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ENGLISH
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INSTALLATION MANUAL

AIR CONDITIONER

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

Floor standing

P/NO : MFL68061226

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 to 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 labeled 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.
- Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.
- 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.

Installation

- Always perform grounding. Otherwise, it may cause electric shock.
- Don't use a damaged power cable. Otherwise, it may cause a fire or electric shock.
- For installation of the product, always contact the service center or a professional installation agency. Otherwise, it may cause a fire, electric shock, explosion or injury.
- Securely attach the electrical part cover to the indoor unit and the service panel to the outdoor unit. If the electrical part cover of the indoor unit and the service panel of the outdoor unit are not attached securely, it could result in a fire or electric shock due to dust, water, etc.
- Always install an earth leakage circuit breaker and a dedicated switching board. No installation may cause a fire and electric shock.
- Do not keep or use flammable gases or combustibles near the air conditioner. Otherwise, it may cause a fire or the failure of product.
- Ensure that an installation frame of the outdoor unit is not damaged due to use for a long time. It may cause injury or an accident.
- Do not disassemble or repair the product randomly. It will cause a fire or electric shock.
- 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 install the product at a place that there is concern of falling down. Otherwise, it may result in personal injury.
- Use caution when unpacking and installing. Sharp edges may cause injury.
- 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.
- For installation of the product, do not use the pipe less than 5 m. Otherwise, it may cause damage of compressor and to form dewdrop on the indoor unit. Also, it may cause to decrease capacity.

Operation

- Do not share the outlet with other appliances. It will cause an electric shock or a fire due to heat generation.
- Do not use the damaged power cable. Otherwise, it may cause a fire or electric shock.
- Do not modify or extend the power cable randomly. Otherwise, it may cause a fire or electric shock.
- Take care so that the power cable may not be pulled during operation. Otherwise, it may cause a fire or electric shock.
- Turn off the unit if strange sounds, smell, or smoke comes from it. Otherwise, it may cause electric shock or a fire.
- Keep the flames away. Otherwise, it may cause a fire.
- Do not use the power cable near the heating tools. Otherwise, it may cause a fire and electric shock.
- Do not open the suction inlet of the indoor/outdoor unit during operation. Otherwise, it may electric shock and failure.
- Do not allow water to run into electrical parts. Otherwise, it may cause the failure of machine or electric shock.
- Do not touch the power cable with wet hands. It may cause electric shock and damage.
- Never touch the metal parts of the unit when removing the filter. They are sharp and may cause injury.
- Do not step on the indoor/outdoor unit and do not put anything on it. It may cause an injury through dropping of the unit or falling down.
- Do not place a heavy object on the power cable. Otherwise, it may cause a fire or electric shock.
- When the product is submerged into water, always contact the service center. Otherwise, it may cause a fire or electric shock.
- Take care so that children may not step on the outdoor unit. Otherwise, children may be seriously injured due to falling down.

⚠ CAUTION

Installation

- Install the drain hose to ensure that drain can be securely done. Otherwise, it may cause water leakage.
- Install the product so that the noise or hot wind from the outdoor unit may not cause any damage to the neighbors. Otherwise, it may cause dispute with the neighbors.
- Always inspect gas leakage after the installation and repair of product. Otherwise, it may cause the failure of product.
- Keep level parallel in installing the product. Otherwise, it may cause vibration or water leakage.

Operation

- Avoid excessive cooling and perform ventilation sometimes. Otherwise, it may do harm to your health.
- Use a soft cloth to clean. Do not use wax, thinner, or a strong detergent. The appearance of the air conditioner may deteriorate, change color, or develop surface flaws.
- Do not use an appliance for special purposes such as preserving animals vegetables, precision machine, or art articles. Otherwise, it may damage your properties.
- Do not place obstacles around the flow inlet or outlet. Otherwise, it may cause the failure of appliance or an accident.

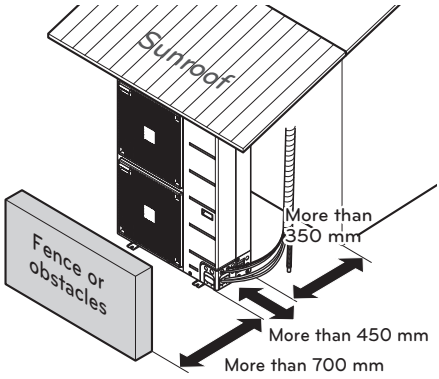
ENGLISH

TABLE OF CONTENTS

INSTALLATION OF OUTDOOR UNIT

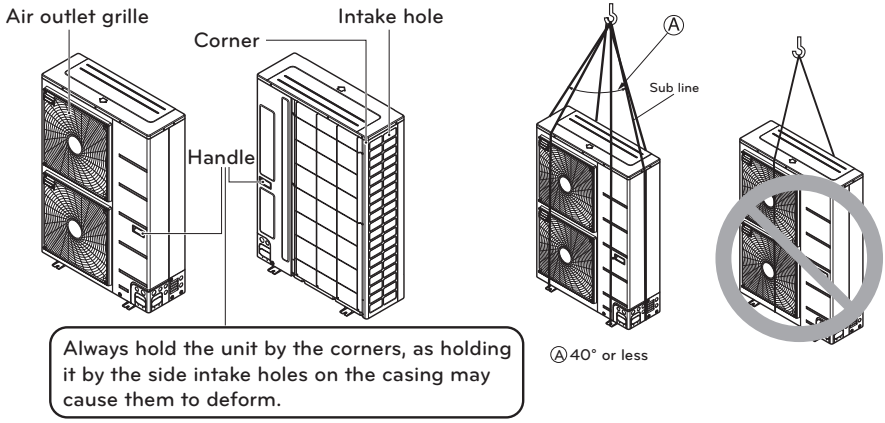
Installation Places

- If an awning is built over the unit to prevent direct sunlight or rain exposure, make sure that heat radiation from the condenser is not restricted.
- Ensure that the spaces indicated by arrows around front, back and side of the unit.
- Do not place animals and plants in the path of the warm air.
- Take the air conditioner weight into account and select a place where noise and vibration are minimum.
- Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.



