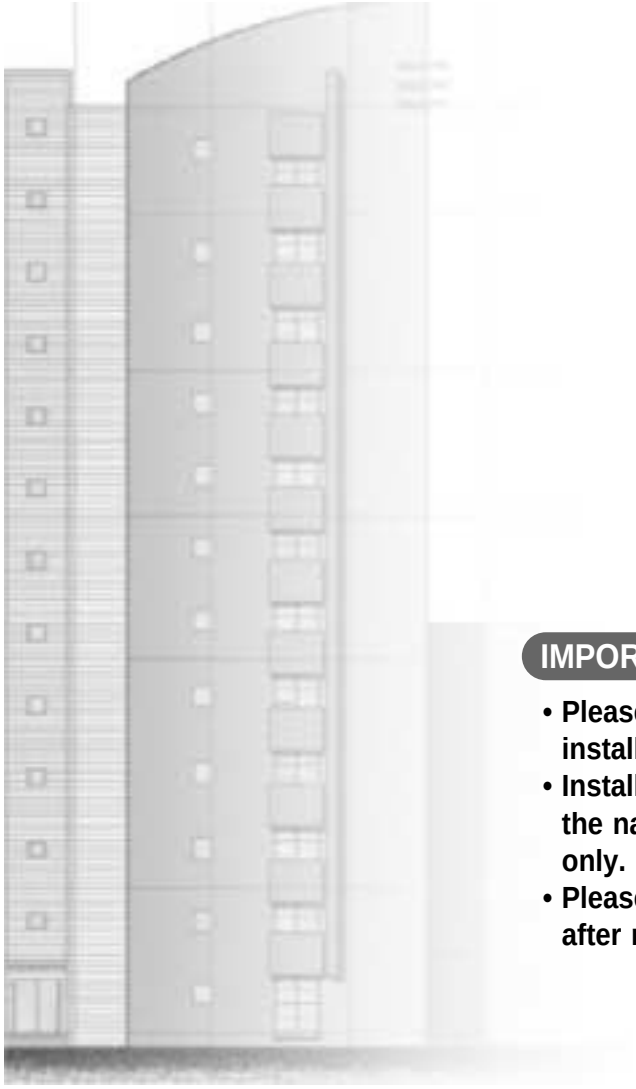
website http://www.lgservice.com
e-mail http://www.lgeservice.com/techsup.html

LG

ENGLISH
ITALIANO
ESPAÑOL
FRANÇAIS
DEUTSCH
PORTUGUESE

MULTI V™ System
Heat Pump Indoor Unit
INSTALLATION MANUAL

Models: CRNN-VB Series
Type: Convertible



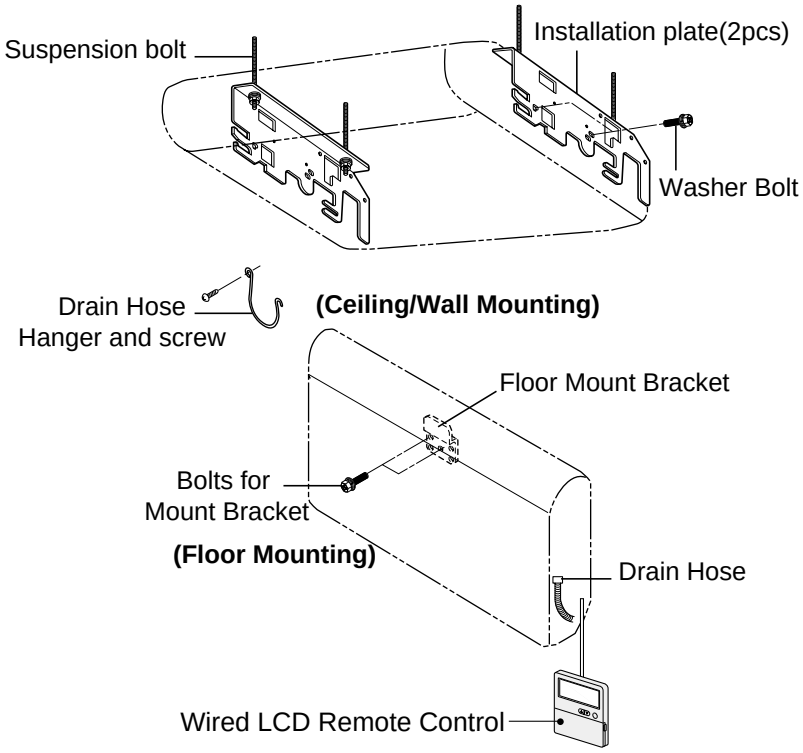
IMPORTANT

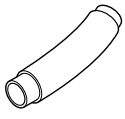
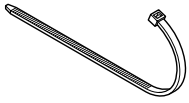
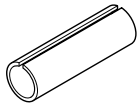
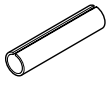
- **Please read this installation manual completely before installing the product.**
- **Installation work must be performed in accordance with the national wiring standards by authorized personnel only.**
- **Please retain this installation manual for future reference after reading it thoroughly.**

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Wiring Connection 17	❑ Two type "B" screws	
Installation of Remote Controller.....19		❑ A glass of water ❑ Screw driver
		❑ Hexagonal wrench ❑ Gas-leak detector ❑ Vacuum pump ❑ Gauge manifold
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Installation Parts



Name	Drain hose	Clamp metal	Washer for hanging backet	Plastic band	Insulation for fitting	(Other)
Quantity	1 EA	2 EA	8 EA	4 EA	1 SET	• Owner's manual • Installation manual
Shape					 for gas pipe  for liquid pipe	

Safety Precautions

To prevent injury to the user or other people and property damage, the following instructions must be followed.

- Be sure to read before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠WARNING	This symbol indicates the possibility of death or serious injury.
⚠CAUTION	This symbol indicates the possibility of injury or damage to properties only.

- Meanings of symbols used in this manual are as shown below.

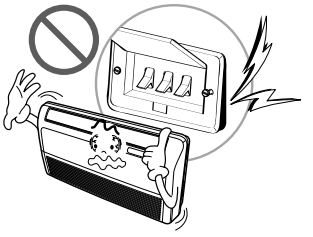
⃠	**Be sure not to do.**
❗	**Be sure to follow the instruction.**

⚠WARNING

■ Installation

Do not use a defective or under-rated circuit breaker. Use this appliance on a dedicated circuit.

• There is risk of fire or electric shock.



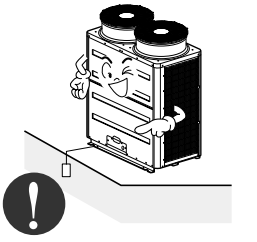
For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.

• Do not disassemble or repair the product. There is risk of fire or electric shock.



Always ground the product.

• There is risk of fire or electric shock.



