

INSTALLATION MANUAL AIR CONDITIONER

TYPE : WALL MOUNTED

P/No. : MFL71821511
Rev.00_250522

This manual is produced for a group of products and may contain images or content different from the model you purchased.
This manual is subject to revision by the manufacturer.

IMPORTANT SAFETY INSTRUCTIONS

The following symbols are displayed on indoor and outdoor units.

	Read the precautions in this manual carefully before operating the unit.		This appliance is filled with flammable refrigerant (R32).
	This symbol indicates that the Operation Manual should be read carefully.		This symbol indicates that a service personnel should be handling this equipment with reference to the Installation Manual.

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product

WARNING

It can result in serious injury or death when the directions are ignored

CAUTION

It can result in minor injury or product damage when the directions are ignored

WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation MUST conform with local building codes or, in the absence of local codes, with the Nation Electrical Code NFPA 70/ANSI C1-1003 or current edition and Canadian Electrical Code Part1 CSA C.22.1.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.
- Compliance with national gas regulations shall be observed.

Installation

- Always perform grounding.
- Otherwise, it may cause electrical shock.
- Don't use a power cord, a plug or a loose socket which is damaged.
- Otherwise, it may cause a fire or electrical shock.
- For installation of the product, always contact the service center or a professional installation agency.
- Otherwise, it may cause a fire, electrical shock, explosion or injury.
- Securely attach the electrical part cover to the indoor unit and the service panel to the outdoor unit.
- If the electrical part cover of the indoor unit and the service panel of the outdoor unit are not attached securely, it could result in a fire or electric shock due to dust, water, etc.

- Always install an air leakage breaker and a dedicated switching board.
- No installation may cause a fire and electrical shock.
- Do not keep or use flammable gases or combustibles near the air conditioner.
- Otherwise, it may cause a fire or the failure of product.
- Ensure that an installation frame of the outdoor unit is not damaged due to use for a long time.
- It may cause injury or an accident.
- Do not disassemble or repair the product randomly. - It will cause a fire or electrical shock.
- Do not install the product at a place that there is concern of falling down.
- Otherwise, it may result in personal injury.
- Use caution when unpacking and installing. - Sharp edges may cause injury.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.)
- Two or more people must lift and transport the product. Avoid personal injury.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- Do not pierce or burn refrigerant cycle part.
- Be aware that refrigerants may not contain an odour.
- Keep any required ventilation openings clear of obstruction.
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- Refrigerant tubing shall be protected or enclosed to avoid damage.
- Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operations shall be protected against mechanical damage.
- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts.
- Mechanical connections shall be accessible for maintenance purposes.

Operation

- Do not share the outlet with other appliances. - It will cause an electric shock or a fire due to heat generation.
- Do not use the damaged power cord.
- Otherwise, it may cause a fire or electrical shock.
- Do not modify or extend the power cord randomly.
- Otherwise, it may cause a fire or electrical shock.

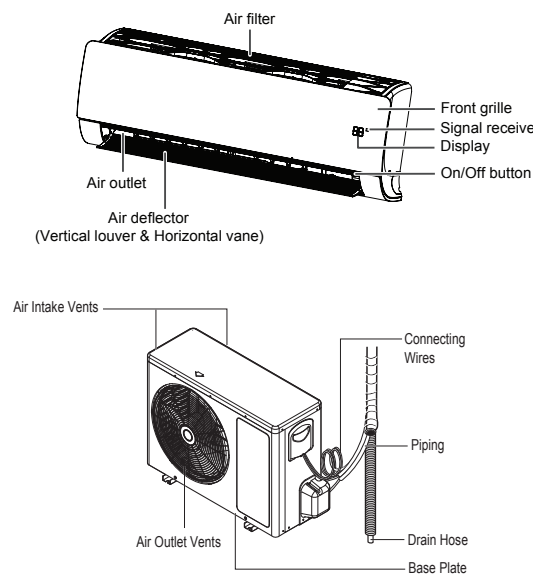
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INTRODUCTION

Symbols used in this Manual

- This symbol alerts you to the risk of electric shock.
- This symbol alerts you to hazards that may cause harm to the air conditioner.
- This symbol indicates special notes.

Features



* The feature can be changed according to type of model.