Lifting method of the outdoor unit

- When carrying the suspended, unit pass the ropes between legs of base panel under the unit.
- Always lift the unit with ropes attached at four points so that impact is not applied to the unit.
- Attach the ropes to the unit at an angle of 40° or less.
- Use only accessories and parts which are of the designated specification when installing.



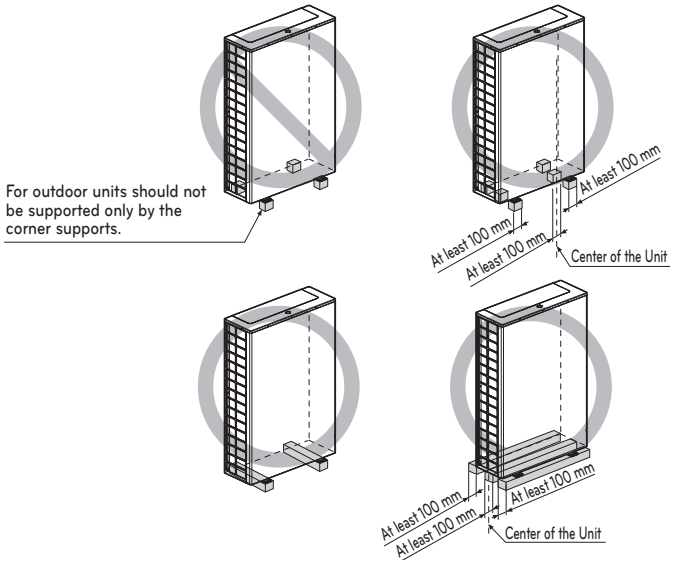
⚠ CAUTION

Be very careful while carrying the product.

- Do not have only one person carry product if it is more than 20 kg.
- PP bands are used to pack some products. Do not use them as a mean for transportation because they are dangerous.
- Do not touch heat exchanger fins with your bare hands. Otherwise you may get a cut in your hands.
- Tear plastic packaging bag and scrap it so that children cannot play with it. Otherwise plastic packaging bag may suffocate children to death.
- When carrying in outdoor unit, be sure to support it at four points. Carrying in and lifting with 3-point support may make outdoor unit unstable, resulting in a fall.
- Use 2 belts of at least 8 m long.
- Place extra cloth or boards in the locations where the casing comes in contact with the sling to prevent damage.
- Hoist the unit making sure it is being lifted at its center of gravity.

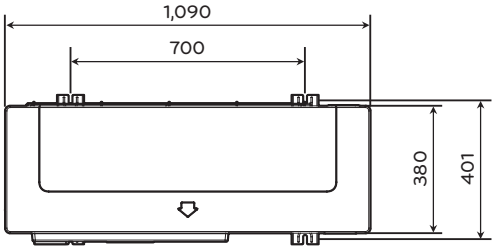
The outdoor unit installation

- Install at places where it can endure the weight and vibration/noise of the outdoor unit.
- The outdoor unit supports at the bottom shall have width of at least 100 mm under the Unit's legs before being fixed.
- The outdoor unit supports should have minimum height of 200 mm.
- Anchor bolts must be inserted at least 75 mm.



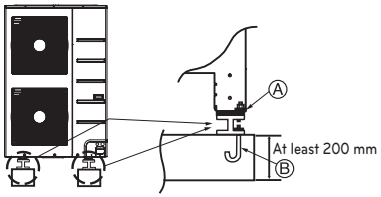
The location of the Anchor bolts

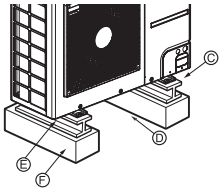
[Unit : mm]

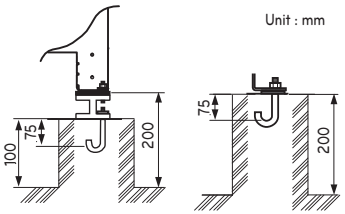


Foundation for outdoor unit Installation

- Fix the unit tightly with bolts as shown below so that unit will not fall down due to earthquake or gust.
- Use the H-beam support as a base support.
- Noise and vibration may occur from the floor or wall since vibration is transferred through the installation part depending on installation status. Thus, use anti-vibration materials (cushion pad) fully (The base pad shall be more than 200 mm).







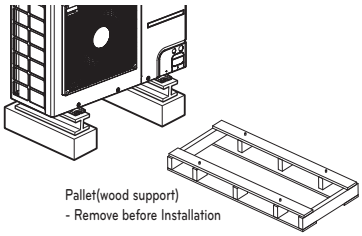
Ⓐ The corner part must be fixed firmly. Otherwise, the support for the installation may be bent.
Ⓑ Get and use M10 Anchor bolt.
Ⓒ Put pipes between the outdoor unit and ground support for the vibration protection in wide area.
Ⓓ Space for pipes and wiring (Pipes and wirings for bottom side)
Ⓔ H-beam support
Ⓕ Concrete support

⚠ WARNING

- Install where it can sufficiently support the weight of the outdoor unit.
  If the support strength is not enough, the outdoor unit may drop and hurt people.
- Install where the outdoor unit may not fall in strong wind or earthquake.
  If there is a fault in the supporting conditions, the outdoor unit may fall and hurt people.
- Please take extra cautions on the supporting strength of the ground, water outlet treatment(treatment of the water flowing out of the outdoor unit in operation), and the passages of the pipe and wiring, when making the ground support.
- Do not use tube or pipe for water outlet in the base pan. Use drainage instead for water outlet. The tube or pipe may freeze and the water may not be drained.
- If it is installed at a place with a lot of snowfall, install with the frame and base height higher than the most extreme snowfall amount standard, and mount the snowfall hood (separately sold).

⚠ CAUTION

- Be sure to remove the pallet(wood support) of the bottom side of the outdoor unit base pan before fixing the bolt. It may cause the unstable state of the outdoor settlement, and may cause freezing of the heat exchanger resulting in abnormal operations.
- Be sure to remove the pallet(wood support) of the bottom side of the outdoor unit before welding. Not removing pallet(wood support) causes hazard of fire during welding.

