



# INSTALLATION MANUAL FAN COIL UNIT

Please read this installation manual completely before installing the product.  
Please retain this installation manual for future reference after reading it thoroughly.  
Ceiling Cassette 4 Way / Ceiling Concealed Duct  
Original instruction  
For commercial use

Manufacturer :  
LG Electronics Inc.  
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MFL72126201  
Rev.04\_112125

#### Eco design requirement

- The information for Eco design is available on the following free access website.  
<https://www.lg.com/global/support/cedoc/cedoc>

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[www.lg.com](http://www.lg.com)

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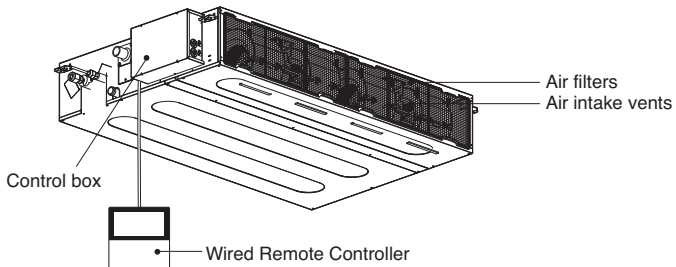
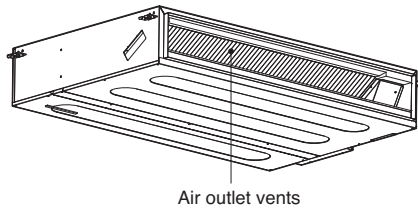
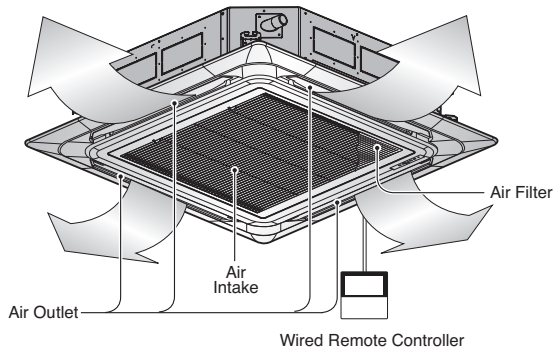
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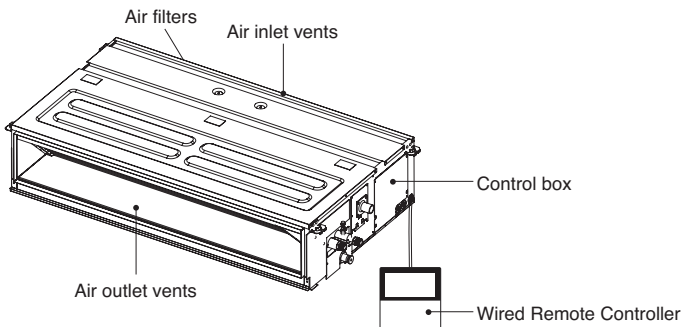
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# Installation Parts



## Low static




## Mid static

## Safety Instructions

The following safety guidelines are intended to prevent unforeseen risks or damage from unsafe or incorrect operation of the appliance.

The guidelines are separated into 'WARNING' and 'CAUTION' as described below.

 This symbol is displayed to indicate matters and operations that can cause risk.  
Read the part with this symbol carefully and follow the instructions in order to avoid risk.

### **WARNING**

This indicates that the failure to follow the instructions can cause serious injury or death.

### **CAUTION**

This indicates that the failure to follow the instructions can cause the minor injury or damage to the product.

---

 **WARNING**

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## Installation

- Do not use a defective or underrated 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.
- 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.
- Do not install, remove, or re-install the unit by yourself (customer).
  - There is risk of fire, electric shock, explosion, or injury.
- The appliance shall be installed in accordance with the national wiring regulation.

## **Operation**

- 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.
- Take care to ensure that power cable could not be pulled out or damaged during operation.
  - There is risk of fire or electric shock.
- Do not place anything on the power cable.
  - There is risk of fire or electric shock.
- Do not plug or unplug the power supply plug during operation.
  - There is risk of fire or electric shock.
- Do not touch(operate) the product with wet hands.
  - There is risk of fire or electrical shock.
- Do not place a heater or other appliances near the power cable.
  - There is risk of fire and electric shock.
- Do not allow water to run into electric parts.
  - It may cause There is risk of fire, failure of the product, or electric shock.
- Do not store or use flammable gas or combustibles near the product.
  - There is risk of fire or failure of product.
- Do not use the product in a tightly closed space for a long time.
  - Oxygen deficiency could occur.
- When flammable gas leaks, turn off the gas and open a window for ventilation before turn the product on.
  - Do not use the telephone or turn switches on or off. There is risk of explosion or fire.
- If strange sounds, or smell or smoke comes from product. Turn the breaker off or disconnect the power supply cable.
  - There is risk of electric shock or fire.
- Stop operation and close the window in storm or hurricane. If possible, remove the product from the window before the hurricane arrives.
  - There is risk of property damage, failure of product, or electric shock.

- Do not open the inlet grill of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)
  - There is risk of physical injury, electric shock, or product failure.
- When the product is soaked (flooded or submerged), contact an Authorized Service Center.
  - There is risk of fire or electric shock.
- Be cautious that water could not enter the product.
  - There is risk of fire, electric shock, or product damage.
- Ventilate the product from time to time when operating it together with a stove, etc.
  - There is risk of fire or electric shock.
- Turn the main power off when cleaning or maintaining the product.
  - There is risk of electric shock.
- When the product is not be used for a long time, disconnect the power supply plug or turn off the breaker.
  - There is risk of product damage or failure, or unintended operation.
- Take care to ensure that nobody could step on or fall onto the outdoor unit.
  - This could result in personal injury and product damage.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

---

**CAUTION**

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## **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.
- Do not install the unit in potentially explosive atmospheres.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agents or similarly qualified person in order to avoid a hazard.

## **Operation**

- Do not expose the skin directly to cool air for long periods of time. (Don't sit in the draft.)
  - This could harm to your health.
- Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer air conditioner, not a precision refrigeration system.
  - There is risk of damage or loss of property.
- Do not block the inlet or outlet of air flow.
  - It may cause product failure.
- Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.
  - There is risk of fire, electric shock, or damage to the plastic parts of the product.
- Do not touch the metal parts of the product when removing the air filter. They are very sharp!
  - There is risk of personal injury.
- Do not step on or put anything on the product. (outdoor units)
  - There is risk of personal injury and failure of product.

- Always insert the filter securely. Clean the filter every two weeks or more often if necessary.
  - A dirty filter reduces the efficiency of the air conditioner and could cause product malfunction or damage.
- Do not insert hands or other objects through the air inlet or outlet while the product is operated.
  - There are sharp and moving parts that could cause personal injury.
- Do not drink the water drained from the product.
  - It is not sanitary and could cause serious health issues.
- Use a firm stool or ladder when cleaning or maintaining the product.
  - Be careful and avoid personal injury.
- Replace the all batteries in the remote control with new ones of the same type. Do not mix old and new batteries or different types of batteries.
  - There is risk of fire or explosion.
- Do not recharge or disassemble the batteries. Do not dispose of batteries in a fire.
  - They may burn or explode.
- If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water. Do not use the remote if the batteries have leaked.
  - The chemicals in batteries could cause burns or other health hazards.
- 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.
- When not in use during winter, drain the water from the water pipes to prevent freezing.
  - Leaving the water filled in the water pipes while the product is not in use during winter may cause the piping to freeze and burst or cause leaks.

# Electrical Wiring

- Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.

## ⚠ WARNING

Be sure to have authorized electrical engineers do the electric work using special circuits in accordance with regulations and installation manual. If power supply circuit has a lack of capacity or electric work deficiency, it may cause an electric shock or fire.

- Install the unit communication cable away from the power source wiring so that it is not affected by electric noise from the power source. (Do not run it through the same conduit.)
- Be sure to provide designated grounding work to unit.

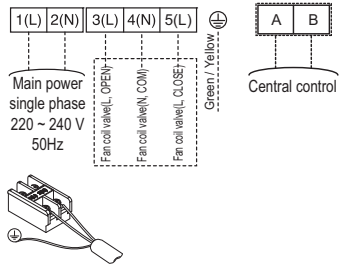
## ⚠ CAUTION

Be sure to correct the unit to earth. Do not connect ground wire to any gas pipe, liquid pipe, lightning rod or telephone earth line. If earth is incomplete, it may cause an electric shock.

## Electric Characteristics

- Recommended circuit breaker is ELCB.
- MFA is used to select the circuit breaker and ground fault circuit interrupter.
- Refer to the PDB about detail electric characteristics.