INSTALLATION PARTS

Name	Quantity	Shape
Installation plate	1 EA	
Type "A" screw	5 EA	
Type "B" screw	2 EA	
Type "C" screw	2 EA	
Remote control holder	1 EA	
Cloth tape	1 EA	
Connector	1 EA (SK)	
	2 EA (ZIN*24GSR1)	

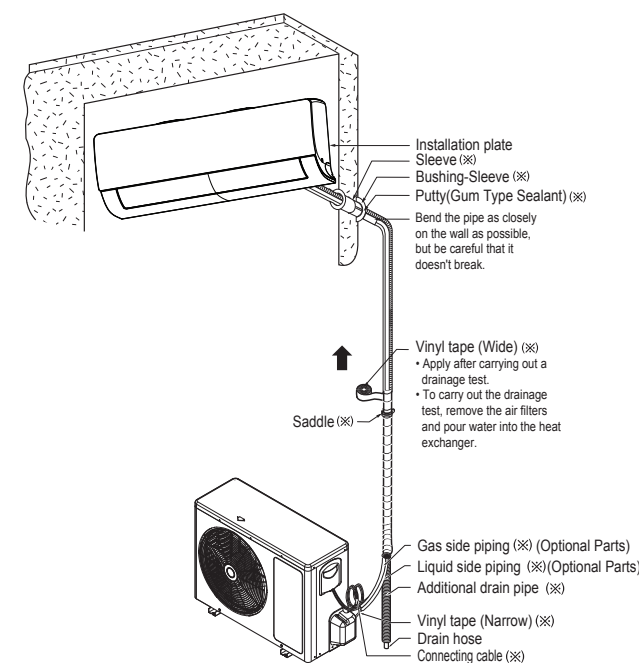
Screws for fixing panels are attached to decoration panel.
When Indoor unit (18 kBTu/h /24 kBTu/h) is connected to the Multi Outdoor unit, use the connector.

INSTALLATION TOOLS

Figure	Name	Figure	Name
	Screw driver		Multi-meter
	Electric drill		Hexagonal wrench
	Measuring tape, Knife		Ammeter
	Hole core drill		Gas-leak detector
	Spanner		Thermometer, Level
	Torque wrench		Flaring tool set

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INSTALLATION MAP



* The feature can be changed according a type of model.
* Work to the vinyl tape should up from below.

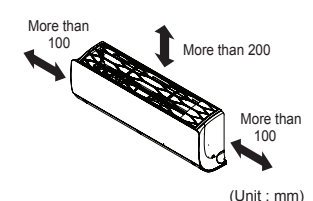
NOTE

- You should purchase the installation parts. (It can be changed according to market)

INSTALLATION

Select the best Location

- There should not be any heat or steam near the unit.
- Select a place where there are no obstacles around of the unit.
- Make sure that condensation drainage can be conveniently routed away.
- Do not install near a doorway.
- Ensure that the interval between a wall and the left (or right) of the unit is more than 100 mm. The unit should be installed as high as possible on the wall, allowing a minimum of 200 mm from ceiling.
- Use a metal detector to locate studs to prevent unnecessary damage to the wall.



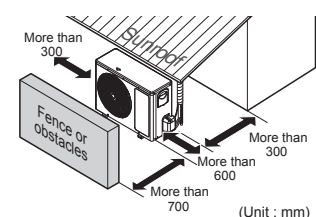
* The feature can be changed according to type of model.

NOTE

- The gap between the indoor unit and ceiling is needed more than 200 mm for disassemble the air filter.

Outdoor unit

- If an awning is built over the unit to prevent direct sunlight or rain exposure, make sure that heat radiation from the condenser is not restricted.
- Ensure that the space around the back and sides is more than 300 mm. The space in front of the unit should be more than 700 mm of space.
- Do not place animals and plants in the path of the warm air.
- Take the weight of the air conditioner into account and select a place where noise and vibration are minimum.
- Select a place where the warm air and noise from the air conditioner do not disturb neighbors.



* The feature can be changed according to type of model.

