ENGLISH

BAHASA INDONESIA

INSTALLATION MANUAL

AIR CONDITIONER

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.

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TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
- Keep doors or windows closed while you are operating the air conditioner.
- Adjust the direction of the air flow vertically or horizontally to circulate indoor air.
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air quality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number :

Serial number :

You can find them labeled on the side of each unit.

Dealer's name :

Date of purchase :

IMPORTANT SAFETY INSTRUCTIONS

	Read the precautions in this manual carefully before operating the unit.		This appliance is filled with flammable refrigerant. (for R32)
	This symbol indicates that the Operation Manual should be read carefully.		This symbol indicates that a service person should be handling this equipment with reference to the Installation Manual.

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

Serious injury or death can result if directions are ignores.

⚠ CAUTION

Minor injury or product damage can result if directions are ignored.

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others. Refrigeration work must be performed by a qualified person who is "F-Gas" registered.
- Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.
- 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. (for R32)
- Compliance with national gas regulations shall be observed.
- This equipment shall be provided with a supply conductor complying with the national regulation.
- Ducts connected to an appliance shall not contain an ignition source. (for R32)

Installation

- Do not use a defective or underrated circuit breaker. Use the correctly rated breaker and fuse. There is risk of fire or electric shock.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center. Do not disassemble or repair the product by yourself. There is risk of fire or electric shock.
- Always ground the product as per the wiring diagram. Do not connect the ground wire to gas or water pipes lightening rod or telephone ground wire. 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 due to dust , water etc.
- Use the correctly rated breaker or fuse. There is risk of fire or electric shock.
- Do not modify or extend the power cable. If power cable is damaged or has deteriorated, then it must be replaced. There is risk of fire or electric shock.
- For installation, removal or reinstall, always contact the dealer or an Authorized Service Center. There is risk of fire, electric shock, explosion, or injury.
- Do not install the product on a defective installation stand. Be sure that the installation area does not deteriorate with age. It may cause product to fall.
- Never install the outdoor unit on a moving base or a place from where it can fall down. The falling outdoor unit can cause damage or injury or even death of a person.
- In outdoor unit the step-up capacitor supplies high voltage electricity to the electrical components. Be sure to discharge the capacitor completely before conducting the repair work. A charged capacitor can cause electrical shock.
- When installing the unit, use the installation kit provided with the product. Otherwise the unit may fall and cause severe injury.
- Indoor/outdoor wiring connections must be secured tightly and the cable should be routed properly so that there is no force pulling the cable from the connection terminals. Improper or loose connections can cause heat generation or fire.
- Safely dispose off the packing materials. Like screws, nails, batteries, broken things etc after installation or svc and then tear away and throw away the plastic packaging bags. Children may play with them and cause injury.
- Be sure to check the refrigerant to be used. Please read the label on the product. Incorrect refrigerant used can prevent the normal operation of the unit.
- Do not turn on the breaker or power under condition that front panel, cabinet, top cover, control box cover are removed or opened. Otherwise, it may cause fire, electric shock, explosion or death.
- 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.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater)
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- Do not pierce or burn refrigerant cycle part.
- Be aware that refrigerants may not contain an odour.

- Keep any required ventilation openings clear of obstruction.
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation. (for R32)
- Refrigerant tubing shall be protected or enclosed to avoid damage.
- Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operations shall be protected against mechanical damage.
- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts.
- Mechanical connections shall be accessible for maintenance purposes.
- The appliance shall be disconnected from its power source during service and when replacing parts.
- Do not touch refrigerant pipe and water pipe or any internal parts while the unit is operating or immediately after operation. It can cause a burn or frostbite.
- Do not install the product on a non-parallel or defective installation stand. It may cause injury, accident, or damage to the product.
- The appliance shall be installed in accordance with national wiring regulations.

Operation

- When the product is soaked (flooded or submerged) in water, contact an Authorized Service Center for repair before using it again. There is risk of fire or electric shock.
- Be sure to use only those parts which are listed in the svc parts list. Never attempt to modify the equipment. The use of inappropriate parts can cause an electrical shock, excessive heat generation or fire.
- Do not touch, operate, or repair the product with wet hands. Hold the plug by hand when taking it out. There is risk of electric shock or fire.
- Do not place a heater or other heating appliances near the power cable. There is risk of fire and electric shock.
- Do not allow water to run into electric parts. Install the unit away from water sources. There is risk of fire, failure of the product, or electric shock.
- Do not store or use or even allow flammable gas or combustibles near the product. There is risk of fire.
- Do not use the product in a tightly closed space for a long time. Perform ventilation regularly. Oxygen deficiency could occur and hence harm your health.
- Do not open the front 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.
- If strange sound, smell or smoke comes from product. Immediately turn the breaker off or disconnect the power supply cable. There is risk of electric shock or fire.
- Ventilate the product room from time to time when operating it together with a stove, or heating element etc. Oxygen deficiency can occur and hence harm your health.
- When the product is not to be used for a long time, disconnect the power supply plug or turn off the breaker. There is risk of product damage or failure, or unintended operation.
- Take care to ensure that nobody especially kids could step on or fall onto the outdoor unit. This could result in personal injury and product damage.