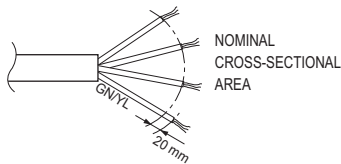
ELCB : Earth Leakage Circuit Breaker  
 MFA : Maximum Fuse Amperes(A)  
 PDB : Product Data Book



- Give some allowance to wiring for electrical part box of unit, because the box is sometimes removed at the time of service work.
- Never connect the main power source to terminal block of communication cable. If connected, electrical parts will be burnt out.
- Only the communication cable specified should be connected to the terminal block for unit communication.
- Supply line of appliances shall not be lighter than polychloroprene sheathed. (code designation 60245 IEC 57)

## ⚠ CAUTION

- The connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



Rated current of appliance A.	Nominal cross-sectional area mm <sup>2</sup>
≤ 25	2.5
> 25 and ≤ 32	4
> 32 and ≤ 40	6
> 40 and ≤ 63	10

**NOTE** For **supply cords** supplied with multi-phase appliances, the nominal cross-sectional area of the conductors is based on the maximum cross-sectional area of the conductors per phase at the **supply cord** connection to the appliance terminals.

- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

# Installation

Read completely, then follow step by step.

## Selection of the best location

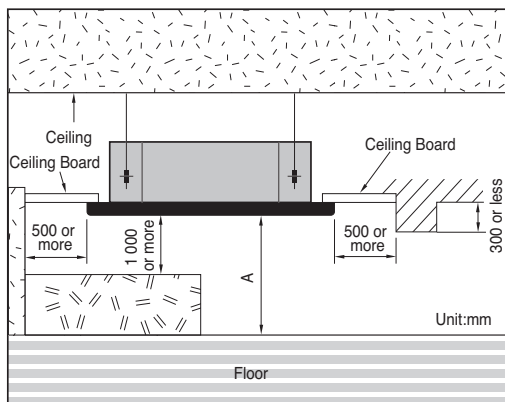
### Ceiling Cassette 4 Way

- If the temperature might rise above 30 °C or the humidity might rise above RH 80%, attach the Dew-Protective kit or use another insulation to the indoor body.

\* Dew Protective kit is sold separately.

Use glass wool material or polyethylene foam and make sure at least 10mm thick.

- 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.



Chassis	A	B
4 Way	$2\,500 < A \leq 4\,000$	$B \geq 300$

## ⚠ CAUTION

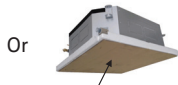
In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

- \* Please use an annexed sheet or the corrugated cardboard on the bottom of packing as installation sheet.

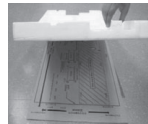
- \* When using the bottom sheet, please use it after separating the installation sheet from packing of the product floor by using a knife etc as a picture below.



Annexed sheet



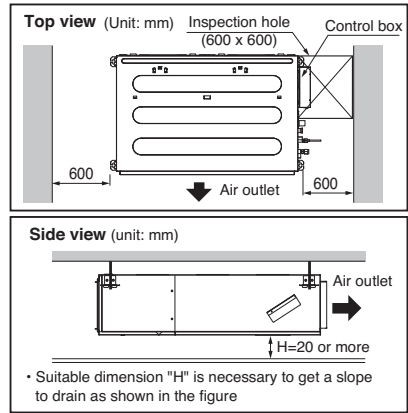
Packing corrugated cardboard on the bottom



### Ceiling Concealed Duct (Low static)

Install the air conditioner in the location that satisfies the following conditions.

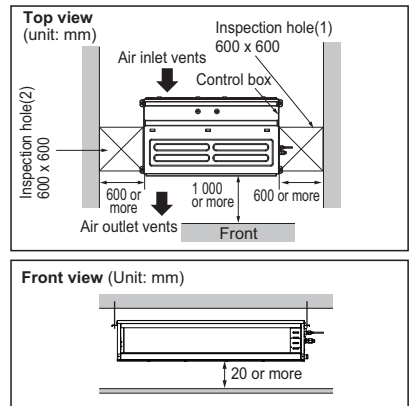
- The place shall easily bear a load exceeding four times the indoor unit's weight.
- The place shall be able to inspect the unit as the figure.
- The place where the unit shall be leveled.
- The place shall easily connect with the outdoor unit.
- The place where the unit is not affected by an electrical noise.
- The place where air circulation in the room will be good.
- There should not be any heat source or steam near the unit.



### Ceiling Concealed Duct (Mid Static)

Install the air conditioner in the location that satisfies the following conditions.

- The place shall easily bear a load exceeding four times the indoor unit's weight.
- The place shall be able to inspect the unit as the figure.
- The place where the unit shall be leveled.
- The place shall allow easy water drainage.
- The place shall easily connect with the outdoor unit.
- The place where the unit is not affected by an electrical noise.
- The place where air circulation in the room will be good.
- There should not be any heat source or steam near the unit.

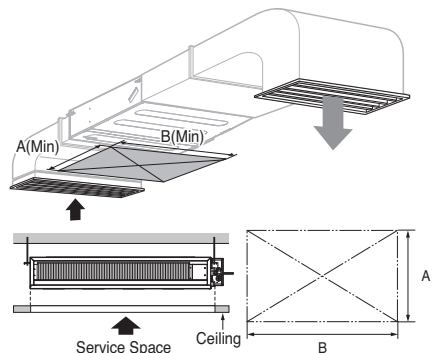


Confirm the positional relationship between the unit and suspension bolts.

- Installation the ceiling opening to clean the filter or service under the product.

(Unit: mm)

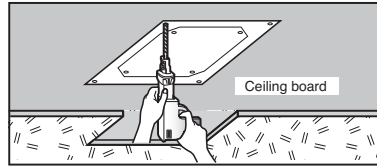
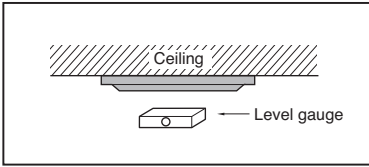
Chassis	A	B
L1	800	800
L2	800	1 000
L3	800	1 200
M1	800	1 000
M2	800	1 350
M3	800	1 350



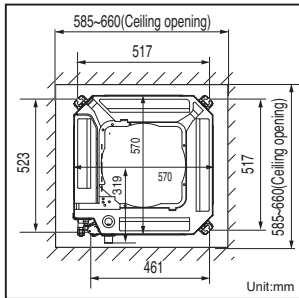
## Ceiling dimension and hanging bolt location

### Ceiling Cassette 4 Way

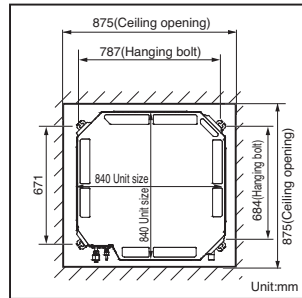
- The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.



TQ/TR Chassis

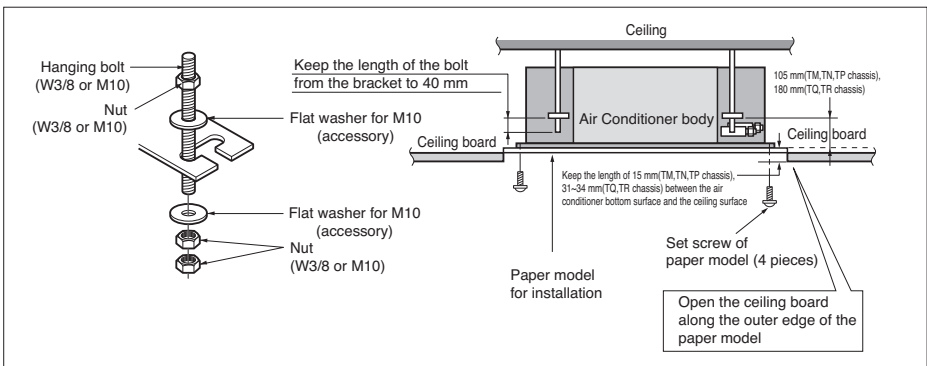


TM-A/TP-B/TM/TN/TP Chassis



## CAUTION

- This air-conditioner uses a drain pump.
- Install the unit horizontally using a level gauge.
- During the installation, care should be taken not to damage electric wires.
- Select and mark the position for fixing bolts and piping hole.
- Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
- Drill the hole for anchor bolt on the wall.



- The following parts are local purchasing.

- Hanging Bolt - W 3/8 or M10
- Nut - W 3/8 or M10
- Spring Washer - M10
- Plate Washer - M10

## CAUTION

Tighten the nut and bolt to prevent the unit from falling.

## Ceiling Concealed Duct (Low/Mid Static)

Install the unit above the ceiling correctly.