- Take care so that the power cord may not be pulled during operation.
- Otherwise, it may cause a fire or electrical shock.
- Unplug the unit if strange sounds, smell, or smoke comes from it.
- Otherwise, it may cause electrical shock or a fire.
- Keep the flames away.
- Otherwise, it may cause a fire.
- Take the power plug out if necessary, holding the head of the plug and do not touch it with wet hands.
- Otherwise, it may cause a fire or electrical shock.
- Do not use the power cord near the heating tools.
- Otherwise, it may cause a fire and electrical shock.
- Do not open the suction inlet of the indoor/outdoor unit during operation.
- Otherwise, it may electrical shock and failure.
- Do not allow water to run into electrical parts.
- Otherwise, it may cause the failure of machine or electrical shock.
- Hold the plug by the head when taking it out. - It may cause electric shock and damage.
- Never touch the metal parts of the unit when removing the filter. - They are sharp and may cause injury.
- Do not step on the indoor/outdoor unit and do not put anything on it. - It may cause an injury through dropping of the unit or falling down.
- Do not place a heavy object on the power cord.
- Otherwise, it may cause a fire or electrical shock.
- When the product is submerged into water, always contact the service center.
- Otherwise, it may cause a fire or electrical shock.
- Take care so that children may not step on the outdoor unit.
- Otherwise, children may be seriously injured due to falling down.
- Use a vacuum pump or inert (nitrogen) gas when doing leakage test or air purge. Do not compress air or oxygen, and do not use flammable gases.
Otherwise, it may cause fire or explosion. - There is the risk of death, injury, fire or explosion.
- Do not turn on the breaker or power under condition that front panel, cabinet, top cover, control box cover are removed or opened.
- Otherwise, it may cause fire, electric shock, explosion or death.
- Turn off all devices that cause fire when the refrigerant leaks, ventilate the room (example : opening window or using ventilation unit), and contact with dealer who you purchased the unit.
- The installation of pipe-work shall be kept to a minimum.
- When mechanical connectors are reused indoors, sealing parts shall be renewed. (for R32)
- When flared joints are reused indoors, the flare part shall be re-fabricated. (for R32)

CAUTION

Installation

- Install the drain hose to ensure that drain can be securely done. - Otherwise, it may cause water leakage.
- Install the product so that the noise or hot wind from the outdoor unit may not cause any damage to the neighbors.
- Otherwise, it may cause dispute with the neighbors.
- Always inspect gas leakage after the installation and repair of product.
- Otherwise, it may cause the failure of product.
- Keep level parallel in installing the product. - Otherwise, it may cause vibration or water leakage.
- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification. (for R32)
- Wear adequate personal protection equipment (PPE) when installing, maintaining or servicing the product.

Operation

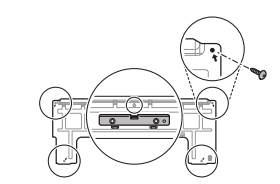
- Avoid excessive cooling and perform ventilation sometimes.
- Otherwise, it may do harm to your health.
- Use a soft cloth to clean. Do not use wax, thinner, or a strong detergent. - The appearance of the air conditioner may deteriorate, change color, or develop surface flaws.
- Do not use an appliance for special purposes such as preserving animals vegetables, precision machine, or art articles.
- Otherwise, it may damage your properties.
- Do not place obstacles around the flow inlet or outlet.
- Otherwise, it may cause the failure of appliance or an accident.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants. (for R32)
- Dismantling the unit, treatment of the refrigerant oil and eventual parts should be done in accordance with local and national standards.
- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules

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Fixing Installation Plate

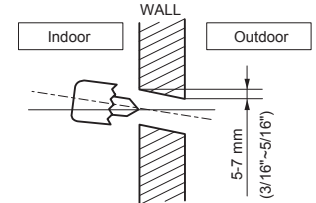
The wall you select should be strong and solid enough to prevent vibration.

- Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
- Mount the installation plate horizontally by aligning the centerline using Horizontal meter.



Drill a Hole in the Wall

- Drill the piping hole with a ø65 mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.

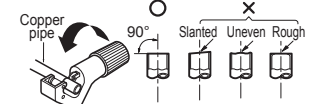


Flaring Work

Main cause for gas leakage is due to defect of flaring work. Carry out correct flaring work in the following procedure.

Cut the pipes and the cable

- Use the piping kit accessory or the pipes purchased locally.
- Measure the distance between the indoor and the outdoor unit.
- Cut the pipes a little longer than measured distance.
- Cut the cable 1.5 m longer than the pipe length.



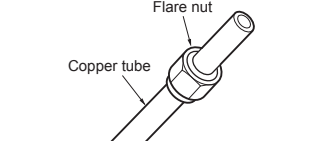
Burrs removal

- Completely remove all burrs from the cut cross section of pipe/tube.
- While removing burrs put the end of the copper tube/pipe in a downward direction while removing burrs location is also changed in order to avoid dropping burrs into the tubing.



