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OWNER'S & INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation manual completely before installing the product.
Please retain this installation manual for future reference after reading it thoroughly.

Original instruction (R32)

This manual is the simplified version of original manual.
You can obtain the original manual from www.lg.com.

MFL70408209
Rev.00_220714

www.lg.com

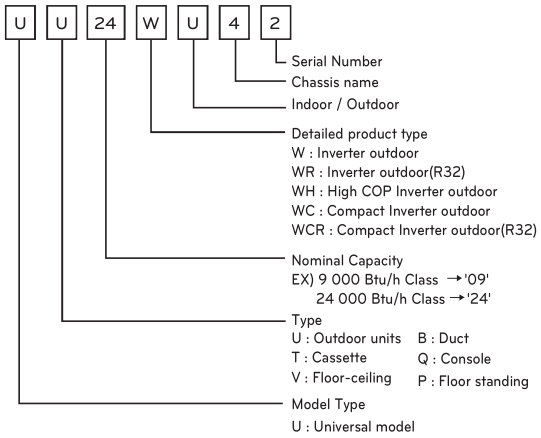
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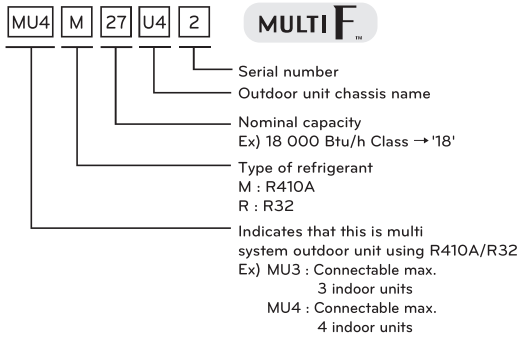
MODEL DESIGNATION

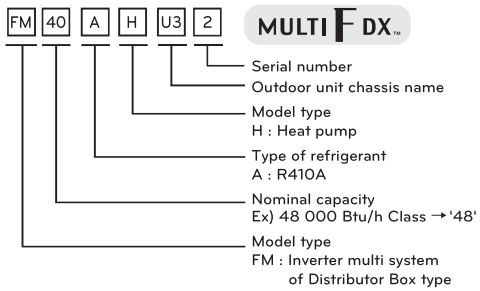
Product information

- Product Name : Air conditioner

- Model Name :







- Additional Information : serial number is refer to the barcode on the product.

- Maximum allowable pressure
High side : 4.32 MPa
Low side : 2.4 MPa

- Refrigerant : R32

Airborne Noise Emission

The A-weighted sound pressure emitted by this product is below 70 dB.

** The noise level can vary depending on the site.

The figures quoted are emission level and are not necessarily safe working levels.

Whilst there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required.

Factor that influence the actual level of exposure of the workforce include the characteristics of the work room and the other sources of noise, i.e. the number of equipment and other adjacent processes and the length of time for which an operator exposed to the noise. Also, the permissible exposure level can vary from country to country.

This information, however, will enable the user of the equipment to make a better evaluation of the hazard and risk.

SAFETY INSTRUCTIONS

	Read the precautions in this manual carefully before operating the unit.		This appliance is filled with flammable refrigerant. (for R32)
	This symbol indicates that the Operation Manual should be read carefully.		This symbol indicates that a service 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.
- This equipment shall be provided with a supply conductor complying with the national regulation.
- Ducts connected to an appliance shall not contain an ignition source. (for R32)

Installation

- Do not use a defective or underrated circuit breaker. Use the correctly rated breaker and fuse. There is risk of fire or electric shock.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center. Do not disassemble or repair the product by yourself. There is risk of fire or electric shock.
- Always ground the product as per the wiring diagram. Do not connect the ground wire to gas or water pipes lightening rod or telephone ground wire. There is risk of fire or electric shock.
- Install the panel and the cover of control box securely. There is risk of fire or electric shock due to dust, water etc.
- Use the correctly rated breaker or fuse. There is risk of fire or electric shock.
- Do not modify or extend the power cable. If 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 turn on the breaker or power under condition that front panel, cabinet, top cover, control box cover are removed or opened. Otherwise, it may cause fire, electric shock, explosion or death.
- Use a vacuum pump or Inert (nitrogen) gas when doing leakage test or air purge. Do not compress air or Oxygen and do not use Flammable gases. Otherwise, it may cause fire or explosion.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater)
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

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

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.
- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water.
- Dismantling the unit, treatment of the refrigerant oil and eventual parts should be done in accordance with local and national standards.

