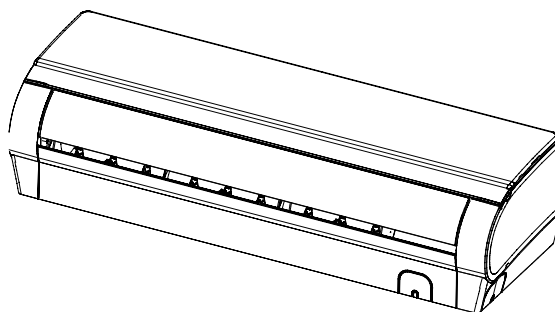




WALL-MOUNTED INDOOR UNIT

VRF R32

AS042MFFRA	AS042MFFRAC
AS052MFFRA	AS052MFFRAC
AS072MFFRA	AS072MFFRAC
AS092MFFRA	AS092MFFRAC
AS122MFFRA	AS122MFFRAC
AS162MFFRA	AS162MFFRAC
AS182MFFRA	AS182MFFRAC
AS242MFFRA	
AS282MNFRA	
AS302MNFRA	



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1. Warnings and Precautions

Before carrying out any installation work, please read the warnings and precautions carefully.

	This symbol indicates that this equipment uses flammable refrigerants. If refrigerant leaks and is exposed to external sources of fire, there is a risk of fire.
	This symbol indicates that the equipment must be operated by qualified personnel in accordance with the installation instructions.
	Please read the operating manual carefully.
	Follow the recommendations in the installation and operation manual.

Regulatory conditions for installation and maintenance

The installation and maintenance of the equipment must be carried out by approved professionals in accordance with current regulations and technical rules, especially in France:

- Refrigerant Handling Regulations: **Decree No. 2007/737 and its detailed implementing regulations.**
- According to the **Articles R543-75 to 123 of the Environmental Law and its implementing regulations**, the debugging of this air conditioner must carry out by a qualified installer who holds a **valid** ~~capacity~~ certificate. As well as any other operations performed on the equipment that requires handling refrigerant fluids.
- **NFC15-100 and its amendments:** Low voltage electrical equipment - Rules.

General

- Before performing any operation, please make sure to turn off and lock the main power supply.
- The equipment is only suitable for situations where the altitude is below 2000 meters.
- Do not install or store the equipment near heat sources.
- Do not pierce or burn the equipment.
- The equipment does not contain any parts that can be repaired by the user. Delegate it to the installation personnel.
- The equipment is intended for use by children aged 8 years or older, as well as individuals with impaired

physical, sensory, or mental abilities or lacking experience or knowledge, provided they receive appropriate supervision or have received instructions for safe use of the equipment and are aware of the risks involved. Children are not allowed to play with the equipment. Children are not allowed to clean and maintain without supervision.

- Properly handle packaging materials. Tear up the plastic packaging and discard it in an area where children are unlikely to play with it. Untorn plastic packaging may cause suffocation.
- If the valve connections and their size, length, and thickness combinations mentioned in this manual are not followed, the operation of the equipment cannot be guaranteed.

Equipment transportation

- During transportation, the outdoor unit must not be laid flat. Horizontal transportation may damage equipment through refrigerant displacement and compressor suspension deformation. Damage caused by horizontal transportation is not covered by the warranty. If necessary, the outdoor unit can only be tilted during manual operation (through doors or stairs). Be careful when performing this operation and immediately restore the equipment to its vertical position.

Refrigerant R32

- Under additional load, use tools and connecting joints that are compatible with the liquid refrigerant specified on the equipment nameplate.
- Do not release refrigerant into the atmosphere. If refrigerant leaks during installation, ventilation and air exchange should be carried out. After installation, there should be no refrigerant leakage in the circuit.
- This flammable and odorless fluid requires compliance with the minimum surface area and volume of the room in which the equipment is installed, stored, or used. Ensure that the on-site application complies with the dimensions of the processed components and the fluid load of the equipment (in accordance with EN-378 standard).
- The taper pipe inside buildings shall not be reused. The flare joint on the pipe must be removed and a new flare joint must be manufactured.

- The taper pipe outside buildings shall not be reused.
- Do not come into contact with refrigerant during connection leaks or other processes. Direct contact may cause frostbite.
- Do not introduce any substances other than recommended refrigerants into the equipment.
- Do not touch refrigerant pipes, water pipes, or internal components during or after operation. It may be too hot or too cold. Give it time to return to normal temperature. If you have to touch it, wear protective gloves.
- Follow the safety and usage rules of R32 refrigerant.
- When using R32 refrigerant, the equipment should be stored in a room without a continuous operating fire source.

Refrigeration connection

- Do not use old, deformed, or discolored refrigerant lines, instead use new refrigerant lines.
- When used in an ERP indoor environment, dry nitrogen should be used to avoid introducing harmful moisture to equipment operation.
- Do not use sealant at the refrigeration connection as it may clog or contaminate the internal of the connection. The use of sealant will void the warranty of the equipment.
- All refrigeration circuits are afraid of the contamination of the dust and moisture. If these pollutants enter the refrigeration circuit, it may cause the performance reduction of the unit. It is necessary to ensure the correct sealing of unit connections and refrigeration circuits. If a malfunction subsequently occurs, according to expert assessment, the presence of moisture or foreign objects in the compressor oil will systematically lead to warranty exclusion.
- Keep the refrigeration connection sealed (by covering with a lid, clamping, folding, preferably brazing). The moisture seriously affects the normal operation and lifespan of the product. In the case of pollution, it is difficult, sometimes even impossible, to clean the circuit.
- After storage or refrigeration, higher humidity may occur. Considering the external temperature, please perform nitrogen purging and vacuum pumping. text is different
- Do not use regular mineral oil on flare joint. Use refrigeration oil compatible with R32 and try to avoid it entering the circuit as much as possible, otherwise it

will reduce the lifespan of the equipment.

- Do not use potential sources of ignition to locate or detect refrigerant leaks.

Battery

- Do not place the battery within reach of children.
- If the remote controller is not used for a long time, please remove the battery to prevent battery leakage and damage to the equipment.
- If the liquid in the battery comes into contact with the skin, eyes, or mouth, immediately rinse with plenty of water and consult a doctor.
- Waste batteries should be removed immediately and appropriately recycled.
- Do not attempt to charge the battery.
- Do not mix new and old batteries or different types of batteries for use.

Installation

- These air conditioners are suitable for residential and commercial use to ensure thermal comfort for users. They are not suitable for places with excessive humidity (flower shops, indoor greenhouses, wine cellars, etc.), places with high levels of dust in the ambient air, or places with severe electromagnetic interference (near computer rooms, TV antennas, or relay stations).
- The size of the equipment must be correct to meet the requirements. Suggest inviting experts to conduct thermal equilibrium. It is recommended to consult an expert for thermal balance.
- Only qualified personnel can handle, charge, clean, and discard refrigerants.
- The equipment is not explosion-proof, therefore it should not be installed in potentially explosive environments.
- If moving, please call the installation personnel to disassemble and install the equipment.
- Ensure to use the parts provided or specified in the instruction manual during installation.

Installers

- Installation personnel must follow the advice provided in this manual to install the equipment. Improper installation may result in serious damage, such as refrigerant or water leakage, electric shock, or fire hazards. If the equipment is not installed according to the manual, the manufacturer's warranty will be invalid.

