LG
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ENGLISH

العربية

INSTALLATION MANUAL
AIR CONDITIONER

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

Type: Ceiling Suspended Air conditioner

P/NO : MFL68061010

www.lg.com

TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
- Keep doors or windows closed tightly while you are operating the air conditioner.
- Adjust the direction of the air flow vertically or horizontally to circulate indoor air.
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air quality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number :

Serial number :

You can find them on a label on the side of each unit.

Dealer's name :

Date of purchase :

IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.

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

⚠ WARNING

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

⚠ CAUTION

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

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.
- 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.

Installation

- Don't use a power cable, a plug or a loose socket which is damaged.
  - Otherwise, it may cause a fire or electrical shock.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.
  - Do not disassemble or repair the product. There is risk of fire or electric shock.
- Always ground the product.
  - There is risk of fire or electric shock.
- Install the panel and the cover of control box securely.
  - There is risk of fire or electric shock.
- Always install a dedicated circuit and breaker.
  - Improper wiring or installation may cause fire or electric shock.
- Use the correctly rated breaker or fuse.
  - There is risk of fire or electric shock.
- Do not modify or extend the power cable.
  - There is risk of fire or electric shock.
- Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.
  - Moisture may condense and wet or damage furniture.
- Be cautious when unpacking and installing the product.
  - Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.
- For installation, always contact the dealer or an Authorized Service Center.
  - There is risk of fire, electric shock, explosion, or injury.

- Do not install the product on a defective installation stand.
  - It may cause injury, accident, or damage to the product.
- Be sure the installation area does not deteriorate with age.
  - If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.

Operation

- Do not store or use flammable gas or combustibles near the product.
  - There is risk of fire or failure of product.

⚠ CAUTION

Installation

- Always check for gas (refrigerant) leakage after installation or repair of product.
  - Low refrigerant levels may cause failure of product.
- Install the drain hose to ensure that water is drained away properly.
  - A bad connection may cause water leakage.
- Keep level even when installing the product.
  - To avoid vibration or water leakage.
- Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.
  - It may cause a problem for your neighbors.
- Use two or more people to lift and transport the product.
  - Avoid personal injury.
- Do not install the product where it will be exposed to sea wind (salt spray) directly.
  - It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.

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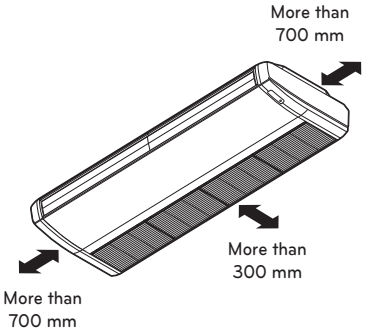
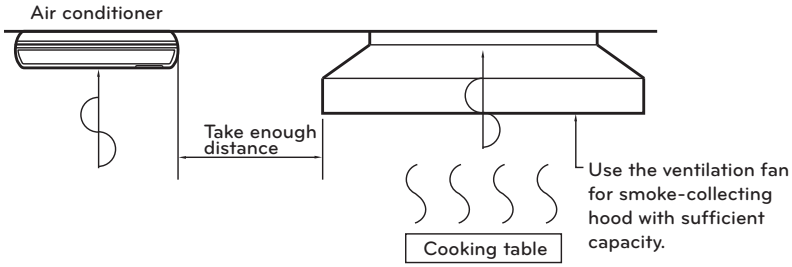
INSTALLATION PLACES

Indoor unit
Ceiling Suspended Type

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to prevent 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 keep the maintenance space.



THE INDOOR UNIT INSTALLATION



CAUTION

- 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.

NOTE

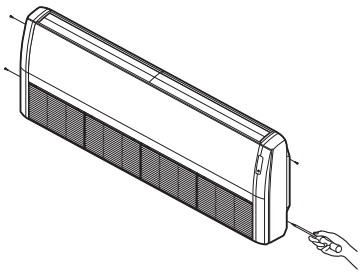
- Avoid the following installation location.

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 mal-function.
   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 installng 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.

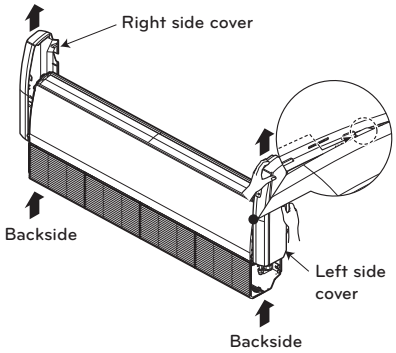
Open side-cover

Step 1



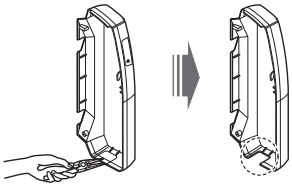
- Remove four screws from side-cover.