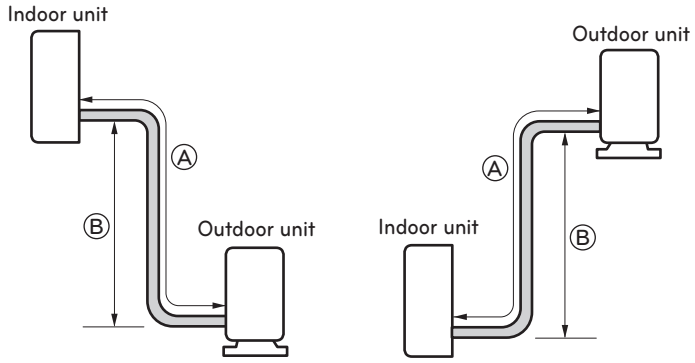


Piping length and the elevation

Floor Standing Air conditioner

Model	Pipe Size mm(inch)		Length A(m)		Elevation B(m)		Additional refrigerant (g/m)
	Gas	Liquid	Standard	Max.	Standard	Max.	
APUW100LFT0 APUQ100LFT0	Ø 22.2 (7/8)	Ø 9.52 (3/8)	5	50	0	30	60

If installed tube is shorter than 5 m, additional charging is not necessary.
Additional Refrigerant = (A -5) x Additional refrigerant (g)



⚠ CAUTION

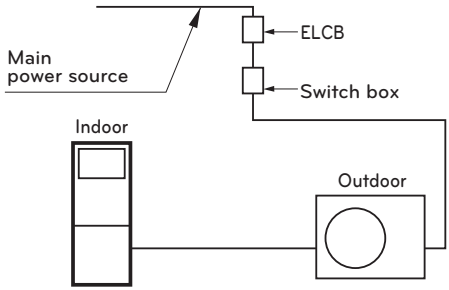
- Do not use the pipe less than 5 m. Otherwise, it may cause damage of compressor and to form dewdrop on the indoor unit. Also, it may cause to decrease capacity.
- Capacity is based on the length of 5 m and maximum allowance length is on the basis of reliability.
- Improper refrigerant charge may result in abnormal cycle.

WIRING CONNECTION

Electrical wiring

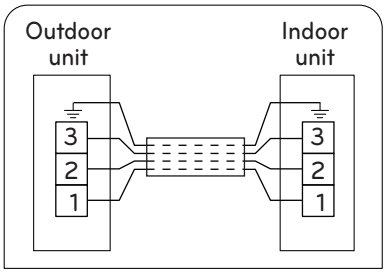
Perform the electrical wiring work according to the electrical wiring connection.

- All wiring must comply with local requirements.
- Select a power source that is capable of supplying the current required by the air conditioner.
- Use a recognized ELCB(Electric Leakage Circuit Breaker) between the power source and the unit. A disconnection device to adequately disconnect all supply lines must be fitted.
- Model of circuit breaker recommended by authorized personnel only



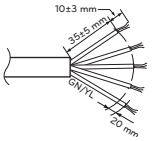
Model	Phase(ø)	ELCB
APUQ100LFT0 APUW100LFT0	3	40 A

Connecting cables between indoor unit and outdoor unit



CAUTION

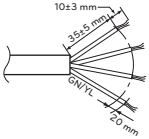
The power cable connected to the outdoor unit should be complied with IEC 60245 or HD 22.4 S4 (This equipment shall be provided with a cable set complying with the national regulation.



For the 3-Phase

Model	Phase(Ø)	Area(mm^2)	Cable Type
APUQ100LFT0 APUW100LFT0	3	6.0	H07RN-F

The connecting cable connected to the outdoor unit should be complied with IEC 60245 or HD 22.4 S4 (This equipment shall be provided with a cable set complying with the national regulation.)



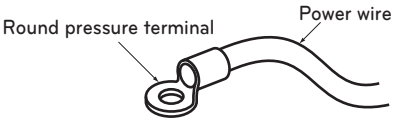
NORMAL CROSS-SECTIONAL AREA 1.5 mm^2

When the connection line between the indoor unit and outdooor unit is over 40 m, connect the telecommunication line and power line separately.

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

Precautions when laying power wiring

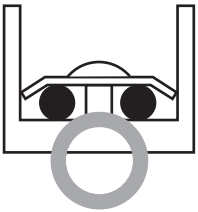
Use round pressure terminals for connections to the power terminal block.



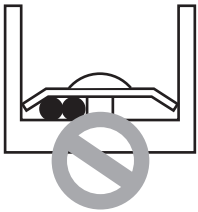
When none are available, follow the instructions below.

- 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.

Connect same thickness wiring to both sides.



It is forbidden to connect two to one side.



It is forbidden to connect wiring of different thicknesses.

- 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.

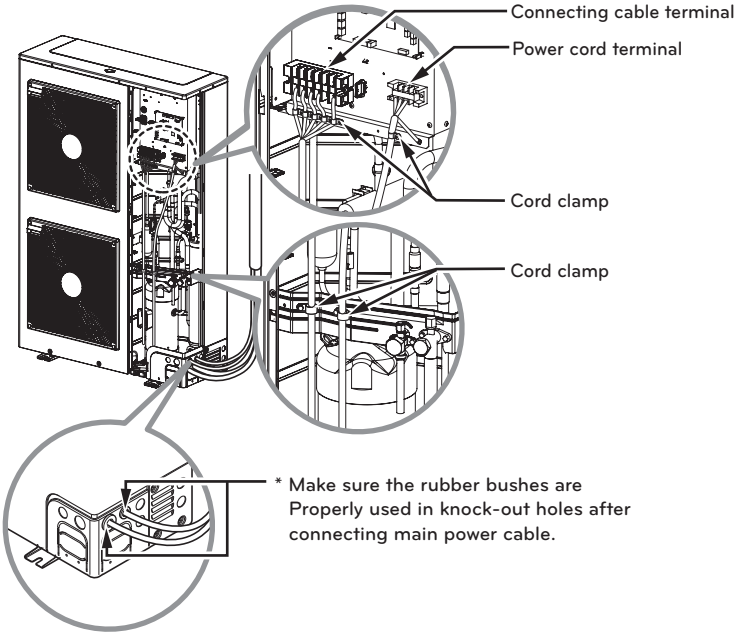
Connecting the cable to Outdoor Unit

Remove the side panel for wiring connection.

