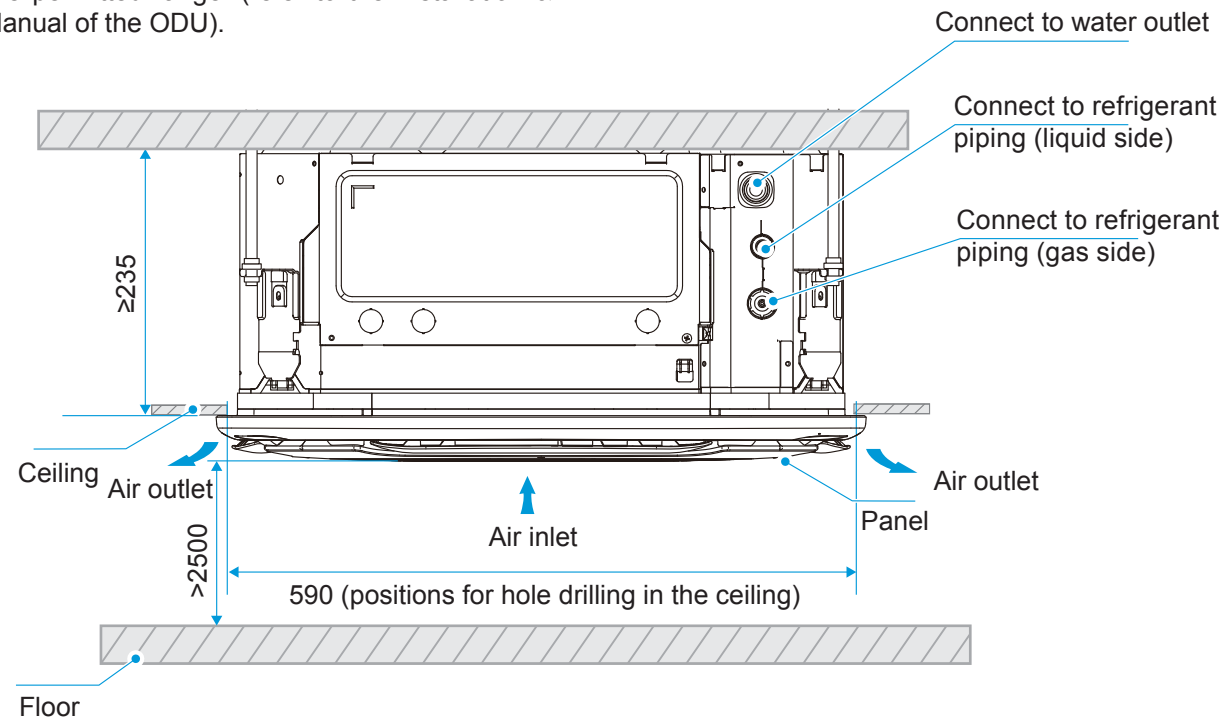
- ☑ Ensure that the airflow in and out of the IDU is reasonably organized to form an air circulation in the room.
- ☑ Ensure IDU maintenance space
- ☑ The nearer the drainage pipe and copper pipe are to the ODU, the lower the pipe cost is.
- ☑ Prevent the air conditioner from blowing directly to the human body.
- ☑ The closer the wiring to the power cabinet, the lower the wiring cost is.
- ☑ Keep the air-conditioning return air away from the setting sun of the room.
- ☑ Be careful not to interfere with the light tank, fire pipe, gas pipe and other facilities.
- ☑ The IDU should not be lifted in the places like load-bearing beam and columns that affect the structural safety of the house.
- ☑ The wired controller and the IDU should be in the same installation space; otherwise, the sampling point setting of the wired controller need to be changed.

Choose a site that fully complies with the following conditions and user requirements to install the air conditioning unit:

- Enough space for installation and maintenance. (See the right diagram.)
- The ceiling is level, and the structure is strong enough to support the IDU. If necessary, take measures to reinforce the unit's stability.
- Airflow in/out of the machine is not obstructed, and the external air exerts minimum impact.
- Easy to supply airflow to every corner in the room.
- Easy to drain fluids from the connected piping and water discharge piping.
- No direct heat radiation.
- Avoid installation in narrow spaces or where there are more stringent noise requirements.
- The IDU needs to be installed at a position greater than 2.5m and less than 3.5m from the ground.
- Condensate water can be discharged smoothly.
- The length of the piping between the indoor and ODUs is within the permitted range. (refer to the Installation & Owner's Manual of the ODU).

(Unit: mm)





[Note]

A motor with 30Pa static pressure can achieve air supply of up to 3.5m.

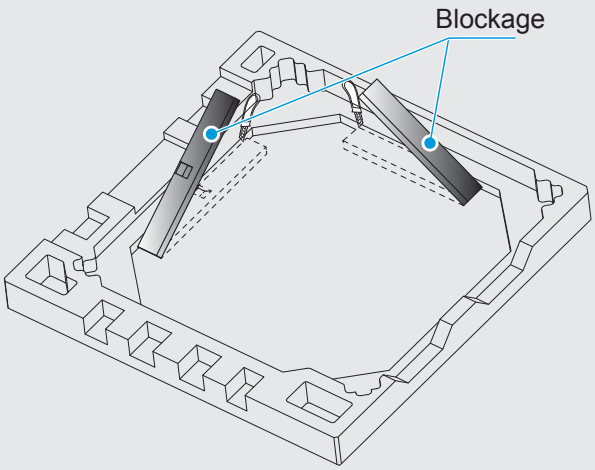
Ceiling height (m)	Recommend static pressure (Pa)
2.5	0, 10
3	20
3.5	30

Recommended Installation Sites

Crowded places such as living rooms and offices

The air outlet must not face the areas where people always stay, such as sofas and coffee tables. Instead, let the wind out from the side for enhanced comfort.

Air outlets at corners can be blocked with optional accessories (which can be found in the packaging material).



Use a knife to cut the blockage out of the packaging material.

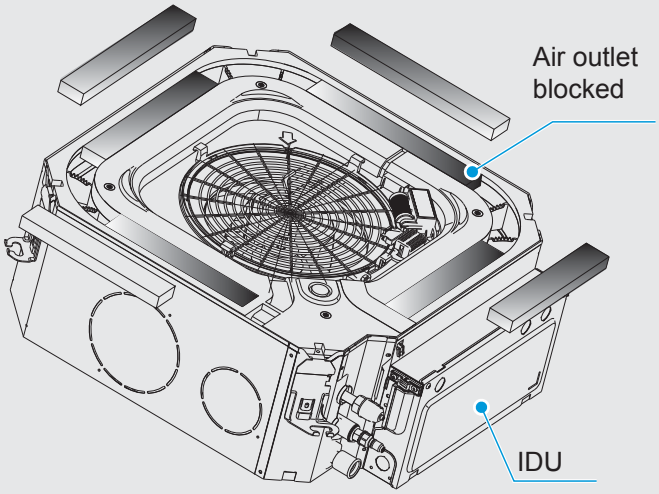


Diagram of blocked air outlet

Dining room

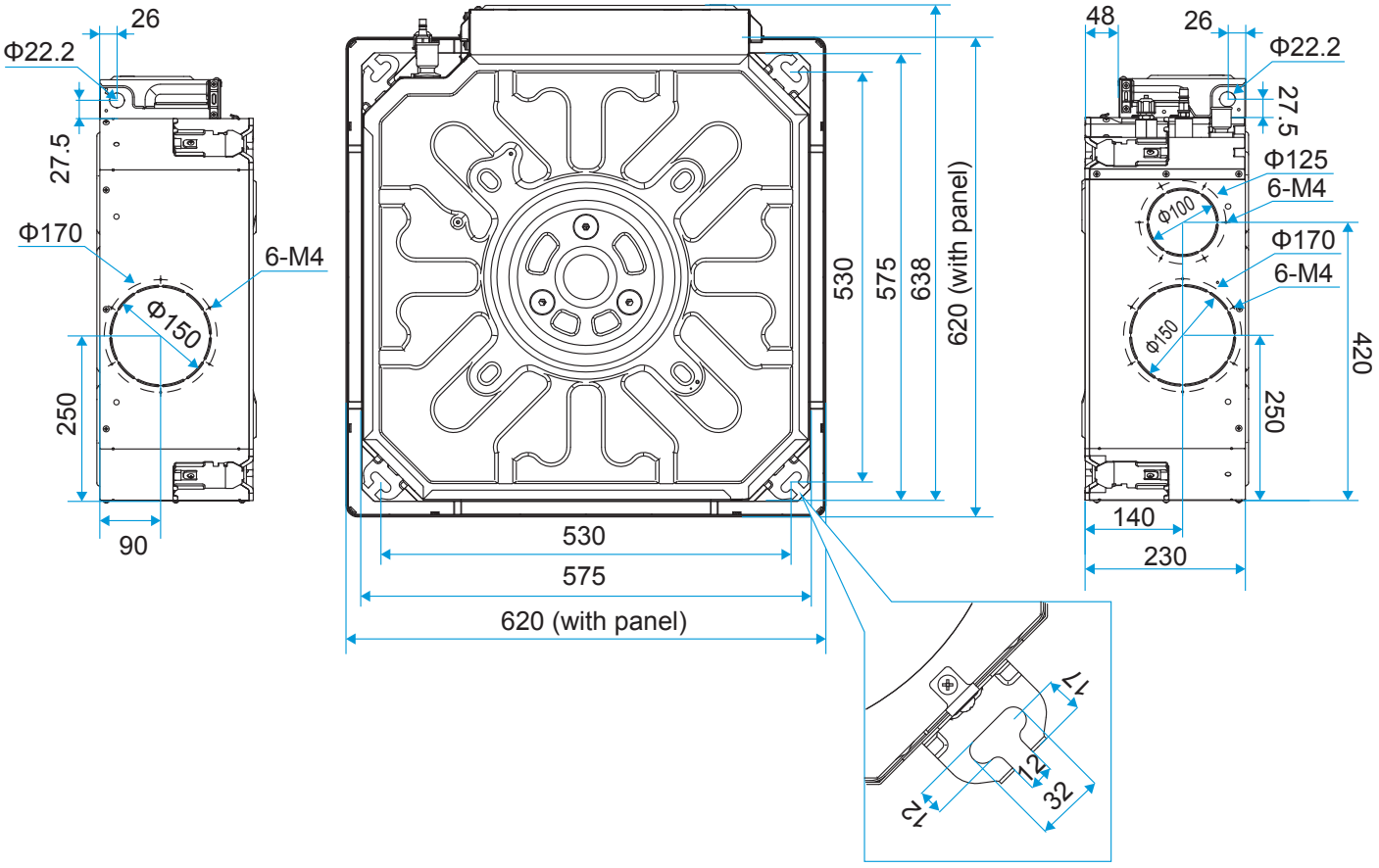
As the dining room is generally next to the kitchen that is usually filled with oily fume, the central air conditioner can be installed in the middle of the ceiling. The air outlet must not face the dining table. Otherwise, dust on the air outlet on the ceiling may be blown onto the food. Keep the return air vent as far away from the kitchen as possible to avoid oily fume inhalation that affects the air quality.

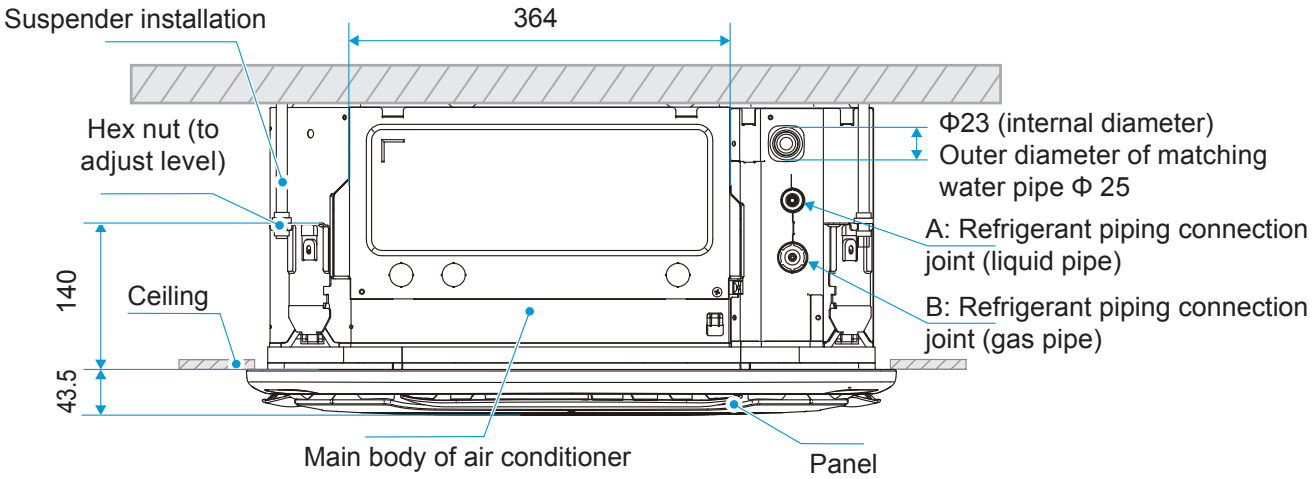
Bedroom

The unit can be installed on the ceiling in the middle of the bedroom. Avoid direct stream of air towards the bed if possible.

Product Dimensions

(Unit: mm)





Capacity	A	B
1.5~5.6kW	Φ6.35	Φ12.7
6.3 kW	Φ9.52	Φ15.9

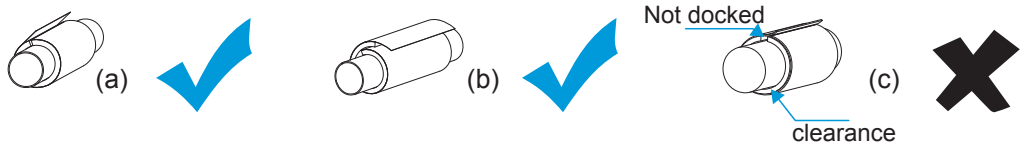
2 Accessory Installation

Accessories

List of accessories			
Instation & Owner's Manual X 1 IDU Installation Instructions (Make sure to hand it over to the user)	Brass nut X 2 For use in the installation works of connecting pipe (the quantity is one for models with a process pipe)	Cable tie X 4 To tighten the water discharge hose tightly to the drainage outlet and P V C piping of the IDU.	Thermal insulation pipe X 2 Used for insulation and anti-condensation at pipe connection.
Remote controller (optional)	Wired controller (optional)	Medium efficiency filter (optional)	

[Caution]

When installing the insulation pipe on site, please cut it according to the actual needs. (refer to the following two methods (a) (b) for installation, (c) is the wrong method)



[Note]

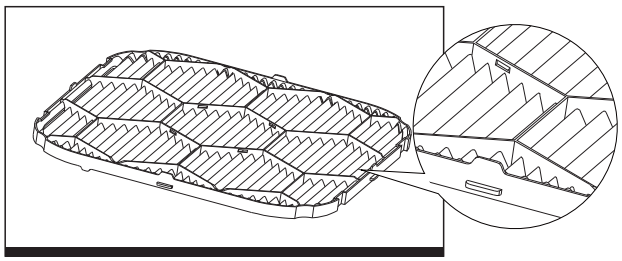
Check the accessory kit for the above items and contact your local dealer for any missing items.

Do not throw away any accessories that may be required for the installation until the installation is complete.

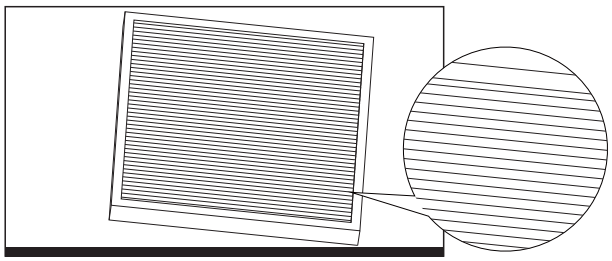
The user can choose to buy separately sold or optional parts such as wired controller and remote controller (with seven-speed air controller).

Air filter is divided into primary efficiency filter and medium efficiency filter, and the medium efficiency filter can be customized from the dealer.

Primary efficiency filter

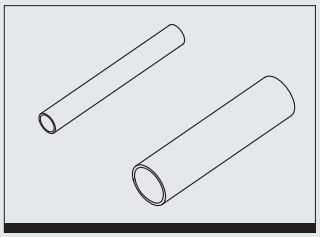


Medium efficiency filter

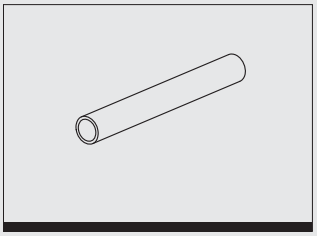


Locally Purchased Accessories

List of accessories				
Copper pipe Used to connect the indoor refrigerant piping.	PVC pipe Used to drain the condensed water from the IDU.	Thermal insulation pipe Used to prevent pipe condensation.	Expansion screw (M10)X4 Used to install the IDU.	Lifting screw (M10)X4 Used to install the IDU.

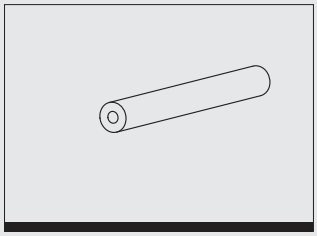


Cooper pipe specification(Unit: mm)		
Capacity \ Piping	Liquid side	Gas side
1.5~5.6kW	Φ6.35×0.75	Φ12.7×0.75
6.3 kW	Φ9.52×0.75	Φ15.9×1.0
Remarks	For connection of the IDU refrigerant system, it is recommended to use a soft copper tube (T2M), with the length selected according to the actual situation.	



PVC pipe

This is used as the IDU's drainage pipe, 25mm in diameter. The length is determined according to actual needs.



Thermal insulation pipe

The wall thickness of insulation pipe of copper pipe is usually more than 10mm, and that of rigid polyethylene plastic pipe is usually more than 15mm. The closed wet area shall be thickened appropriately.

[Caution]

The materials necessary for onsite installation of the copper pipe, air duct, flexible hose connecting the air outlet, drainage pipe, lifting screw, air supply and return grille, various fasteners (pipeline bracket, victaulic, screw, etc.), power cable, signal line, etc. need to be purchased by the installer on site. The materials and specifications must comply with the corresponding local or industrial standards.

Heat insulation material requirements

Copper pipe insulation

① Use rubber and plastic foam thermal insulation pipe that is refractory and heat resistant at 120°C.

② Insulation thickness

1. When the diameter is equal to or greater than 15.9mm, the insulation thickness is 20mm.
2. When the diameter is equal to or smaller than 12.7mm, the insulation thickness is 15mm.

③ For insulation of the outdoor copper pipe, the wall thickness of insulation pipe for winter heating system in severe cold area is thickened, generally 40mm. For the insulation of indoor gas pipes, the wall thickness of insulation pipes is recommended to be 20mm.

④ Use glue to connect the joints and cuts of the thermal insulation pipe, and then wrap them with electrical tape with the width of not less than 50mm to ensure firm connection.

⑤ The insulation between the copper pipe and the IDU should be tight to prevent the generation of condensed water.

⑥ The copper pipe insulation construction can only be carried out after the system leak detection confirms that there are no leakage points.

Drainage pipe insulation

① The indoor part of the drainage pipe needs to be insulated to prevent condensation, and a thermal insulation pipe with a thickness of more than 10mm should be selected.

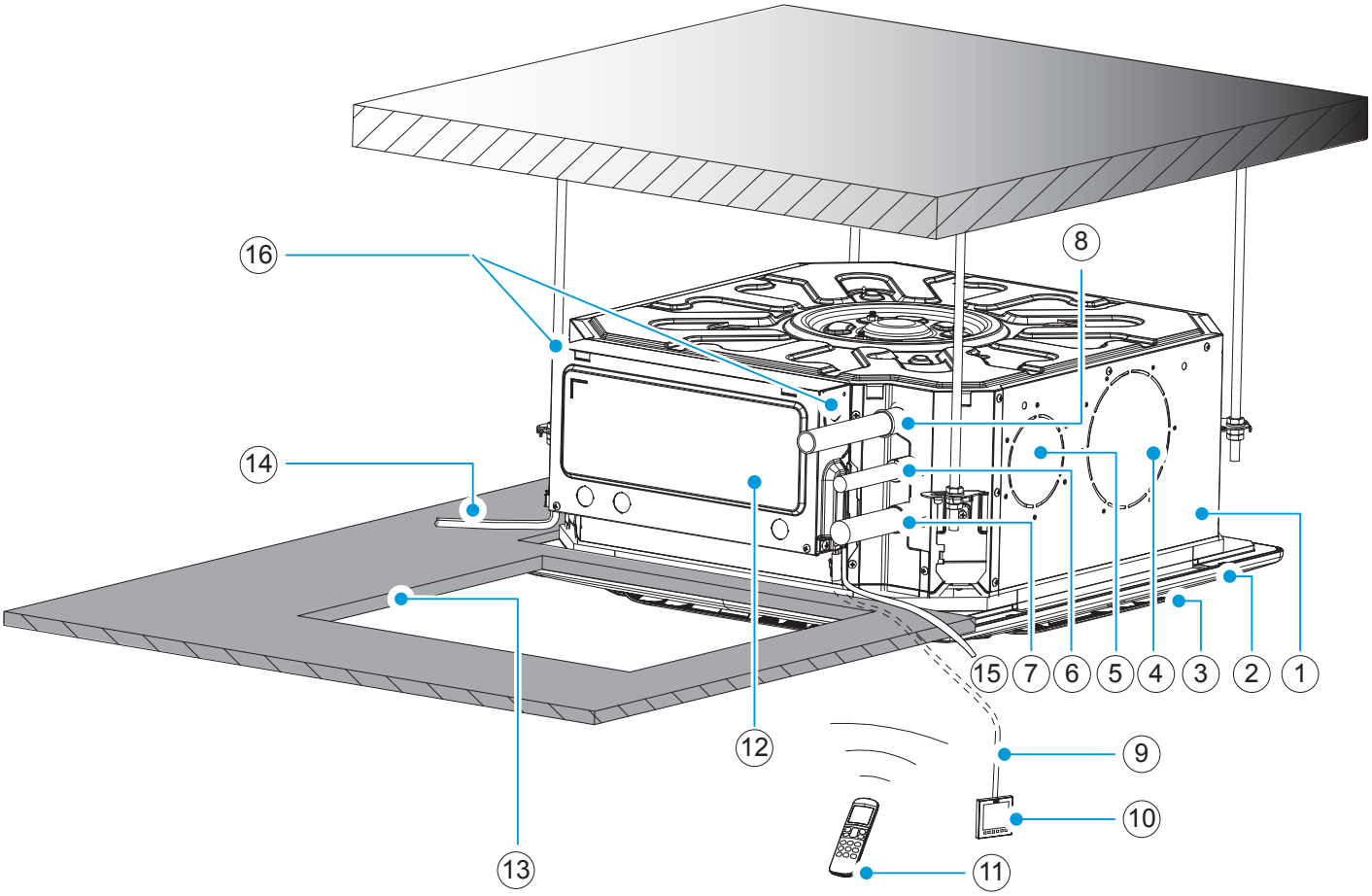
② If the pipe is not wholly insulated, be sure to rebond the cut part.