Step 2



- Unlock side-cover from side panel slightly (Tap the side-cover with your palm on the backside)

Step 3



- Knock out the pipe hole from the left side-cover with nipper/plier.

⚠ CAUTION

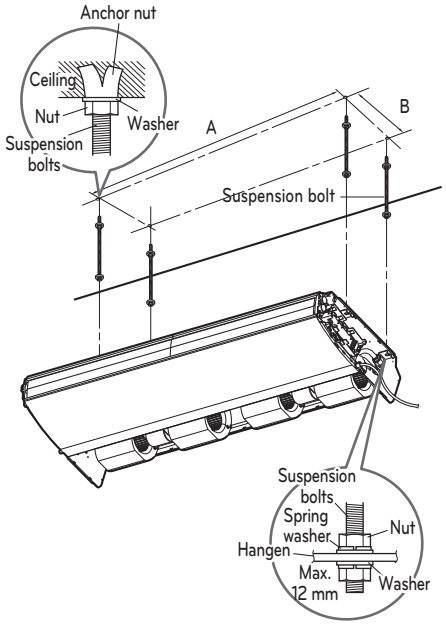
Hold the side-cover with other hand while tapping to prevent it to fall down.

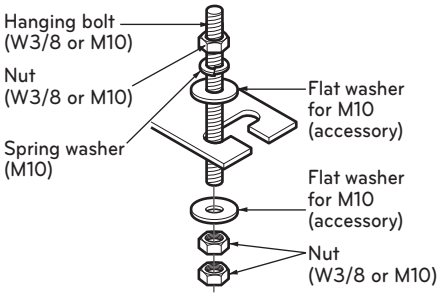
Mounting the anchor nut and bolt

- Prepare 4 suspension bolts. (Each bolts length should be same.)
- Measure and mark the position for the Suspension bolts and the piping hole.
- Drill the hole for anchor nut on the ceiling.
- Insert the nuts and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the anchor-nuts firmly.
- Secure the hangers onto the Suspension bolts (adjust level roughly.) using nuts, washers and spring washers.
- Adjust a level with a level gauge on the direction of left-right, back-forth by adjusting suspension bolts.
- Adjust a level on the direction of top-bottom by adjusting supension bolts. Then the unit will be declined to the bottomside so as to drain well.

(Uint : mm)

DIMENSION / MODEL	A	B
VL	1655	320
VK	1255	320
VJ	855	320



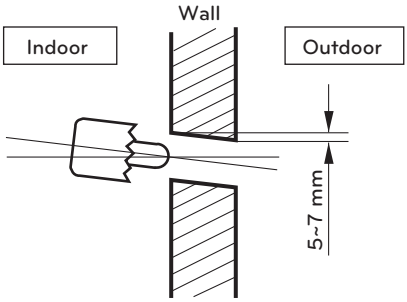


- The following parts is option.
  Hanging Bolt - W 3/8 or M10
  Nut - W 3/8 or M10
  Spring Washer - M10
  Plate Washer - M10

⚠ CAUTION

Tighten the nut and bolt to prevent unit falling.

- Drill the piping hole on the wall slightly tilted to the outdoor side using a Ø 70 hole-core drill.



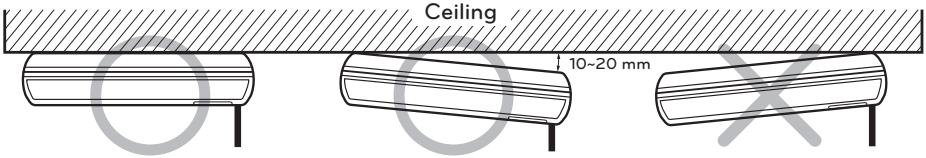
⚠ CAUTION

Installation Information For Declination

- Install declination of the indoor unit is very important for the drain of the convertible type air conditioner.
- Minimum thickness of the insulation for the connecting pipe shall be 10 mm.
- If the Installation Plates are fixed to horizontal line, the indoor unit after installing will be declined to the bottomside.

