

INSTALLATION MANUAL

HEAT PUMP

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.

Standard inverter



MFL67448523
Rev.00_092024

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Safety Precautions

To prevent the injury of the user or other people and property damage, the following instructions must be followed.

- Be sure to read before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠ WARNING This symbol indicates the possibility of death or serious injury.

⚠ CAUTION This symbol indicates the possibility of injury or damage to properties only.

- The meanings of the symbols used in this manual are as shown below.

	Be sure not to do.
	Be sure to follow the instruction.

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others. Installation of all field wiring and components MUST conform with local building codes or, in the absence of local codes, with the National Electrical Code 70 and the National Building Construction and Safety Code or Canadian Electrical code and National Building Code of Canada.
- Installation or repairs made by unqualified persons can result in hazards to you and others.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.
- Ask the dealer or an authorized technician to install the air conditioner.
 - Improper installation by the user may result in water leakage, electric shock, or fire.
- Always ground the product.
 - There is risk of fire or electric shock.
- Always install a dedicated circuit and breaker.
 - Improper wiring or installation may cause fire or electric shock.
- For re-installation of the installed product, always contact a dealer or an Authorized Service Center.
 - There is risk of fire, electric shock, explosion, or injury.
- Do not install, remove, or re-install the unit by yourself (customer).
 - There is risk of fire, electric shock, explosion, or injury.
- Do not store or use flammable gas or combustibles near the air conditioner.
 - There is risk of fire or failure of product.

Installation

- Have all electric work done by a licensed electrician according to "Electric Facility Engineering Standard" and "Interior Wire Regulations" and the instructions given in this manual and always use a special circuit.
 - If the power source capacity is inadequate or electric work is performed improperly, electric shock or fire may result.
- Use the correctly rated breaker or fuse.
 - There is risk of fire or electric shock.
- Do not install the unit at the outdoors.
 - Otherwise it may cause fire, electric shock and trouble.

- Do not install the product on a defective installation stand.
 - It may cause injury, accident, or damage to the product.
- 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.
- When installing and moving the air conditioner to another site, do not charge it with a different refrigerant from the refrigerant specified on the unit.
 - If a different refrigerant or air is mixed with the original refrigerant, the refrigerant cycle may malfunction and the unit may be damaged.
- Do not reconstruct to change the settings of the protection devices.
 - If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by LGE are used, fire or explosion may result.
- Ventilate before operating air conditioner when gas leaked out.
 - It may cause explosion, fire, and burn.
- Securely install the cover of control box and the panel.
 - If the cover and panel are not installed securely, dust or water may enter the outside unit and fire or electric shock may result.
- If the air conditioner is installed in a small room, measures must be taken to prevent the refrigerant concentration from exceeding the safety limit when the refrigerant leaks.
 - Consult the dealer regarding the appropriate measures to prevent the safety limit from being exceeded. Should the refrigerant leak and cause the safety limit to be exceeded, hazards due to lack of oxygen in the room could result.
- Use a dedicated outlet for this appliance.
 - There is risk of fire or electrical shock.
- Be cautious that water could not enter the product.
 - There is risk of fire, electric shock, or product damage.
- Do not touch the power switch with wet hands.
 - There is risk of fire, electric shock, explosion, or injury.
- When the product is soaked (flooded or submerged), contact an Authorized Service Center.
 - There is risk of fire or electric shock.
- Be cautious not to touch the sharp edges when installing.
 - It may cause injury.
- Take care to ensure that nobody could step on or fall onto the outside unit.
 - This could result in personal injury and product damage.
- Do not open the inlet grille of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)
 - There is risk of physical injury, electric shock, or product failure.

CAUTION

Installation

- Always check for gas (refrigerant) leakage after installation or repair of product.
 - Low refrigerant levels may cause failure of product.
- Do not install the product where the noise or hot air from the outside unit could damage the neighborhoods.
 - It may cause a problem for your neighbors.
- Keep level even when installing the product.
 - To avoid vibration or water leakage.
- Do not install the unit where combustible gas may leak.
 - If the gas leaks and accumulates around the unit, an explosion may result.
- Use power cables of sufficient current carrying capacity and rating.
 - Cables that are too small may leak, generate heat, and cause a fire.

Operation

- Do not damage or use an unspecified power cord.
 - There is risk of fire, electric shock, explosion, or injury.

- Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer air conditioner, not a precision refrigeration system.
 - There is risk of damage or loss of property.
- When installing the unit in a hospital, communication station, or similar place, provide sufficient protection against noise.
 - The inverter equipment, private power generator, high-frequency medical equipment, or radio communication equipment may cause the air conditioner to operate erroneously, or fail to operate. On the other hand, the air conditioner may affect such equipment by creating noise that disturbs medical treatment or image broadcasting.
- When transporting the outside unit, suspending it at the specified positions on the unit base. Also support the outside unit at four points so that it cannot slip sideways.
- Safely dispose of the packing materials.
 - Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries.
 - Tear apart and throw away plastic packaging bags so that children may not play with them. If children play with a plastic bag which was not torn apart, they face the risk of suffocation.
- Turn on the power at least 6 hours before starting operation.
 - Starting operation immediately after turning on the main power switch can result in severe damage to internal parts. Keep the power switch turned on during the operational season.

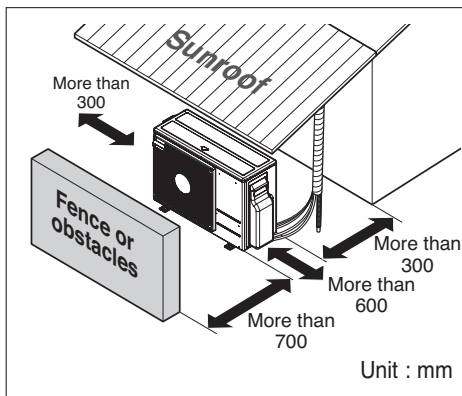
Operation

- Do not use the air conditioner in special environments.
 - Oil, steam, sulfuric smoke, etc. can significantly reduce the performance of the air conditioner or damage its parts.
- Do not block the inlet or outlet.
 - It may cause failure of appliance or accident.
- Make the connections securely so that the outside force of the cable may not be applied to the terminals.
 - Inadequate connection and fastening may generate heat and cause a fire.
- Be sure the installation area does not deteriorate with age.
 - If the base collapses, the air conditioner could fall with it, causing property damage, product failure, or personal injury.
- Install and insulate the drain hose to ensure that water is drained away properly based on the installation manual.
 - A bad connection may cause water leakage.
- Be very careful about product transportation.
 - Only one person should not carry the product if it weighs more than 20 kg.
 - Some products use PP bands for packaging. Do not use any PP bands for a means of transportation. It is dangerous.
 - Do not touch the heat exchanger fins. Doing so may cut your fingers.
- Do not touch any of the refrigerant piping during and after operation.
 - It can cause a burn or frostbite.
- Do not operate the air conditioner with the panels or guards removed.
 - Rotating, hot, or high-voltage parts can cause injuries.
- Do not directly turn off the main power switch after stopping operation.
 - Wait at least 5 minutes before turning off the main power switch. Otherwise it may result in water leakage or other problems.
- Auto-addressing should be done in condition of connecting the power of all indoor and outdoor units. Auto-addressing should also be done in case of changing the indoor unit PCB.
- Use a firm stool or ladder when cleaning or maintaining the air conditioner.
 - Be careful and avoid personal injury.

Installation of Outdoor Unit

1. 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.

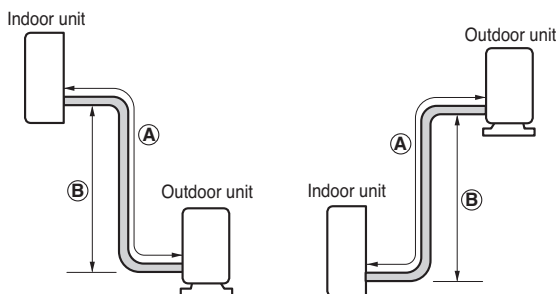


2. Piping length and the elevation

Model	Capacity	Pipe Size mm(inch)		Length A Unit : m(ft)		Elevation B Unit : m(ft)		Additional refrigerant Unit : g/m (oz/ft)
		Gas	Liquid	Standard	Max.	Standard	Max.	
AUW09GAE(LUU097HV)	2.6 kW	Φ9.52(3/8)	Φ6.35(1/4)	7.6(25)	20(65.6)	5(16)	15(49.2)	20(0.22)
AUW12GAE(LUU127HV)	3.5 kW	Φ9.52(3/8)	Φ6.35(1/4)	7.6(25)	20(65.6)	5(16)	15(49.2)	20(0.22)

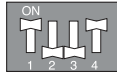
If installed tube is shorter than 7.6 m, additional charging is not necessary.

