



ENGLISH

FRANÇAIS

ESPAÑOL

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.

1,4-WAY CEILING CASSETTE



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www.lghvac.com
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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 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 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 : _____

SAFETY INSTRUCTIONS

	<p>Read the precautions in this manual carefully before operating the unit.</p>
	<p>This symbol indicates that the Operation Manual should be read carefully.</p>
	<p>This appliance is filled with flammable refrigerant.</p>
	<p>This symbol indicates that a service personnel should be handling this equipment with reference to the Installation Manual.</p>

The following safety guidelines are intended to prevent unforeseen risks or damage from unsafe or incorrect operation of the appliance.

The guidelines are separated into 'WARNING' and 'CAUTION' as described below.

 This symbol is displayed to indicate matters and operations that can cause risk. Read the part with this symbol carefully and follow the instructions in order to avoid risk.

WARNING

This indicates that the failure to follow the instructions can cause serious injury or death.

CAUTION

This indicates that the failure to follow the instructions can cause the minor injury or damage to the product.

WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation of all field wiring and components MUST conform with local building codes or, in the absence of local codes, with the National Electrical Code 70 and the National Building Construction and Safety Code or Canadian Electrical code and National Building Code of Canada.
- 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.

Installation

- Always perform grounding.
 - Otherwise, it may cause 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 air leakage 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.
 - 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.
 - Do not install indoor units in laundry rooms.
-
- Use caution when unpacking and installing.
 - Sharp edges may cause injury.
 - 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.
 - Consult your local dealer regarding what to do in case of refrigerant leakage.
When the air conditioner is to be installed in a small room, it is necessary to take proper measures so that the amount of any leaked refrigerant does not exceed the concentration limit in the event of a leakage. Otherwise, this may lead to an accident due to oxygen depletion.
 - Carry out the specified installation work after taking into account earthquakes.
Failure to do so during installation work may result in the unit falling and causing accidents.

- Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local laws and regulations and this installation manual. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.
- Be sure to switch off the unit before touching any electrical parts.
- Make sure that all wiring is secured, the specified wires are used, and that there is no strain on the terminal connections or wires.
- If refrigerant gas leaks during installation, ventilate the area immediately. Toxic gas may be produced if the refrigerant gas comes into contact with fire.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- 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 pierce or burn.
- Be aware that refrigerants may not contain an odour.
- The manufacturer may provide other suitable examples or may provide additional information about the refrigerant odour.
- Pipe-work including piping material, pipe routing, and installation shall include protection from physical damage in operation and service, and be in compliance with national and local codes and standards, such as ASHRAE 15, ASHRAE 15.2, IAPMO Uniform Mechanical Code, ICC International Mechanical Code, or CSA B52.
- An unventilated area where the appliance using flammable refrigerants is installed shall be so constructed that should any refrigerant leak, it will not stagnate so as to create a fire or explosion hazard.
- Field-made refrigerant joints indoors shall be tightness tested according to the following requirements: The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0,25 times the maximum allowable pressure. No leak shall be detected;
- After completion of field piping for split systems, the field pipework shall be pressure tested with an inert gas and then vacuum tested prior to refrigerant charging, according to the following requirements:
 - The minimum test pressure for the low side of the system shall be the low side design pressure and the minimum test pressure for the high side of the system shall be the high side design pressure, unless the high side of the system, cannot be isolated from the low side of the system in which case the entire system shall be pressure tested to the low side design pressure.
 - The test pressure after removal of pressure source shall be maintained for at least 1 h with no decrease of pressure indicated by the test gauge, with test gauge resolution not exceeding 5% of the test pressure.
 - During the evacuation test, after achieving a vacuum level specified in the manual or less, the refrigeration system shall be isolated from the vacuum pump and the pressure shall not rise above 1500 microns within 10 min. The vacuum pressure level shall be specified in the manual, and shall be the lesser of 500 microns or the value required for compliance with national and local codes and standards, which may vary between residential, commercial, and industrial buildings.

Qualification of workers

The manual shall contain specific information about the required qualification of the working personnel for maintenance, service and repair operations. Every working procedure that affects safety means shall only be carried out by qualified person by manufacturer.

Examples for such working procedures are:

- Breaking into the refrigerating circuit;
 - Opening of sealed components;
 - Opening of ventilated enclosures.
-
- 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.
 - Keep any required ventilation openings clear of obstruction.
 - Mechanical connections (mechanical connectors or flared joints) shall be accessible for maintenance purposes.
 - Flexible pipe elements shall be protected against mechanical damage, excessive stress by torsion, or other forces. They should be checked for mechanical damage annually.
 - Protection devices, piping and fittings shall be protected as far as possible against adverse environmental effects, for example, the danger of water collecting and freezing in relief pipes or the accumulation of dirt and debris.
 - Precautions shall be taken to avoid excessive vibration or pulsation to refrigerating piping.
 - Piping in refrigerating systems shall be so designed and installed to minimize the likelihood hydraulic shock damaging the system.
 - Provision shall be made for expansion and contraction of long runs of piping.
 - Steel pipes and components shall be protected against corrosion with a rustproof coating before applying any insulation.
 - Non-duct connected appliances containing A2L refrigerants with the supply and return air openings in the conditioned space may have the body of the appliance may be installed in open areas such as false ceilings not being used as return air plenums, as long as the conditioned air does not directly communicate with the air of the false ceiling.

NOTE

- Properly insulate all cold surfaces to prevent “sweating”.
 - Cold surfaces such as uninsulated piping can generate condensate that may drip and cause a slippery surface condition and / or water damage to interior surfaces.
- Always check for system refrigerant leaks after the unit has been installed.
 - Low refrigerant levels may cause product failure.
 - ⊘ Do not make refrigerant substitutions. Use R32 only.
 - If a different refrigerant is used, or air mixes with original refrigerant, the unit will malfunction and be damaged.
- Keep the unit upright during installation to avoid vibration or water leakage.

Wiring

- High voltage electricity is required to operate this system. Adhere to applicable building codes: National Electrical Code (NEC) for U.S. and Mexico, Canada Electrical Code (CE) for Canada and these instructions when wiring.
 - Improper connections and inadequate grounding can cause accidental injury or death.
- Always ground the unit following local, state, and national Codes.
 - There is risk of fire, electric shock, and physical injury or death.
- Properly size all circuit breakers or fuses.
 - There is risk of fire, electric shock, explosion, physical injury or death. The indoor unit got power from outdoor unit. Details of fuses or circuit breakers are indicated in installation manual of outdoor unit.
- The information contained in this manual is intended for use by an industry-qualified, experienced, certified electrician familiar with NEC for U.S. and Mexico, or CE for Canada who is 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 or death.
- Refer to local, state, and federal codes, and use power wires of sufficient current capacity and rating.
 - Wires that are too small may generate heat and cause a fire.
- All electric work must be performed by a licensed electrician and conform to local building codes or, in the absence of local codes, with NEC for U.S. and Mexico, or CE for Canada, and the instructions given in this manual.
 - If the power source capacity is inadequate or the electric work is not performed properly, it may result in fire, electric shock, physical injury or death.
- Secure all field wiring connections with appropriate wire strain relief.
 - Improperly securing wires will create undue stress on equipment power lugs. Inadequate connections may generate heat, cause a fire and physical injury or death.
- Properly tighten all power lugs.
 - Loose wiring may overheat at connection points, causing a fire, physical injury or death.
- ⚠ Do not change the settings of the protection devices.
 - If the pressure switch, thermal switch, or other protection devices are bypassed or forced to work improperly, or parts other than those specified by LG are used, there is risk of fire, electric shock, explosion, and physical injury or death.
- The appliance shall be installed in accordance with national wiring regulations.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- 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.

! NOTE

⚠ Do not supply power to the unit until all electrical wiring, controls wiring, piping, installation, and refrigerant system evacuation are completed.

Operation

- 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 hands.
 - Otherwise, it may cause a fire or 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.
- 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.
- 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.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- 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.
- LEAK DETECTION SYSTEM installed. Unit must be powered except for service. This unit is equipped with a refrigerant leak detector for safety. To be effective, the unit must be electrically powered at all times after installation, other than when servicing. (LEAK DETECTION SYSTEM can be installed optionally for the safety purpose.)

Service & Installation

Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

Presence of fire extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

No ignition sources

No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion.

All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out.

The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Checks to the refrigerating equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification.

At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

- The actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed
- The ventilation machinery and outlets are operating adequately and are not obstructed
- If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant
- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected
- Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- Capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking.
- No live electrical components and wiring are exposed while charging, recovering or purging the system.
- Continuity of earth bonding

Repairs to sealed components

Sealed electrical components shall be replaced.

Repair to intrinsically safe components

Intrinsically safe components must be replaced.

Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

Leak detection methods

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

! NOTE**Examples of leak detection fluids are.**

- Bubble method.
- Fluorescent method agents.

If a leak is suspected, all naked flames shall be removed / extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of refrigerant shall be according to removal and evacuation procedure.

Removal and evacuation

When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration.

The following procedure shall be adhered to:

- Safely remove refrigerant following local and national regulations;
- Evacuate;
- Purge the circuit with inert gas (optional for A2L);
- Evacuate (optional for A2L);
- Continuously flush or purge with inert gas when using flame to open circuit; and
- Open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times.

Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instruction.
- Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigerating system.

Prior to recharging the system, it shall be pressure tested with the appropriate purging gas.

The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail.

It is recommended good practice that all refrigerants are recovered safely.

Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant.

It is essential that electrical power is available before the task is commenced.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.
- c) Before attempting the procedure ensure that:
 - Mechanical handling equipment is available, if required, for handling refrigerant cylinders
 - All personal protective equipment is available and being used correctly
 - The recovery process is supervised at all times by a competent person
 - Recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions.
- h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed.

Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.

Ensure that the correct number of cylinders for holding the total system charge is available.

All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).

Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order.

Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant.

If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order.

Hoses shall be complete with leak-free disconnect couplings and in good condition.

The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged.

Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.

The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process.

When oil is drained from a system, it shall be carried out safely.



CAUTION

Installation

- Be very careful when transporting the product. There is a risk of the product falling and causing physical injury.
 - Use appropriate moving equipment to transport each frame ensure the equipment is capable of supporting the weight of the equipment.
- The Limited Warranty is void and of no effect, and LG will have no liability hereunder to any Customer or third party, to the extent any of the following occur: acts, omissions, and conduct of any and all third parties including, but not limited to, the installing contractor and any repairs, service or maintenance by unauthorized or unqualified persons.
- 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.
- Do not install the unit in potentially explosive atmospheres.
- The installation of pipe-work shall be kept to a minimum.
- 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 authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.
- When mechanical connectors are reused indoors, sealing parts shall be renewed.
- When flared joints are reused indoors, the flare part shall be re-fabricated.

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 for special purposes such as preserving animals vegetables, precision machine, or art articles.
 - 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.
- This appliance is not intended for the purposes of cooling INFORMATION TECHNOLOGY EQUIPMENT
- 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.

Service

- Servicing shall be performed only as recommended by the manufacturer.

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CASSETTE INDOOR UNITS INSTALLATION TIPS

This document contains general installation tips for installing LG Cassette indoor units (IDU). Follow all applicable local and national codes during installation. For more detailed information, refer to the individual unit's installation manual on www.lghvac.com.

The typical unit installation includes:

- Minimum Floor Area
- Selecting the installation location
- Installing the unit
- Connecting refrigerant pipes
- Connecting drain pipe
- Connecting communication and power wiring
- Installing the remote controller (if applicable)
- R32 Leak Detection System

Always follow your system diagrams, including the LATS diagram (if applicable).

MINIMUM FLOOR AREA

The appliance shall be installed, operated and stored in a room with a floor area larger than the minimum floor area. Installers must use refrigerant charge amounts that meet the requirements to comply with use conditions required in SNAP Rules.

In this manual, provide a simple method to find minimum floor area in table. For more accurate value, use LATS or-R Checker.

Single-Split System(UL 60335-2-40:2019 Edition 3)

- Minimum floor area for Single Split System(UL 60335-2-40:2019 Edition 3)

Multi-Split System (UL 60335-2-40:2019 Edition 3)

- Minimum floor area for Multi-Split System (UL 60335-2-40:2019 Edition 3)

ETRS Unit(UL 60335-2-40:2022 Edition 4)

- Minimum floor area for ETRS unit (UL 60335-2-40:2022 Edition 4)

Minimum floor area for Single-Split System (UL 60335-2-40:2019 Edition 3)

The following instructions apply when only one indoor unit is connected to an outdoor unit.

- Use the <Table1> to determine the minimum floor area with m and h.
- If m is not in table, use the next larger value.
- m : Total refrigerant charge in system
- Total refrigerant charge in system : factory refrigerant charge +additional refrigerant charge.
- h : Installed height.
- A_{min} : Minimum floor area

<Table 1> : Table for Single-Split System.

Maximum of m is 7.7 kg (17 lbs)

m		Minimum floor area (Installed Height)					
		A_{min} (h \geq 1.8 m, 5.91 ft)		A_{min} (h \geq 2.0 m, 6.56 ft)		A_{min} (h \geq 2.2 m, 7.22 ft)	
kg	oz	m ²	ft ²	m ²	ft ²	m ²	ft ²
\leq 1.842	\leq 64.97	-	-	-	-	-	-
1.85	65.26	13.39	144.14	12.05	129.73	10.96	117.94
2.00	70.55	14.48	155.83	13.03	140.25	11.84	127.50
2.20	77.60	15.92	171.41	14.33	154.27	13.03	140.25
2.40	84.66	17.37	187.00	15.64	168.30	14.21	153.00
2.60	91.71	18.82	202.58	16.94	182.32	15.40	165.75
2.80	98.77	20.27	218.16	18.24	196.35	16.58	178.50
3.00	105.82	21.72	233.75	19.54	210.37	17.77	191.25
3.20	112.88	23.16	249.33	20.85	224.40	18.95	204.00
3.40	119.93	24.61	264.91	22.15	238.42	20.14	216.75
3.60	126.99	26.06	280.50	23.45	252.45	21.32	229.50
3.80	134.04	27.51	296.08	24.76	266.47	22.51	242.25
4.00	141.10	28.95	311.66	26.06	280.50	23.69	255.00
4.20	148.15	30.40	327.24	27.36	294.52	24.87	267.75
4.40	155.21	31.85	342.83	28.66	308.54	26.06	280.50
4.60	162.26	33.30	358.41	29.97	322.57	27.24	293.24
4.80	169.32	34.74	373.99	31.27	336.59	28.43	305.99
5.00	176.37	36.19	389.58	32.57	350.62	29.61	318.74
5.20	183.42	37.64	405.16	33.88	364.64	30.80	331.49
5.40	190.48	39.09	420.74	35.18	378.67	31.98	344.24
5.60	197.53	40.54	436.33	36.48	392.69	33.17	356.99
5.80	204.59	41.98	451.91	37.79	406.72	34.35	369.74
6.00	211.64	43.43	467.49	39.09	420.74	35.53	382.49
6.20	218.70	44.88	483.07	40.39	434.77	36.72	395.24
6.40	225.75	46.33	498.66	41.69	448.79	37.90	407.99
6.60	232.81	47.77	514.24	43.00	462.82	39.09	420.74
6.80	239.86	49.22	529.82	44.30	476.84	40.27	433.49
7.00	246.92	50.67	545.41	45.60	490.87	41.46	446.24
7.20	253.97	52.12	560.99	46.91	504.89	42.64	458.99
7.40	261.03	53.56	576.57	48.21	518.92	43.83	471.74
7.60	268.08	55.01	592.16	49.51	532.94	45.01	484.49
7.70	271.61	56.07	603.51	50.16	539.95	45.60	490.87

Minimum floor area for Multi-Split System (UL 60335-2-40:2019 Edition 3)

The following instructions apply when two or more independently controlled indoor units on a single refrigeration system. Height of room where indoor units are installed must be higher than 2.0 m (6.6 ft).

- Use the <Table 2> to determine the minimum floor area with m.
- If m is not in table, use the next larger value.
- m : Total refrigerant charge in system.
- Total refrigerant charge in system : factory refrigerant charge + additional refrigerant charge.
- A_{min} : minimum floor area.

<Table 2> : Table for Multi-Split System
Maximum of m is 7.7 kg (17 lbs)

Minimum floor area			
m		A_{min}	
kg	oz	m ²	ft ²
≤ 1.842	≤ 64.97	-	-
1.85	65.26	12.05	129.73
2.00	70.55	13.03	140.25
2.20	77.60	14.33	154.27
2.40	84.66	15.64	168.30
2.60	91.71	16.94	182.32
2.80	98.77	18.24	196.35
3.00	105.82	19.54	210.37
3.20	112.88	20.85	224.40
3.40	119.93	22.15	238.42
3.60	126.99	23.45	252.45
3.80	134.04	24.76	266.47
4.00	141.10	26.06	280.50
4.20	148.15	27.36	294.52
4.40	155.21	28.66	308.54
4.60	162.26	29.97	322.57
4.80	169.32	31.27	336.59
5.00	176.37	32.57	350.62
5.20	183.42	33.88	364.64
5.40	190.48	35.18	378.67
5.60	197.53	36.48	392.69
5.80	204.59	37.79	406.72
6.00	211.64	39.09	420.74
6.20	218.70	40.39	434.77
6.40	225.75	41.69	448.79
6.60	232.81	43.00	462.82
6.80	239.86	44.30	476.84
7.00	246.92	45.60	490.87
7.20	253.97	46.91	504.89
7.40	261.03	48.21	518.92
7.60	268.08	49.51	532.94
7.80	275.14	50.81	546.97

Minimum floor area for ETRS unit (UL 60335-2-40:2022 Edition 4)

The following instructions apply to appliance marked "ETRS" on the nameplate (enhanced tightness refrigerating systems). Height of room where indoor units are installed must be higher than 2.0 m (6.6 ft).

- Use the <Table 3> to determine the minimum floor area with m.
- If m is not in table, use the next larger value.
- m : Total refrigerant charge in system
- Total refrigerant charge in system : factory refrigerant charge +additional refrigerant charge.
- A_{min} : minimum floor area.

<Table 3> : Table for ETRS Unit.