- Take care to ensure that power cable could not be pulled out or damaged during operation. There is risk of fire or electric shock.
- Do not place ANYTHING on the power cable. There is risk of fire or electric shock.
- When flammable gas leaks, turn off the gas and open a window for ventilation before turning on the product. Do not use the telephone or turn switches on or off. There is risk of explosion or fire.
- Make sure to ventilate sufficiently when this air conditioner and a heating appliance such as a heater are used simultaneously. Failure to do so may result in fire, serious injury, or product failure.
- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water.
- Dismantling the unit, treatment of the refrigerant oil and eventual parts should be done in accordance with local and national standards.

⚠ CAUTION

Installation

- Two or more people must 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.
- Install the drain hose to ensure that the condensed water is drained away properly. A bad connection may cause water leakage.
- Keep level even when installing the product. To avoid vibration or noise.
- Do not install the product where the noise or hot air from the outdoor unit could damage or disturb the neighborhoods. It may cause a problem for your neighbors and hence dispute.
- Always check for gas (refrigerant) leakage after installation or repair of product. Low refrigerant levels may cause failure of product.
- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification. (for R32)
- Wear adequate personal protection equipment (PPE) when installing, maintaining or servicing the product.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.
- Pipe-work shall be protected from physical damage.
- Keep Level parallel in installing the product. Otherwise, it may cause vibration or water leakage. It may cause injury or an accident.
- If anyone other than a licensed Professional installs, repairs, or alters LG Electronics Air Conditioning Products, the warranty is voided. All costs associated with repair are then the full responsibility of the owner.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

- Do not insert a drain hose in drain or soil pipe. Bad smells can occur and it results in a corrosion of a heat exchanger or pipe.
- Do not install the unit in potentially explosive atmospheres.

Operation

- 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.
- Do not block the inlet or outlet of air flow. It may cause product failure.
- Use a soft cloth to clean. Do not use harsh detergents, solvents or splashing water etc. There is risk of fire, electric shock, or damage to the plastic parts of the product.
- Do not touch the metal parts of the product when removing the air filter. There is risk of personal injury.
- Do not step on or put anything on the product. (outdoor units)
  There is risk of personal injury and failure of product.
- Always insert the filter securely after cleaning. Clean the filter every two weeks or more often if necessary. A dirty filter reduces the efficiency.
- Do not insert hands or other objects through the air inlet or outlet while the product is operating. There are sharp and moving parts that could cause personal injury.
- Be cautious when unpacking and installing the product. Sharp edges could cause injury.
- If the refrigerant gas leaks during repair, do not touch the leaking refrigerant gas. The refrigerant gas can cause frostbite (cold burn).
- Do not tilt the unit when removing or uninstalling it. The condensed water inside can spill.
- Do not mix air or gas other than the specified refrigerant used in the system. If air enters the refrigerant system, an excessively high pressure results, causing equipment damage or injury.
- If the refrigerant gas leaks during the installation, ventilate the area immediately. Otherwise it can be harmful for your health.
- Dismantling the unit, treatment of the refrigerant oil and eventual parts should be done in accordance with local and national standards.
- Replace all batteries in the remote control with new ones of the same type. Do not mix old and new batteries or different types of batteries. There is risk of fire or product failure.
- Do not recharge or disassemble the batteries. Do not dispose off batteries in a fire. They may burn or explode.
- If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water. Do not use the remote if the batteries have leaked. The chemicals in batteries could cause burns or other health hazards.
- If you swallow the battery fluid from a leak, wash out the inside of your mouth thoroughly and then consult a doctor. Failure to do so may result in serious health complications.
- 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.
- Do not expose your skin or kids or plants to the cool or hot air draft. This could harm to your health.

- Do not drink the water drained from the product. It is not sanitary and could cause serious health issues.
- Use a firm stool or ladder when cleaning, maintaining or repairing the product at height. Be careful and avoid personal injury.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants. (for R32)
- The installation of pipe-work shall be kept to a minimum.
- When mechanical connectors are reused indoors, sealing parts shall be renewed. (for R32)
- When flared joints are reused indoors, the flare part shall be re-fabricated. (for R32)
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- After the air conditioner is shut down, if it needs to be restart, it should be done after an appropriate amount of time.
- If a power outage occurs while the air conditioner is operating, the power supply should be cut off
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
  Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

