

# 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.

CONSOLE  
Original instruction



P/NO : MFL67798128

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ENGLISH

ITALIANO

ESPAÑOL

FRANÇAIS

DEUTSCH

ΕΛΛΗΝΙΚΑ

ČEŠTINA

NEDERLANDS

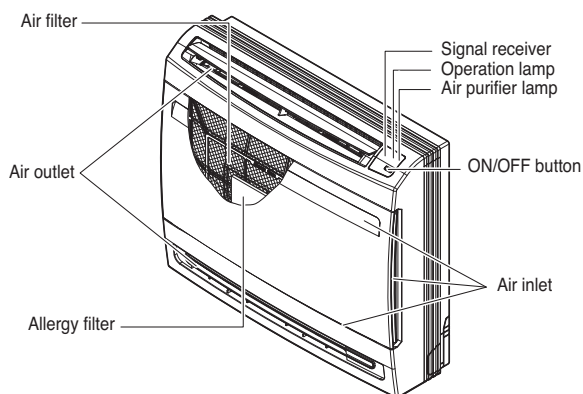
POLSKI

LIMBA ROMÂNĂ

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# Installation Parts



| Name     | Drain Hose                                                                        | Installation Plate                                                                 | Clamp (Tie wrap)                                                                  | Other                                                                                                                                                                                                                                 |
|----------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Quantity | 1 EA                                                                              | 1 EA                                                                               | 4 EA                                                                              |                                                                                                                                                                                                                                       |
| Shape    |  |  |  | <ul style="list-style-type: none"> <li>- Allergy Filter</li> <li>- Fixing screw for Installation Plate 4*25 mm-5EA</li> <li>- Wood screw for indoor fixation -6EA</li> <li>- Owner's Manual</li> <li>- Installation Manual</li> </ul> |

# 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.

|                                                                                   |                                           |
|-----------------------------------------------------------------------------------|-------------------------------------------|
|  | <b>Be sure not to do.</b>                 |
|  | <b>Be sure to follow the instruction.</b> |

**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.**

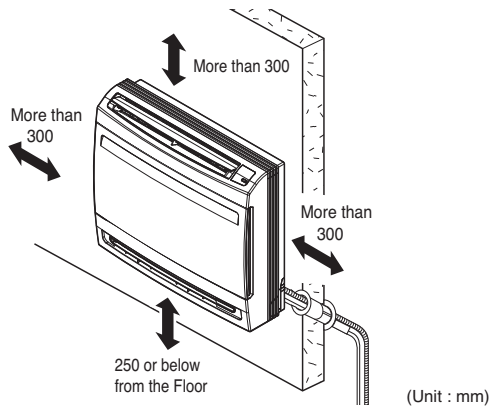
- The chemicals in batteries could cause burns or other health hazards.

# 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.



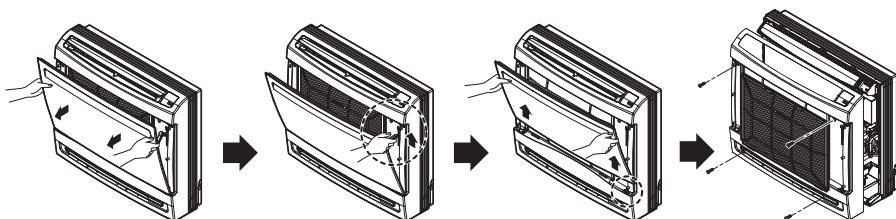
### ⚠ CAUTION

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

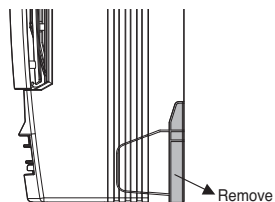
1. Open the front grille by pulling forward
2. Then pull out the link of grille from groove in front panel.
3. Then pull out 2 hinges of grille from grooves in front panel.
4. Then remove 4 screws, dismount the front panel while pulling it forward.