Maximum of m is 7.7 kg (17 lbs)

Minimum floor area			
m		A_{min}	
kg	oz	m ²	ft ²
≤ 1.836	≤ 64.76	-	-
1.84	64.80	6.00	64.62
2.00	70.55	6.54	70.35
2.20	77.60	7.19	77.39
2.40	84.66	7.84	84.42
2.60	91.71	8.50	91.46
2.80	98.77	9.15	98.49
3.00	105.82	9.80	105.53
3.20	112.88	10.46	112.56
3.40	119.93	11.11	119.60
3.60	126.99	11.76	126.64
3.80	134.04	12.42	133.67
4.00	141.10	13.07	140.71
4.20	148.15	13.73	147.74
4.40	155.21	14.38	154.78
4.60	162.26	15.03	161.81
4.80	169.32	15.69	168.85
5.00	176.37	16.34	175.88
5.20	183.42	16.99	182.92
5.40	190.48	17.65	189.95
5.60	197.53	18.30	196.99
5.80	204.59	18.95	204.02
6.00	211.64	19.61	211.06
6.20	218.70	20.26	218.09
6.40	225.75	20.92	225.13
6.60	232.81	21.57	232.16
6.80	239.86	22.22	239.20
7.00	246.92	22.88	246.24
7.20	253.97	23.53	253.27
7.40	261.03	24.18	260.31
7.60	268.08	24.84	267.34
7.80	275.14	25.49	274.38

Altitude adjustment

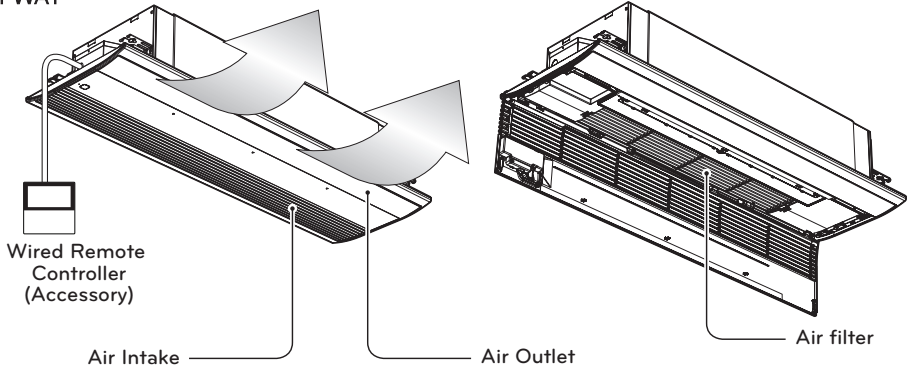
- The minimum room area of A_{\min} or TA_{\min} shall be corrected by multiplying by the altitude adjustment factor(AF) in the below table based on for building site ground level altitude (Halt) in meters(feet).

Unit : m (ft)






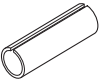

Halt	0	200 (656.2)	400 (1 312.3)	600 (1 968.5)	800 (2 624.7)	1 000 (3 280.8)
AF	1	1	1	1	1.02	1.05
Halt	1 200 (3 937.0)	1 400 (4 593.2)	1 600 (5 249.3)	1 800 (5 905.5)	2 000 (6 561.7)	
AF	1.07	1.1	1.12	1.15	1.18	








INSTALLATION PARTS

1 WAY



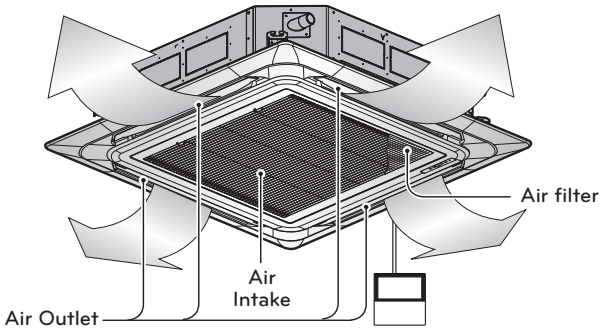
Installation Tool

Name	Drain hose	Clamp metal	Washer	Plastic band	Pipe insulation
Quantity	1 EA	2 EA	8 EA	6 EA	1 SET
Shape		 for drain hose and pipe	 for hanging bracket	 for drain hose insulation (2 EA)  for pipe insulation (4 EA)	 for gas pipe (1 EA)  for liquid pipe (1 EA)

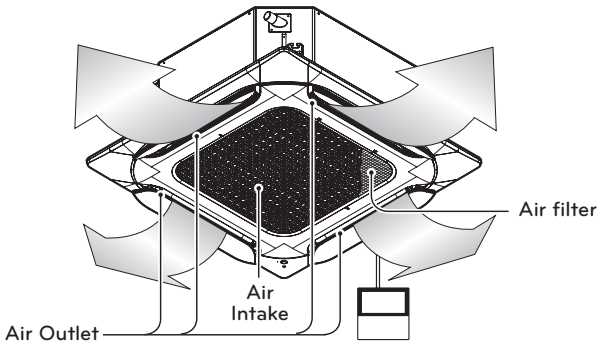
Name	Drain hose insulation	Connection pipe (18kbtu/h only)	Drain cover	Screw	(Other)
Quantity	1 EA	1 SET	1 EA	2 EA	
Shape		 (1 EA)  (1 EA)  (1 EA)		  for drain cover	<ul style="list-style-type: none"> • Paper pattern for installation • Manual

- Screws for fixing panels are attached to decoration panel.
- Connection pipes may not be included depending on the model.

4 WAY





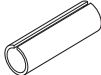




Wired Remote Controller (Accessory)



Wired Remote Controller (Accessory)

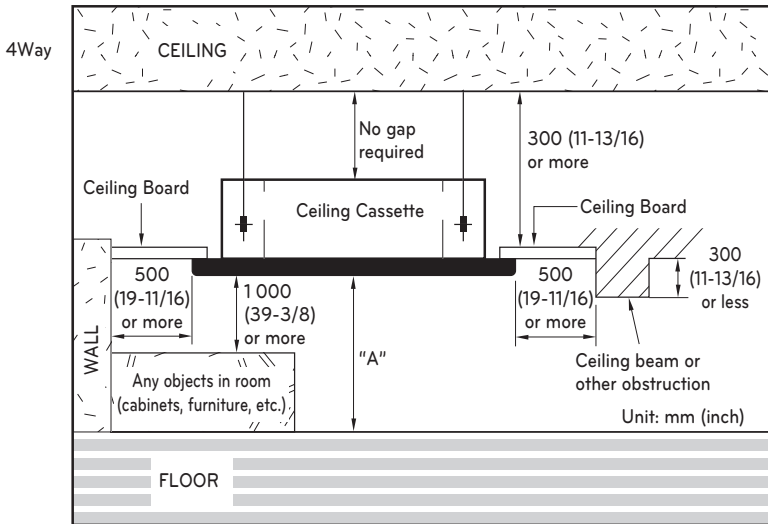
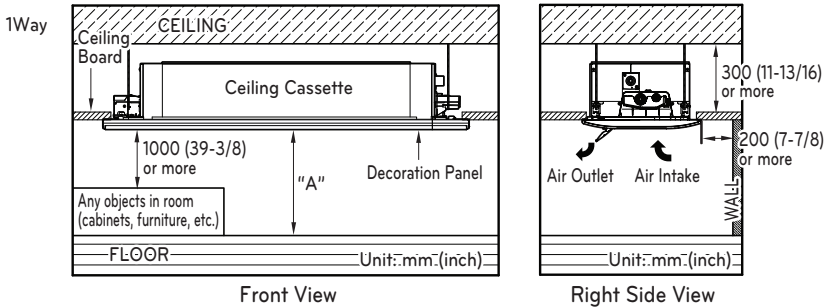
Installation Tool

Name	Drain hose	Clamp metal	Washer	Plastic band	Insulation	Conduit mounting plate	
Quantity	1 EA	2 EA	8 EA	4 EA	1 SET	1 EA	
Shape			 for hanging bracket		 for gas pipe (1 EA)  for liquid pipe (1 EA)		(Other) • Paper pattern for installation • Manual

• Screws for fixing panels are attached to decoration panel.

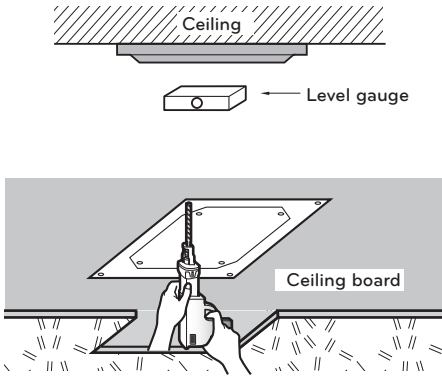
INSTALLATION PLACES

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to prevent the air circulation.
- A place where air circulation in the room will be good.
- A place where drainage can be easily obtained.
- A place where noise prevention is taken into consideration.
- Do not install the unit near the door way.
- Do not install indoor units in laundry rooms.
- Ensure the spaces indicated by arrows from the wall, ceiling, or other obstacles.
- The indoor unit must keep the maintenance space.

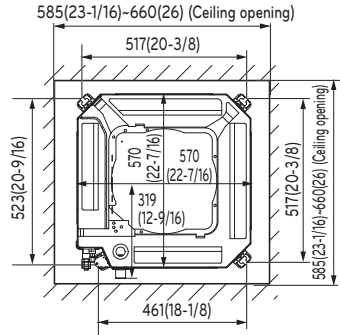


Model, Capacity	A
1 Way	1 800 (70-7/8) < A ≤ 3 300 (129-29/32)
Multi F and Single Zone 4Way, Below 34 kBtu/h	1 800 (70-7/8) < A ≤ 3 600 (141-23/32)
Multi F and Single Zone 4Way, Over 34 kBtu/h	1 800 (70-7/8) < A ≤ 4 200 (165-11/32)

THE INDOOR UNIT INSTALLATION

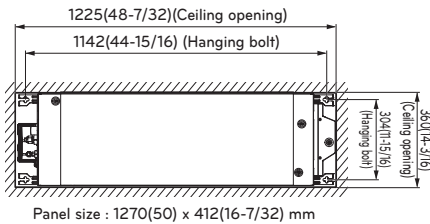


[7-18 kBtu/h] Unit: mm (inch)



1 WAY

Unit: mm (inch)

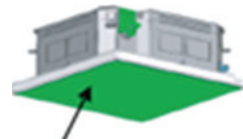
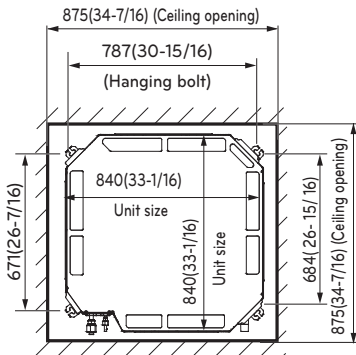


- Select and mark the position for fixing bolts and piping hole.
- Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
- Drill the hole for anchor bolt on the wall.
- When using cardboard on the bottom of packaging, use after separating installation paper from bottom of the product packaging using back of a knife as shown in the picture (TM-A/TP-B/TR/TQ)

4 WAY

[24-48 kBtu/h]

Unit: mm (inch)



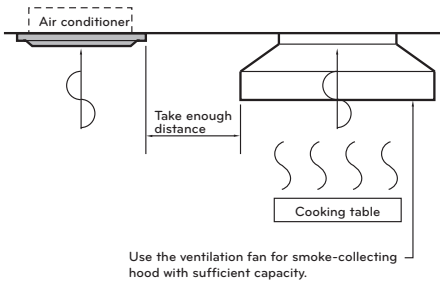
CAUTION

- This air-conditioner uses a drain pump.
- Install the unit horizontally using a level gauge.
- During the installation, care should be taken not to damage electric wires.