Additional Refrigerant = (A - 7.6) x Additional refrigerant (g)

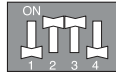


Night Silent Operation setting

1. Open the Control Cover
2. Set the SW01N (PIP SW2).

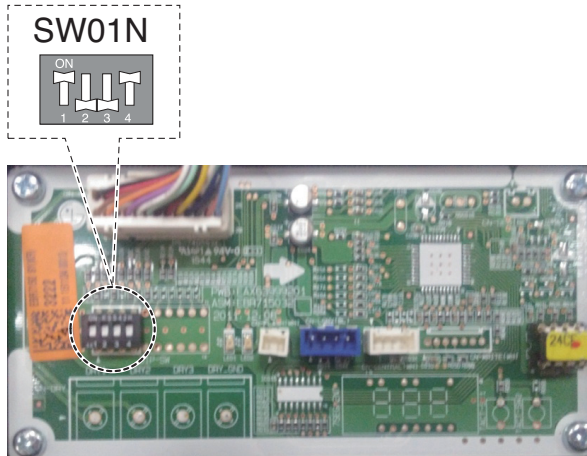


Step 1.



Step 2

3. Close the Control Cover.

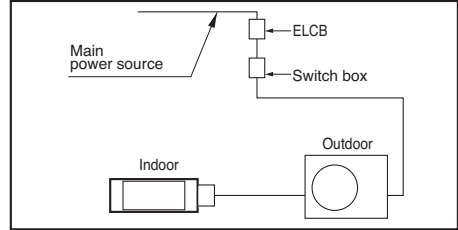


Wiring Connection

Electrical Wiring

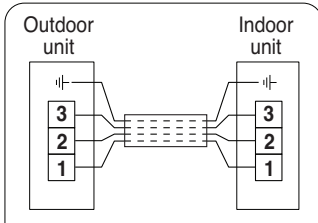
Perform the electrical wiring work according to the electrical wiring connection.

- 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
AUUW09GAE(LUU097HV)	1	15A
AUUW12GAE(LUU127HV)	1	15A

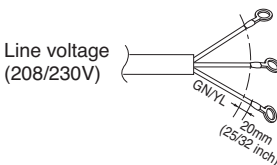
Connecting Cables between Indoor Unit and Outdoor Unit



CAUTION:

- The power cord connected to the outdoor unit should comply with the following specifications: NRTL Recognized(for example, UL or ETL recognized and CSA certified).

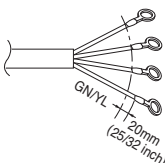
■ Power supply cable



As always, final wire selection is governed by local codes and should be installed by a licensed professional contractor.

	The minimum recommended wire size
9/12kBtu/h	AWG 14-3

■ Connecting cable

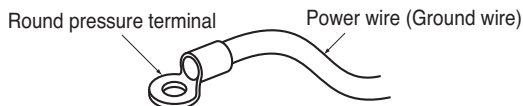


The power connecting cable between the outdoor and indoor units must comply with the following specifications: NRTL Recognized (for example, UL or ETL recognized and CSA certified). AWG 18-4 is the minimum recommended wire size, however, the selected conductors must comply with local codes and be suitable for installation in wet locations.

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

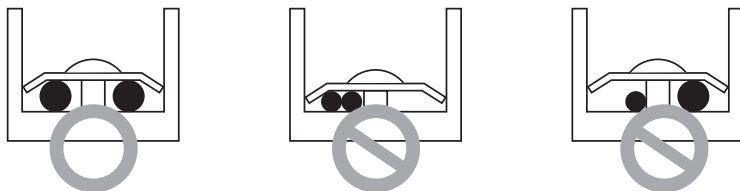
◆ Precautions when laying power and ground wiring

Use round pressure terminals for connections to the power terminal block. When laying ground wiring, you must use round pressure terminals.



When none are available, follow the instructions below.