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

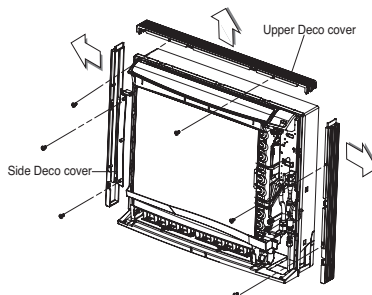
#### 2-1 For Moldings

1. Remove the slit portions on the Rear Panel.



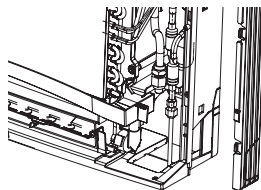
#### 2-2 For Concealed Installation

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



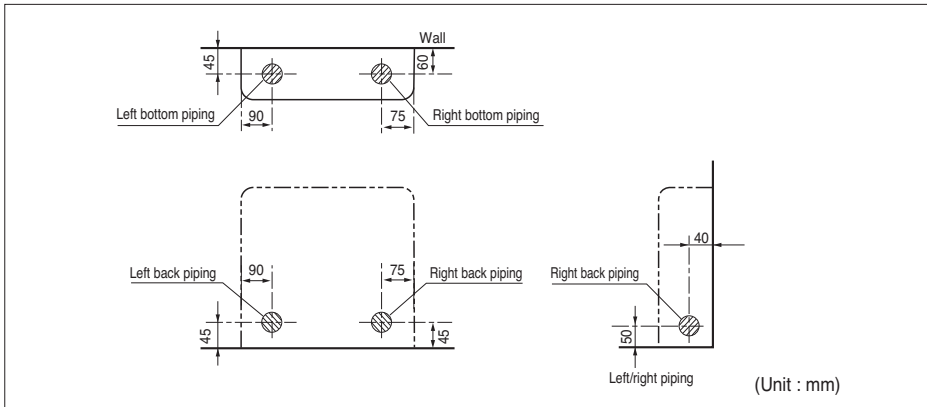
#### 2-3 For Side Piping (Reference 2-2.)

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.

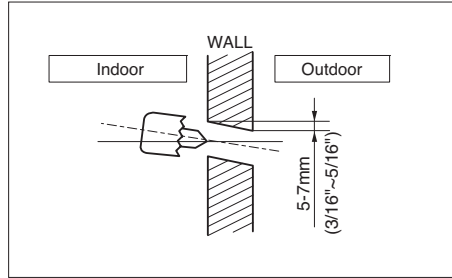


#### NOTICE

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

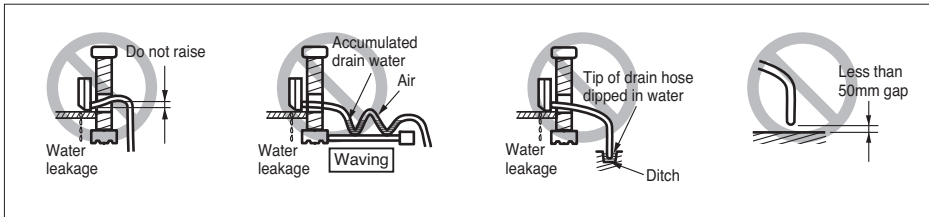
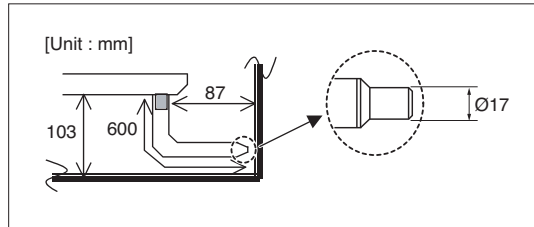
#### 4. Drill a Hole in the wall

- Drill the piping hole with a  $\phi 70$ mm 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.



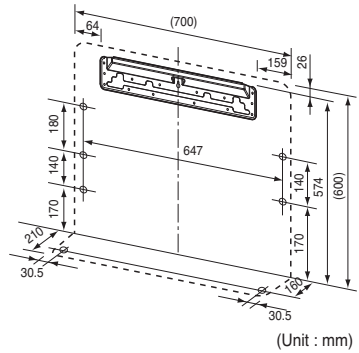
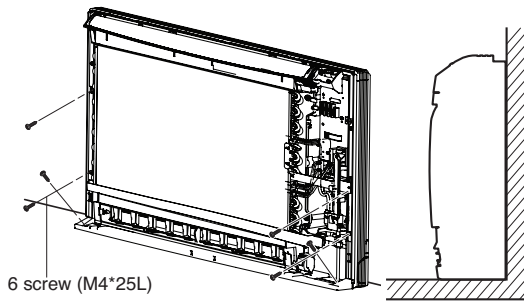
#### NOTICE

