



OWNER'S MANUAL

AIR CONDITIONER

Please read this manual carefully before operating your set and retain it for future reference. Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

This equipment shall be provided with a supply conductor complying with the national regulation.

Original instruction (R410A/R32)

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SAFETY INSTRUCTIONS

The following symbols are displayed on indoor and outdoor units.

	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 personnel should be handling this equipment with reference to the Installation Manual.

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 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.
- Compliance with national gas regulations shall be observed (for R32)
- 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)

- 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)
- Ducts connected to an appliance shall not contain a potential ignition source. (for R32)
- This equipment shall be provided with a supply conductor complying with the national regulation.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- The appliance shall be installed in accordance with national wiring regulations.
- A warning that if appliances with A2L refrigerants connected via an air duct system to one or more rooms are installed in a room with an area less than A_{min} as determined in Clause GG.2, that room shall be without continuously operating open flames (for example an operating gas appliance) or other potential ignition sources (for example an operating electric heater, hot surfaces). A flame-producing device may be installed in the same space if the device is provided with an effective flame arrest. (For R32)
- For installations with field applied mechanical joints which are exposed in the occupied space, the instructions shall state that a sensor shall be located remote located within 2 m horizontal distance in line of sight of the unit and on a wall within the room in which the unit is installed; and (For R32)
 - 100 mm above the floor where h_0 is not more than 300 mm from the floor; or
 - 300 mm above the floor where h_0 is greater than 300 mm from the floor.
- Auxiliary devices which may be a potential ignition source shall not be installed in the duct work. Examples of such potential ignition sources are hot surfaces with a temperature exceeding 700°C and electric switching devices. (for R32)
- Only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork. (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 lightning 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 the power cable or cord has scratches or skin peeled off or 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.
 - An 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 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.
- Keep any required ventilation openings clear of obstruction.(for R32)
- Mechanical connections shall be accessible for maintenance purposes.(for R32)

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 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.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. (for R32)
- 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.) (for R32)
- Do not pierce or burn. (for R32)
- Be aware that refrigerants may not contain an odour. (for R32)
- 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)
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

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.
- The appliance shall be stored so as to prevent mechanical damage from occurring. (for R32)
- The manufacturer should specify other potential continuously operating sources known to cause ignition of the refrigerant used. (for R32)
- Refrigerant tubing shall be protected or enclosed to avoid damage. (for R32)
- 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. (for R32)
- The installation of pipe-work shall be kept to a minimum. (for R32)
- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. (for R32)
- Pipe-work shall be protected from physical damage.
- Use the deoxidized copper as piping materials to install.
- 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.
- 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.
- (Australia only) This product must be installed by a professional installer.
 - After the installation of the product in the customer premises, fully remove all product packaging (including any expanded or moulded plastic packaging materials) and recycle or dispose of such packaging responsibly. Do not dispose any expanded plastic packaging in the household bin.

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.

- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- Appliance shall be disconnected from its power source during service and when replacing parts.
- 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 the 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 the 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 an height.
 - Be careful and avoid personal injury.
- 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.
- 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.

Servicing shall be performed only as recommended by the manufacturer.

Recovery (For R32)

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 are 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 flammable refrigerants. 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. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt. The recovered refrigerant shall be returned to the refrigerant supplier 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 evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

Cabling (For R32)

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 ageing or continual vibration from sources such as compressors or fans.

Charging procedures (For R32)

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.

Removal and evacuation (For R32)

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 is followed since flammability is a consideration.

The following procedure shall be adhered to:

- Remove refrigerant;
- Purge the circuit with inert gas (optional for A2L);
- Evacuate (optional for A2L);
- Purge with inert gas (optional for A2L);
- Open the circuit by cutting or brazing

The refrigerant charge shall be recovered into the correct recovery cylinders. For appliances containing flammable refrigerants other than A2L refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process may need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, other than A2L 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. This process shall be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and that ventilation is available.

