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INSTALLATION MANUAL

AIR CONDITIONER

- 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.

TYPE : CONSOLE

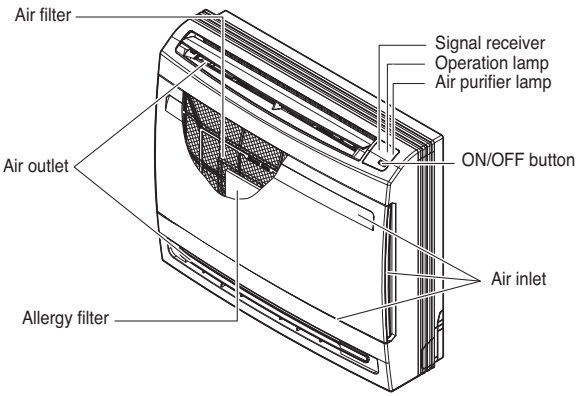
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Installation Parts



Name	Drain Hose	Installation Plate	Clamp (Tie wrap)	Other
Quantity	1 EA	1 EA	4 EA	- Allergy Filter - Fixing screw for Installation Plate 4*25 mm-5EA - Wood screw for indoor fixation -6EA - Owner's Manual - Installation Manual
Shape				

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.

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.

■ 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.

If you eat the liquid from the batteries, brush your teeth and see doctor. Do not use the remote if the batteries have leaked.

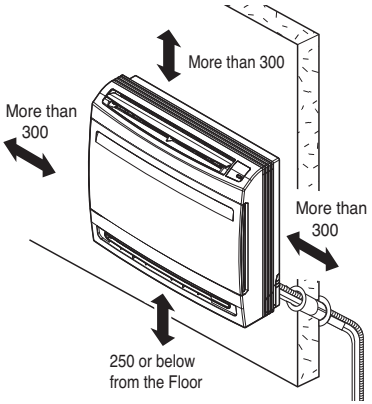
- The chemicals in batteries could cause burns or other health hazards.

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.



(Unit : mm)

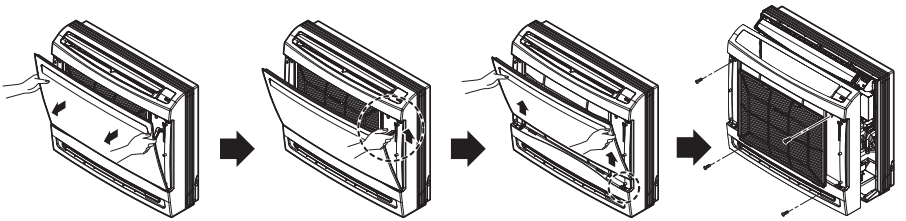
⚠CAUTION

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.

Indoor unit installation

1. Preparation / Removing front panel

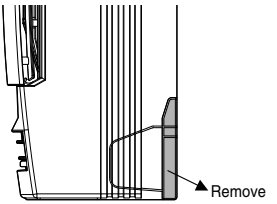
1. Open the front grille by pulling forward
2. Then pull out the link of grille from groove in front panel.
3. Then pull out 2 hinges of grille from grooves in front panel.
4. Then remove 4 screws, dismount the front panel while pulling it forward.



2. Preparation / For Moldings , Side Piping, and Concealed Installation

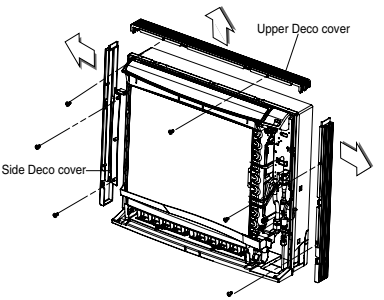
2-1 For Moldings

1. Remove the slit portions on the Rear Panel.



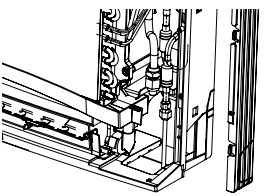
2-2 For Concealed Installation

1. Remove the 6 screws.
2. Remove the Upper Deco cover.
3. Remove the Side Deco covers.



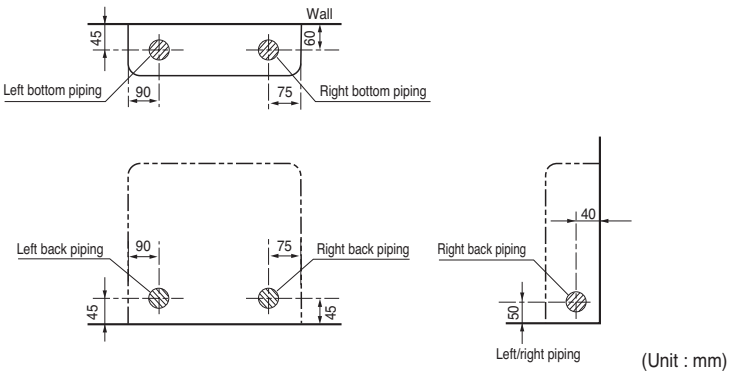
2-3 For Side Piping (Reference 2-2.)