③ Use glue or buckle to connect the joints and cuts of the thermal insulation pipe, and make sure it is at the top of the pipe.

④ The drainage test must be carried out before the insulation of the water distribution pipe.

3 Parts

Part Description



① IDU	② Panel (optional)	③ Air outlet
④ Expanded air inlet/outlet	⑤ Fresh air inlet/outlet	⑥ Liquid pipe
⑦ Gas pipe	⑧ Drainage pipe	⑨ *Connection wire
⑩ Wired controller (optional)	⑪ Remote controller (optional)	⑫ Electric control box
⑬ Access hole	⑭ *Power cable and ground wire	⑮ *Communication line
⑯ North American inlet hole (two)		

* means on-site procurement accessories.

[Note]

Panels, wired controllers, and remote controllers are available in various models. All optional accessories or separately sold parts should be provided by our company.

For optional accessories such as wired controllers, please refer to the instructions of the product.

All the figures in the manual explain only the general appearance and functions of the product. The appearance and functions of the product you purchased may not be completely consistent with those listed in the figures. Please refer to the actual product.

4 Preparations Before Installation

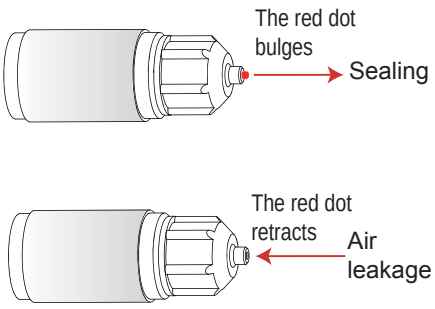
Unpacking Check

① Before installation, check whether the packing materials are in good condition, whether the accessories that come with the product are complete, whether the air conditioner is intact, whether the surfaces of the heat exchanger and other parts are worn.

② Check the sealing nut of the refrigerant pipe, and observe whether the red dot on the surface of the sealing nut of the gas pipe bulges. If it bulges, the pipe is well sealed; if it retracts, the line is leaking, and you need to contact your local dealer.

③ Check the machine model before installation.

④ After IDU and ODU inspection, pack them with plastic bags to avoid taking in foreign matters.



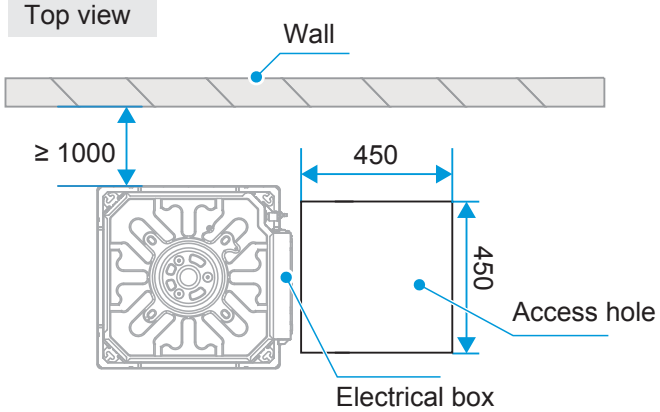
IDU Positioning

Determine the positions of the air conditioning unit and lifting screws

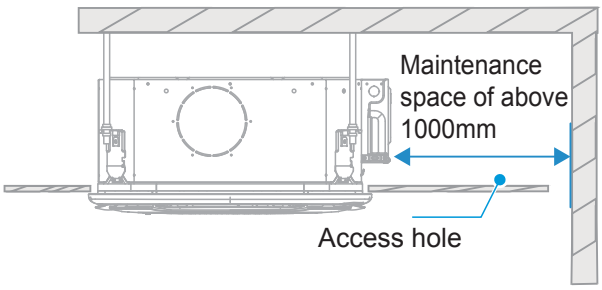
1. Determine the lifting position of the IDU according to the design drawing.
2. Draw lines to locate the drilling positions of the suspender bolts according to the mounting cardboard.
3. Make an access hole at the electrical box side (recommended size: 450×450mm).
4. There shall be no obstacle within 200mm of the air return vent.
5. It is suggested to use infrared ray locator for line drawing.

(Unit: mm)

Top view



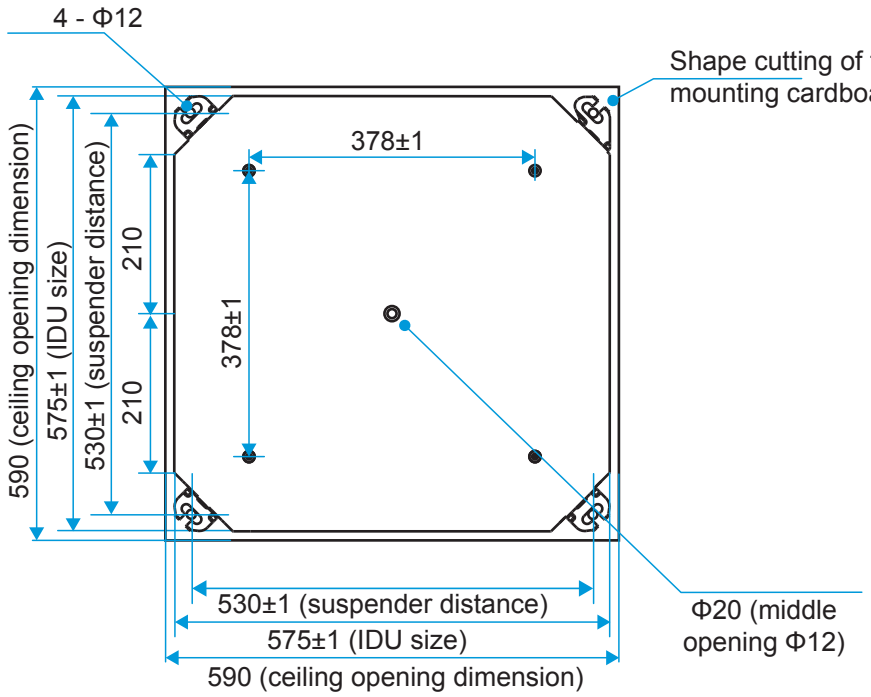
Side view



Make a 590×590mm hole according to the shape of the mounting cardboard.

1 Cut a hole with the size of 590mm x 590mm according to the outline of the mounting cardboard.

(Unit: mm)



[Caution]

Align the center of the ceiling box with that of the main body of the air conditioner.

2 Determine the positions of mounting holes according to those in the mounting cardboard.

3 When installing the air conditioner on a new ceiling, affix a cardboard to the main body of the installed air conditioner for reference to determine the size, location, and center of the ceiling box.

[Caution]

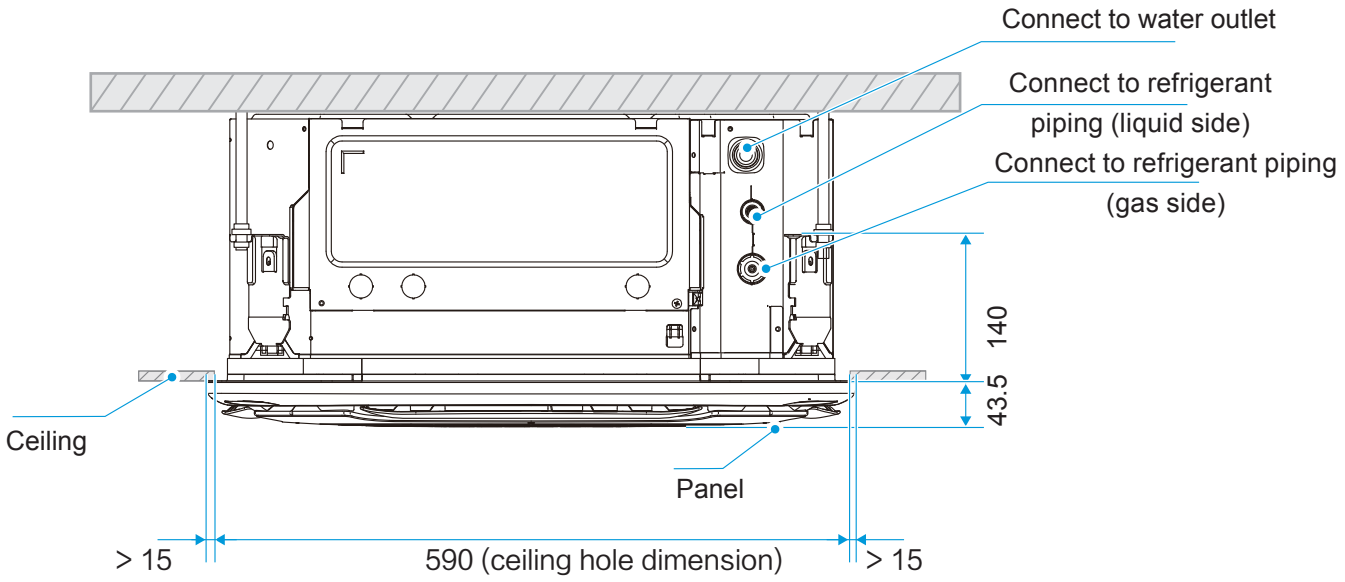
Evenly adjust the four hex nuts to make sure that the main body of the air conditioner is level.

When the air conditioner is to be fixed onto the ceiling with a frame:
The horizontal distance of the overlapping part of the ceiling and trim panel must be more than 10mm. The distance between the IDU and the ceiling must be within 12mm. If it is more than 15mm, retrofit the ceiling.

If necessary, cut out the required openings for installation on the ceiling (where there is an existing ceiling).

For the dimensions of ceiling openings, refer to the following figure.

(Unit: mm)



[Caution]

Before the IDU piping and wiring connection, connect the refrigerant piping, water outlet pipe, remote control wire (not required when using a wireless remote controller), and the connection wire, power cable, and ground wire between the IDU and ODU (please refer to piping and wiring instructions) so that it can be connected to the IDU immediately after installation.

To cut ceiling holes, the ceiling bracket may be reinforced to keep the ceiling flat and prevent the ceiling from vibrating. For details, please consult the builder.

5 IDU Installation

[Caution]

Install the air conditioner in a location with sufficient strength to support the weight of the unit. Take reinforcement measures when necessary.

The unit may fall and cause personal injury if the location is not strong enough.

Unstable installation may cause the unit to fall and cause an accident.

Before wiring/pipe layout, make sure that the installation area (walls and floor) is safe and free of water, power, gas, and other hidden dangers.

Installation with Lifting Bolts

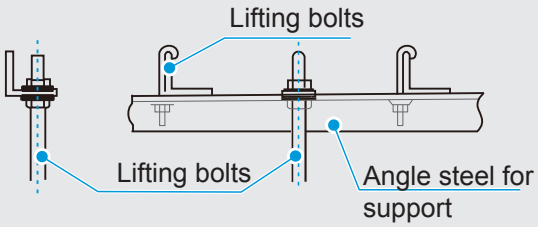
[Note]

High-quality carbon steel bolts (galvanized or with other anti-rust paint applied) or stainless steel bolts are used.

How the ceiling is treated will differ with the type of building. For specific measures, please consult the building and renovation engineers.

How the lifting bolt is secured depends on the specific situation, and it must be secure and reliable.

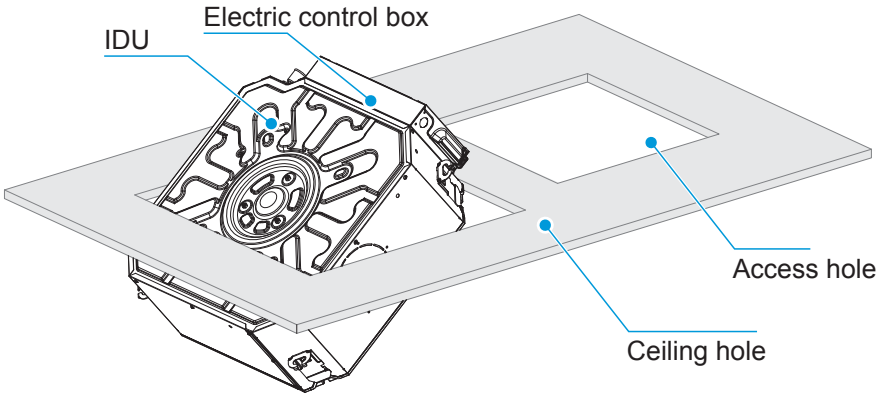
Refer to the following table on installation using the lifting bolts.

Occasion of concrete slab	With steel frame
Use embedded bolts and pull bolts 	Directly set and use an angle steel for support. 

IDU Installation

[Caution]

When installing the IDU, make the side of the electric control box obliquely enter the ceiling (as shown in the figure on the right) to avoid accidental damage to the ceiling by the electric control box during installation.



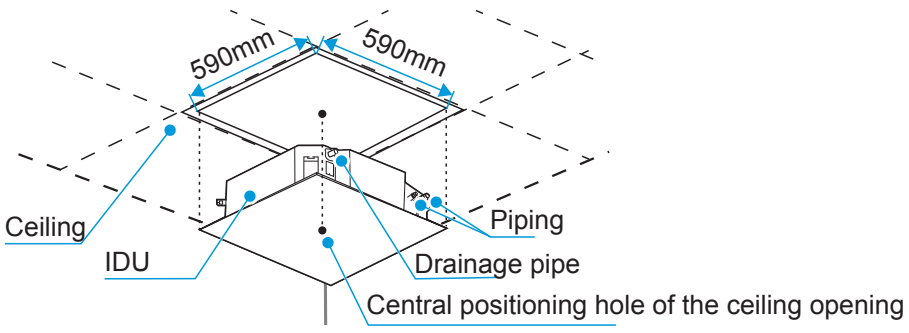
1 Existing Ceiling (the ceiling surface needs to be level)

① Please cut a 590mm × 590mm square hole on the ceiling according to the shape of the mounting cardboard (see the picture below).

a. The center of the ceiling opening is the same as the center of the main body of the air conditioner.

b. Determine the lengths and outlets of connecting pipe, drainage pipe, and electrical wiring.

c. To keep the ceiling surface level and prevent vibration, strengthen the ceiling rigidity if necessary.



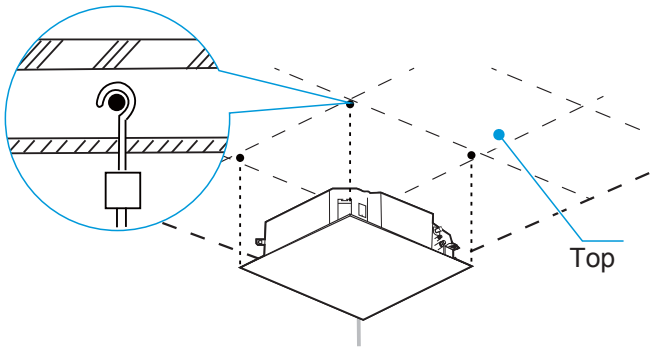
② Please confirm the installation hook position according to the installation hook holes in the four corners of the mounting cardboard.

a. Drill four holes with a diameter of Φ12mm and a depth of 50–55mm on the roof according to the specified position, and then embed expansion hooks.

b. During installation, make the concave surface of the mounting hook face the expansion hook, determine the appropriate length of the mounting hook according to the ceiling height, and cut off the excess part.

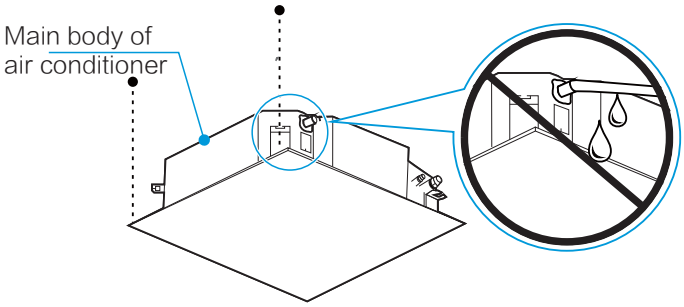
c. M10 or W3/8 bolts should be used to install the hook screw.

d. Generally, the remaining length L is about 1/2 of the thread length of the mounting hook.

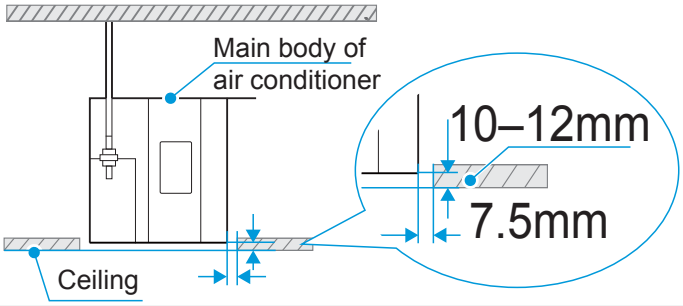


③ Please use the hex nuts on the four mounting hooks to adjust evenly and make sure the main body is level.

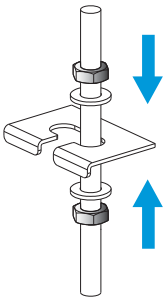
a If the drainage pipe side is inclined, it may cause the water level switch to malfunction and cause water leakage.



b Adjust the position of the main body to ensure that the interval of the four sides of the ceiling is even, and the bottom surface of the main body should be recessed from the bottom surface of the ceiling by 10-12mm.

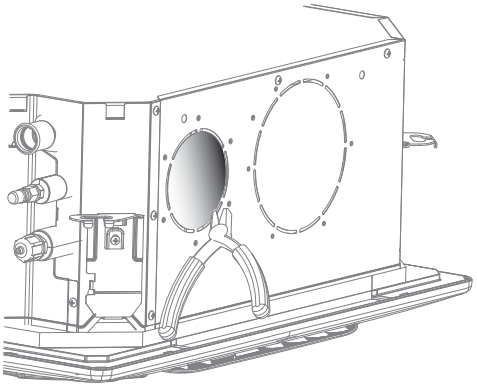


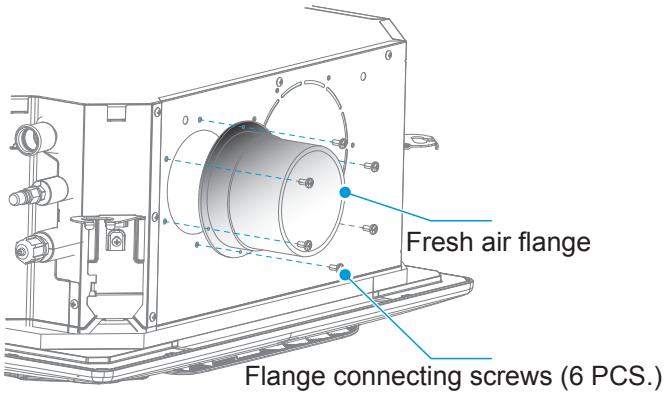
c After the main body position and level are adjusted, tighten the nuts on the mounting hook to fix the air conditioner.



Tighten the upper and lower nuts

④ For models with fresh air function, please remove the knock down hole at the fresh air unit on the side of the machine with diagonal pliers and other tools before installing the indoor unit. Install the fresh air flange at the fresh air unit and fix it with flange connecting screws.



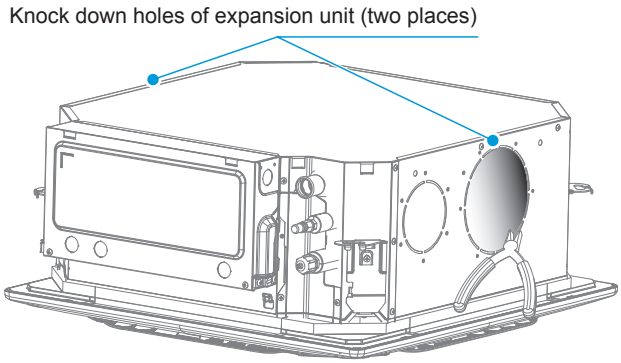


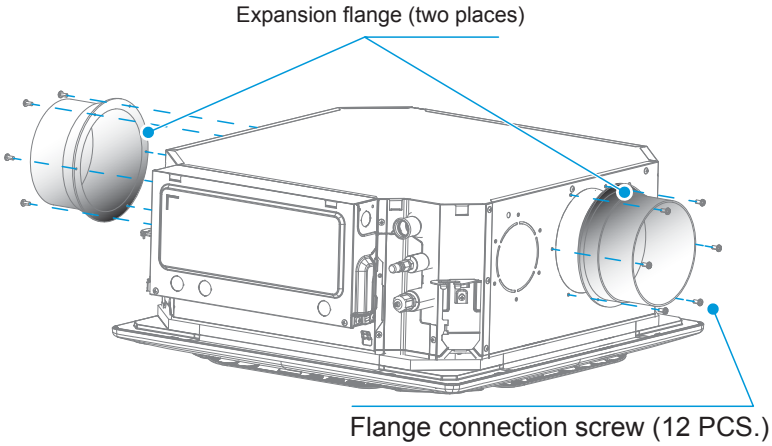
[Warning]

Make sure the IDU master unit is level: Please use a spirit level or a transparent rubber hose filled with water to correct the level of the IDU; otherwise, it will cause water leakage.