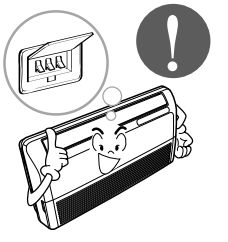
Install the panel and the cover of control box securely.

• There is risk of fire or electric shock.



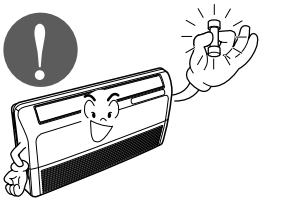
Always install a dedicated circuit and breaker.

• Improper wiring or installation may cause fire or electric shock.



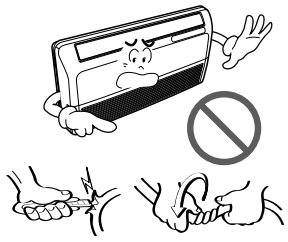
Use the correctly rated breaker or fuse.

• There is risk of fire or electric shock.



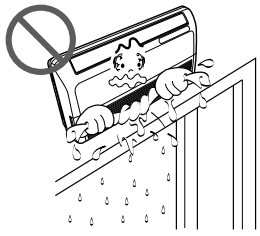
Do not modify or extend the power cable.

- There is risk of fire or electric shock.



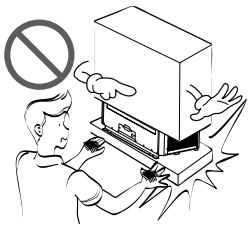
Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.

- Moisture may condense and wet or damage furniture.



Be cautious when unpacking and installing the product.

- Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.



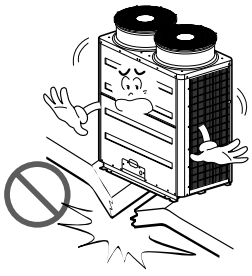
For installation, always contact the dealer or an Authorized Service Center.

- There is risk of fire, electric shock, explosion, or injury.



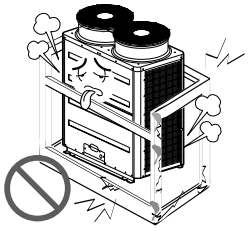
Do not install the product on a defective installation stand.

- It may cause injury, accident, or damage to the product.



Be sure the installation area does not deteriorate with age.

- If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.



■ Operation

Do not store or use flammable gas or combustibles near the product.

- There is risk of fire or failure of product.

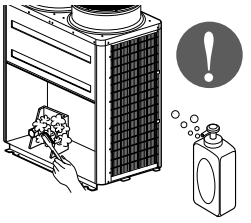


⚠CAUTION

■ Installation

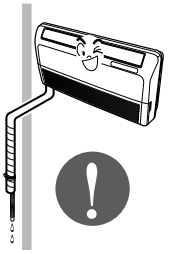
Always check for gas (refrigerant) leakage after installation or repair of product.

• Low refrigerant levels may cause failure of product.



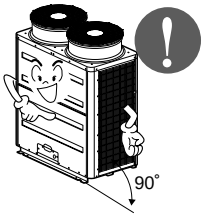
Install the drain hose to ensure that water is drained away properly.

• A bad connection may cause water leakage.



Keep level even when installing the product.

• To avoid vibration or water leakage.



Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.

• It may cause a problem for your neighbors.



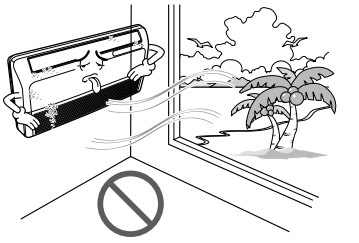
Use two or more people to lift and transport the product.

• Avoid personal injury.



Do not install the product where it will be exposed to sea wind (salt spray) directly.

• It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.

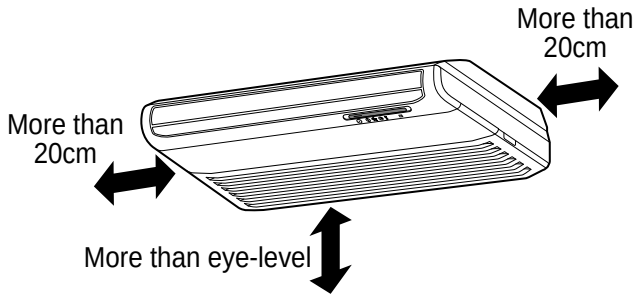


Installation

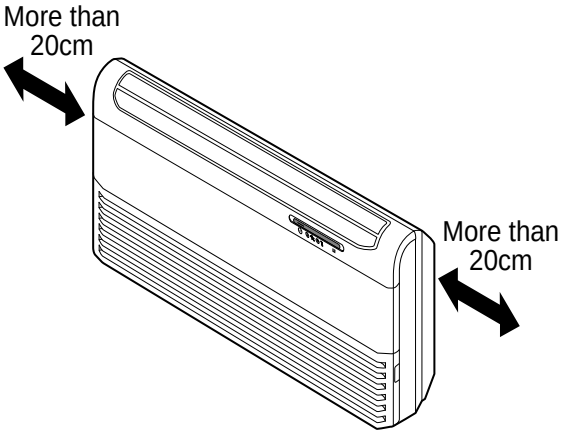
Read completely, then follow step by step.

Selection of the best location

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to the air circulation.
- A place where air circulation in the room will be good.
- A place where drainage can be easily obtained.
- A place where noise prevention is taken into consideration.
- Do not install the unit near the door way.
- Ensure the spaces indicated by arrows from the wall, ceiling, or other obstacles.
- The indoor unit must have the maintenance space.



(Ceiling installation)



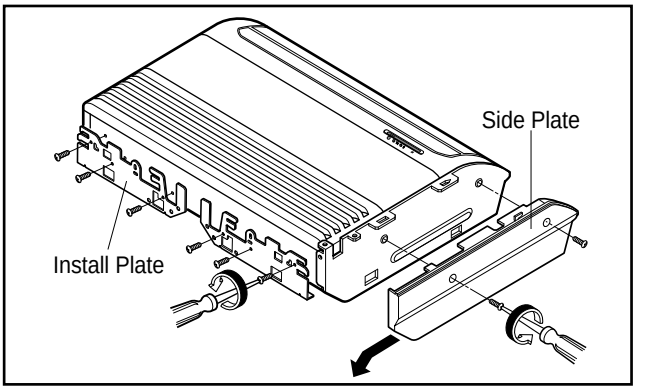
(Floor/Wall installation)

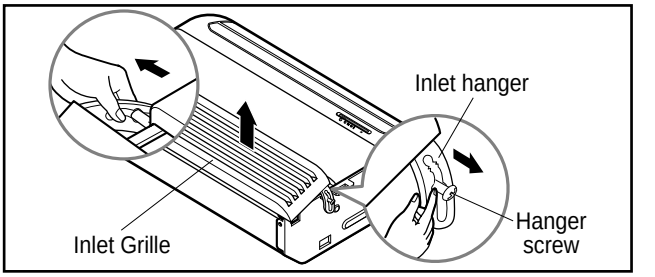
CAUTION : In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

Installation

■ **Before Installing, prepare Installation Plates**

- 'Installation Plates' are attached at the bottom of indoor unit.
  Detach them by removing each 3 screws at both sides.
- Detach 'Side Plate (R,L)' by removing each 2 screws on both sides.
- Pull the upper right and left side of 'Inlet Grille' to the front, and it will stop at slightly tilted position.
- Unhook the 'Inlet hanger' from the 'Hanger screw' on the both left and right side.
- Detach the 'Inlet Grille' from the Indoor Unit.