### POSITION OF SUSPENSION BOLT

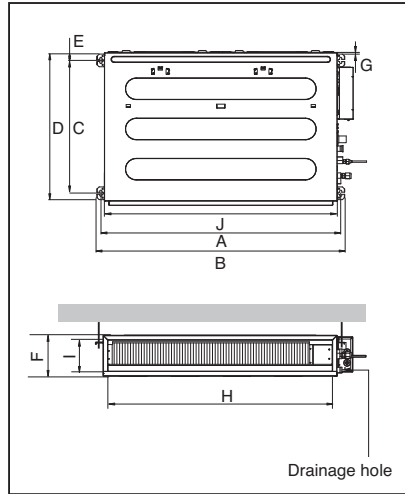
- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.
- Apply a filter Accessory at air return hole.

(Unit:mm)

Dimension Chassis	Dimension									
	A	B	C	D	E	F	G	H	I	J
L1	733	772	628	700	36	190	20	660	155	700
L2	933	972	628	700	36	190	20	860	155	900
L3	1 133	1 172	628	700	36	190	20	1 060	155	1 100

(Unit:mm)

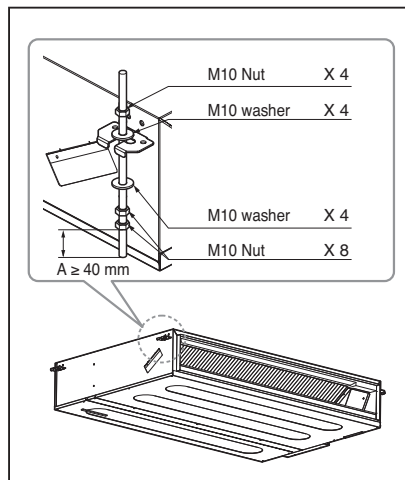
Dimension Chassis	Dimension									
	A	B	C	D	E	F	G	H	I	J
M1	933.4	971.6	619.2	700	30	270	15.2	858	201.4	900
M2	1 283.4	1 321.6	619.2	700	30	270	15.2	1 208	201.4	1 250
M3	1 283.4	1 321.6	619.2	700	30	360	15.2	1 208	291.4	1 250



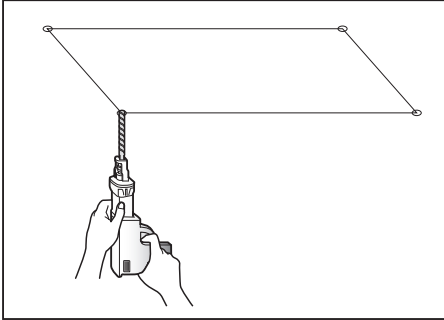
**\* Install the unit leaning to a drainage hole side as a figure for easy water drainage.**

### POSITION OF CONSOLE BOLT

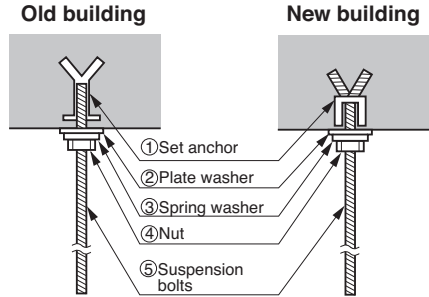
- A place where the unit will be leveled and that can support the weight of the unit.
- A place where the unit can withstand its vibration.
- A place where service can be easily performed.



- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of ceiling.



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



## ⚠ CAUTION

Tighten the nut and bolt to prevent unit falling.

## NOTE:

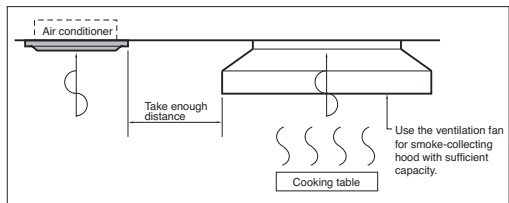
- Avoid the following installation location.

1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.

These may cause heat exchange efficiency reduction, or water drops, drain pump malfunction.

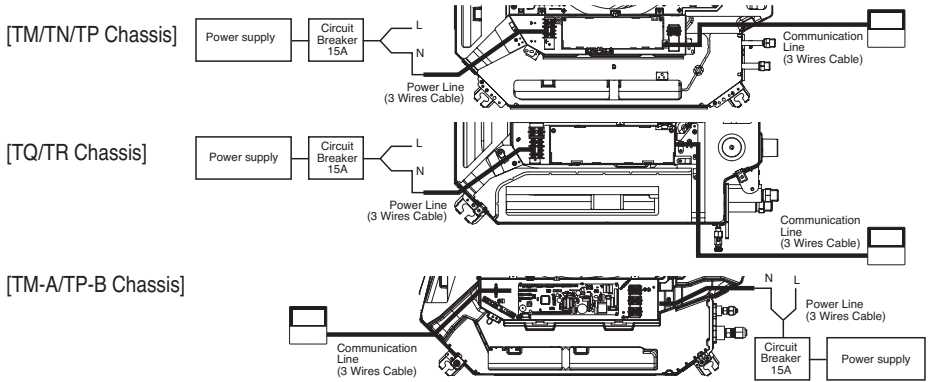
In these cases, take the following actions;

- Make sure that ventilation fan is enough to cover all noxious gases from this place.
  - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.
2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
  3. Avoid places where inflammable gas is generated.
  4. Avoid place where noxious gas is generated.
  5. Avoid places near high frequency generators.

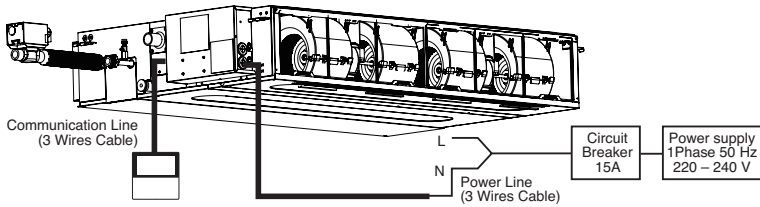


## Wiring Connection

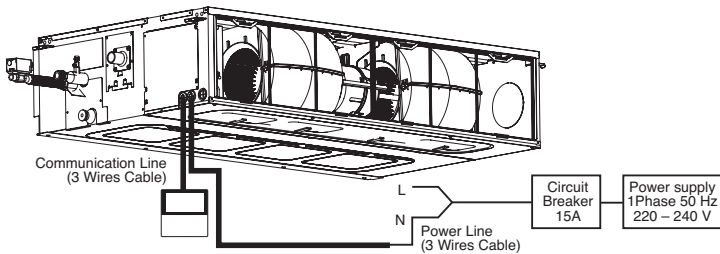
- Connect the wires to the terminals on the control box individually according to the Unit connection.
- The installation of a residual current device(RCD) having a rated residual operating current not exceeding 30 mA is advisable.



### Ceiling Cassette 4 Way



### Low-static



### Middle-static

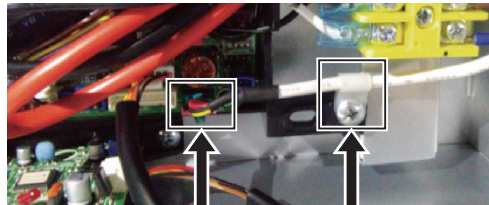
### Ceiling Concealed Duct

## Minimum cross-sectional area of conductors (H07RN-F, mm<sup>2</sup>)

Rated current of appliance A.	Nominal cross-sectional area mm <sup>2</sup>
≤ 0.2	Tinsel cord
> 0.2 and ≤ 3	0.5
> 3 and ≤ 6	0.75
> 6 and ≤ 10	1.0 (0.75)
> 10 and ≤ 16	1.5 (1.0)
> 16 and ≤ 25	2.5
> 25 and ≤ 32	4
> 32 and ≤ 40	6
> 40 and ≤ 63	10

**NOTE** For supply cords supplied with multi-phase appliances, the nominal cross-sectional area of the conductors is based on the maximum cross-sectional area of the conductors per phase at the supply cord connection to the appliance terminals.