TABLE OF CONTENTS

2 TIPS FOR SAVING ENERGY

3 IMPORTANT SAFETY INSTRUCTIONS

10 DIAGRAM OF REFRIGERANT CYCLE & WIRING

10 Refrigerant flow diagram

10 Electrical wiring diagram

12 INSTALLATION INSTRUCTIONS

12 Transportation and handling before installation

13 Installation locations selection

14 Outdoor unit installation

15 Refrigerant piping

19 Vacuum pumping and charge refrigerant

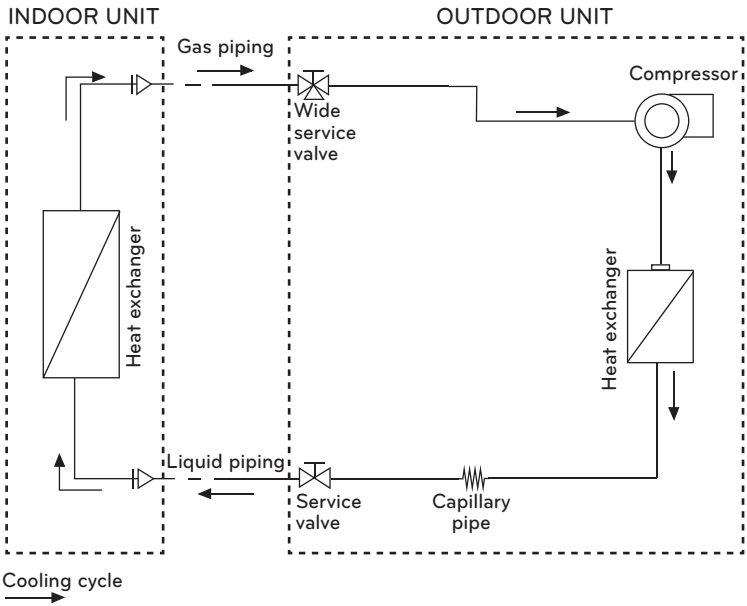
21 Wiring

22 General Check

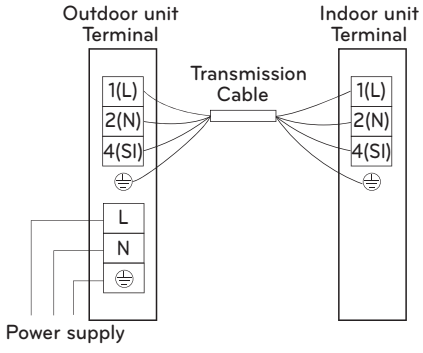
24 TEST RUNNING

DIAGRAM OF REFRIGERANT CYCLE & WIRING

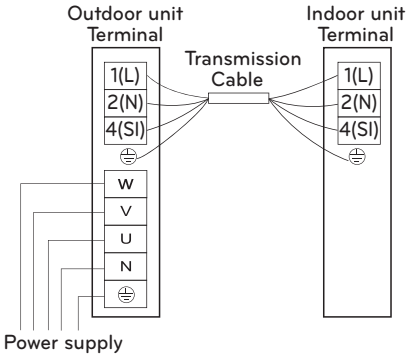
Refrigerant flow diagram



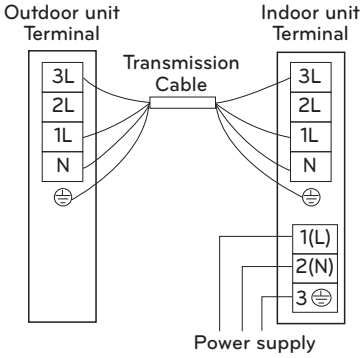
Electrical wiring diagram



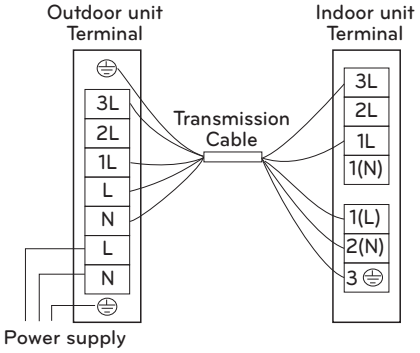
for 30K
floor standing type



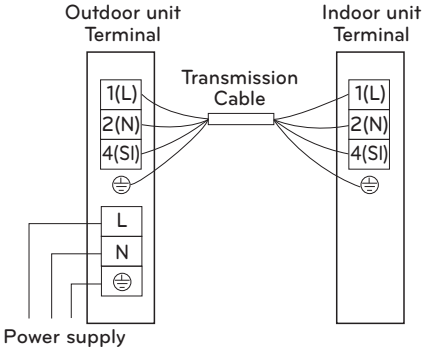
for 42K
floor standing type



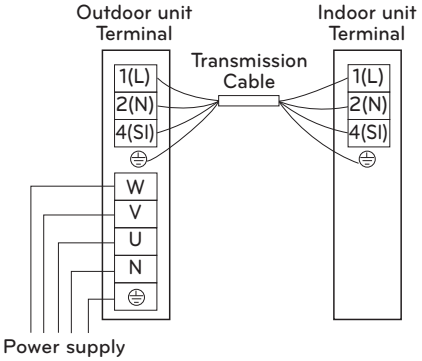
for 18K
Duct type



for 24K, 30K CST type /
24k, 30k Duct type



for 36K
Duct type



42K / 48K for
CST / Duct type

INSTALLATION INSTRUCTIONS

Transportation and handling before installation

Transport the product as close to the installation location as practical before unpacking.