⚠ CAUTION

Installation

- Two or more people must lift and transport the product. Avoid personal injury.
- Do not install the product where it will be exposed to sea wind (salt spray) directly. It may cause corrosion on the product.
- Install the drain hose to ensure that the condensed water is drained away properly. A bad connection may cause water leakage.
- Keep level even when installing the product. To avoid vibration or noise.
- Do not install the product where the noise or hot air from the outdoor unit could damage or disturb the neighborhoods. It may cause a problem for your neighbors and hence dispute.
- Always check for gas (refrigerant) leakage after installation or repair of product. Low refrigerant levels may cause failure of product.
- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.
- Wear adequate personal protection equipment (PPE) when installing, maintaining or servicing the product.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

- Pipe-work shall be protected from physical damage.
- Keep Level parallel in installing the product. Otherwise, it may cause vibration or water leakage. It may cause injury or an accident.
- If anyone other than a licensed Professional installs, repairs, or alters LG Electronics Air Conditioning Products, the warranty is voided.
  - All costs associated with repair are then the full responsibility of the owner.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- Do not insert a drain hose in drain or soil pipe.
  Bad smells can occur and it results in a corrosion of a heat exchanger or pipe.
- Do not install the unit in potentially explosive atmospheres.

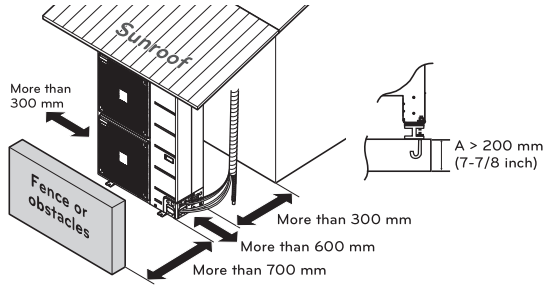
Operation

- Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer air conditioner, not a precision refrigeration system. There is risk of damage or loss of property.
- Do not block the inlet or outlet of air flow. It may cause product failure.
- Use a soft cloth to clean. Do not use harsh detergents, solvents or splashing water etc. There is risk of fire, electric shock, or damage to the plastic parts of the product.
- Do not touch the metal parts of the product when removing the air filter. There is risk of personal injury.
- Do not step on or put anything on the product. (outdoor units) There is risk of personal injury and failure of product.
- Always insert the filter securely after cleaning. Clean the filter every two weeks or more often if necessary. A dirty filter reduces the efficiency.
- Do not insert hands or other objects through the air inlet or outlet while the product is operating. There are sharp and moving parts that could cause personal injury.
- Be cautious when unpacking and installing the product. Sharp edges could cause injury.
- If the refrigerant gas leaks during 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.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
- The installation of pipe-work shall be kept to a minimum
- When mechanical connectors are reused indoors, sealing parts shall be renewed.
- When flared joints are reused indoors, the flare part shall be re-fabricated.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules
- 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

INSTALLATION PLACES

- If an awning is built over the unit to prevent direct sunlight or rain exposure, make sure that heat radiation from the condenser is not restricted.
- Ensure that the spaces indicated by arrows around front, back and side of the unit.
- Do not place animals and plants in the path of the warm air.
- Take the air conditioner weight into account and select a place where noise and vibration are minimum.
- Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.
- Place that can sufficiently endure the weight and vibration of the outdoor unit and where even installation is possible
- Place that has no direct influence of snow or rain
- Place with no danger of snowfall or icicle drop
- Place without weak floor or base such as decrepit part of the building or with a lot of snow accumulation



⚠ CAUTION

Be very careful while carrying the product.

