ENGLISH

INSTALLATION MANUAL AIR CONDITIONER

TYPE : WALL MOUNTED

P/No : MFL67502112

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.
- Air conditioner Shall be installed in accordance with national wiring regulations.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similary qualified persons in order to avoid a hazard.
- 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 electrical shock.
- Don't use a power cord, a plug or a loose socket which is damaged.
  - Otherwise, it may cause a fire or electrical shock.
- For installation of the product, always contact the service center or a professional installation agency.
  - Otherwise, it may cause a fire, electrical 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 air leakage breaker and a dedicated switching board.
  - No installation may cause a fire and electrical 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 electrical shock.
- Do not install the product at a place that ther is concern of falling down.
  - Otherwise, it may result in personal injury.
- Use caution when unpacking and installing.
  - Sharp edges may cause injury.
- Thickness of copper pipes used are as shown "Flaring work" Table.
  - Never use copper pipes thinner than that in the table even when it is available on the market
- Do not use copper pipes having a collapsed.
  - Otherwise, the expansion valve or capillary tube may become blocked with contaminants.
- For R410A model, use piping, flare nut and tools which is specified for R410A refrigerant.
  - Using of (R22) piping, flare nut and tools may cause abnormally high pressure in the refrigerant cycle (piping), and possibly result in explosion and injury.
- It is desirable that the amount of residual oil less than 40 mg/10m.

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 cord.
  - Otherwise, it may cause a fire or electrical shock.
- Do not modify or extend the power cord randomly.
  - Otherwise, it may cause a fire or electrical shock.
- Take care so that the power cord may not be pulled during operation.
  - Otherwise, it may cause a fire or electrical shock.
- Unplug the unit if strange sounds, smell, or smoke comes from it.
  - Otherwise, it may cause electrical shock or a fire.
- Keep the flames away.
  - Otherwise, it may cause a fire.
- Take the power plug out if necessary, holding the head of the plug and do not touch it with wet hands.
  - Otherwise, it may cause a fire or electrical shock.
- Do not use the power cord near the heating tools.
  - Otherwise, it may cause a fire and electrical shock.
- Do not open the suction inlet of the indoor/outdoor unit during operation.
  - Otherwise, it may electrical shock and failure.
- Do not allow water to run into electrical parts.
  - Otherwise, it may cause the failure of machine or electrical shock.
- Hold the plug by the head when taking it out.
  - 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 cord.
  - Otherwise, it may cause a fire or electrical shock.
- When the product is submerged into water, always contact the service center.
  - Otherwise, it may cause a fire or electrical 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.

INSTALLATION PARTS

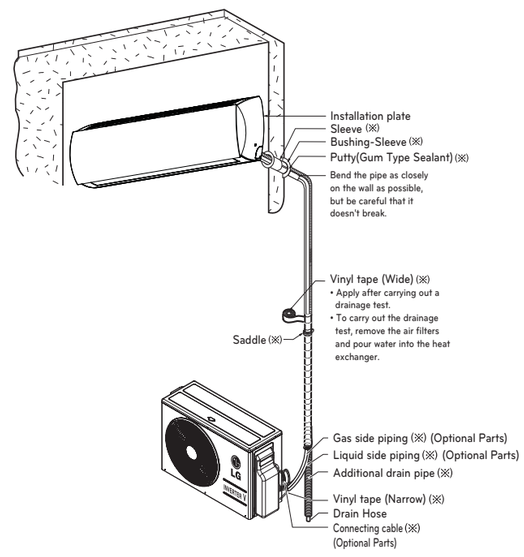
Name	Quantity	Shape
Installation plate	1 EA	The feature can be changed according to a type of model.
Type "A" screw	5 EA	
Type "B" screw	2 EA	
Type "C" screw	2 EA	
Type "D" screw	2 EA	
Bracket	1 EA	
Remote control holder	1 EA	

Screws for fixing panels are attached to decoration panel.

INSTALLATION TOOLS

Figure	Name	Figure	Name
	Screw driver		Multi-meter
	Electric drill		Hexagonal wrench
	Measuring tape, Knife		Ammeter
	Hole core drill		Gas-leak detector
	Spanner		Thermometer, Level
	Torque wrench		Flaring tool set

INSTALLATION MAP



* The feature can be changed according to a type of model.

