## ENGLISH

# INSTALLATION MANUAL AIR CONDITIONER

TYPE : WALL MOUNTED

### TIPS FOR SAVING ENERGY

- Here are some tips that will help you minimize power consumption when you use your air conditioner.
- Do not cool excessively indoors. This may be harmful for your health and may consume more
- 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 indoor air quickly. • 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 to ensure peak performance of your product.

### A WARNING

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

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

similarly 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 read and follow all instructions in this manual can result in equipment malfunction, proper-

#### 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 earth leakage circuit 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.

ty damage, personal injury and/or death.

- 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 there is concern of falling down
- Otherwise, it may result in personal injury • Use caution when unpacking and installing. - Sharp edges may cause injury.

P/No · MEI 67647124

- 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.
  - Do not turn on the breaker or power under condition that front panel, cabinet, top cover, and control Otherwise, it may cause fire, electric shock, explosion or death.
  - 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 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.

#### 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 cable. Scratches or peeling insulation on the power cables may result in fire or electric shock, and should be replaced. • 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 - 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.

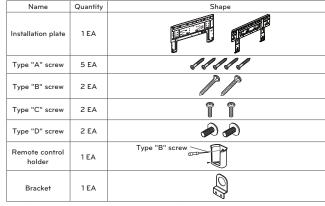
#### 

- 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 of the carbon and the second secon 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.
- \* Features may change according to the type of model.

# **INSTALLATION PARTS**

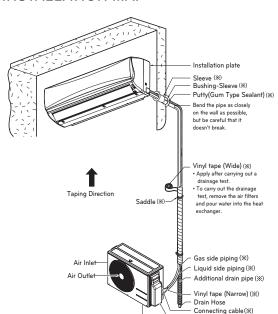


The features may change according to the type of model Screws for fixing panels are attached to decoration panel

#### **INSTALLATION TOOLS**

Figure	Name	Figure	Name
•••• ••••	Screw driver	()	Multi-meter
	Electric drill	Ļ	Hexagonal wrench
	Measuring tape, Knife	A A A A A A A A A A A A A A A A A A A	Ammeter
	Hole core drill	Ś	Gas-leak detector
	Spanner	Ø Ø	Thermometer, Level
one	Torque wrench		Flaring tool set

### INSTALLATION MAP



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

Base Plate -

- Tubing Cover

<Right side piping>

CAUTION-

Method:

unit.

Must use the elbow type (L-Type) conduit

1. Disassemble bracket

2. Assemble it with conduit

3. Reassemble it with indoor

If the extension drain hose is routed

inside the room, insulate the hose with an insulation material\* so that dripping from

sweating (condensation) could not dam-age furniture or floors.

Foamed polyethylene or equivalent is recommended.

Outdoo

Indoor Unit (M

Ingth and 7mm thick Free Length and 7mm thick drain he

(from indoor unit)

-AUTION-

Indoor

- AUTION -

Drain hose Connecting pipe

\* Features may change according to the type

#### 

<Right side piping>

You should purchase the installation parts.

# INSTALLATION

- Do not install near a doorway.

around the unit.

ceilina.

# Select the best Location

#### Indoor unit - There should not be any heat or steam near the unit

- 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. - Select a place where there are no obstacles Make sure that condensation drainage can be conveniently routed away.

- 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.

- 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

24i

(Unit : in)

fore than

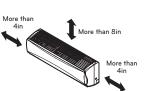
Outdoor unit

restricted.

- 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 - Select a place where the warm air and noise from the air conditioner do not disturb neigh on the wall, allowing a minimum of 8in from

bors

- Use a metal detector to locate studs to prevent unnecessary damage to the wall

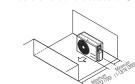


\* Recommended height 6.5ft from the floor \* Features may change according to the type of model.

- 🚺 NOTE – Remove obstructions to prevent blockage of airflow path.

Outdoor Unit Service Access and Allowable Clearances

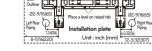
### 1 Where there are obstacles on both suction and discharge sides (discharge side obsta-cle is lower than the outdoor unit).