Leak detection methods (For R32)

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants, but 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
- Gluorescent 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.

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.

This unit is equipped with electrically powered safety measures. To be effective, the unit must be electrically powered at all times after installation, other than when servicing.

Ventilated area (For R32)

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.

Detection of flammable refrigerants (For R32)

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.

Qualification of workers (For R32)

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 competent persons according to Annex HH.

Examples for such working procedures are:

- Breaking into the refrigerating circuit;
- Opening of sealed components;
- Opening of ventilated enclosures.

Checks to the area (For R32)

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 (For R32)

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 (For R32)

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 (For R32)

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 (For R32)

If any hot work is to be conducted on the refrigeration 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 (For R32)

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant 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 flammable 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.

Checks to the refrigeration equipment (For R32)

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
- Refrigeration 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 (For R32)

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 (For R32)

- 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 (For R32)

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation. Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc. Ensure that apparatus is mounted securely. Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications

Repair to intrinsically safe components (For R32)

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use. Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating. Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

NOTE

The use of silicon sealant can inhibit the effectiveness of some types of leak detection equipment.
Intrinsically safe components do not have to be isolated prior to working on them.

Decommissioning (For R32)

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 reclaimed 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 manufacturer's 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 refrigeration system unless it has been cleaned and checked.

Labelling (For R32)

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.

Prior to Operation

Preparing for Operation

1. Contact an installation specialist for installation.
2. Use a dedicated circuit.

Usage

1. Being exposed to direct airflow for an extended period of time could be hazardous to your health. Do not expose occupants, pets, or plants to direct airflow for extended periods of time.
2. Due to the possibility of oxygen deficiency, ventilate the room when used together with stoves or other heating devices.
3. Do not use this air conditioner for non-specified special purposes (e.g. preserving precision devices, food, pets, plants, and art objects). Such usage could damage the items.

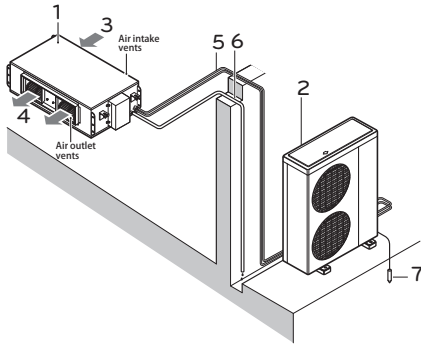
Cleaning and Maintenance

1. Do not touch the metal parts of the unit when removing the filter. Injuries can occur when handling sharp metal edges.
2. Do not use water to clean inside the air conditioner. Exposure to water can destroy the insulation, leading to possible electric shock.
3. When cleaning the unit, first make sure that the power and breaker are turned off. The fan rotates at a very high speed during operation. There is a possibility of injury if the unit's power is accidentally triggered on while cleaning inner parts of the unit.

Service

For repair and maintenance, contact your authorized service dealer.

Name and function of parts (CEILING CONCEALED DUCT)



- 1: Indoor unit
- 2: Outdoor unit
- 3: Inlet air
- 4: Discharge air
- 5: Refrigerant piping, connection electric wire
- 6: Drain pipe
- 7: Ground wire
wire to ground outdoor unit to prevent electrical shocks.

Timer Functions

Setting the Current Time

- 1 Press **SET/CLEAR** button for 3 seconds.
- 2 Press  or  button until the desired time is set.
 - If you press down and hold the button for a long time, the time will change more quickly in 10 minute increments.

NOTE

Check the indicator for A.M. and P.M.

Sleep Timer Setting

- 1 Turn the appliance on.
- 2 Press **SLEEP** button to turn the timer on or off.

A digital display showing the Sleep Timer setting. It includes a star icon, '3 hr.', 'AM', and '6:00'.
- 3 Press  or  button until the desired time is set.
 - 7 hours is the maximum setting.
- 4 Press **SET/CLEAR** button.

Setting the On Timer

- 1 Press **ON** button to turn the timer on or off.