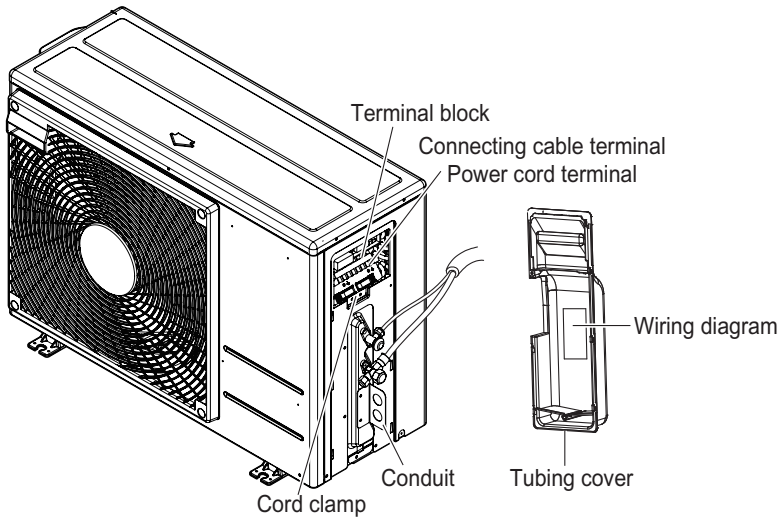
- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.



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



CAUTION:

- The Power cord connected to the unit should be selected according to the following specifications.

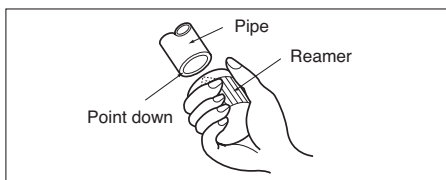
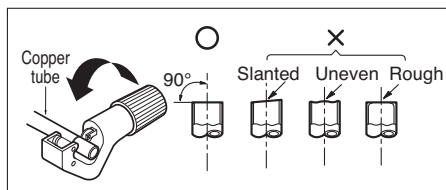
Connecting Pipes

Preparation of Piping

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

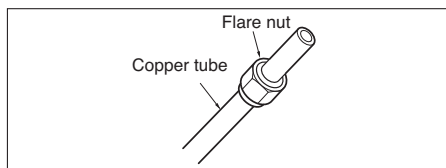
Cut the pipes and the cable.

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



Burrs removal

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



Putting nut on

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

Flaring work

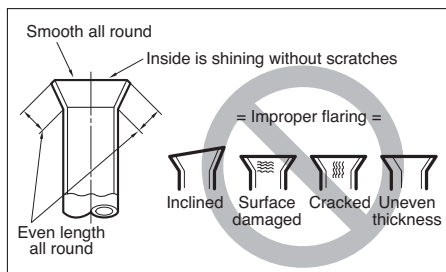
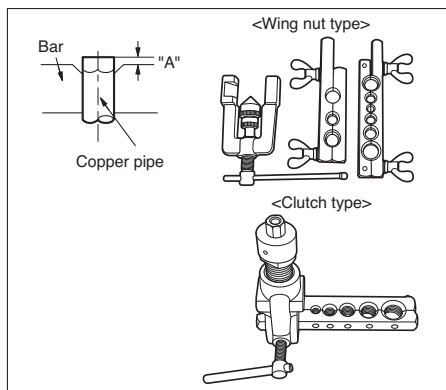
- Carry out flaring work using dedicated flaring tool for R-410A as shown below.

Pipe diameter Inch (mm)	A inch (mm)	
	Wing nut type	Clutch type
Ø1/4 (Ø6.35)	0.04~0.07 (1.1~1.8)	0~0.02 (0~0.5)
Ø3/8 (Ø9.52)		
Ø1/2 (Ø12.7)		
Ø5/8 (Ø15.88)		

Firmly hold copper tube in a bar(or die) as indicated dimension in the table above.

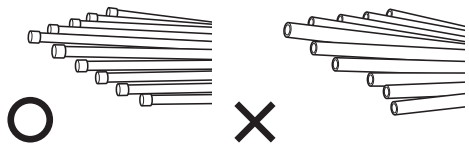
Check

- Compare the flared work with figure below.
- If flare is noted to be defective, cut off the flared section and do flaring work again.



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.

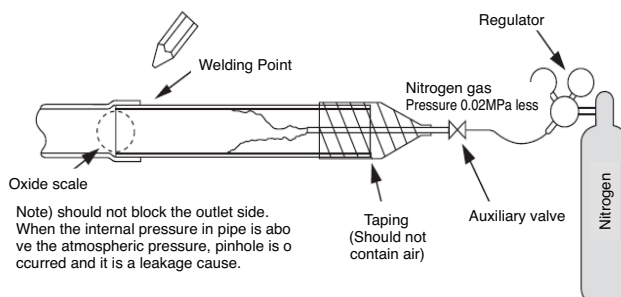
The oxide film is caused by clogging EEV, Capillary, oil hole of accumulator and suction hole of oil pump in compressor.