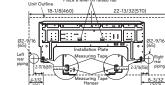


## Both Installation Plates can be used for 2 Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate. Routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely

2 Where there are obstacles above, and on both suction and discharge sides (dis-charge side obstacle is lower than the out-

Unit : inch (mm)





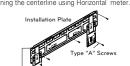
Both Installation Plates can be used for

Unit : inch (mm)

3

**Fixing Installation Plate** The wall you select should be strong and solid ough to prevent vibration



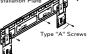


Finishing the indoor unit

1 Mount the tubing holder in the original

2 Ensure that the books are properly seated

installation



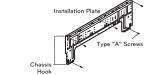


- Remove the tubing cover from the unit by loosening the screw.

Outdoor unit

Connecting the Piping

<18k>







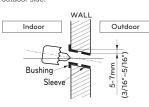
(Unit : in)



### Drill a Hole in the Wall

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- 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



Use the sleeve to prevent damage for tube assembly

### **Flaring Work**

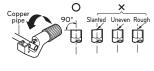
Main cause for gas leakage is due to defect of flaring work. Carry out correct flaring work in the following procedure.

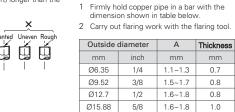
## Cut the pipes and the cable

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

Flaring work 4 Cut the cable 1.5m (4.9 ft) longer than the pipe length





Right

Good case

left side slowly.

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

Back side view

Backwards

\* Features may change according to the type of model.

Press the tubing cover and slowly unfold the

tubing to downward. And then bend to the



Check

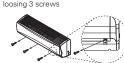
1 Compare the flared work with the figures aiven below. 2 If a flared section is defective, cut it off and do flaring work again.

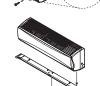


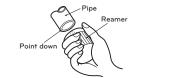
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# Connecting the Piping

1 Pull the screw caps at the bottom of the indoor unit 2 Remove the chassis cover from the unit by







Remove flare nuts attached to indoor and

not possible to put them on after finishing

Flare nut

0.8

outdoor units, then put them on the pipe/tube which have completed its burr

Burrs removal

into the tubing.

Putting nut on

moval

flare work)

1 Completely remove all burrs from the cut cross section of pipe/tube. Following bending case from right to left directly may cause damage to the tubing. 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 tube.



of mode

- AUTION-

Installation of Indoor Unit

1 Hook the indoor unit onto the upper por

tion 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

ated on the installation plate by mo

2 Unlock the tubing holder from the chassis and mount between the chassis and instal-lation plate in order to separate the bottom

\* Features may change according to the type

of model

4

Tubina Ho

side of the indoor unit from the wall

Bad case



cover Do not strongly press the refrigerant pipes onto the bottom frame. • Do not strongly press the refrigerant pipes on the front grille, either.

Х

Ο

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



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.)

1(L1) 2(L2)

<Left side piping>

Type "D" Screv

1



<Left side piping>

3 Tape the tubing pipe, drain hose and the connection cable. 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.

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

Connecting the installation pipe

and drain hose to the indoor unit.

1 Align the center of the pipes and sufficient-

Indoor unit tubing Flare nut Pipes

2 Tighten the flare nut with a wrench

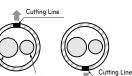
ly tighten the flare nut by hand

Insert the drain hose more than 1-15/16" (50mm) so it won't be pulled out of the drain pipe.

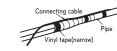
Wrap the insulation material around the connecting portion. Overlap the connection pipe insulation material and the indoor unit pipe insulation material. Bind them together with vinyl

tape so that there may be no gap. 

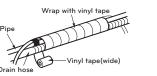
2 Set the tubing cutting line upward. Wrap the area which accommodates the rear piping housing section with vinyl tape.



Gas Pipe Liquid Pipe Good Case Bad Case \* Tubing cutting line have to be upward.

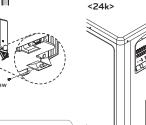


3 Bundle the piping and drain hose together by wrapping them with vinyl tape sufficient enough to cover where they fit into the rear piping housing section.



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 chas-pin course of the two screws. sis cover

2



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

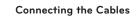


ly tighten the flare nut by hand.