The IDU is equipped with a built-in drain pump and a water level switch. Do not tilt the unit in the opposite direction of the condensate water flow, otherwise the water level switch will not function properly, which will cause water leakage.

⑤ For models with expansion function, please remove the knock down holes at the expansion units on both sides of the machine with diagonal pliers and other tools before installing the indoor unit. Install the expansion flange at the expansion unit and fix it with flange connecting screws.

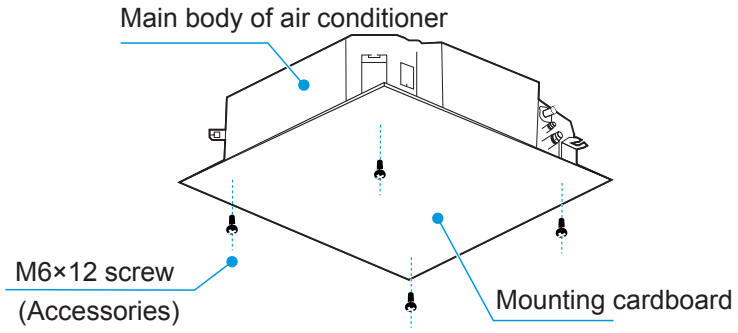




2 New Rooms and New Ceilings

① For the installation of lifting bolts, a hook can be embedded in the new room. Make sure the hook can withstand 4 times the weight of the IDU and will not loosen due to the shrinkage of the concrete.

② After the main body is lifted, fix the mounting cardboard on the air conditioner master unit with M6×12 screws (accessory) to predetermine the size and position of the ceiling opening.
a. Make sure the ceiling is level when installing the ceiling.
b. Carry out installation as described above for the remaining parts (Point 1 of Existing Ceiling installation).



③ Carry out installation as described above (Point 3 of Existing Ceiling installation).

④ Remove the mounting cardboard.

[Note]

Make sure the IDU master unit is level: Please use a spirit level or a transparent rubber hose filled with water to correct the level of the IDU, otherwise it will cause water leakage.

The IDU is equipped with a built-in drain pump and a water level switch. Do not tilt the unit in the opposite direction of the condensate water flow; otherwise, the water level switch will fail and cause water leakage.

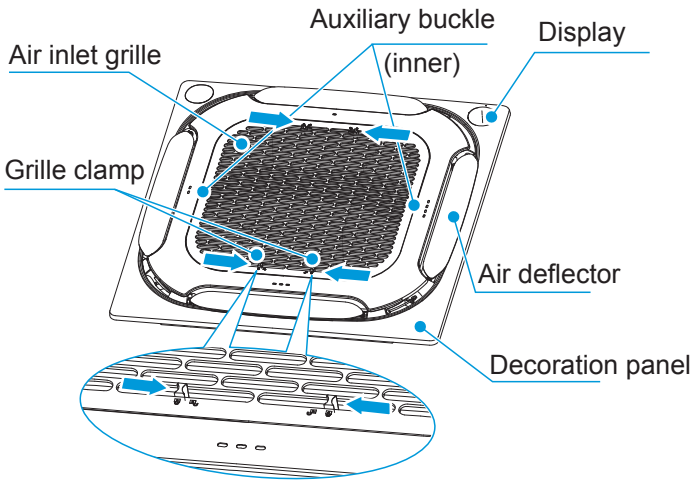
Panel Installation

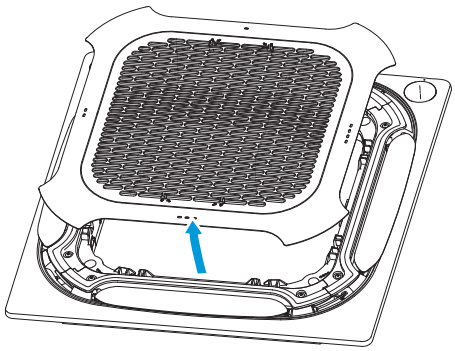
[Caution]

When installing the panel, keep the display away from directly under the inlet/outlet pipelines.

1 Remove the air inlet grille.

Press the two grille clamps at the same time to lift it.





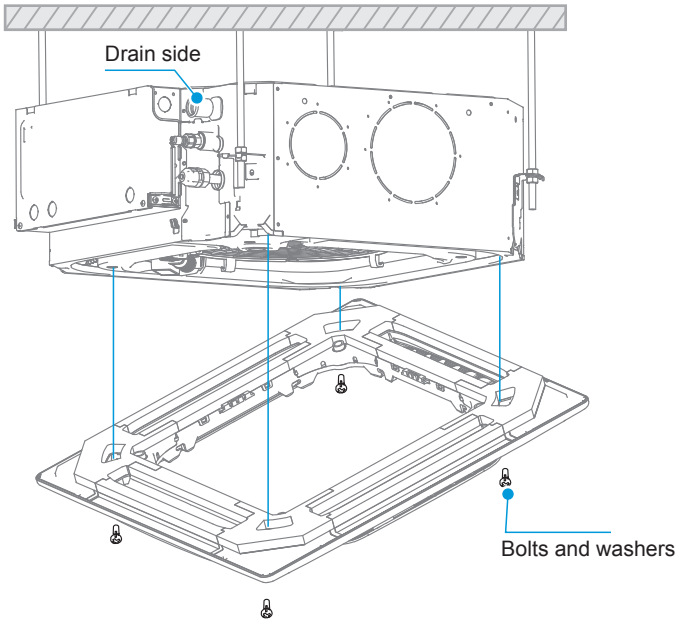
[Note]

Do not place the panel such that it faces downwards or leans against the wall. Do not place it on a protruding object either.

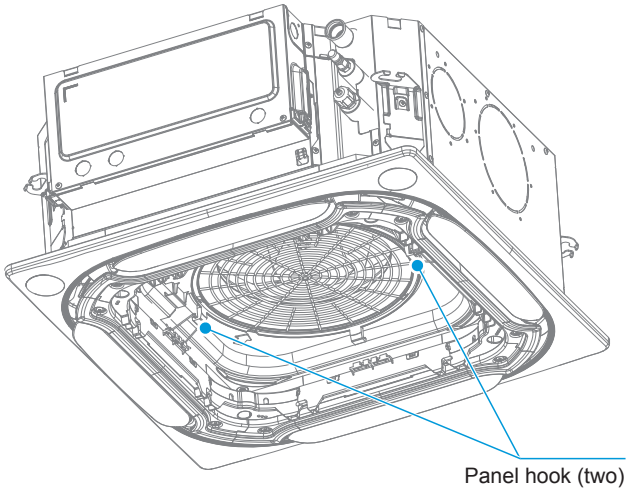
Do not hit or squeeze the air deflector.

2 Install the panel.

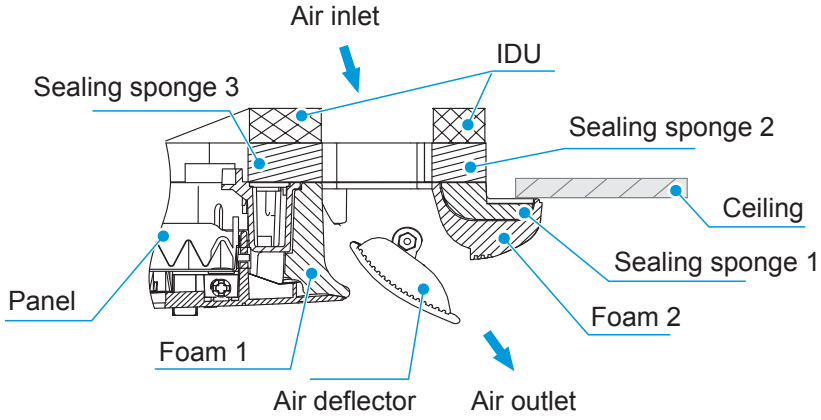
① Install the panel on the IDU using bolts (M5×20) and washers.



② Make sure the two hooks are well secured.



③ Tighten the screws under the panel hooks until the thickness of the sealing sponges 1 and 2 between the IDU and the panel outlet is reduced to about 4-6mm. The edge of the panel should be in good contact with the ceiling.

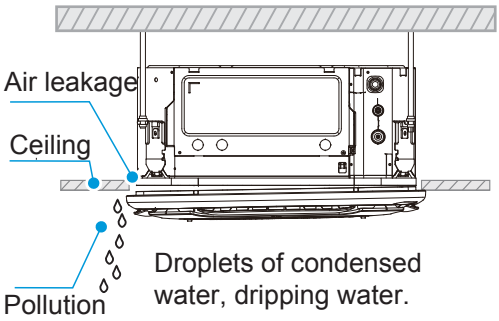


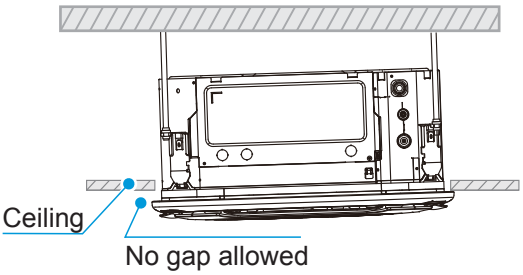
[Caution]

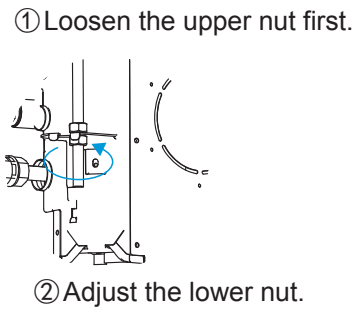
Improper screw tightening may cause the failure shown in the figure below.

After tightening the screws, if there is still a gap between the ceiling and the panel, the height of the IDU must be readjusted.

If the lift level of the IDU and the drainage pipes are not affected, you can remove the panel and readjust the height of the IDU.



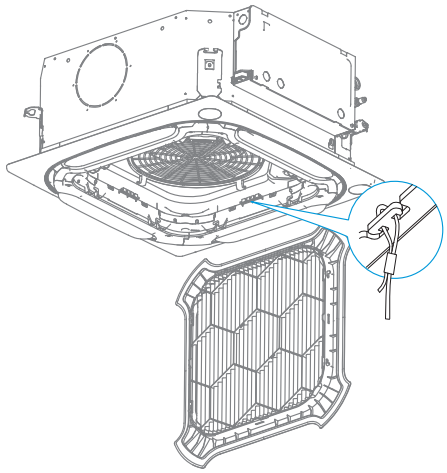




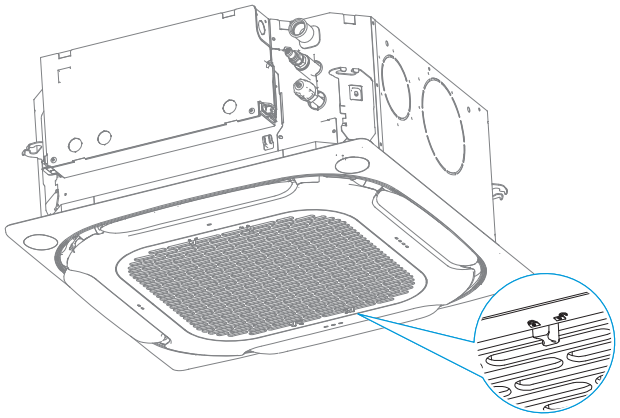
3 Install the suction grille.

① Refer to the wiring nameplate on the electric control box cover of the unit, and connect the exposed wires of the panel to the corresponding interface of the electric control of the unit.

② A safety hang rope is reserved for the suction grille, please install the hang rope into the hang rope slot.



③ Install the suction grille back into the corresponding position, and push it up slightly at the grille clamp position to ensure that the grille buckle is fully engaged in the slot of the panel, and the grille is in the closed position.



6 Refrigerant Connecting Piping Installation

Length and level difference requirements for the pipe connections of IDU and ODU

When connecting different ODUs, the length and level difference requirements for the pipe connections are different. For details, please follow the installation instructions of the ODU.

⚠ [Warning]

During installation of the connecting pipes, do not allow air, dust, and other debris to penetrate the piping system, and make sure the interior of the pipes is dry.

Install the connecting pipes only when the IDUs and ODUs are secured.

When installing the connecting pipes, record the actual installation length of the liquid pipe on the spot so that the refrigerant can be additionally filled.

The copper pipes must be wrapped with thermal insulation materials when they are installed.

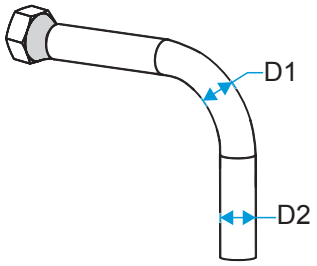
In case of refrigerant gas leakage during operation, please ventilate immediately.

The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

Pipe Layout

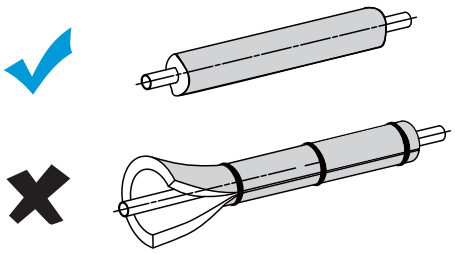
① Bend the pipes or punch holes in the wall as needed. The cross-sectional area of the pipe bending deformation must not exceed 1/3 of the original pipe section. A protective casing should be provided at the wall or floor hole. The weld joint must not be inside the casing. The drill hole on the external wall must be sealed and tightly wrapped with a binding tie to prevent impurities from entering the pipe. The pipe must be insulated with a right-sized insulation pipe.

Pipe bending



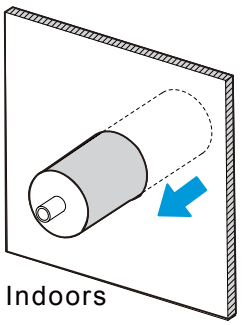
$\frac{D1}{D2} \geq 85\%$

Pipe insulation



Note: D1 is the minimum diameter, and D2 is the nominal diameter.

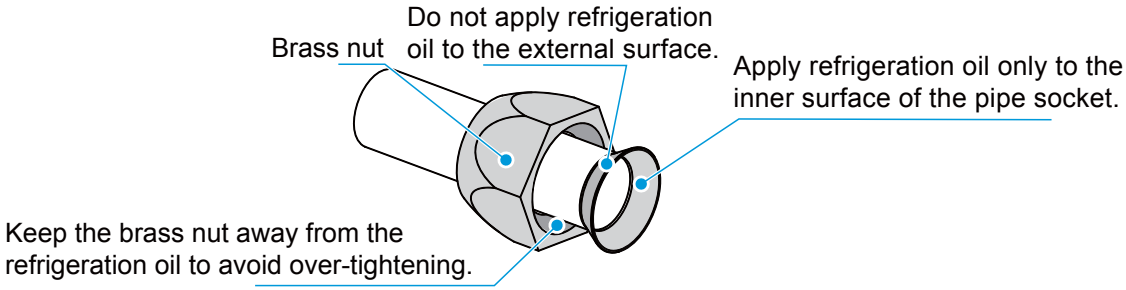
② The wrapped connecting pipe is plugged through the wall hole sleeve from the outdoor side and enters the indoor side. The pipes must be arranged carefully so as not to damage the piping.



Steps of pipe connection

Measure the required length of the connecting pipe. Make the connecting pipe using the following method (see the column Pipe Connection for details).

① Connect the IDU first, then connect the ODU.
Before tightening the flare nut, apply refrigeration oil on the outer surface of the pipe flare and the conical surface of the connection nut (you must use refrigeration oil compatible with the refrigerant for this model), and tighten it by hand for 3 to 4 turns.
When connecting or removing a pipe, use two wrenches at the same time.



[Caution]

✓ Bend and arrange pipes carefully without damaging the pipes and their insulating layers.

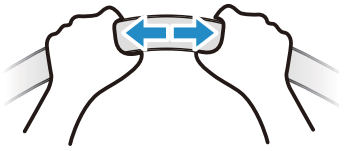
✗ Do not let the interface of the IDU bear the weight of the connecting pipe; otherwise, the connecting pipe may be crushed and deformed, which will affect the cooling (heating) effect, or the thermal insulation materials may be compressed, resulting in air leakage and condensation.

② The check valve of the ODU should be completely closed (as in the state as delivered). Unscrew nuts from the check valve in each connection, and connect the flared tube immediately (within 5 minutes). When the nut at the check valve is removed and placed for too long, dust and other sundries may enter the pipeline system and cause failures at a later time.

③ After the refrigerant piping is connected to the IDU and ODU through the connecting pipes, follow the operations in the "Exhaust Air" column to exhaust the air. After the air is exhausted, tighten the maintenance nut.

Pipe Connection

Bend the pipe with your thumb



Processing method

1. Hand bending processing: Applicable to thin copper pipes (ф6. 35mm-ф12.7mm).
2. Mechanical bending processing: Wider application (ф 6.35mm-ф28mm), using spring pipe bender, manual pipe bender or electric pipe bender.

[Caution]

The bending angle should not exceed 90°; otherwise, wrinkles will be formed in the pipe, which will be easily broken.

The bending radius should not be smaller than 3.5D (pipe diameter) and should be as large as possible to prevent the pipe from being flattened or crushed.

When mechanically bending the pipe, the pipe bender inserted into the copper pipe must be cleaned.

1 Nitrogen Displacement

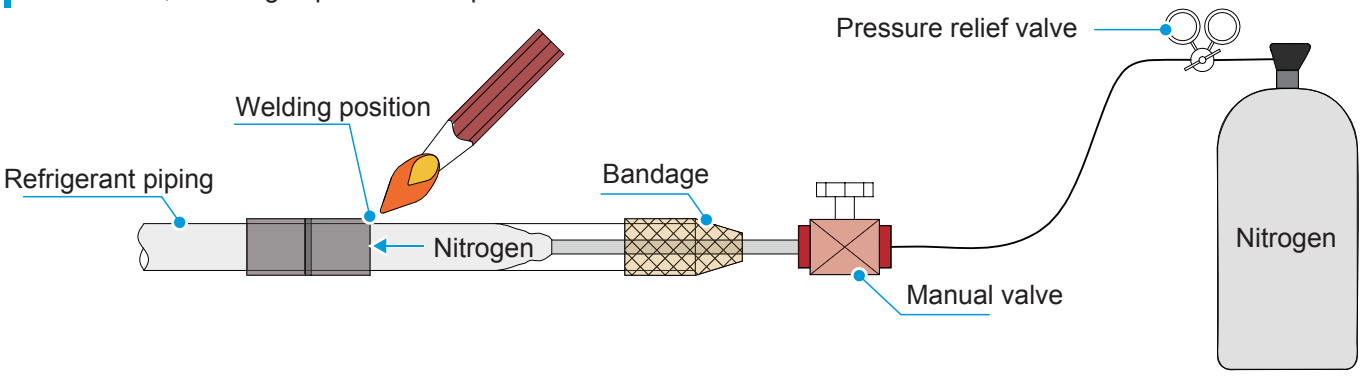
Before welding the refrigerant connecting piping, carry out nitrogen replacement first, or fill the refrigerant piping with nitrogen during welding, and finally connect it to the IDU using the pipe socket.

⚠ [Warning]

When it is necessary to fill the piping with nitrogen during welding, the pressure must be controlled to 0.02MPa with a pressure relief valve.

Do not use flux when soldering the refrigerant connection piping, please use phosphor copper solder that does not require flux.

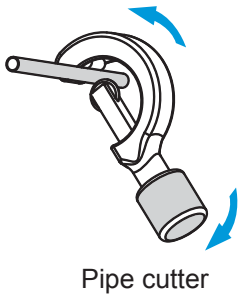
Do not use any antioxidants when soldering the piping. Otherwise, the piping may be clogged with residual antioxidants, resulting in possible component failure.

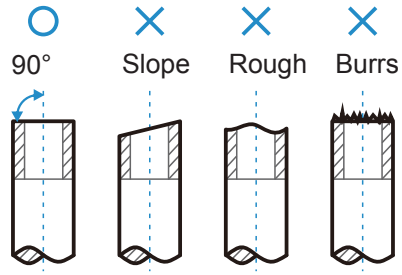


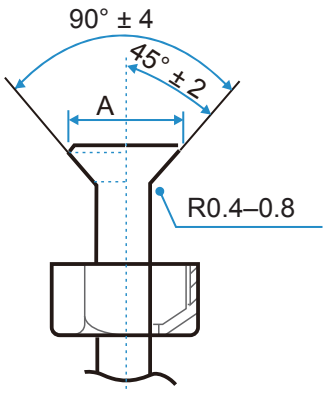
2 Flaring

Cut the piping with a pipe cutter, and rotate the pipe cutter repeatedly to cut off the pipe.

Put the pipe into the connecting nut flaring, and both the gas pipe and liquid pipe of the IDU are connected by flaring.



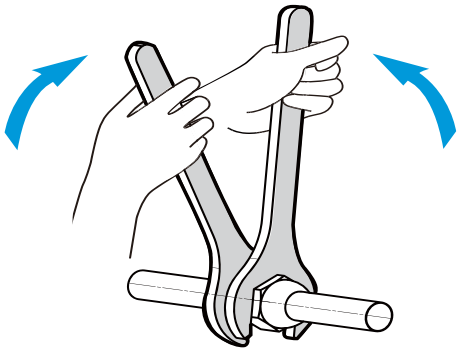




Outer diameter (mm)	A (mm)	
	Max.	Min.
Φ6.35	8.7	8.3
Φ9.52	12.4	12.0
Φ12.7	15.8	15.4
Φ15.9	19.1	18.6
Φ19.1	23.3	22.9

3 Fasten the nut

Align the connecting piping, firstly tighten most of the thread of the connecting nut by hand, and then use a wrench to tighten the last 1-2 turns of the thread as shown in the figure on the right.