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

## 6. Installing Indoor unit

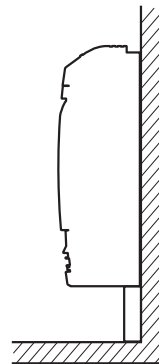
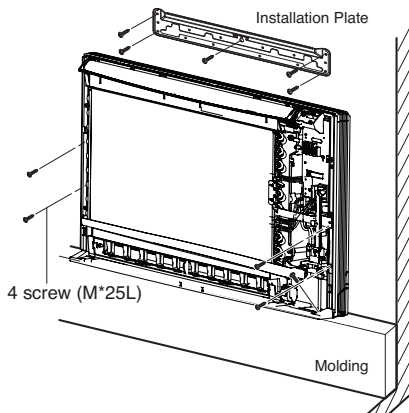
### 6-1 Installation on the Floor.

1. Fix up using 6 screws for floor installation.



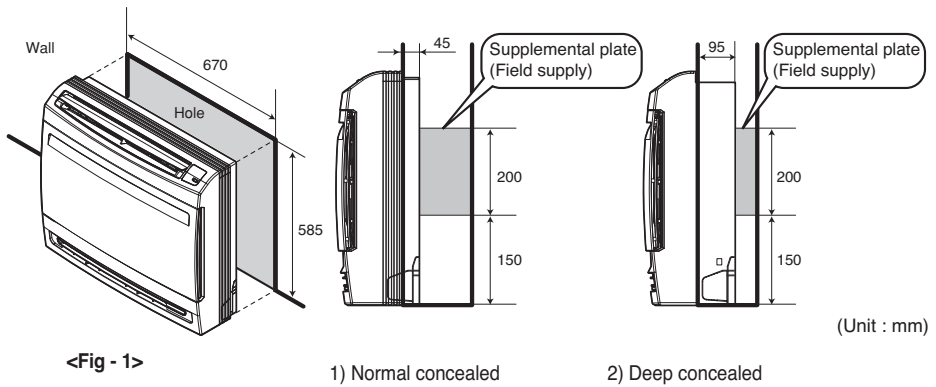
### 6-2 Installation on the Wall

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.



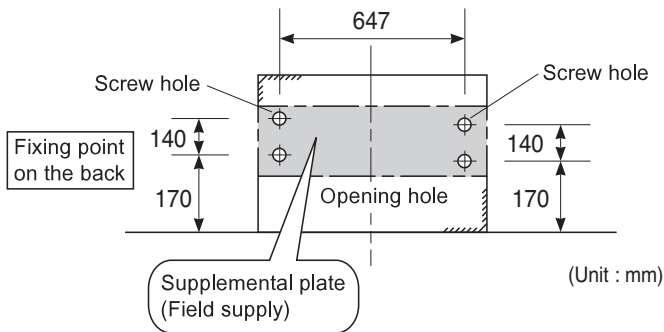
### 6-3 Half concealed installation.

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

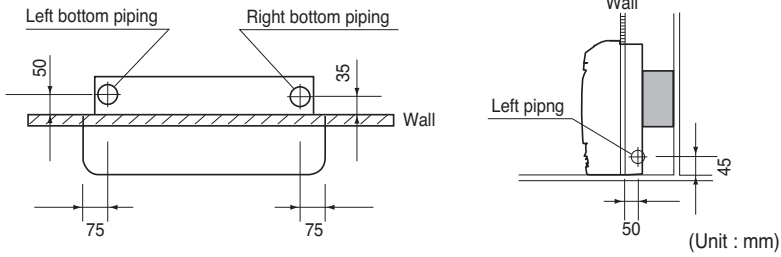


2. Installation of supplemental plate for attaching main unit

- 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.