NOTE

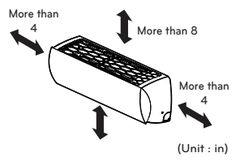
- You should purchase the installation parts.

INSTALLATION

Select the best Location

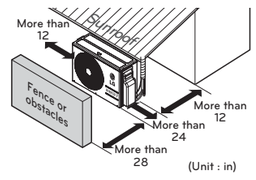
Indoor unit

- There should not be any heat or steam near the unit.
- Select a place where there are no obstacles around of the unit.
- Make sure that condensation drainage can be conveniently routed away.
- Do not install near a doorway.
- Ensure that the gap between a wall and the left (or right) of the unit is more than 4in. The unit should be installed as high as possible on the wall, allowing a minimum of 8in from ceiling.
- Use a metal detector to locate studs to prevent unnecessary damage to the wall.



Outdoor unit

- 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 space around the back side and other sides is more than 12in. The space in front of the unit should be more than 28in.
- Do not place animals and plants in the path of the warm air.
- Take the weight of the air conditioner into account and select a place where noise and vibration are minimum.
- Select a place where the warm air and noise from the air conditioner do not disturb neighbors.



* Recommended height 6.5ft from the floor.
* The feature can be changed according to the type of model.

CAUTION

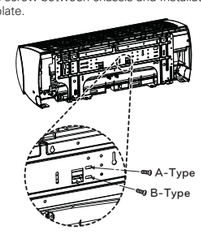
Remove obstructions to prevent blockage of airflow path.

Indoor unit

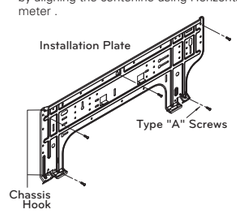
Fixing Installation Plate

The wall you select should be strong and solid enough to prevent vibration.

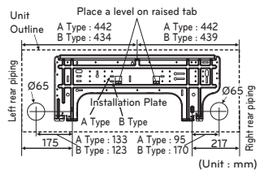
1 Before installation, confirm the position of a screw between chassis and Installation plate.



2 Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
- Mount the installation plate horizontally by aligning the centerline using Horizontal meter .

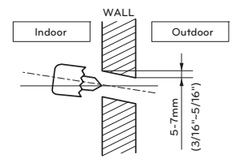


3 Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate. Routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.



Drill a Hole in the Wall

- Drill the piping hole with a ø65mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.

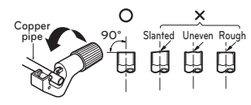


Flaring Work

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

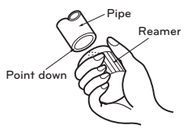
Cut the pipes and the cable

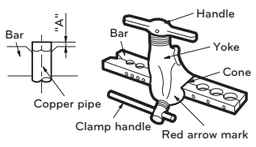
1 Use the piping kit accessory or the pipes purchased locally.
2 Measure the distance between the indoor and the outdoor unit.
3 Cut the pipes a little longer than measured distance.
4 Cut the cable 1.5m longer than the pipe length.



Burrs removal

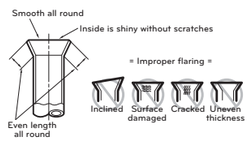
1. Completely remove all burrs from the cut cross section of pipe/tube.
2. While removing burrs put the end of the copper tube/pipe in a downward direction while removing burrs location is also changed in order to avoid dropping burrs into the tubing.





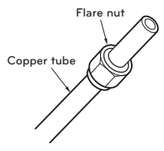
Check

1 Compare the flared work with the figure by.
2 If a flared section is defective, cut it off and do flaring work again.



Putting nut on

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



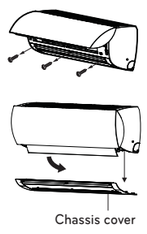
Flaring work

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

Outside diameter		A	Thickness
mm	inch	mm	mm
Ø6.35	1/4"	1.1~1.3	0.7
Ø9.52	3/8"	1.5~1.7	0.8
Ø12.7	1/2"	1.6~1.8	0.8
Ø15.88	5/8"	1.6~1.8	1.0

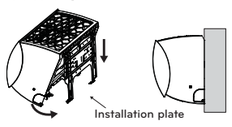
Connecting the Piping

1 Open the panel of the indoor unit.
2 Remove the chassis cover from the unit by loosing 3 screws.

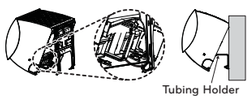


Installation of Indoor Unit

1 Hook the indoor unit onto the upper portion of the installation plate.(engage the three hooks at the top of the indoor unit with the upper edge of the installation plate) Ensure that the hooks are properly seated on the installation plate by moving it left and right.



