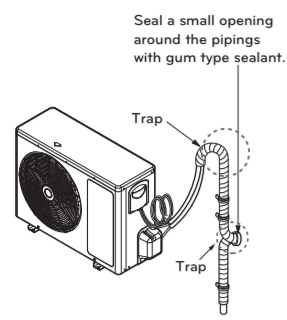


In cases where the outdoor unit is installed above the indoor unit perform the following:

- 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 not more than 150 P.S.I.G. with dry nitrogen gas and close the cylinder valves when the gauge reading reaches 150 P.S.I.G. 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.

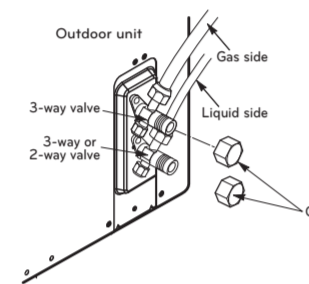
WARNING

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.

Evacuation

Connect the charge hose end described in the preceding steps to the vacuum pump to evacuate the tubing and indoor unit. Confirm the "L" 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

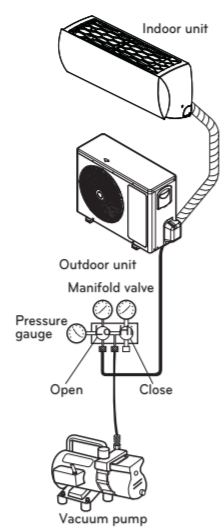
When the desired vacuum is reached, close the knob of the 3-way valve and stop the vacuum pump.

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

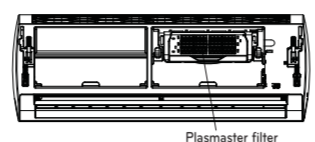
Finishing the Job

- 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.



Installation of filters

- 1 Detach two nitro tapes from the plasma filter.



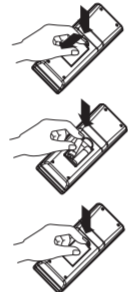
* The feature can be changed according to a type of model.

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

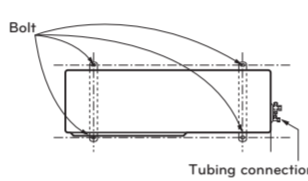
- Use 2 AAA (1.5V) batteries. Do not use rechargeable batteries.
- Remove the batteries from the remote controller if the system is not used for a long time

Settlement of outdoor unit

Fix the outdoor unit with a bolt and nut (10mm) 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.

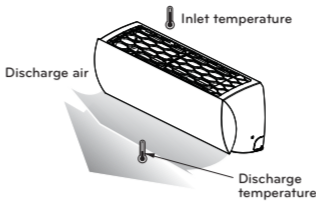
If the vibration of the unit is transmitted to the pipe, secure the unit with an anti-vibration rubber.



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 conditioner.
 - Ensure the difference between the inlet and outlet temperature is more than 2°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 over-charged, and charge should be removed. If the actual pressure are lower than shown, the system is most likely under-charged, 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

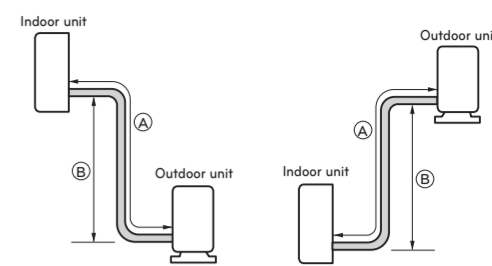
Be sure to perform Pump Down procedure in the cooling mode.

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/cm² 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.

Piping Length and Elevation

Capacity (W)	Pipe Size				Standard Length (m)	Max. Length ⌀ (m)	Max. Elevation ⌀ (m)	Additional Refrigerant (g/m) (after 12.5 m)
	m	inch	m	inch				
2.5k, 3.5k	Ø9.52	3/8	Ø6.35	1/4	7.5	20	10	20



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	-10°C-48°C(14°F-118.4°F)	-10°C-48°C(14°F-118.4°F)
Heating	-10°C-24°C(14.0°F-75.2°F)	-10°C-24°C(14.0°F-75.2°F)

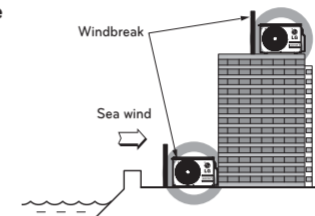
Installation guide at the seaside

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.



- 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.

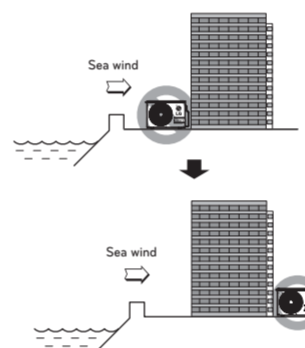
Select a well-drained place.

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

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.