1. Remove the Deco Covers.
2. Remove the slit portions
3. Assemble the Deco Covers.



3. Refrigerant Piping

1. The location of hole is different depending on which side of the pipe is taken out.
2. Drill a hole(Ø70mm) in the point indicated by ⊘ symbol in the illustration as below.

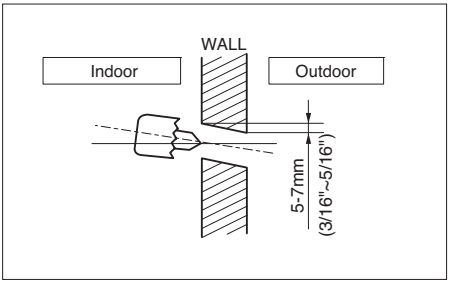


NOTICE

- The suggested shortest pipe length is 5m,in order to avoid noise from the outdoor unit and vibration.

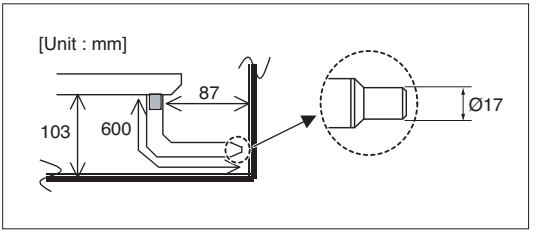
4. Drill a Hole in the wall

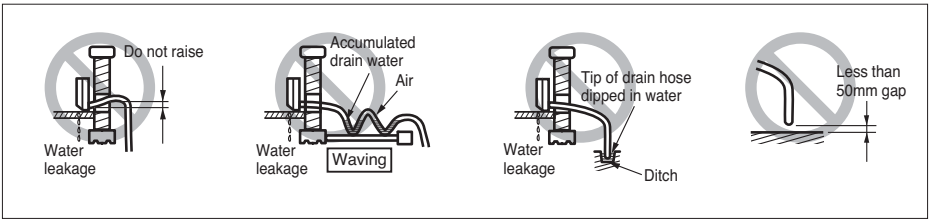
• Drill the piping hole with a ø70mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.



5. Drain piping

1. The Outer diameter of Drain Hose (which is supplied with indoor unit) is 17mm at connecting end, 600mm long.
2. Use commercial rigid PVC pipe for extension.
3. Insulate the indoor drain pipe with 10mm or more of insulation material to prevent condensation.





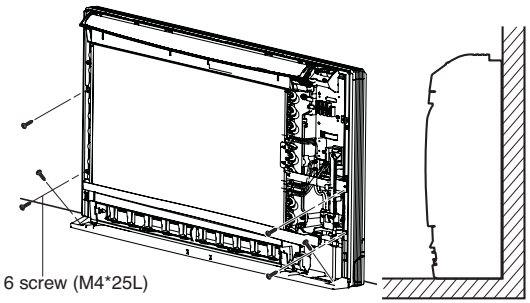
NOTICE

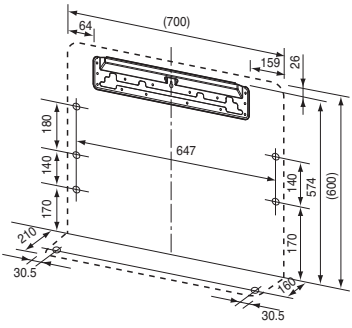
- The drain pipe should be inclined downward so that water will flow smoothly without any accumulation.

6. Installing Indoor unit

6-1 Installation on the Floor.

1. Fix up using 6 screws for floor installation.

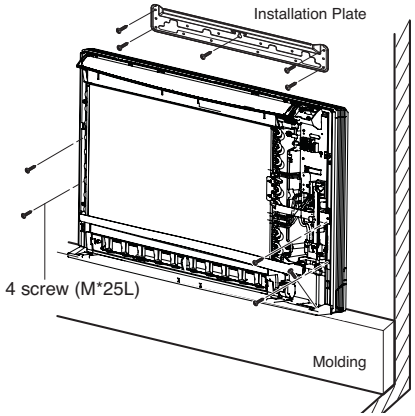


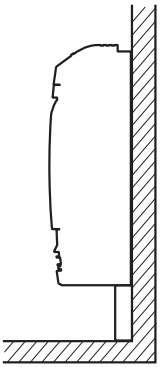


(Unit : mm)

6-2 Installation on the Wall

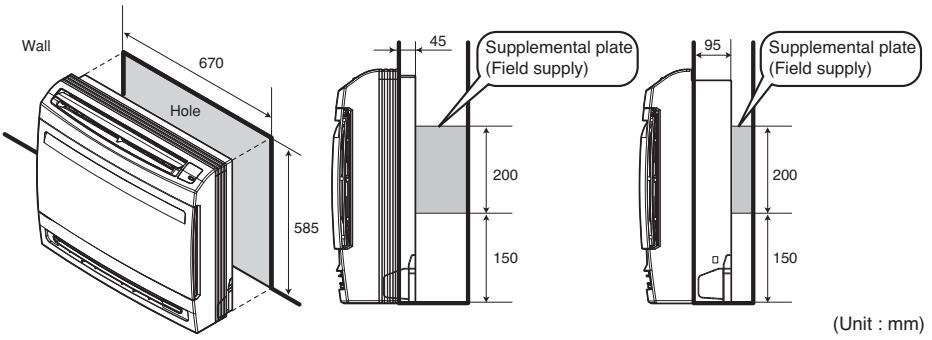
1. Fix up the installation plate using 5 screws and the indoor unit using 4 screws.
2. The installation plate should be fixed on a wall which can support the weight of the indoor unit.