- Do not touch the fins of the heat exchanger, otherwise it may damage and harm you.
- Take appropriate measures to prevent the equipment from being used as a shelter by small animals. Animals that come into contact with electrical components may cause malfunctions or fires. Inform the customer that the area around the equipment must be kept clean.
- Install the equipment in a location that is easy to install for gas, liquid, and condensate discharge pipes.
- Install the air conditioner on a sufficiently sturdy foundation to support the weight of the unit. Insufficient basic strength may cause equipment to fall and cause injury.
- Do not use suspended ceilings or other spaces as air intake or exhaust ducts.
- Install the indoor unit, outdoor unit, power cord, interconnection cable, and remote control cable at a distance of at least 1 meter from the television or radio receiver. This preventive measure aims to avoid interference (however, even at a distance of 1 meter or more, the signal may still be affected by interference).
- Correctly fix the electrical casing cover and service panel. If the electrical casing cover or service panel of the equipment is not properly fixed, it may be affected by dust, water, and other factors.
- To avoid electric shock, please operate the equipment with dry hands.

Electrical connection

- The rated operating voltage of this equipment is 230 volts AC 50 hertz. At any time (including during the start-up phase), the voltage at the equipment terminals shall not be lower than 220 volts AC or higher than 240 volts AC.
- The maximum length of the cable depends on the voltage drop, which must be less than 2%. If the voltage drop is greater than or equal to 2%, please use a cable with larger cross-section.
- Electrical connections can only be made after completing all other installation operations (fixing, assembly, etc.).
- Check whether the wiring is prone to wear, corrosion, excessive pressure, vibration, sharp edges, or any other adverse environmental effects.

- These air conditioning units are designed for the following neutral states: TT and TN. Neutral states are not applicable to these units (using isolation transformers). It is strictly prohibited to use single-phase power sources without neutral (between phases). For three-phase equipment, the neutral point must also be consistently distributed (TT or TN).
- The contract signed with the energy supplier must be sufficient to cover not only the power of the equipment, but also the sum of the power of all equipment that may operate simultaneously. If there is insufficient electricity, please verify the electricity value specified in the contract with the energy supplier.
- Obtain cable specifications and harmonic currents from the distribution network operator.
- Do not use power sockets for power supply.
- If the power cord is damaged, it must be replaced by qualified personnel to avoid any danger.
- Use a dedicated power circuit. Do not share power with other equipment.
- Do not install phase advance capacitors, as the equipment is equipped with an inverter. Phase advance capacitors will reduce performance and may lead to accidents.
- Use an independent power cord protected by a full pole circuit breaker with a contact opening greater than 3mm to supply power to the equipment.
- Electrical equipment must be equipped with 30 mA differential protection.
- Ensure that the circuit breaker is placed in a location where the user cannot inadvertently start or stop it (subsidiary buildings, etc.). When the distribution panel is located outdoors, close and lock it to make it difficult to access.
- Do not disconnect the main circuit breaker except in emergency situations. This operation will cause compressor failure and water leakage. Only use any type of remote control or external input equipment to turn off the indoor unit (switch), then disconnect the circuit breaker.
- After the power is cut off, it is necessary to wait for 10 minutes before touching electrical components. The static electricity in the human body can damage components. Eliminate the static electricity from the body. ~~Do not touch electrical components with wet hands. The electric shock may occur.~~

To avoid electric shock, do not touch electrical components with wet hands.

- If there are any signs of malfunction (such as burning smell), immediately stop the installation, turn off the circuit breaker, and consult a qualified personnel.
- Grounding the equipment. Incorrect grounding may result in electric shock.
- Incorrect wiring may damage the entire system.
- Use cable ties to secure the cables, keeping them away from sharp edges or pipes, especially on the high-voltage side.
- Do not use cables bonded with adhesive tape, twisted conductive cables, extension cords, or star shaped system connections. They may cause overheating, electric shock, or fire.
- When the voltage is too low or abnormalities occur during the startup of the equipment, it may be difficult for the equipment to start. In such cases, please consult your energy supplier.
- Ensure the safety of all cables, use wires that comply with current standards (especially NFC 15-100), and make sure that the terminal connections and cables are not subjected to external forces.

These units shall comply with the following instructions:

2014/30/EU Electromagnetic Compatibility (EMC)

2006/42/EC Machinery Directive

2014/35/EU Low Voltage Directive

2014/68/EU Pressure Equipment Directive

2009/125/EC Ecological Design Directive

2011/65/EU ROHS

2.Product Processing

Handle with personal protective equipment (PPE).



Sharp element



Protective gloves



Protective glasses



Protective cuff

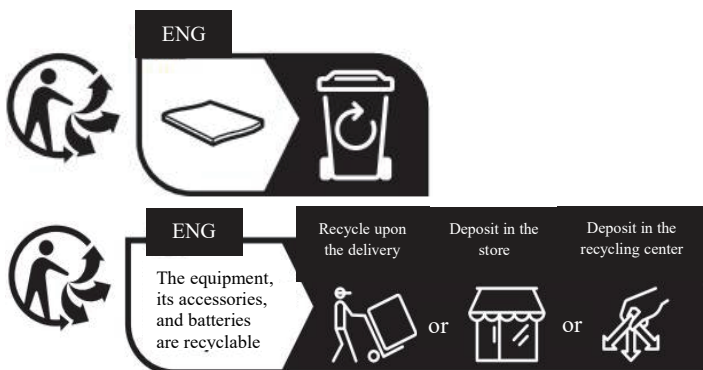
3.Environmental Protection



The symbol on the product or packaging indicates that the product cannot be disposed of as household waste under any circumstances.

Therefore, it must be handed over to the waste collection center responsible for recycling electrical and electronic equipment. Collecting and recycling waste separately during disposal will help protect natural resources and ensure harmless recycling for the environment and human health. For more information about waste collection locations, please contact the authorized service center or your distributor.

Do not attempt to disassemble the system yourself: The disassembly of the system and the handling of refrigerant, oil, and other components must be carried out by qualified installers in accordance with local and national regulations. Waste equipment and batteries must be handled in specialized facilities for recycling or reuse.



The recycling locations on the www.quefairedemesdechets website will prioritise repairing or donating your equipment!

It contains fluorinated greenhouse gases as defined by the Kyoto Protocol.

R32

1 = kg

2 = kg

1+2 = kg

F E

This equipment contains fluorinated greenhouse gases as defined by the Kyoto Protocol. Do not release R32 into the atmosphere.

Refrigerant type: R32

GWP value (GWP): 675

GWP=Global Warming Potential

Write the following information on the label with indelible ink:

1-the factory refrigerant charge of the product

2-the additional refrigerant amount charged in the field and

1+2-the total refrigerant charge

The filled out label must be adhered in the proximity of the product charging port(e.g. onto the inside of the stop value cover).