Pipe size (mm)	Tightening torque [N.m (kgf.cm)]
Φ6.35	14.2–17.2 (144–176)
Φ9.52	32.7–39.9 (333–407)
Φ12.7	49.5–60.3 (504–616)
Φ15.9	61.8–75.4 (630–770)
Φ19.1	97.2–118.6 (990–1210)

[Note]

According to the installation conditions, excessive torque will damage the pipe socket, and too small torque may cause air leakage due to loose screw tightening. Refer to the table above to determine the tightening torque.

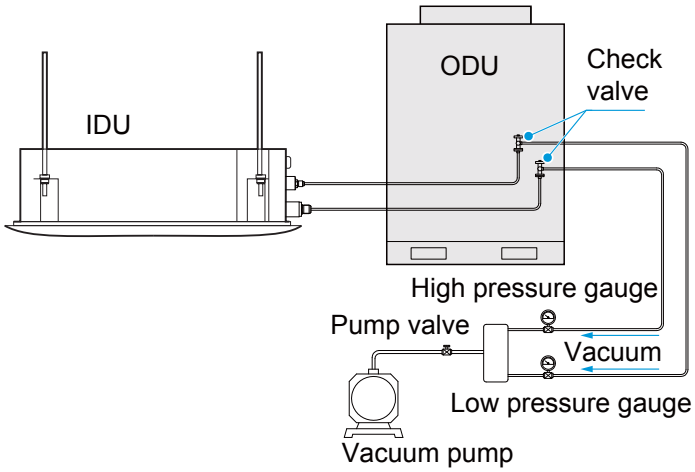
Refrigerant piping fixing

Angle iron brackets or round steel hangers should be used for fixing. When the liquid pipe and gas pipe are suspended together, the size of the liquid pipe shall prevail.

Pipe outer diameter (mm)	≤20	20 to 40	≥40
Horizontal pipe distance (m)	1.0	1.5	2.0
Stand pipe distance (m)	1.5	2.0	2.5

Air Discharge

Connect the refrigerant piping to the gas and liquid pipes of the ODU, and use a vacuum pump to evacuate the gas and liquid pipes of the ODU at the same time.



[Note]

Do not use the refrigerant enclosed in the ODU for vacuuming. The reduction of ODU refrigerant may cause performance degradation of the air conditioner.

Leak Detection

Check leakage at the valve connector in the piping connection part by using soap bubbles.

Heat insulation treatment

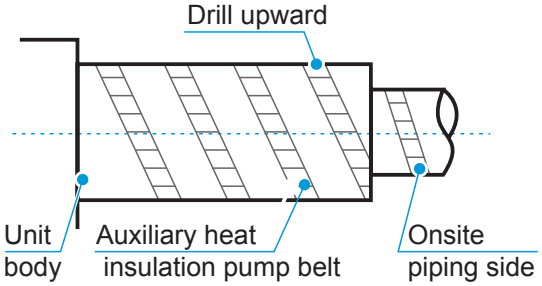
Carry out heat insulation treatment for the gas and liquid pipes respectively. Pipes on the liquid and air sides have a low temperature during cooling. Take sufficient insulation measures to prevent condensation.

[Note]

Be sure to use a thermal insulation material with a heat resistance of 120°C or higher for the gas pipe.

The attached insulation material for the part of the IDU where the pipe connects must undergo heat insulation treatment that leaves no gaps.

Additional protective treatments should be performed on the outdoor pipelines, such as adding metal duct boxes or wrapping aluminum foil materials. Thermal insulation materials directly exposed to the open air will degrade and lose their insulating properties.



7 Drainage Pipe Installation

[Caution]

Before installation of the condensate pipeline, determine its direction and elevation to avoid intersection with other pipelines to ensure that the slope is smooth and straight.

The highest point of the drainage pipe should be provided with a discharge port to ensure the smooth discharge of condensate water, and the discharge port must face downwards to prevent dirt from entering the pipe.

After pipeline connection is completed, a water test and a full water test should be done to check whether the drainage is smooth and whether the pipeline system leaks.

The air conditioner drainage pipe must be installed separately from other sewage pipes, rainwater pipes and drainage pipes in the building.

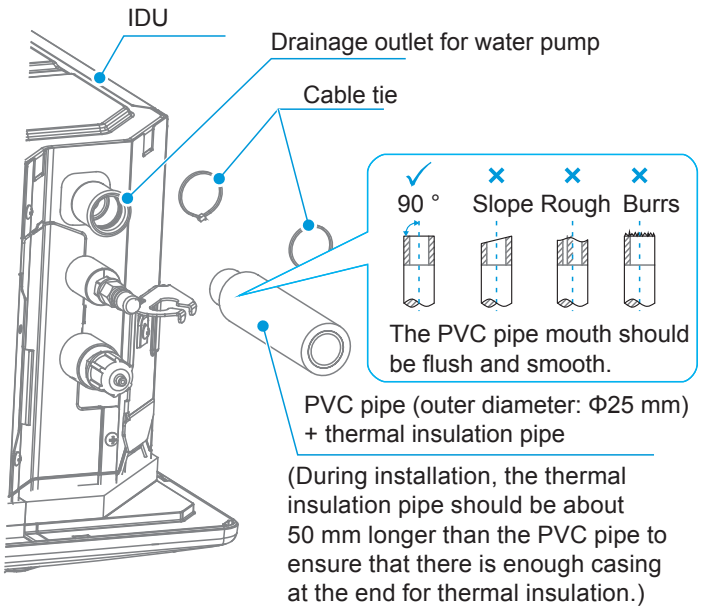
Adverse slope, convex and concave pipes are prohibited, as improper airflow will cause poor drainage.

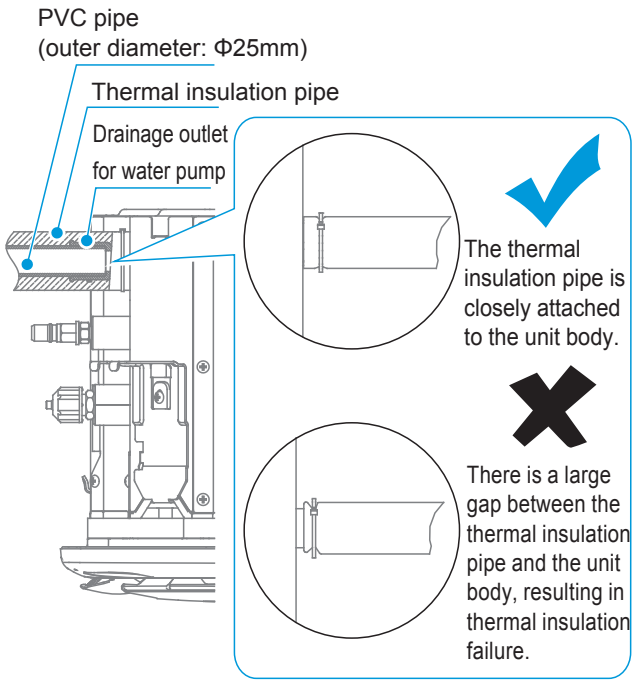
Drainage pipes need to be evenly wrapped with thermal insulation pipes to prevent condensation.

Please connect the drainage pipes in the following ways. Improper installation of the pipes may result in water leakage and damage to furniture and property.

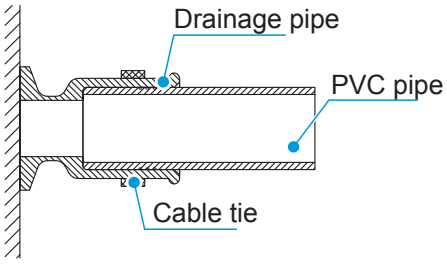
Installation of water discharge pipe for the IDU

① The drainage pipe can be connected to the water pump outlet by using a PVC pipe, and fasten with a cable tie, then push the thermal insulation pipe to be closely attached to the main body, and finally fasten the end with a cable tie.

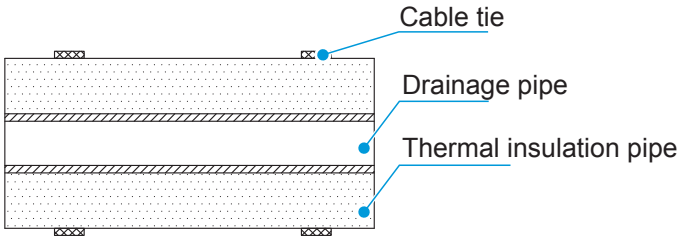




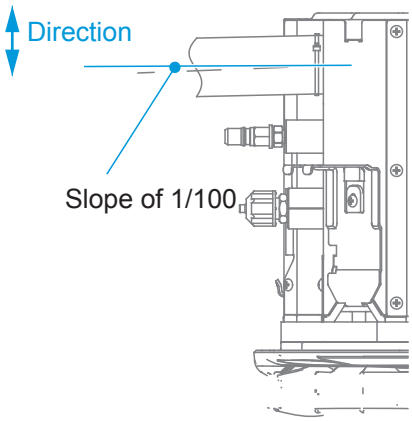
② The connection between the two ends of the drainage pipes and the connection of the water pump outlet only need to be fastened with a cable tie, together with PVC/rubber adhesives. Pay attention to the instructions for use of the adhesives to prevent continuous corrosion to the EPDM rubber. Use hard PVC adhesives for connecting to other water piping. Check that the connections are tight with no leakage.

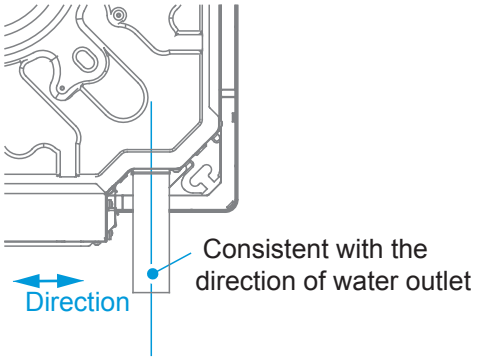


③ The drainage pipes of the unit (especially the indoor part) must be evenly wrapped with thermal insulation pipes and fastened with cable ties to prevent air from entering and producing condensate water.

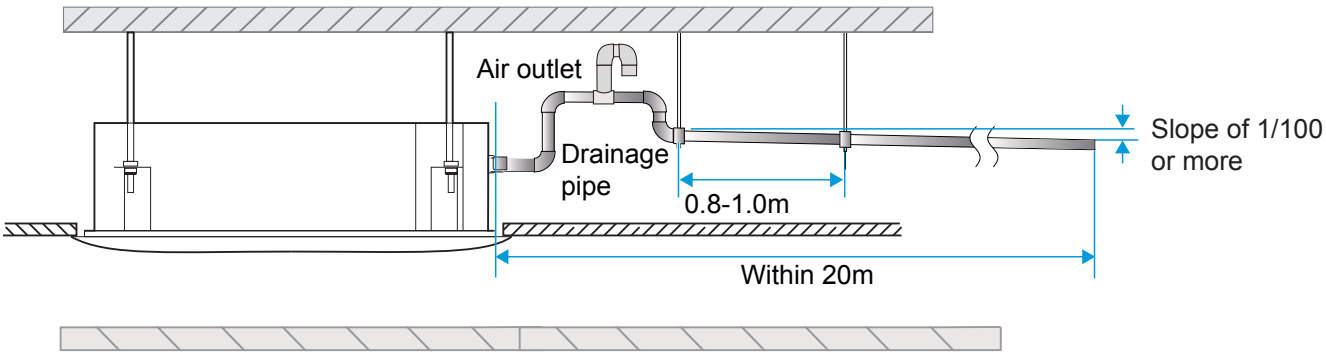


④ To prevent water from flowing back into the air conditioner when it stops running, the drainage pipe should be inclined downward to the outdoor side (drainage side), with a downward slope of 1/100 or more. The drainage pipe should be in the same direction as the drainage outlet of the unit body in the left and right direction, so that the drainage pipe should not expand and store water; otherwise, it may cause abnormal noise.

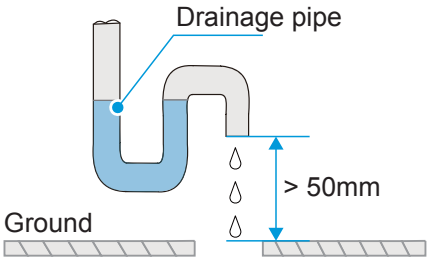




⑤ When connecting the drainage pipe, do not pull the drainage pipe forcefully to prevent the drainage pipe from loosening. The lateral pull-out of the drainage pipe should be within 20m, and a support point should be set every 0.8–1.0m to avoid air resistance caused by the deflection of the drainage pipe. The drainage stand pipe shall be provided with a support point ever 1.5-2.0m, and each stand pipe shall have no less than two support points.



⑥ The end of the drainage pipe must be more than 50mm above the ground or from the base of the water discharge slot. In addition, do not submerge it in water. To discharge the condensed water directly into a ditch, the water discharge pipe must bend upwards to form a U-shaped water plug to stop the odour from entering the room via the water discharge pipe.

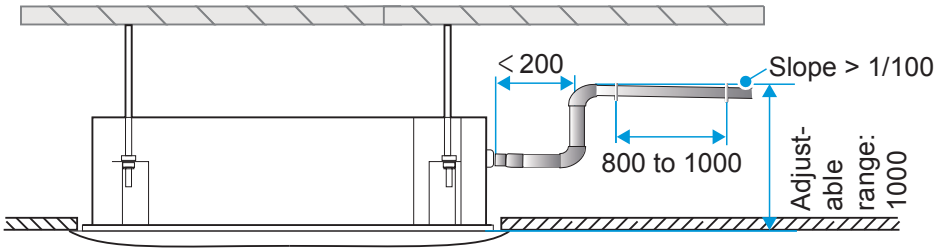


[Caution]

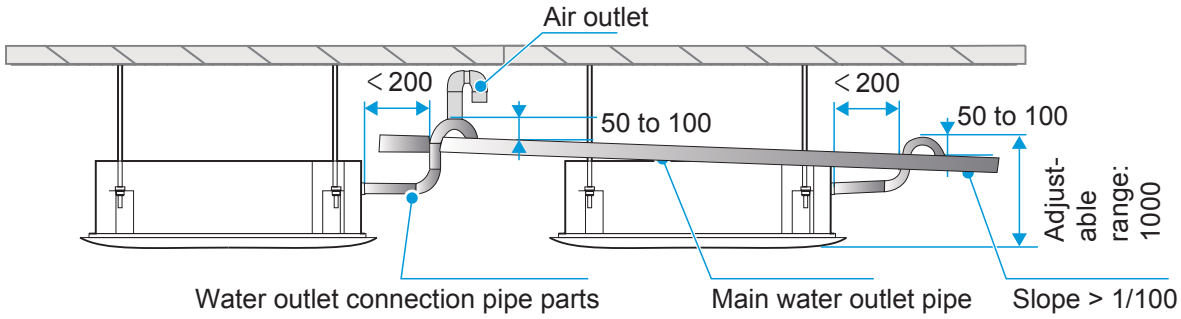
All joints of the drainage system must be sealed to prevent water leakage.

- Connection method of the drainage pipe:

(Unit: mm)



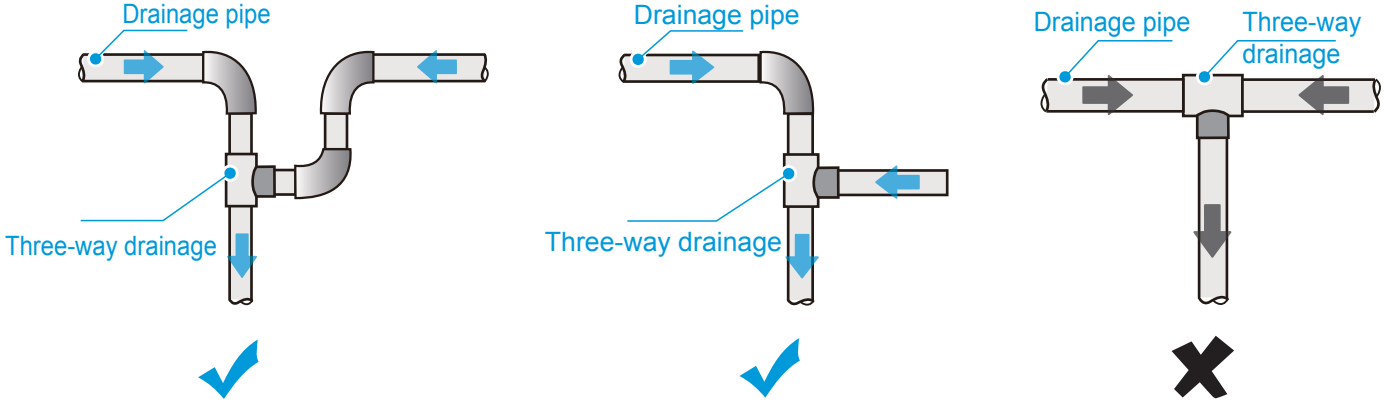
Method to connect the drainage pipe for a single unit



Drainage pipes from multiple units are connected to the main drainage pipe to be discharged through the sewage pipe.

[Caution]

Hedging must be prevented for horizontal drainage pipes to avoid adverse slope and poor drainage.

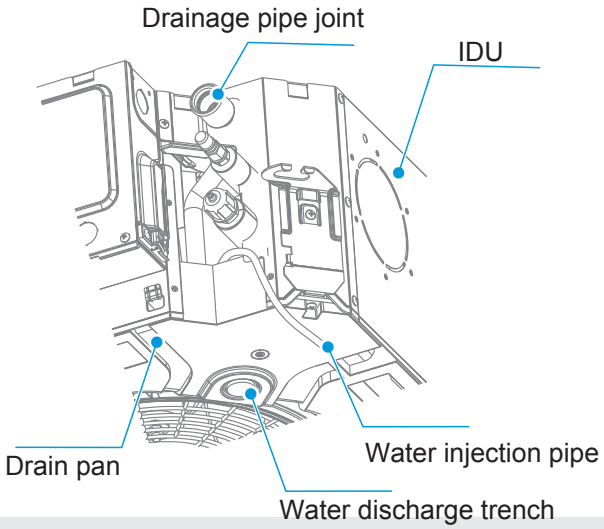


Water Discharge Test

1 Before the test, make sure that the water discharge pipeline is smooth, and check that each connection is sealed properly.

2 Conduct the water discharge test in a new room before the ceiling is paved.

① The drainage pipe can be made of PVC pipe (outer diameter: 25mm). Based on the actual installation circumstance, users can purchase pipes with appropriate length from a sales agent or the local after-sales service center, or purchase directly from the market.



② Connect the power supply, and set the air conditioner to operate in the cool mode. Check the running sound of the drain pump, and check whether the drainage outlet is draining normally (depending on the length of the drainage pipe, it may be delayed for about 1 minute before draining), and whether there is water leakage at each joint.

③ If water drainage is carried out using the IDU drain pump, you need to remove the drainage plug on the unit body when conducting the water discharge test, to check whether the drain pump is started. If the drain pump has not been started, check whether the drain pump has malfunctioned. Note: The drain pump is started only in cooling mode. While in heating mode, the drain pump remains closed.

④ After the water discharge test is completed, turn off the power, remove the accumulated water, and put the drainage plug back in place.

[Caution]

The drain plug at the bottom of the IDU is used to remove the accumulated water in the drain pan when the air conditioner is faulty and repaired. The drain plug should be plugged during operation to prevent water leakage.

Faults, if any, need to be rectified in time.

8 Electrical Connection

⚠ [Warning]

The power supply must be cut off before any electrical work is carried out. Do not operate when the power is on; otherwise, it may cause serious personal injury.

Installation, inspection or maintenance operations must be completed by professional technicians; All parts and materials must comply with the relevant regulations of the local country.

The air conditioning unit must be provided with a special power supply, and the power supply voltage should conform to the nominal working voltage range of the air conditioning unit.

The power supply of the air conditioning unit must be equipped with a power disconnect device that meets the requirements of relevant local technical standards for electrical equipment. The power disconnecting device must have the functions of short circuit protection, overload protection and electric leakage protection. The clearance between open contacts of the power disconnecting device shall be at least 3mm.

The power cable must be made of copper core cable, and the wire diameter should meet the current-carrying requirements. For details, refer to the "Power Cable Diameter and Electric Leakage Protector Selection". Too small wire diameter may cause the power cable to heat up and cause a fire.

The power cable and the ground wire should be fixed reliably to avoid stress on the terminals. Do not pull the power cable forcibly; otherwise, the wiring may be loosened or the terminal blocks may be damaged.

Strong current wires such as power cables cannot be connected to weak current wires such as communication lines; otherwise, the product may be seriously damaged.

Do not bond and connect the power cable. Bonding and connecting the power cable may cause it to heat up and cause a fire.

Bonding and connecting the communication line should really be avoided, but if it is used, at the very least, ensure reliable connection by crimping or soldering and make sure the copper wire at the connection is not exposed; otherwise, it may cause communication failure.

The power cable and communication line must be routed separately, with a distance of over 5 cm. Otherwise, it may cause communication failure.

Keep the vicinity of the air conditioning unit as clean as possible to avoid small animals from nesting and biting the cables. If a small animal touches or bites the cables, it may cause danger due to short circuit or electric leakage.

The air conditioning unit must be grounded reliably and must meet local requirements. If the grounding is not standardized, it may cause serious personal injury due to electric leakage.