Use the cord clamp to fix the cable.

Earthing work

- Connect the cable of diameter more to the earthing terminal provided in the control box and do earthing.



⚠ CAUTION

- The circuit diagram is not subject to change without notice.
- Be sure to connect wires according to the wiring diagram.
- Connect the wires firmly, so that not to be pulled out easily.
- Connect the wires according to color codes by referring the wiring diagram.
- The Power cable connected to the unit should be selected according to the following specifications.

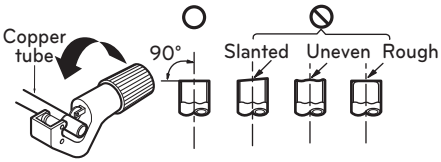
CONNECTING PIPES

Preparation of Pipe

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

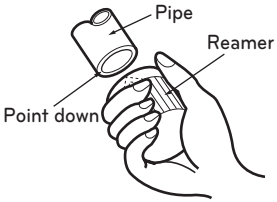
Cut the pipes and the cable.

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



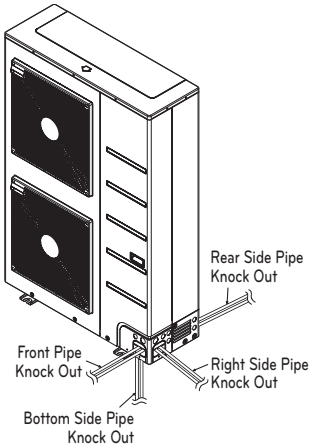
Burrs removal

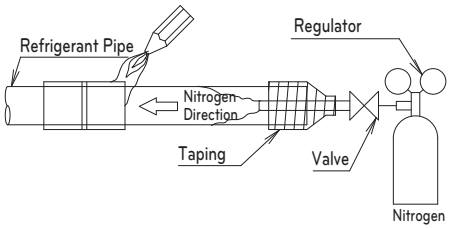
- Completely remove all burrs from the cut cross section of pipe.
- Put the end of the copper pipe to downward direction as you remove burrs in order to avoid to let burrs drop in the pipe.



Welding

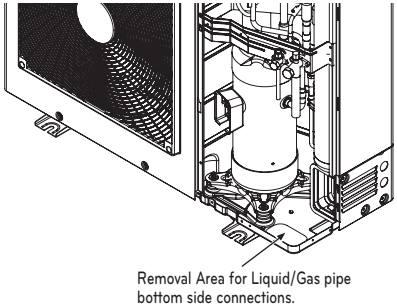
- Pipe connections can be done on the front side or on the side according to the installation environments.
- Be sure to let 1.0 kgf/cm^2 Nitrogen flow in the pipe when we lding.
- If Nitrogen was not flown during welding, many oxidized membranes may form inside the pipe and disturb the normal operations of valves and condensers.

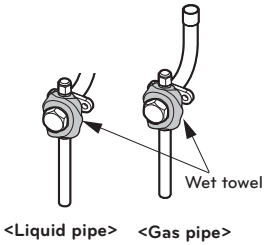




Preparation Work

- Use knock outs of base pan of the outdoor unit for left/right or bottom pipe drawing outs.





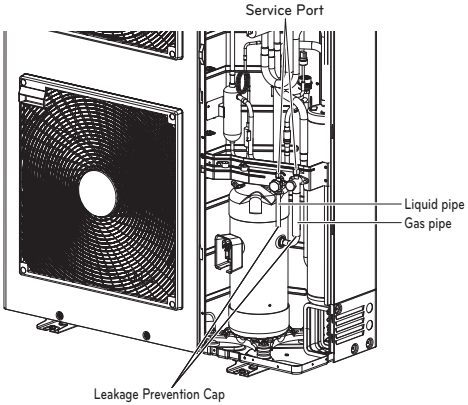
※ Pictures may differ depending on the model.

CAUTION

- Do not give damage to the pipe/base during the knock out work.
- Proceed to pipe work after removing burr.
- Perform sleeve work to prevent damage to the wire when connecting wires using knock outs.
- Take care so that there is no thermal damage on the service valves of the outdoor unit. (Especially packing part of service port.) Wrap the service valve with a wet towel when brazing it as shown figure above.

Remove leakage prevention cap

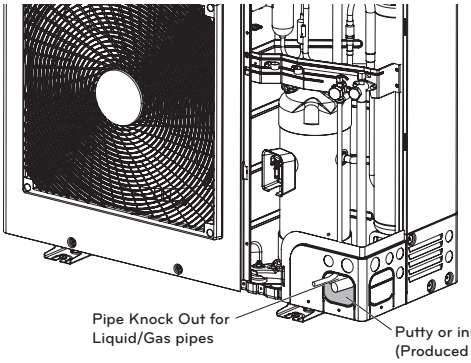
- Remove the leakage prevention cap attached to the outdoor unit service valve before pipe work.
- Proceed the leakage prevention cap removal as follows:
  - Verify whether the liquid/gas pipes are locked.
  - Extract remaining refrigerant or air inside using the service port.
  - Remove the leakage prevention cap



Pipe Drawing Out

Method of drawing out pipes on the front side and right side

- Proceed with the pipe work as shown in the below figure for front side and right side pipe drawing out.