6-3 Half concealed installation.

1. Make a wall hole of the size shown Fig-1.



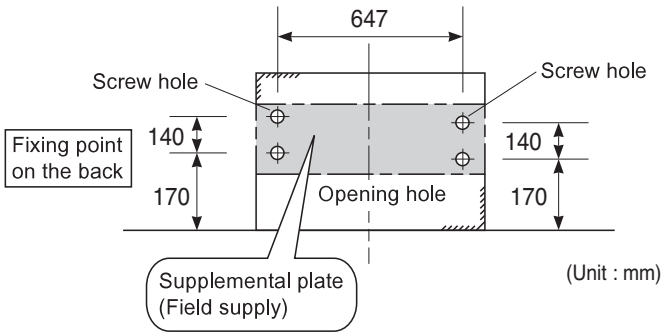
<Fig - 1>

1) Normal concealed

2) Deep concealed

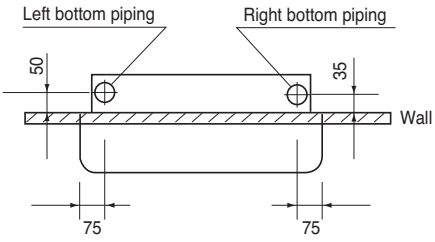
2. Installation of supplemental plate for attaching main unit

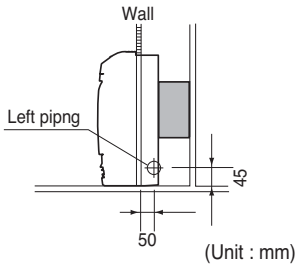
- The rear of the unit can be fixed with screws at the points shown in the Fig-2.Be sure to install the supplemental plate in accordance with the depth of the inner wall.



<Fig - 2>

3.Piping Hole





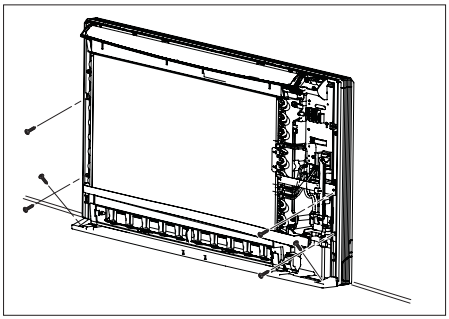
(Unit : mm)

4. Remove the Deco Covers and Fixing Indoor Unit

1) Remove the Deco Covers.

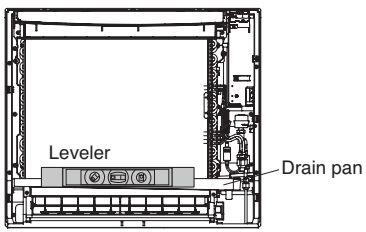
2) Insert the Indoor Unit to the Wall hole.

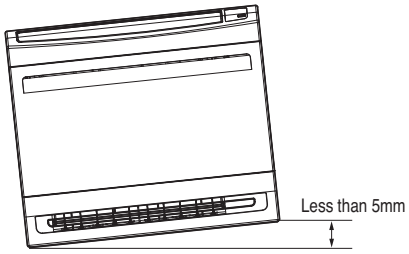
3) Secure using 6 screws. (shown in the illustration)

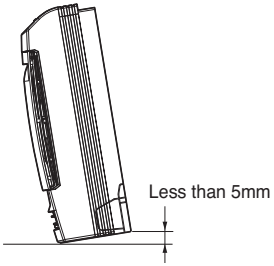


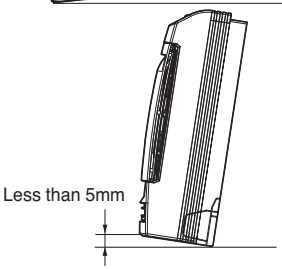
NOTICE

- Check the horizon of Indoor unit with the wall. Please use the leveler on the drain pan guide.







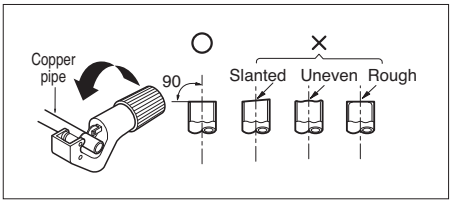


Flaring Work

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

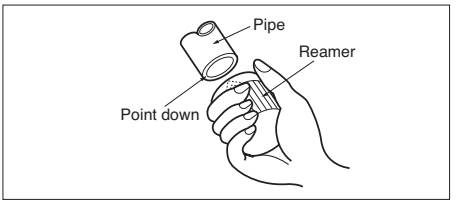
Cut the pipes and the cable.