Putting nut on

- Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal. (not possible to put them on after finishing flare work)



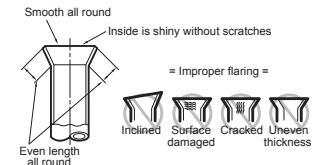
Flaring work

- Firmly hold copper pipe in a bar with the dimension shown in below table.
- Carry out flaring work with the flaring tool.

Outside diameter	A	Thickness
mm	mm	mm
ø6.35	1/4	1.1~1.3
ø9.52	3/8	1.5~1.7
ø12.7	1/2	1.6~1.8
ø15.88	5/8	1.6~1.8

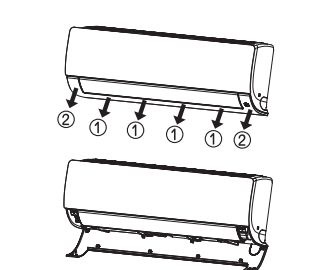
Check

- Compare the flared work with the figure by.
- If a flared section is defective, cut it off and do flaring work again.

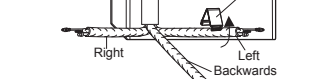


Connecting the Piping

- Pull the cover at the bottom of the indoor unit. Pull the cover (1) → (2).
- Remove the cover from the indoor unit.



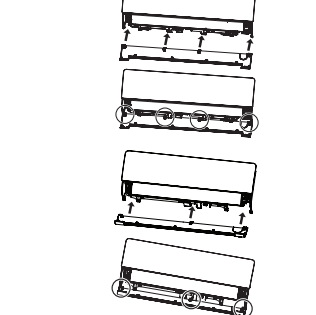
- Pull back the tubing holder.
- Remove pipe port cover and positioning the tubing.



* The feature can be changed according to type of model.

Assembly of chassis cover

- Insert 4 hooks of the chassis cover into gap of the chassis certainly.



- Push the 6 point hook to assemble chassis cover. Push the chassis cover (1) → (2).

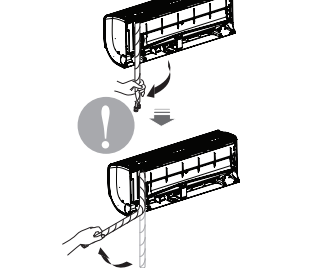


NOTE

To protect the chassis cover bended, assembly chassis cover correctly.

Good case

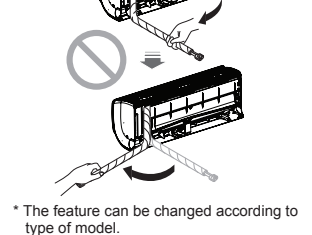
- Press on the tubing cover and unfold the tubing to downward slowly. And then bend to the left side slowly.



* The feature can be changed according to type of model.

Bad case

- Following bending case from right to left directly may cause damage to the tubing.



* The feature can be changed according to type of model.

NOTE

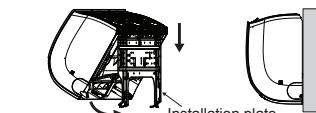
Installation Information: For right piping. Follow the instruction above.

This EPE block should be removed before indoor unit installed.

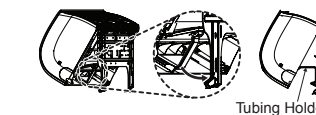
* The feature can be changed according to type of model.

Installation of Indoor Unit

- Hook the indoor unit onto the upper portion of the installation plate (engage the three hooks at the top of the indoor unit with the upper edge of the installation plate) Ensure that the hooks are properly seated on the installation plate by moving it left and right.



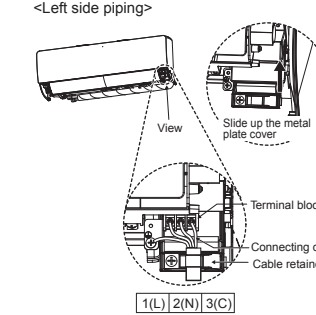
- Unlock the tubing holder from the chassis and mount between the chassis and installation plate in order to separate the bottom side of the indoor unit from the wall.



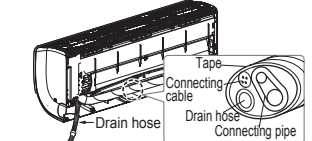
* The feature can be changed according to the type of model.