A: contains fluorinated greenhouse gases covered by the Kyoto Protocol

B: factory refrigerant charge of the product: see unit name plate

C: additional refrigerant amount charged in the field

D: total refrigerant charge

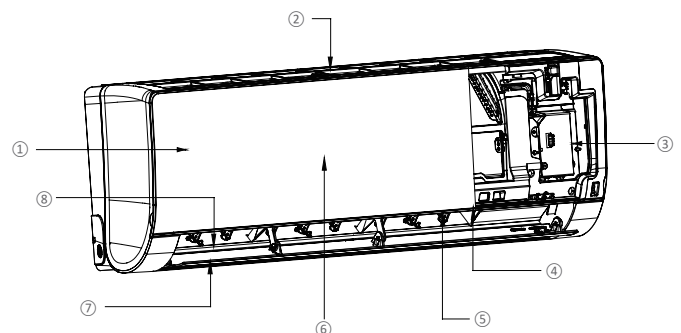
E: outdoor unit

F: refrigerant cylinder and manifold for charging

4. About System

Indoor design

i The equipment is equipped with electrical safety measures, such as a refrigerant leak detector. To be effective, the equipment must be powered on at any time after installation, except for short-term maintenance.



1. Air intake grille
2. Air inlet
3. Emergency switch
4. Anion generator (internal)
5. Vertical blades (left and right airflow regulation)
6. Display panel (internal)
7. Horizontal baffle (Adjust the airflow up and down, do not manually adjust)
8. Outlet

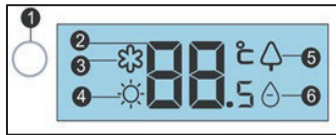
Indoor and outdoor units cannot share the same power.

Other functions

The requirements for optional equipment must be proposed by the user and installed by professional after-sales service personnel.

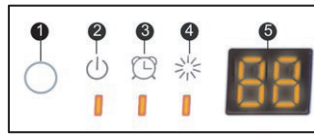
Accessory	Function	Usage Method	Standard or optional
R32 detector	Component for detecting refrigerant R32 leakage	Wired controller	Standard

Display panel A



- ① Signal board A
- ② Room temperature display
- ③ COOLING display
- ④ HEATING display
- ⑤ Display HEALTH
- ⑥ DRY display

Display panel B



- ① Remote signal receiver
- ② Power indicator
- ③ Timer mode indicator
- ④ Operating mode indicator
- ⑤ Ambient temperature display

5. Wired Remote Controller

When using R32 refrigerant in VRF systems, it is best to choose a wired controller. In fact, in the event of a leak, the controller itself can trigger an alarm. The sound emitted by the wired controller for alarm is 65 dB (A), so it is recommended not to install the equipment in a location with environmental noise higher than the alarm.



It is imperative to avoid any operation on the internal components of the remote control.



For more information, please refer to the operation manual.

6. Operation

6.1. Operation Range

The working range of outdoor units varies depending on the type of unit. The specific working range of the outdoor unit refers to the parameter table in the sample book.

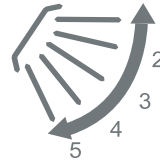
Cooling	Indoor	Maximum value	WB: 24°C
		Minimum value	WB: 15°C
	Outdoor	Maximum value	DB: 53°C
		Minimum value	DB: -5°C
Heating	Indoor	Maximum value	DB: 27°C
		Minimum value	DB: 15°C

	Outdoor	Maximum value	WB: 21°C
		Minimum value	WB: -23°C

Example of operation range

6.2. Setting the Airflow Direction

The selection range of the indoor unit cooling operating position is from position 1 to position 5.



Position	1	2	3	4	5
Angle	33	36	44	52	60

When the humidity exceeds 80%, the airflow direction can adjust automatically and not be controlled by the controller to prevent condensed water from flowing out of the indoor unit.

6.3. Operation Mode

Basic operation mode

Icon	Operation Mode
	Automatic: In this mode, the equipment automatically selects the operating mode, fan speed, and setting temperature based on the ambient temperature.
	Cooling: In this mode, the equipment operates to cool according to the set temperature.
	Heating: In this mode, the equipment operates in heating mode. Due to the cold air prevention function, the hot air will be ventilated shortly thereafter. When the ventilation is set to automatic, the equipment will automatically adjust the ventilating speed according to the room temperature.
	Fan: In this mode, air circulates without being heated or cooled.
	Dehumidification: This mode can reduce room humidity. In the dehumidification mode, when the room temperature is 2 °C at the set temperature, the equipment operates intermittently at a low fan speed.
	If the main power is turned off during operation and the indoor unit is set to memory mode, the operation will automatically restart after being powered on again.

Special operation mode

Operation Mode	Operation
Cold Prevention Control	When the indoor unit is set to heating mode, the hot air will not be immediately discharged, and the heat exchanger coil must reach a higher temperature before discharging the air. This control aims to prevent cold air from blowing towards the user.
Defrost	To avoid loss of heating capacity due to outdoor unit icing, the system automatically switches to defrost mode. During defrosting, the indoor unit fan stops. The system will resume normal operation after approximately 10 minutes .
Antifreeze	When the temperature of the indoor unit coil is low, the evaporator freezes, affecting the cooling effect. In this case, the antifreeze mode is activated, the indoor unit stops cooling and enters the fan mode. The cooling mode only resumes when the frost has completely melted.
Oil Return	When the load rate is low, the compressor oil enters the VRF system and runs out. At this point, the oil return mode is activated to return the oil to the compressor and ensure its normal operation.

**The load rate is equal to the capacity of the operating indoor unit divided by the total capacity of the indoor unit.*

7. Maintenance and Care

7.1. Precautions for Maintenance and Care



- After long-term use, check whether the equipment bracket and fixation are damaged. If they are damaged, replace them.
- When the fuse jumps, do not replace it with a fuse of incorrect amperage or other fuses.
- Do not insert fingers, rods, or other objects into the air inlet or outlet. When the fan rotates at high speed, it may cause injury.



- We recommend conducting maintenance at least once a year and having it done by approved professionals
- Do not use gasoline, diluents, chemical dust cloths, etc. to wipe the controller control panel.
- Use non abrasive detergent and then wipe with a clean and dry cloth.

7.2. Cleaning of Air Filters



- We recommend performing this operation regularly (according to the equipment environment settings).
- When the air conditioner operates in an environment exposed to dust, it is recommended to clean it every 2 weeks.

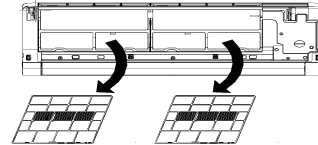
1. Open the panel

First, turn off the device. There are slots on both sides of the device, and you can open the panel by engaging the slots.



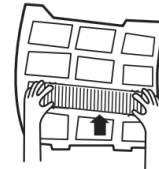
2. Remove the standard air filter

Gently slide the button upwards, release the filter, and then remove it.

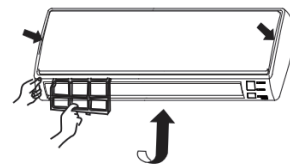


3. Install air purification filter

Place the air purification filter into the left and right filter boxes.

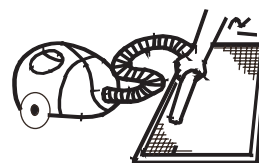


4. Install a standard air filter (to be installed).



5. Close the barbecue entrance.

1. Check for cracks or breakages, replace if any.
2. Remove the dust from the filter, then clean it with soapy water (<50 °C) and let it air dry.



7.3. In Case of Refrigerant Leakage



The R32 detector needs to be replaced at the end of its service life (15 years). Only qualified and approved personnel can replace the detector.