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.

◆How to work



CAUTION:

1. Always use the nitrogen.(not use oxygen, carbon dioxide, and a Chevron gas):

Please use the following nitrogen pressure 0.02MPa

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.

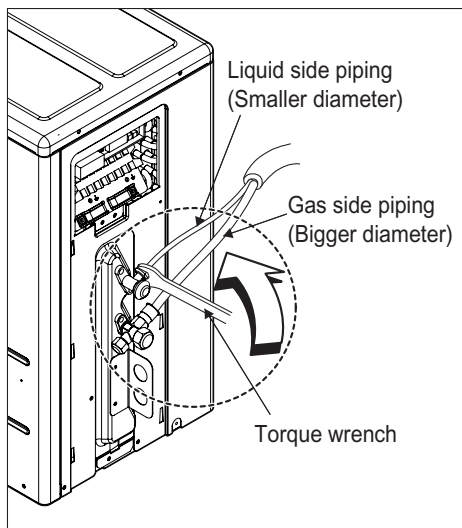
The residual material seems to be the oxide scale is observed.

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)

Connecting the pipes to the Outdoor unit

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

Piping Size		Torque		
mm	inch	kgf·cm	N·m	lbf·ft
Ø 6.35	Ø 1/4	180 ~ 250	17.6 ~ 24.5	13 ~ 18
Ø 9.52	Ø 3/8	340 ~ 420	33.3 ~ 41.2	25 ~ 30
Ø 15.88	Ø 5/8	630 ~ 820	61.7 ~ 80.4	45 ~ 59
Ø 12.7	Ø 1/2	550 ~ 660	53.9 ~ 64.7	40 ~ 48
Ø 19.05	Ø 3/4	990 ~ 1 210	97.0 ~ 118.7	71 ~ 87



✱ When tighten the pipe, hold the hexagonal body.

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.

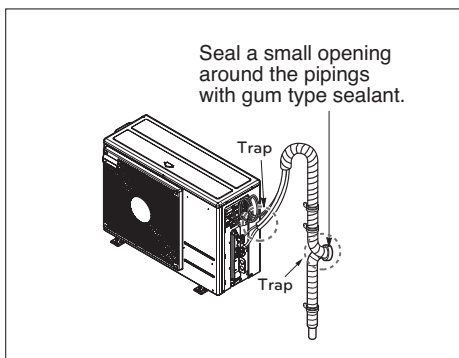
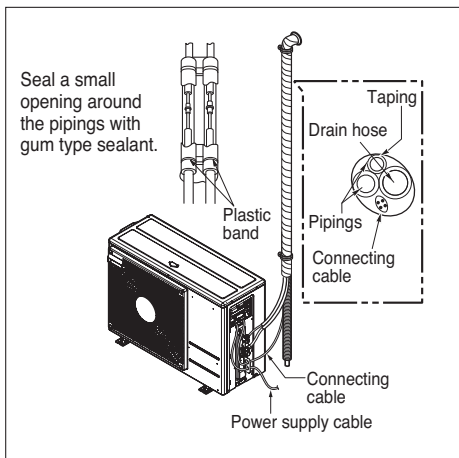
- If you want to connect an additional drain hose, the end of the drain outlet should be routed above the ground. Secure the drain hose appropriately.

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

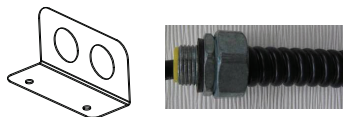
1. Tape the piping, drain hose and connecting cable from down to up.
2. Secure the taped piping along the exterior wall using saddle or equivalent.

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.



CAUTION:
Assemble it with conduit.



Leakage test and Evacuation

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

1. Pressure in the system rises.
2. Operating current rises.
3. Cooling(or heating) efficiency drops.
4. Moisture in the refrigerant circuit may freeze and block capillary tubing.
5. 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 incondensable 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.