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



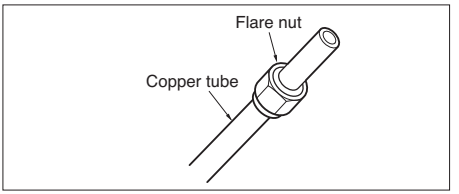
Burrs removal

1. Completely remove all burrs from the cut cross section of pipe/tube.
2. 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

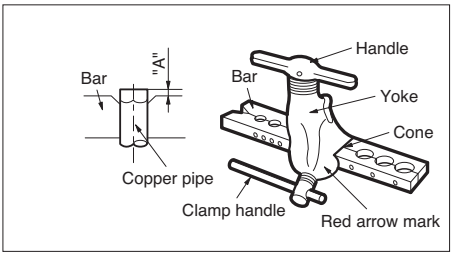
• Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal.
(not possible to put them on after finishing flare work)



Flaring work

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

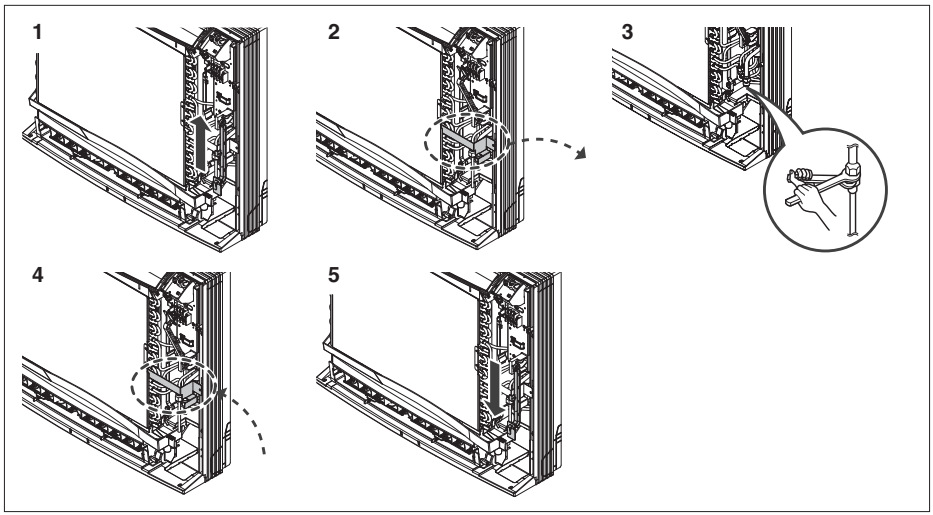
Outside diameter		A
mm	inch	mm
Ø6.35	1/4	1.1~1.3
Ø9.52	3/8	1.5~1.7
Ø12.7	1/2	1.6~1.8
Ø15.88	5/8	1.6~1.8
Ø19.05	3/4	1.9~2.1



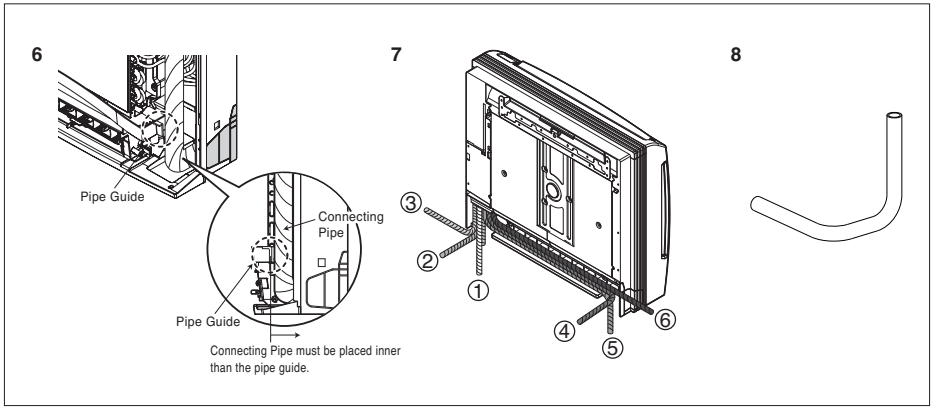
Connecting the Piping

When you connect the refrigerant pipe, it is easier that you connect the gas pipe first.

1. Hold up the Sensor Link.
2. Separate the Pipe Bracket (2 screws)
3. Connect the refrigerant pipe. (Refer to next page)
4. Assemble the Pipe Bracket (2 screws)
5. Put down the Sensor Link



6. After connecting, check the pipe arrangement as per illustration.
7. The piping can be arranged in six ways as shown in the illustration below.



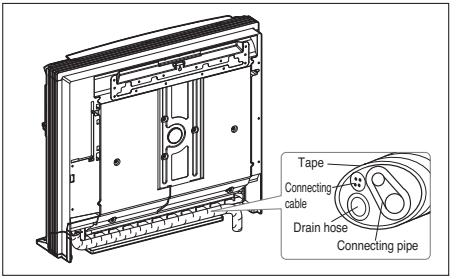
⚠ CAUTION

In case of ③ ~ ⑥ , The pipe banding can be used in hand-operated banding machine.
Make a pipe of the shape shown pic 8.

⚠ CAUTION

If the drain hose is routed inside the room insulate the hose with an insulation material* so that dripping from sweating (condensation) will not damage furniture or floors.