2 Unlock the tubing holder from the chassis and mount between the chassis and installation plate in order to separate the bottom side of the indoor unit from the wall.

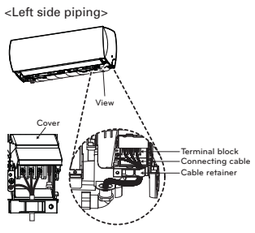


* The feature can be changed according to a type of model.

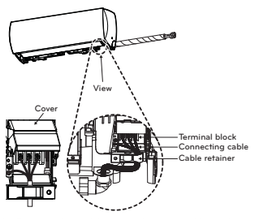
Piping

1 Raise the cover of terminal block.
2 Insert the connecting cable through the bottom side of indoor unit and connect the cable. (You can see detail contents in 'Connecting the cables' section.)

<Left side piping>

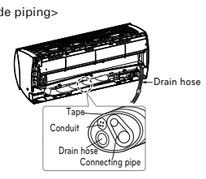


<Right side piping>



3 Secure the cable onto the control board with the cable retainer.
4 Close the cover of control box.
5 Tape the tubing pipe, drain hose and the conduit. Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause overflow from the drain pan through the inside of the unit.

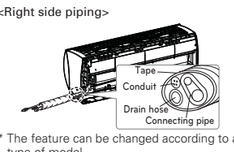
<Left side piping>



NOTE

Insert the drain hose at left side when you use left side piping type.

<Right side piping>



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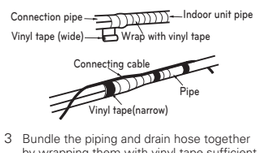
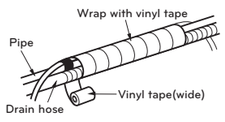
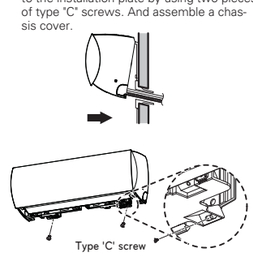


3 Bundle the piping and drain hose together by wrapping them with vinyl tape sufficient enough to cover where they fit into the rear piping housing section.



Finishing the indoor unit installation

1 Mount the tubing holder in the original positon.
2 Ensure that the hooks are properly seated on the installation plate by moving it left and right.
3 Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots (clicking sound).
4 Finish the assembly by screwing the unit to the installation plate by using two pieces of type "C" screws. And assemble a chassis cover.



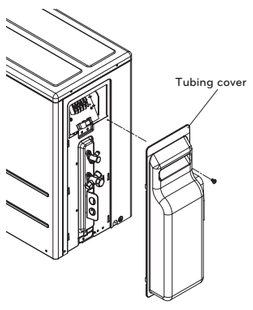
CAUTION

- Before finishing installation of the indoor unit, seal the hole of a wall except the pipe's ways to prevent condensate from inflow of outdoor air.

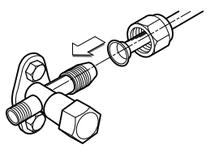
Outdoor unit

Connecting the Piping

- Remove the tubing cover from the unit by loosening the screw.

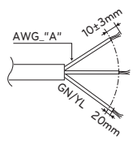


- Align the center of the pipings and sufficiently tighten the flare nut by hand.



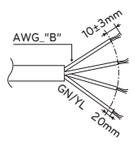
CAUTION

The power cord connected to the outdoor unit should be complied with the following specifications(UL recognized or CAS certified)



Power	Capacity(Btu/h)
	9k/12k
"A"	14

The power connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (UL recognized or CAS certified).

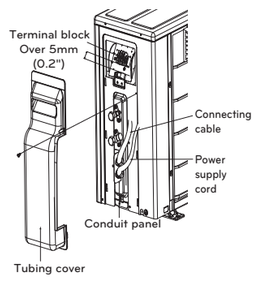


Power	Capacity(Btu/h)
	9k/12k
"B"	18

* Field wiring shall be done such that the currentcarrying conductors become taut before the earthing conductor if the cord slips out of the cord anchorage.