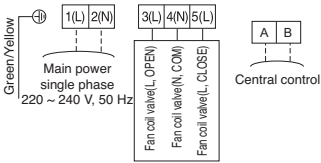
- Supply and communication cable of appliances shall not be lighter than polychloroprene sheathed. (code designation 60245 IEC 57)
- While connecting wired remote controller, insert its connector to the "CN-REMO" housing of the main PCBA and make the remote controller cord tightly by using clamp cord. (Ceiling Cassette 4 Way)



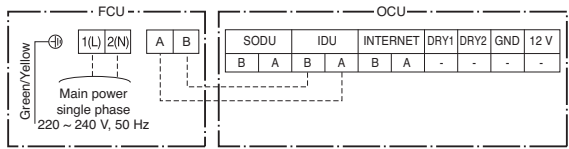
Remote Controller  
Connector  
(CN-REMO)

Clamp Cord

< Case 1 : Standard Installation >



< Case 2 : Installation with Hybrid HR Unit >



- \* Main connector: inner diameter 4 mm /outer diameter 8 mm Ring connector
- \* PI485 PCB: inner diameter 3 mm / outer diameter 6 mm Ring connector
- \* For 2-wire 2-way electric valves, connect to the 3(L), 4(N) terminals.
- \* For 3-wire 2-way electric valves, connect to the 3(L), 4(N), 5(L) terminals.
- \* When installing in combination with the Hybrid HR Unit, do not install the 2-way electric valve.  
If only Fan Coil Unit is installed, install it.
- \* Pipes and wires should be purchased separately for installation of the product.

## **⚠ WARNING**

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

### **Clamping of cables**

- 1) Arrange 2 power cables on the control panel.
- 2) First, fasten the steel clamp with a screw to the inner boss of control panel.
- 3) For the cooling model, fix the other side of the clamp with a screw strongly. For the heat pump model, put the 0.75 mm<sup>2</sup> cable(thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel.

## **⚠ 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 % 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.

## **HAND OVER**

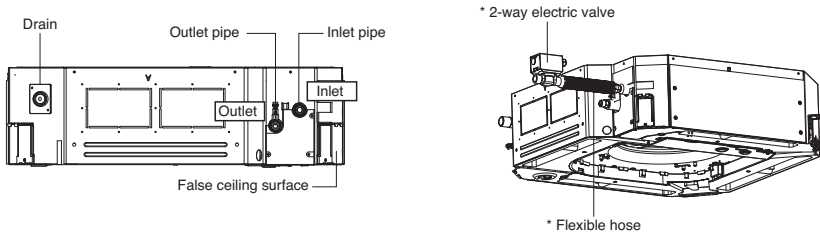
Teach the customer the operation and maintenance procedures, using the operation manual. (air filter cleaning, temperature control, etc.)

## Pipe Installation

### ⚠ CAUTION

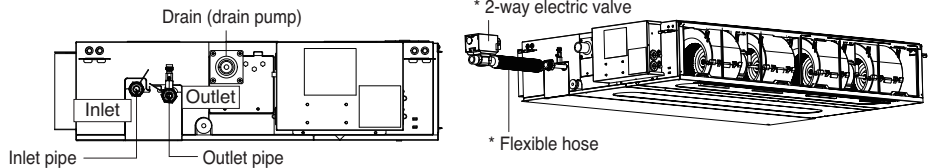
- A difference in pipe fitting standards could cause leakage.
- When installing, use parts with the same specifications as the product.
- Product's pipe fitting specifications: BSPF G 3/4"(male)
- Cover all of the water pipes with insulation.
- Check the location of the product's inlet and outlet before connecting the pipes. (A label is attached.)
- When installing in combination with the Hybrid HR Unit, do not install the 2-way electric valve and flexible hose. If only Fan Coil Unit is installed, install it.
  - \* Case 1 : Standard Installation
    - Be sure to install the 2-way valve and flexible hose.
  - \* Case 2 : Installation with Hybrid HR Unit
    - Do not install the 2-way valve and flexible hose.

#### 1. Ceiling Cassette 4 Way

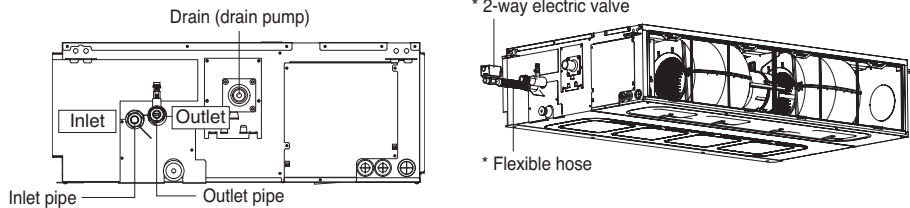


#### 2. Ceiling Concealed Duct

Low- Static



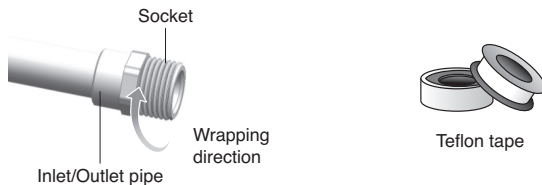
Middle- Static



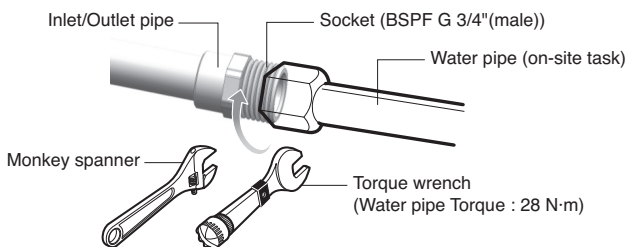
## ⚠ CAUTION

- Be sure to install the 2-way electric valve. Not installing the 2-way electric valve could result in product malfunction and condensation.
- Connecting the water pipes in the opposite directions could result in decreased capacity, noise, and product malfunction.
- Be careful that the water temperature does not go higher than the maximum temperature allowed by the 2-way electric valve.
- If the pipe temperature is 5 °C or lower or the indoor temperature is 2 °C or lower, the freeze protection function will operate, automatically opening the 2-way electric valve. Run the pump so that water will circulate in order to prevent freezing. If the valve is not open, run the product. Then, open the valve.
- If the ambient temperature in winter is below 0 °C, make sure to apply the following measures to prevent freezing and bursting.
  - When the outside temperature is low, the circulation water may freeze while the product is not in use and the heat exchanger may be damaged. If there is a risk of damage from freezing due to the low outside temperature, operate the pump to prevent freezing and bursting.
  - If the product is not operated for long periods of time during winter, discharge all the circulation water to prevent damage to the heat exchanger and the pipes from freezing and bursting.
- When installing the 2-way electric valve, you must use double insulated wire as the connecting wire.
- Connecting wire should be firmly affixed to pipes so that it doesn't sag.
- If sagging connecting wire comes in contact or is submerged in water, it could result in fire or electrical shock.

3. Use Teflon tape to fully wrap (10-15 times) the threading of the inlet/outlet pipe socket, following the direction of the screw.



4. Connect the water pipe to the product's pipe socket (BSPF G 3/4" (male)). After removing foreign substances from inside the pipe, circulate water through to check whether any parts are leaking.



## ⚠ CAUTION

- When connecting the pipes, use both tools to ensure that the pipes are sufficiently tightened, as shown in the above picture. Not using the tools could result in leakage.
- When circulating water, open the air vent and use the tube to remove water in order to fully remove the air inside the valve pipe and coil. Then close the valve. Not doing this could result in decreased performance and noise.

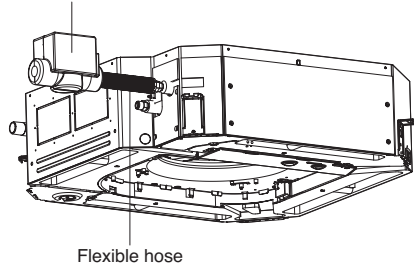
5. If water is not managed properly, corrosion, slime, and erosion can occur. This not only decreases performance, but damages the product. Therefore, have a water quality manager make sure that the water quality standards listed in the chart below are always met.

Water	Standards
PH (25 °C)	6.5-8.0
CONDUCTIVITY (25 °C $\mu$ s/cm)	under 200
ALKALINITY (PPM)	under 50
WATER HARDNESS (PPM)	under 50
CHLORIDE IONS (PPM)	under 50
LACTATE IONS (PPM)	under 50
IRON (PPM)	under 0.3
SULFUR IONS (PPM)	Not Detected
AMMONIUM IONS (PPM)	under 0.2
SILICA (PPM)	under 30

## Pipe insulation

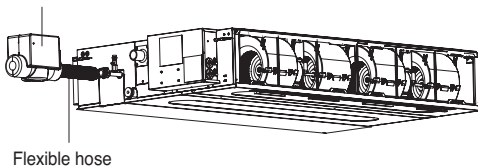
- Before insulating the inlet/outlet pipes, insulate the 2-way electric valve.
  - Once you have completed the valve insulation, insulate the inlet/outlet pipes and drainage pipe.