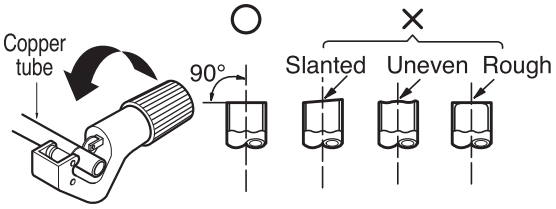
- Do not have only one person carry product if it is more than 20 kg.
- PP bands are used to pack some products. Do not use them as a mean for transportation because they are dangerous.
- Do not touch heat exchanger fins with your bare hands. Otherwise you may get a cut in your hands.
- Tear plastic packaging bag and scrap it so that children cannot play with it. Otherwise plastic packaging bag may suffocate children to death.
- When carrying in Outdoor Unit, be sure to support it at four points. Carrying in and lifting with 3-point support may make Outdoor Unit unstable, resulting in a fall.
- Use 2 belts of at least 8 m long.
- Place extra cloth or boards in the locations where the casing comes in contact with the sling to prevent damage.
- Hoist the unit making sure it is being lifted at its center of gravity.

CONNECTING PIPES

Preparation of Piping

- Use the de-oxidised copper as piping materials to install.

Cut the pipes and the cable.

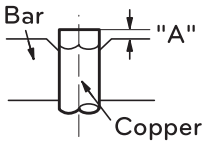


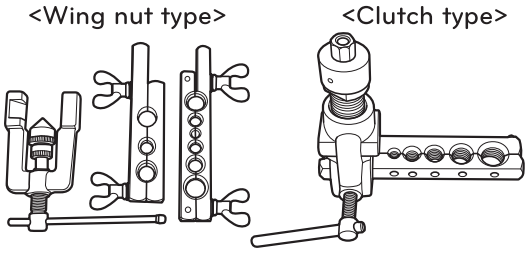
Burrs removal

- 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.

Flaring work

Pipe diameter Inch (mm)	A inch (mm)	
	Wing nut type	Clutch type
Ø 1/4 (Ø 6.35)	0.04~0.05 (1.1~1.3)	0~0.02 (0~0.5)
Ø 3/8 (Ø 9.52)	0.06~0.07 (1.5~1.7)	
Ø 1/2 (Ø 12.7)	0.06~0.07 (1.6~1.8)	
Ø 5/8 (Ø 15.88)	0.06~0.07 (1.6~1.8)	
Ø 3/4 (Ø 19.05)	0.07~0.08 (1.9~2.1)	





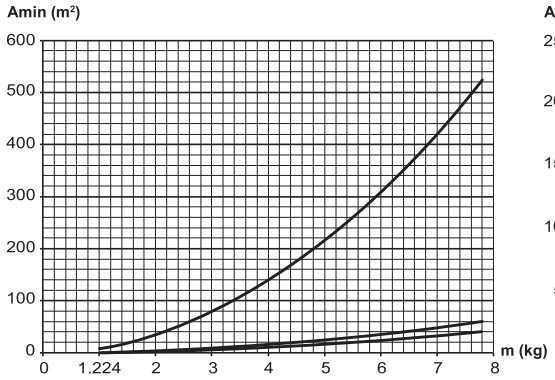
LIFTING METHOD

- When carrying the suspended, unit pass the ropes under the unit and use the two suspension points each at the front and rear.
- Always lift the unit with ropes attached at four points so that impact is not applied to the unit.
- Attach the ropes to the unit at an angle of 40° or less.