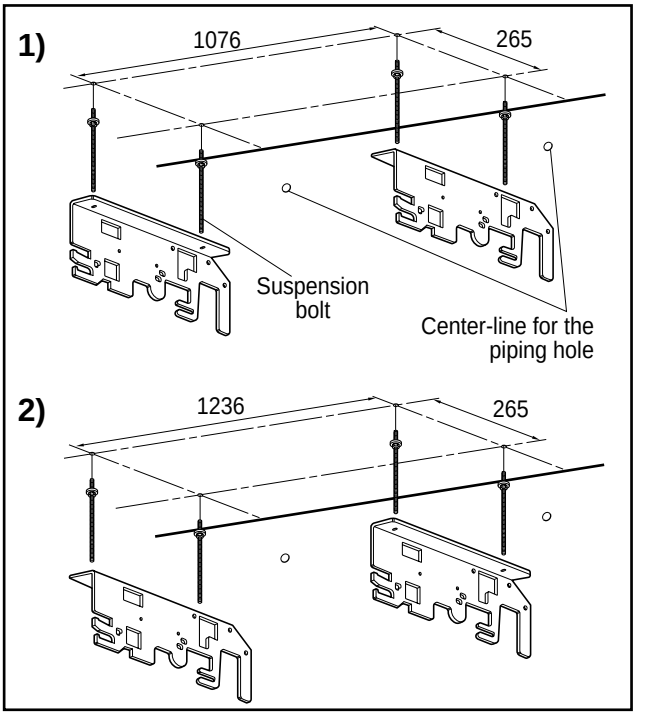




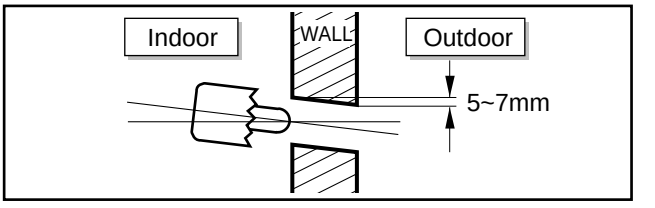
1) Installation on the ceiling

- Measure and mark the position for the Suspension bolts and the piping hole.
- Drill the hole for anchor nut on the ceiling.

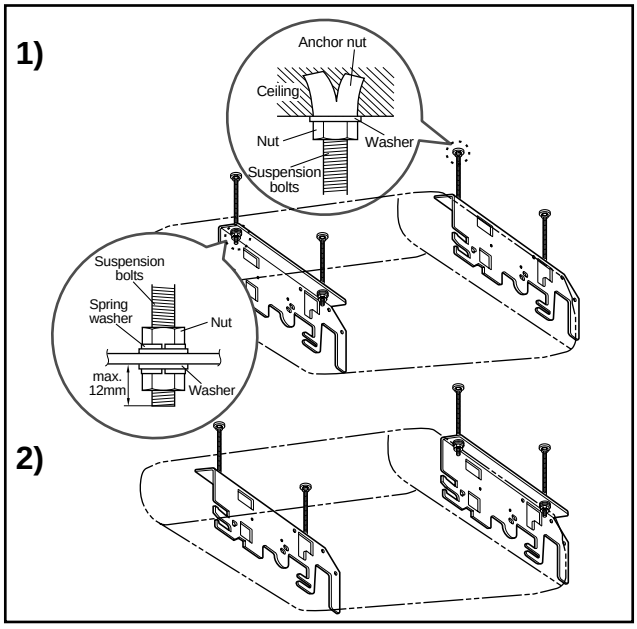
※ **Before secure the Installation Plates, select the bent direction of the Installion Plate to the inside or the outside according to the installation circumstances.**



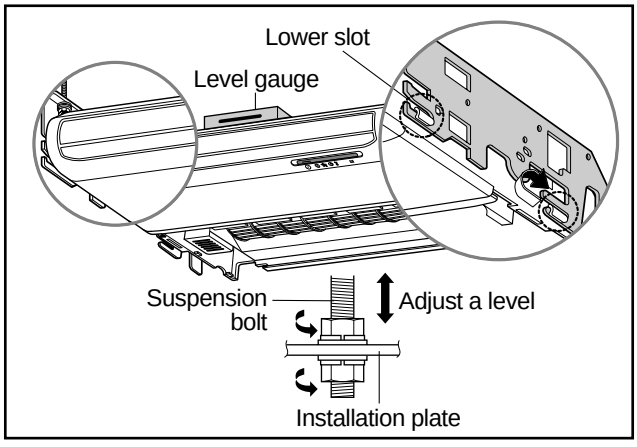
- Drill the piping hole on the wall slightly tilted to the outdoor side using a ø70 hole-core drill.

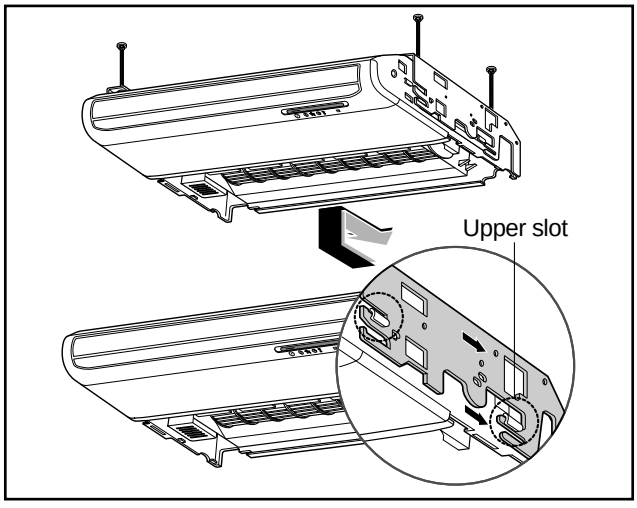


- Insert the nuts and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the anchor-nuts firmly.
- Secure the Installation plates onto the Suspension bolts (adjust level roughly.) using nuts, washers and spring washers.