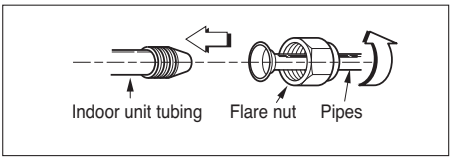
* Foamed polyethylene or equivalent is recommended.

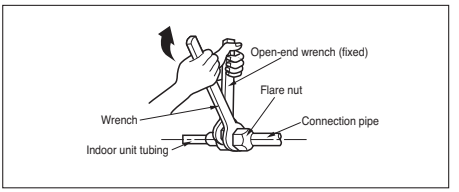


Connecting the installation pipe and drain hose to the indoor unit.

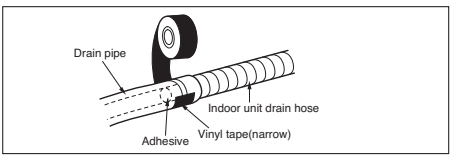
1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
2. Tighten the flare nut with a wrench

Outside diameter		Torque
mm	inch	kgf·m
Ø6.35	1/4	1.8~2.5
Ø9.52	3/8	3.4~4.2
Ø12.7	1/2	5.5~6.5
Ø15.88	5/8	6.3~8.2
Ø19.05	3/4	9.9~12.1



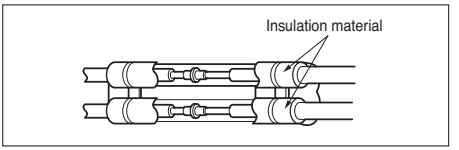


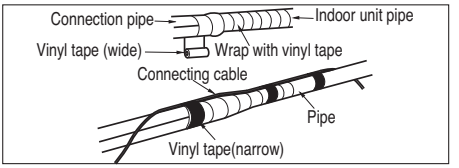
3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing

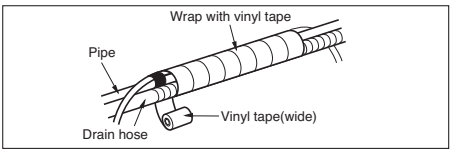


Wrap the insulation material around the connecting portion.

1. 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.
2. Wrap the area which accommodates the rear piping housing section with vinyl tape.
3. Bundle the piping and drain hose together by wrapping them with vinyl tape sufficient enough to cover where they fit into the rear piping housing section.

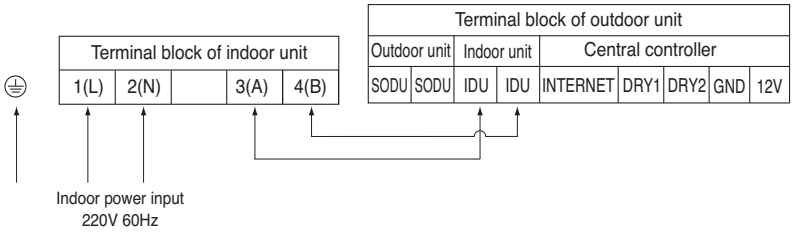






Wiring Connection

- 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.



⚠WARNING

Make sure that the screws of the terminal are free from looseness.

⚠CAUTION

The Power cord connected to the unit should be selected according to the following specifications.

⚠CAUTION

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

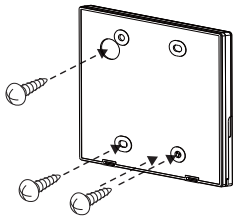
1) Never fail to have separate power specially for the air conditioner. As for the method of wiring, follow the circuit diagram pasted on the inside of control box cover.
2) Provide a circuit breaker switch between power source and the unit.
3) The screw which fasten the wiring in the casing of electrical 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 give rise to burn-out of the wires.)
4) Confirm the 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) Do not install the leakage breaker in a place which is wet or moist. Water or moist may cause short circuit.
9) The following troubles would be caused by voltage drop-down.

- Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
- Proper starting power is not given to the compressor.

Installation of Wired Remote Controller

1. Please fix tightly using provided screw after placing remote controller setup board on the place where you like to setup.

- Please set it up not to bend because poor setup could take place if setup board bends. Please set up remote controller board fit to the reclamation box if there is a reclamation box.

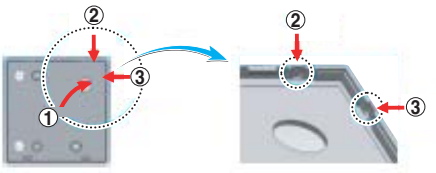


2. Can set up Wired remote controller cable into three directions.

- Setup direction: the surface of wall reclamation, upper, right
- If setting up remote controller cable into upper and right side, please set up after removing remote controller cable guide groove.

❊ Remove guide groove with long nose.

① Reclamation to the surface of the wall
② Upper part guide groove
③ Right part guide groove

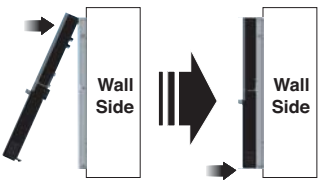


<Wire guide grooves>

3. Please fix remote controller upper part into the setup board attached to the surface of the wall, as the picture below, and then, connect with setup board by pressing lower part.