A digital display showing the On Timer setting. It includes 'AM', '6:00', and 'ON'.
- 2 Press  or  button until the desired time is set.
- 3 Press **SET/CLEAR** button.

Setting the Off Timer

- 1 Press **OFF** button to turn the timer on or off.

A digital display showing the Off Timer setting. It includes 'PM', '6:00', and 'OFF'.
- 2 Press  or  button until the desired time is set.
- 3 Press **SET/CLEAR** button.

Canceling the Timer Setting

You can cancel all timer settings.

- Press **SET/CLEAR** button.

NOTE

- If you wish to cancel a specific timer setting, press the each timer button to turn on or off the Sleep Timer, On Timer, or Off Timer as you want. Then press the **SET/CLEAR** button while aiming the remote controller at the signal receptor.
- The timer lamp on the air conditioner and the display will go off.

Mode Lock setting

You can select operation mode for “cooling only” or “heating only”.

1. Press this   for 5 seconds or more, operation mode changed to “cooling only”.
 2. Press this   for 5 seconds or more, operation mode changed from “cooling only” to “heating only”.
 3. Press this   for 5 seconds or more, “heating only” mode released.
- In “cooling only” or “heating only” mode, mode change cannot be choose.

NOTE

- Use other controller but wireless one, you can change operation mode.
- Some functions may not be supported, depending on the model.

Selecting air outlet direction (for console)

You can select the air outlet.

Press ON/OFF button to start the unit.

Press the AIR OUTLET button.



- If  is selected, only upper air outlet will be opened and blow air.
- If  is selected, only lower air outlet will be opened and blow air.
- If  is selected, upper/lower air outlets will be opened and blow air.

NOTE

Some functions may not be supported, depending on the model.

Checking the air quality level during air purification operation (Optional)

Press  button for 3 seconds, Air quality level will always be displayed on Smart Indicator of the product.

Global

Display Color	Air Quality Level	Concentration of dust ($\mu\text{g}/\text{m}^3$)	
		PM10	PM2.5/1.0
Green	Good	54 ↓	12 ↓
Yellow	Moderate	55-154	13-35
Orange	Unhealthy	155-254	36-55
Red	Poor	255 ↑	56 ↑

China/India

Display Color	Air Quality Level	Concentration of dust ($\mu\text{g}/\text{m}^3$)	
		PM10	PM2.5/1.0
Green	Good	50 ↓	35 ↓
Yellow	Moderate	51-150	36-75
Orange	Unhealthy	151-250	76-115
Red	Poor	251-350	116-150
Pink	Very poor	351-420	151-250
Violet	Severe	421 ↑	251 ↑

NOTE

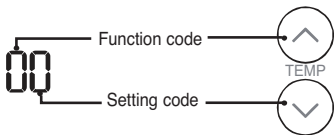
- The dust concentration is displayed from 8 to 999 by the unit of 1.
- The dust concentration referred to the data sheet of the sensor manufacturer.
- The dust concentration criteria for the PM1.0 dust were set based on the same criteria as the PM2.5 dust. (Company standard)
- The dust concentration and level displayed on the product may differ from other measuring instruments or other products.
- The displayed dust concentration values can differ from each other depending on the differences in dust measuring methods and also from the actual dust density.
- The dust concentration evaluation is carried out with our company's standard test dust.
- If you use a product generating steam or fine particles (humidifier, cooking appliances, sprays, etc.), the dust concentration may change.
- The dust concentration may vary depending on the installation environment and surrounding environment.
- It is also affected by sofas, beds, carpets, vacuum cleaners, humidity, smoke, bugs, pets, etc.
- It is affected by construction sites, roadsides and factories.
- Dust concentrations can be measured to be higher in an environment where external air is introduced, such as near the entrance, windows and ventilation openings.
- This is an additional function of the product and may not work in some products.
- The feature may be changed according to the type of model.
- Some functions may not be supported, depending on the model.