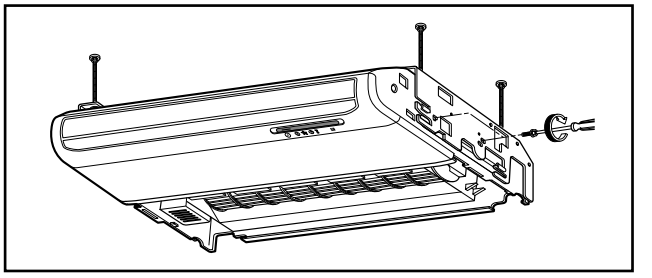


- Engage 2 hooks on the both left and right side of the unit to the lower slot of Installation Plates.
- Adjust a level with a level gauge on the direction of left-right, back-forth by adjusting suspension bolts.
- Move the hooks on the unit to the upper slot of Installation Plates. Then the unit will be declined to the bottomside so as to drain well.



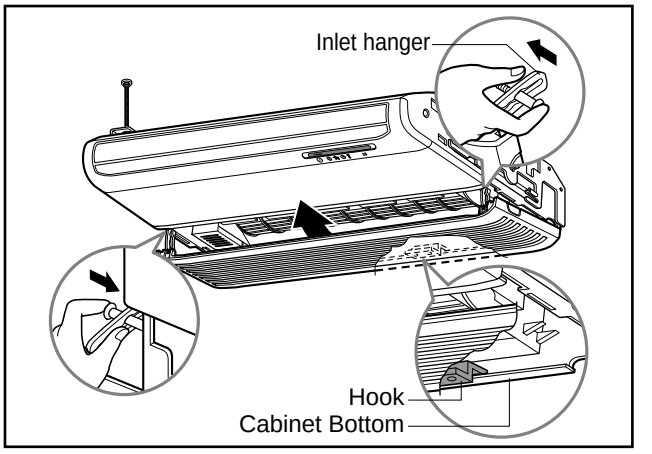


- Secure the unit to the Installation Plates with four M8 bolts and washers.

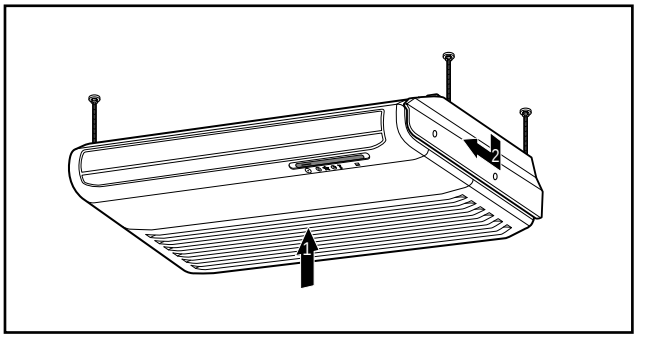


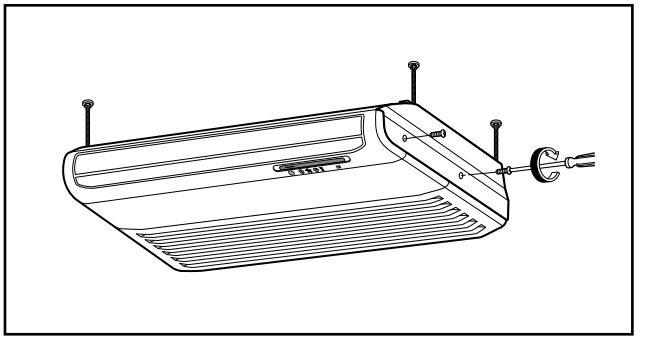
- **Before working, refer to 'Connecting pipe and cable to Indoor Unit'.**

- Hook up the Inlet Grille Hook to the cabinet.
- Hang the Inlet Hanger to the screw.



- Fit the projection hooks of the side plates to the 'Side Panel' and the 'Front Panel' by lifting it.
- Fasten the screws.

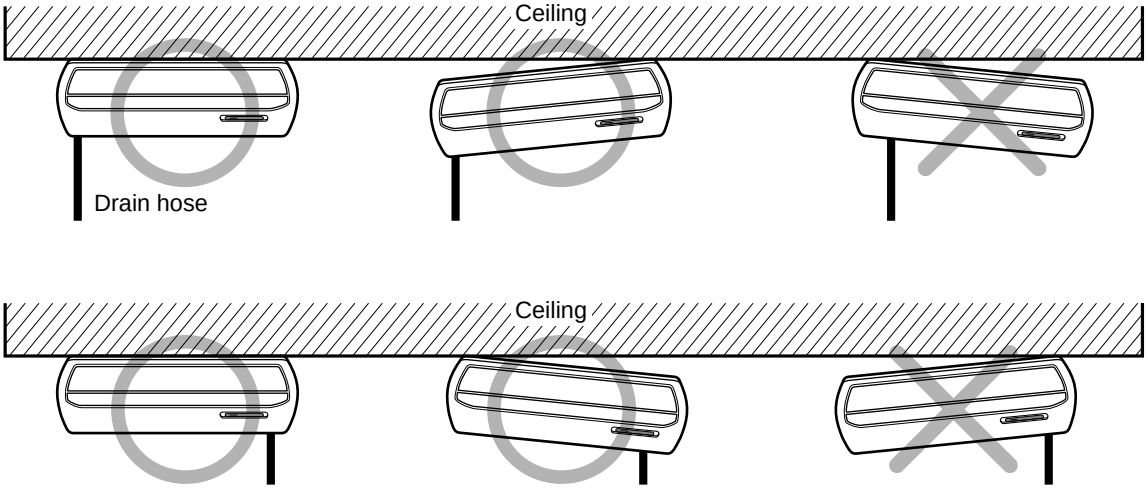




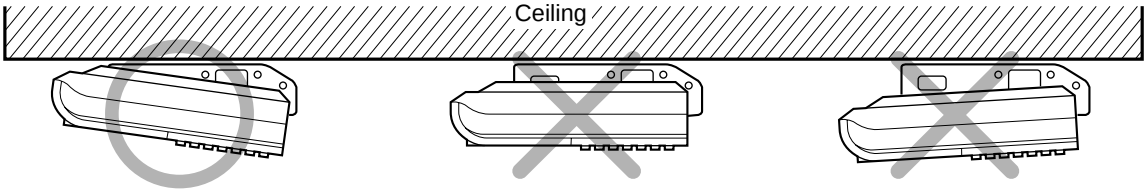
CAUTION:

1. **Install declination of the indoor unit is very important for the drain of the convertible type air conditioner.**
2. **Minimum thickness of the insulation for the connecting pipe shall be 7mm.**
3. **If the Installation Plates are fixed to horizontal line, the indoor unit after installing will be declined to the bottomside.**