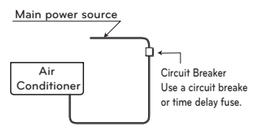
- Connect the wires to the terminals on the control board individually.
- Secure the cable onto the control board with the cord clamp.
- Use a recognized circuit breaker between the power source and the unit. A disconnecting device to adequately disconnect all supply lines must be fitted.
- Provide a circuit breaker between power source and the outdoor unit as shown below.

Circuit Breaker (A)	Capacity(Btu/h)
	9k~12k
	15

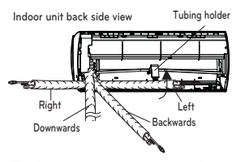


CAUTION

When using the separate wire as the power cord, please fix the separate wire into the control box panel by using tie wrap as the fixture. "A" & "B" are minimum recommended wire size.



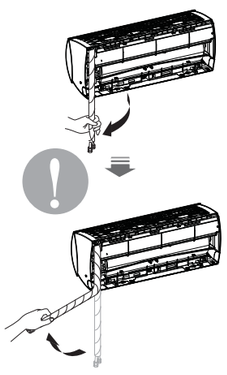
3 Pull back the tubing holder.
4 Remove pipe port cover and positioning the tubing



* The feature can be changed according to a type of model.

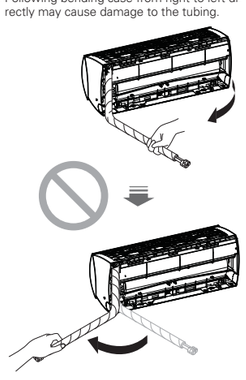
Good case

- Press on the tubing cover and unfold the tubing to downward slowly. And then bend to the left side slowly.



Bad case

- Following bending case from right to left directly may cause damage to the tubing.

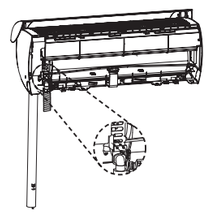


* The feature can be changed according to a type of model.

CAUTION

Installation Information. For right piping. Follow the instruction above.

- Before bending the tubing, set the conduit like picture below by using the bracket and black screws from accessory kit.



CAUTION

Must use the elbow type (L-Type) conduit

Method:

1. Disassemble bracket (from indoor unit)
2. Assemble it with conduit
3. Reassemble it with indoor unit..

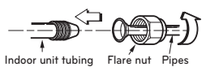
CAUTION

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

* Foamed polyethylene or equivalent is recommended.

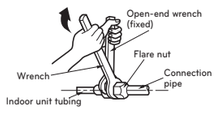
Connecting the installation pipe and drain hose to the indoor unit.

1 Align the center of the pipes and sufficiently tighten the flare nut by hand

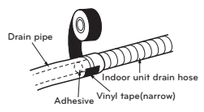


2 Tighten the flare nut with a wrench

Outside Diameter		Torque	
mm	inch	kgf·cm	N·m
Ø6.35	1/4	180~250	17.6~24.5
Ø9.52	3/8	340~420	33.3~41.2
Ø12.7	1/2	550~660	53.9~64.7
Ø15.88	5/8	630~820	61.7~80.4

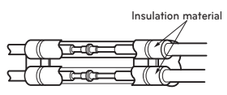


3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing

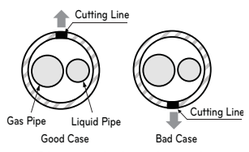


Wrap the insulation material around the connecting portion.

1 Overlap the connection pipe insulation material and the indoor unit pipe insulation material. Bind them together with vinyl tape so that there may be no gap.

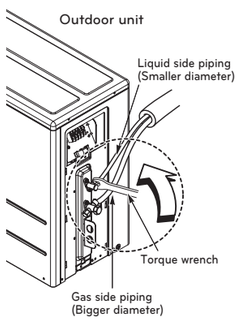


2 Set the tubing cutting line upward. Wrap the area which accommodates the rear piping housing section with vinyl tape.



* Tubing cutting line have to be upward.

- Finally, tighten the flare nut with torque wrench until the wrench clicks. When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.



Outside Diameter		Torque	
mm	inch	kgf·cm	N·m
Ø6.35	1/4	180~250	17.6~24.5
Ø9.52	3/8	340~420	33.3~41.2
Ø12.7	1/2	550~660	53.9~64.7
Ø15.88	5/8	630~820	61.7~80.4

Connecting the Cables

Connect the cable to the indoor unit by connecting the wires to the terminals on the control board individually according to the outdoor unit connection. (Ensure that the color of the wires of the outdoor unit and the terminal No. are the same as those of the indoor unit.)