How to set Air quality level color

1. With the  button pressed, press the reset button.



2. By using the  or  button, set function code and setting value.



3. Press the  button toward the indoor unit 1 time.
Each countries have different standards for indicating Overall air quality.
Please refer to table below.

Value	Step	Overall Air Quality.
Type1 (1beep)	4step (For Korea)	Good/Moderate/ Unhealthy/Poor
Type2 (2beep)	4step (For Global)	Good/Moderate/ Unhealthy/Poor
Type3 (3beep)	6step (For China)	Good/Moderate/ Unhealthy/Poor/ Very Poor/ Severe

4. Reset the remote controller to use the general operation mode.

Forced Operation

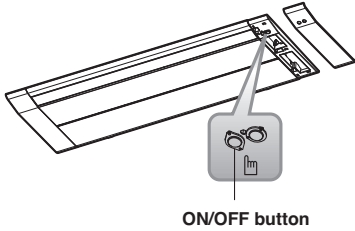
Operation procedures when the remote control can't be used.

Press the tact switch (ON/OFF button) for 2 seconds.

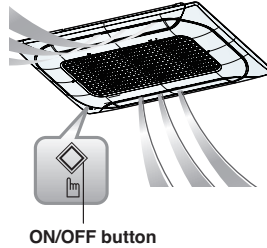
If you want to stop operation, press again the tact switch.

In case the power comes on again after power failure on the forced operation mode, the operating conditions are automatically set as follows: During forced operation, the initial mode continues.

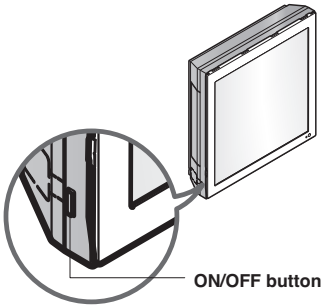
<Ceiling Cassette - 1Way>



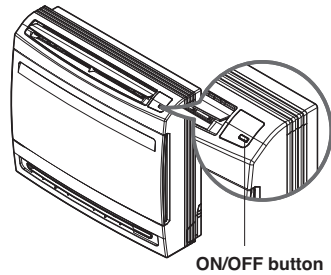
<Ceiling Cassette - 2Way>



<Art Cool Gallery Series>



<Console>



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

Auto Restart Function

In case the power comes on again after a power failure, auto restarting operation is the function to operate procedures automatically to the previous operating conditions.

Ceiling Concealed Duct

⚠ CAUTION

Before performing any maintenance, turn off the main power to the system.

Grille, Case, and Remote Control

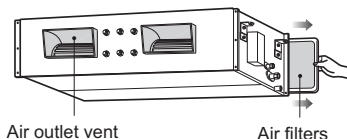
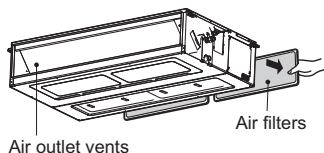
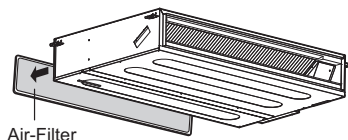
- Turn the system off before cleaning. To clean, wipe with a soft, dry cloth. Do not use bleach or abrasives.

NOTE

Supply power must be disconnected before cleaning the indoor unit.

Air Filters

The air filters behind Indoor unit (the suction side) should be checked and cleaned once every 2 weeks or more often if necessary.



- Never use any of the followings:

- Water hotter than 40 °C
Could cause deformation and/or discoloration.
- Volatile substances
Could damage the surfaces of the air conditioner.



1. Remove the Air filters.

- Take hold of the tab and pull slightly forward to remove the filter.

⚠ CAUTION

When the air filter is to be removed, do not touch the metal parts of the indoor unit. It may cause an injury.

2. Clean dirt from the air filter using a vacuum cleaner or washing with water.

- If dirt is conspicuous, wash with a neutral detergent in lukewarm water.
- If hot water (40 °C or more) is used, it may be deformed.