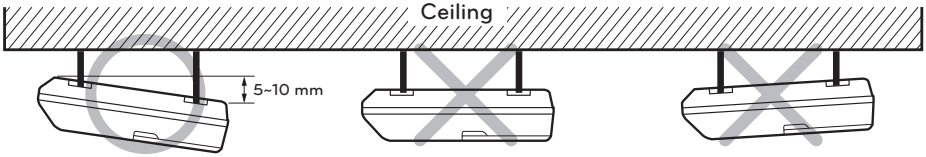
Front of view

- The unit must be horizontal or inclined at angle.
- The inclination should be less than or equal to 1° or in between 10 to 20 mm inclined in drain direction as shown in fig.



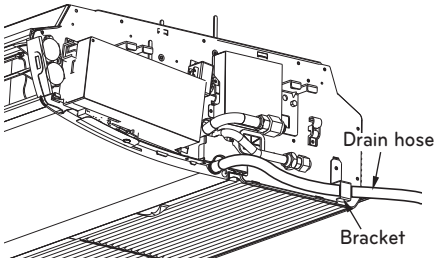
Side of view

- The unit must be declined to the bottomside of the unit when finished installation.



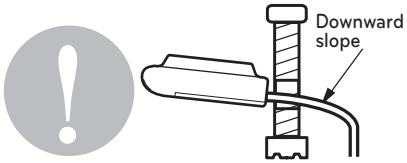
Indoor Unit Drain Piping

- 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.
- Remove the rubber stopple before connecting drain hose.
- Hook on the bracket after connecting the drain hose as below.

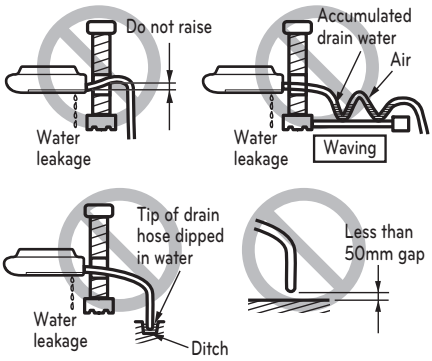


Drain piping

- The drain hose should point downward for easy drain flow.



- Do not make drain piping like the following.

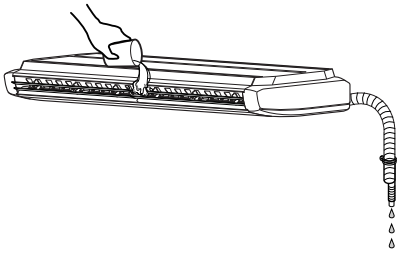


- Be sure to execute heat insulation on the drain piping.

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

Drain test

Use the following procedure to test the drain pump operation:

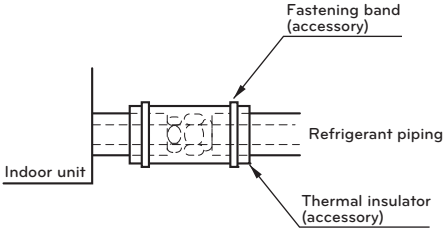


- Set the air direction louvers up-and-down to the position(horizontally) by hand.
- Pour a glass of water on the evaporator using a kettle.
- Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

Heat insulation

Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance (over 120 °C).

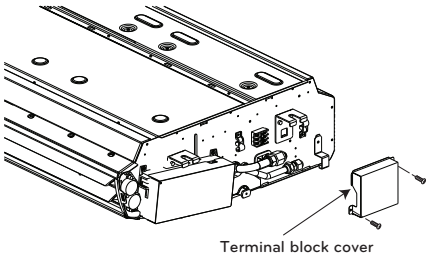
Precautions in high humidity circumstance: This air conditioner has been tested according to the "KS Standard Conditions with Mist" and confirmed that there is not any default. However, if it is operated for a long time in high humid atmosphere (dew point temperature: more than 23 °C), water drops are liable to fall. In this case, add heat insulation material according to the following procedure:



- Heat insulation material to be prepared... Adiabatic glass wool with thickness 10 to 20 mm.
- Stick glass wool on all air conditioners that are located in ceiling atmosphere.

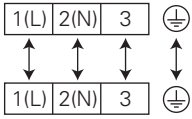
Connecting cables to the indoor unit

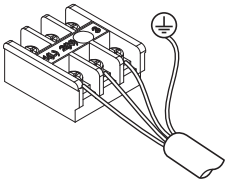
- Remove the terminal block cover for electrical connection between the indoor and outdoor unit.
- Use the cord clamper to fix the cable.



Wiring Connection

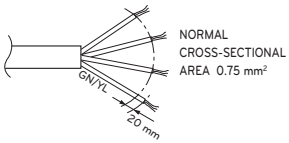
Connect the wires to the terminals on the control board individually according to the outdoor unit connection.