Do not connect the ground wire to the gas pipe, water pipe, lightning rod ground wire or telephone ground wire.
Gas pipe: Risk of explosion and fire when gas leaks.
Water pipe: If rigid plastic pipes are used, there will be no grounding effect.
Lightning rod ground wire or telephone ground wire: Abnormal ground potential rise may occur in case of lightning strikes.

After all wiring is completed, check carefully before turning on the power supply.

Electrical characteristics

Air conditioner			Power supply		Fan motor	
Capacity	Frequency (Hz)	Voltage (V)	MCA (A)	MFA (A)	Power (W)	FLA (A)
1.5kW	50/60	220~240	0.46	15	45	0.37
2.2kW			0.46		45	0.37
2.8kW			0.54		45	0.43
3.6kW			0.54		45	0.43
4.5kW			0.61		45	0.49
5.6kW			0.65		45	0.52
6.3kW			0.81		45	0.65

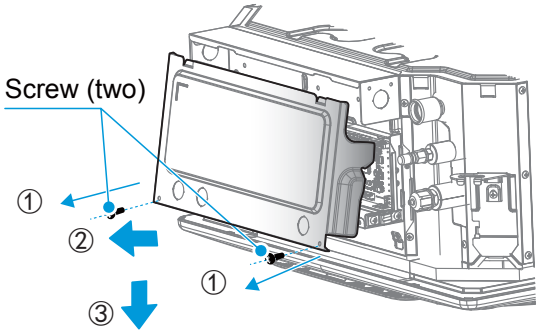
Description
MCA: minimum circuit current
MFA: maximum fuse current
FLA: full load current

Diameter selection (minimum value)

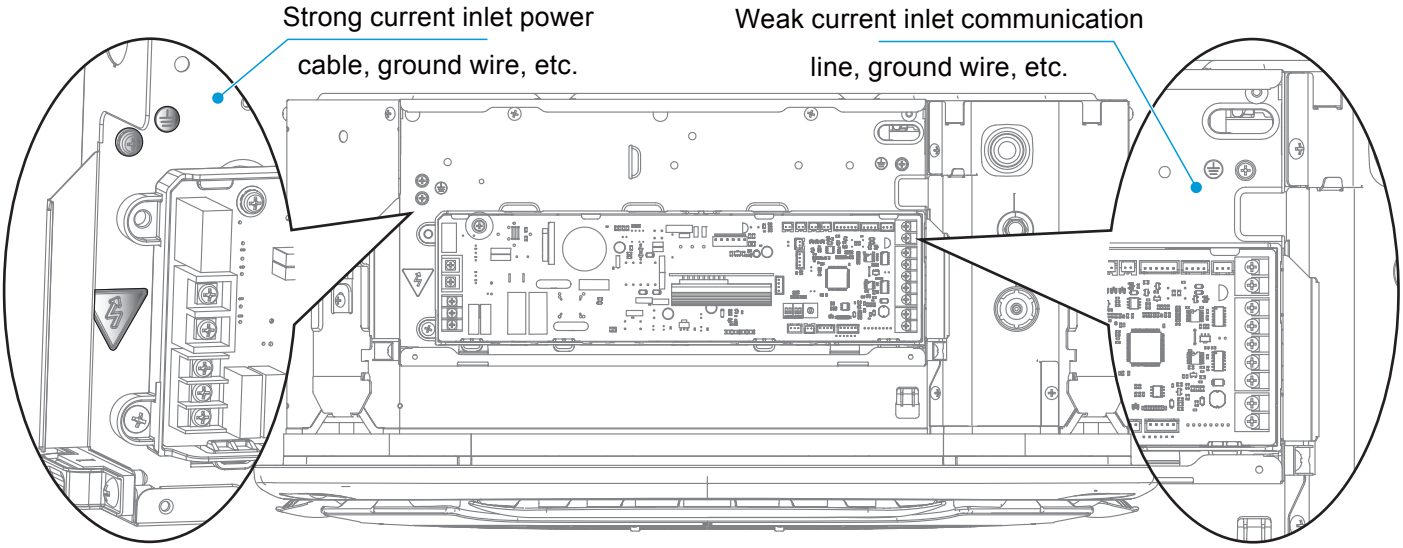
Rated current (A)	Nominal cross-sectional area (mm^2)	
	Soft wire	Hard wire
≤3	0.5 and 0.75	1 and 2.5
>3 and ≤6	0.75 and 1	1 and 2.5
>6 and ≤10	1 and 1.5	1 and 2.5
>10 and ≤16	1.5 and 2.5	1.5 and 4
>16 and ≤25	2.5 and 4	2.5 and 6
>25 and ≤32	4 and 6	4 and 10
>32 and ≤50	6 and 10	6 and 16
>50 and ≤63	10 and 16	10 and 25

Wiring

① Open the IDU's electric control box cover.
① Remove the two screws at the positions shown in the figure;
② Pull out the bottom end of the electric control box cover horizontally for a distance;
③ Take out the electric control box cover downwards.



② Connect the strong current wires (power cable, alarm signal output wire, strong current sterilization wire, and ground wire) and weak current wires (communication line, ground wire, remote switch connection wire, free function module connection wire) to the electric control box through both sides of the electric control box, and the strong and weak current inlets.



[Caution]

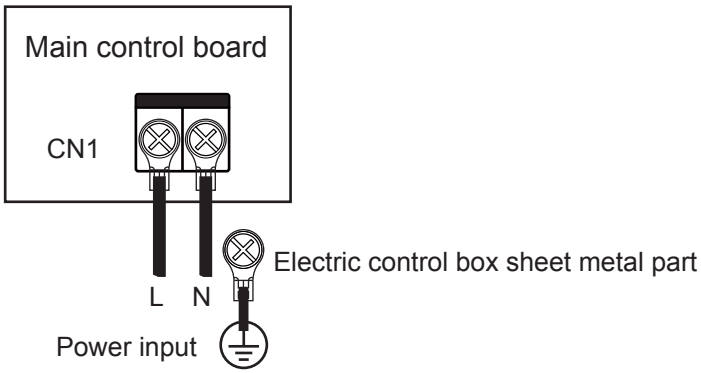
The strong and weak current inlet wires must be separated.

Alarm signal output, strong current sterilization, remote switch, and free function module are custom or optional functions.

③ Power Cable Connection

(1) Power cable connection of single unit

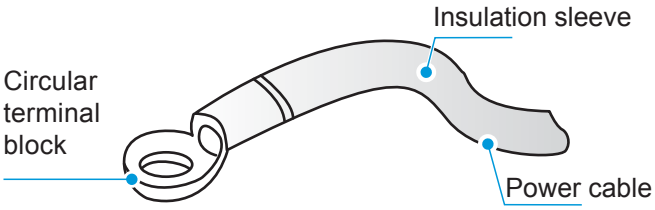
The power supply terminal of the IDU is fixed on the main board, the power cable is connected to the power supply terminal with the bit number "CN1" on the main board. The fire and neutral wires are connected according to the main board logos "L" and "N", and the ground wire is directly connected to the electric control box sheet metal part, as shown in the figure.



[Caution]

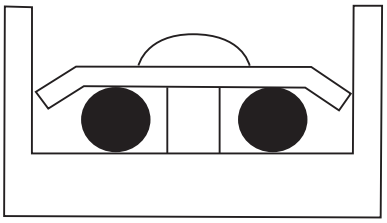
A Do not bond and connect the power cable. Bonding and connecting the power cable may cause it to heat up and cause a fire.

B The power cable must be crimped reliably using an insulated circular terminal block, and then connected to the power supply terminal of the IDU, as shown in the figure.



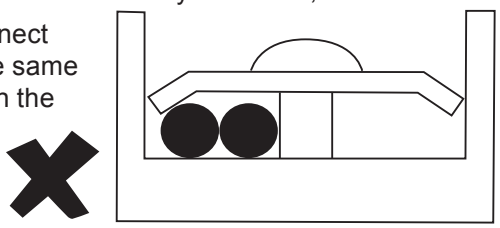
C If it fails to crimp the insulated circular terminal block due to the limited site conditions, connect the power cables of the same diameter to both sides of the power supply terminal block of the IDU, as shown in the figure.

Connect wires of the same diameter on both sides.

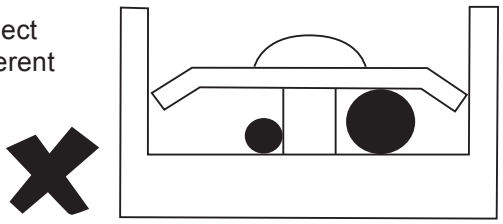


D Do not press the power cables of the same wire diameter on the same side of the terminal. Do not use two power cables of different wire diameters for the same terminal blocks; otherwise, it is easy to loosen due to uneven pressure and cause safety accidents, as shown in the figure.

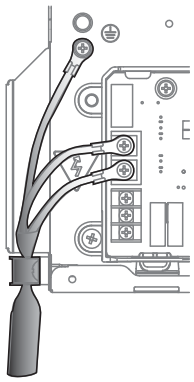
Do not connect wires of the same diameter on the same side.



Do not connect wires of different diameters.

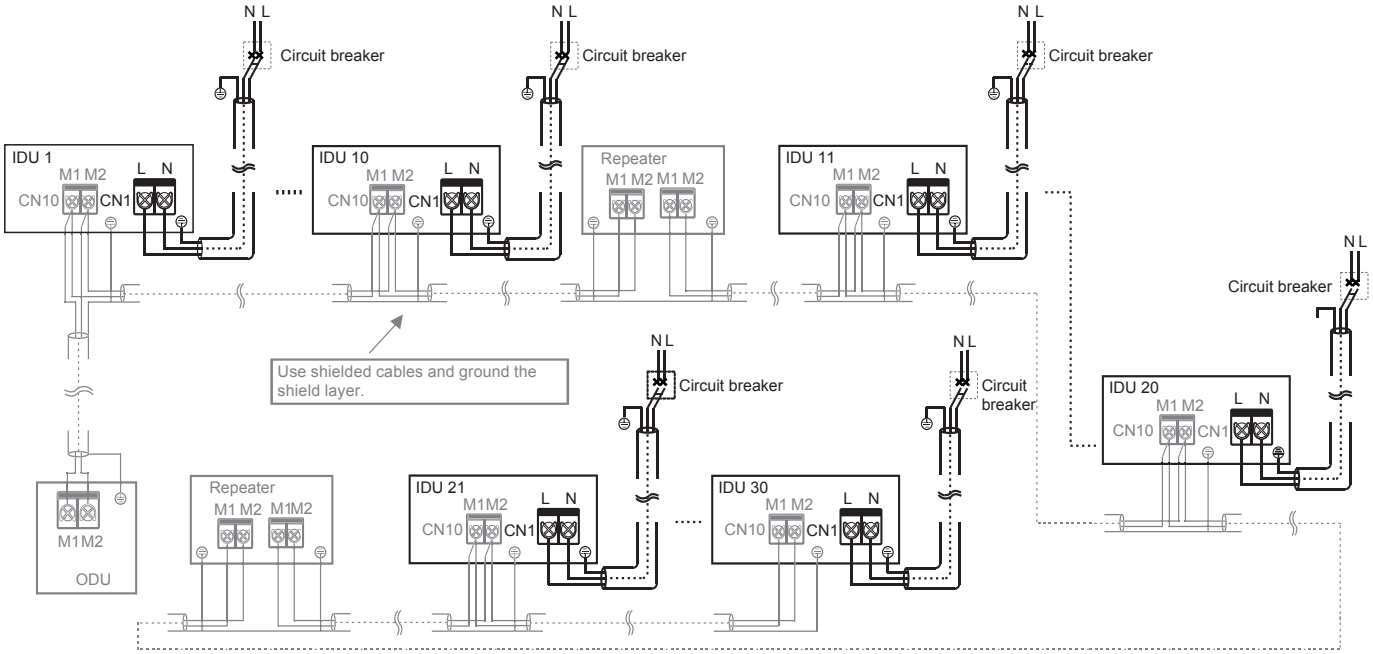


E The connected power cable should be fixed with a crimping clip to prevent loosening, as shown in the figure.



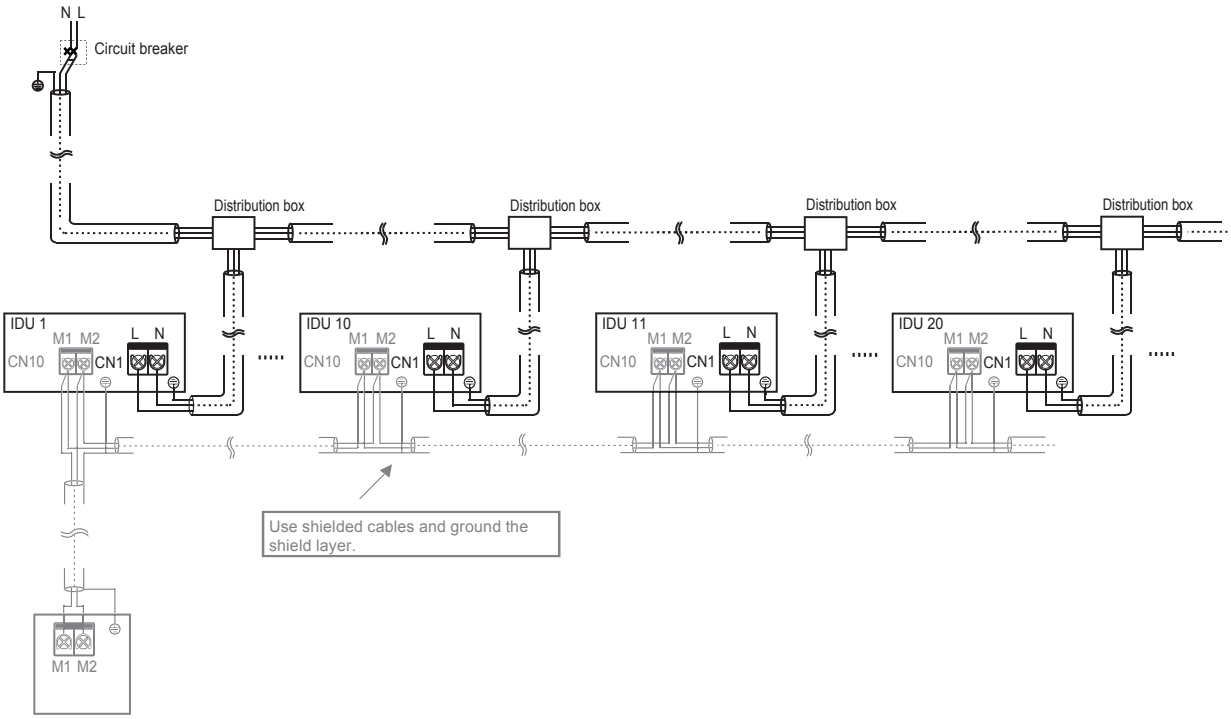
(2) Power cable connection of a single unit

A Select Easycom communication which has the function of valve shut-off upon power-off. In such case, the IDUs can be powered independently, as shown in the figure below:



Note: This connection method has the function of valve shut-off upon power-off, so in the same refrigerant system, the number of IDUs must be ≤30 sets, and a maximum of only two repeaters need to be installed.

B Select Easycom communication which does not have the function of valve shut-off upon power-off. In such case, the IDUs need to be powered uniformly, as shown in the figure below:



④ Communication line connection

(1) Selection of communication line diameter (wire diameter unit: mm^2)

Function	IDU and ODU communication			One controller to one IDU (Two controllers to one IDU) Communication	One-to-more (centralized controller) Communication
Item	Easycom communication (with the function of valve shut-off upon power-off) (mm^2)	Easycom communication (without the function of valve shut-off upon power-off) (mm^2)		X1/X2 communication (mm^2)	D1D2 communication (mm^2)
Wire diameter	2×1.5 (shielded cable)	2×0.75 (shielded cable)		2×0.75 (shielded cable)	2×0.75 (shielded cable)
Length	≤600m (add two repeaters)	≤2000m		≤200m	≤1200m

[Caution]

Please select the communication line according to the requirements in the above reference table.

Do not connect the communication line when the power is on.

Bonding and connecting the communication line should really be avoided, but if it is used, at the very least, ensure reliable connection by crimping or soldering and make sure the copper wire at the connection is not exposed; otherwise, it may cause communication failure.

Do not connect the power cable to the communication terminal; otherwise, the main board may be damaged.

When there are both V8 IDU and non-V8 IDU in a system, only P/Q communication can be selected for IDU and ODU communication. The three-core shielded cable of 3×0.75mm^2 is required to connect "P" "Q", and "E".

M1/M2 communication can achieve valve shut-off upon power-off (that is, if some IDUs in the system are powered off, the bus power supply can continue to control the valve and other IDUs in the system can keep stable operation). This function is optional. To use this function, the two-core shielded cable of 2×1.5mm^2 is required.

The standard value of the screw torque of the communication line terminal is 0.5N.m. Too small torque may cause poor contact; Too large torque may damage the screws and power supply terminals.

On-site wiring must comply with the relevant regulations of the local country/region and must be completed by professionals.

The communication line needs to be made of shielded light/ordinary PVC sheathed copper core flexible wire, and must meet the requirements of relevant local standards.

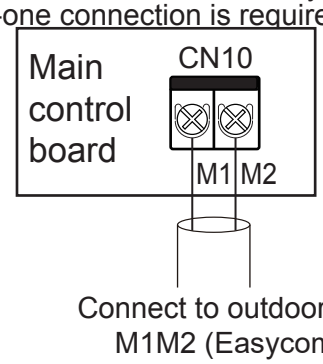
Do not bundle the communication line with the refrigerant pipeline, power cable, etc. When the power cable and the communication line are laid in parallel, a distance of more than 5cm should be maintained to prevent interference from the signal source.

When the construction personnel of the IDU and ODU are working separately, information communication and synchronization are required. Do not connect the ODU to M1 M2 and the IDU to PQ, or connect the IDU to PQ and the IDU to M1 M2.

③ Communication between indoor and outdoor units

A Easycom communication (separate power supply for indoor units)

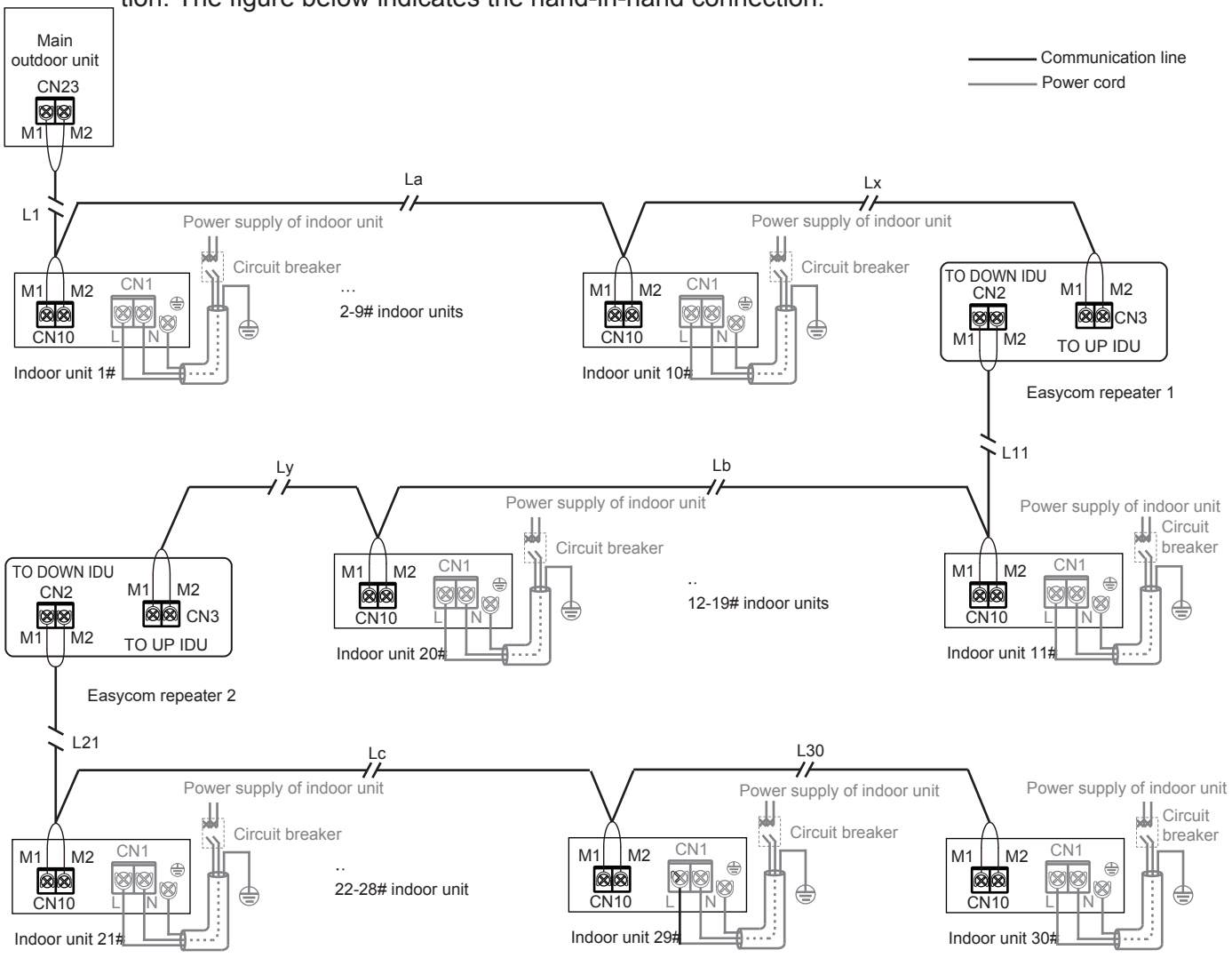
Single set: Easycom communication is a new indoor and outdoor unit communication technology. In case of separate power supply for indoor units, the communication line of a wire diameter of 2X1.5 mm2 is required, in order to enable the function of power-down control valve of indoor units. Connect the communication line to the terminal block "CN10" on the mainboard according to the marks "M1" and "M2"; As the Easycom communication is non-polarity communication, no one-to-one connection is required, as shown in the figure below:



[Caution]

It is forbidden to connect the Easycom communication line to PQ or D1D2 communication .