- Please connect not to make a gap at the remote controller and setup board's upper and lower, right and left part.

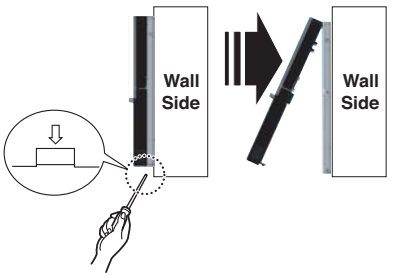
<Connecting order>



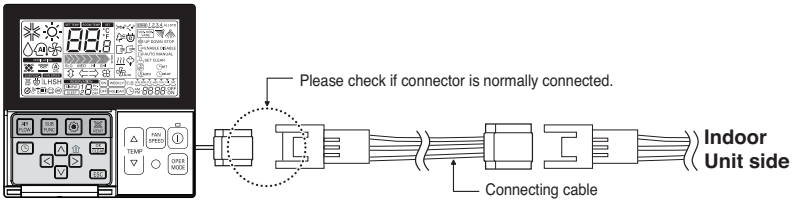
When separating remote controller from setup board, as the picture below, after inserting into the lower separating hole using screw driver and then, spinning clockwise, remote controller is separated.

- There are two separating holes. Please individually separate one at a time.
- Please be careful not to damage the inside components when separating.

<Separating order>



4. Please connect indoor unit and remote controller using connecting cable.



5. Please use extension cable if the distance between wired remote controller and indoor unit is more than 10m.

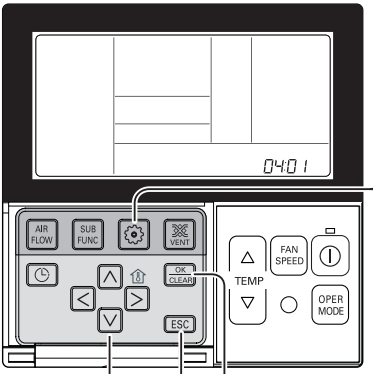
⚠CAUTION

When installing the wired remote controller, do not bury it in the wall.
(It can cause damage in the temperature sensor.)
Do not install the cable to be 50m or above.
(It can cause communication error.)

- When installing the extension cable, check the connecting direction of the connector of the remote controller side and the product side for correct installation.
- If you install the extension cable in the opposite direction, the connector will not be connected.
- Specification of extension cable: 2547 1007 22# 2 core 3 shield 5 or above.

Installer Setting -Thermistor

This is the function to select the temperature sensor to judge the room temperature.

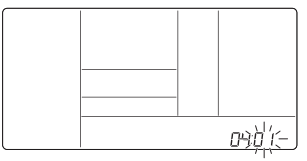


PQRCVSLO

1 If pressing ⚙ button long for 3 seconds, it enters into remote controller setter setup mode.
- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.

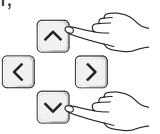


2 If moving to room temperature perception sensor selection menu by pressing ⚙ button, it indicates as picture below.



3 Set Thermistor value by pressing ∧ ∨ button. (01: Remote Controller, 02: Indoor, 03: 2TH)

04:01
Function Code — Thermistor setting



4 Press OK CLEAR button to save.

04:01



5 Pressing ESC button will exit settings mode.
- ❊ After setup, it automatically gets out of setup mode if there is no button input for 25 seconds.
- ❊ When exiting without pressing set button, the manipulated value is not reflected.

<Thermistor Table>

Temperature sensor selection			Function
01	Remote controller		Operation in remote controller temperature sensor
02	Indoor unit		Operation in indoor unit temperature sensor
03	2TH	Cooling	Operation of higher temperature by comparing indoor unit's and wired remote controller's temperature. (There are products that operate at a lower temperature.)
		Heating	Operation of lower temperature by comparing indoor unit's and wired remote controller's temperature.

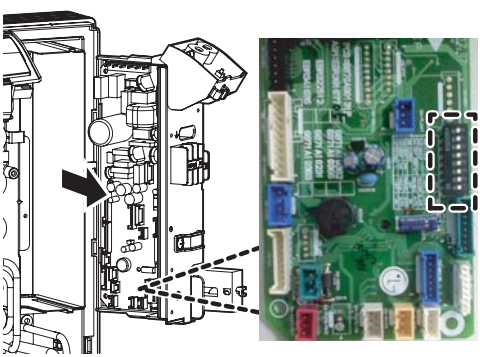
❊ The function of 2TH has different operation characteristics according to the product.