- Regularly and automatically check the operation of safety measures. If a malfunction occurs, an error code will be displayed on the user interface.
- The presence of high concentration chemicals (such as organic solvents, hair gel, paint) near indoor units may distort detection.

After the end of the sensor's lifespan, the wired controller displays an "AF" (hexadecimal) error. Whether the indoor unit is turned on or waiting, the R32 detector will detect refrigerant leakage. If there is a refrigerant leak:

- The controller displays error code "AA" (hexadecimal), or the display panel displays error "AA" (hexadecimal), an alarm will be triggered, and the error indicator light (LED5) on the internal PCB flashes **11 times**.
- The indoor unit will increase the air volume to prevent the accumulation of R32 refrigerant.
- Room ventilation (natural or mechanical ventilation).
- To stop the user interface alarm, you can shut down the system after 10 minutes (if so, please contact the dealer).

8. Troubleshooting



If any abnormal situation occurs (such as burning smell), please turn off the equipment and cut off the power. Keeping the equipment running may result in damage, electric shock, or fire.

If any of the following malfunctions occur, please take the following steps and contact the dealer.

Defect	Corrective action
If the safety appliance (such as fuses) frequently	Turn off all main power switches of the equipment.

trip or if the switch is not functioning properly.	
If water overflows from the equipment.	Stop the operation.
If the wired controller sends an error code.	Notify the installation personnel and report error codes. To find error codes, please refer to the User Interface Reference Guide.

If any of the above defects are not the cause of the equipment malfunction, please contact your installation personnel and provide the malfunction performance and the full name of the equipment model (if possible, please provide the manufacturing number).

9. Accessories

Name	Operation manual	Panel fixing screws	Steel nails	Long screws
Quantity	×1	×4	×6	×4
Shape				

Name	Nuts	Diverter
Quantity	×1 ×1	×1
Shape		

Name	Nuts	Plastic pipes	Filter core	Filter module
Quantity	×2	×1	×1	×1
Shape				

Name	Extension cord	Holders	Suspension bracket	Plastic expansion tubes
Quantity	×1	×1	×2	×4
Shape				

10.Installation of the Equipment

10.1.Preparation for Installation Site

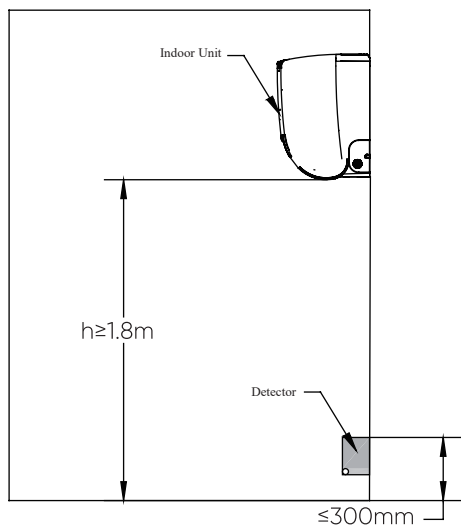
▪ Before installation

- Do not discard the spare parts required for installation before installation.

- Do not remove the packaging during installation.

When it is necessary to remove the packaging, lift the equipment with soft materials or protective plates to avoid damaging the equipment or causing scratches.

- The standard accessories for this series of models are listed in the packing list. Other components required for installation shall be provided according to the company's requirements for network installation.
- When installing indoor units in very large rooms, if you want to install additional external detection alarms, please follow the installation location of the leak detector described below. Please use the recommended model for this external detection alarm.



The leakage detector shown in the picture is an external detection alarm, which should be placed at a horizontal distance of **10 meters** and located on the wall of the room where the indoor unit is installed. However, when it does not enter the field of view in a straight line from the leak detector, it is installed on the wall at a minimum horizontal distance of less than **7 meters** without obstacles.

10.2.Selection for Installation Site

The choice of location is particularly important as subsequent relocation is a delicate operation carried out by qualified personnel.

The installation location is decided after discussing with the client.

- When installing the equipment, it should be easy to connect with the outdoor unit (cooling connections, condensate discharge, and electrical connections).

- Consider maintenance and care when choosing the location. Leave enough space for easy access to the air conditioner, especially for removing the filter.

- Choose a thick and vibration insensitive bracket at the location that can support the weight of the equipment.

- The air conditioner should be installed on a bracket that can bear at least 5 times the weight of the unit itself, and the bracket should not produce any noise or vibration.

- Do not install the indoor unit in the following locations:

- At the seaside, high concentrations of salt can damage metal components.

- A room (such as a kitchen) that contains mineral oil and is prone to spraying oil or steam. The place where hazardous substances are produced, such as sulfuric acid gas, chlorine gas, acid or alkali.

- Places where flammable gases leak contain suspended flammable carbon fibers or dust, or flammable volatile particles such as paint thinner or gasoline. If gas leaks and spreads around the equipment, it may catch fire.

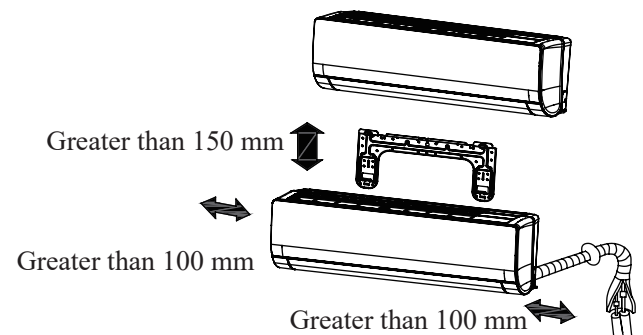
- The area where ammonia is produced.

- Close to heat sources, steam, flammable gases, or exposed to sunlight.

- In places where there is a risk of hazardous gas leakage.

- In places where vibration and noise will be amplified.

- Under no circumstances should the air inlet and outlet be blocked. The air must be blown throughout the entire room.



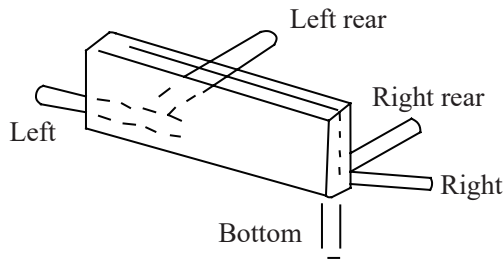
Example of cassette type indoor unit installation location



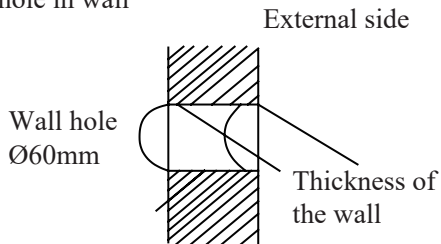
- **The visual appearance of indoor units is not representative, but the distance shown should be followed.**

- **The distance between the indoor unit and the ground should be greater than 1.8 meters.**

Layout of piping directions



Side of hole in wall

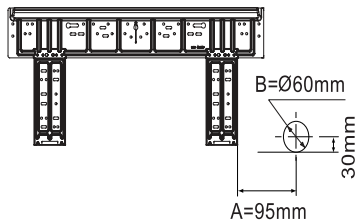


Cross-section of the wall hole

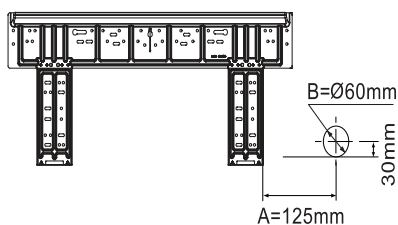
Install the mounting plate and position the wall hole

1. Guided by adjacent columns or lintels, level the board to be fixed to the wall, and then temporarily fix the board with steel nails.
2. Hang a heavy iron wire at the center vertex of the installation plate, check if the installation plate is level again, and then fix the installation plate with steel nails.
3. Use a tape measure to determine the position of wall hole A.