System: Easycom communication line of both outdoor and indoor units with the function of power-down control valve has a total length of up to 600m, supporting any topological connection. The figure below indicates the hand-in-hand connection:



L1+La+Lx≤200m L11+Lb+Ly≤200m L21+Lc+L30≤200m

For other connection modes (tree topology, star topology and ring topology), please refer to the technical manual or consult the technical personnel.

[Caution]

In case the total distance is ≤200m and the total number of indoor units is ≤10, and the main outdoor unit supply power to the control valve.

If the total distance is ＞200m or the total number of internal units is ＞10, an additional repeater is needed to increase the bus voltage.

The carrying capacity of the repeater is the same as that of the outdoor unit, with a bus length of 200m and 10 indoor units.

The indoor units requiring a general power supply in the same refrigerant system are ≤ 30.

A maximum of 2 repeaters are installed in the same refrigerant system.

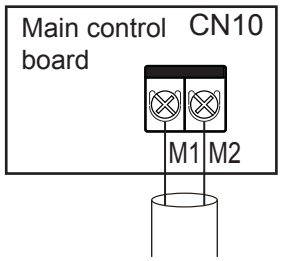
The power supply of the repeater and indoor unit shall be kept on/off at the same time, or UPS shall be used.

For the installation of the repeater, please refer to the installation instructions. It is forbidden to reversely connect the upstream indoor unit port with the downstream indoor unit port. Otherwise, communication faults will occur.

The repeater is an optional accessory. If you want it, please contact your local dealer.

B Easycom communication (uniform power supply for indoor unit)

Single set: When the indoor unit is powered uniformly, the Easycom communication line may not be with the function of the power-down control valve of the indoor unit. At this time, the communication line only needs to be with a wire diameter of 2X0.75 mm2. Connect the communication line to the terminal block "CN10" on the mainboard according to the marks "M1" and "M2"; As the Easycom communication is non-polarity communication, no one-to-one connection is required, as shown in the figure below:

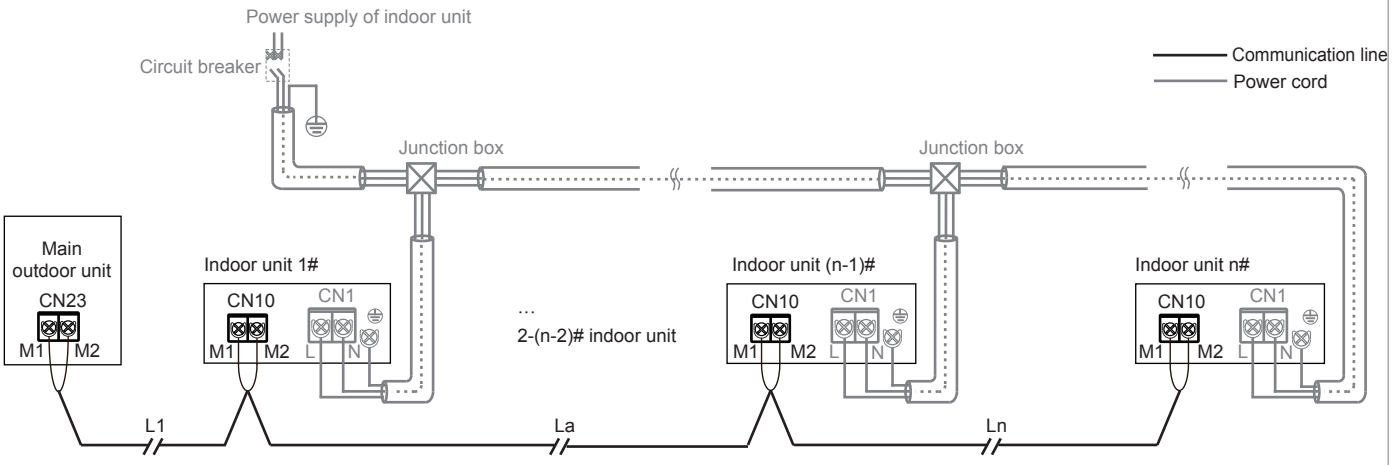


Connect to outdoor unit
M1M2 (Easycom)

[Caution]

It is forbidden to connect the Easycom communication line to PQ or D1D2 communication .

System: Easycom communication line of both outdoor and indoor units without the function of power-down control valve has a total length of up to 2000m, supporting any topological connection. The following figure indicates the hand-in-hand connection:



L1+La+Ln≤2000m

For other connection modes (tree topology, star topology and ring topology), please refer to the technical documents or consult the technician.

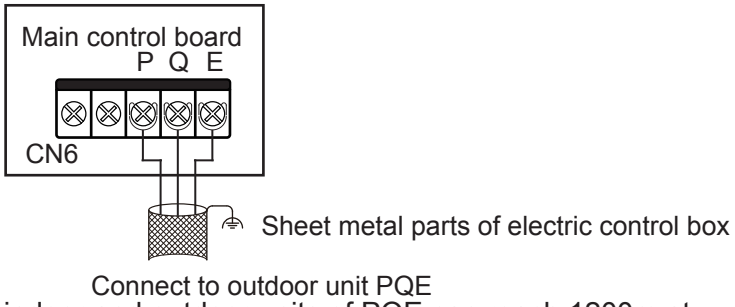
[Caution]

In the case of the Easycom communication without the function of power-down control valve, the indoor unit shall be uniformly powered. Please refer to the section "Power cord connection" for details. Meanwhile, the repeater is unnecessary for the system.

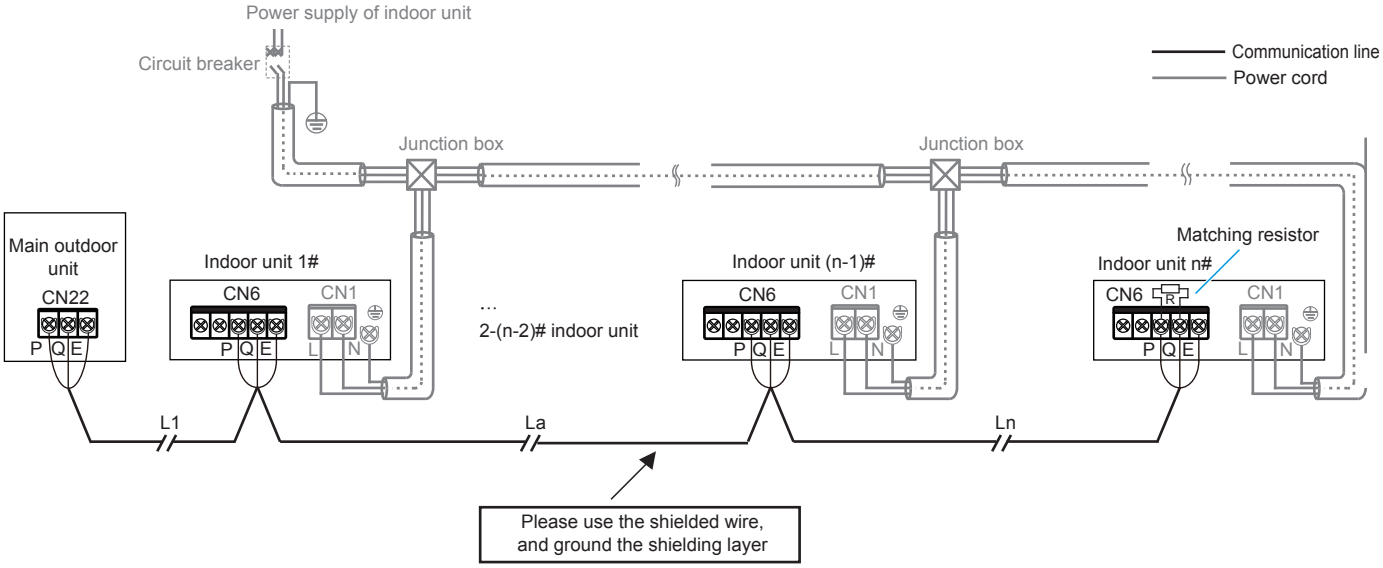
D PQE communication (uniform power supply for indoor unit)

In the case of non-V8 indoor unit in the same refrigerant system, it needs to be connected to "P", "Q" and "E" for PQE communication.

Single set: The communication line of PQE shall be shielded wire and the shielding layer shall be effectively grounded, and shall be connected to the terminal block with the mainboard tag No. of "CN6", and shall be connected according to the symbols "P", "Q" and "E" of the mainboard. The PQ communication is non-polarized communication, and the shielding layer shall be connected to the sheet metal parts of the electric control box, as shown in the following:



System: The total length of communication of the indoor and outdoor units of PQE can reach 1200m at most, connected hand-in-hand, as shown in the following:



L1+La+Ln≤1200m

[Caution]

When PQ(E) is used for communication, the indoor unit shall be uniformly powered.

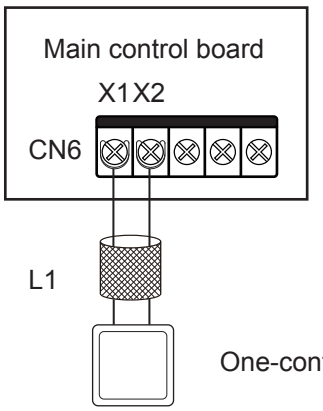
The communication can only be PQ(E) or Easycom. To realize the function of power-down control valve of the indoor unit, the Easycom communication must be used;

The PQ(E) communication line must be shielded wires, and other wires may affect the normal communication between the indoor and outdoor units.

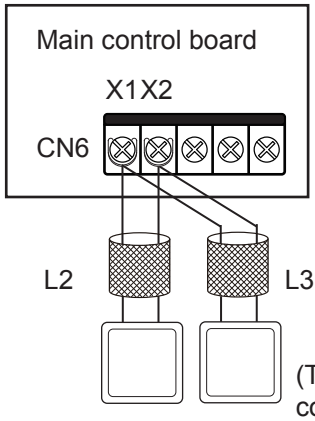
For the last indoor unit, a matching resistor (in the outdoor unit accessory bag) shall be added to PQ.

④ X1X2 communication cable connection

The X1X2 communication is mainly connected to the wire controller to realize the functions of one-control-one, two-control-one by the wire controller. The total length of the X1X2 communication line can reach 200m, and shielded wires are required. The shielding layer is prohibited from grounding. Connect the communication lines to the terminal block "CN6" on the mainboard according to the marks "X1" and "X2". As the wire controller communication is non-polarity communication, no one-to-one connection is required, as shown in the figure below:



One-control-one



Two-control-one

(The master and slave of the wire controller shall be set.
See the instructions of wire controller for details)

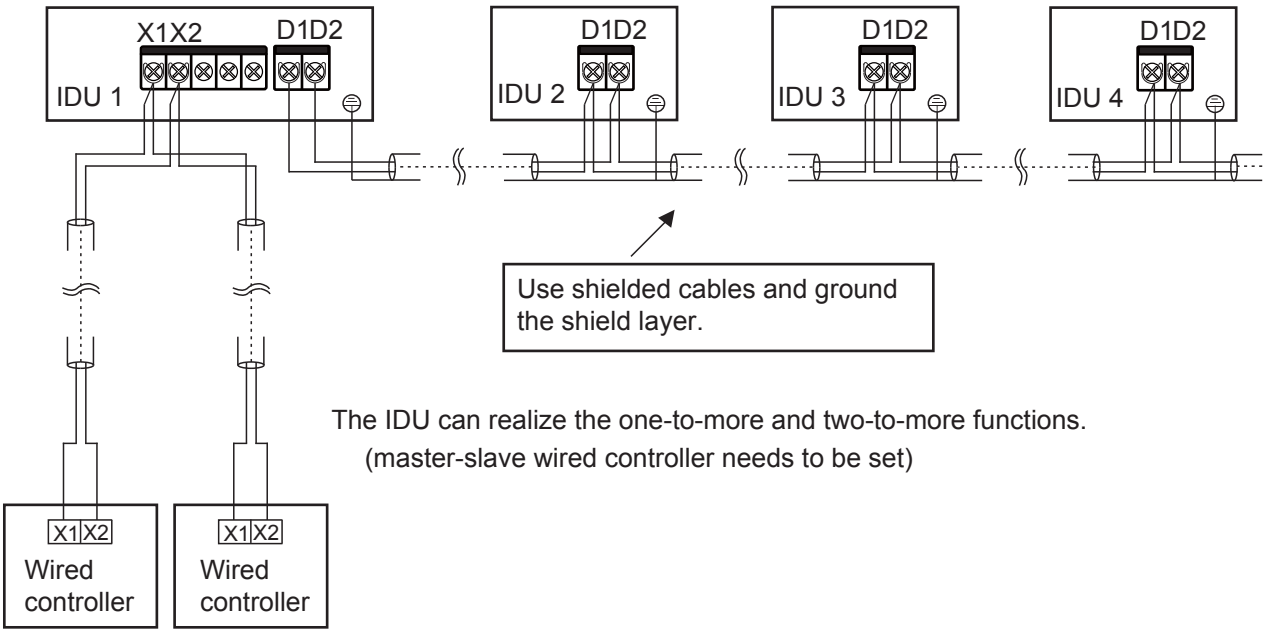
L1 ≤ 200m , L2+L3 ≤ 200m.

[Caution]

Two wire controllers of the same model can be used to control one indoor unit at the same time to realize two-control-one. At this time, the master-slave relationship between the two wire controllers shall be set. Refer to the instructions for wire controllers for details.

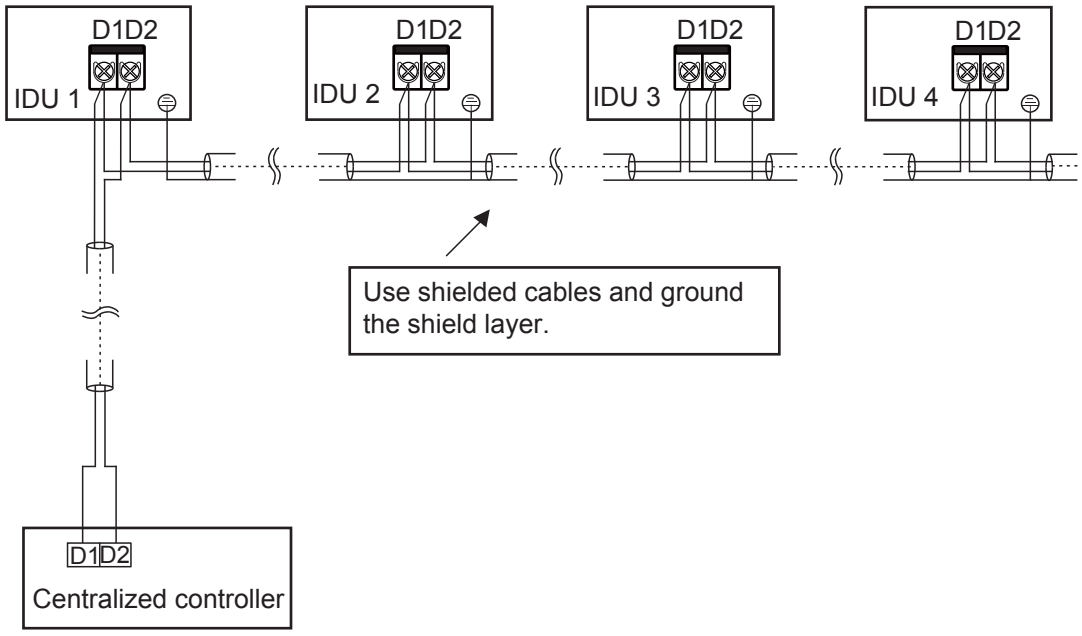
(6) D1D2 communication line connection (limited to ODU and system configuration)

- Realizing one-to-more and two-to-more functions of the IDU wired controller through D1D2 communication
  D1D2 communication is 485 communication. The one-to-more and two-to-more functions of the IDU wired controller can be realized through D1D2 communication, as shown in the figure:



The IDU can realize the one-to-more and two-to-more functions.
(master-slave wired controller needs to be set)

- Realizing the centralized control function of the IDU through D1D2 communication
  D1D2 communication line can also be connected to the centralized controller to realize the centralized control function of the IDU, as shown in the figure below:

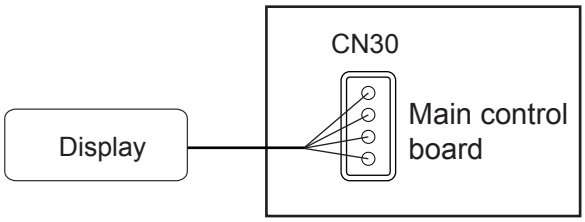


(7) External board connection (limited to ODU and system configuration)

The external board is a connection module outside the main board, including a display panel, a function module adapter board, and optional free function modules 1 and 2.

- Display connection

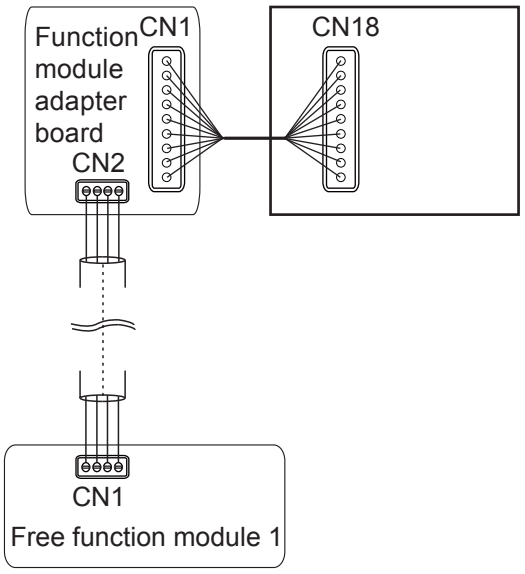
  The display is connected to the main control board through a 4-core communication line, and is connected to the "CN30" socket of the main control board, as shown in the following figure:



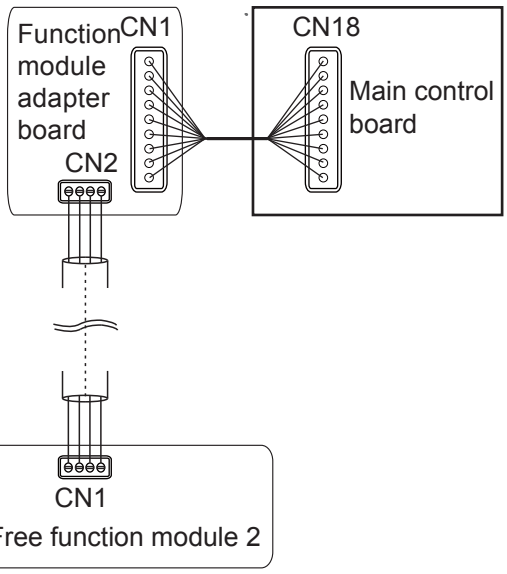
- Connection of function expansion modules

  Free function modules can communicate with the main control board through the function module adapter board. You may use one or both of the free function modules. The wiring diagrams are as follows:

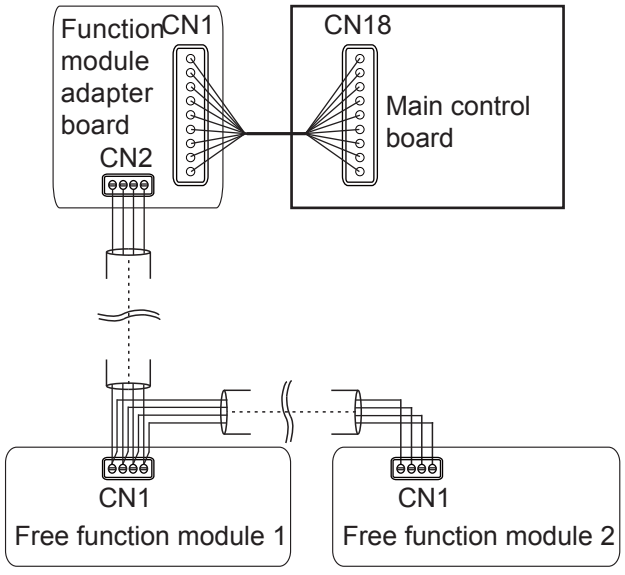
A Use free function module 1



B Use free function module 2



C Use free function modules 1 and 2

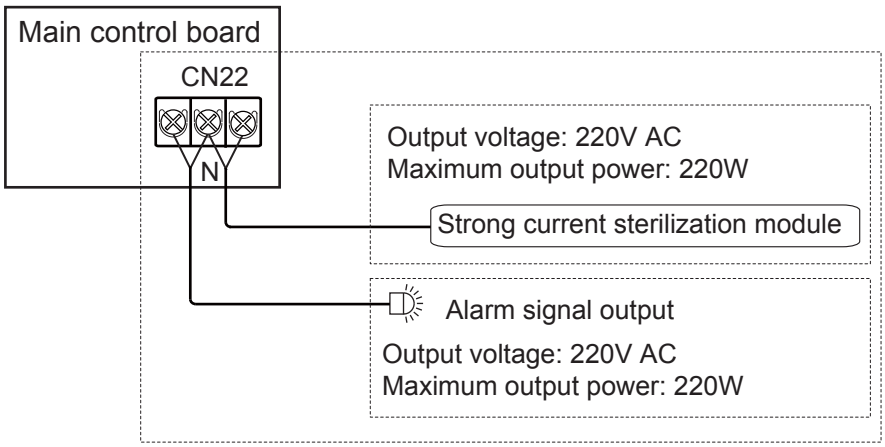


[Caution]

For the function introduction of the function module adapter board, free function module 1, and free function module 2, please refer to the function module manual.