Piping

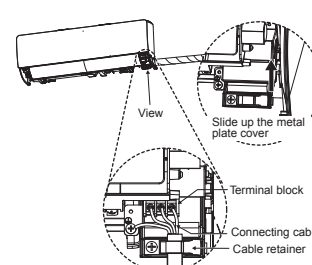
- Insert the connecting cable through the bottom side of indoor unit and connect the cable. (You can see detail contents in "Connecting the cables" section)



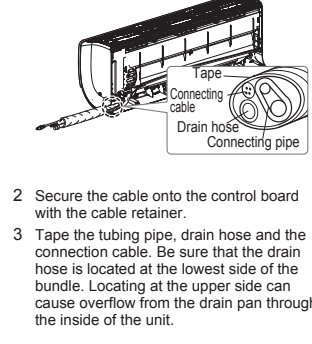
<Left side piping>



<Right side piping>



<Right side piping>

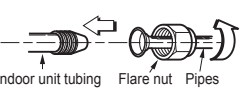


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Connecting the installation pipe and drain hose to the indoor unit.

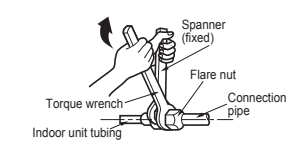
- Align the center of the pipes and sufficiently tighten the flare nut by hand.



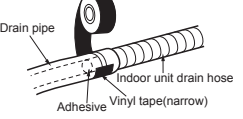
* When indoor unit (18/24 kWh) is connected to the Multi Outdoor unit, use the connector.

- Tighten the flare nut with a wrench

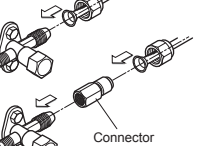
Outside Diameter			Torque
mm	inch	kgf·cm	N·m
Ø9.35	1/4	180~250	17.6~24.5
Ø9.52	3/8	340~420	33.3~41.2
Ø12.7	1/2	550~660	53.9~64.7
Ø15.88	5/8	630~820	61.7~80.4



- When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing.



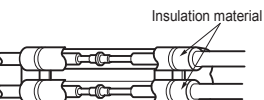
Please check the outdoor unit installation manual for outdoor unit piping connection.



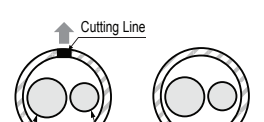
* When indoor unit (5.0 & 6.6 kW) is connected to the Multi Outdoor unit, use the connector shown above.

Wrap the insulation material around the connecting portion.

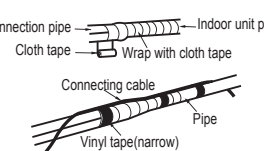
- Overlap the connection pipe insulation material and the indoor unit pipe insulation material. Bind them together with vinyl tape so that there may be no gap.



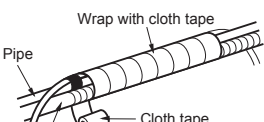
- Set the tubing cutting line upward.



- For left rear piping, bundle the piping and drain hose together by wrapping them cloth tape over the range within which they fit into the rear piping housing section.



- Wrap the piping of the indoor unit that are visible from the outside with vinyl tape.

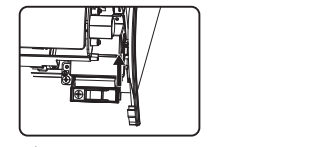


Connecting the Cables

Indoor unit

Connect the cable to the indoor unit by connecting the wires to the terminals on the control board individually according to the outdoor unit connection. (Ensure that the color of the wires of the outdoor unit and the terminal No. are the same as those of the indoor unit.) Insert the connecting cable through the bottom side of indoor unit and connect the cable.

- Open the Decor
- Unscrew the screw of C/Bx
- Slide up the Metal Plate Cover
- Connect the connecting cable
- After complete connect the cables, should assemble the Metal Plate Cover by screw.



- The feature can be changed according a type of model.

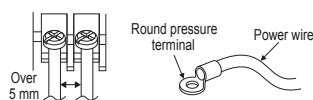
CAUTION

- The circuit diagram is a subject to change without notice.
- The earth wire should be longer than the common wires.
- When installing, refer to the circuit diagram on the chassis cover.
- Connect the wires firmly so that they may not be pulled out easily.
- Connect the wires according to color codes, referring to the wiring diagram.
- Please check the outdoor unit installation manual for outdoor unit cable connection.



- Wrap the piping of the indoor unit that are visible from the outside with vinyl tape.