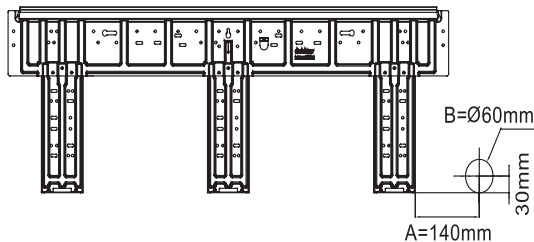
AS042~122MFFRA
AS042~122MFFRAC



AS162~242MFFRA
AS162~182MFFRAC



AS282~302MNFRA



Before installing the indoor unit by suspension, select the installation location based on the pipes and wiring within the suspended ceiling, and determine the direction of the pipes. Prior to hanging the indoor unit, prepare all the pipes (refrigerant and drainage) and wiring (interconnection for the remote controller, as well as interconnection between the indoor unit and the outdoor unit) for the indoor unit, so that connections can be made immediately after installation.

- In situations where there is a ceiling, place the refrigerant pipes, exhaust pipes, connecting cables, and wires of the remote controller in their designated piping and wiring positions before hanging the equipment.
- Confirm the dimensions of the indoor unit and adjust it according to the conditions stated in the manual.

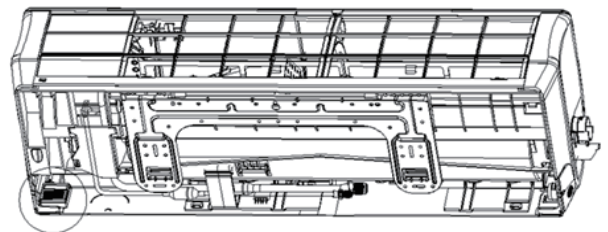
10.3. Upgrading

Use a bubble level or a transparent pipe filled with water to precisely adjust the indoor unit body.

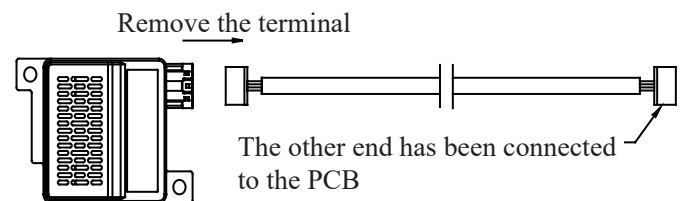
10.4. Installation and maintenance of R32 sensor

10.4.1 Position of R32 detector

The product will come with a standard R32 detector at the factory, located as follows.



The R32 detector has been secured to the machine casing with nylon buckles, and its terminals have been connected to the computer board. The wiring harness terminals connected to the detector are pluggable, and the detector terminals can be removed from the detector when replacing the R32 detector.



10.4.2 Maintenance of R32 detector

When the R32 detector expires or malfunctions, it must be dismantled according to the following steps:

- (1) Remove the terminals from the R32 detector as described in section 12.3.1.
- (2) Uncover the nylon buckle between the R32 detector and the casing.
- (3) Secure the new R32 detector to the housing with a new nylon buckle (replace the new nylon buckle upon request).
- (4) Reconnect the wiring harness terminals to the new detector.



Every time the casing is removed, the nylon buckle between the casing and the R32 detector must be removed. Don't forget to install the detector afterwards.

11. Pipe Installation

11.1. Preparation of Refrigerant Pipe

▪ Requirements of Refrigerant Pipe



The piping must be installed according to the following instructions. Only mechanical seals conforming to the latest version of ISO 14903 can be used.



Flare joints should be used to connect refrigerant piping.

▪ Refrigerant Pipe Diameter

Use the following diameters for indoor unit pipe joints:

Model	Outer Diameter of Pipe	
	Liquid Connection Diameter	Gas Connection Diameter
AS042~092MFFRA AS042~092MFFRAC	Ø 6.35	Ø 9.52
AS122~182MFFRA AS122~182MFFRAC	Ø 6.35	Ø 12.7
AS242~302MNFRA	Ø 9.52	Ø 15.88

▪ Material and Thermal Insulation of Refrigerant Pipe

External Diameter	Insulated Inner Diameter	Insulation Thickness	Quenching Grade	Thickness*
6.35 mm (1/4 inch)	8~10 mm	≥10 mm	Annealing (O)	≥0.8 mm
9.52 mm (3/8 inch)	12~15 mm	≥13 mm		
12.7 mm (1/2 inch)	14~16 mm			
15.88 mm (5/8 inch)	17~20 mm			

**Based on applicable regulations and the maximum working pressure of the unit (see "PS High" on the unit's nameplate), a thicker pipe wall is required.*

When using polyethylene foam as thermal insulation material:

- The heat transfer rate is between **0.041** and **0.052 W/mK** (0.035 to 0.045 kcal/mh°C)
- The heat resistance should be at least 120°C

If the temperature exceeds 30°C and the humidity exceeds 80%, the thickness of the thermal insulation material should not be less than 20 mm to prevent condensation on the surface of the insulation.

11.2. Connection of Refrigerant Pipe



Install the pipe in a location where it will not be exposed to substances that may corrode refrigerant-containing components, unless the components are made of inherently corrosion-resistant material or have appropriate corrosion protection.



Ensure that each refrigerant pipeline is insulated.

12. Electrical Connection

- Always use multi-core cables as power cords.
- For more information, please refer to the "Warnings and Precautions" chapter.

12.1. Standard Wiring Specifications

Name		Category
Power cord	MCA*	0.74A
	Voltage	220~240 V
	Phase	Single phase
	Frequency	50/60 Hz
	Cable size	2.5 mm ² (2 cables + ground)

Transmission cable	0.75~2.0 mm ² (2 cables); Max. 1000 m
Remote control cable	0.75~2.0 mm ² (2 cables); Max. 250 m
Recommended circuit breaker	16A

**The minimum circuit strength. The value shown is the maximum (for the exact value, see the electrical data of the indoor unit).*

12.2.Connecting Wires to the Indoor Unit



- It's crucial to separate the power cord from the transmission line. To avoid any electrical interference, the distance between the two lines must always be at least 50 mm.
- Ensure that the power cord and transmission line are kept far apart. The transmission line and power cord can cross, but they must not run parallel.

■ Precautions:

Only copper wires should be used. A circuit breaker should be provided; otherwise, it may lead to electric shock.

Ensure that the wires do not come into contact with any hot parts of the pipe to avoid melting the cable insulation.

After connection, the pipe must be bent into a U-shape and fixed with a clamp.

The controller wiring and refrigerant piping can be arranged and fixed together.

Before any intervention, please cut off the power supply.