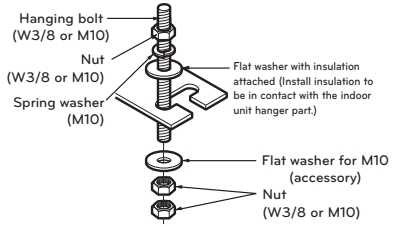
NOTE

Avoid the following installation location.

- Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
 - Make sure that ventilation fan is enough to cover all noxious gases from this place.
 - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.

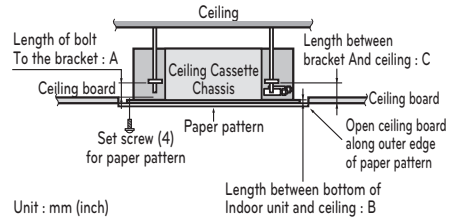


- Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
- Avoid places where inflammable gas is generated.
- Avoid place where noxious gas is generated.
- Avoid places near high frequency generators.



The following parts is option.

- ① Hanging Bolt - W 3/8 or M10
- ② Nut - W 3/8 or M10
- ③ Spring Washer - M10
- ④ Plate Washer - M10

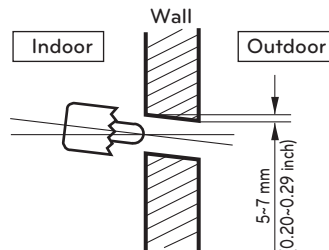


Model	A	B	C
1-WAY (TC)	30 (1-3/16)	0 (0)	61 (2-13/32)
4-WAY (TQ/TR)	40 (1-9/16)	27~33 (1-1/16~1-5/16)	180 (7-3/32)
4-WAY (TM-A/TP-B)	40 (1-9/16)	12~18 (15/32~23/32)	105 (4-9/64)

Drill the piping hole on the wall slightly tilted to the outdoor side using a $\varnothing 70$ hole-core drill.

CAUTION

Tighten the nut and bolt to prevent unit falling.

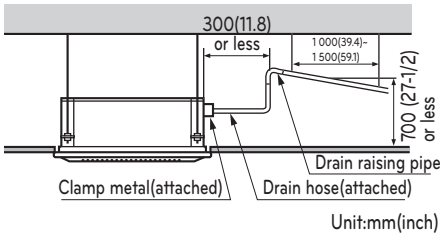
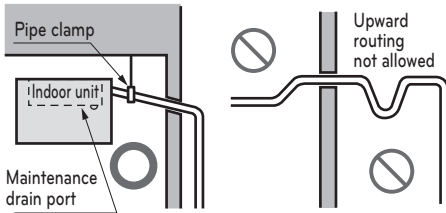


Indoor Unit Drain Piping

- Drain piping must have down-slope (1/50 to 1/100): be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 in).

Piping material: Polyvinyl chloride pipe VP-25 and pipe fittings

- Be sure to execute heat insulation on the drain piping.
- Install the drain raising pipes at a right angle to the indoor unit and no more than 300 mm (11.8 in) from the unit.



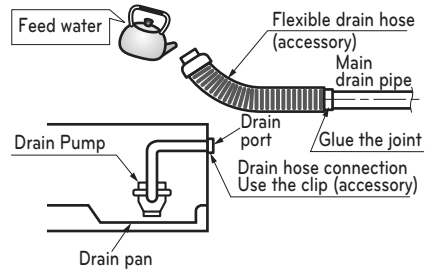
Heat insulation material: Polyethylene foam with thickness more than 8 mm(0.3 inch).

Drain test

The air conditioner uses a drain pump to drain water.

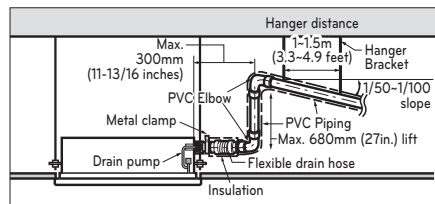
Use the following procedure to test the drain pump operation:

- Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



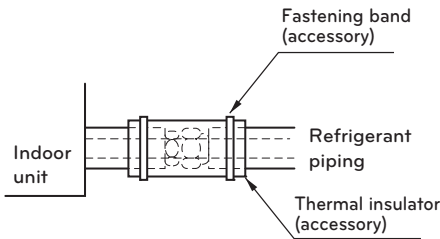
CAUTION

The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.



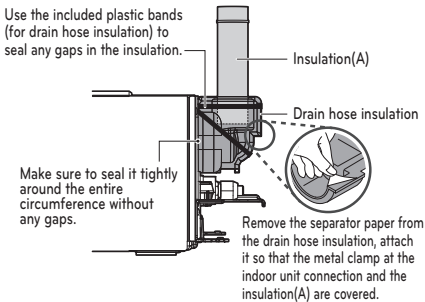
HEAT INSULATION

- Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance (over 120 °C (248 °F)).
- Precautions in high humidity circumstance: This air conditioner has been tested according to the "KS Standard Conditions with Mist" and confirmed that there is not any default. However, if it is operated for a long time in high humid atmosphere (dew point temperature: more than 23 °C (73.4 °F), water drops are liable to fall. In this case, add heat insulation material according to the following procedure:



- Heat insulation material to be prepared : Adiabatic EPDM or NBR with thickness 10-20 mm (0.4-0.8 in).
- Stick glass wool on all air conditioners that are located in ceiling atmosphere.

*** Insulation of drain pipe (1WAY)**

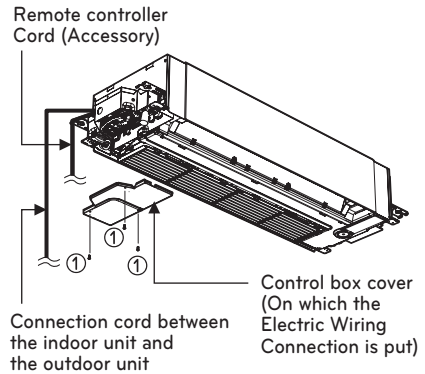


* Please use insulating tape to seal the ends of the insulation well.

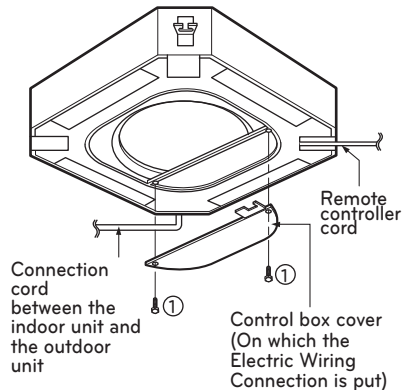
Wiring Connection

- Open the control box cover and connect the Remote controller cord and Indoor power wires.
- Remove the control box cover for electrical connection between the indoor and outdoor unit. (Remove screws ①)
- Use the cord clamper to fix the cord.

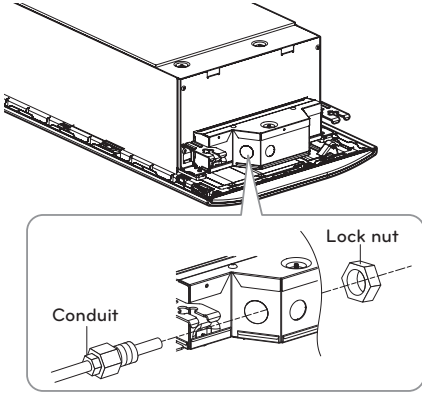
1 WAY



4 WAY

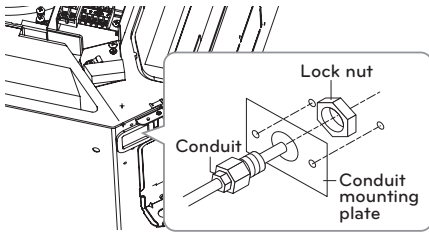


1 WAY

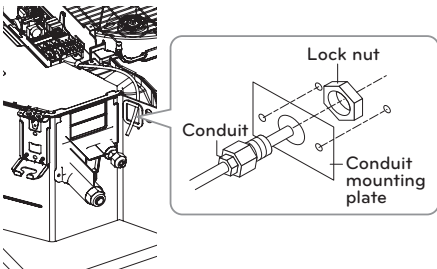


TC Chassis

4 WAY



TQ/TR Chassis

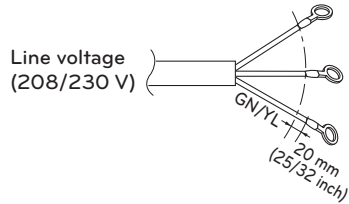


TM-A/TP-B Chassis

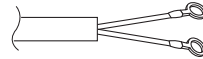
CAUTION

The power and communication connecting cable between the outdoor and indoor units must comply with the following specifications: NRTL Recognized (for example, UL or ETL recognized and CSA certified).