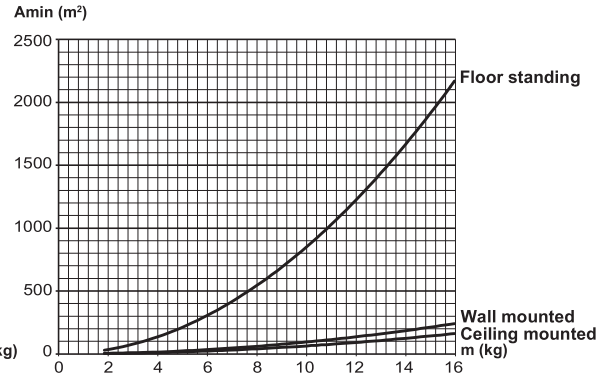
Minimum floor area(for R32)

- The appliance shall be installed, operated and stored in a room with a floor area larger than the minimum area.
- Use the graph of table to determine the minimum area.
- Console model(For EU market) should be installed only in accordance with IEC 60335-2-40:2018 Edition 6.0.

IEC 60335-2-40:2013+A1:2016 Edition 5.1



IEC 60335-2-40:2018 Edition 6.0



- m : Total refrigerant amount in the system
- Total refrigerant amount : factory refrigerant charge + additional refrigerant amount
- Amin : minimum area for installation

IEC 60335-2-40:2013+A1: 2016 Edition 5.1

Floor standing	
m (kg)	Amin (m^2)
< 1.224	-
1.224	12.9
1.4	16.82
1.6	21.97
1.8	27.80
2.0	34.32
2.2	41.53
2.4	49.42
2.6	58.00
2.8	67.27
3.0	77.22
3.2	87.86
3.4	99.19
3.6	111.20
3.8	123.90
4.0	137.29
4.2	151.36
4.4	166.12
4.6	181.56
4.8	197.70
5.0	214.51
5.2	232.02
5.4	250.21
5.6	269.09
5.8	288.65
6.0	308.90

IEC 60335-2-40: 2018 Edition 6.0

Floor standing	
m (kg)	Amin (m^2)
< 1.842	-
1.842	28.88
2.0	34.04
2.2	41.19
2.4	49.02
2.6	57.53
2.8	66.72
3.0	76.60
3.2	87.15
3.4	98.39
3.6	110.30
3.8	122.90
4.0	136.17
4.2	150.13
4.4	164.77
4.6	180.09
4.8	196.09
5.0	212.77
5.2	230.13
5.4	248.18
5.6	266.90
5.8	286.30
6.0	306.39

IEC 60335-2-40:2013+A1: 2016 Edition 5.1

Wall mounted	
m (kg)	Amin (m^2)
< 1.224	-
1.224	1.43
1.4	1.87
1.6	2.44
1.8	3.09
2.0	3.81
2.2	4.61
2.4	5.49
2.6	6.44
2.8	7.47
3.0	8.58
3.2	9.76
3.4	11.02
3.6	12.36
3.8	13.77
4.0	15.25
4.2	16.82
4.4	18.46
4.6	20.17
4.8	21.97
5.0	23.83
5.2	25.78
5.4	27.80
5.6	29.90
5.8	32.07
6.0	34.32

IEC 60335-2-40: 2018 Edition 6.0

Wall mounted	
m (kg)	Amin (m^2)
< 1.842	-
1.842	4.44
2.0	4.83
2.2	5.31
2.4	5.79
2.6	6.39
2.8	7.41
3.0	8.51
3.2	9.68
3.4	10.93
3.6	12.26
3.8	13.66
4.0	15.13
4.2	16.68
4.4	18.31
4.6	20.01
4.8	21.79
5.0	23.64
5.2	25.57
5.4	27.58
5.6	29.66
5.8	31.81
6.0	34.04

IEC 60335-2-40:2013+A1: 2016 Edition 5.1

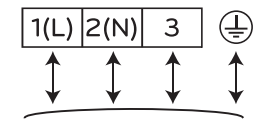
Ceiling Mounted	
m (kg)	Amin (m^2)
< 1.224	-
1.224	0.956
1.4	1.25
1.6	1.63
1.8	2.07
2.0	2.55
2.2	3.09
2.4	3.68
2.6	4.31
2.8	5.00
3.0	5.74
3.2	6.54
3.4	7.38
3.6	8.27
3.8	9.22
4.0	10.21
4.2	11.26
4.4	12.36
4.6	13.50
4.8	14.70
5.0	15.96
5.2	17.26
5.4	18.61
5.6	20.01
5.8	21.47
6.0	22.98