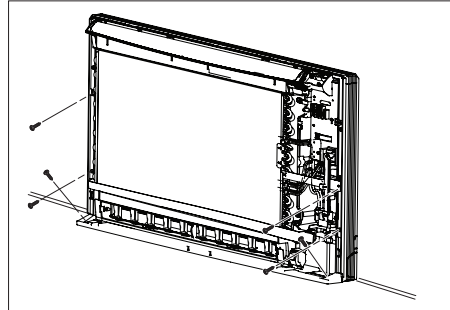


### 3. Piping Hole



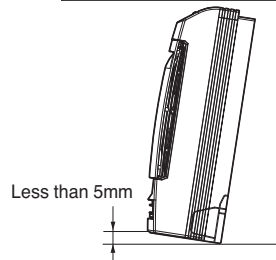
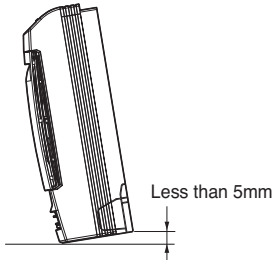
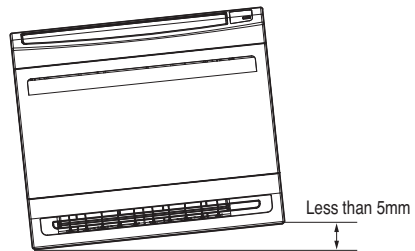
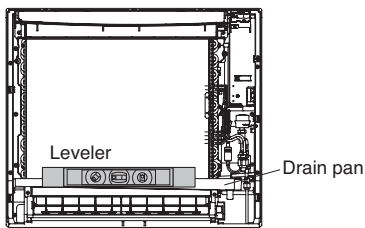
### 4. Remove the Deco Covers and Fixing Indoor Unit

- 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.

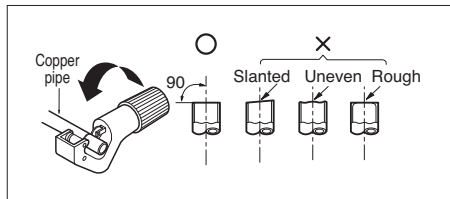


## Flaring Work

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

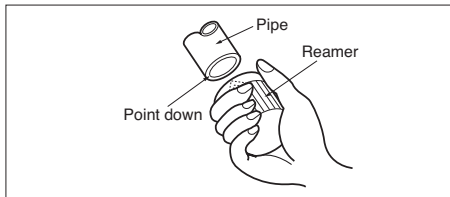
### Cut the pipes and the cable.

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.



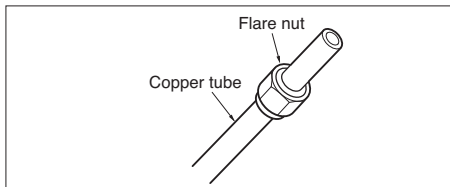
### Burrs removal

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

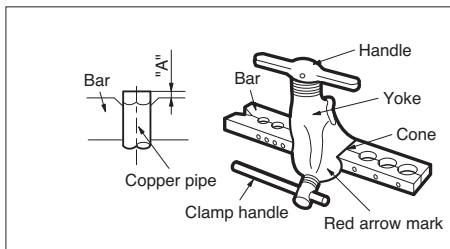
- Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal.  
(not possible to put them on after finishing flare work)