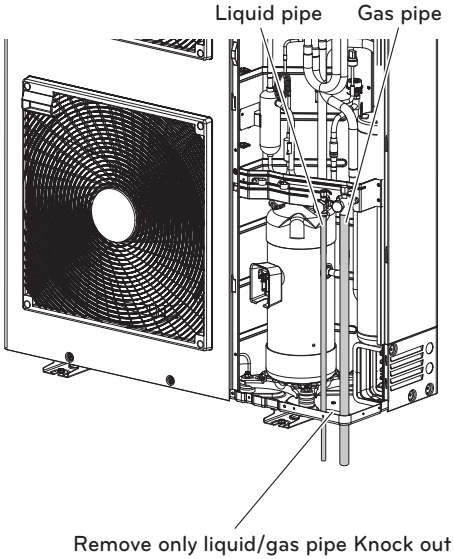
Preventing foreign objects form entering

- Plug the pipe through-holes with putty or insulation material(procured locally)to stop up all gaps,as shown in the figure.
- Insects or small animals entering the outdoor unit may cause a short circuit in the electrical box.

※ Pictures may differ depending on the model.

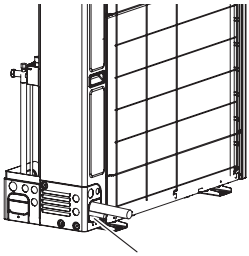
Method of drawing out pipes on the bottom side

- Drawing out common pipe through base panel



Method of drawing out pipes on the rear side

- Proceed with the pipe work as shown in the below figure for rear side pie drawing out.

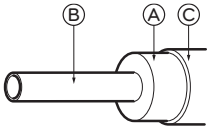


Pipe Knock Out for Liquid/Gas pipes

※ Pictures may differ depending on the model.

Thermal insulation of refrigerant pipe

Be sure to give insulation work to refrigerant pipe by covering liquid pipe and gas pipe separately with enough thickness heat-resistant polyethylene, so that no gap is observed in the joint between indoor unit and insulating material, and insulating materials themselves. When insulation work is insufficient, there is a possibility of condensation drip, etc. Pay special attention to insulation work to ceiling plenum.



Ⓐ Heat insulation material

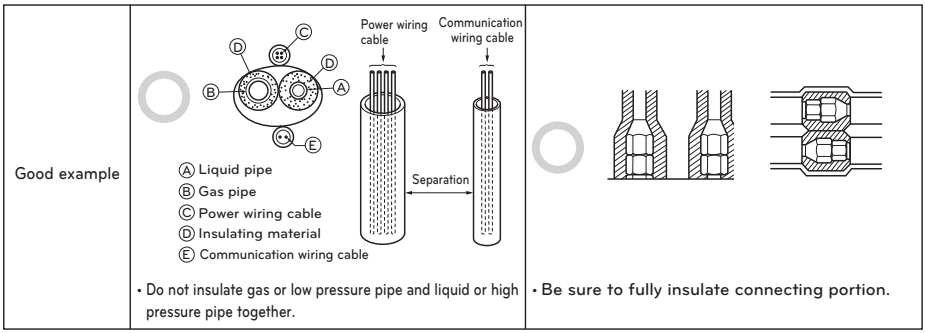
Ⓑ Pipe

Ⓒ Outer covering(Wind the connection part and cutting part of heat insulation material with a finishing tape.)

Heat insulation material	Adhesive + Heat - resistant polyethylene foam + Adhesive tape	
Outer covering	Indoor	Vinyl tape
	Floor exposed	Water-proof hemp cloth + Bronze asphalt
	Outdoor	Water-proof hemp cloth + Zinc plate + Oily paint

NOTE

When using polyethylene cover as covering material, asphalt roofing shall not be required.



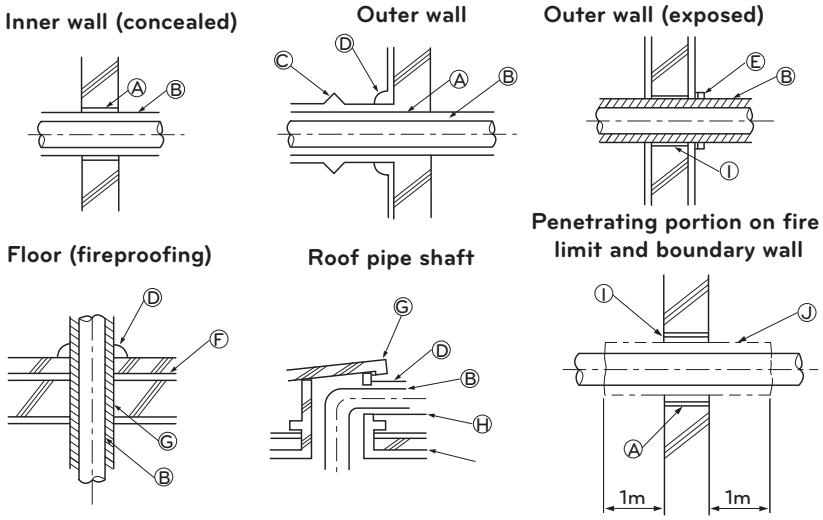
CAUTION

Cutting line of insulation must look upper direction. Thickness of insulation is 15 mm (Gas pipe) and 19 mm (Liquid pipe) or over.

NOTE

Recommended Insulation material
Material : EPDM
Thickness : 15 mm (Gas pipe) and 19 mm (Liquid pipe) or over.
Density : less than 0.032 ±0.005(g/cm^2)
Thermal conductivity : less than 0.03(kcal/m.hr.°C)

Penetrations



Ⓐ Sleeve
Ⓑ Heat insulating material
Ⓒ Lagging
Ⓓ Caulking material
Ⓔ Band
Ⓕ Waterproofing layer
Ⓖ Sleeve with edge
Ⓗ Lagging material
Ⓘ Mortar or other incombustible caulking
Ⓙ Incombustible heat insulation material

When filling a gap with mortar, cover the penetration part with steel plate so that the insulation material will not be caved in. For this part, use incombustible materials for both insulation and covering.(Vinyl covering should not be used.)

Forming the piping

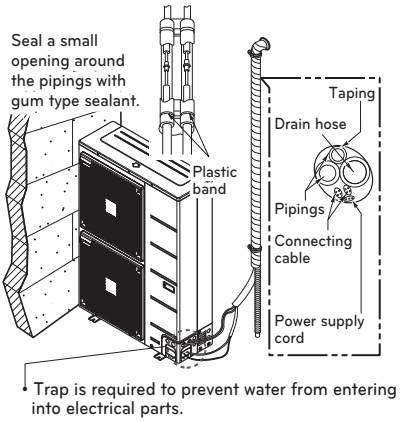
Form the piping by wrapping the connecting portion of the indoor unit with insulation material and secure it with two kinds of vinyl tape.