AWG 18 is the minimum recommended wire size, however, the selected conductors must comply with local codes and be suitable for installation in wet locations.



Power supply cable



Communication cable

If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent. When the connection line between the indoor unit and outdoor unit and outdoor unit is over 40 m (131 ft), connect the telecommunication line and power line separately.

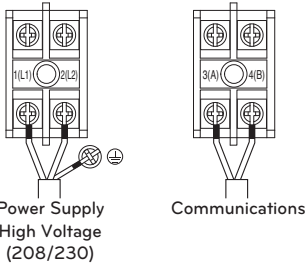
CAUTION

- The Power cord connected to the unit should be selected according to the following specifications.
- All communication and power wiring must be connected to the terminals using connectors certified or recognized according to UL and CSA standard.

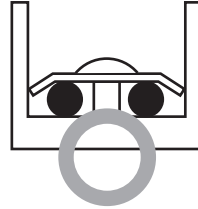
When none are available, follow the instructions below.

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

1 WAY

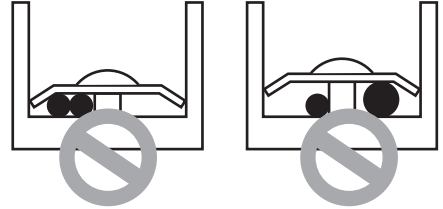


Connect same thickness wiring to both sides.

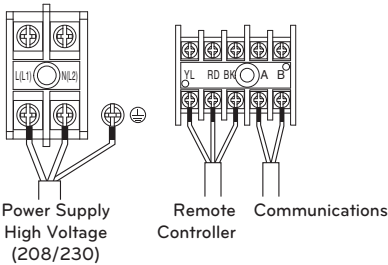


It is forbidden to connect two to one side.

It is forbidden to connect wiring of different thicknesses.

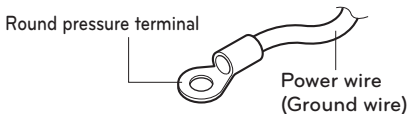


4 WAY



Precautions when laying power and ground wiring

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



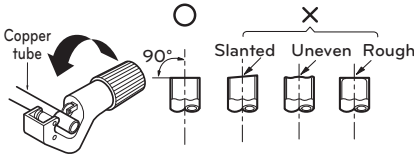
- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal block.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will strip the head and make proper tightening impossible.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

Flaring work

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

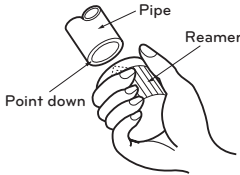
1 Cut the pipes

- Use the accessory piping kit or the pipes purchased locally.
- Measure the distance between the indoor and the outdoor unit.
- Cut the pipes a little longer than measured distance.
- Cut the cable 1.5 m(4.9 ft) longer than the pipe length.



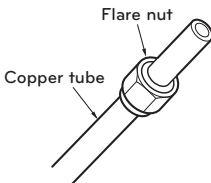
2 Burrs removal

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



3 Putting nut on

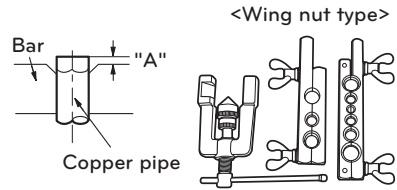
- Remove flare nuts attached to indoor and outdoor units, than put them on pipe/tube having completed burr removal. (Not possible to put them on after flaring work)



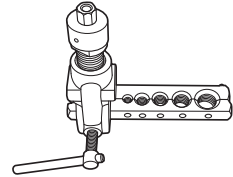
4 Flaring work

- Carry out flaring work using flaring tool as shown below.

Pipe diameter Inch (mm)	A Inch (mm)		Thickness Inch (mm)
	Wing nut type	Clutch type	
Ø1/4 (Ø6.35)	0.04~0.05 (1.1~1.3)	0~0.02 (0~0.5)	0.03 (0.7)
Ø3/8 (Ø9.52)	0.06~0.07 (1.5~1.7)		0.03 (0.8)
Ø1/2 (Ø12.7)	0.06~0.07 (1.6~1.8)		0.03 (0.8)
Ø5/8 (Ø15.88)	0.06~0.07 (1.6~1.8)		0.04 (1.0)
Ø3/4 (Ø19.05)	0.07~0.08 (1.9~2.1)		0.04 (1.0)



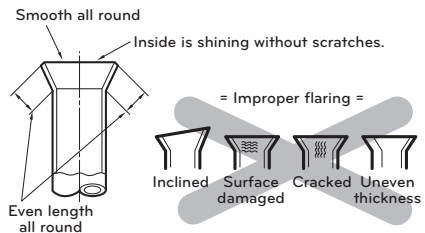
<Clutch type>



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

5 Check

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



Connection of piping

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

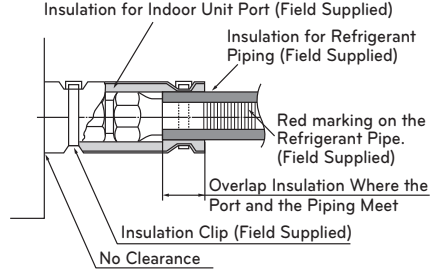
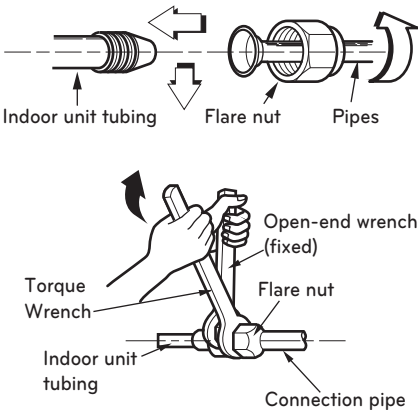
Capacity (kBtu/h)	Refrigerant Connections Pipe size	
	Liquid	Gas
7,9,12	1/4 (Ø6.35)	3/8 (Ø9.52)
18,24,30, 36,42,48	3/8 (Ø9.52)	5/8 (Ø15.88)

* Indoor Unit (18k) includes the sockets.
 (Ø 6.35 → Ø 9.52 x 1EA, Ø 12.7 →
 Ø 15.88 x 1EA, Ø 9.52 → Ø 12.7 x 1EA)

Finally, tighten the flare nut with torque wrench until the wrench clicks.

- When tightening the flare nut with torque wrench ensure the direction for tightening follows the arrow on the wrench.

Piping Size		Torque		
mm	inch	kgf·cm	N·m	lbf·ft
Ø 6.35	Ø 1/4	180 ~ 250	17.6 ~ 24.5	13 ~ 18
Ø 9.52	Ø 3/8	340 ~ 420	33.3 ~ 41.2	25 ~ 30
Ø 15.88	Ø 5/8	630 ~ 820	61.7 ~ 80.4	45 ~ 59
Ø 12.7	Ø 1/2	550 ~ 660	53.9 ~ 64.7	40 ~ 48
Ø 19.05	Ø 3/4	990 ~ 1210	97.0 ~ 118.7	71 ~ 87



Checking the safe handling

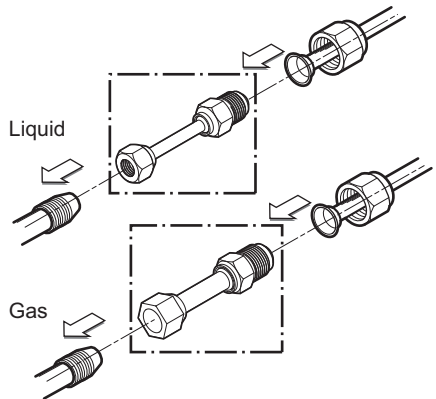
Mark refrigerant pipes with red Pantone® Matching System (PMS) #185 or RAL 3020 after flare fittings or brazing. This marking must extend a minimum of 1 inch (25mm) in both directions and shall be replaced if removed.

Return all labels, especially red marking, to their original condition to ensure the next consumer or servicer is aware of the presence of a flammable refrigerant.

Ensure that the red marking for flammable refrigerant identification in the process tube area is visible following servicing.

1 WAY

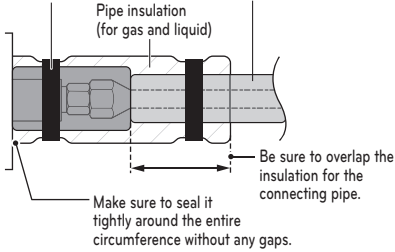
IDU (18kBtu/h)



* Use connection pipes that match each diameter.

※ Insulation of pipes (Details)

Plastic band (for pipe) * Insulation for connecting pipes (sold separately)
(Use one with a heat resistance of 120 °C or higher.)

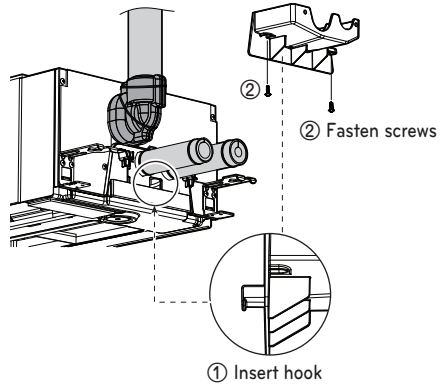


* When using pipe insulation, make sure the cutting line is facing upward. (If it is facing downward, it can cause water leaks.)



Drain cover installation (1WAY only)

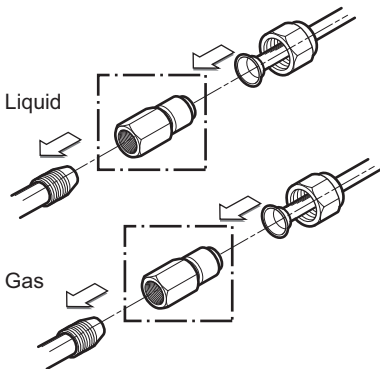
After the plumbing and insulation work, assemble the drain cover as shown below.