### Flaring work

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

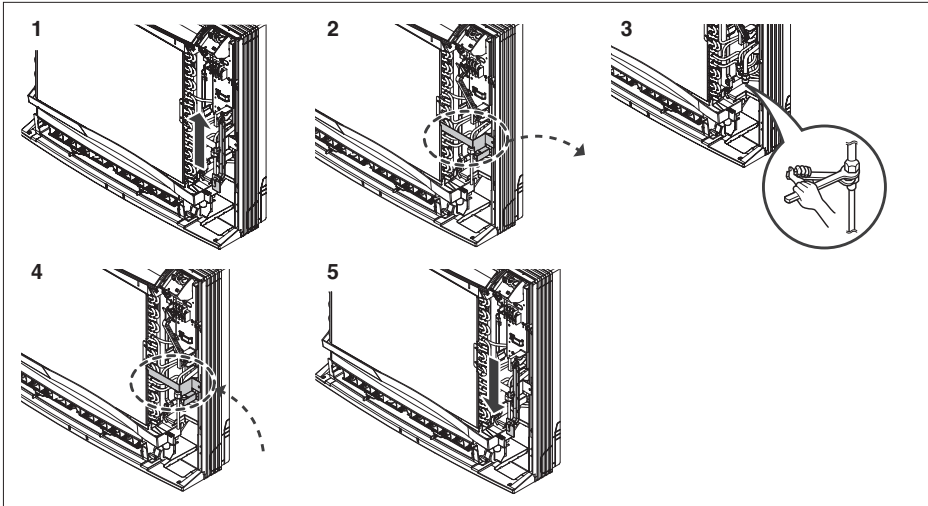
| Outside diameter |      | A       |
|------------------|------|---------|
| mm               | inch | mm      |
| Ø6.35            | 1/4  | 1.1~1.3 |
| Ø9.52            | 3/8  | 1.5~1.7 |
| Ø12.7            | 1/2  | 1.6~1.8 |
| Ø15.88           | 5/8  | 1.6~1.8 |
| Ø19.05           | 3/4  | 1.9~2.1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



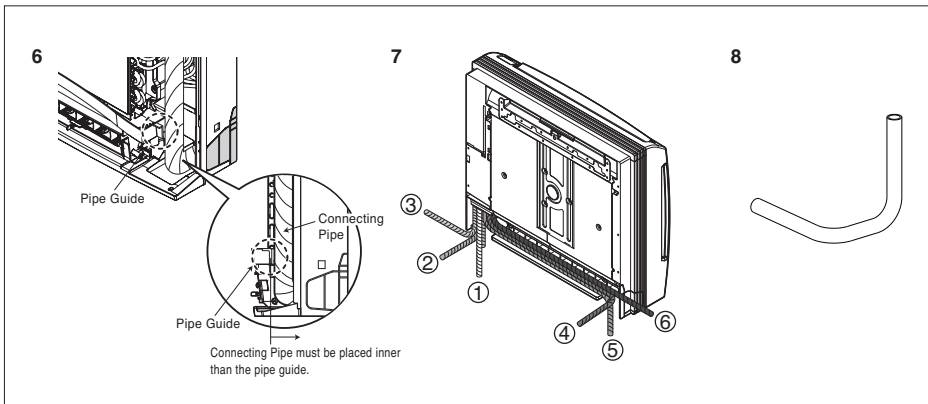
## Connecting the Piping

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.

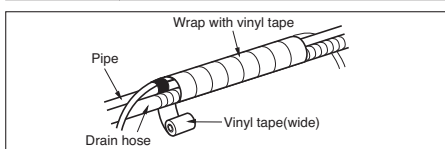
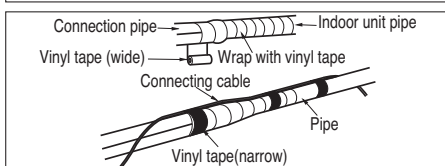
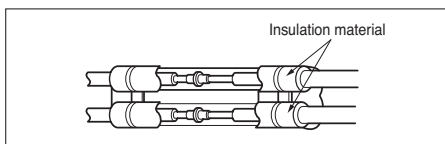
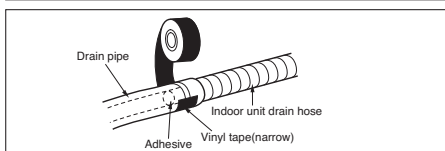
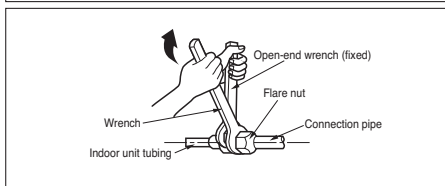
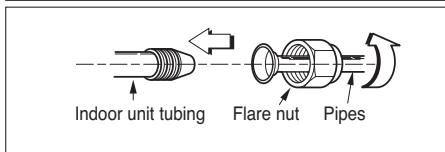
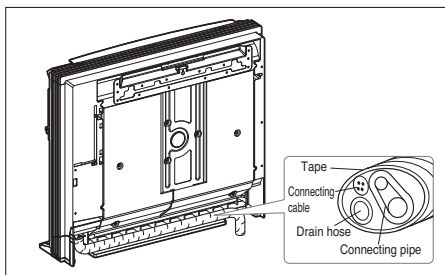
1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
2. Tighten the flare nut with a wrench

| 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, assemble the drain pipe as shown on the drawing