2-way electric valve insulation material (purchase on-site)



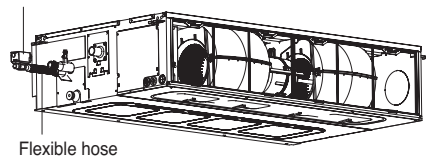
**Ceiling Cassette 4 Way**

2-way electric valve insulation material (purchase on-site)



**Low-static**

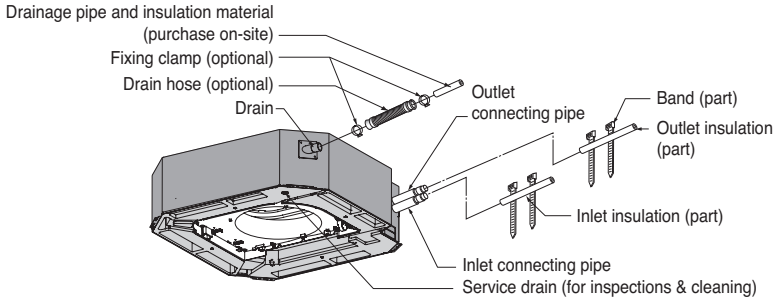
2-way electric valve insulation material (purchase on-site)



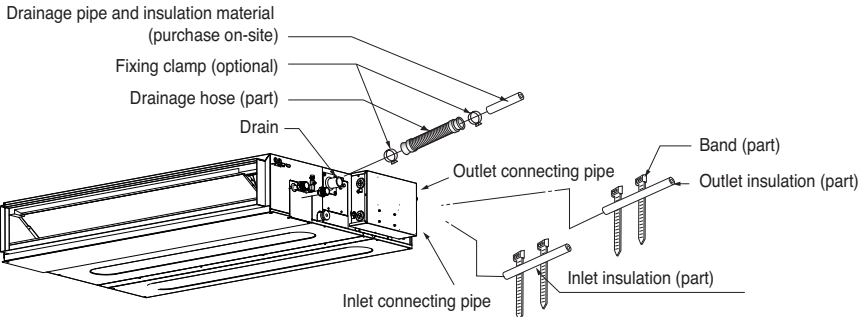
**Middle-static**

**Ceiling Concealed Duct**

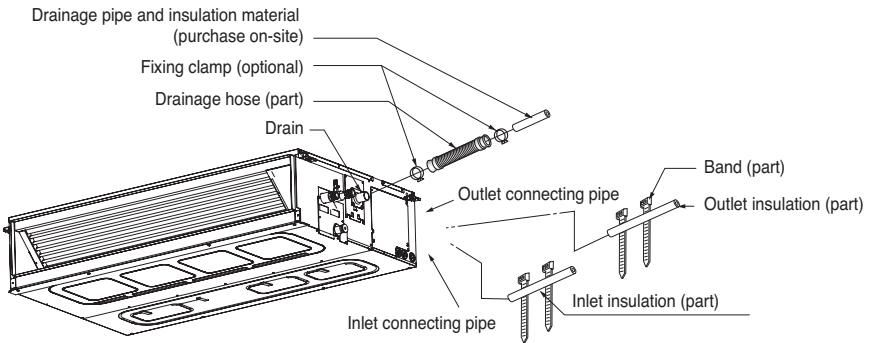
2. Be sure to insulate the inlet/outlet pipes and the drainage pipe.
  - Condensation forming in the pipes could cause leakage.



### Ceiling Cassette 4 Way



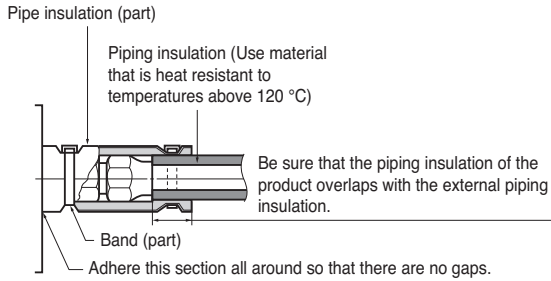
### Low-static



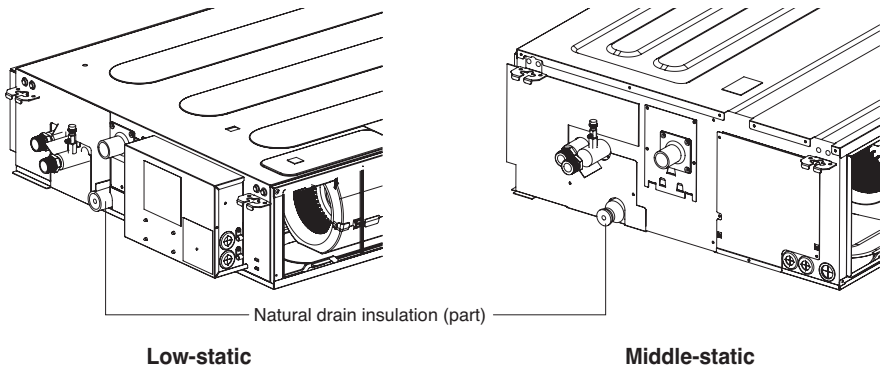
### Middle-static

### Ceiling Concealed Duct

- When transporting the product, make sure that nothing bumps into the drain and connecting pipe.
- Inlet/Outlet pipe EPDM insulation, Thickness : 19 t  
(The thickness of the above-mentioned insulation is based on a heat conductivity of 0.036 W/(mK).)



3. When not using a natural drain, attach the insulation (part) as shown in the picture. Condensation forming in the drain could drip out. (Ceiling Concealed Duct)




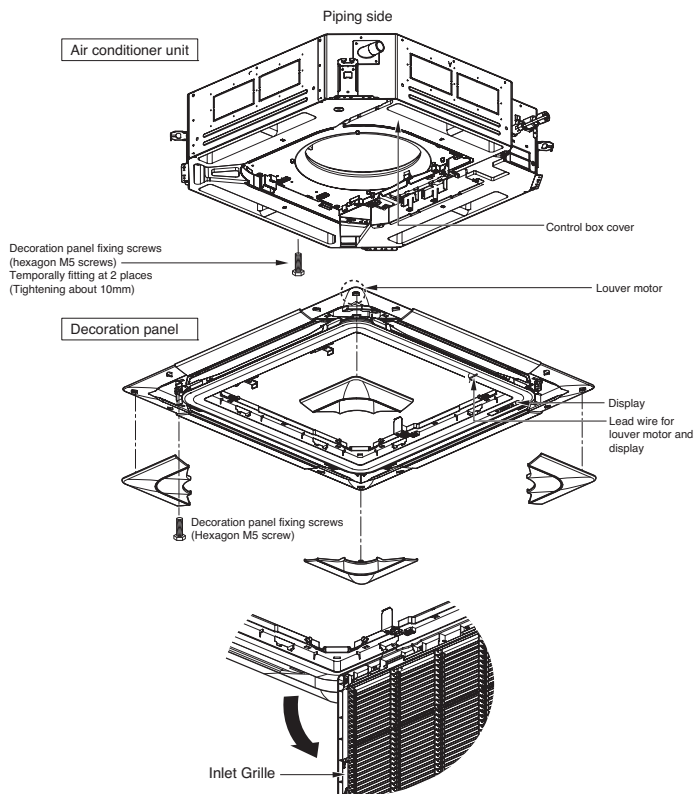
## Installation of Decoration Panel

### Ceiling Cassette 4 Way

The decoration panel has its installation direction.

Before installing the decoration panel, always remove the paper template.

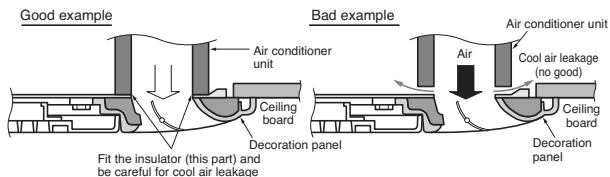
1. Temporarily fix two decoration panel fixing screws (hexagon M5 screw) on the unit body. (Tighten by amount 10 mm in length.)  
The fixing screws (hexagon M5 screw) are included the indoor unit box.
2. Remove the air inlet grille from the decoration panel. (Remove the hook for the air inlet grille cord.)
3. Hook the decoration panel key hole (  ) on the screws fixed in step above, and slide the panel so that the screws reach the key hole.
4. Retighten completely two temporarily fixed screws and other two screws. (Total 4 screws)
5. Connect the louver motor connector and display connector.
6. After tightening these screws, install the air inlet grille (including the air filter).



### CAUTION

Install certainly the decoration panel.  
Cool air leakage causes sweating.

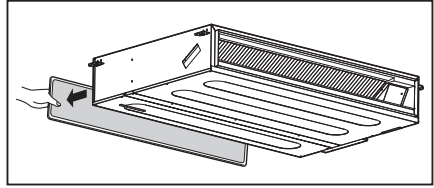
⇒ Water drops fall.