CAUTION

- The circuit diagram is a subject to change without notice.
- The earth wire should be longer than the common wires.
- When installing, refer to the circuit diagram on the chassis cover.
- Connect the wires firmly so that they may not be pulled out easily.
- Connect the wires according to color codes, referring to the wiring diagram.

CAUTION

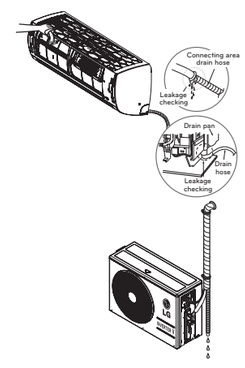
According to the confirmation of the above conditions, prepare the wiring as follows.

1 Never fail to have an individual power circuit specifically for the air conditioner. As for the method of wiring, be guided by the circuit diagram posted on the inside of control cover.
2 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 cause burn-out of the wires.)
3 Specification of power source.
4 Confirm that electrical capacity is sufficient.
5 See that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
6 Confirm that the cable thickness is as specified in the power source specification. (Particularly note the relation between cable length and thickness.
7 Always install an earth leakage circuit breaker in a wet or moist area.
8 The following would be caused by voltage drop.
  - Vibration of a magnetic switch, which will damage the contact point, fuse breaking, disturbance of the normal function of the overload.
9 The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separation of at least 3mm in each active(phase) conductors.

Checking the Drainage

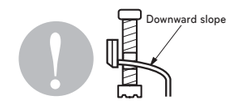
To check the drainage.

1 Pour a glass of water on the evaporator.
2 Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

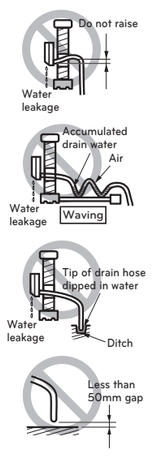


Drain piping

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



2 Do not make drain piping like the following.

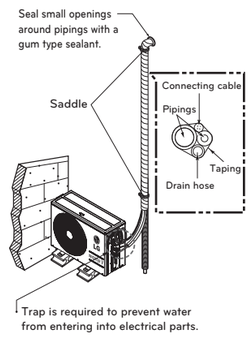


* The feature can be changed according to a type of model.

Forming the Piping

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

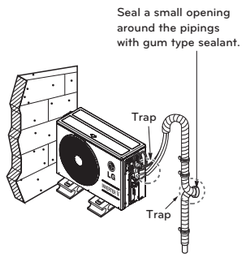
1 Tape the piping, drain hose and connecting cable from down to up.
2 Secure the tapped piping along the exterior wall using saddle or equivalent.



*The feature can be changed according a type of model.

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 using saddle or equivalent



*The feature can be changed according a type of model.

Air Purging

The 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, after evacuating the system, take a leak test for the piping and tubing between the indoor and outdoor unit.

Air purging with vacuum pump

- 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. Note that both the liquid and the gas side service valves on the outdoor unit are kept closed at this stage.
- Leak 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 air purging. If it is not available, use a stop valve for this purpose. The knob of the 3-way valve must always be kept close.

- Pressurize the system to maximum 250 P.S.I.G. (17.6kgf/cm^{2}G) (R-22 model) or 400 P.S.I.G. (28.1kgf/cm^{2}G) (R-410A model) with dry nitrogen gas and close the cylinder valve when the gauge reading reaches 250 P.S.I.G. (17.6kgf/cm^{2}G) (R-22 model) or 400 P.S.I.G. (28.1kgf/cm^{2}G) (R-410A model). Next step is leak test with liquid soap.

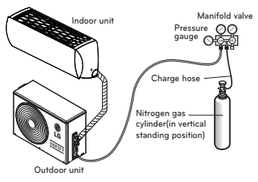
CAUTION

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.

WARNING

There is a risk of fire and explosion.
- Inert gas (nitrogen) should be used when you check plumbing leaks, cleaning or repairs of pipes etc.
If you are using combustible gases including oxygen, product may have the risk of fires and explosions.

- Do a leak 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.