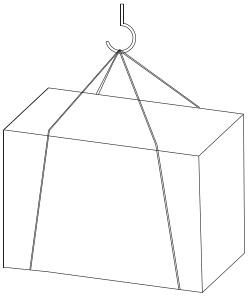
Handling Method

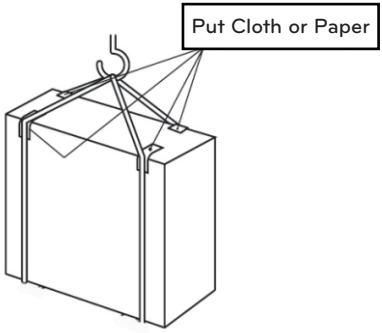
When handling the unit, ensure a balance of the unit, check safety and lift it up smoothly.

- Do not remove any packing materials.
- Hang the unit under packing condition with two ropes, as shown in Fig. blow.

Handling

If have no package to move, please protect with cloth or paper.





Installation locations selection

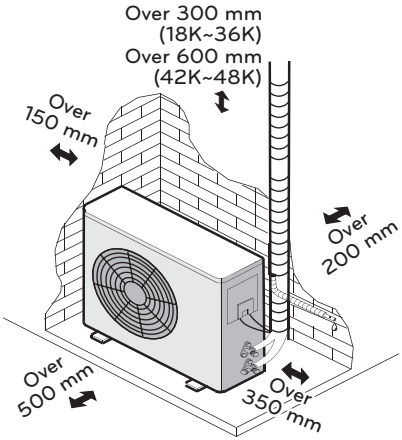
Before choosing the installation site, obtain user's approval.

- Where it is not exposed to strong wind.
- Where airflow is good and clean.
- Where it is not exposed to rain and direct sunshine.
- Where neighbors are not annoyed by operation sound or hot air.
- Where rigid wall or support is available to prevent the increase of operation sound or vibration.
- Where there is no risk of combustible gas leakage.
- Where it is at least 3m away from the antenna of TV set or radio. An amplifier may be required for the affected device.
- Install the unit horizontally.
- Please install it in an area not affected by snowfall or blowing snow. In areas with heavy snow, please install a canopy, a pedestal and/or some baffle boards.

⚠ CAUTION

Avoid the following places for installation where air conditioner trouble is liable to occur.

- Where there is much machine oil.
- Salty places such as seaside.
- Where sulfide gas is generated such as a hot spring.
- Where there is high-frequency or wireless equipment.



NOTE

When operating the air conditioner in low outside temperature, be sure to follow the instruction described below.

- Never install the outdoor unit in a place where its air inlet/outlet side may be exposed directly to wind.
- To prevent exposure to wind, install the outdoor unit with its air inlet side facing the wall.
- To prevent exposure to wind, it is recommended to install a baffle board on the air outlet side of the outdoor unit.

Outdoor unit installation

1 Use the washer provided in the accessory to fasten the machine at the foundation bolts.

2 When fastening the outdoor unit with the foundation bolts, the fasten holes position is shown as the Fig.1.

3 Fasten the outdoor unit as the Fig.2.

4 Make sure to fasten the outdoor unit tight and horizontal to prevent noise when the machine is oblique or inclined by strong breeze or earthquake.

5 Do not drain off water to the public places to avoid to skidding.

6 The strong base (made of concrete, etc.) should be made. The appliance should be placed not less than 10 cm high to avoid being wet or corroded. Otherwise, it may cause damage to the appliance or reduce its life time. (Fig.3)

7 Fix the unit with wire ropes to prevent overturning in case that a strong seasonal wind blows against the unit (Fig .4).

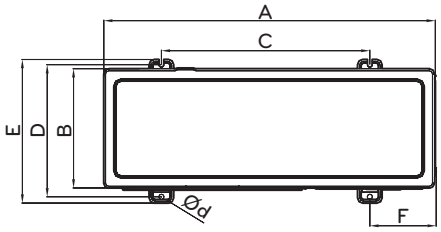


Fig.1

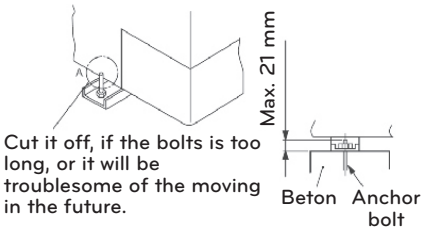


Fig.2

- Indoor Unit Type : Floor standing

(Unit: mm)

Model	A	B	C	D	E	F	d
30K	884	365	662	390	414	111	12*18
42K	950	340	580	380	414	185	15

- Indoor Unit Type : CST

(Unit: mm)

Model	A	B	C	D	E	F	d
24K/30K	860	310	542	341	368	168	11*17
42K	950	340	580	380	414	185	15

- Indoor Unit Type : Duct

(Unit: mm)