Front of view

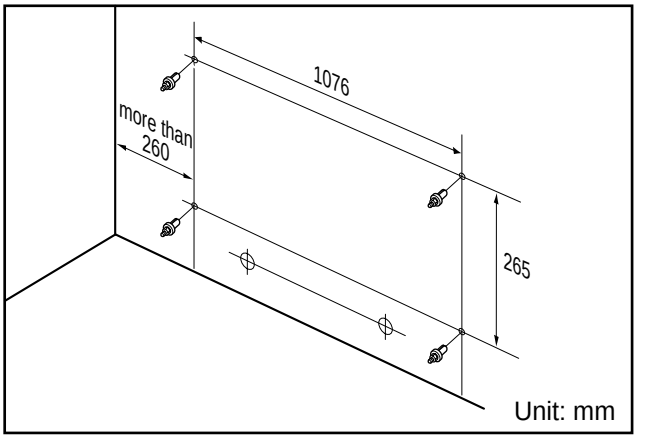


Side of view

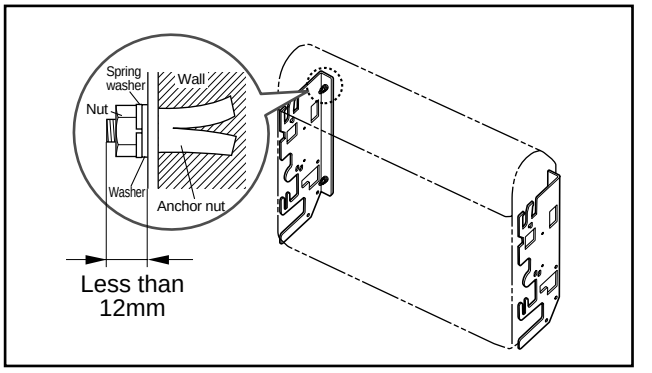


2) Installation on the Wall

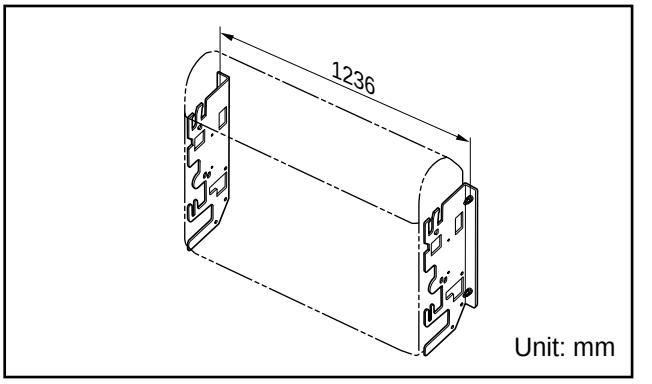
- Select and mark the position for fixing bolts and piping hole.
  Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
- Drill the hole for anchor nut on the wall.



- Secure the 'Install Plate' onto the wall with four anchor bolts, washers and spring washers.

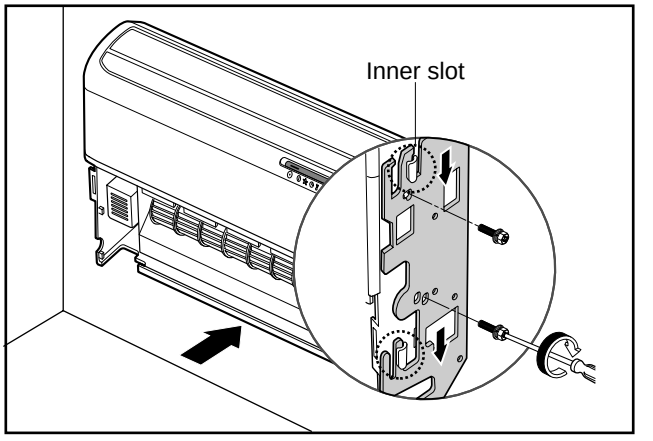


※ Before secure the Install Plates, select the bent direction of the 'Install Plate' to the inside or outside according to the installation circumstances.



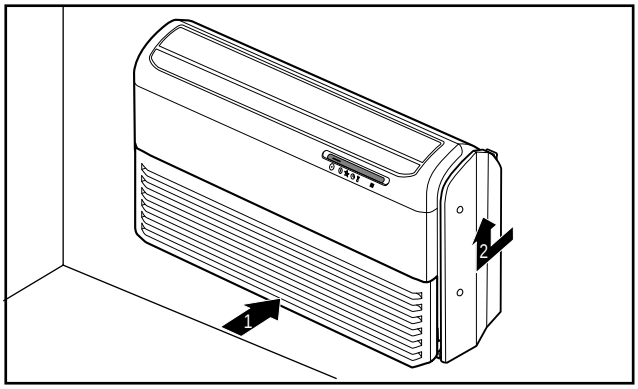
Install the Indoor unit onto Installation Plate.

- Insert 2 hooks on the both left and right side of the unit to the inner slot (wall side) of the Installation Plate.
- Secure the unit to the Installation Plate with four M8 bolts and washers.

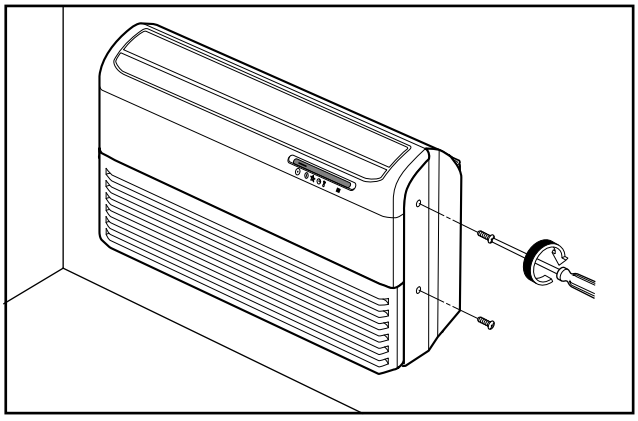


- **Before working, refer to "Connecting pipe and cable to Indoor Unit".**

• Hook up the Inlet Grille Hook to the cabinet.
• Hang the Inlet Hanger to the screw.



• Fit the projection hooks of the side plates to the 'Side Panel' and the 'Front Panel' by lifting it.
• Fasten the screws.