(8) Alarm signal output, strong current sterilization connection (customized function)

The alarm signal output and strong current sterilization power supply terminals are fixed on the main board, the alarm signal output and strong current sterilization modules are connected to the power supply terminal whose bit number is "CN22" on the main board, and the alarm signal output and strong current sterilization module share the neutral line and are connected according to the schematic diagram below:

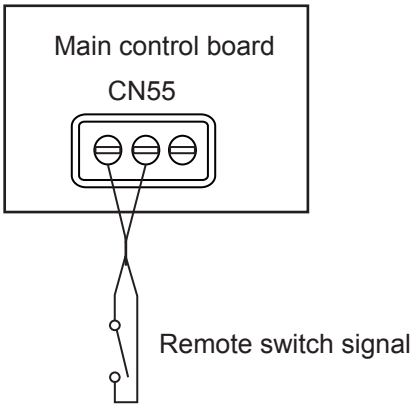


[Caution]

Alarm signal output and strong current sterilization are customized functions.

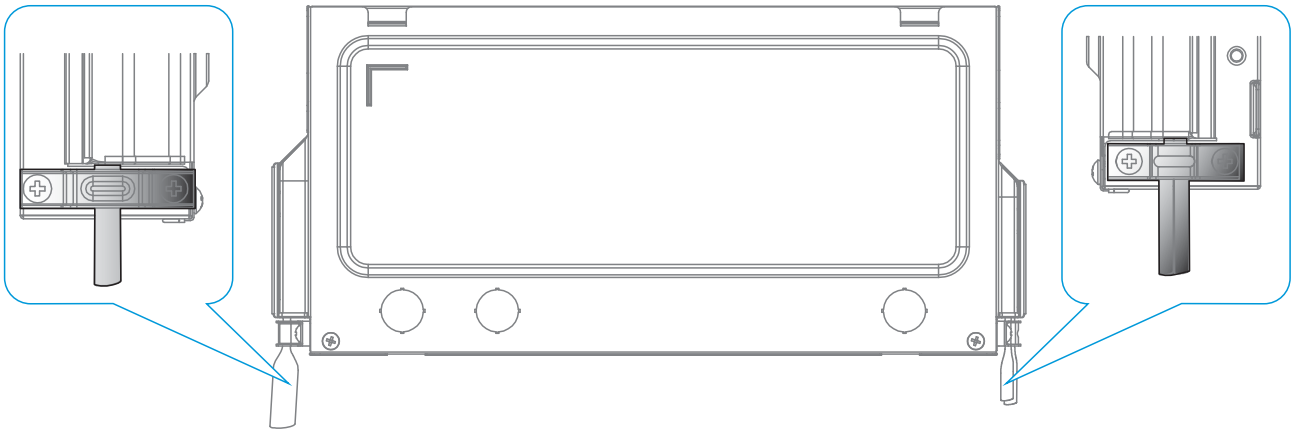
(9) Remote switch signal wiring (customizable)

Terminal block "CN55" of the main board is used for remote switch signal. Connect cables to the first and second binding posts (the third binding post is not functional) according to the label on the main board, as shown in the following figure:



(10) Reclose the electric control box cover

Straighten the connecting wires in order and lay it flat, and close the electric control box cover again.



[Caution]

Do not cover the electric control box during power-on.

When covering the electric control box, arrange the cables carefully and do not clip the connecting wires on the electric control box cover.

9 Application Control

Error Codes and Meanings

In case of the following circumstances, please stop the air conditioner immediately, cut off the power switch and contact the local air conditioner customer service center. The error code is displayed on the display panel and the wired controller display.

Error Classification	Error	Main Error Code	Error Subcode	Error Code Display
Forced shutdown failure	Refrigerant leakage	A1	1	Display
	1# Electronic expansion valve coil failure	b0	5	Display
	2# Electronic expansion valve coil failure	b0	7	Display
	1# pump body failure	b3	4	Display
	2# pump body failure	b3	5	Display
	Water level switch alarm failure	b3	6	Display
	Motor mismatch	J4	7	Display
Protection failure	Emergency stop failure	A0	1	Display
	Expansion valve leakage and poor drainage	b3	7	Display
	Multiple motor failures within 60 minutes	J0	3	Display
Electric control protection failure	IDU main control board EEPROM failure	P7	1	Display
	Display board EEPROM failure	P7	2	Display

Error Classification	Error	Main Error Code	Error Subcode	Error Code Display
Communication failure	Duplicate IDU address code	C1	1	Display
	IDU and ODU communication failure	C2	1	Display
	Master-slave wired controller communication failure	C3	A	Only the spot check interface is visible
	Communication failure between IDU main control board and fan module	C4	1	Display
	Communication failure between IDU and Wifi Kit	C5	1	Display
	Communication failure between IDU and wired controller	C5	2	Display
	Communication failure between IDU and panel/display board	C6	1	Display
	Communication failure between IDU and free function module 1	C6	2	Display
	Communication failure between IDU and free function module 2	C6	3	Display
	Communication failure between IDU and function module adapter board	C6	4	Display
Sensor fault	Intelligent eye failure	dE	5	Display
	T0-outdoor return air temperature sensor failure	E2	1	Display
	T1-indoor return air temperature sensor failure	E2	4	Display
	Wired controller temperature sensor failure	E3	1	Only the spot check interface is visible
	Wireless temperature sensor failure	E3	2	Only the spot check interface is visible
	External temperature sensor failure	E3	3	Only the spot check interface is visible
	TA-fresh air processing unit outlet temperature sensor failure	E8	2	Display
	Humidity sensor fault	EA	2	Only the spot check interface is visible
	Refrigerant leakage detection sensor failure	EC	1	Display
	T2A-heat exchanger liquid pipe temperature sensor failure	F0	1	Display
	T2-heat exchanger middle temperature sensor failure	F1	1	Display
	T2B-heat exchanger gas pipe temperature sensor failure	F2	1	Display
Installation failure	IDU model code not set	U1	2	Display
	IDU horsepower code not set	U1	3	Display
	IDU horsepower code setting error	U1	4	Display
	IDU and ODU mismatch	U2	8	Display
	Refrigerant piping signal lines are not from the same system	U3	7	Display
	No IDU address	U3	8	Display
	Mismatch of IDU and MS refrigerant piping port numbers	U3	9	Display
	VIP IDU not set	U3	A	Display
Warning failure	Static pressure detection	d5	1	Display
	Remote shutdown	d6	1	Display
	Self-cleaning	dC	/	Display
	Defrosting	dF	/	Display
Other errors	ODU failure	A5	1	Display
	MS (refrigerant switching device) failure	A8	1	Display
	MS (refrigerant switching device) self-test failure	A8	2	Display

Error Classification	Error	Main Error Code	Error Subcode	Error Code Display
Other errors	Main board power-off - IDU main control board power-off	A9	1	Display
	Mode conflict failure - V6 protocol	A9	2	Display
	Leak inside 1# electronic expansion valve	b0	6	Only the spot check interface is visible
	Leak inside 2# electronic expansion valve	b0	8	Only the spot check interface is visible

[Caution]

Only the ODU model and the IDU configuration (including the wired controller and display) match can the error codes be displayed completely.

Spot Check Description

Use the bi-directional communication wired controller (for example, KJR-86S/BK) to query the spot check function in the following steps:

1. ① In the main page, hold "☰" and "▲" for 2s to enter the query page. The ODU displays u00-u03, the IDU displays n00-n63. Press the "▲" or "▼" key to select the IDU, and press the " ⌐ " key to enter the parameter query page.
2. Press the "▲" or "▼" key to query the parameters, and the parameters can be queried cyclically. See the spot check list below for details.
3. Press the "◷" key to exit the query function.
4. On the top of the query page, the "Timing area" displays the spot check serial number, and the "Temperature area" displays the content of the spot check parameters.

No.	Displayed Content	No.	Displayed Content
1	IDU and ODU communication address	11	Actual RH indoor humidity
2	Capacity HP of IDU	12	Actual fresh air processing unit TA air supply temperature
3	Actual set temperature Ts	13	Air discharge pipe temperature
4	Current running set temperature Ts	14	Compressor discharge temperature
5	Actual T1 indoor temperature	15	Target superheat
6	Modified indoor temperature T1_modify	16	EXV opening (actual opening/8)
7	Actual T2 indoor temperature	17	Software version No.
8	Actual T2A indoor temperature	18	Historical error code (recent)
9	Actual T2B indoor temperature	19	Historical error code (sub-recent)
10	Actual set humidity RHs	20	[———] is displayed

ESP Setting

Use the bi-directional communication wired controller (for example, KJR-86S/BK) to set the unit external static pressure, which can be divided into the following two situations:

Constant speed mode

It is necessary to use the bi-directional communication wired controller to set the unit external static pressure parameters to overcome the air outlet resistance. The steps are as follows:

1. 1. In the main page, hold "≡" and " " for 3s. The ODU displays u00-u03, the IDU displays n00-n63. Press the "▲" or "▼" key to select the IDU, and press the " " key to enter the parameter setting page.
2. In the parameter setting page, press the "▲" and "▼" keys to switch the "Parameter code" to the static pressure setting parameter code "n00", press the " " key to enter the specific parameter setting, and then press "▲" and "▼" to adjust the parameter value of the unit external static pressure. Then, press the " " key to save the parameters, now the unit external static pressure parameter setting is completed.
3. Press the " " button to return to the previous page until exiting the parameter setting or exiting the parameter setting after 60s without any operation.

Parameter Code	Parameter Name	Parameter Range	Default Value	Remarks
N00	Unit external static pressure	Unit external static pressure stop:00/01/02/03/04/05/~/19	02	Set the corresponding static pressure value FF of the IDU according to the speed position

Static pressure setting parameter table

Unit Power	Static Pressure Settings							
W*100	Speed 0	Speed 1	Speed 2	Speed 3	Speed 4	Speed 5	Speed 6	Speed 7-19
HP	Pa	Pa	Pa	Pa	Pa	Pa	Pa	Pa
15 (0.6HP)	10	20	30	30	30	30	30	30
22 (0.8HP)								
28 (1.0HP)								
36 (1.2HP)								
45 (1.7HP)								
56 (2.0HP)								
63 (2.2HP)								

[Caution]

Parameters can be set in the power-on or power-off state.

When it is in the parameter settings page, the wired controller does not respond to any remote control signal. The wired controller does not respond to the app remote control signal.

When it is in the parameter settings page, the mode, fan speed, and switch buttons are invalid.

Please refer to the remote controller manual for the setting parameters of the remote controller.

For other parameter settings of the IDU, please refer to the manual of the wired controller.

10 Test Run

Before test run, make sure that

- IDUs and ODU are properly installed.
- The piping is correct, and the refrigerant piping system has been checked for leakage.
- Piping length, and the amount of refrigerant charged have been recorded.
- The wiring is correct and firm without virtual connection phenomenon. Ground wires have been properly connected.
- The voltage of the power supply is the same as the rated voltage of the air conditioner.
- Heat insulation is complete.
- There is no obstacle at the air inlet and outlet of the IDU and ODU.
- Fully open the check valves of the gas pipe and liquid pipe of the ODU.
- Turn on the power supply to preheat the ODU for 12 hours.

Test run

Use the wired/remote controller to control the cooling or heating operation of the air conditioner according to the instructions.

In case of a failure, please troubleshoot according to the "Symptoms That Are Not Faults" in the "Precautions for Use" in this manual.

IDU

- The wired/remote controller switch is operating normally.
- The display of the wired/remote controller is normal, the function keys work normally, the room temperature adjustment is normal, and the air flow and direction adjustment are normal.
- LED indicator is on.
- Water discharge is normal.
- Check the IDUs one by one for normal operation, and the cooling and heating functions are normal without vibration or abnormal sound.

ODU

- There is no vibration or strange sounds during operation.
- The wind, noise and condensation do not affect the neighbours.
- There is no refrigerant leakage.

Inspection Items after Installation

To ensure a comfortable indoor environment, please read the following installation points carefully and confirm whether the installation of the air conditioner meets the requirements. Fill in "√" if the item meets the requirements. Otherwise fill in "×".

Check item	Inspection contents	Pass or not
Whether the IDUs and ODUs are securely installed	Air conditioner falls, vibrates, and makes noise	
Whether the installation of the IDU has been completed	The unit does not work properly or parts are burnt out	
Whether a leak test has been performed	Insufficient cold or hot air	
Whether the heat insulation is good (refrigerant piping, drainage pipe, and air duct)	Condensation dripping	
Were the copper pipes sealed before installation to prevent dust from entering	Compressor fault	
Whether the refrigerant piping is filled with nitrogen for shielded welding during the welding process (there is a nitrogen cylinder on site)	A large amount of oxide film is formed on the inner surface of the copper pipe, and the poor operation of the system causes major failures	
Whether a water discharge test is performed, whether the drainage is smooth, and whether the connection is firm	Water leakage	
Whether the power supply voltage is consistent with the specified voltage on the unit nameplate	The unit does not work properly or parts are burnt out	
Whether the wires and pipes are connected correctly	The unit does not work properly or parts are burnt out	
Whether the air conditioner is safely grounded	Electric leakage is very dangerous	
Whether the wires of the specified size are used	The unit does not work properly or parts are burnt out	
Check for loose connecting screws	Electric shock or fire	
Whether there are any obstructions at the air inlets and outlets of the IDUs and ODUs	Insufficient cold or hot air	
Whether the unit external static pressure has been set for the IDU in constant speed mode	Cooling or heating failure	
Whether the refrigerant piping length and refrigerant charge are recorded	The amount of refrigerant in the air conditioning system is unknown	
Was an access hole reserved at the installation position of the IDU	Difficult to maintain	
Whether air filters and grilles are installed (air inlets and outlets)	The unit does not work properly	
Does the temperature of each room meet the requirements during the test	Failure to meet users' comfort needs	
Whether the user has been explained how to use the unit according to the user manual	Poor using effect	
Whether the user has been explained how to use and clean the air filter, grille (air inlets and outlets), etc.	Poor using effect	

Cleaning, Maintenance and After-Sales Service

1 Safety Warning

[Warning]

For safety reasons, always turn off the air conditioner and turn off the power before cleaning the air conditioner.

Do not disassemble or repair the air conditioner by yourself; otherwise, it may cause fire or other dangers.

Only professional service personnel can carry out the maintenance.

Do not use flammable or explosive materials (such as hair styling agents or pesticides) near the product.

Do not use organic solvents such as paint thinner to clean this product; otherwise, it may cause cracks, electric shock or fire.

Only qualified dealers and professionally qualified electricians can install the optional accessories.

Be sure to use the optional accessories specified by our company.

Improper installation by yourself may result in water leakage, electric shock or fire.

Do not wash the air conditioner with water; otherwise, it may cause electric shock.

Use a stable standing platform.

2 Cleaning and Maintenance

Cleaning the air filter

[Caution]

The primary efficiency filter is a standard accessory, and the medium effect filter is an optional accessory.

Air filters can be used to remove dust or other particles from the air, and if clogged, the effectiveness of the air conditioner will be greatly reduced.

Therefore, be sure to clean the air filter frequently when using it for a long time.

For the IDU with constant speed mode, if it is installed in a place with a lot of dust, you are recommended to clean filter once a month.

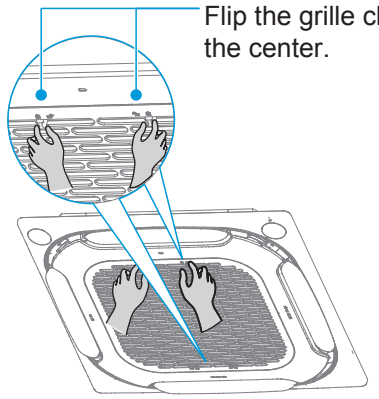
If the serious dirt is difficult to clean, replace the filter.

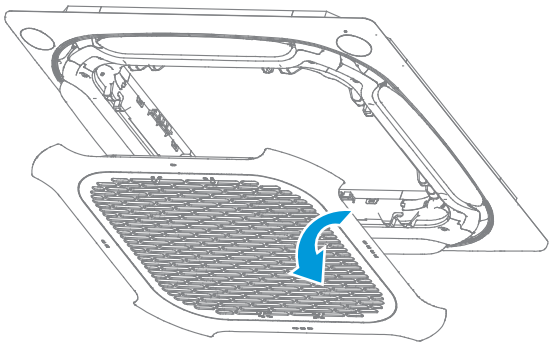
Do not remove the air filter when it is not clean; otherwise, it may cause malfunction.

If the air conditioner is used without an air filter, the accumulation of dust in the air conditioner will often cause malfunctions due to the failure to remove dust from the indoor air.

1 Procedure diagram

① Remove the air inlet grille.
Press the grille clamp with two fingers at the same time, and pull out the air inlet grille downwards.





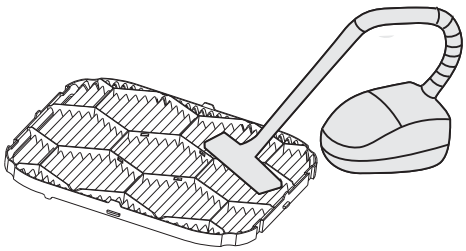
② Remove the filter.

[Note]

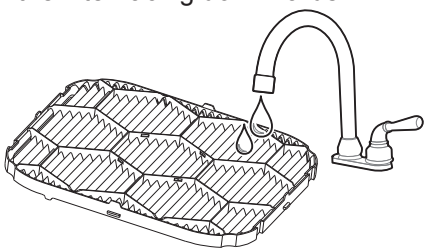
Only professionals can change and disassemble the filter. Incorrect operation by yourself may result in electric shock or damage to components.

③ Clean the filter.

Clean the filter with a vacuum cleaner, with the air inlet side of the filter facing upwards.



Clean the filter with clean water (except for the activated carbon module), with the air inlet side of the filter facing downwards.



Do not dry the filter in direct sunlight or fire to avoid deformation of the filter.

If the filter is heavily soiled, use a soft brush and neutral detergent to clean it, then shake off the water and dry in a cool place.

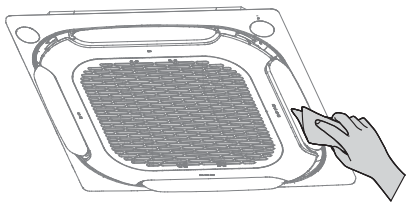
Non-professionals are not allowed to disassemble, replace and repair the filter.

④ Reinstall the filter.

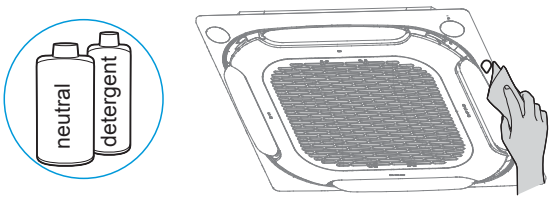
⑤ Reinstall and close the air inlet grille in the reverse order of steps 1 and 2 above.

Clean air outlets and exterior panels

1 Wipe the air outlet and panel with a dry cloth.



2 If a stain is hard to remove, clean it with clean water or neutral detergent.



[Caution]

Do not use gasoline, benzene, volatile agents, decontamination powder and liquid insecticides. Otherwise, the air outlet or panel may de-color or deform.

Do not expose the inside of the IDU to moisture, as it may result in electric shock or fire.

When cleaning the louver with water, do not scrub it violently.

If the air conditioner is used without an air filter, the accumulation of dust in the air conditioner will often cause malfunctions due to the failure to remove dust from the indoor air.

Maintenance

[Caution]

Check the air inlet and outlet of the ODU and IDU after long periods of use to see if they are blocked; if an inlet/outlet is blocked, clean it immediately.

During in-depth maintenance, the air conditioner should be cleaned and maintained by professional technicians every 2 to 3 years.

The IDU generally uses a primary filter, which is generally cleaned every three months.

When operating in a dusty environment, the air flow and capacity of filter will decrease. In this case, clean the filter more frequently to avoid blocked screen and ensure good performance of the air conditioner and clean air indoors.

Preheat it in advance.

When the heating season comes, power on the ODU master unit for preheating more than 4 hours before use. The preheating time depends on the weather temperature. This can make the air conditioner operate more stably and help the refrigeration oil in the air conditioner compressor to maintain the best lubrication state, which can prolong the service life of the compressor.

Complete the following steps before the air conditioner is set aside for a long time:

1. Select the "Air supply" operation mode to let the IDU run for a while to dry it.
2. When not in use for a long time, power off or unplug the power plug to reduce standby power consumption, and wipe the wireless remote controller with a clean soft dry cloth and remove the battery.

[Note]

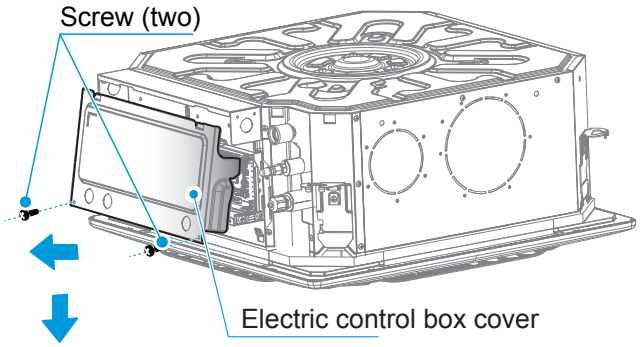
Before the air conditioner is idle for a long time, the internal components of the IDUs and ODUs should be checked and cleaned regularly. For details, please contact the local air conditioner customer service center or special technical service department.