Model	A	B	C	D	E	F	d
18K	780	260	530	290	317	125	11*17
24K/30K	860	310	542	341	368	168	11*17
36K	884	365	662	390	414	111	12*18
48K	950	340	580	380	414	185	15

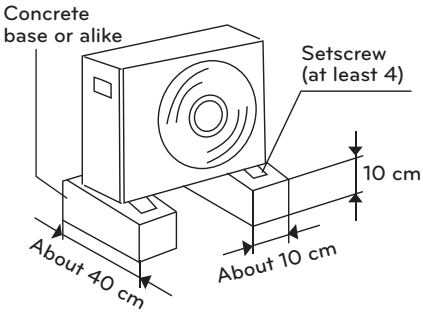


Fig.3

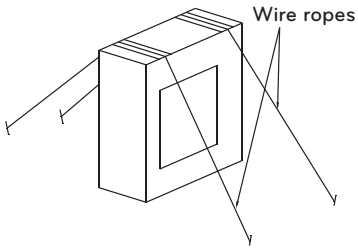


Fig.4

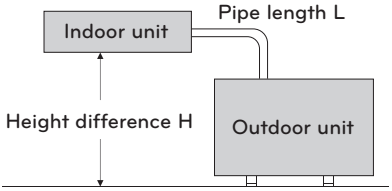
Refrigerant piping

Piping requirement

Model	Indoor Unit Type	Outer diameter of pipe (mm)	
		Gas	Liquid
30/42K	Floor Standing	Ø19.05	Ø9.52
24K/30K	CST	Ø15.88	Ø9.52
42K		Ø19.05	Ø9.52
18K	Duct	Ø12.7	Ø6.35
24K/30K		Ø15.88	Ø9.52
36K/48K		Ø19.05	Ø9.52

The shorter the refrigerant piping is, the better the performance will be. So the connecting pipe should be as short as possible.

Refrigerant piping between indoor unit and outdoor unit



Model	Indoor unit type	Max. pipe length (L)	Max. height difference (H)	Add. refrigerant (exceed 5 m)
30K / 42K	Floor standing	50 (m)	30 (m)	35 (g/m)

Model	Indoor unit type	Max. pipe length (L)	Max. height difference (H)	Add. refrigerant (exceed 5 m)
18K	Cassette / Duct	25 (m)	20 (m)	12 (g/m)
24K		25 (m)	20 (m)	28 (g/m)
30K		30 (m)	20 (m)	28 (g/m)
36K 42K 48K		50 (m)	30 (m)	35 (g/m)

Refrigerant additional charge

The unit has been filled with refrigerant, but if exceeds 5 m, additional refrigerant (R32) change is required.

For 18K:
Additional refrigerant charge = (L-5) x 12 g/m

For 24K~30K :
Additional refrigerant charge = (L-5) x 28 g/m

For 36~48K, 30K Floor Standing :
Additional refrigerant charge = (L-5) x 35 g/m

Max. Refrigerant Charge Amount X (kg)

- Floor Standing

Model	30K	42K
Max. refrigerant charge (kg)	3.21	3.51

- CST / Duct

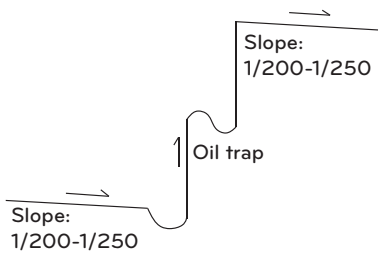
Model	18K	24K	30K	36K	42K	48K
Max. refrigerant charge (kg)	0.96	1.70	2.2	3.21	3.51	3.51

Oil trap

When the indoor unit is lower than outdoor unit and height is larger than 5 m, set an oil trap every 5 m (height difference) on suction piping.

NOTE

- To avoid storing too much oil in the oil trap, the oil trap should be as short as possible.
- The horizontal piping should be slope down along the refrigerant flow direction, to bring the oil back to compressor, the slope is about 1/200 to 1/250.
- In order to ensure cooling/heating performance better, the refrigerant piping should be as short and straight as possible.



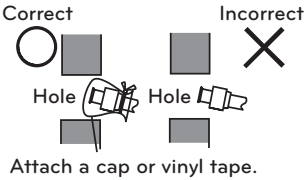
Piping material

- Prepare locally-supplied copper pipes.
- Select clean copper pipes. Make sure that there is no dust and moisture inside of the pipes. Blow the inside of the pipes with nitrogen or dry air to remove any dust or foreign materials before connecting pipes.
- Piping thickness and material of the pipe are shown as below.

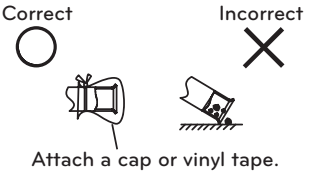
Diameter (mm)	Thickness (mm)
Ø6.35	0.8
Ø9.52	0.8
Ø12.70	0.8
Ø15.88	1.0
Ø19.05	1.0

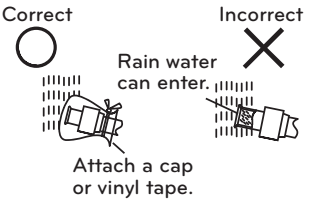
⚠ CAUTION

- When installing pipe through the wall, secure a cap at the end of the pipe.