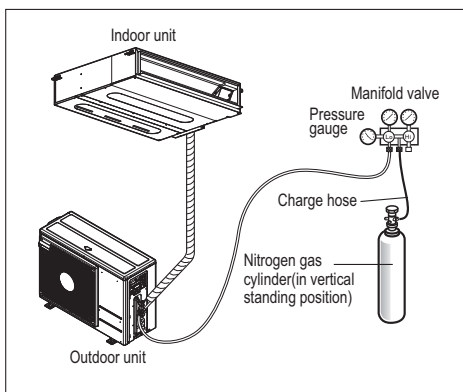
- Pressurize the system to no more than 3.0 Mpa with dry nitrogen gas and close the cylinder valve when the gauge reading reached 3.0 MPa Next, test for leaks with liquid soap.



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.

1. Do a leakage test of all joints of the tubing(both Indoor unit and outdoor unit) and both gas and liquid side service valves. Bubbles indicate a leak. Be sure to wipe off the soap with a clean cloth.

2. 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

1. 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.

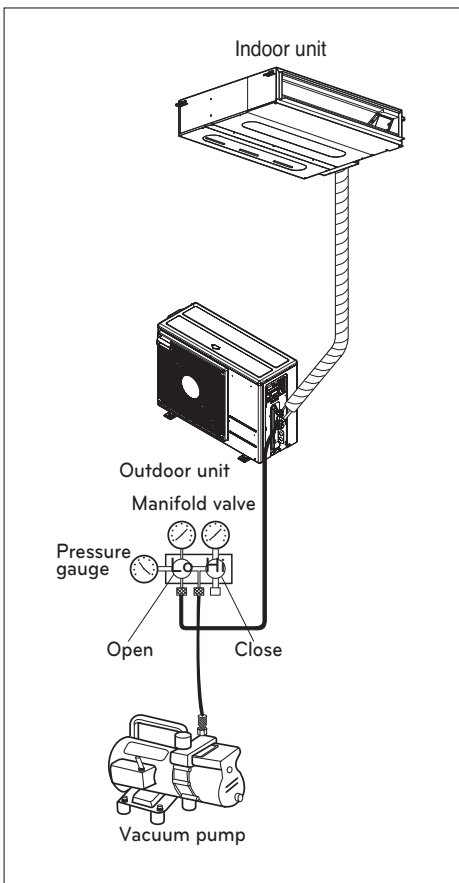
Required time for evacuation when 30 gal/h vacuum pump is used	
If tubing length is less than 10 m(33 ft)	If tubing length is longer than 10 m(33 ft)
30 min. or more	60 min. or more
0.07 kPa or less	

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

Finishing the job

1. With a service valve wrench, turn the valve stem of liquid side valve counter-clockwise to fully open the valve.
2. Turn the valve stem of gas side valve counter-clockwise to fully open the valve.
3. Loosen the charge hose connected to the gas side service port slightly to release the pressure, then remove the hose.
4. 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.
5. 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

1. 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 ① 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.

② Carry out the test run more than 5 minutes without fail.
(Test run will be cancelled 18 minutes later automatically)

- The test run is started by pressing the room temperature checking button and down timer 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.....118N·cm{12kgf·cm} M5.....196N·cm{20kgf·cm}
M6.....245N·cm{25kgf·cm} M8.....588N·cm{60kgf·cm}

2. Connection of power supply

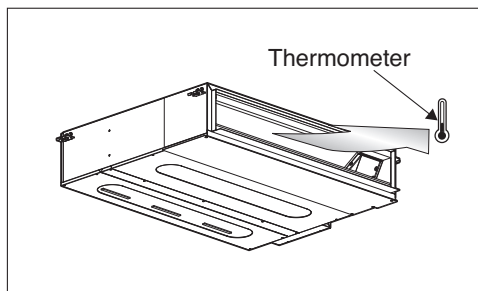
1. Connect the power supply cord to the independent power supply.

- Circuit breaker is required.

2. Operate the unit for fifteen minutes or more.

3. Evaluation of the performance

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



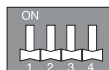
HAND OVER

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

Function

DIP S/W Setting

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.



DIP Switch				Function
1	2	3	4	
				Normal Operation (No Function)
				Forced Cooling Operation
				Saving Power Consumption (Step 1)
				Saving Power Consumption (Step 2)
				Mode Lock (Cooling)
				Mode Lock (Heating)
				Night Quiet Mode (Step 1)
				Night Quiet Mode (Step 2)
				Mode Lock (Cooling) + Night Quiet Mode (Step 1)
				Mode Lock (Cooling) + Night Quiet Mode (Step 2)
				Mode Lock (Cooling) + Saving Power Consumption (Step 1)
				Mode Lock (Cooling) + Saving Power Consumption (Step 2)
				Mode Lock (Heating) + Saving Power Consumption (Step 1)
				Mode Lock (Heating) + Saving Power Consumption (Step 2)



WARNING: When you set the DIP switch, you should turn off the circuit breaker or shut the power source of the product down.