3 Maintenance of Conventional Parts

Maintenance of electronic control main board

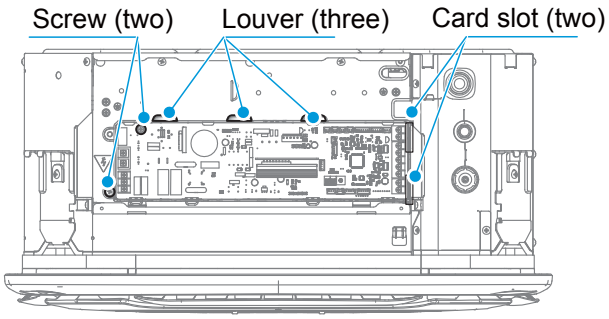
1 Open the electric control box cover.

Remove the two screws at the positions shown in the figure, and pull out the bottom end of the electric control box cover horizontally for a certain distance. Remove the electric control box cover downwards.



2 Remove the main board

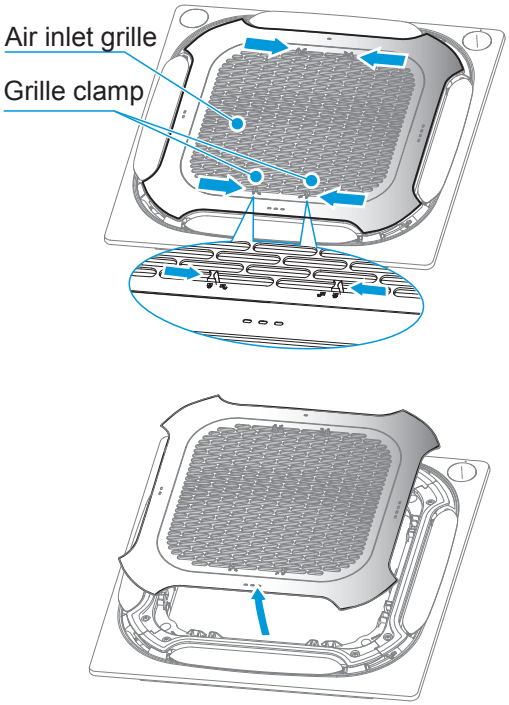
Unplug the terminals on the main board and remove the screws at the positions shown in the figure.



Rotating fan maintenance

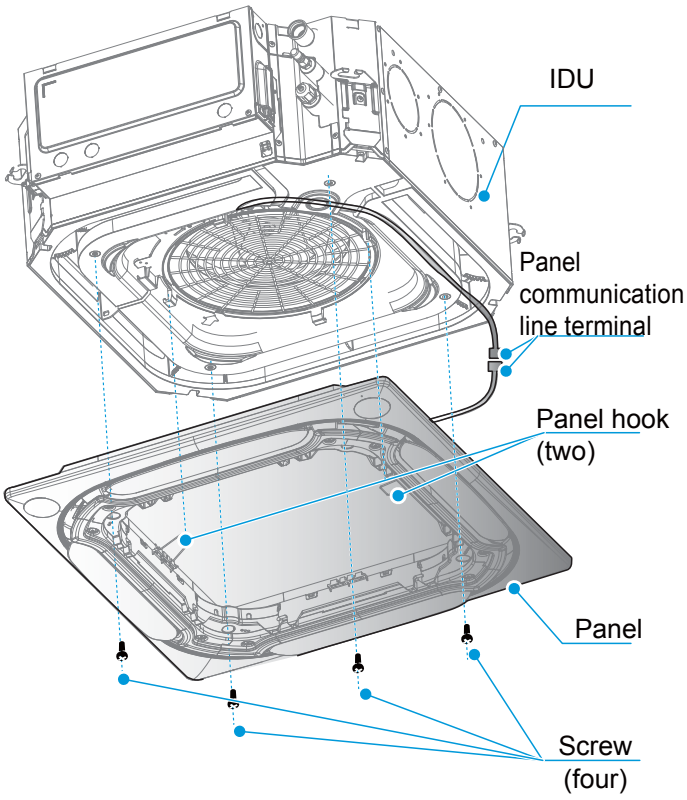
1 Move the four buckle positions to remove the panel enclosure.

Pinch the two sets of grille clamps at the same time, then lift them to remove the air inlet grille.

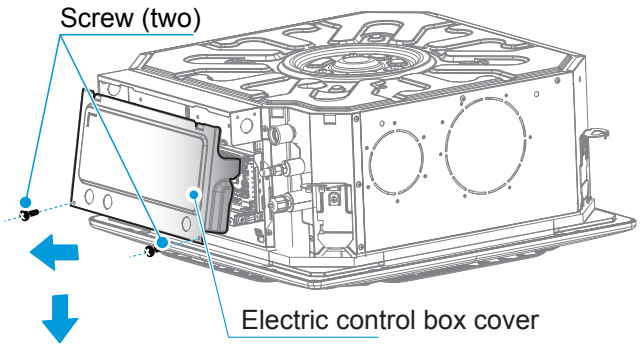


2 Remove the four fixing screws and remove the panel.

Remove the screws at the position shown in the figure, disconnect the panel communication line terminal, release the panel hook, and remove the panel.

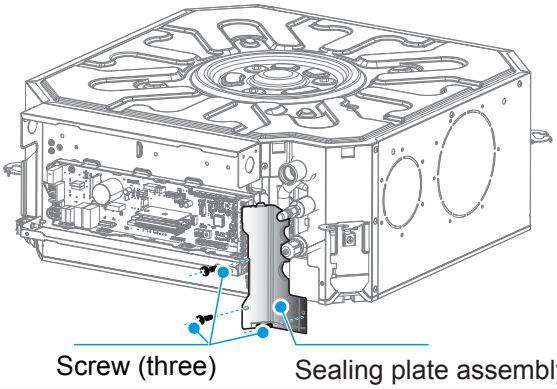


3 Open the electric control box cover and untie the cable tie.



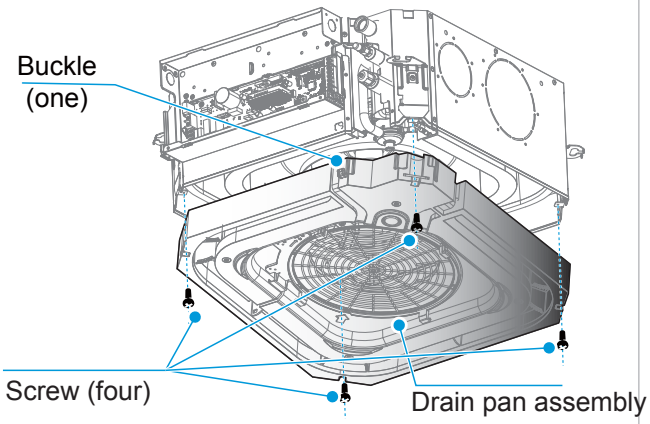
4 Remove the sealing plate assembly

Remove the screws at the position shown in the figure, remove the sealing plate assembly, and loosen the wire binding sponge at the outlet.

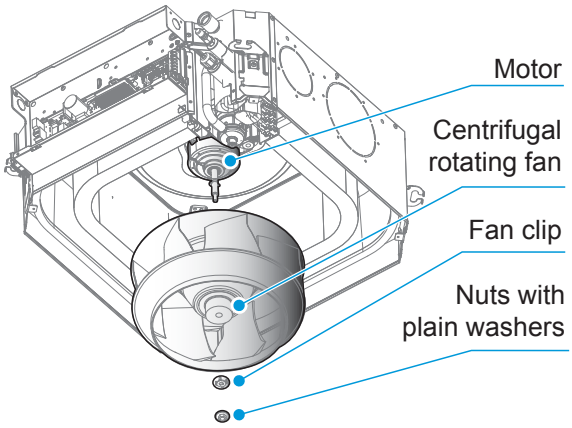


5 Remove the upper sealing plate.

Remove the screws at the position shown in the figure, release the buckle, and remove the drain pan assembly.



6 Replace the rotating fan after removing the nuts at the center of the fan and the fan clip.
Remove the nuts with flat washer and the fan clip at the position shown in the figure, and remove the centrifugal rotating fan.

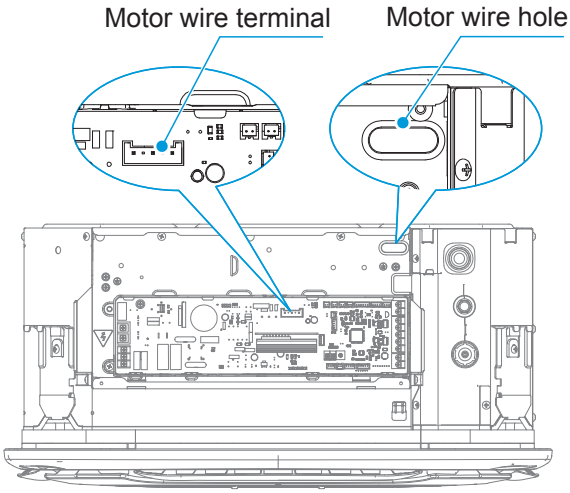


Maintenance of main motor

1 Follow the steps above to remove the rotating fan.

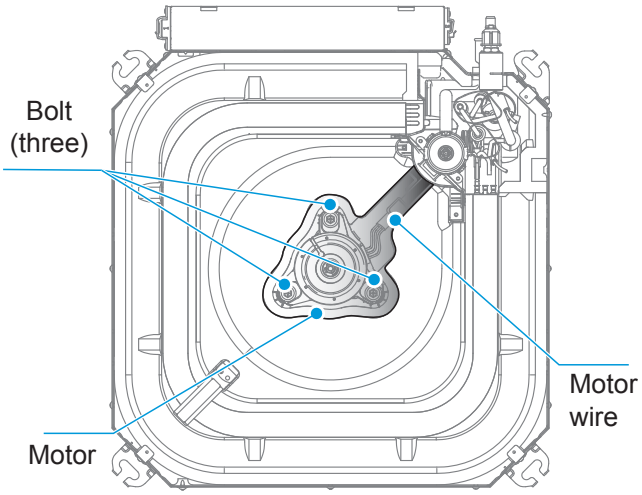
2 Unplug the motor terminals on the main board.

Unplug the motor wire terminals on the main board at the position shown in the figure.



3 After removing the three fixing bolts of the motor, pull out the terminals according to the motor wire path.

Remove the three motor bolts at the positions shown in the figure, pull out the terminals according to the motor wire path, and remove the motor.



4 Replace and install motors in reverse order.

Evaporator maintenance

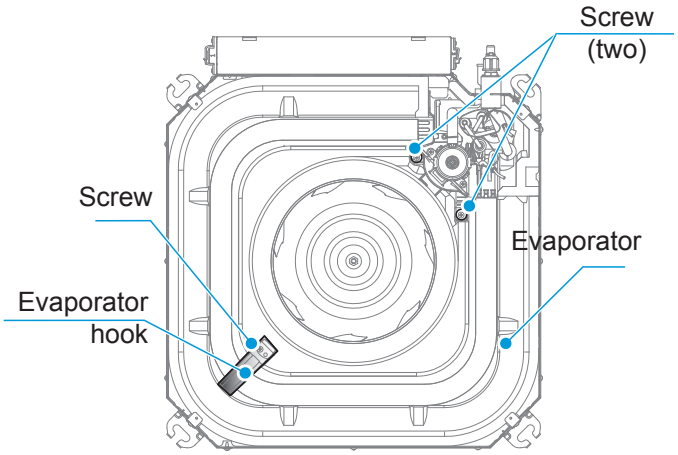
1 Unplug the corresponding terminals on the main board.

2 Follow the steps above to remove the panel and drain pan.

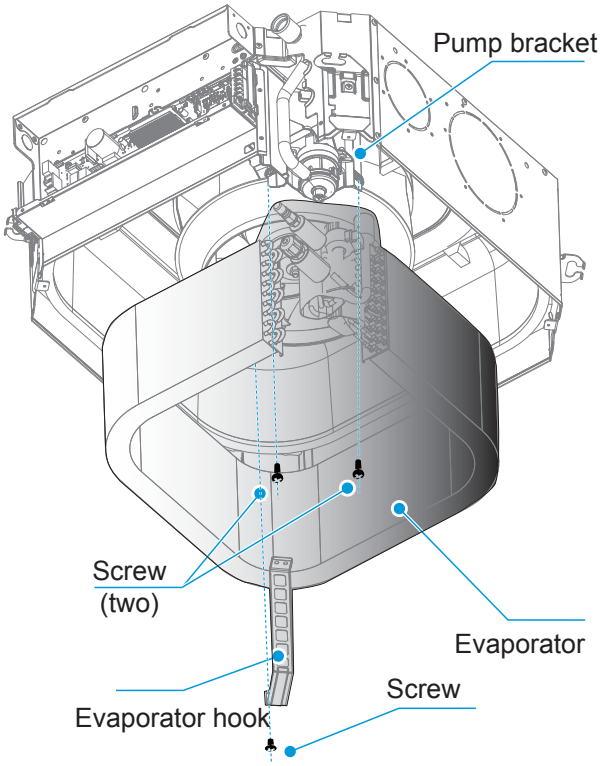
3 Remove the sealing plate assembly

4 After removing one fixing screw, remove the evaporator fix board.

Remove the evaporator hook screws and remove the evaporator hook.



Remove the fixing screws of the evaporator and the pump bracket, and remove the evaporator.



5 Remove the evaporator as a whole, troubleshoot and repair it.

Water pump maintenance

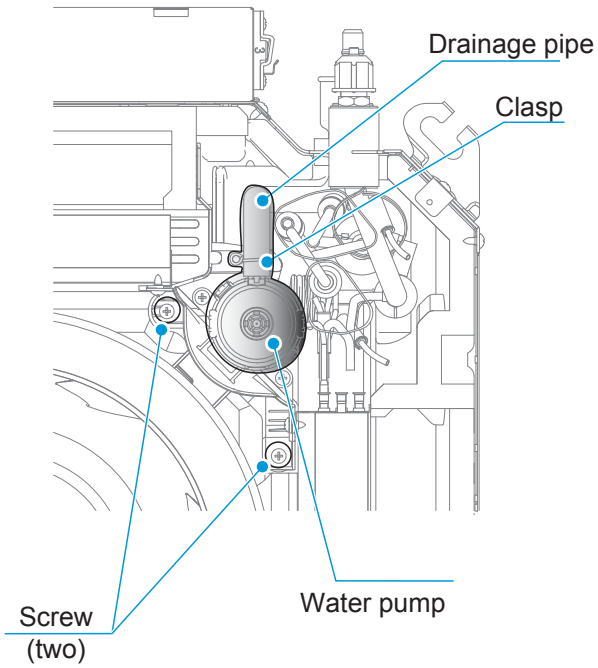
1 Unplug the water pump terminal on the main board.

2 Follow the steps above to remove the panel and drain pan.

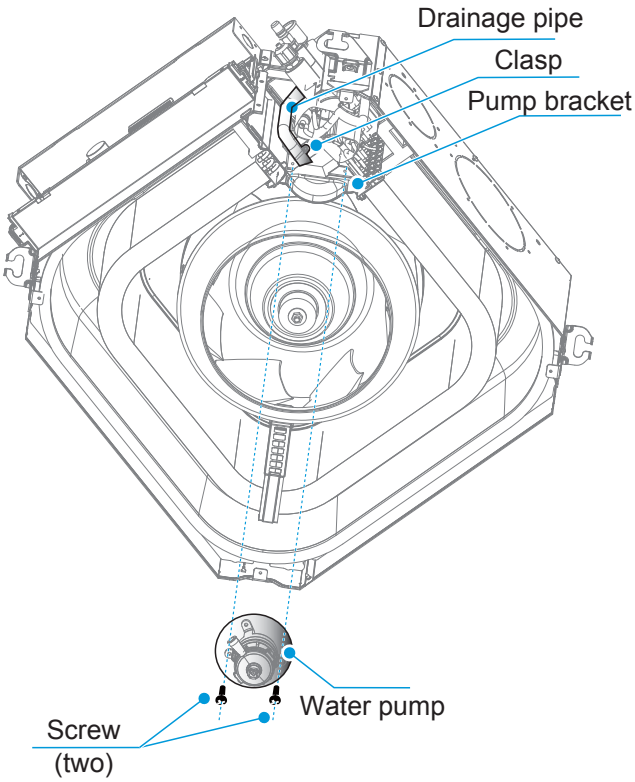
3 Unplug the drainage pipe.

4 After removing the two fixing screws, the pump can be taken out for replacement or maintenance.

Touch the drainage pipe clasp and unplug the drainage pipe.



Remove the fixing screws of the water pump and the pump bracket, and remove the water pump.



DECLARATION OF CONFORMITY UE

DICHIARAZIONE DI CONFORMITÀ EU
KONFORMITÄTSERKLÄRUNG UE
DECLARATION DE CONFORMITE UE
DECLARACIÓN DE CONFORMIDAD UE

WE DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE MACHINE
DICHIARIAMO SOTTO LA NOSTRA SOLA RESPONSABILITÀ CHE LA MACCHINA
WIR ERKLÄREN EIGENVERANTWORTLICH, DASS DIE MASCHINE
NOUS DÉCLARONS SOUS NOTRE SEULE RESPONSABILITÉ QUE LA MACHINE
EL FABRICANTE DECLARA BAJO SU EXCLUSIVA RESPONSABILIDAD QUE LA MÁQUINA

CATEGORY	**DIRECT EXPANSION TERMINALS - Heat pump**
CATEGORIA	**TERMINALI AD ESPANSIONE DIRETTA - Pompa di calore**
KATEGORIE	**DIREKTVERDAMPFUNGSGERÄTE - Wärmepumpe**
CATEGORIE	**TERMINAUX À DÉTENTE DIRECTE - Pompe à chaleur**
CATEGORIA	**TERMINALES POR EXPANSIÓN DIRECTA - Bomba de calor**

TYPE / TIPO / TYP / TYPE / TIPO

MODEL
Q4AN-3-XY D15
Q4AN-3-XY D22
Q4AN-3-XY D28
Q4AN-3-XY D36
Q4AN-3-XY D45
Q4AN-3-XY D56
Q4AN-3-XY D63

- **COMPLIES WITH THE FOLLOWING EC DIRECTIVES, INCLUDING THE MOST RECENT AMENDMENTS, AND THE RELEVANT NATIONAL HARMONISATION LEGISLATION CURRENTLY IN FORCE:**
- RISULTA IN CONFORMITÀ CON QUANTO PREVISTO DALLE SEGUENTI DIRETTIVE CE, COMPRESE LE ULTIME MODIFICHE, E CON LA RELATIVA LEGISLAZIONE NAZIONALE DI RECEPIMENTO:
- DEN IN DEN FOLGENDEN EG-RICHTLINIEN VORGESEHENEN VORSCHRIFTEN, EINSCHLIEßLICH DER LETZTEN ÄNDERUNGEN, SOWIE DEN ANGEWANDTEN LANDESGESETZEN ENTSPRICHT:
- EST CONFORME AUX DIRECTIVES CE SUIVANTES, Y COMPRIS LES DERNIÈRES MODIFICATIONS, ET À LA LÉGISLATION NATIONALE D'ACCUEIL CORRESPONDANTE:
- ES CONFORME A LAS SIGUIENTES DIRECTIVAS CE, INCLUIDAS LAS ÚLTIMAS MODIFICACIONES, Y A LA RELATIVA LEGISLACIÓN NACIONAL DE RECEPCIÓN:

☒	**2006/42/EC**	**machinery directive /** direttiva macchine Maschinenrichtlinie / directive sur les machines directiva máquinas
☒	**2014/30/UE**	**electromagnetic compatibility /** compatibilità elettromagnetica Elektromagnetische Verträglichkeit / compatibilité électromagnétique compatibilidad electromagnética
☒	**2009/125/CE**	**Ecodesign /**Progettazione ecocompatibile / Ecodesign / Éco-conception / Ecodiseño
☒	**2011/65/UE**	**2015/863/UE** **RoHS**

-Unit manufactured and tested according to the followings Standards: -Unità costruita e collaudata in conformità alle seguenti Normative: -Unité construite et testée en conformité avec les Réglementations suivantes -Unidad construida y probada de acuerdo con las siguientes Normativas -Gebautes und geprüftes Gerät nach folgenden Normen	EN 60335-1 :2012/A15 :2021 EN 60335-2-40 :2003/A13 :2012 EN 62233 :2008 EN IEC 55014-1 :2021 EN 55014-1 :2017/A11 :2020 EN IEC 55014-2 :2021 EN 55014-2 :2015 EN IEC 61000-3-2 :2019/A1 :2021 EN IEC 61000-3-2 :2019 EN 61000-3-3 :2013/A2 :2021 EN IEC 61000-3-3 :2013/A1 :2019 EN IEC 61000-6-3 :2021 EN IEC 61000-6-1 :2019 EN 62321-1 :2013 EN 62321-2 :2014 EN 62321-3-1 :2014 EN 62321-4 :2014 EN 62321-5 :2014 EN 62321-6 :2015 EN 62321-7-1 :2015 EN 62321-7-2 :2017 EN 62321-8 :2017

-**Responsible to constitute the technical file is the company n°.00708410253 and registered at the Chamber of Commerce of Belluno Italy**
-Responsabile a costituire il fascicolo tecnico è la società n° 00708410253 registrata presso la Camera di Commercio di Belluno Italia
-Verantwortliche für die technischen Unterlagen zusammenstellen n°.00708410253 ist das Unternehmen bei der Handelskammer von Belluno Italien registriert
-Responsable pour compiler le dossier technique est la société n°00708410253 enregistrée à la Chambre de Commerce de Belluno en Italie
-Encargado de elaborar el expediente técnico es la empresa N º 00708410253 registrada en la Cámara de Comercio de Belluno Italia

FELTRE, 19/04/2023

NAME / NOME / VORNAME / PRÉNOM / NOMBRE: STEFANO
SURNAME / COGNOME / ZUNAME / NOM / APELLIDOS: BELLÒ
COMPANY POSITION / POSIZIONE / BETRIEBSPOSITION / FONCTION / CARGO: LEGALE RAPPRESENTANTE

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