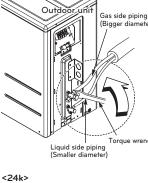


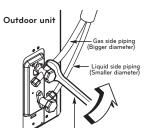
- Finally, tighten the flare nut with torque wrench until the wrench clicks When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench

<18k>



Connect the cable to the indoor unit by con-necting the wires to the terminals on the con-trol 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.)





inch kgf⋅cm N⋅m

Torque





unit should be complied with the following specifications (UL recognized or CSA certified).

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

Flare nu Indoor unit tubing

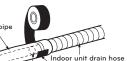






Open-end wrench

























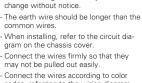
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Ø6.35 Ø9.52

Outside Diameter

mm



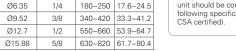


Connect the wires according to color codes, referring to the wiring diagram. -<u>/!</u>CAUTION-

Assemble it with conduit





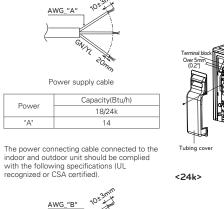


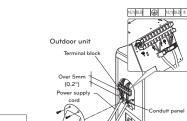




5

->





-AUTION-

\* Features may change according to the type of model.

Provide the circuit breaker between

Checking the Drainage

hose of the indoor unit without any leak

\* Features may change according to the type

of model.

age and goes out the drain exit.

power source and the unit as shown by

<18k>

Capacity(Btu/h) Connecting Cable 18/24k "B" 18

Connecting cable

#### Outdoor unit

- 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.





#### To check the drainage. Air 1 Pour a glass of water on the evaporator. uit Brea Condition breake or time 2 Ensure the water flows through the drain

Round Pressure terminal and connecting

requirement 88 Round pressure Power wire

## CAUTION-

Over

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

 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.

B

2 The screw which fasten the wiring in the The screw which fasten the wiring in the casing of electrical fittings are liable to become loose from vibrations to which the unit is subjected during the transportation. Check them and make sure that They all are 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 volt-age marked on the name plate.

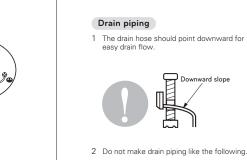
6 Confirm that the cable thickness is as specified in the power source specification. (Particularly note the relation between cable length and thickness.

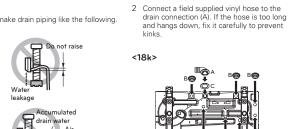
7 Always install an earth leakage circuit breaker in a wet or moist area. 8 The following would be caused by voltage

- Vibration of a magnetic switch, which will

damage the contact point, fuse breaking, disturbance of the normal function of the overload.

The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separa-tion of at least 3mm in each active(phase)







\* Features may change according to the type of model.

Forming of the Piping

tapes.

hose appropriately

Drain hose

F 目

able from down to up.

Seal small openings

gum type sealant.

around pipings with a

Form the piping by wrapping the connecting

material and secure it with two kinds of vinyl

If you want to connect an additional drain

hose, the end of the drain outlet should be routed above the ground. Secure the drain

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

1 Tape the piping, drain hose and connecting

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

In cases, where the outdoor unit is installed

above the Indoor unit, perform the following.

Trap is required to prevent water

8

P

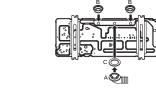
from entering into electrical parts.

----Pipe

Vinyl tape(narrow

- Wrap with vinyl tape(wide)

portion of the indoor unit with insulation



Installing drain piping of the

Depending on installation site, it may be re-

plied with the unit). In cold areas, do not use a drain hose With the outdoor unit. Otherwise,

drain water may freeze, impairing the heating

1 See the figure below for installation of the

drain plug. A : Drain connection B : Drain cap C : Drain washer

outdoor unit

kinks.

<18k>

<24k>

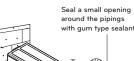
\* Features may change according to the type of mode \* The provided parts may change according to the type of mo

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

Air Purging

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 equivalen



The air and moisture remaining in the refriger-ant system have undesirable effects as indi-cated below.