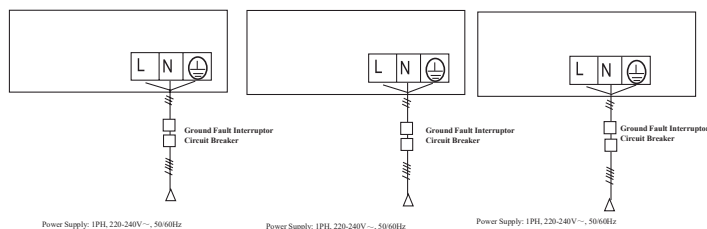
Seal the packaging holes with thermal insulation material to prevent condensation water.

The signal line and the power cord are separate.

The power cord of the indoor unit should be arranged according to the indoor unit installation manual.

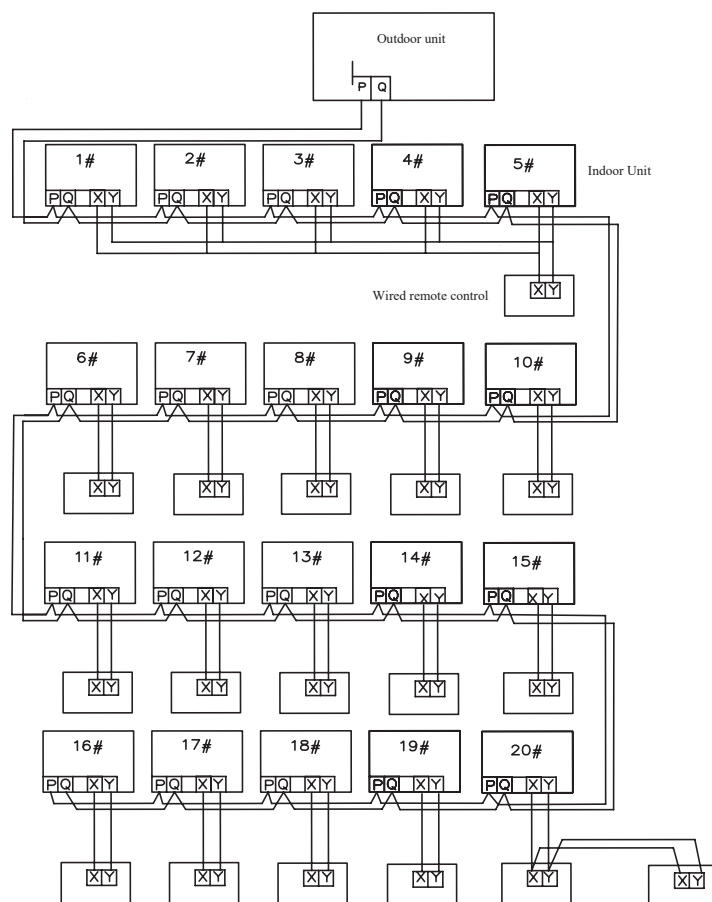
Example of the Complete System

The wiring of the transmitter and controller is as follows:



- The indoor unit and the outdoor unit must be connected to the power source separately.
- The indoor unit should share a common power source, but their capacity and specifications should be taken into account.
- Both indoor and outdoor units must be equipped with leakage circuit breakers and overflow protection circuit breakers.

■ Signal Wiring Diagram



The communication wiring between the indoor unit and the remote controller is achieved with two wires, without polarity. The communication wiring between the outdoor unit and the indoor unit is also achieved with two wires, without polarity. There are three ways to connect the remote controller to the indoor unit:

Connection Method A

A single line controls multiple equipment, namely 2 to 16 indoor units, as shown in the diagram above (indoor units 1# to 5#). The indoor unit 5 is the host unit for line control, while the others are sub-units controlled . The remote controller and the host (directly connected to the line-controlled indoor unit) are connected by two non-polar lines. The other indoor units are connected to the host by two non-polar lines. The SW01_1 on the main line control unit is set to 0, while the SW01_1 on the other line control sub-units is set to 1.

SW01_1	Remote Controller Group Address	[1]	Wired controller Indoor Unit Address (Group Address)
		0	0# (Wired Controller Host Unit) (Default)
		1	1# (Wired Controller Slave Unit) (Default)

Connection Method B

A single line controls a single indoor unit, as shown in the diagram above (indoor units 6# to 19#). The indoor unit is connected to the line control by two non-polar lines.

Connection Method C

Dual lines control the indoor unit, as shown in the diagram (indoor unit 20). One of the line control equipment can be set as the main line control, while the other can be set as the auxiliary line control.

The main line control and the indoor unit, as ~~not~~^{well} as the main line and auxiliary line control are all connected by two non-polar lines.

Wiring for indoor unit power cords, wiring between indoor and outdoor units, and wiring between indoor units:

Total Current of Indoor Unit (A)	Cross Section (mm²)	Length (m)	Rated Current of Overcurrent Circuit Breaker (A)
<6	2.5	20	6
≥6 and <10	2.5	20	10
≥10 and <16	4	25	16
≥10 and <25	6	30	25
≥25 and <32	10	50	32

- The power cord and the signal line must be tightly connected.
- Each indoor unit must be grounded.
- It is necessary to adjust the cross section of the power cord according to its length.
- The total length of the communication line must not exceed **1,000 meters**.

Signal Wiring of the Controller

Maximum Length of Remote Control Cable (m)	Wiring Dimensions
$L \leq 250\text{ m}$	0.75 mm² (1 Pair Shielded)

13.Commissioning

13.1.Pre-debugging Checklist

After installation, please check the following points:
The indoor and outdoor units are installed correctly.
Check if the drainage pipe is installed correctly, if it is insulated, and if there is normal water flow.
Check for water leakage.
Is the installation and insulation of refrigerant pipelines (gas and liquid) correct.
Check whether the connection between the system and the power supply is correct, and whether there is any phase loss or inversion phenomenon.
Whether the locally installed fuses or protective devices comply with the installation instructions.
The power supply voltage is consistent with the voltage indicated on the equipment identification label.
Check if the connections inside the switch box are loose or if the electrical components are damaged.
Check for damaged components or squeezed pipes inside the indoor and outdoor units.
Is the shut-off valve (for gas and liquid) on the outdoor unit fully open.
The indoor unit is equipped with an R32 detector.

13.2. Trial operation

Follow the instructions in the outdoor unit manual for trial operation.
The test is considered complete only when there are no fault codes displayed on the user interface or outdoor unit screen.