Dip Switch Setting

	Function	Description	Setting Off	Setting On	Default
SW1	Communication	N/A (Default)	-	-	Off
SW2	Cycle	N/A (Default)	-	-	Off
SW3	Group Control	Selection of Master or Slave	Master	Slave	Off
SW4	Dry Contact Mode	Selection of Dry Contact Mode	Wired/Wireless remote controller Selection of Manual or Auto operation Mode	Auto	Off
SW5	Installation	Fan continuous operation	Continuous operation Removall	-	Off
SW6	Heater linkage	N/A	-	-	Off
SW7	Ventilator linkage	Selection of Ventilator linkage	Linkage Removal	Working	Off
	Vane selection (Console)	Selection of up/down side Vane	Up side + Down side Vane	Up side Vane Only	
	Region selection	Selection tropical region	General model	Tropical model	
SW8	Etc.	Spare	-	-	Off

⚠CAUTION

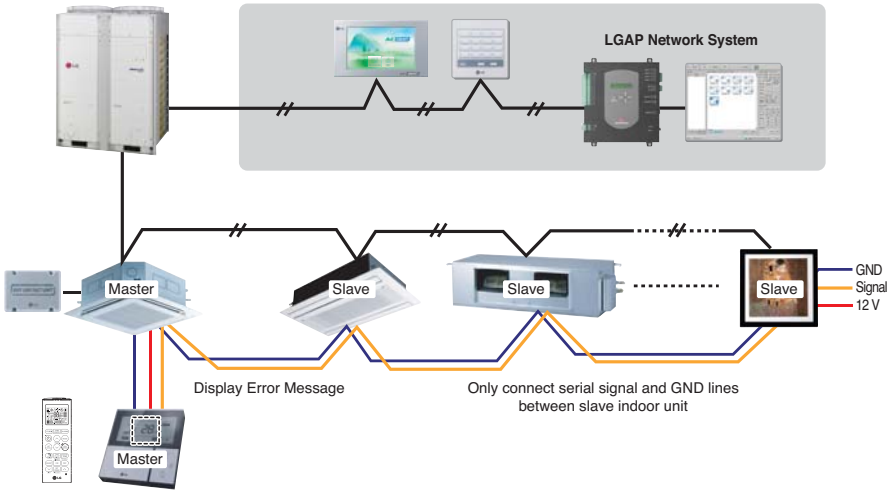
For Multi V Models, Dip switch 1, 2, 6, 8 must be set OFF.
That dip switch is used for other models.



Group Control Setting

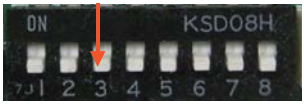
1. Group Control 1

■ **Wired remote controller 1 + Standard Indoor Units**

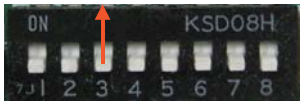


■ **Dip Switch in PCB (Cassette and Duct Type indoor units)**

① Master Setting
- No. 3 Off



② Slave Setting
- No. 3 On



1. It is possible to 16 indoor units(Max) by one wired remote controller.
Set only one indoor unit to Master, set the others to Slave.

2. It is possible to connect with every type of indoor units.

3. It is possible to use wireless remote controller at the same time.

4. It is possible to connect with Dry Contact and Central controller at the same time.
- The Master indoor unit is possible to recognize Dry Contact and Central Controller only.
- In case of Central controller and Group controller at the same time, it is possible to connect standard 2series indoor units or later since Feb. 2009.
- In case of Central controller setting, the Central controller can control indoor units after setting only the address of master indoor unit.
- Slave indoor unit will be operated like master indoor unit.
- Slave indoor unit can not be individually controlled by Central controller.
- Some remote controller can't perform with Dry Contact and Central controller at the same time. So contact us further information about it.

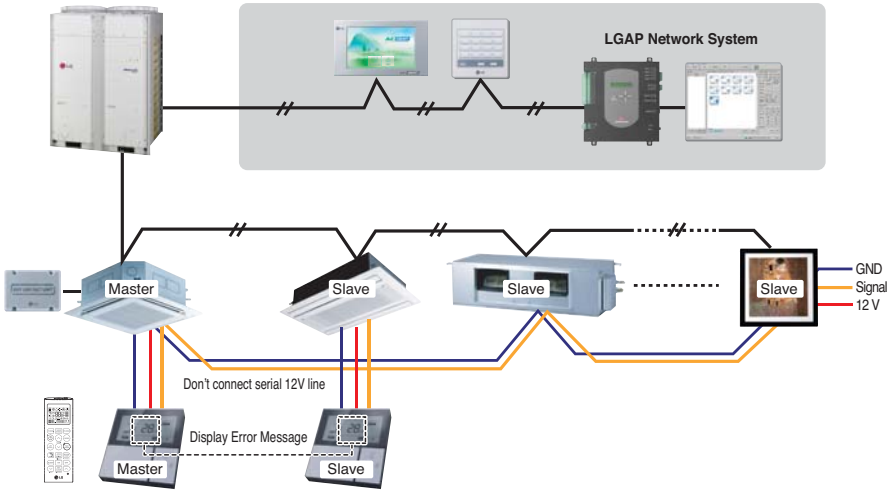
5. In case of any error occurs at indoor unit, display on the wired remote controller.
Exception of the error indoor unit, an individual indoor unit control possibility.

6. In case of Group Control, it is possible to use following functions.
- Selection of operation options (operation/stop/mode/set temperature)
- Control of flow rate (High/Middle/Low)
- It is not possible at some functions.

❊ Master/Slave setting of indoor units be set possible using a PCB Dip Switch.
❊ It is possible to connect indoor units since Feb. 2009.
In the other cases, please contact LGE.
❊ It can be the cause of malfuctions when there is no setting of master and slave.