4 WAY

For Single zone

IDU (18kBtu/h)



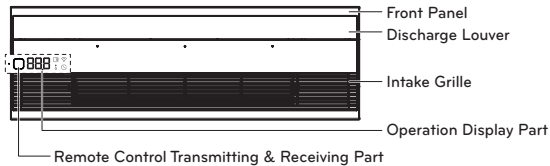
INSTALLATION OF DECORATIVE PANEL (ACCESSORY) 1-WAY

Installation details are in the decorative panel installation manual.
Please refer to before working.

FRONT PANEL CONFIGURATION

Front Panel (TC Chassis)

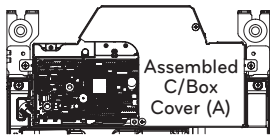
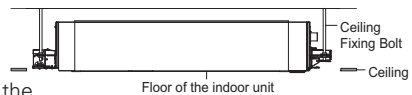
Size (W*H*D): 1 270 * 30 * 412 mm (50 * 1-3/16 * 16-7/32 in.)



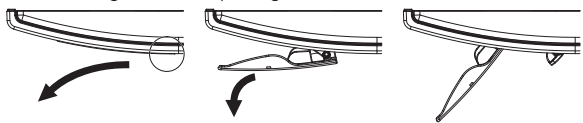
* The operation display part is displayed when the product is in operation.

CAUTION

- The indoor unit installation height should be adjusted so that the ceiling and the floor of the indoor unit are the same height.
 - If the floor of the indoor unit is installed inside the ceiling, the discharge louver may not work. In addition, cold air may leak, causing condensation or water leakage.
 - If the floor of the indoor unit is installed outside the ceiling, a gap may occur between the front panel and the ceiling.
- Install the front panel with the indoor unit's c/box cover (A) part assembled first.
- Check the opening direction of the discharge louver and open it.



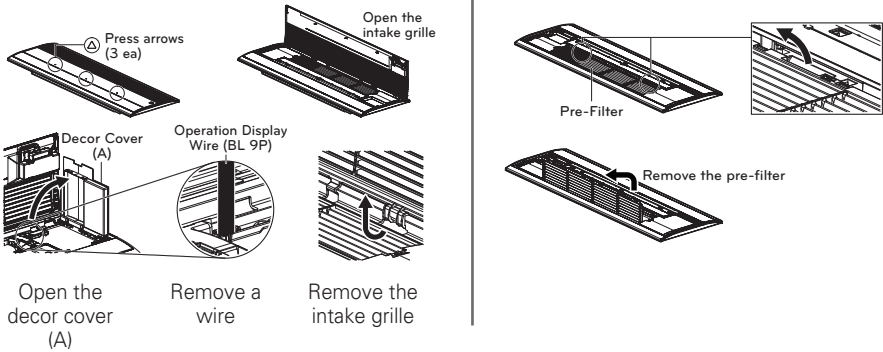
* Discharge Louver Opening Direction



- When separating the intake grille, do not hold the remote control transmitting & receiving part side.
- After installing the front panel, be sure to remove the protective vinyl.

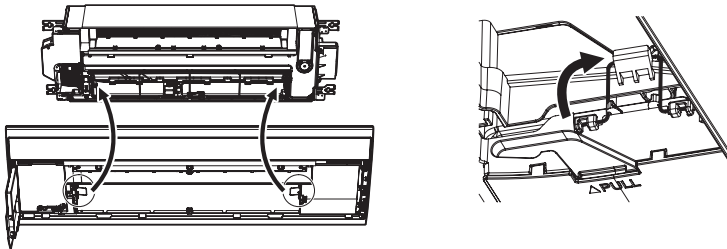
1 Separate an intake grille and a pre-filter.

- Open the intake grille by pressing arrows (3 ea) at the end of the intake grille.
- Open a decor cover (A) and disconnect a wire (1 ea) connected to the intake grille from a hook on a front panel, then remove the intake grille as shown below.
- Remove the pre-filter as shown below.



* When separating the intake grille, do not hold the remote control transmitting & receiving part side.

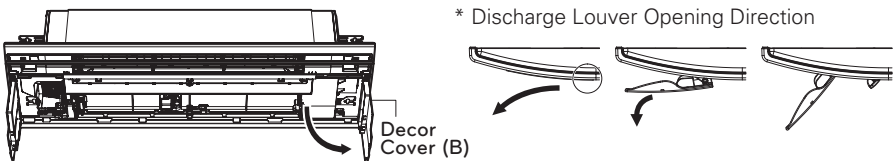
2 Hang the hooks (2 ea) on the front panel to the indoor unit body and secure the front panel.



* Make sure the wires (2 ea) on the front panel go inside the indoor unit body.

3 Open the decor cover (B) and separate the discharge louver as shown below.

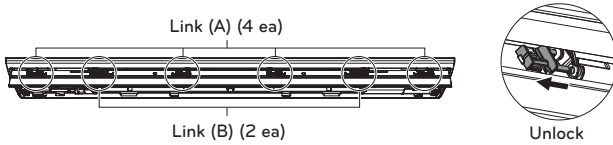
- Push the back of the discharge louver in the direction of the arrow to open it completely. (Do not pull the front of the discharge louver.)



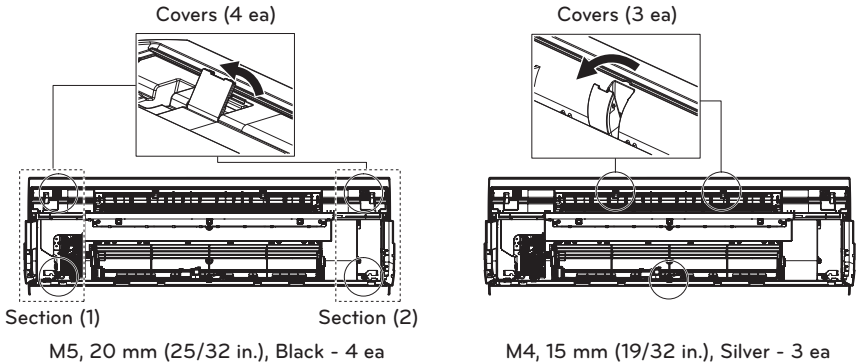
* Check the opening direction of the discharge louver.

36 INSTALLATION OF DECORATIVE PANEL (ACCESSORY) 1-WAY

- Remove the discharge louver by pushing the links (A, B) of it to the side.



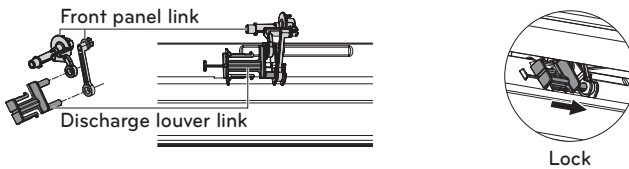
- 4 Fasten the front panel and the indoor unit with the enclosed installation screws (7 ea).
 - Open the covers, tighten the screws, then close the covers again.



* Fastening in the order of (1)-(2) sections will make installation easier.

- Assemble the discharge louver by pushing the links (A, B) of it to the side.

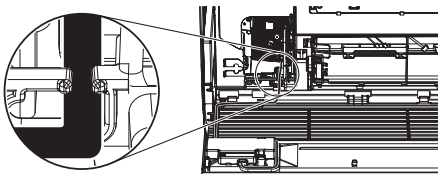
* Check



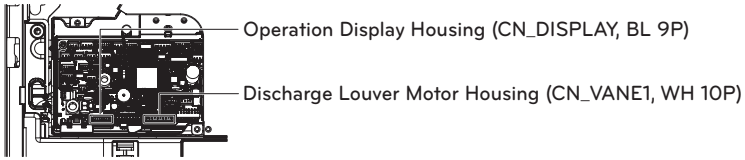
* It is convenient to assemble link (A) first.

* After assembly, all the links on the front panel must be connected to the links on the discharge louver.

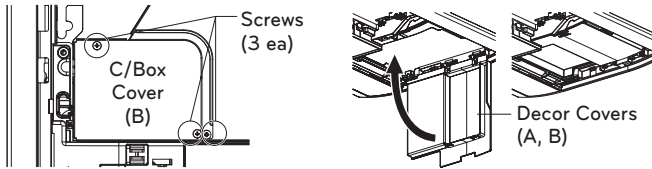
- 5 Reassemble the intake grille, and hang the wire (1 ea) connected to the intake grille on the hook on the front panel as shown below.



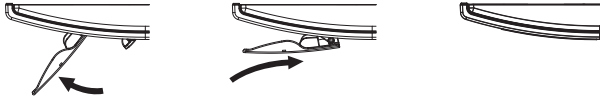
- 6 Connect the wires (2 ea) on the front panel to the housing inside the main PCB.
 - Refer to the wiring diagram attached to the inside of the c/box cover (B).



- 7 Assemble and close the c/box cover (B), decor covers (A, B) and the discharge louver.

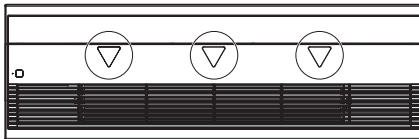


* Discharge Louver Closing Direction



* Check the closing direction of the discharge louver.

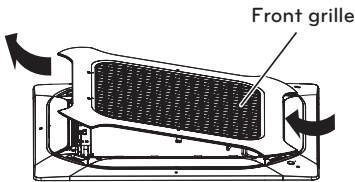
- 8 Assemble the pre-filter and close the intake grille.
 - Press the arrows (3 ea) at the end of the intake grille to fully attach it.



