ENGLISH

🕒 LG

INSTALLATION MANUAL AIR CONDITIONER

TYPE : WALL MOUNTED LSN-LSU-90-120HYV

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

• 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 condi-
- ioner 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 ses. 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.

It can result in minor injury or product damage when the directions are ignored.

WARNING

- Installation or repairs made by ungualified persons can result in hazards to you and others. Installation MUST conform with local building codes or, in the absence of local codes, with the Nation Electrical Code NFPA 70/ANSI C1-1003 or current edition and Canadian Electrical Code Part1 CSA C.22.1.
- 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 mal-function, property damage, personal injury and/or death.

Installation • 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 electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center - Do not disassemble or repair the product. There is risk of fire or electric shock
- Always ground the product.
- There is risk of fire or electric shock.
- Install the panel and the cover of control box securely. - 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.
- Use the correctly rated breaker or fuse. There is risk of fire or electric shock.
- Do not modify or extend the power cable.
 There is risk of fire or electric shock.

3 Pull back the tubing holder.

- Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open. - Moisture may condense and wet or damage furniture.
- Be cautious when unpacking and installing the product.
 Sharp edges could cause injury. Be especially careful of the case edges and the fins on the con-
- denser and evaporator.

Bad case

For installation, always contact the dealer or an Authorized Service Center.
 There is risk of fire, electric shock, explosion, or injury.

P/No : MFL67502101 · Do not install the product on a defective installation stand.

- It may cause injury, accident, or damage to the product. · 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,
- and personal injury. . There is a risk of fire and explosion
- There is a has of the and explosion.
 Inert gas (https://tiosgen) 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 ex-

Operation

• Do not store or use flammable gas or combustibles near the product. - There is risk of fire or failure of product.

- Installation Always check for gas (refrigerant) leakage after installation or repair of product.
 Low refrigerant levels may cause failure of product.
- Install the drain hose to ensure that water is drained away properly.
- A bad connection may cause water leakage . Keep level even when installing the product.
- To avoid vibration or water leakage • Do not install the product where the noise or hot air from the outdoor unit could damage the neigh-
- borhoods - It may cause a problem for your neighbors.
- . Use two or more people to lift and transport the product. - Avoid personal injury.
- Do not install the product where it will be exposed to sea wind (salt spray) directly. It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.

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	11111	
Type "B" screw	2 EA	PP	
Type "C" screw	2 EA	ÎÎ	
Remote control holder	1 EA		

Screws for fixing panels are attached to decoration panel

INSTALLATION TOOLS

CAUTION-

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	I P	Thermometer, Level
a se	Torque wrench		Flaring tool set



Gas side piping (※) (Optional Parts) Additional drain pipe (※) Vinyl tape (Narrow) (%) Drain Hose Connecting cable (※) (Optional Parts)

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 reactified.

- Ensure that the space around the back and sides is more than 300mm. The space in front of the unit should be more than 700mm

- Do not place animals and plants in the path

Take the weight of the air conditioner into ac-count and select a place where noise and vi-

Select a place where the warm air and noise from the air conditioner do not disturb neigh-

300 than

(Unit : mm)

2

600

re thar

restricted.

of space.

bors.

of the warm air.

bration are minimum.

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

NOTE -

· You should purchase the installation parts.

INSTALLATION

Select the best Location Outdoor unit

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 interval between a wall and the left (or right) of the unit is more than 100mm. The unit should be installed as high as possible on the wall, allowing a minimum of 200mm from ceiling.

- Use a metal detector to locate studs to prevent unnecessary damage to the wall More than More than 200(7.9in) 100(3.9in)



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

- AUTION -Install the indoor unit on the wall where the height from the floor is more that 2300mm.





1/2 Ø15.88 5/8 1.6~1.8 Ø19.05 3/4 1.9~2.1

inch

1/4

3/8



3

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

Check

Putting nut on

Flaring work

Outside dia

mm

Ø6.35

Ø9.52

Ø12.7

CAUTION-

Burrs removal

cross section of pipe/tube.

1. Completely remove all burrs from the cut

2. While removing burrs put the end of the

copper tube/pipe in a downward directio

while removing burrs location is also changed in order to avoid dropping burrs into the tubing.







Connecting the Piping

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

А

mm

1.1~1.3

1.5~1.7

1.6~1.8



Checking the Drainage





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. Indoor Outdoor 1-0

(3/16"

Place a level of

Outline A Type : 442 A Type : 442 B Type : 434 B Type : 439

/ \ Туре В Туре

Drill a Hole in the Wall

A Type : 133 A Type : 95 B Type : 123 B Type : 170

raised tal

(Unit : mm



• В-Туре

Indoor unit

plate.

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

1-

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

3 Measure the wall and mark the centerline.

It is also important to use caution concern

It is also important to use caution concern-ing the location of the installation plate. Routing of the wring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.