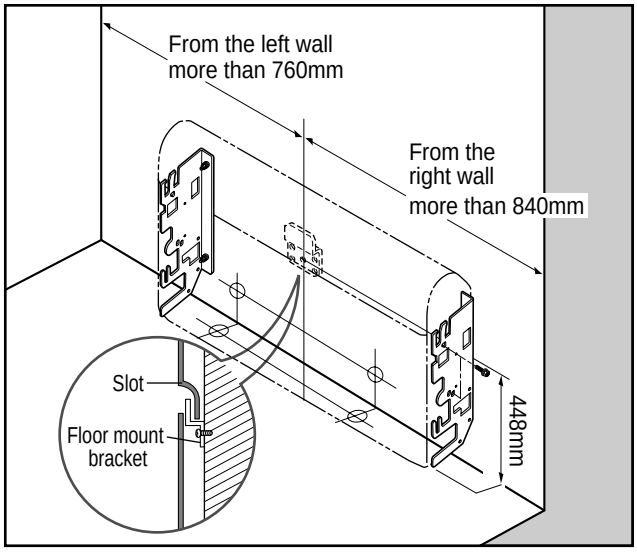
3) Installation on the floor

Installation of Mount Bracket.

• Select and mark the position for Mount Brackets and the piping hole.
• Drill the hole for the anchor nut on the wall.
• Drill the piping hole using a ø70 hole-core drill.
• Secure the Mount Brackets on the wall with four M4 screws.

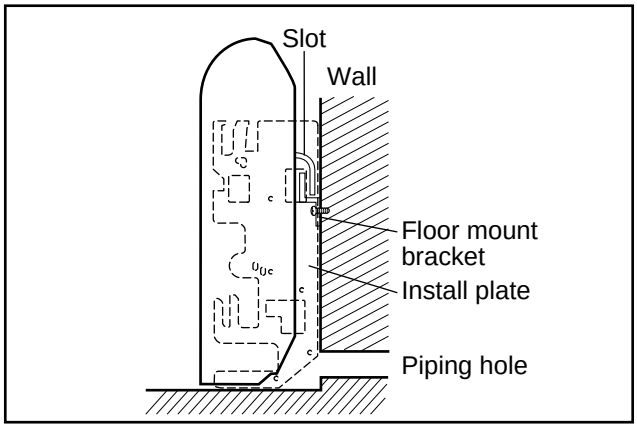
Install the indoor unit onto the Mount Brackets.

• Engage the slot at the back of the unit with Mount Bracket.



After Installing, reassemble detached parts.

• Hang the 'Inlet Grille' and hook the 'Inlet Hanger' to the Hanger Screw.
• Assemble the 'Side Plates(R,L)' with 2 screws on both left and right side.



Piping and drainage

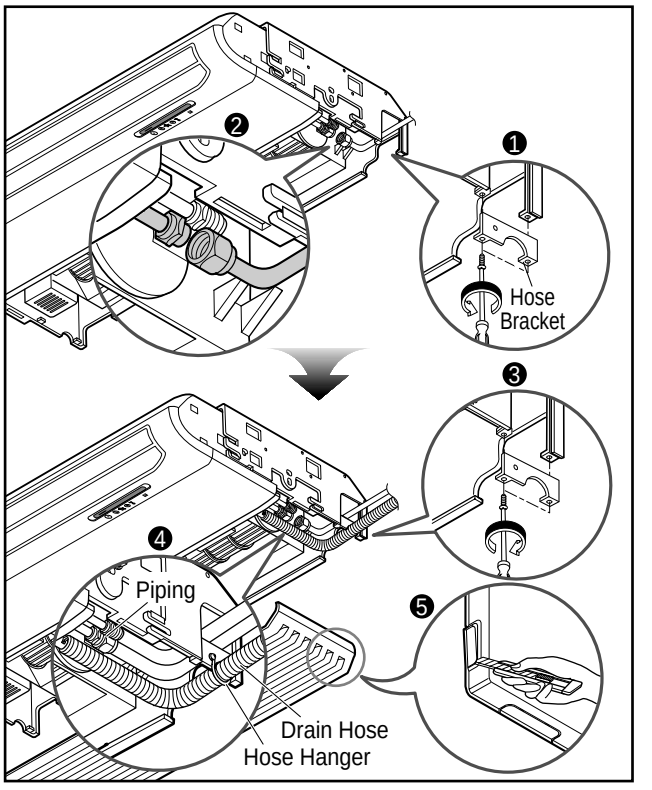
◆ Installation on the ceiling

1) Connecting the pipes to the indoor unit

The pipe can be connected to right side, bottom or back of the unit.

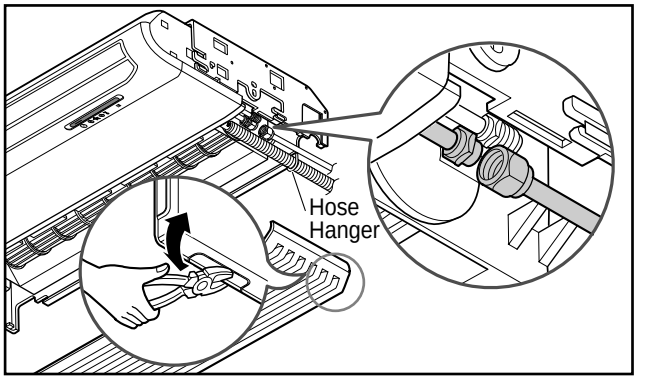
1. For the Right Side Piping

- After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- Connect the Drain Hose insulated to the drain outlet. Drain hose should be go through under the Hose Bracket as shown in figure ❹.
- Hang the drain hose on the hose hanger and fix it to the hole of the hose bracket with a screw.



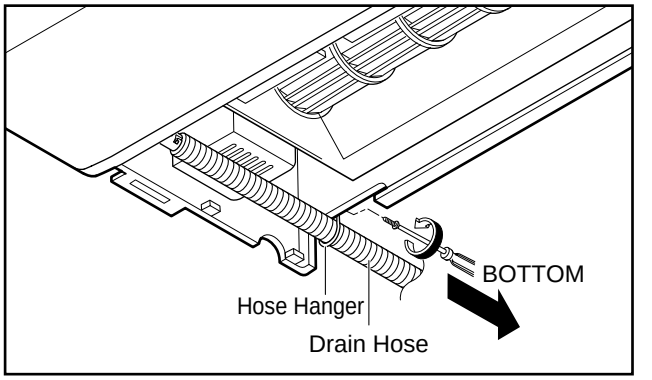
2. For the Bottom Side Piping

- Remove the knock-out on the bottomside of Inlet Grille
- Align the center of the pipings and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- Connect the Drain Hose insulated to the drain outlet.
- Hang the drain hose on the hose hanger and fix it to the hole of cabinet bottom with a screw.



2) Connecting the Drain Hose

- The drain hose can be connected to not only the right side but also left side of the unit.
- If the drain hose is connected to the left side, it should go through the cabinet bottom.
- Hang the drain hose on the hose hanger and fix it to the hole of cabinet bottom with a screw.