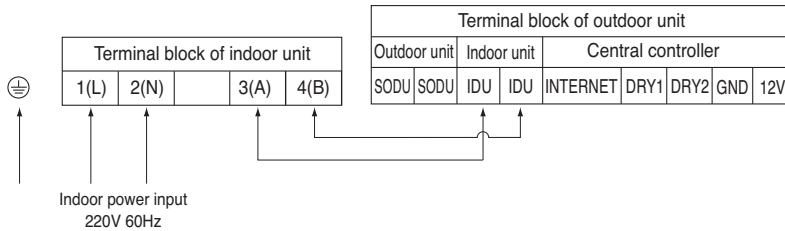
## Wrap the insulation material around the connecting portion.

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:

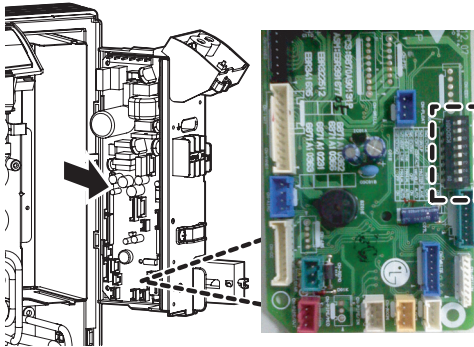
- 1) Never fail to have separate power specially for the air conditioner. As for the method of wiring, follow the circuit diagram pasted on the inside of control box cover.
- 2) Provide a circuit breaker switch between power source and the unit.
- 3) The screw which fasten the wiring in the casing of 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.

## 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<br>Selection of Manual or Auto operation Mode | Auto              | Off     |
| SW5 | Installation             | Fan continuous operation        | Continuous operation Removal                                                   | -                 | 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.

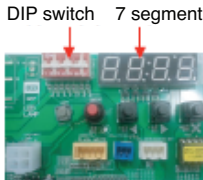


## 2. Outdoor Unit

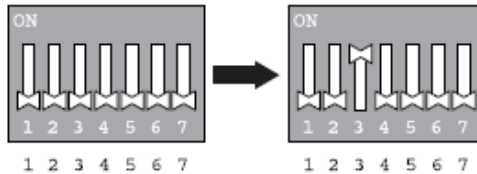
In case that the products meet specific conditions, “Auto addressing” function can start automatically with the improved speed by turning the DIP switch #3 of the outdoor unit and resetting the power.

\* Specific conditions:

- All names of the indoor units are ARNU\*\*\*\*4.
- The serial number of Multi V super IV (outdoor units) is after October 2013.