Flaring Work

length

nipe

 Measure the distance between the indoor and the outdoor unit. 3 Cut the pipes a little longer than measured

4 Cut the cable 1.5m longer than the pipe

0

90°

Slanted Unever

ταάά

Main cause for gas leakage is due to defect of

flaring work. Carry out correct flaring work in the following procedure.



1

Open-end wrench (fixed)

4

5

6

7

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

Seal a small opening around the pipings with gum type sealant

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

Air Purging

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

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 re-duced to normal, disconnect the hose from the cylinder.



*The feature can be changed according to a type of mode

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 deter-- When the desired vacuum is reached, close the knob of the 3-way valve and stop the gent on the indoor unit connection or out-door unit connections by a soft brush to check for leakage of the connecting points of vacuum pump.

the piping. - If bubbles come out, the pipes have leakage

Air purging with vacuum pump

Preparation Check that each tube(both liquid and gas 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 kent closed at this stage. kept closed at this stage.

-AUTION-

-AUTION-

Evacuation

Outdoor unit

If tubing length is less than 10m (33 ft)

3-way valve

3-way or 2-way valve

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 valve when the gauge reading reaches 150 P.S.I.G. Next, test for leaks 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 when you pressurize the system. Usually, the cylinder is used in a vertical standing position.

There is a risk of fire and explo-

Inert gas (nitrogen) should be used when you check plumbing leaks, cleaning or repairs of pipes etc.
 If you are using combustible gases includ-ing 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

tubing length and capacity of the pump. The following table shows the time required for evacuation

Required time for evacuation when 30 gal/h

10 min. or more 15 min. or more

vacuum pump is used

 V_{\star}

iquid side

 \mathcal{Q}

Ø

If tubing length is longer than 10m (33 ft)

8

 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 se-curely with an adjustable wrench. This process Leak test Connect the manifold valve(with pressure gauges) and dry nitrogen gas cylinder to this service port with charge hoses.

is very important to prevent leakage from the system.

fully open the valve

Finishing the Job

valve

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

Turn the valve of gas side counter clockwise to

Manifold va

Cìo



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

Now the air conditioner is ready for test run.

Installation of filters

* The feature can be changed according to a type

1 Detach two nitto tapes from the plasma fil-

one screw

of model

* 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

long time

rechargeable batteries.

- Use 2 AAA(1.5volt) batteries. Do not use

- Remove the batteries from the remote

controller if the system is not used for a

- When installing on the wall, roof or rooftop, anchor the mounting base securely with a nail or wire assuming the influence of wind Prepare remote controller 1 Remove the battery cover by pulling it ac-cording to the arrow direction. and earthquake. - If the vibration of the unit is transmitted to

 Insert new batteries making sure that the (+) and (-) of battery are installed correctly. the pipe, secure the unit with an anti-vibration rubber 3 Reattach the cover by pushing it back into position.



Settlement of outdoor unit

- Fix the outdoor unit with a bolt and

nut(ø10mm) tightly and horizontally on a con-crete or rigid mount.

9

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.

Evaluation of the performance 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 refrig-- Measure the pressure of the gas side service erant

CAUTION-Be sure to perform Pump Down procedure in the cooling mode

Piping Length and Elevation

GAS

Capacity (W)

-<u>/</u>CAUTION-

Operation ranges

Mode

Cooling

Heating

Pipe Size

mm inch mm

2.5k, 3.5k Ø9.52 3/8 Ø6.35 1/4

в

LIQUID

inch

Capacity is based on standard length and maximum allowable length is on the basis of relia-

bility. Additional refrigerant must be charged after 12.5 m (there is no need to charge till 12.5 m based on reliability)

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

Indoor temperature

-10°C~48°C(14°F~118.4°F)

-10°C~24°C(14.0°F~75.2°F)

Max. Additional Re-

Elevation (after 12.5 m)

Outdoor temperature

-10°C~48°C(14°F~118.4°F)

-10°C~24°C(14.0°F~75.2°F)

11

20

10

Max.

Length (m)

20

Standard

Length (m)

7.5

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 wav)

Turn on the unit's operating switch and start the cooling operation. When the low-pressure gauge reading be-comes 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.

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

Refrigerant Outside ambi-ent TEMP. The pressure of the gas side

35°C

Operate the unit for 15~20 minutes, then

- 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 opti-mum condition is shown on table (cooling)

Inlet temperature

Discharge temperatur

8.5~9.5kg/cm²G(1 20~135 P.S.I.G.)

The air conditioner is now ready to use.

check the system refrigerant charge:

valve.

NOTE-

R-410A

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.

Installation guide at the seaside

CAUTION-

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

seaside, it should avoid direct exposure to the sea wind. Otherwise it needs additional anticorrosion treatment on the heat exchanger.

Selecting the location(Outdoor Unit)

If the outdoor unit is to be installed close to



water







10





- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using

Sea wind

 \Box

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.

the seaside installation, please con-tact LG Electronics for the additional

- If you can't meet above guide line in







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