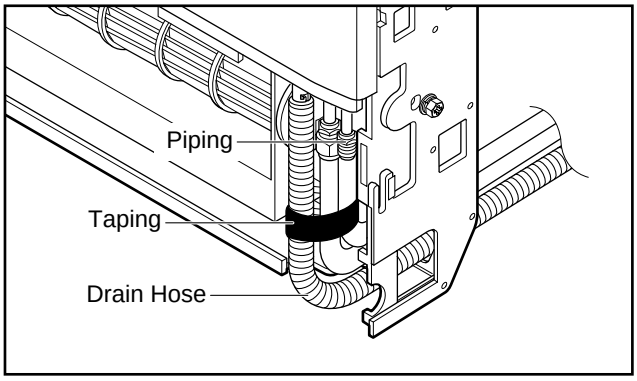


◆ Installation on the wall or floor

1) Connecting the pipes to the indoor unit

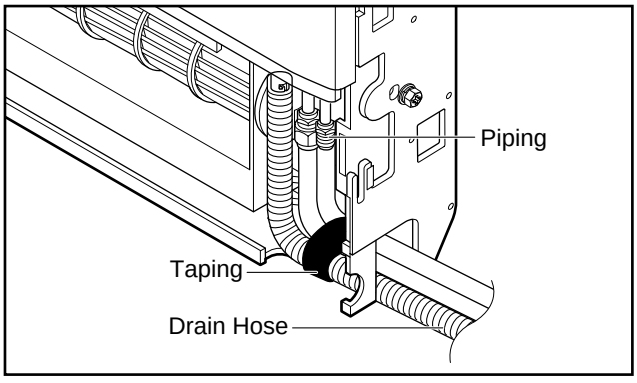
1. For the Right Rear Piping

- Remove the knock-out at the back side of the cabinet.
- After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- Connect the Drain Hose insulated to the drain outlet.
- Tape the Drain Hose to the pipings to avoid coming off the drain-outlet.



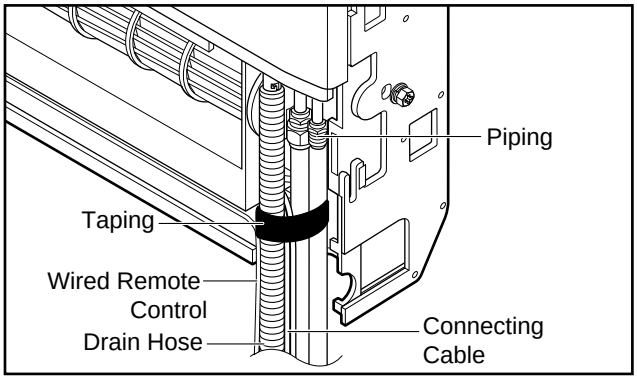
2. For the Right Side Piping

- After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- Connect the Drain Hose insulated to the drain outlet.
- Tape the Drain Hose to the pipings to avoid coming off the drain-outlet.



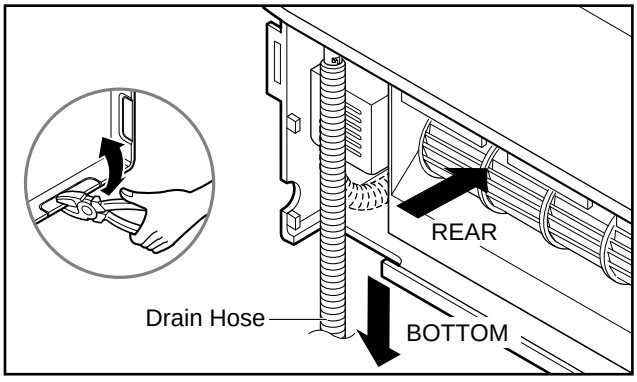
3. For the Right Bottom Piping

- Align the center of the pipings and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- Connect the Drain Hose insulated to the drain outlet.



2) Connecting the Drain Hose

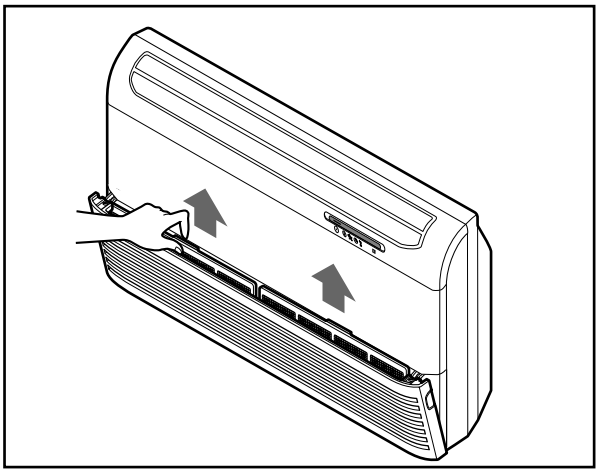
- The drain hose can be connected to not only right side but also left side of the unit.



◆ Checking the Drainage

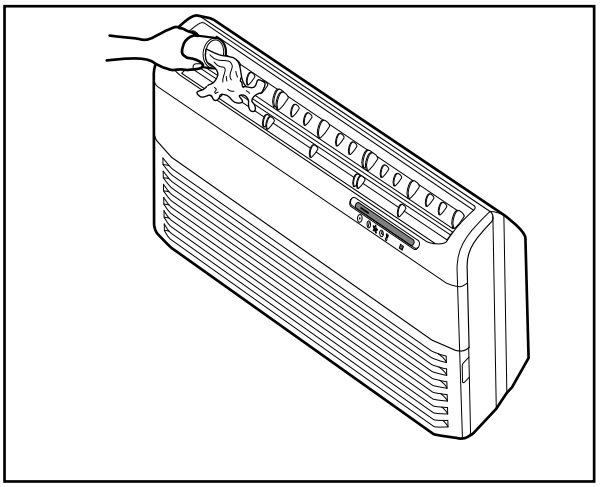
1. Remove the Air Filter.

- To remove air filter, take hold of tab and pull slightly upwards.



2. Check the drainage.

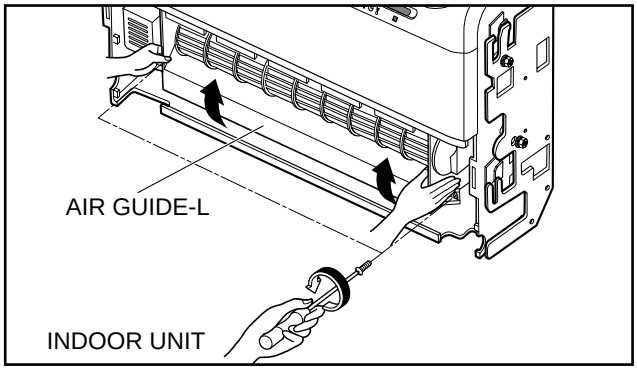
- Spray one or two glasses of water upon the evaporator.
- Ensure that water flows drain hose of indoor unit without any leakage.