CAUTION

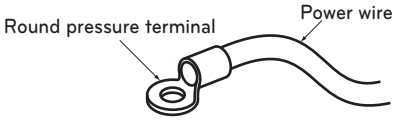
- **The connecting cable** connected to the indoor and outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



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

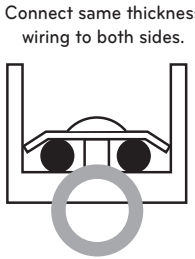
Precautions when laying power wiring

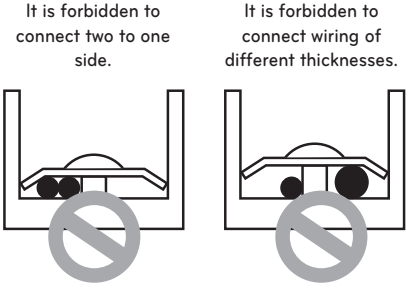
Use round pressure terminals for connections to the power terminal block.



When none are available, follow the instructions below.

- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.





- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal block.
- Use an appropriate screwdriver for tightening the terinal screws. A screwdriver with a small head will strip the head and make proper tighterning impossible.
- Over-tightening the terminal screws may break them.

TEST RUNNING

PRECAUTIONS IN TEST RUNNING

- The initial power supply must provide at least 90 % of the rated voltage.
  Otherwise, the air conditioner should not be operated.

⚠ CAUTION

- For test run, carry out the cooling operation firstly even during heating season. If heating operation is carried out firstly, it leads to the trouble of compressor. Then attention must be paid.
- Carry out the test run more than 5 minutes without fail.
  (Test run will be cancelled 18 minutes later automatically)

- To cancel the test run, press any button.

Check the following items when installation is complete

After completing work, be sure to measure and record trial run properties, and store measured data, etc.

Measuring items are room temperature, outside temperature, suction temperature, blow out temperature, wind velocity, wind volume, voltage, current, presence of abnormal vibration and noise, operating pressure, piping temperature, compressive pressure.

As to the structure and appearance, check following items.

- Is the circulation of air adequate?
- Is the draining smooth?
- Is the heat insulation complete (refrigerant and drain piping)?
- Is there any leakage of refrigerant?
- Is the remote controller switch operated?
- Is there any faulty wiring?
- Are not terminal screws loosened?

M4.....118 N·cm{12 kgf·cm}
M5.....196 N·cm{20 kgf·cm}
M6.....245 N·cm{25 kgf·cm}
M8.....588 N·cm{60 kgf·cm}

Connection of power supply

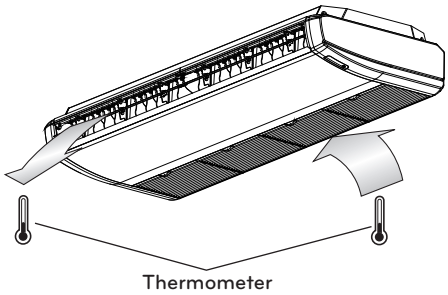
Connect the power supply cable to the independent power supply.
- Circuit breaker is required.

Operate the unit for fifteen minutes or more.

Evaluation of the performance

Measure the temperature of the intake and discharge air.

Ensure the difference between the intake temperature and the discharge one is more than 8 °C (Cooling) or reversely (Heating).



⚠ CAUTION

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

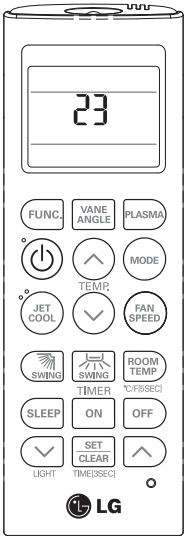
- Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram pasted on the inside of control box cover.
- Provide a circuit breaker switch between power source and the unit.
- The screw which fasten the wiring in the casing 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 burnout of the wires.)
- Specification of power source.
- Confirm that electrical capacity is sufficient.
- Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power sources specification.
  (Particularly note the relation between cable length and thickness.)
- Never fail to equip a leakage breaker where it is wet or moist.
- 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.).

INSTALLATION INSTRUCTIONS

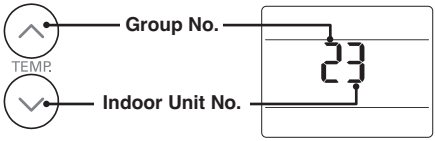
Installer Setting - Setting Address of Central Control



1 With the MODE button pressed, press the RESET button.



2 By using the temperature setting button, set the indoor unit address.
- Setting range : 00 ~ FF



3 After setting the address, press the ON/OFF button toward the indoor unit 1 time.



4 The indoor unit will display the set address to complete the address setting.
- The address display time and method can differ by the indoor uint type.