- If you want to connect an additional drain hose, the end of the drain outlet should be routed above the ground. Secure the drain hose appropriately.

In cases where the outdoor unit is installed below the indoor unit perform the following.

1 Tape the piping, drain hose and connecting cable from down to up.

2 Secure the tapped piping along the exterior wall using saddle or equivalent.

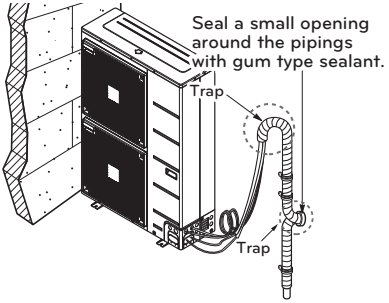


In cases where the Outdoor unit is installed above the Indoor unit perform the following.

1 Tape the piping and connecting cable from down to up.

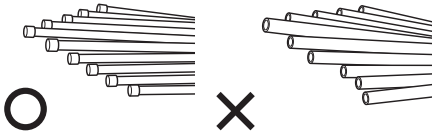
2 Secure the taped piping along the exterior wall. Form a trap to prevent water entering the room.

3 Fix the piping onto the wall by saddle or equivalent.

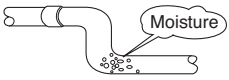
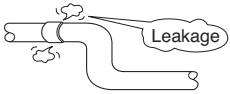


Plumbing materials and storage methods

Pipe must be able to obtain the specified thickness and should be used with low impurities. Also when handling storage, pipe must be careful to prevent a fracture, deformity and wound. Should not be mixed with contaminations such as dust, moisture.



Refrigerant piping on three principles

	Drying	Cleanliness	Airtight
	Should be no moisture inside	No dust inside.	There is no refrigerant leakage
Items			
Cause failure	- Significant hydrolysis of refrigerant oil - Degradation of refrigerant oil - Poor insulation of the compressor - Do not cold and warm - Clogging of EEV, Capillary	- Degradation of refrigerant oil - Poor insulation of the compressor - Do not cold and warm - Clogging of EEV, capillary	- Gas shortages - Degradation of refrigerant oil - Poor insulation of the compressor - Do not cold and warm
Countermeasure	- No moisture in the pipe - Until the connection is completed, the plumbing pipe entrance should be strictly controlled. - Stop plumbing at rainy day. - Pipe entrance should be taken side or bottom. - When removal burr after cutting pipe, pipe entrance should be taken down. - Pipe entrance should be fitted cap when pass through the walls.	- No dust in the pipe. - Until the connection is completed, the plumbing pipe entrance should be strictly controlled. - Pipe entrance should be taken side or bottom. - When removal burr after cutting pipe, pipe entrance should be taken down. - Pipe entrance should be fitted cap when pass through the walls.	- Airtightness test should be. - Brazing operations to comply with standards. - Flare to comply with standards. - Flange connections to comply with standards.

Nitrogen substitution method

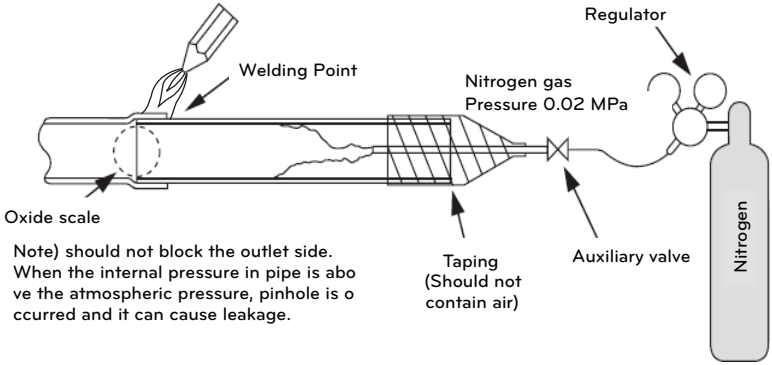
Welding, as when heating without nitrogen substitution a large amount of the oxide film is formed on the internal piping.

The oxide film is a caused by clogging EEV, capillary, oil hole of accumulator and suction hole of oil pump in compressor.

It prevents normal operation of the compressor.

In order to avoid this problem, Welding should be done after replacing air by nitrogen gas.

When welding plumbing pipe, the work is required.



⚠ CAUTION

1 Always use the nitrogen.(not use oxygen, carbon dioxide, and a Chevron gas):
Please use the following nitrogen pressure 0.02 MPa.
Oxygen – promotes oxidative degradation of refrigerant oil.
Because it is flammable, it is strictly prohibited to use
Carbon dioxide – degrade the drying characteristics of gas
Chevron gas – toxic gas occurs when exposed to direct flame.

2 Always use a pressure reducing valve.

3 Please do not use commercially available antioxidant.
The residual material seems to be the oxide scale is observed.
In fact, due to the organic acids generated by oxidation of the alcohol contained in the anti-oxidants, ants nest corrosion occurs. (causes of organic acid → alcohol + copper + water + temperature)

LEAKAGE TEST AND EVACUATION

Air and moisture remaining in the refrigerant system have undesirable effects as indicated below.

- Pressure in the system rises.
- Operating current rises.
- Cooling(or heating) efficiency drops.
- Moisture in the refrigerant circuit may freeze and block capillary tubing.
- Water may lead to corrosion of parts in the refrigeration system.

Therefore, the indoor/outdoor unit and connecting tube must be checked for leak tight, and vacuumed to remove incondensible gas and moisture in the system.

Preparation

Check that each tube(both liquid and gas side tubes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed. Remove the service valve caps from both the gas and the liquid side on the outdoor unit. Check that both the liquid and the gas side service valves on the outdoor unit are kept closed at this stage.