- Moisture in the refrigerant circuit may freeze

- Water may lead to corrosion of parts in the

Therefore, after evacuating the system, take a leak test for the piping and tubing between

- Pressure in the system rises.

- Cooling(or heating) efficiency drops.

- Operating current rises.

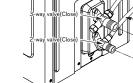
and block capillary tubing.

the indoor and outdoor unit.

refrigeration system.

9



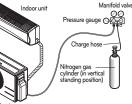


vacuum pump is used If tubing length is If tubing length is less than 10m (33 ft) longer than 10m (33 ft)

- Do a leak test of all joints of the tubing(both Air purging with vacuum pump 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 clot - 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 culled re the cylinder



\* Features may change according to the type

Soap water method - Remove the caps from the 2-way and 3-way

- 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 out-door unit connections by a soft brush to check for leakage of the connecting points of the piping the piping.

> - If bubbles come out, the pipes have leakage

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

 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

With a service valve wrench, turn the valve of liquid side counter-clockwise to fully open the tubing length and capacity of the pump. The following table shows the time required for valve

- Replace the flare nut and its bonnet on the gas side service port and fasten the flare nut secure-ly with an adjustable wrench. This process is very important to prevent leakage from the sys-

Turn the valve of gas side counter clockwise to

Loosen the charge hose connected to the gas side service port slightly to release the pressure, then remove the hose.

Pump Down Procedure

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-<u>/!</u>CAUTION-

Replace the valve caps at both gas and liquid

This completes air purging with a vacuum pump

Replace the pipe cover to the outdoor unit by

Now the air conditioner is ready for test run.

The feature can be changed according to the

Settlement of outdoor unit

- Fix the outdoor unit with a bolt and

nut(ø10mm) tightly and horizontally on a con-

- When installing on the wall, roof or rooftop,

anchor the mounting base securely with a

- If the vibration of the unit is transmitted to

the pipe, secure the unit with an anti-vibra-

Tubing co

nail or wire assuming the influence of wind

side service valves and fasten them tight.

one screw

type of model.

crete or rigid mount.

and earthquake.

tion rubber

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

- Turn on the unit's operating switch and start the cooling operation.

When the low-pressure gauge reading becomes 1 to 0.5kg/cm<sup>2</sup> 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 refrig-erant is collected into the outdoor unit.



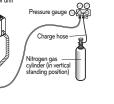
Ð Required time for Evacuation when 30 gal/h

ĊQ.

- Note (Memo) -

E

10 min. or more 15 min. or more



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.

Connect the manifold valve(with pressure

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. (17.6 kgf/cm<sup>2</sup>G) (R-22 model) or 400 P.S.I.G. (28.1 kgf/cm<sup>2</sup>G) (R-410A model) with dry nitrogen gas

and close the cylinder valve when the gauge reading reaches 250 P.S.I.G. (17.6 kgf/cm<sup>2</sup>G) (R-22 model) or 400 P.S.I.G. (28.1 kgf/cm<sup>2</sup>G) (R-410A model)

Next step is leak test with liquid soap.

To avoid nitrogen entering the refrigerant system in a liquid state, the top of the cylinder must be higher than its bottom

vhen you pressurize the system. Usually

the cylinder is used in a vertical standing

gauges) and dry nitrogen gas cylinder to this service port with charge hoses.

Leak test

-<u>/!</u>CAUTION-

-AUTION-

position

Evacuation

Evacuation

<18k>

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

Finishing the Job

fully open the valve

Outdoor unit

ÀT.

Pressure gauge

Manifold va



This is performed when the unit is relocated or the refrigerant circuit is serviced.



## Test Running

- Check that all tubing and wiring are properly connected. Pump Down means collecting all refrigerant into the outdoor unit without the loss of refria - Check that the gas and liquid side service valves are fully open

## Prepare remote controller

Insert batteries before using the remote control. The battery type used is AAA (1.5 V). Be sure to perform Pump Down procedure in the cooling mode.

1 Remove the battery cover by pulling it according to the arrow direction.

Evaluation of the performance

Operate the unit for 15~20 minutes, then

- Measure the pressure of the gas side serv-

Measure the air temperature from inlet and

Ensure the difference between the inlet and outlet temperature is more than 14.4°F (8°C).