IEC 60335-2-40: 2018 Edition 6.0

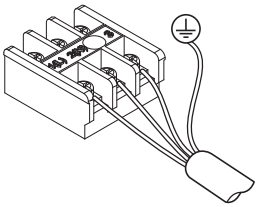
Ceiling Mounted	
m (kg)	Amin (m^2)
< 1.842	-
1.842	3.64
2.0	3.95
2.2	4.34
2.4	4.74
2.6	5.13
2.8	5.53
3.0	5.92
3.2	6.48
3.4	7.32
3.6	8.20
3.8	9.14
4.0	10.13
4.2	11.17
4.4	12.26
4.6	13.40
4.8	14.59
5.0	15.83
5.2	17.12
5.4	18.46
5.6	19.85
5.8	21.30
6.0	22.79

ELECTRICAL WIRING

- Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.



Connected to outdoor unit or B.D. unit.



⚠ WARNING

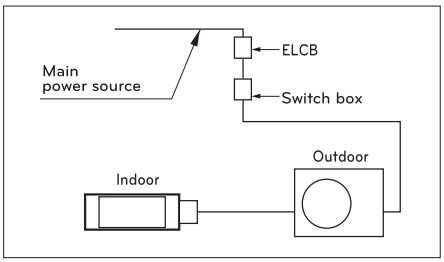
Be sure to have authorized electrical engineers do the electric work using special circuits in accordance with regulations and this installation manual. If power supply circuit has a lack of capacity or electric work deficiency, it may cause an electric shock or fire.

⚠ CAUTION

Be sure to correct the outdoor unit to earth. Do not connect ground wire to any gas pipe, liquid pipe, lightening rod or telephone earth line. If earth is incomplete, it may cause an electric shock.

Perform the electrical wiring work according to the electrical wiring connection.

- All wiring must comply with local requirements.
- Select a power source that is capable of supplying the current required by the air conditioner.
- Use a recognized ELCB(Electric Leakage Circuit Breaker) between the power source and the unit. A disconnection device to adequately disconnect all supply lines must be fitted.
- Model of circuit breaker recommended by authorized personnel only



1)

Model(Btu/h)	Phase(Ø)	ELCB
14 k/16 k	1	15 A
18 k/21 k/24 k	1	20 A
27 k/30 k	1	25 A

- Refer to the PDB about detail electric characteristics
- Connect the wires to the terminals on the control board individually according to the outdoor unit connection.
- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively
- When the connection line between the indoor unit and outdoor unit is over 40 m, connect the telecommunication line and power line separately.
- Supply line of appliances shall not be lighter than polychloroprene sheathed. (code designation 60245 IEC 57)

Minimum cross-sectional area of conductors

Rated current of appliance A	Nominal cross-sectional area mm^2
≤ 6	0.75
> 6 and ≤10	1.0
> 10 and ≤16	1.5
> 16 and ≤ 25	2.5
> 25 and ≤ 32	4
> 32 and ≤ 40	6

MAINTENANCE

Clean the product regularly to maintain optimal performance and to prevent possible breakdown.

⚠ CAUTION

- Turn off the power and unplug the power cord before you perform any maintenance;
  otherwise it may cause electric shock.
- Never use water that is hotter than 40 °C when you clean the filters. It may cause deformation or discoloration.
- Never use volatile substances when you clean the filters. They may damage the surface of the product.

Operation Tips!

- **Do not overcool the room.**
  This is not good for the health and wastes electricity.
- **Keep blinds or curtains closed.**
  Do not let direct sunshine enter the room when the air conditioner is in operation.
- **Keep the room temperature uniform.**
  Adjust the vertical and horizontal airflow direction to ensure a uniform temperature in the room.
- **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.
- **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.
- **Ventilate the room occasionally.**
  Since windows are kept closed, it is a good idea to open them and ventilate the room now and then.