- Do not place the pipe directly on the ground.

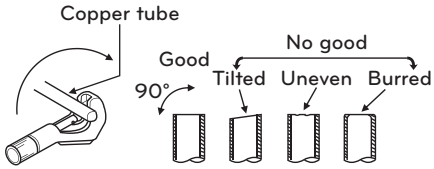




Processing of refrigerant piping

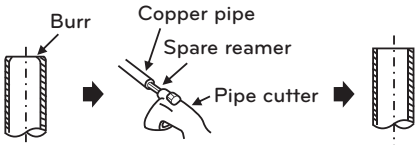
Pipe cutting

Cut the cooper pipe correctly with pipe cutter.



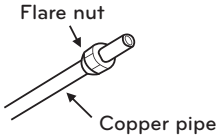
Burrs removal

- Completely remove all burrs from the cross section of the pipe.
- Put the end of the copper pipe downward to prevent burrs from dropping in the pipe.



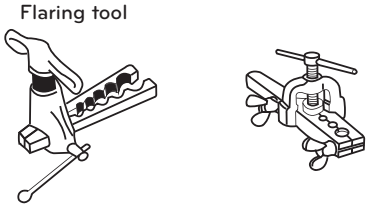
Putting nut on

- Remove flare nuts attached to indoor and outdoor units, then put them on burrs removed pipe. (Not possible to put them on after flaring work).
- Flare nut for pipe depends on the diameter of pipe.



Flaring work

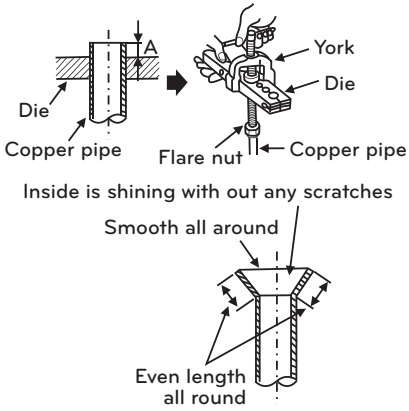
Perform flaring work with flaring tool as shown below.



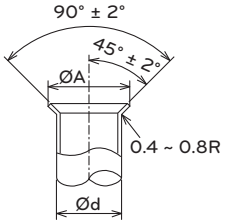
<Clutch type> <Wing nut type>

Check

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



Precautions when connecting pipes



(Unit: mm)

Diameter Ød	$A^{+0}_{-0.4}$
6.35	9.1
9.52	13.2
12.7	16.6
15.88	19.7

Piping connection

- Confirm that the valve is closed.
- Connect the indoor unit and the outdoor unit with field-supplied refrigerant piping. Suspend the refrigerant piping at certain points and prevent the refrigerant piping from touching the weak part of the building such as wall, ceiling, etc. (If touched, abnormal sound may occur due to the vibration of the piping. Pay special attention in case of short piping length.)
- Tighten the flare nut with two spanners as shown in the figure below.
- Apply the refrigerant oil (field-supplied) thinly at the seat surface of the flare nut and pipe before connecting and tightening. And when tightening the flare nut, use two spanners.
- Outdoor refrigerant piping should connect with stop valve.

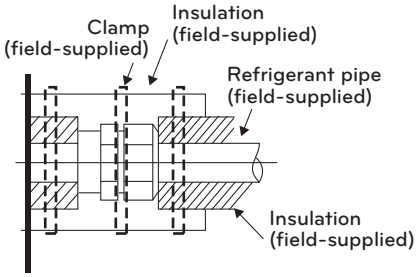
Double Spanner work



Tightening Torque for Flare Nut

Pipe size (mm)	Torque (N·m)
Ø6.35	20
Ø9.52	40
Ø12.7	60
Ø15.88	80
Ø19.05	100

- After finishing connecting the refrigerant pipes, keep it warm with the insulation material like figure below.



- For outdoor unit side, surely insulate every piping including valves.
- Cover piping joints with pipe cover.
- Using piping tape, apply taping starting from the entry of outdoor unit.
- Fix the end of piping tape with adhesive tape.
- When piping has to be arranged through above ceiling, closet or area where temperature and humidity are high, wind additional commercially sold insulation for prevention of condensation.

Air tight test

Do use Nitrogen.

Connect the gauge manifold using charging hoses with a nitrogen cylinder to the check joints of the liquid line and the gas line stop valves.

Perform the air-tight test.

Don't open the gas line stop valves.