Leakage test

Connect the manifold valve(with pressure gauges) and dry nitrogen gas cylinder to this service port with charge hoses.

⚠ CAUTION

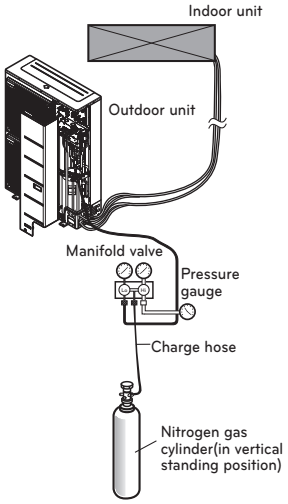
Be sure to use a manifold valve for leakage test. If it is not available, use a stop valve for this purpose. The "Hi" knob of the manifold valve must always be kept close.

- Pressurize the system to no more than 3.8 MPa with dry nitrogen gas and close the cylinder valve when the gauge reading reached 3.8 MPa Next, test for leaks with liquid soap.

⚠ CAUTION

To avoid nitrogen entering the refrigerant system in a liquid state, the top of the cylinder must be higher than its bottom when you pressurize the system. Usually, the cylinder is used in a vertical standing position.

- Do a leakage test of all joints of the tubing(both indoor and outdoor) and both gas and liquid side service valves.
  Bubbles indicate a leak. Be sure to wipe off the soap with a clean cloth.
- After the system is found to be free of leaks, relieve the nitrogen pressure by loosening the charge hose connector at the nitrogen cylinder. When the system pressure is reduced to normal, disconnect the hose from the cylinder.



Evacuation

- Connect the charge hose end described in the preceding steps to the vacuum pump to evacuate the tubing and indoor unit. Confirm the "Lo and Hi" knob of the manifold valve is open. Then, run the vacuum pump. The operation time for evacuation varies with tubing length and capacity of the pump. The following table shows the time required for evacuation.

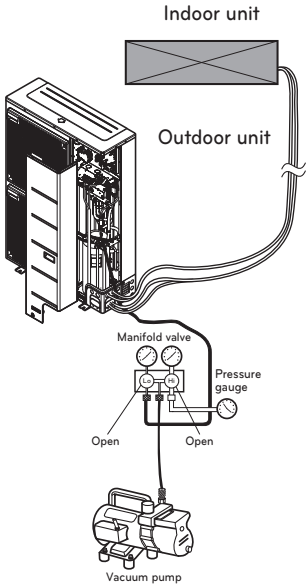
Required time for evacuation when 4 CFM vacuum pump is used	
If tubing length is less than 10 m(33 ft)	If tubing length is longer than 10 m(33 ft)
30 min. or more	60 min. or more
0.8 Torr	

- When the desired vacuum is reached, close the "Lo and Hi" knob of the manifold valve and stop the vacuum pump.

Finishing the Job

- With a service valve wrench, turn the valve stem of liquid side valve counter-clockwise to fully open the valve.
- Turn the valve stem of gas side valve counter-clockwise to fully open the valve.
- Loosen the charge hose connected to the gas side service port slightly to release the pressure, then remove the hose.
- Replace the flare nut and its bonnet on the gas side service port and fasten the flare nut securely with an adjustable wrench. This process is very important to prevent leakage from the system.
- Replace the valve caps at both gas and liquid side service valves and fasten them tight.

This completes air purging with a vacuum pump. The air conditioner is now ready to test run.



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 15 minutes without fail.
(Test run will be cancelled 18 minutes later automatically)

- The test run is started by pressing the power button and temperature down button for 3 seconds at the same time.
- 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?

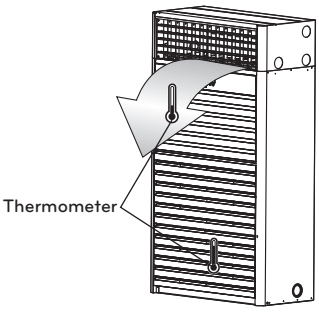
M4.....118 N·cm {12 kgf·cm}
M5.....196 N·cm {20 kgf·cm}
M6.....245 N·cm {25 kgf·cm}
M8.....588 N·cm {60 kgf·cm}

Connection of power supply

- Connect the power supply cable to the independent power supply.
  - Circuit breaker is required.
- Operate the unit for 15 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:

1 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.

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 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 Never fail to equip a leakage breaker where it is wet or moist.

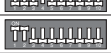
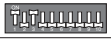
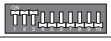
9 The following troubles would be caused by voltage drop-down.
- Vibration of a magnetic switch, damage on the contact point there of fuse breaking, disturbance to the normal function of a overload protection device.
- Proper starting power is not given to the compressor.

FUNCTION

Dip switch setting

Setting Procedure

- Set the Dip Switch as follow after shutting the power source down.
- Open the side panel or Top Cover of outdoor unit.
- Set the DIP_SW01D.
- If you set the Dip Switch when power is on, the change in setting is not applicable. The changing setting is enabled only when power is reset.
- Close the side panel or Top Cover.

Dip Switch 1 2 3 4 5 6 7 8 9 10	Function	APUQ100LFT0 APUW100LFT0
	Normal Operation (No Function)	O
	Forced Cooling Operation	O
	Saving Power Consumption (Step 1)	X
	Saving Power Consumption (Step 2)	X
	Mode Lock (Cooling)	X
	Mode Lock (Heating)	X
	Night Quiet Mode (Step 1)	X
	Night Quiet Mode (Step 2)	X
	Mode Lock (Cooling) + Night Quiet Mode (Step 1)	X
	Mode Lock (Cooling) + Night Quiet Mode (Step 2)	X
	Mode Lock (Cooling) + Saving Power Consumption (Step 1)	X
	Mode Lock (Cooling) + Saving Power Consumption (Step 2)	X
	Mode Lock (Heating) + Saving Power Consumption (Step 1)	X
	Mode Lock (Heating) + Saving Power Consumption (Step 2)	X
	Pressure compensation function	O
	Dew formation avoidance function	O

WARNING

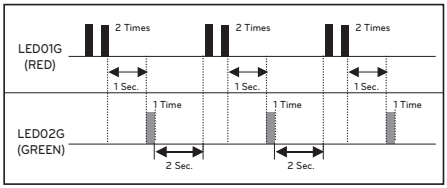
- When you set the dip switch, you should turn off the circuit breaker or shut the power source of the product down.