Outdoor unit	SW1	0	(1) Press the Enter button (SW7) for 3 seconds, with CCC flashing, all indoor units operate in cooling mode; (2) Press the Exit button (SW6) for 3 seconds, displaying “---”, all indoor units stops working.
	SW2	D	
	SW3	2	

Outdoor unit	SW1	0	(1) Press the Enter button (SW7) for 3 seconds, with HHH flashing, all indoor units operate in heating mode; (2) Press the Exit button (SW6) for 3 seconds, displaying “---”, all indoor units stops working.
	SW2	E	
	SW3	2	

▪ **Switch setting**

SW01_5 SW01_6 SW01_7 SW01_8	Capacity of indoor unit	[5]	[6]	[7]	[8]	Capacity of indoor unit
		0	0	0	0	AS042-052MFFRA AS042-052MFFRAC
		0	0	0	1	AS072MFFRA AS072MFFRAC
		0	0	1	0	AS092MFFRA AS072MFFRAC
		0	0	1	1	AS122MFFRA AS122MFFRAC
		0	1	0	1	AS162MFFRA AS162MFFRAC
		0	1	1	0	AS182MFFRA AS182MFFRAC
		0	1	1	1	AS242MFFRA
		1	0	0	0	AS282MNFRA
		1	0	0	1	AS302MNFRA

SW03_1	Address type	[1]	Setting mode address								
		0	Automatic setting								
		1	Manually set the address SW03_2 to SW03_8								
SW03_2 SW03_8	Address the of indoor unit and central controller	[2]	[3]	[4]	[5]	[6]	[7]	[8]	Address of the indoor unit	Address of the centralized remote controller	
		0	0	0	0	0	0	0	0	1	
		0	0	0	0	0	0	1	1	2	
		0	0	0	0	0	1	0	2	3	
		...									
		0	1	1	1	1	1	1	63	64	

- SW03_2=OFF, Wired remote control address= Address of the ~~centralized~~ remote controller=Communication address+1

▪ **Error Code for Indoor Unit**

Error Code Displayed on the Remote Controller	PCB LED5	Fault Description
01	1	Malfunction of internal air intake sensor "Tai" malfunction
02	2	Malfunction of TC1 indoor unit heat exchanger outlet temperature sensor
03	3	Malfunction of TC2 indoor unit heat exchanger inlet temperature sensor
05	5	Malfunction of indoor unit “EEPROM”
06	6	Lack of communication between indoor unit and outdoor unit
07	7	Malfunction of communication between indoor unit and wired controller
08	8	Malfunction of the indoor unit drainage pump
09	9	Duplication Failure of the indoor unit address
AA	11	Refrigerant leak detection in indoor unit
Ab	11	The concentration of the refrigerant is reduced
Ac	19	The communication between the detector and the indoor printed circuit board is interrupted.
Ad	19	The indoor unit detector self-check is abnormal.
AE	19	The indoor unit detector has reached its useful life (180 days in advance).
AF	19	The indoor unit detector has reached its useful life.

14. Settings

▪ Cleaning Time of Air Filter

This parameter must match the indoor air pollution situation. It determines the time interval for displaying the "air filter cleaning time" notification on the user interface. The default filter cleaning interval is 2500 hours. After sales service personnel can modify the interval time according to the actual level of air pollution. The "filter dead line time 1/2" in the indoor unit EEPROM can be modified by the after-sales service department.

▪ Selection of Room Temperature Sensor

This setting must correspond to the use of the remote controller

User Interface	Corrective Action
Remote Controller	Select the ambient temperature sensor of the wired controller as the air temperature of the room.
Infrared Remote Control	Select the ambient temperature of the indoor unit as the air temperature of the room.

▪ Indoor Unit Heating Ambient Temperature Compensation (If using the remote sensor)

If the system is equipped with infrared remote controller, please adjust the increment/decrement.

The temperature sensor of the unidirectional box indoor unit cannot accurately reflect the indoor temperature; therefore, it is necessary to set ambient temperature compensation.

The default value of the ambient temperature compensation is **-12°C**; The after-sales service department can modify it according to the needs of users.

▪ Automatically Restart After Power-off

Depending on the user's needs, disable/enable the automatic restart (memory deactivation).

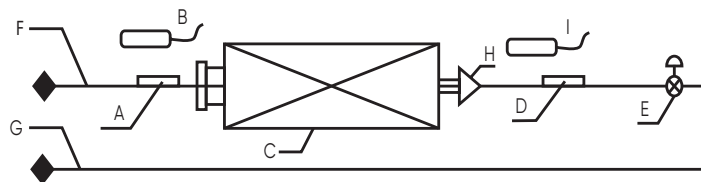
Press the menu button **10 times** within **5 seconds**:

- Four echoes indicate the settings of the power-off memory;
- Two echoes indicate the cancellation of power off memory;
- Automatic restart is enabled by default.

▪ Other Functions

For other functions, please refer to the user manual of the infrared remote controller or the remote controller.

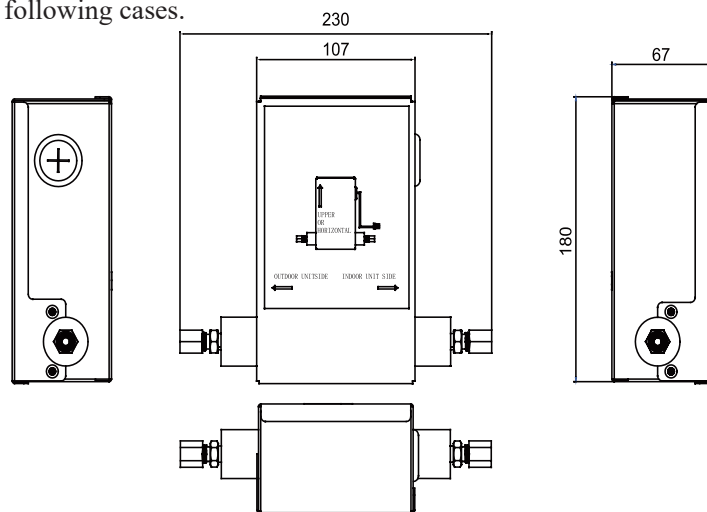
15. Equipment System Construction



- A. TC1 sensor
- B. Tai sensor
- C. Heat exchanger
- D. TC2 sensor
- E. Electronic expansion valve
- F. Gas hose
- G. Liquid hose
- H. Distributor
- I. Leak detector

16. EV1 KIT

KIT EV1 must be used with AC type indoor units (AS042~182MFFRAC) without indoor expansion valve. This wall-mounted indoor unit without an expansion valve is recommended for use in the following cases.



Model name	Indoor unit capacity type	Refrigerant pipe diameter (inside/out-side)
EV1-018A	04k~18k	φ6.35/φ6.35