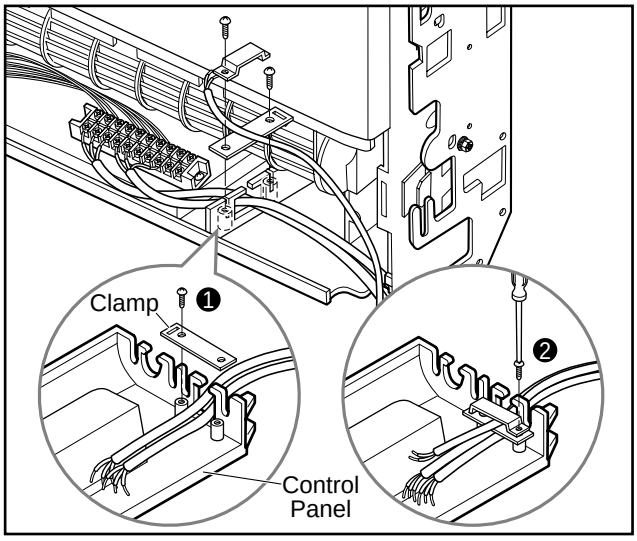


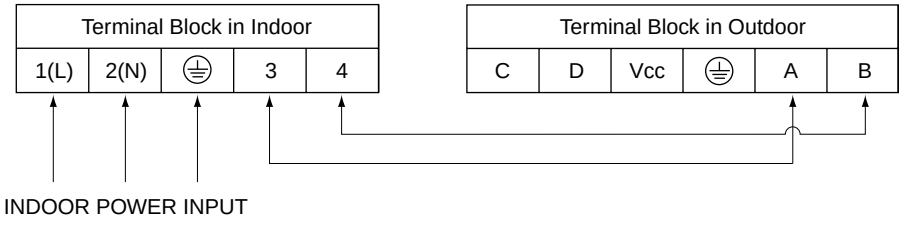
Wiring Connection

1) Connecting cables to the Indoor Unit

1. Remove the Air guide - L by loosening 2 screws after removing the Inlet grille from the Indoor unit.
2. Connect the wires to the terminals on the control board individually according to the outdoor unit connection.
   • Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively







2) Clamping of cables

1) Arrange 2 power cables on the control panel.
2) First, fasten the steel clamp with a screw to the inner boss of control panel.
3) For the cooling model, fix the other side of the clamp with a screw strongly.
   For the heat pump model, put the 0.75mm^2 cable(thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel.
4) In Australia, the length of power supply cord measured from the entry of the power supply cord to the middle of live pin on the power plug should be over 1.8m.

CAUTION:
After the confirmation of the above conditions, prepare the wiring as follows:

1) Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram posted on the inside of control box cover.

2) Provide a circuit breaker switch between power source and the unit.

3) The screws which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)

4) Specification of power source

5) Confirm that electrical capacity is sufficient.

6) Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.

7) Confirm that the cable thickness is as specified in the power sources specification. (Particularly note the relation between cable length and thickness.)

8) Never fail to equip a leakage breaker where it is wet or moist.

9) The following troubles would be caused by voltage drop-down.
- Vibration of a magnetic switch, damage on the contact point, fuse breaking, disturbance by the normal function of an overload protection device.
- Proper starting power is not given to the compressor.

HAND OVER

Teach the customer the operation and maintenance procedures, using the operation manual.
(air filter cleaning, temperature control, etc.)

Installation of Remote Controller

• Although the room temperature sensor is in the indoor unit, the remote controller should be installed in such places away from direct sunlight and high humidity.

Installation of the remote controller

• Select places that are not splashed with water.
• Select controller position after receiving customer approval.
• The room temperature sensor is built in the indoor unit.
• This remote controller equipped with liquid crystal display. If this position is higher or lower, display is difficult to see.(The standard height is 1.2 ~1.5m high)

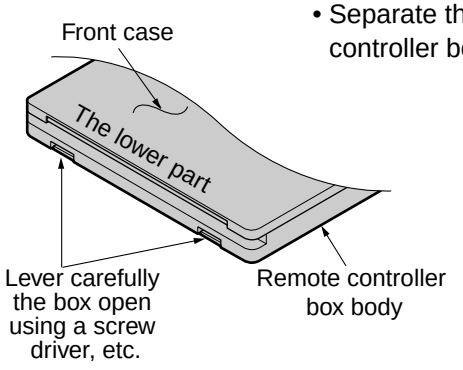
Routing of the remote controller cord

• Keep the remote controller cord away from the refrigerant piping and the drain piping.
• To protect the remote controller cord from electrical noise, place the cord at least 5cm away from other power cables. (audio equipment. television set, etc.)
• If the remote controller cord is secured to the wall, provide a trap at the top of the cord to prevent water droplets from running.

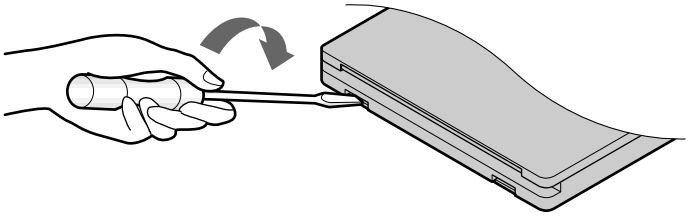
WIRED REMOTE CONTROLLER INSTALLATION

DISASSEMBLING

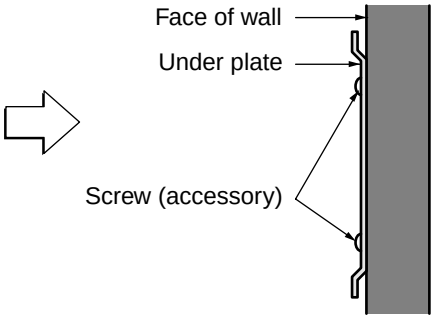
• Separate the under plate from Remote controller box.

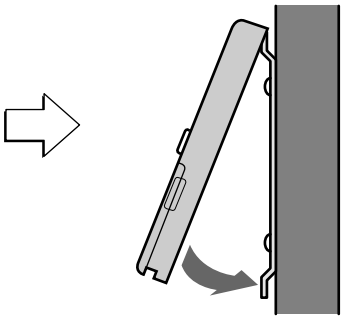


• Attach insulator to under plate.

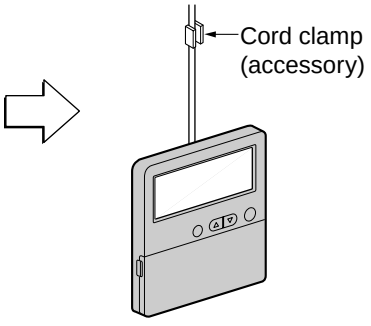


• Fix the under plate on the wall





• Fix the cord clamps on the wall by ø 3 tapping screws (accessory).
• Fix the remote controller cord.



ELECTRICAL WIRING