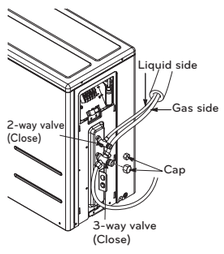
*The feature can be changed according to a type of model.

Soap water method

- Remove the caps from the 2-way and 3-way valves.
- Remove the service-port cap from the 3-way valve.
- Apply a soap water or a liquid neutral detergent on the indoor unit connection or outdoor unit connections by a soft brush to check for leakage of the connecting points of the piping.
- If bubbles come out, the pipes have leakage

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" knob of the pressure Gauge 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.

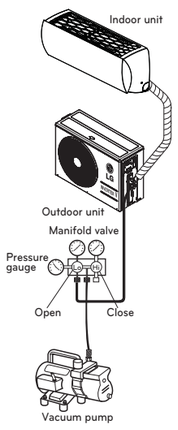


Required time for evacuation when 30 gal/h vacuum pump is used	
If tubing length is less than 10m (33 ft)	If tubing length is longer than 10m (33 ft)
10 min. or more	15 min. or more

- When the desired vacuum is reached, close the knob of the 3-way valve and stop the vacuum pump.

Finishing the Job

- With a service valve wrench, turn the valve of liquid side counter-clockwise to fully open the valve
- Turn the valve of gas side 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.

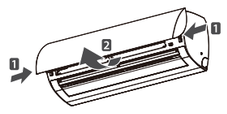


- Replace the valve caps at both gas and liquid side service valves and fasten them tight.
  This completes air purging with a vacuum pump.
- Replace the pipe cover to the outdoor unit by one screw
  Now the air conditioner is ready for test run.

* The feature can be changed according to a type of model.

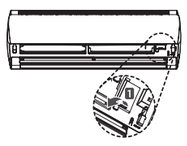
Installation of WLAN Module

1 Turn off the power and unplug the power cord.
2 Open the front cover.
  - Lift up both sides of the cover slightly.



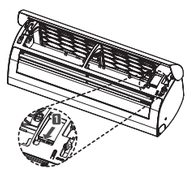
* The feature can be changed according to a type of model.

3 Remove the WLAN Port Cap.



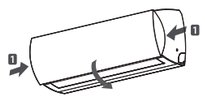
* The feature can be changed according to a type of model.

4 Equipped with a WLAN module.



* The feature can be changed according to a type of model.

5 Close the front panel.
  - Lift down both sides of the panel sloghtly



* The feature can be changed according to a type of model.

NOTE

- When Dry Contact Mode is operated, WLAN Function can not be used.
- In Wi-Fi mode when you want to change to a dry contact mode, normal operation after 3 minutes.

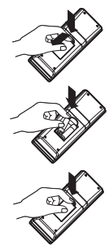
Test Running

- Check that all tubing and wiring are properly connected.
- Check that the gas and liquid side service valves are fully open.

Prepare remote controller

1 Remove the battery cover by pulling it according to the arrow direction.
2 Insert new batteries making sure that the (+) and (–) of battery are installed correctly.

3 Reattach the cover by pushing it back into position.

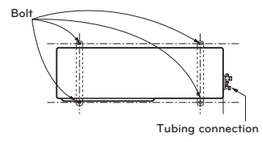


NOTE

- Use 2 AAA(1.5volt) batteries. Do not use rechargeable batteries.
- Remove the batteries from the remote controller if the system is not used for a long time

Settlement of outdoor unit

- Fix the outdoor unit with a bolt and nut(ø10mm) tightly and horizontally on a concrete or rigid mount.
- When installing on the wall, roof or rooftop, anchor the mounting base securely with a nail or wire assuming the influence of wind and earthquake.
- If the vibration of the unit is transmitted to the pipe, secure the unit with an anti-vibration rubber.



CAUTION

- Once the function is set up, heating and automatic operation cannot be used
- Once the function is disable it will return to its normal state
- Code cannot be entered when it is in operation mode. It must be OFF state to enter code
- Even if able to enter code in ON state, it won't function if the code is not entered in OFF state
- Considering the communication time of the accessory built on the Air-conditioning, operate the accessory approximately after 1 min.
- Entire lock or mode lock cannot be set if heating and automatic operation is set through central controller

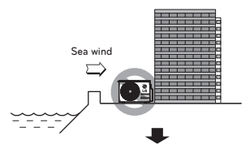
Installation guide at the seaside

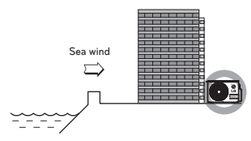
CAUTION

- 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 anti-corrosion treatment on the heat exchanger.