Outdoor Unit PCB

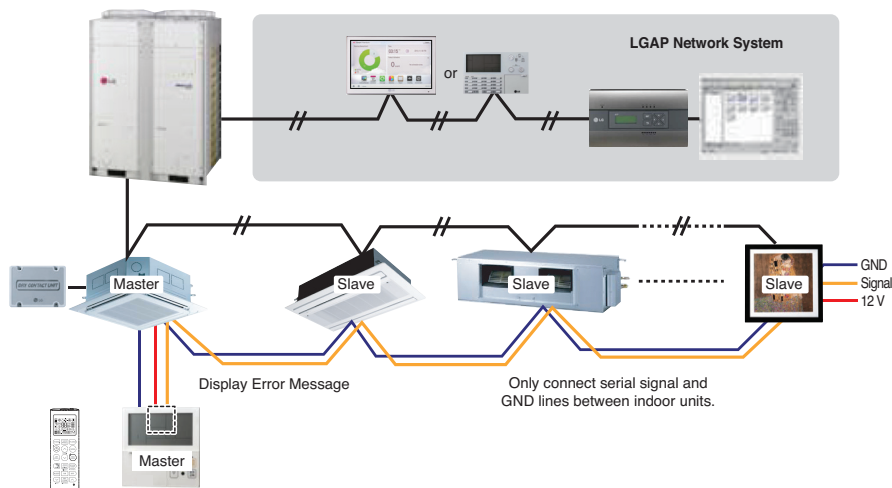


Outdoor Unit DIP Switch

## Group Control Setting

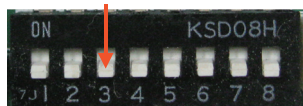
### 1. Group Control 1

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

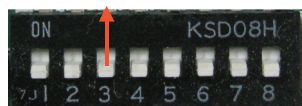


#### ■ DIP Switch in PCB

##### ① Master Setting - No. 3 Off



##### ② Slave Setting - No. 3 On



Indoor Unit DIP Switch

Some products have no DIP switch on PCB. It is possible to set indoor units to Master or Slave by using the wireless remote controller instead of DIP switch.

For the details of the setting, please refer to the manual of the wireless remote controller.

#### 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.

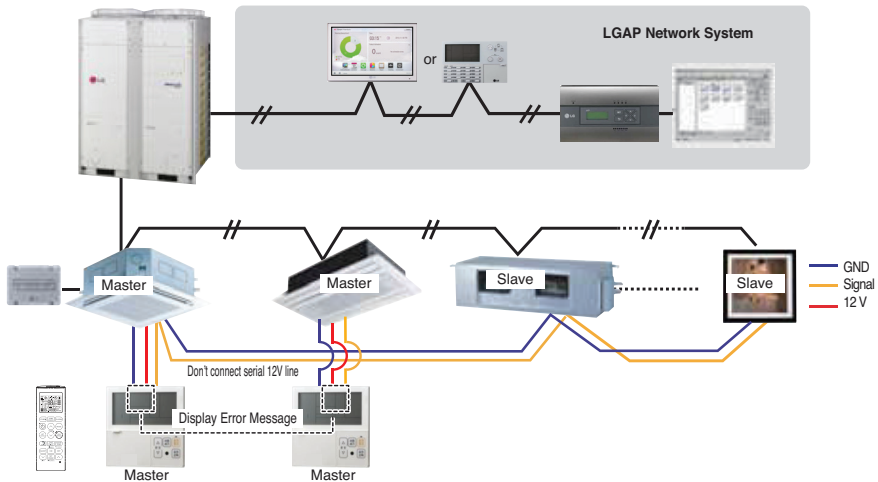
#### 5. In case that any error occurs at indoor unit, the error code is displayed on the wired remote controller.

It is possible to control the other indoor units except the error units.

- \* It is possible to connect indoor units since Feb. 2009.
- \* It can be the cause of malfunctions when there is no setting of master and slave.
- \* In case of Group Control, it is possible to use following functions.
  - Selection of operation, stop or mode
  - Temperature setting and room temperature check
  - Current time change
  - Control of flow rate (High/Middle/Low)
  - Reservation settings
- It is not possible to use some functions.

## 2. Group Control 2

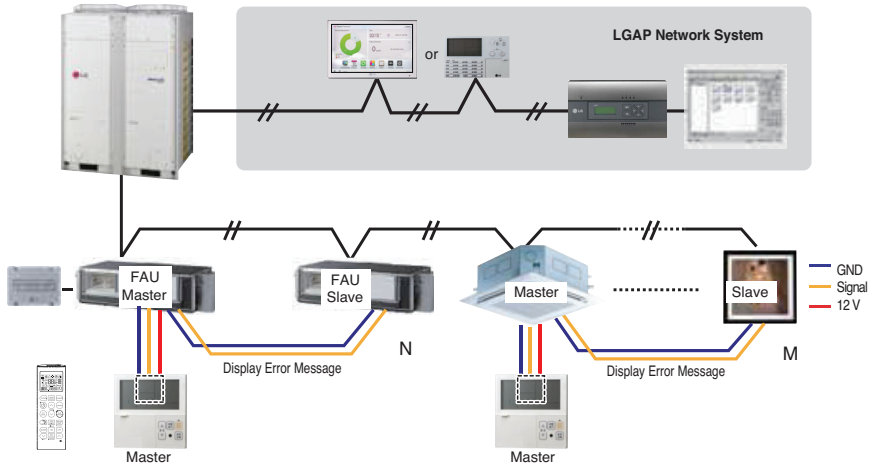
### ■ Wired remote controllers + Standard Indoor Units



- \* It is possible to control 16 indoor units(Max.) with the master wired remote control.
- \* 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 Air Intake Unit, separate Fresh Air Intake Unit with standard units. (N, M ≤ 16) (Because setting temperature are different.)