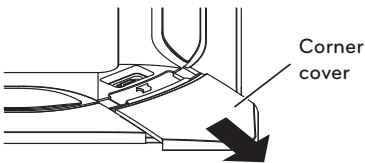
INSTALLATION OF DECORATIVE PANEL (ACCESSORY) 4-WAY

The decorative panel has its installation direction. Before installing the decorative panel, always remove the paper template.

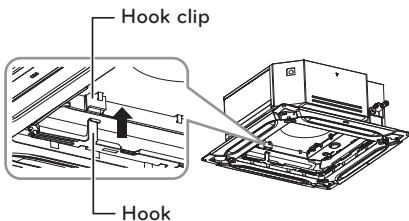
- 1 Remove the packing and take out air inlet grille from front panel.



- 2 Remove the Corner covers of the panel.

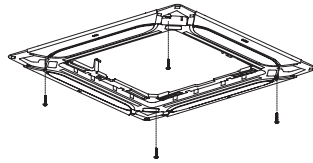


- 3 Fit the panel on the unit by inserting hooks as shown in picture.

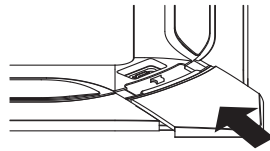


- 4 Insert two screws on diagonal corners of panel. Do not tighten the bolts completely. (The fixing screws are included in the indoor unit box.)

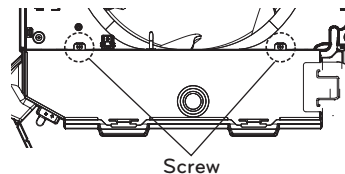
Check the alignment of panel with the ceiling. Height can be adjusted using hanging bolts as shown in picture. Insert the other two screws and tighten all screws completely.



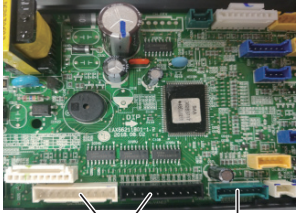
- 5 Fit the corner covers.



- 6 Open two screws of control panel cover.

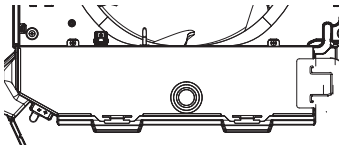


- 7 Connect one display connector and two vane control connectors of front panel to indoor unit PCB.
The position marking on PCB is as:
Display connector : CN-DISPLAY
Vane control connector: CN-VANE 1,2

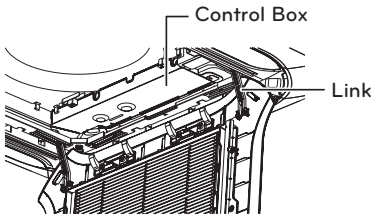


CN-DISPLAY
CN-VANE 1,2

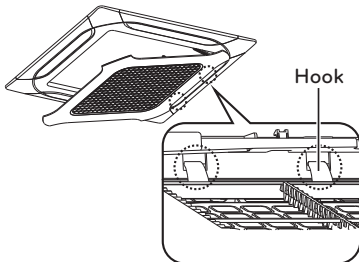
- 8 Close the cover for control box.



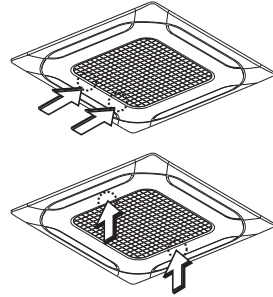
- 9 Fit the link on the panel as shown in picture. (The link is included in the front panel unit box.)
(TM/TM-A/TN/TP/TP-B/TQ/TR)



- 10 Fit the panel on the unit by inserting hooks as shown in picture.
(TM/TM-A/TN/TP/TP-B/TQ/TR)



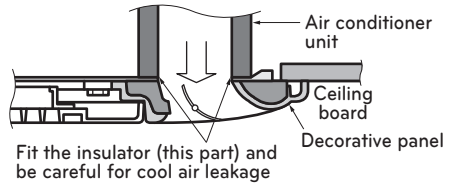
- 11 Install the air inlet grille and Filter on the panel.



CAUTION

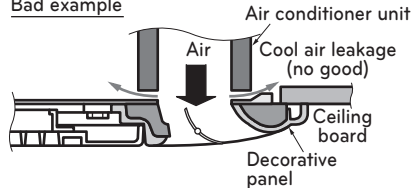
Install certainly the decorative panel.
Cool air leakage causes sweating. ☞
Water drops fall.

Good example



Fit the insulator (this part) and be careful for cool air leakage

Bad example



Cool air leakage (no good)

TEST RUNNING

PRECAUTIONS IN TEST RUN

- The initial power supply must provide at least 90 % of the rated voltage. Otherwise, the air conditioner should not be operated.

! CAUTION

- For test run, carry out the cooling operation firstly even during heating season. If heating operation is carried out firstly, it leads to the trouble of compressor. Then attention must be paid.
- Carry out the test run more than 5 minutes without fail. (Test run will be cancelled 18 minutes later automatically)

- To cancel the test run, press any button.

CHECK THE FOLLOWING ITEMS WHEN INSTALLATION IS COMPLETED

- After completing work, be sure to measure and record trial run properties, and store measured data, etc.
- Measuring items are room temperature, outside temperature, suction temperature, blow out temperature, wind velocity, wind volume, voltage, current, presence of abnormal vibration and noise, operating pressure, piping temperature, compressive pressure.
- As to the structure and appearance, check following items.
 - * Is the circulation of air adequate?
 - * Is the draining smooth?
 - * Is the heat insulation complete (refrigerant and drain piping)?
 - * Is there any leakage of refrigerant?
 - * Is the remote controller switch operated?
 - * Is there any faulty wiring?
 - * Are not terminal screws loosened?

M4.....118 N·cm{12 kgf·cm}

M5.....196 N·cm{20 kgf·cm}

M6.....245 N·cm{25 kgf·cm}

M8.....588 N·cm{60 kgf·cm}

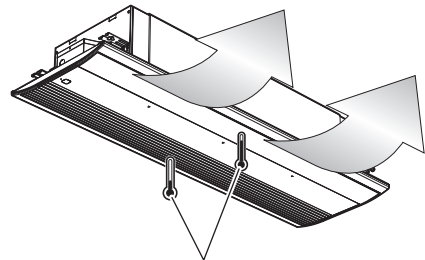
Connection of power supply

- Connect the power supply cord to the independent power supply. Circuit breaker is required.
- Operate the unit for 15 minutes or more.

Evaluation of the performance

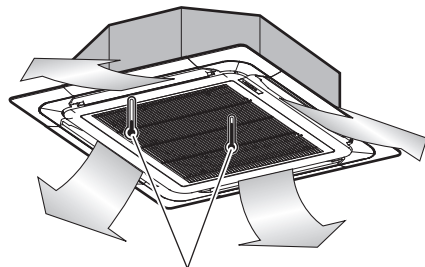
- Measure the temperature of the intake and discharge air.
- Ensure the difference between the intake temperature and the discharge one is more than 8 °C (46.4 °F) (Cooling) or reversely (Heating).

1-WAY



Thermometer

4-WAY



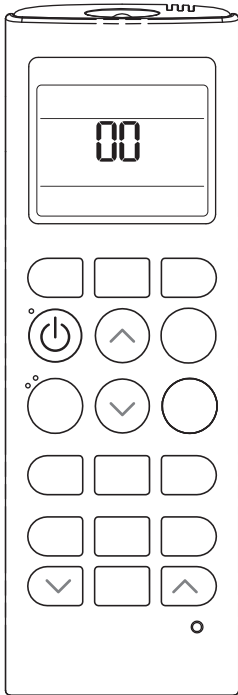
Thermometer

INSTALLATION INSTRUCTIONS

Installer Setting - How to enter installer setting mode

⚠ CAUTION

Installer setting mode is to set the detail function of the remote controller. If the installer setting mode is not set correctly, it can cause problems to the product, user injury or property damage. This must be set by an certificated installer, and any installation or change that is carried out by a non-certificated person should be responsible for the results. In this case, free service cannot be provided.



- 1 With the JET COOL button pressed, press the RESET button.
- 2 By using the TEMPERATURE SETTING button, set function code and setting value. (Please refer the Installer Setting Code Table.)
- 3 Press the ON/OFF button toward the indoor unit 1 time.
- 4 Reset the remote controller to use the general operation mode.

Refer to the Installer Setting Code Table on the next page.

Installer Setting - Installer Setting Code Table

No.	Function	Function Code	Setting Value	Remote Controller LCD
0	Mode Override	0	0 : Set to Master	0.0
			1 : Set to Slave	0.1
1	Ceiling Height Selection	1	1 : Standard	1.1
			2 : Low	1.2
			3 : High	1.3
			4 : Super High	1.4
2	Group Control	2	0 : Set to Master	2.0
			1 : Set to Slave	2.1
			2 : Check Master/Slave	2.2
	Auxiliary heater	2	3 : Set to Auxiliary heater	2.3
			4 : Cancel Auxiliary heater	2.4
			5 : Check Auxiliary heater Installation	2.5

Mode Override

This Function is only for Non-Auto Changeover H/P model.

Ceiling Height Selection

Indoor unit connected to wired remote controller operate as wired remote controller setting.

Group Control

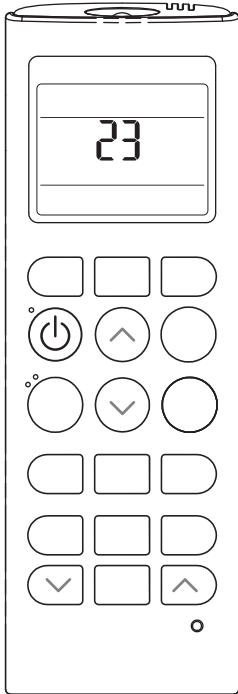
This function is only for group control. Please don't set this function in case of non-group control.