3. After washing with water, dry well in the shade.

- Do not expose the air filter to direct sunlight or heat from a fire when drying it.

4. Install the air filter.

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

When the air conditioner is not going to be used for a long time

When it is not going to be used for a long time.

- 1 Operate the air conditioner at the following settings for 2 to 3 hours.
 - Type of operation: Fan operation mode.
 - This will dry out the internal mechanisms.

- 2 Turn off the breaker.

CAUTION

Turn off the breaker when the air conditioner is not going to be used for a long time.

Dirt may collect and may cause a fire.

Helpful information

The air filters and your electric bill. If the air filters become clogged with dust, the cooling capacity will drop, and 6 % of the electricity used to operate the air conditioner will be wasted.

When the air conditioner is to be used again.

- 1 Clean the air filter and install it in the indoor unit.

- 2 Check that the air inlet and outlet of the indoor/outdoor unit are not blocked.

- 3 Check that the ground wire is connected correctly. It may be connect to the indoor unit side.

Operation Tips

Do not overcool the room.

This is not good for the health and wastes electricity.

Make sure that the doors and windows are shut tight.

Avoid opening doors and windows as much as possible to keep the cool air in the room.

Keep blinds or curtains closed.

Do not let direct sunshine enter the room when the air conditioner is in operation.

Clean the air filter regularly.

Blockages in the air filter reduce the airflow and lower cooling and dehumidifying effects. Clean at least once every two weeks.

Keep the room temperature uniform.

Adjust the vertical and horizontal airflow direction to ensure a uniform temperature in the room.

Ventilate the room occasionally.

Since windows are kept closed, it is a good idea to open them and ventilate the room now and then.

Before you call for service...

Troubleshooting Tips! Save time and money!

Check the following points before requesting repairs or service.... If the malfunction persist, please contact your dealer.

The air conditioner does not operate.	• Have you made a mistake in timer operation? • Has the fuse blown or has the circuit breaker been tripped?
The room has a peculiar odor.	• Check that this is not a damp smell exuded by the walls, carpet, furniture or cloth items in the room.
It seems that condensation is leaking from the air conditioner.	• Condensation occurs when the airflow from the air conditioner cools the warm room air.
Air conditioner does not operate for about 3 minutes when restart.	• This is the protector of the mechanism. • Wait about three minutes and operation will begin.
Does not cool or heat effectively.	• Is the air filter dirty? See air filter cleaning instructions. • The room may have been very hot when the room air conditioner was first turned on. Allow time for it to cool down. • Has the temperature been set incorrectly? • Are the indoor unit's air inlet or outlet vents obstructed?
The air conditioner operation is noisy.	• For a noise that sounds like water flowing. - This is the sound of freon flowing inside the air conditioner unit. • For a noise that sounds like the compressed air releasing into atmosphere. - This is the sound of the dehumidifying water being processed inside the air conditioning unit.
Crack sound is heard.	• This sound is generated by the expansion/ constriction of the front panel, etc. due to changes of temperature.
Remote control display is faint, or no display at all.	• Are the batteries depleted? • Are the batteries inserted in the opposite (+) and (-) directions?
The air conditioner changes generated airflow during operation.	• When the air conditioner reaches the desired temperature, the airflow rate reduces in order to avoid generating cool airflow during heating, or to minimize energy consumption and indoor humidity change during cooling. - This symptom is normal.
The buzzer sounds. (7 times)	• Is the suction panel completely closed? Close the suction grille completely. • Is the water completely dried after cleaning PM1.0 filter? If moisture remains, let it dry in the shade for about a day. • Is PM1.0 filter film torn? Contact the LG Electronics Service Center.

NOTE

- Water resistant: The outdoor side of this appliance is WATER RESISTANT.
The indoor side is not water resistant and should not be exposed to excess water.
- Some functions may not be supported, depending on the model.



Eco design requirement

- The information for Eco design is available on the following free access website.
<https://www.lg.com/global/support/cedoc/cedoc>