CAUTION

- Unless the applicable dip switch is set properly, the product may not work.
- If you want to set a specific function, request that the installer sets the dip switch appropriately during installation.

SELF-DIAGNOSIS FUNCTION

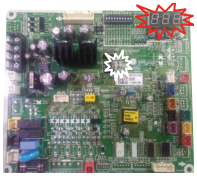
Error indicator (Outdoor)



Outdoor Error
Ex) Error 21 (DC Peack)

Error Indicator

- The function is to self-diagnosis air conditioner and express the troubles identically if there is any trouble.
- Error mark is ON/OFF for the operation LED of display parts in the same manner as the following table.
- If more than two troubles occur simultaneously, primarily the highest trouble of error code is expressed.
- After error occurrence, if error is released, error LED is also released simultaneously.
- To operate again on the occurrence of error code, be sure to turn off the power and then turn on.
- Having or not of error code is different from model.

Model / PCB	APUW100LFT0 APUQ100LFT0
Main	
Inverter	

Error Code	Description	Error Display			Count	Operation State
		7 segment	Red LED	Green LED		
21	DC Peak (IPM fault) Error	CH 21	2 times ◑	1 time ◑	10 times within 1h	Stop
22	CT2 Error (Input of Over-Current)	CH 22	2 times ◑	2 times ◑	Infinite restart	Stop
23	DC Link Error (High/Low DC Voltage)	CH 23	2 times ◑	3 times ◑	Infinite restart	Stop
26	DC Comp Position Detection Error	CH 26	2 times ◑	6 times ◑	10 times within 1h	Stop
27	PSC/PFC Over-Current Error (HW)	CH 27	2 times ◑	7 times ◑	10 times within 1h	Stop
29	Comp Phase Over-Current Error	CH 29	2 times ◑	9 times ◑	10 times within 1h	Stop
32	Discharge Pipe Overheating Error (INV Comp)	CH 32	3 times ◑	2 times ◑	Infinite restart	Stop
35	Low Pressure Drop	CH 35	3 times ◑	5 times ◑	Infinite restart	Stop
41	Discharge Pipe Sensor Error (INV Comp)	CH 41	4 times ◑	1 time ◑	1 time within 1h	Stop
43	Pressure Sensor Error	CH 43	4 times ◑	3 times ◑	1 time within 1h	Stop
44	Air Sensor Error	CH 44	4 times ◑	4 times ◑	1 time within 1h	Stop
45	Cond. Mid-pipe sensor error	CH 45	4 times ◑	5 times ◑	1 time within 1h	Stop
46	Suction Pipe Sensor Error	CH 46	4 times ◑	6 times ◑	1 time within 1h	Stop
48	Cond. Out-Pipe Sensor Error	CH 48	4 times ◑	8 times ◑	1 time within 1h	Stop
51	Over-Capacity Connection Error	CH 51	5 times ◑	1 time ◑	1 time within 1h	Stop
52	Communication Error between Main PCB Inverter PCB	CH 52	5 times ◑	2 times ◑	1 time within 1h	Stop
53	Communication Error between Outdoor Device Indoor Device	CH 53	5 times ◑	3 times ◑	1 time within 1h	Stop
54	Open and Reverse Phase Error	CH 54	5 times ◑	4 times ◑	1 time within 1h	Stop
60	EEPROM Check Sum Error	CH 60	6 times ◑	-	1 time within 1h	Stop
61	Outdoor Device Pipe Overheating Error	CH 61	6 times ◑	1 time ◑	Infinite restart	Stop
62	Heat-sink Overheating Error	CH 62	6 times ◑	2 times ◑	Infinite restart	Stop
65	Heat-sink Sensor Error	CH 65	6 times ◑	5 times ◑	1 time within 1h	Stop
67	Outdoor BLDC Fan Lock Error refer to Outdoor fan PCBA Error Table	CH 67	6 times ◑	7 times ◑	10 times within 1h	Stop
73	PSC/PFC Over-Current Error (SW)	CH 73	7 times ◑	3 times ◑	Infinite restart	Stop

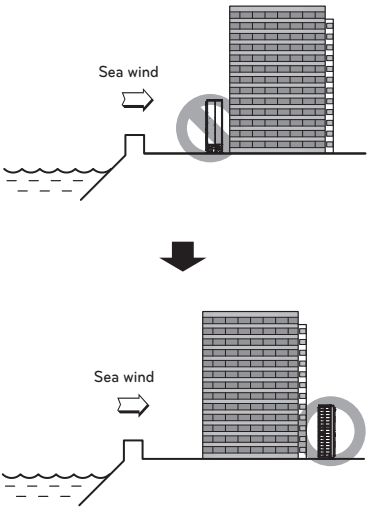
INSTALLATION GUIDE AT THE SEASIDE

CAUTION

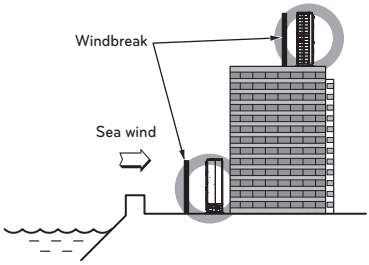
- Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
- Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator 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.

CONVENIENT FUNCTIONS

Pressure compensation function

If you use additional pipe to install the cooling operation, this function can compensate the target of pressure by setting dip switch.

* Pressure compensation function is release at initial state as standard.
* This function is used only if the length of pipe > 25 m, and be sure not to exceed the maximum length of pipe.
  (It can be different depend on the model.)

For setting pressure compensation function

Set the dip switch as follow after shutting the power source down.

1 Open the side panel or top cover of outdoor unit.

2 Set the DIP_SW01D like below image.

3 7 segments indicate each status and data like below image.