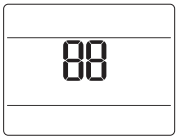
5 Reset the remote controller to use the general operation mode.

Installer Setting - Checking Address of Central Control

1 When FUNCTION button pressed, press RESET button







2 Press the ON/OFF button toward the indoor unit 1 time, and the indoor unit will display the set address in the display window.



- The address display time and method can differ by the indoor unit type.

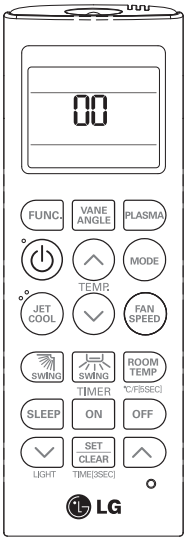
3 Reset the remote controller to use the general operation mode.



Installer Setting -How to enter installer setting mode

CAUTION

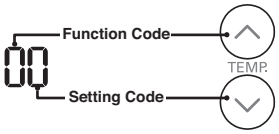
Installer setting mode is to set the detail function of the remote controller.
If the installer setting mode is not set correctly, it can cause problems to the product, user injury or property damage. This must be set by an certificated installer, and any installation or change that is carried out by a non-certificated person should be responsible for the results. In this case, free service cannot be provided.



1 With the JET COOL button pressed, press the RESET button.



2 By using the TEMPERATURE SETTING button, set function code and setting value. (Please refer the Installer Setting Code Table.)



3 Press the ON/OFF button toward the indoor unit 1 time.



4 Reset the remote controller to use the general operation mode.



Refer to the Installer Setting Code Table on the next page.

Installer Setting - Installer Setting Code Table

Installer Setting Code Table

No.	Function	Function Code	Setting Value	Remote Controller LCD
0	Mode Override	0	0 : Set to Master	00
			1 : Set to Slave	01
1	Ceiling Height Selection	1	1 : Standard	11
			2 : Low	12
			3 : High	13
			4 : Super High	14
2	Group Control	2	0 : Set to Master	20
			1 : Set to Slave	21
			2 : Check Master/Slave	22
	Auxiliary heater	2	3 : Set to Auxiliary heater	23
			4 : Cancel Auxiliary heater	24
			2 : Check Auxiliary heater Installation	25

Mode Override

This Function is only for Non-Auto Changeover H/P model.

Ceiling Height Selection

Indoor unit connected to wired remote controller operate as wired remote controller setting.

Group Control

This function is only for group control. Please don't set this function in case of non-group control.

After setting Group Control of the product, turn off the power then turn it back on after 1 minute.

Auxiliary heater

This function is only applied to models with Auxiliary Heater function being activated.

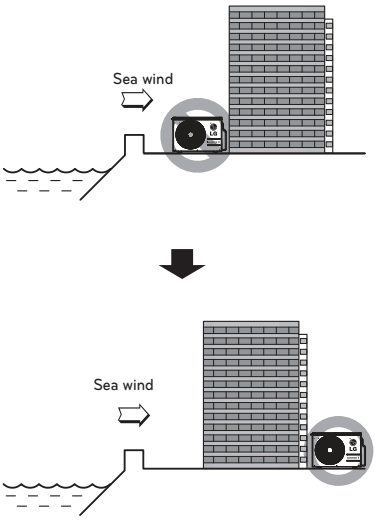
INSTALLATION GUIDE AT THE SEASIDE

CAUTION

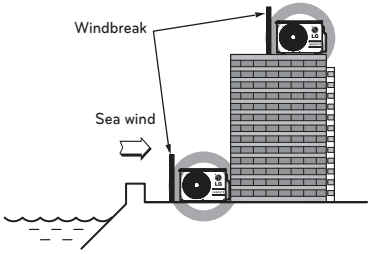
- Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
- Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.
- If outdoor unit is installed close to the seaside, it should avoid direct exposure to the sea wind. Otherwise it needs additional anticorrosion treatment on the heat exchanger.

Selecting the location(Outdoor Unit)

If the outdoor unit is to be installed close to the seaside, direct exposure to the sea wind should be avoided. Install the outdoor unit on the opposite side of the sea wind direction.



In case, to install the outdoor unit on the seaside, set up a windbreak not to be exposed to the sea wind.



- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150 % of the outdoor unit.
- It should be keep more than 70 cm of space between outdoor unit and the windbreak for easy air flow.

Select a well-drained place.

- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water.