## Checking the Drainage

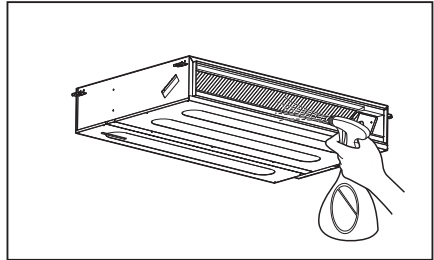
### Ceiling Concealed Duct

#### 1. Remove the Air Filter.



#### 2. Check the drainage.

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

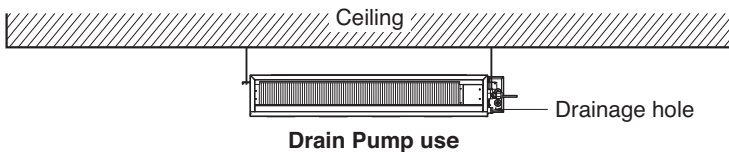


### CAUTION

1. **Install declination** of the indoor unit is very **important for the drain** of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 19 mm.

#### Front of view

- The unit must be horizontal or declined to the drain hose connected when finished installation.



## Drain Piping

- Drain piping must have down-slope (1/50 to 1/100): be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm.

Piping material: Polyvinyl chloride pipe VP-25 and pipe fittings

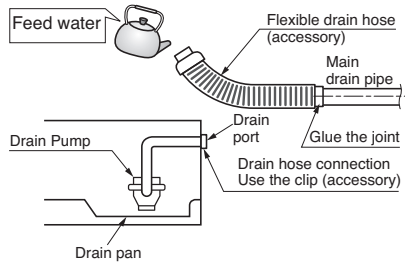
- Be sure to install heat insulation on the drain piping.

Heat insulation material: Polyethylene foam with thickness more than 8 mm.

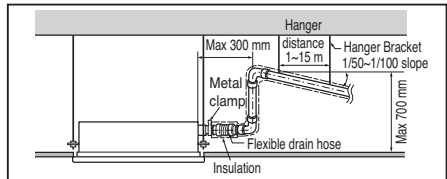
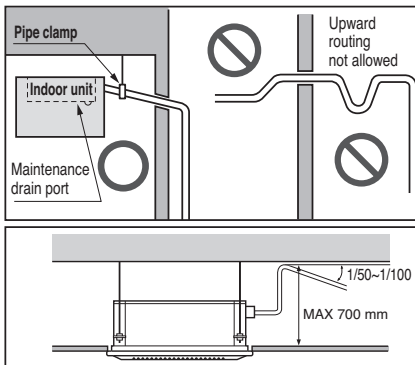
### Drain test

The air conditioner uses a drain pump to drain water.

Use the following procedure to test the drain pump operation:



## Ceiling Cassette 4 Way

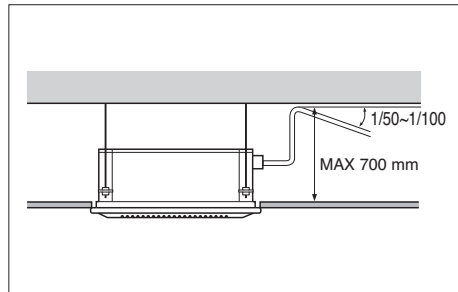


### ⚠ CAUTION

The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.

### Attention

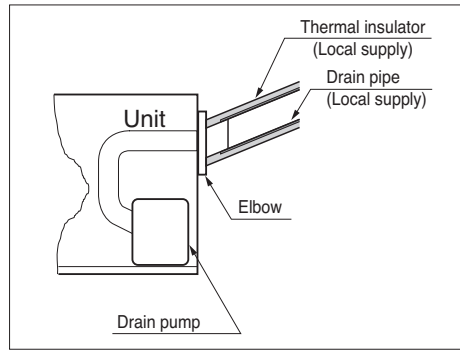
1. Possible drain-head height is up to 700 mm. So, it must be installed below 700 mm.
2. Keep the drain hose downward up to 1/50~1/100 inclination. Prevent any upward flow or reverse flow in any part.



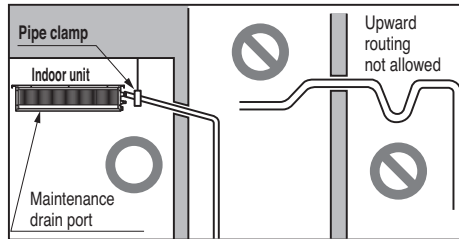
3. 5 mm or thicker formed thermal insulator is provided for the drain pipe.

4. Upward routing is not allowed.

5. Be sure to check the drain pump for normal operation and abnormal noise when electrical wiring is complete.



### Ceiling Concealed Duct



- Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.

## ⚠ CAUTION

The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.

### Ceiling Height Selection

The ceiling type indoor unit is available to adjust indoor airflow rate by Installer setting of the wired remote controller for better service. Please select the height level from the below table. (Ceiling Cassette 4 Way)

#### <Ceiling Height Selection Table>

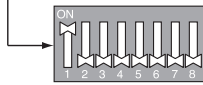
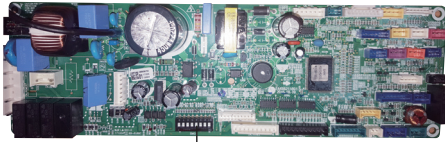
Ceiling Height		Selection Level	Description
1.8 ~ 7.2 kW	9.0 ~ 13.0 kW		
Up to 2.3 m	Up to 2.7 m	Low	Decrease the indoor airflow rate 1 step from standard level
Above 2.3 m, up to 2.7 m	Above 2.7 m, up to 3.2 m	Standard	Set the indoor airflow rate as standard level
Above 2.7 m, up to 3.1 m	Above 3.2 m, up to 3.6 m	High	Increase indoor airflow rate 1 step from standard level
Above 3.1 m, up to 3.6 m	Above 3.6 m, up to 4.2 m	Super high	Increase indoor airflow rate 2 steps from standard level

Ceiling height of 'Super high' function may not exist depending on the indoor unit.

For the details, refer to the product manual.

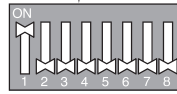
**DIP Switch Setting**

**1. Indoor Unit**



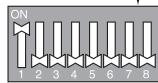
DIP Switch

**Ceiling Cassette 4 Way**



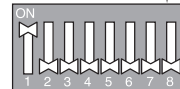
DIP Switch

**Ceiling Cassette 4Way (Mini)**



DIP Switch

**Ceiling Concealed Duct  
(Low static)**



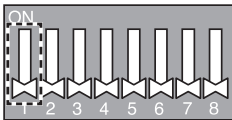
DIP Switch

**Ceiling Concealed Duct  
(Middle static)**

No.	Function	Description	Setting		At the time of factory ship-out
			OFF	ON	
1	Communication mode	Communication / Non communication model selection	Communication	Non communication	ON
2	Cooling / heating mode	Cooling / heating mode selection	Cooling/heating	Cooling exclusive	OFF
3	Group control	Master / slave selection	Master	Slave	OFF
4	Dry contact mode	Select dry contact mode	Manual or automatic selection of wired / wireless remote control	Automatic	OFF
8	Communication method	LGAP/Modbus selection	Modbus	LGAP	OFF

## **⚠ CAUTION**

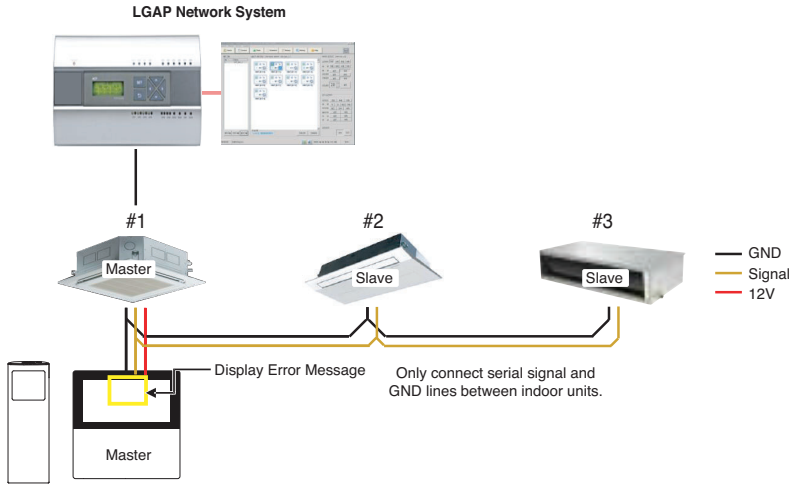
- 5, 6 and 7 have no function according to the switch setting.
- After setting the master / slave, turn off the power for 1 minute and turn on the product.
- When installing in combination with the Hybrid HR Unit, change to communication mode. (DIP Switch 1 OFF)