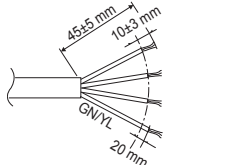
- Use round pressure terminals for connections to the power terminal block.



CAUTION

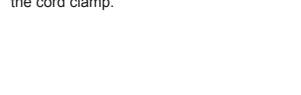
- According to the confirmation of the above conditions, prepare the wiring as follows.
- Never fail to have an individual power circuit specifically for the air conditioner. As for the method of wiring, be guided by the circuit diagram posted on the inside of control cover.
 - The screw which fasten 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 cause burn-out of the wires.)
 - Specification of power source.
 - Confirm that electrical capacity is sufficient.
 - See that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
 - Confirm that the cable thickness is as specified in the power source specification. (Particularly note the relation between cable length and thickness.)
 - Always install an earth leakage circuit breaker in a wet or moist area.
 - The following would be caused by voltage drop.
 - Vibration of a magnetic switch, which will damage the contact point, fuse breaking, disturbance of the normal function of the overload.
 - The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separation of at least 3 mm in each active(phase) conductors.
 - Open the terminal cover block before connecting the indoor side wire.

The power connecting cable with indoor and outdoor unit should be selected according to the following national wiring regulations. The supply cords of parts of appliances for outdoor use shall not be lighter than poly-chloroprene sheathed flexible cord. (code designation 60245 IEC 57, H05RN-F)



NOMINAL CROSS SECTIONAL AREA	Grade
7/9/12/18/24 kWh	1.0

- Connect the wires to the terminals on the control board individually.
- Secure the cable onto the control board with the cord clamp.



- The feature can be changed according a type of model.

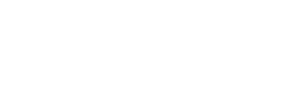
CAUTION

- The indoor unit can be dropped from the wall, the indoor unit is not screwed correct position on the install plate.
- To avoid the gap between the indoor unit and wall, screw the indoor unit to the install plate correctly.



- The feature can be changed according a type of model.

- Do not make drain piping like the following.



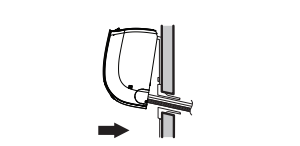
CAUTION

- Depending on installation site, it may be required to install drain plug for drainage (Supplied with the unit). In cold areas, do not use a drain hose with the outdoor unit. Otherwise, drain water may freeze, impairing the heating performance.
- See the figure below for installation of the drain plug.
 - Drain nipple
 - Drain cap
 - Drain washer
 - Connect a field supplied vinyl hose to the drain nipple (A). If the hose is too long and hangs down, fix it carefully to prevent kinks.

- The feature can be changed according a type of model.

Finishing the indoor unit installation

- Mount the tubing holder in the original position.
- Ensure that the hooks are properly seated on the installation plate by moving it left and right.
- Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots (clicking sound).
- Finish the assembly by screwing the unit to the installation plate by using two pieces of type "C" screws. And assemble a chassis cover.



- The feature can be changed according a type of model.

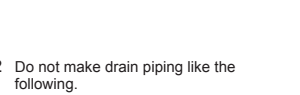
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- The feature can be changed according a type of model.

CAUTION

- Form the piping by wrapping the connecting portion of the indoor unit with insulation material and secure it with two kinds of vinyl tapes.
- If you want to connect an additional drain hose, the end of the drain outlet should be routed above the ground. Secure the drain hose appropriately.

- The feature can be changed according a type of model.

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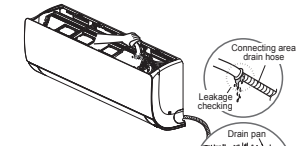
CAUTION

- The feature can be changed according a type of model.

Checking the Drainage

To check the drainage.

- Pour a glass of water on the evaporator.
- Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.



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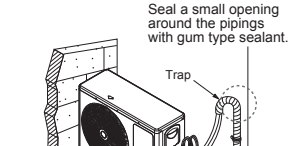
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CAUTION

- The feature can be changed according a type of model.

In cases where the Outdoor unit is installed above the Indoor unit perform the following.

- Tape the piping and connecting cable from down to up.
- Secure the taped piping along the exterior wall. Form a trap to prevent water entering the room.
- Fix the piping onto the wall using saddle or equivalent.



- The feature can be changed according a type of model.

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