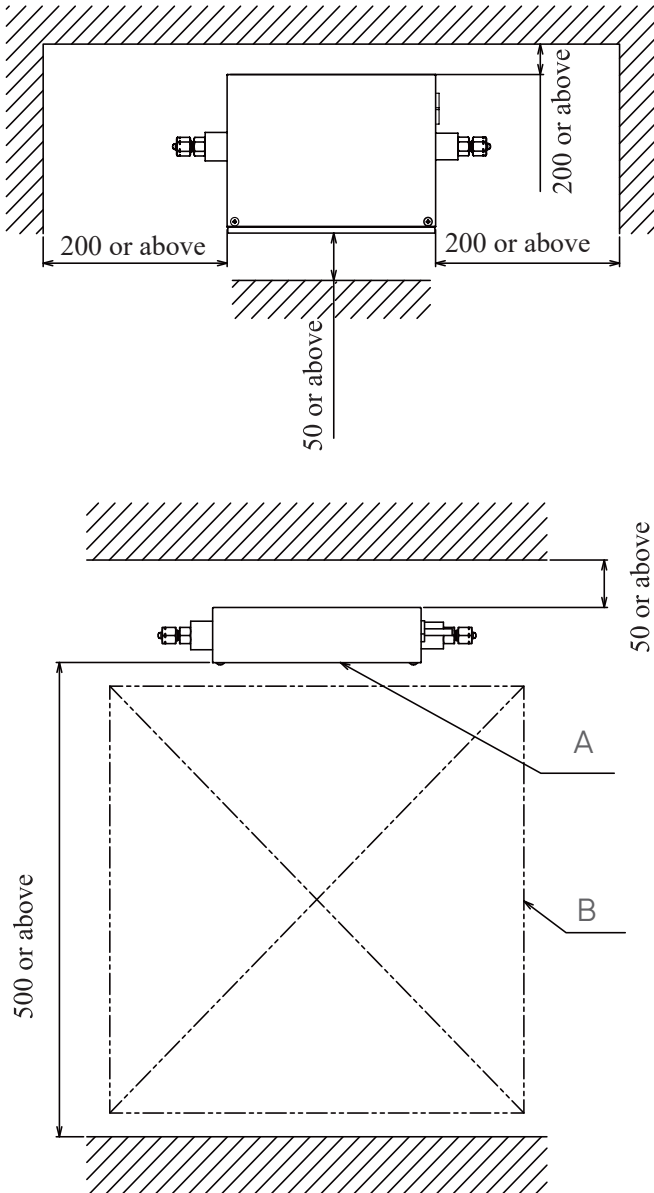
NOTICE

- To avoid damaging the EEV kit or causing injury, please follow the following instructions- Do not step on or place heavy objects on the packaged EEV kit.
- Do not connect two or more indoor units to one EEV kit.
- When connecting pipelines, please pay attention to the direction of the EEV kit.
- When connecting pipelines, the arrow on the label must be located at the top or bottom of the EEV kit.

16.2. Installation

16.2.1 Installation Space

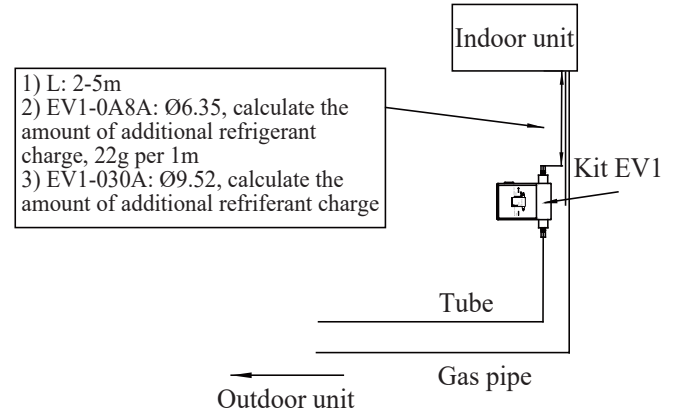
- Leave space for installation and maintenance. (Leave maintenance space on the side of the EEV KIT casing cover).
- When installing the device in the ceiling, be sure to open a control hole.
- This hole is required for installation and maintenance of equipment. (Control hole: 450x450 or larger).
- Leave a space of 50 millimeters or more between the equipment ceiling and the ceiling.



A: Box cover
B: Control port 450mm×450mm

16.2.2 Permissible refrigerant pipe length

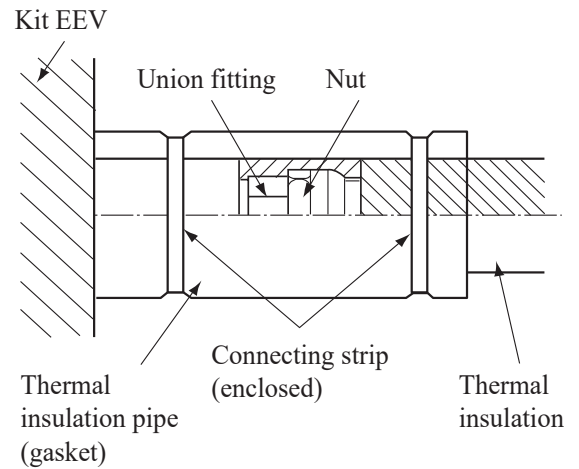
The length of the connection pipe to the indoor unit must be between 2 and 5 meters.



16.2.3 Insulation

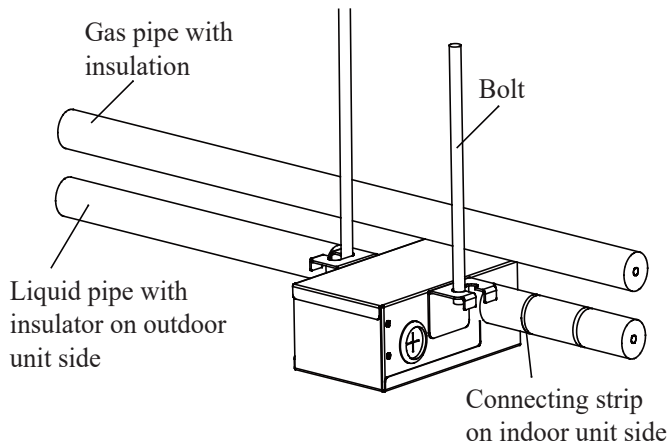
The pipelines on the liquid and gas sides must be insulated separately. During the cooling period, the temperature of both the liquid and gas surfaces will decrease. Therefore, sufficient insulation materials must be provided to prevent condensation.

- For the insulation of gas side pipelines, it is necessary to use insulation materials with a heat-resistant temperature of 120 ° C or higher.
- Use the accompanying insulation pipe to perform seamless and safe insulation treatment on the pipeline connection part of the EEV kit.

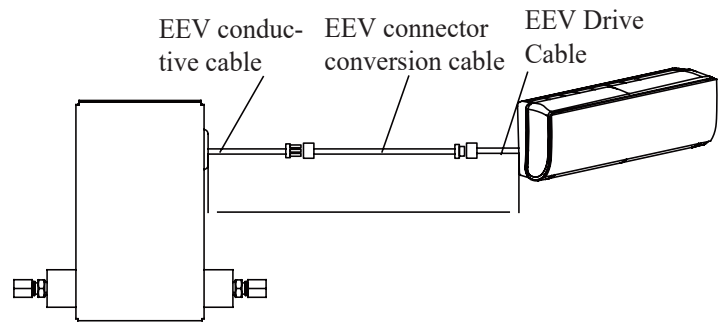


16.2.4 Securing after pipe connection

To avoid the propagation of sound or vibration, EEV KIT must be secured with the bolts on both sides after connection to the pipes.



The hook can be adjusted upwards by changing its position. In addition, when mounting the EEV kit on the wall, place cushioning material between the EEV kit and the wall to prevent the propagation of sound and vibration.



1. The locking device must be placed in the EEV kit for protection.
2. Distance $L < 5m$
3. EEV connectors must be placed outside the insulation layer of the pipeline to avoid direct contact with air or liquid pipelines.

- Please contact your dealer for technical assistance when disassembling, dismantling, or reinstalling the air conditioning system.
 - Lead, mercury, hexavalent chromium, polybrominated diphenyl ethers, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers do not exceed 0.1% (mass fraction) and cadmium does not exceed 0.01% (mass fraction).
 - Please recycle the refrigerant before scrapping, moving, adjusting or repairing the air conditioner.
- The air conditioner should be disposed of by qualified companies.

17. Atlantic Professional Clients Guarantee

16.2.5 Wire connections

- EEV KIT must be used to install the AS***MFFRAC wall mounted indoor unit ,please check if the indoor unit is live before connecting the cables.
- The EEV power cable must be connected to the EEV drive cable through the EEV connector control cable.
- The locking device is located on the side of the EEV connector. The connection must be locked.

comma to be next to "unit", space after the comma