## Group Control Setting

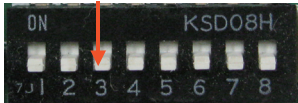
### 1. Group Control 1

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

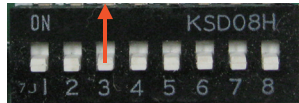


#### ■ DIP Switch in PCB

##### 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.

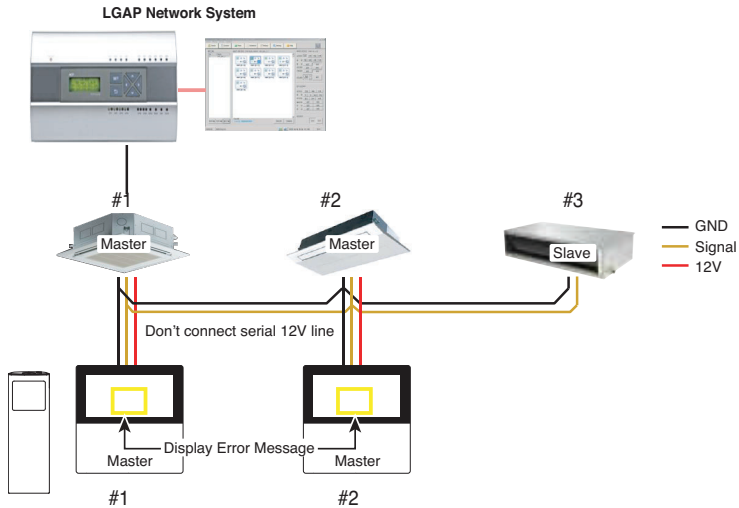
1. It is possible to 16 indoor units(Max.) by one wired remote controller.  
Set only one indoor unit to Master, set the others to Slave.
2. It is possible to connect with every type of indoor units.
3. It is possible to use wireless remote controller at the same time.
4. It is possible to connect with 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



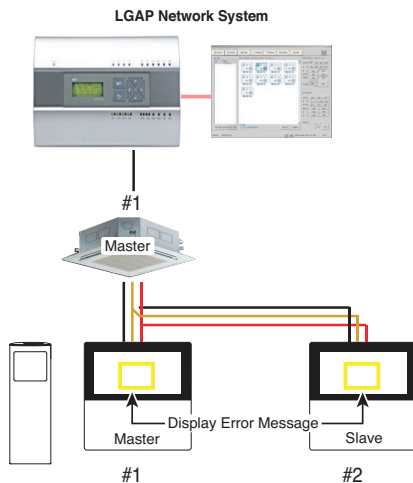
## ⚠ CAUTION

The air cleaning function does not work when using remote control group control. To use the air cleaning function, one-to-one connection with the RS3 remote control is required.

- \* 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. 2 Remote Control

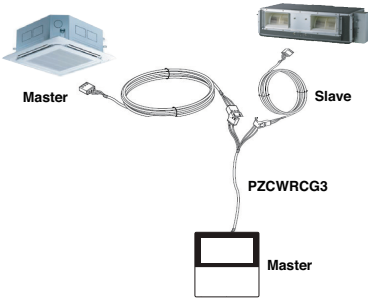
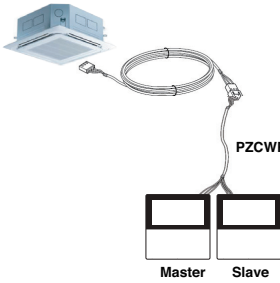
### ■ Wired remote controller 2 + Indoor unit 1



1. It is possible to connect two wired remote controllers (Max.) with one indoor unit.  
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.
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 that any error occurs at indoor unit, the error code is displayed on the wired remote controller.
6. There isn't limits of indoor unit function.

#### 4. Accessories for group control setting

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

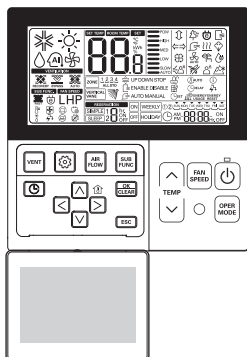
Indoor unit 2 EA +Wired remote controller	Indoor unit 1 EA +Wired remote controller 2 EA
<p data-bbox="109 213 508 236">* PZCWRCG3 cable used for connection</p>  <p>The diagram illustrates the connection for two indoor units. At the top left is a square indoor unit labeled 'Master'. At the top right is a rectangular remote controller labeled 'Slave'. A cable labeled 'PZCWRCG3' connects them. The cable has a Y-junction: one branch goes to the 'Master' indoor unit, another branch goes to the 'Slave' remote controller, and a third branch goes to a square remote controller labeled 'Master' at the bottom.</p>	<p data-bbox="573 213 956 236">* PZCWRC2 cable used for connection</p>  <p>The diagram illustrates the connection for one indoor unit and two others. At the top left is a square indoor unit. A cable labeled 'PZCWRC2' connects it to two square indoor units at the bottom, labeled 'Master' and 'Slave'.</p>

### **⚠ CAUTION**

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

## Wired Remote Control

You can operate the air conditioner more conveniently with the remote control.

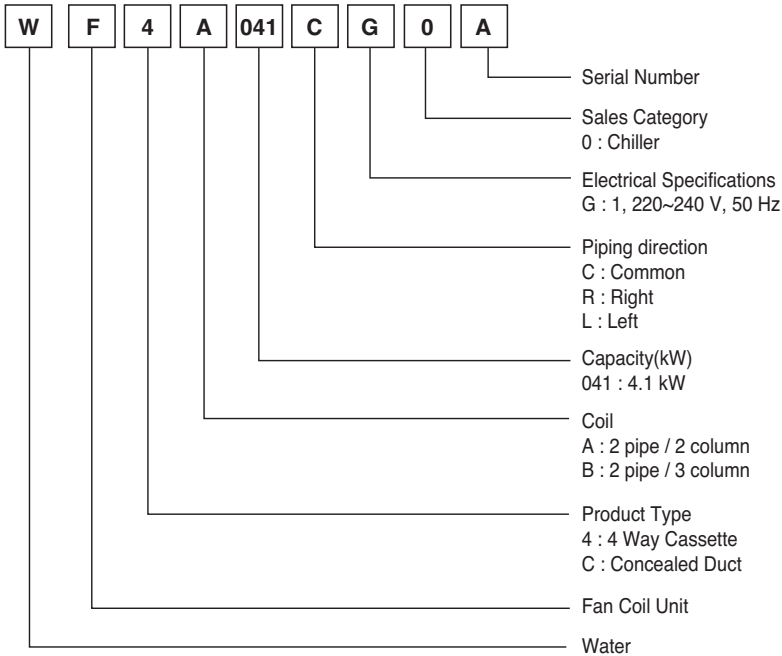


Button	Display Screen	Description
	-	To turn on/off the air conditioner.
	00.0	To adjust the desired room temperature in cooling, heating or auto changeover mode.
<b>OPER MODE</b>		To select the cooling mode.
		To select the heating mode.
		To select the dehumidification mode.
		To select the fan mode.
		To select the auto changeover/auto operation mode.
<b>FAN SPEED</b>	-	To adjust the fan speed.
		To select the power cooling mode.
<b>SUB FUNC</b>		To select the plasma purification.
<b>AIR FLOW</b>		To adjust the air flow direction vertically or horizontally.
	-	To select the additional operations function.
<b>VENT</b>	-	For interlocking operations of air conditioner and ventilator.
	-	To schedule an operation.
	-	To adjust time. To display the room temperature.
<b>OK/ CLEAR</b>	-	To save the settings in the menu.
<b>ESC</b>	-	To exit the menu.

### NOTE:

- Displayed temperature can be different from actual room temperature if the remote controller is installed at the place exposed to direct sunlight or the place near a source of heat.
- Some products may not receive wired signals.
- When using the simultaneous operation system, the system will operate approximately 1-2 minutes after pressing the remote controller button.
- The feature may be changed according to the type of model.
- Some functions may not be supported, depending on the model.

## Model Designation



## 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. Factor 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 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.