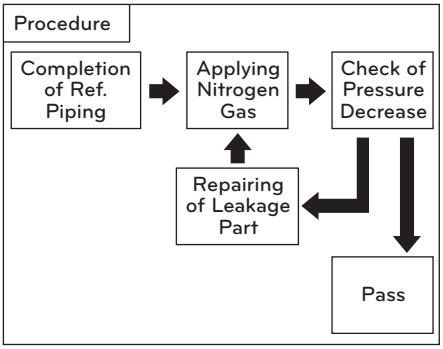
Apply nitrogen gas pressure of 4.8 MPa.

Check for any gas leakage at the flare nut connections, or brazed

parts by gas leak detector or foaming agent.

Gas pressure doesn't decrease is OK.

After the air tight test, release nitrogen gas.

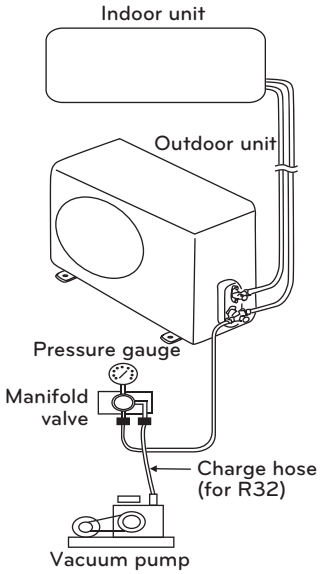


Air tight procedure

Vacuum pumping and charge refrigerant

Vacuum Pumping

- Remove the service port cap of the stop valve on the gas pipe side of the outdoor unit.
- Connect the manifold gauge and vacuum pump to the service port of the stop valve on the gas pipe side of the outdoor unit.
- Run the vacuum pump. (Work for more than 15 minutes.)
- Check the vacuum with the gauge manifold valve, then close the gauge manifold valve and stop the vacuum pump.
- Leave it as is for one or two minutes. Make sure the pointer of the manifold gauge remains in the same position. Confirm that the pressure gauge shows -0.101 MPa (or -760 mmHg).
- Remove the manifold gauge quickly from the service port of the stop valve.
- After refrigerant pipes are connected and evacuated, fully open all stop valves on both sides of gas pipe and liquid pipe.
- Open adjusted valve to add refrigerant (must be refrigerant is liquid).
- Tighten the cap to the service port .
- Retighten the cap.
- Leak test foam with halogen leak detector to check the flare nut and brazing Carolina Department leaks. Use foam that not generate ammonia (NH3) in the reaction.



Additional refrigerant charge

The unit has been filled with refrigerant.

Please according "Piping Requirement" to calculate additional charge.

After vacuum pump procedure has been finished, first exhaust air from charge hose, then open valves, charge

refrigerant through Liquid stop valve.

At the end, please close valves and record the refrigerant charging quantity.

⚠ CAUTION

- An excess or a shortage of refrigerant is the main cause of trouble to the unit. Charge the correct refrigerant quantity according to the description of label at the inside of the manual.
- Check for refrigerant leakage in detail. If a large refrigerant leakage occurs, it will cause difficulty with breathing or harmful gases would occur if a fire was being used in the room.

Wiring

⚠ WARNING

- Turn OFF the main power switch to the indoor unit and the outdoor unit and wait for more than 3 minutes before electrical wiring work or a periodical check is performed.
- Check to ensure that the indoor fan and the outdoor fan have stopped before electrical wiring work or a periodical check is performed.
- Protect the wires, electrical parts, etc. from rats or other small animals. If not protected, rats may gnaw at unprotected parts and at the worst, a fire will occur.
- Avoid the wirings from touching the refrigerant pipes, plate edges and electrical parts inside the unit.
  If not do, the wires will be damaged and at the worst, a fire will occur.
- Install an ELB (Electric Leakage Break)in the power source. If ELB is not used, it will cause electric shock or fire at the worst.
- This unit uses an inverter, which means that it must be used an earth leak detector capable handing harmonics in order to prevent malfunctioning of the earth leak detector itself.
- Do not use intermediate connection wires, stranded wires(see <Attentions when Connect the power supply wiring>), extension cables or control line connection, because the use of these wires may cause fever, electric shock or fire.
- The tightening torque of each screw shall be as follows.

  M4: 1.0 to 1.3 N·m

  M5: 2.0 to 2.5 N·m

  M6: 4.0 to 5.0 N·m

  M8: 9.0 to 11.0 N·m

  M10: 18.0 to 23.0 N·m

  Keep the above tightening torque when wiring work.

⚠ CAUTION

- With tape material along the wire wrapped, sealed wiring holes, prevent the condensed water and insects.
- Tightly secure the power source wiring using the cord clamp inside the unit.

NOTE

Fix the rubber bushes with adhesive when conduit tubes to the outdoor unit are not used.