After setting Group Control of the product, turn off the power then turn it back on after 1 minute.

Auxiliary heater

This function is only applied to models with Auxiliary Heater function being activated.

Installer Setting - Setting Address of Central Control



- 1 With the MODE button pressed, press the RESET button.
- 2 By using the temperature setting button, set the indoor unit address.
 - Setting range : 00 ~ FF
- 3 After setting the address, press the ON/OFF button toward the indoor unit 1 time.
- 4 The indoor unit will display the set address to complete the address setting.
 - The address display time and method can differ by the indoor unit type.
- 5 Reset the remote controller to use the general operation mode.

Installer Setting - Checking Address of Central Control

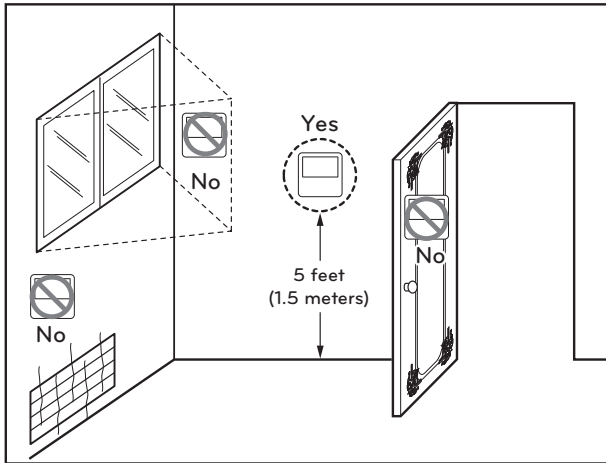
- 1 With the FUNC. button pressed, press the RESET button.
- 2 Press the ON/OFF button toward the indoor unit 1 time, and the indoor unit will display the set address in the display window.
 - The address display time and method can differ by the indoor unit type.
- 3 Reset the remote controller to use the general operation mode.

Optional Wired remote controller installation

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature. Install the remote controller about 5 ft(1.5 m) above the floor in an area with good air circulation at an average temperature.

Do not install the remote controller where it can be affected by:

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with LCD display. For proper display of the remote controller LCD's, the remote controller should be installed properly as shown in Fig.1. (The standard height is 4~5 ft (1.2~1.5 m) from floor level.)



[Fig.1]

R32 Leak Detection System

The R32 refrigerant leak detector detects the concentration of refrigerant (R32) in the air. When the concentration of refrigerant in the air is 5 000 ppm or higher, Leak Detection system will be activated. If Leak Detection system is activated, the following actions will be operated automatically:

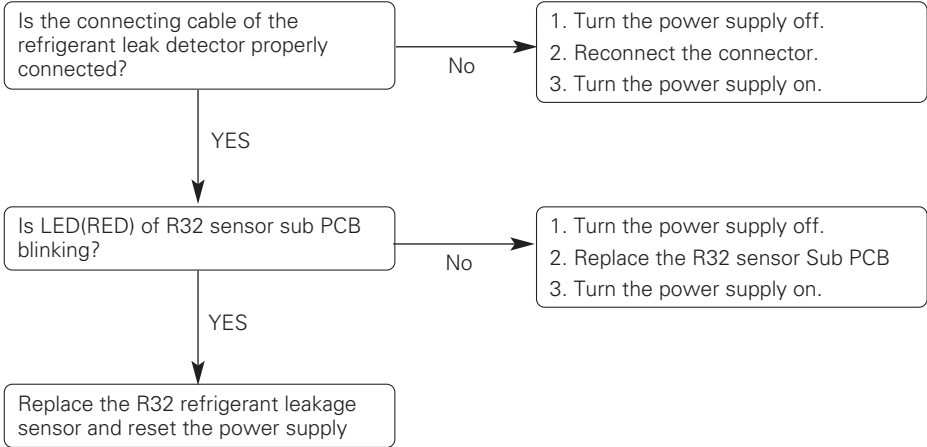
- Wired remote controller and indoor units display an Error code and R32 Sensor Sub PCB issues an alarm so that the user realizes that there is a refrigerant leak.(The alarm function is only available in some product)
- The fan of the indoor unit where the error code is displayed will turn on.
- The unit cannot be used until error code disappears.

Troubleshooting

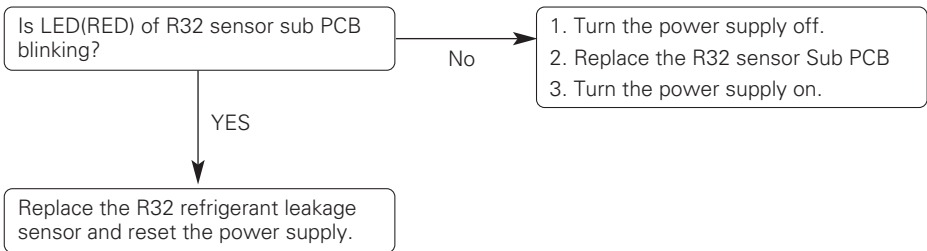
WARNING

- If there are error code such as 228,229 and 230, ventilate the room and contact authorized personnel immediately.
- If there is an error code of 236, the refrigerant leak detector has a lifetime of less than 6 months. Contact authorized personnel immediately.
- The R32 refrigerant leakage sensor must be replaced after detecting any gases or at the end of its lifetime (3650 days).
- REFRIGERANT SENSORS for REFRIGERANT DETECTION SYSTEMS shall only be replaced with sensors specified by the appliance manufacture.
- R32 refrigerant leakage detecting system replacement shall be carried out by authorized personnel only.
- There is possibility detecting other gases, not R32. Do not use highly concentrated chemicals (e.g. Ethanol, Smoke, Hair spray and pesticide) near the indoor unit. R32 refrigerant leakage sensor may detect incorrectly.

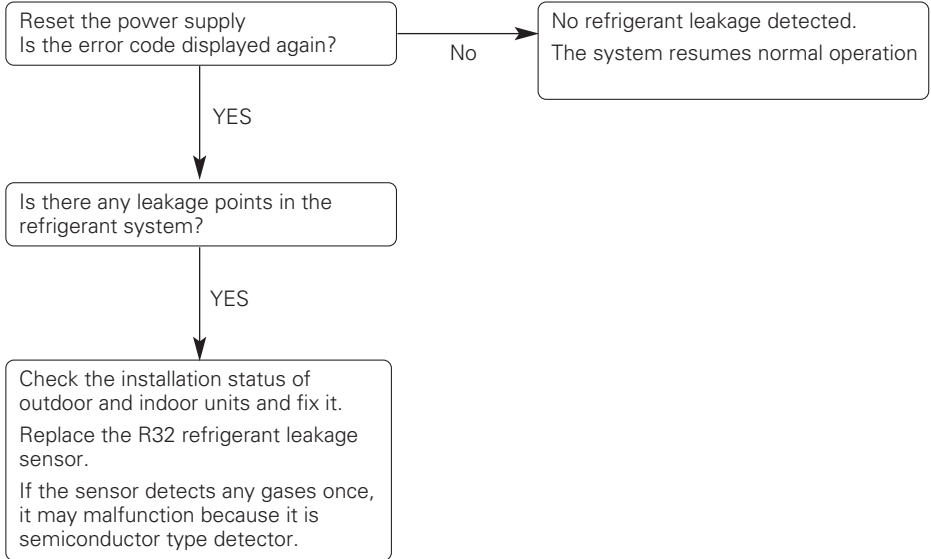
Error Code	Error Type	Error point	Main reasons
CH 228	Refrigerant leak detector malfunction error	Refrigerant leak detector has failed.	<ul style="list-style-type: none"> • The sensor is breaking of short. • Abnormal voltage of DC converter. • Abnormal operation of microprocessor.



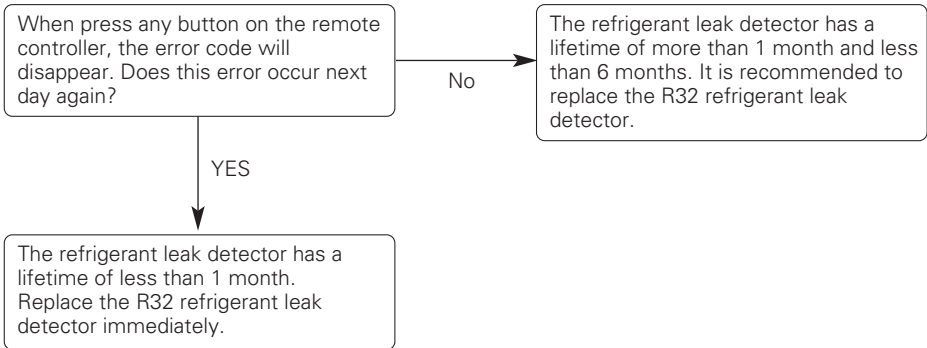
Error Code	Error Type	Error point	Main reasons
CH 229	Refrigerant leak detector lifetime error	The lifetime of the refrigerant leak detector has reached the end	<ul style="list-style-type: none"> • The lifetime of the refrigerant leak detector has been reached, so replace the sensor.



Error Code	Error Type	Error point	Main reasons
CH 230	Refrigerant leak detection error	Refrigerant leak detected by refrigerant leak detector.	<ul style="list-style-type: none"> • Refrigerant leak detection



Error Code	Error Type	Error point	Main reasons
CH 236	Refrigerant leak detector lifetime pre-alarm	<p>An error occurs once a month when the lifespan of the leak detector has elapsed 9 years and 6 months.</p> <p>An error occurs once a day when the lifespan of the leak detector has elapsed 9 years and 11 months.</p>	<ul style="list-style-type: none"> The refrigerant leak detector has 10 years lifespan.





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