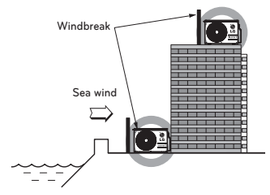
Selecting the location(Outdoor Unit)

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.

NOTE

- If you can't meet above guide line in the seaside installation, please contact LG Electronics for the additional anticorrosion.
- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water

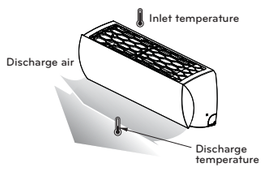
* Do not use seawater you clean up the heat exchanger

Evaluation of the performance

Operate the unit for 15~20 minutes, then check the system refrigerant charge:

- Measure the pressure of the gas side service valve.
- Measure the air temperature from inlet and outlet of air conditiioner.
- Ensure the difference between the inlet and outlet temperature is more than 8°C.
- For reference; the gas side pressure at optimum condition is shown on table (cooling)

The air conditioner is now ready to use.



Refrigerant	Outside ambient TEMP.	The pressure of the gas side
R-410A	35°C	8.5~9.5kg/cm^{2}G(120~135 P.S.I.G.)

*The feature can be changed according to a type of model.

NOTE

If the actual pressure is higher than shown, the system is most likely overcharged, and charge should be removed.
If the actual pressure are lower than shown, the system is most likely undercharged, and charge should be added.

Pump down

This is performed when the unit is relocated or the refrigerant circuit is serviced.
Pump Down means collecting all refrigerant into the outdoor unit without the loss of refrigerant.

CAUTION

Be sure to perform Pump Down procedure in the cooling mode.

Pump Down Procedure

- Connect a low-pressure gauge manifold hose to the charge port on the gas side service valve.
- Open the gas side service valve halfway and purge the air in the manifold hose using the refrigerant.
- Close the liquid side service valve(all the way).
- Turn on the unit's operating switch and start the cooling operation.
- When the low-pressure gauge reading becomes 1 to 0.5kg/cm^2 G(14.2 to 7.1 P.S.I.G.), fully close the gas side valve and then quickly turn off the unit. Now Pump Down procedure is completed, and all refrigerant is collected into the outdoor unit.

C/O(Cooling Only) Mode

C/O switching function set up

1 Supply power at Power-OFF state
2 Enter the Installer Code and set the code to 45
3 Press Power-ON button to select the code No. 45 then, check if buzzer beeps
4 Turn off Power
5 Turn the power back on after 30 sec.

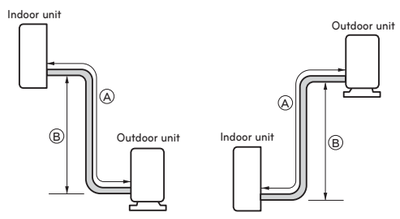
C/O switching function disable set up

1 Supply power at Power-OFF state
2 Enter the Installer Code and set the code to 46
  Press Power-ON button to select the code No. 46 and check if buzzer beeps.
3 Turn off Power
4 Turn the power back on after 30 sec.

* How to enter the installer mode
  Press Reset Button and JET MODE Button

Piping Length and Elevation

Capacity (Btu/h)	Pipe Size				Standard Length m(ft)	Max. Elevation Ⓑ m(ft)	Min Length Ⓐ m(ft)	Max. Length Ⓐ m(ft)	Additional Refrigerant for longer than 12.5m(41ft)	
	GAS		LIQUID							
	mm	inch	mm	inch					g/m	oz/ft
9k, 12k	Ø9.52	3/8	Ø6.35	1/4	7.5(25)	10(33)	2(6.6)	20(66)	20	0.22



CAUTION

Capacity is based on standard length and maximum allowable length is on the basis of reliability.
Additional refrigerant must be charged after 12.5 m (there is no need to charge till 12.5 m based on reliability)

Operation ranges

The table below indicates the temperature ranges the air conditioner can be Operated within.

Mode	Indoor temperature	Outdoor temperature
Cooling	18°C~30°C (64.4°F~86°F)	-10°C~48°C(14°F~118.4°F)
Heating	16°C~30°C(60.8°F~86°F)	-25°C~24°C(-13°F~75.2°F)