General Check

- Make sure that the field-selected electrical components (main power switches, circuit breakers, wires, conduit connectors and wire terminals) have been properly selected according to the electrical data. Make sure that the components comply with National Electrical Code (NEC).
- Check to ensure that the voltage of power supply is within ± 10 % of nominal voltage and earth phase is contained in the power supply wires. If not, electrical parts will be damaged.
- Check to ensure that the capacity of power supply is enough.
  If not, the compressor will be not able to operate cause of voltage drop abnormally at starting.
- Check to ensure that the earth wire is connected.
- Install a main switch, multi-pole main switch with a space of 3.5 mm or more, single phase main switch with a space of 3.0 mm or more between each phase.
- Check to ensure that the electrical resistance is more than 2MΩ, by measuring the resistance between ground and the terminal of the electrical parts. If not, do not operate the system until the electrical leakage is found and repaired.

Model	Indoor Unit Type	Power Supply	ELB		Power Source Cable Size	Transmission Cable Size	Circuit Breaker (A)
			Rated Current (A)	Nominal Sensitive Current (mA)			
30K	Floor standing	220-240 V~, 50 Hz	40	30	3 x 4.0 mm^2	4 x 1.5 mm^2	40
42K		380-415 V 3 N~, 50 Hz	20	30	5 x 2.5 mm^2	4 x 1.5 mm^2	20

Model	Indoor Unit Type	Power Supply	ELB		Power Source Cable Size	Transmission Cable Size	Circuit Breaker (A)
			Rated Current (A)	Nominal Sensitive Current (mA)			
24K	CST	220-240 V~, 50 Hz	25	30	3 x 2.5 mm^2	5 x 1.5 mm^2	25
30K		220-240 V~, 50 Hz	32	30	3 x 2.5 mm^2	5 x 1.5 mm^2	32
42K		380-415 V 3 N~, 50 Hz	20	30	5 x 2.5 mm^2	4 x 1.5 mm^2	20

Model	Indoor Unit Type	Power Supply	ELB		Power Source Cable Size	Transmission Cable Size	Circuit Breaker (A)
			Rated Current (A)	Nominal Sensitive Current (mA)			
18K	Duct	220-240 V~, 50 Hz	20	30	3 x 2.5 mm^2	4 x 1.5 mm^2	20
24K		220-240 V~, 50 Hz	25	30	3 x 2.5 mm^2	5 x 1.5 mm^2	25
30K		220-240 V~, 50 Hz	32	30	3 x 2.5 mm^2	5 x 1.5 mm^2	32
36K		220-240 V~, 50 Hz	40	30	3 x 4.0 mm^2	4 x 1.5 mm^2	40
48K		380-415 V 3 N~, 50 Hz	20	30	5 x 2.5 mm^2	4 x 1.5 mm^2	20

* Max. Running Current (A): REFER TO NAMEPLATE

NOTE

- Follow local codes and regulations when select field wires ,and all the above are the minimum wire size.
- Use the wires which are not lighter than the ordinary polychloroprene sheathed flexible cord.
  (Cord designation H07RN-F).
- The wire sizes in the above table are selected at the maximum current of the unit according to IEC 60335-1 or national / regional standards.
- When transmission cable length is more than 15 meters, a larger wire size should be selected.
- Install main switch and ELB for each system separately. Select the high response type ELB that is acted within 0.1 second.
- In the case that power cables are connected in series, add each unit maximum current and select wires below.

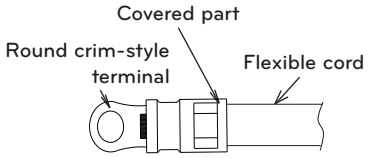
Selection According to IEC 60335-1

Current i (A)	Wire Size (mm^2)
$i \leq 6$	0.75
$6 < i \leq 10$	1
$10 < i \leq 16$	1.5
$16 < i \leq 25$	2.5
$25 < i \leq 32$	4
$32 < i \leq 40$	6
$40 < i \leq 63$	10
$63 < i$	*1

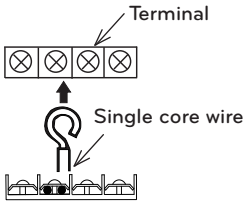
*1: In the case that current exceeds 63A, do not connect cables in series.

Attentions when Connect the power supply wiring

- When connecting the terminal block using stranded wire, make sure to use the round crimp-style terminal for connection to the power supply terminal block. Place the round crimp-style terminals on the wires up to the covered part and secure in place.



- When connecting the terminal block using a single core wire, be sure to perform curing.



TEST RUNNING

Test run should be performed after refrigerant piping, drain, wiring,etc. have been finished.

Do not operate the system until all the check points have been cleared.

- Check to ensure that the stop valves of the outdoor unit are fully opened.
- Check to ensure the electric wires has been fully connected.
- Check to ensure that the electrical resistance is more than 2MΩ, by measuring the resistance between ground and the terminal of the electrical parts. If not, do not operate the system until the electrical leakage is found and repaired.

Test run function identification

- Operate remote controller turn ON, then proceed test run.
- Pay attention to the following items while the system is running.
- Do not touch any of the parts by hand at the discharge gas side, since the compressor chamber and the pipes at the discharge side are heated higher than 90 °C.

Turn off the power after test run is finished.

Installation of the appliance is generally finished after the above operations are done. If you still have any trouble, please contact local technical service center of our company for further information.



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