## Modbus memory map

### ■ Cassette / Ducted

#### Coil Register

No.	Address		Register	Data Bit		Remarks	
	Hexadecimal (16)	Decimal (10)		High	Low	0	1
1	0x0000	0	1	Operating setting		Stop	Start
2	0x0001	1	2	Lock mode setting		Lock off (Possible to control by remocon)	Lock on (Impossible to control by remocon)
3	0x0002	2	3	Filter cleaning alarm display off		No need filter replacement	Filter cleaning display off
4	0x0003	3	4	Reserved		-	-
5	0x0004	4	5	Air flow direction control setting		Air flow direction fix	Auto change mode of air flow direction
6	0x0005	5	6	Mode locking setting		Possible to running mode change by remocon	Impossible to running mode change by remocon
7	0x0006	6	7	Air flow rate locking setting		Possible to air flow rate change by remocon	Impossible to air flow rate change by remocon
8	0x0007	7	8	Temperature locking setting		Possible to temp. setting change by remocon	Impossible to temp. setting change by remocon
9	0x0008	8	9	Address locking setting		Lock off (Possible to address change)	Lock on (Impossible to address change)
10	0x0009	9	10	Reserved		-	-

#### Discrete Register

No.	Address		Register	Data Bit		Remarks	
	Hexadecimal (16)	Decimal (10)		High	Low	0	1
1	0x0000	0	10001	Alarm		Normal	Error
2	0x0001	1	10002	Running / Stop		Running	Stop
3	0x0002	2	10003	Thermo On / Off		Thermo Off	Thermo On
4~9	0x0003~8	3~8	10004~9	Reserved		-	-
10	0x0009	9	10010	Filter cleaning alarm display		No need filter replacement (Alarm display off)	Need to filter replacement

#### Holding Register

No.	Address		Register	Data Bit		Remarks
	Hexadecimal (16)	Decimal (10)		High	Low	
1	0x0000	0	40001	Running mode		0: Cooling mode / 2: Fan mode / 4: Heating mode
2	0x0001	1	40002	Temperature setting		Temperature setting (0.1°C x 10)
3	0x0002	2	40003	Air flow rate setting		0: - / 1: Low fan / 2: Middle fan / 3: High fan
5~10	0x0004~10	4~9	40005~10	Reserved		-

#### Input Register

No.	Address		Register	Data Bit		Remarks
	Hexadecimal (16)	Decimal (10)		High	Low	
1	0x0000	0	30001	Error code		-
2	0x0001	1	30002	Pipe in temperature		Pipe in temperature (0.1°C x 10)
3	0x0002	2	30003	Pipe out temperature		Pipe out temperature (0.1°C x 10)
4	0x0003	3	30004	Room temperature		Room temperature (0.1°C x 10)
5	0x0004	4	30005	Indoor unit capacity		Indoor unit capacity (kBtu)
6~10	0x0005~9	5~9	30006~10	Reserved		-
-	0x270D	9997	39998	Product group information		Product group classification information → Reply only 0x106F
-	0x270E	9998	39999	Product type information		Product type classification information → Reply only 0x000

# How to Set E.S.P.?

## L1- 1.2 kW, 1.8 kW

(Unit : CMM)

Setting Value	Static Pressure(mmAq(Pa))					
	0 (0)	1 (10)	2 (20)	3 (29)	4 (39)	5 (49)
60	-	-	-	-	-	-
65	5.03	-	-	-	-	-
70	5.60	4.85	-	-	-	-
75	6.19	5.44	4.57	-	-	-
80	6.79	6.05	5.17	-	-	-
85	7.41	6.67	5.80	4.80	-	-
90	8.05	7.31	6.43	5.44	-	-
95	8.71	7.96	7.09	6.09	4.97	-
100	9.38	8.63	7.76	6.76	5.64	-
105	10.07	9.32	8.45	7.45	6.33	5.08
110	-	10.03	9.16	8.16	7.04	5.79
115	-	-	9.88	8.88	7.76	6.51
120	-	-	-	9.62	8.50	7.25
125	-	-	-	10.38	9.26	8.01
130	-	-	-	-	10.03	8.78

## L2- 2.5 kW, 3.2 kW

(Unit : CMM)

Setting Value	Static Pressure(mmAq(Pa))					
	0 (0)	1 (10)	2 (20)	3 (29)	4 (39)	5 (49)
75	6.50	-	-	-	-	-
80	7.34	6.70	-	-	-	-
85	8.20	7.55	6.69	-	-	-
90	9.07	8.43	7.56	6.47	-	-
95	9.96	9.32	8.45	7.36	-	-
100	10.87	10.22	9.36	8.27	6.96	-
105	11.79	11.15	10.28	9.19	7.89	6.35
110	12.73	12.09	11.22	10.14	8.83	7.30
115	13.69	13.05	12.18	11.09	9.78	8.25
120	14.67	14.02	13.16	12.07	10.76	9.23
125	15.66	15.01	14.15	13.06	11.75	10.22
130	16.67	16.02	15.16	14.07	12.76	11.23
135	-	-	16.18	15.10	13.79	12.26
140	-	-	-	16.14	14.83	13.30
145	-	-	-	-	15.89	14.36

## L3- 3.9 kW, 5.5 kW, 6.6 kW

(Unit : CMM)

Setting Value	Static Pressure(mmAq(Pa))					
	0 (0)	1 (10)	2 (20)	3 (29)	4 (39)	5 (49)
85	10.19	-	-	-	-	-
90	12.18	10.71	11.09	-	-	-
95	13.81	12.34	12.19	-	-	-
100	15.16	13.69	13.38	10.71	-	-
105	16.30	14.83	14.36	11.85	-	-
110	17.31	15.85	15.23	12.86	10.97	-
115	18.27	16.80	16.07	13.82	11.93	-
120	19.26	17.79	16.93	14.80	12.91	10.49
125	20.34	18.87	17.89	15.88	13.99	11.57
130	21.60	20.13	19.01	17.14	15.25	12.83
135	-	21.64	20.36	18.66	16.76	14.35
140	-	-	22.01	20.50	18.61	16.19
145	-	-	-	22.75	20.86	18.44

### NOTE :

1. The above table shows the correlation between the air rates and E.S.P.
2. Please refer wired remote controller manual for E.S.P setting procedure.

**■ WFCB056RG0A, WFCB056LG0A**

Setting Value	Static Pressure(mmAq(Pa))							
	2.5	4	6	8	10	12	14	15
	Air Flow Rate (m <sup>3</sup> /min)							
85	13.31	10.89	-	-	-	-	-	-
90	14.91	12.44	-	-	-	-	-	-
95	16.28	14.23	11.16	-	-	-	-	-
100	17.49	15.83	12.62	8.73	-	-	-	-
105	19.07	17.22	14.79	10.99	6.19	-	-	-
110	20.50	18.93	16.50	13.63	9.14	-	-	-
115	21.66	20.39	17.96	15.58	11.84	6.80	-	-
120	22.97	21.52	19.28	17.36	14.57	10.12	6.18	-
125	-	22.81	21.12	18.96	16.20	13.44	7.91	6.49
130	-	-	22.42	20.68	18.10	15.35	11.58	8.36
135	-	-	-	21.98	20.24	17.57	14.66	12.71
140	-	-	-	-	21.55	19.62	17.38	16.01

**■ WFCB066RG0A, WFCB066LG0A WFCB090RG0A, WFCB090LG0A, WFCB100RG0A, WFCB100LG0A WFCB109RG0A, WFCB109LG0A**

Setting Value	Static Pressure(mmAq(Pa))						
	5	6	8	10	12	14	15
	Air Flow Rate (m <sup>3</sup> /min)						
90	18.67	-	-	-	-	-	-
95	21.66	17.51	-	-	-	-	-
100	24.94	22.14	-	-	-	-	-
105	27.31	25.44	18.08	-	-	-	-
110	30.32	28.15	23.08	-	-	-	-
115	32.80	30.98	26.49	18.62	-	-	-
120	35.63	33.78	29.76	24.43	16.78	-	-
125	37.96	36.44	32.96	28.05	21.01	-	-
130	-	39.22	35.62	31.70	26.63	18.39	-
135	-	-	38.22	35.13	30.29	22.61	19.96
140	-	-	-	37.90	34.33	27.30	25.05
145	-	-	-	-	37.30	32.38	30.20
150	-	-	-	-	-	36.34	34.40
155	-	-	-	-	-	-	36.98

**■ WFCB127RG0A, WFCB127LG0A, WFCB140RG0A, WFCB140LG0A**

Setting Value	Static Pressure(mmAq(Pa))						
	5	6	8	10	12	14	15
	Air Flow Rate (m <sup>3</sup> /min)						
70	17.09	-	-	-	-	-	-
75	22.13	18.77	-	-	-	-	-
80	26.83	22.94	16.16	-	-	-	-
85	30.96	28.96	21.76	13.29	-	-	-
90	35.77	32.89	28.46	19.76	13.06	-	-
95	40.27	37.84	33.53	24.96	16.88	12.35	-
100	44.11	41.51	38.08	33.20	25.34	17.08	13.72
105	47.73	46.09	43.50	38.04	31.58	24.04	19.24
110	-	49.83	47.42	42.57	37.68	30.00	27.25
115	-	-	52.82	47.52	42.40	38.28	33.79
120	-	-	-	52.89	47.84	43.84	40.81
125	-	-	-	-	49.69	44.06	42.25