- For reference; the gas side pressure at opti-

Inlet temperature

The pressure of

the gas

4~5kg/cm2G

(56.8~71.0

P.S.I.G.)

8.5~9.5kg/cm<sup>2</sup>

(120~135 P.S.I.G.

service valv

mum condition is shown on table (cooling)

The air conditioner is now ready to use.

Outside

ambient

TEMP.

35°C (95°F)

35°C (95°F)

\* Features may change according to the type

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.

check the system refrigerant charge:

outlet of air conditiioner.

ice valve.

Refrigera

R-22

R-410A

of mode

NOTE-



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

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#### Installation guide at the seaside

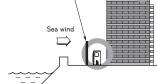
CAUTION-

heat exchanger.

conductors.

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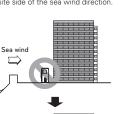
- Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced. - Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator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



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

#### 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.



Select a well-drained place. NOTE-- If you can't meet above guide line in

the seaside installation, please con-tact 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

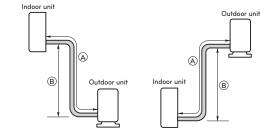
\* Do not use seawater when you clean up the heat exchanger.

 $\Box$ 

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

## Piping Length and Elevation

Connection	Pipe Size			Standard	Max.	Min	Max.	Additional Refrigerant for		
Capacity	GAS LIQ		UID	Length	Elevation	Length	Length	longer than	7.5m(24.6ft)	
(Btu/h)	mm	inch	mm	inch	m(ft)	(B) m(ft)	(A) m(ft)	(A) m(ft)	g/m	oz/ft
18k	Ø12.7	1/2	Ø6.35	1/4	7.5(24.6)	10(32.8)	-	20(65.6)	30	0.33
24k	Ø15.88	5/8	Ø6.35	1/4	7.5(24.6)	10(32.8)	-	20(65.6)	30	0.33



-AUTION-

Capacity is based on standard length and maximum allowable length is on the basis of reliability. Additional refrigerant must be charged after 7.5m(24.6ft).

#### Operation ranges

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

Mode	Indoor temperature	Outdoor temperature		
Cooling	64°F ~ 90°F (18°C ~ 32°C)	14°F ~ 118°F (-10°C ~ 48°C)		
Heating	61°F ~ 86°F (16°C ~ 30°C)	14°F ~ 75°F (-10°C ~ 24°C)		

### Check test items

	Test Items	Check
1	Indoor unit is hooked to the installation plate properly.	
2	The gas and liquid service valves are fully opened.	
3	There is no refrigerant gas leakage.	
4	System is properly grounded.(No electrical leakage)	
5	The connection cable is clamped firmly.	
6	Indoor unit receives remote control commands and operates properly.	
7	Cooling/Heating operation is normal.	
8	There is no abnormal sound.	
9	There is no water leakage.	

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### Precautions about installation in regions with extreme snowfall and cold temperatures

- To ensure the outdoor unit operates properly, certain measures are required in locations where there is a possibility of heavy snowfall or severe wind chill or cold : 1 Prepare for severe winter wind chills and heavy snowfall, even in areas of the country where
- these are unusual phenomena. 2 Position the outdoor unit so that its airflow fans are not buried by direct, heavy snowfall. If
- snow piles up and blocks the airflow, the system may malfunction 3 Remove any snow that has accumulated 4 inches (100mm) or more on the top of the outdoor
- 4 Place the outdoor unit on a raised platform at least 20 inches (500mm) higher than the aver-age annual snowfall for the area. If the frame width is wider than the outdoor unit, snow may accumulate.
- Install a snow protection hood.

rooftop.)

- 6 To prevent snow and heavy rain from entering the outdoor unit, install the suction and dis-charge ducts facing away from direct winds.  $7\,$  Additionally, the following conditions should be taken into consideration when the unit oper-
- If the outdoor unit is installed in a highly humid environment (near an ocean, lake, etc.), en-sure that the site is well-ventilated and has a lot of natural light. (Example: Install on a

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