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

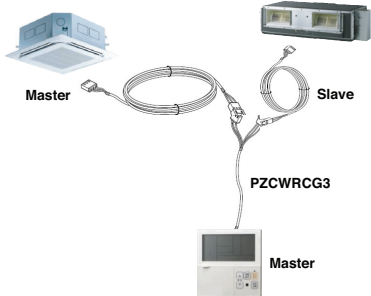
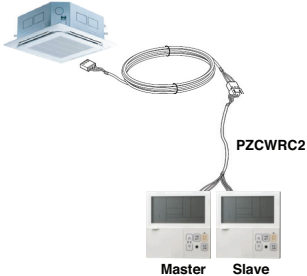


\* FAU : Fresh Air Intake Unit  
Standard: Standard Indoor Unit



## 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 2 EA                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>※ PZCWRCG3 cable used for connection</p>  <p>Master</p> <p>Slave</p> <p>PZCWRCG3</p> <p>Master</p> | <p>※ PZCWRC2 cable used for connection</p>  <p>PZCWRC2</p> <p>Master</p> <p>Slave</p> |

### **⚠ CAUTION**

- Apply totally enclosed noncombustible conduit in case of local building code Requiring plenum cable usage.

## Model Designation

|     |   |    |   |    |   |   |
|-----|---|----|---|----|---|---|
| ARN | U | 48 | G | TM | C | 4 |
|-----|---|----|---|----|---|---|

Serial Number

Combinations of functions

A: Basic function L: Neo Plasma(Wall Mounted)

C: Plasma(Ceiling Cassette)

G: Low Static K: High Sensible Heat

U: Floor Standing without Case

SE/S8 - R: Mirror V: Silver B: Blue(ART COOL Type Panel Color)

SF - E: Red V: Silver G: Gold 1: Kiss (Photo changeable)

Q: Console Z: Fresh Air Intake Unit

Chassis Name

Electrical Ratings

1:1 Ø, 115 V, 60 Hz 2:1 Ø, 220 V, 60 Hz

6:1 Ø, 220 - 240 V, 50 Hz 7:1 Ø, 100 V, 50/60 Hz

3:1 Ø, 208/230 V, 60 Hz G:1 Ø, 220 - 240 V, 50 Hz/1 Ø, 220 V, 60 Hz

Total Cooling Capacity in Btu/h

EX) 5 000 Btu/h → '05' 18 000 Btu/h → '18'

Combination of Inverter Type and Cooling Only or Heat Pump

N: AC Inverter and H/P V: AC Inverter and C/O

U: DC Inverter and H/P and C/O

**MULTI V.** System with Indoor Unit using R410A

\* LGETA:U Ex) URN

## Airborne Noise Emission

The A-weighted sound pressure emitted by this product is below 70 dB.

\*\* The noise level can vary depending on the site.

The figures quoted are emission level and are not necessarily safe working levels. Whilst there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of the workforce include the characteristics of the work room and the other sources of noise, i.e. the number of equipment and other adjacent processes and the length of time for which an operator is exposed to the noise. Also, the permissible exposure level can vary from country to country. This information, however, will enable the user of the equipment to make a better evaluation of the hazard and risk.

## Limiting concentration

Limiting concentration is the limit of Freon gas concentration where immediate measures can be taken without hurting human body when refrigerant leaks in the air. The limiting concentration shall be described in the unit of kg/m<sup>3</sup> (Freon gas weight per unit air volume) for facilitating calculation

Limiting concentration: 0.44 kg/m<sup>3</sup>(R410A)

### ■ Calculate refrigerant concentration

Refrigerant concentration =  $\frac{\text{Total amount of replenished refrigerant in refrigerant facility (kg)}}{\text{Capacity of smallest room where indoor unit is installed (m}^3\text{)}}$





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