2. Group Control 2

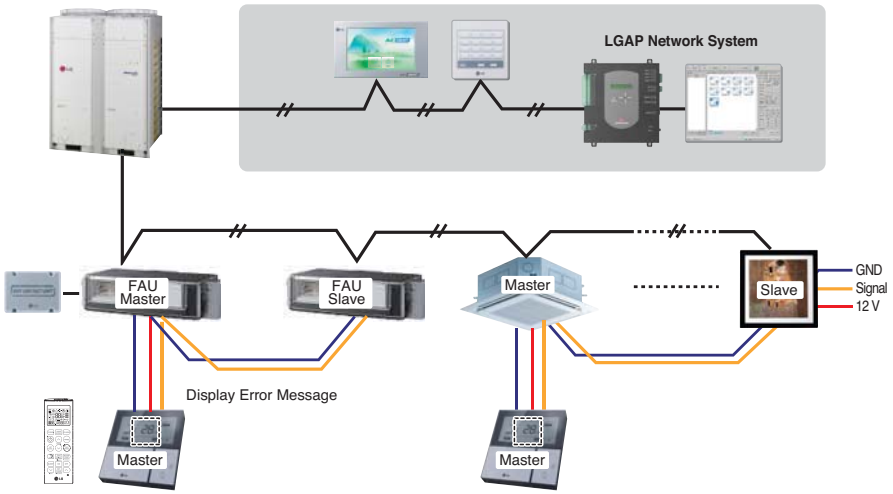
■ Wired remote controllers + Standard Indoor Units



❊ It is possible to control N indoor units by wired remote controller M units. (M + N ≤ 17 Units)
Set only one indoor unit to Master, set the others to Slave.
Set only one wired remote controller to Master, set the others to Slave.
Other than those, it is same with the Group Control 1.

3. Group Control 3

■ Mixture connection with indoor units and Fresh Air Intake Unit



❊ In case of connecting with standard indoor unit and Fresh Intake Unit, separate Fresh Air Intake Unit with standard units. (Because setting temperature are different.)

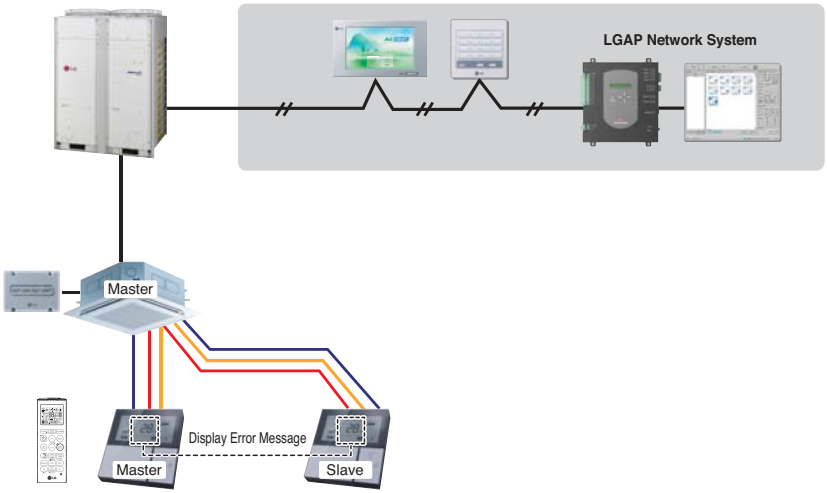
❊ Other than those, it is same with Group Control 1.



* FAU : Fresh Air Intake Unit
Standard: Standard Indoor Unit

4. 2 Remote Control

■ Wired remote controller 2 + Indoor unit 1



1. It is possible to connect two wired remote controllers with one indoor unit.

2. Every types of indoor unit is possible to connect two remote controller.

3. It is possible to use wireless remote controller at the same time.

4. It is possible to connect with Dry Contact and Central controller at the same time.

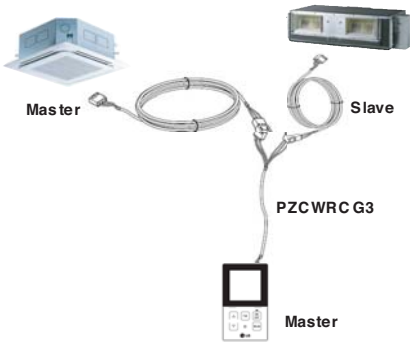
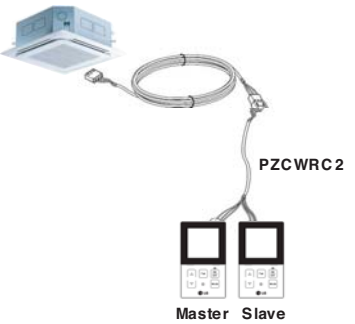
5. In case of any error occurs at indoor unit, display on the wired remote controller.

6. There isn't limits of indoor unit function.

❊ Maximum 2wired remote controllers can be connected with 1 indoor unit.

5. Accessories for group control setting

It is possible to set group control by using below accessories.

Indoor unit 2 EA +Wired remote controller	Indoor unit 1 EA +Wired remote controller 2EA
❊ PZCWRCG3 cable used for connection 	❊ PZCWRC2 cable used for connection 


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