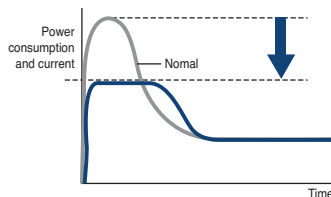


CAUTION

- 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.

Saving Power Consumption

Saving Power Consumption operation is the function which enables efficient operation by lowering the maximum power consumption value.



Setting Procedure

- 1 Set the DIP Switch as follow after shutting the power source down.
- 2 Reset the power.



Step 1



Step 2

Saving Power Consumption Current level.

Phase	1Ø	
Model	9k	12k
Step1(A)	4	5
Step2(A)	3	4

Saving Power Consumption with Mode Lock.



Saving Power
Consumption (step 1)
+ Mode Lock (Cooling)



Saving Power
Consumption (step 1)
+ Mode Lock (Heating)



Saving Power
Consumption (step 2)
+ Mode Lock (Cooling)



Saving Power
Consumption (step 2)
+ Mode Lock (Heating)

Night Quiet Mode

Night Quiet Mode operation lowers the noise level of the outdoor unit by changing the comp frequency and fan speed. This function is operated all night long.

Setting Procedure

1. Set the DIP Switch as follow after shutting the power source down.



Step 1



Step 2

* Noise level :Step 1 > Step 2

2. Reset the power

Night Quiet Mode with Mode Lock.

Mode Lock (Cooling)
+ Night Quiet Mode (step 1)



Mode Lock (Cooling)
+ Night Quiet Mode (step 2)

**CAUTION**

- If comp frequency and fan speed are down, the cooling capacity may decrease accordingly.
- This function is only available for Cooling Mode.
- If you want to stop the Night Quiet Mode, Change the DIP Switch.
- If operating indoor unit is set by the fan speed "Power", Night Quiet Mode will be stopped until fan speed "Power" is changed.

Mode Lock**Setting Procedure**

1. Set the DIP Switch as follow after shutting the power source down.



Only Cooling Mode



Only Heating Mode

2. Reset the power.

Mode Lock with Night Quiet Mode

Mode Lock (Cooling)
+ Night Quiet Mode
(step 1)



Mode Lock (Cooling)
+ Night Quiet Mode
(step 2)

Saving Power Consumption with Mode Lock.

Mode Lock (Cooling)
+ Saving Power
Consumption (step 1)



Mode Lock (Heating)
+ Saving Power
Consumption (step 1)



Mode Lock (Cooling)
+ Saving Power
Consumption (step 2)



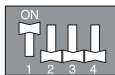
Mode Lock (Heating)
+ Saving Power
Consumption (step 2)

Forced Cooling Operation

- Adding the refrigerant in winter.

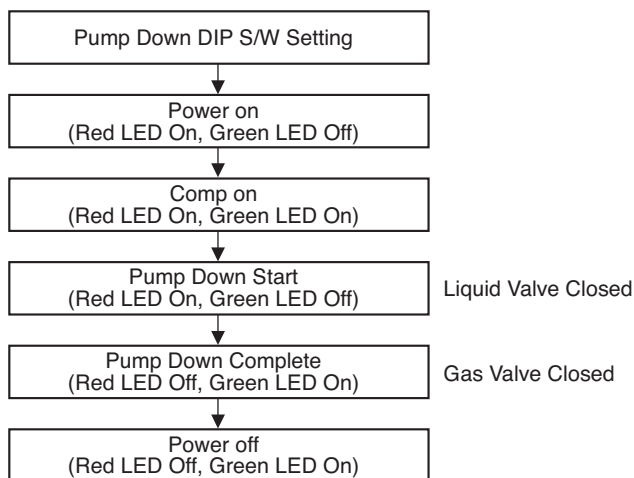
Setting Procedure

- 1) Set the DIP Switch as follow after shutting the power source down.
- 2) Reset the power.
- 3) Red LED and Green LED of PCB lights during work.
(The indoor unit is operated by force.)
- 4) If operation is done, Red LED will be turned off.
If operation is not done normally, Red LED will blink.
- 5) Close the Liquid valve only after green LED turned off (7 minutes from the start of the machine).
Then close the gas valve after Green LED on.



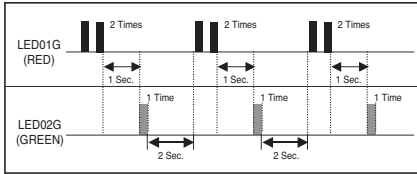
WARNING:

- When the green LED of PCB is on, compressor is going to be off because of low pressure.
- You should return the DIP Switch to operate normally after finishing the operation.
- Improper Pump down will lead to product turn off along with LED (green & red) off with in 20 minutes from the initial start.



Self-diagnosis Function

Error Indicator (Outdoor)



Outdoor Error
Ex) Error 21 (DC Peak)



Error Code	Description	LED 1 (Red)	LED 2 (Green)	Indoor status
21	DC Peak(IPM Fault)	2times ●	1time ●	OFF
22	Max. CT(CT2)	2times ●	2times ●	OFF
23	DC Link Low Volt.	2times ●	3times ●	OFF
24	Pressure switch/Heater Sink.	2times ●	4times ●	OFF
26	DC Comp Position Error	2times ●	6times ●	OFF
27	PFC Fault Error	2times ●	7times ●	OFF
29	Comp Over Current	2times ●	9times ●	OFF
32	D-Pipe High(Inv.)	3times ●	2times ●	OFF
40	CT Sensor(Open/Short)	4times ●	0	OFF
41	Inv. D-Pipe Th Error(Open/Short)	4times ●	1time ●	OFF
43	High Pressure Sensor(Open/Short)	4times ●	3times ●	OFF
44	Outdoor air Th Error(Open/Short)	4times ●	4times ●	OFF
45	Cond. Middle Pipe Th Error(Open/Short)	4times ●	5times ●	OFF
46	Suction Pipe Th Error(Open/Short)	4times ●	6times ●	OFF
48	Cond. Out-Pipe Th Error(Open/Short)	4times ●	8time ●	OFF
51	Capacity over	5times ●	1times ●	OFF
53	Communication Error(Indoor ↔ Outdoor)	5times ●	3times ●	OFF
60	EEPROM Error(Outdoor)	6times ●	0	OFF
61	Cond. Middle Pipe High	6times ●	1times ●	OFF
62	Heatsink Error(High)	6times ●	2times ●	OFF
65	Heatsink Th Error(Open/Short)	6times ●	5times ●	OFF
67	BLDC motor fan lock(Outdoor)	6times ●	7times ●	OFF

If abnormal voltage is supplied, the protection circuits will turn off the product in order to prevent the component damage. The product will automatically restart after 3 minutes.

Installation Guide at the Seaside

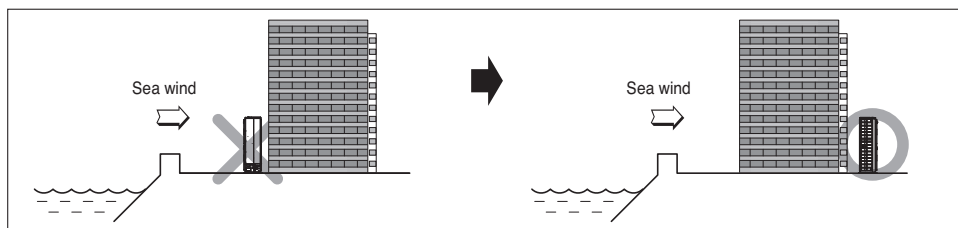


CAUTION:

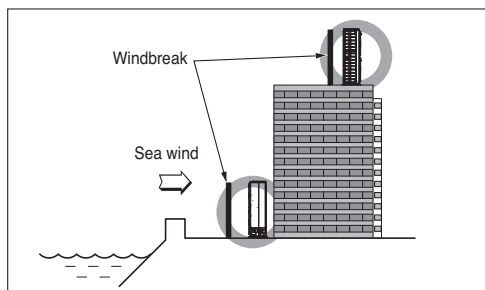
1. Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
2. Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.
3. 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)

- 1) 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.



- 2) 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.

- 3) 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



US	Please call the installing contractor of your product, as warranty service will be provided by them.
CANADA	Service call Number # : (888) LG Canada, (888) 542-2623 Numéro pour les appels de service : LG Canada, 1-888-542-2623