



LG

LG Ceiling Duct-Type Air Conditioner

INSTALLATION MANUAL

MODELS: LB-C246HSA0

LB-C306GTA0

LB-C366GTA0

LB-C428GTA0

LB-C488ETA0

LB-C608ETA0

IMPORTANT

- Please read this instruction sheet completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- Please retain this installation manual for future reference after reading it thoroughly.

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Safety Precautions



To prevent injury to the user or other people and property damage, the following instructions must be followed.

- Be sure to read before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠ WARNING This symbol indicates the possibility of death or serious injury.

⚠ CAUTION This symbol indicates the possibility of injury or damage.

- Meanings of symbols used in this manual are as shown below.

	Be sure not to do.
	Be sure to follow the instruction.

⚠ WARNING

■ Installation

Do not damage or use an unspecified power cable.

- It will cause electric shock or fire.

Always earth the product.

- It will cause fire or electric shock.

Do not install the product where flammable gas could leak.

- Otherwise, it may cause explosion or fire.

Be cautious when unpack and install the product.

- Sharp edges could cause injury.

Do not install the product on a defected installation stand.

- Otherwise, It may cause injury or accident.

Do not disassemble or repair the product.

- Contact your dealer and service center.

Do not handle the flammable gas or explosive materials near the product.

- Otherwise, it may cause fire or failure of product.

Do not install the product on the defected installation stand.

- Otherwise, It may cause injury or accident.

For installation, always contact the dealer or service center.

- Otherwise, it may cause fire, electric shock, explosion or injury.

For electric work, contact the dealer or service center.

- Otherwise, It will cause fire or electric shock.

Do not modify power cable length.

- It will cause fire or electric shock.

Always install a circuit breaker and exclusive switching board.

- No installation may cause fire and electric shock.

Use a rated breaker and fuse.

- Otherwise, it may cause fire and electric shock.

Do not use a defected circuit breaker and exclusive switching board.

- Otherwise, it may cause fire and electric shock.

■ Operation

Do not touch(operate) product with wet hands.

- Otherwise, it may cause fire or electric shock.

If strange sound, smell or smoke comes from product. Turn the breaker off or disconnect the power supply cable.

- Otherwise, it may cause electric shock or fire.

Do not place the heater, etc. near the power cable.

- Otherwise, it may cause fire and electric shock.

Do not put water into electric part.

- Otherwise, it may cause fire or failure of product, and electric shock.

Ventilate the room frequently using with a stove, etc.

- Otherwise, an oxygen shortage may occur.

When the product is not be used for a long time, disconnect the power supply plug or turn off the breaker.

- Otherwise, it may cause failure of product or fire.

Do not place heavy object on the power cable.

- Otherwise, it may cause fire or electric shock.

When the product is soaked, contact the service center.

- Otherwise, it may cause fire or electric shock.

Install the panel and the cover of control box securely.

- Otherwise, it may cause fire and electric shock."

Do not turn the breaker on/off or connect/disconnect the power supply plug during operation.

- Otherwise, it may cause fire or electric shock.

Do not open the inlet grill of the product during operation.

- Otherwise, it may cause electric shock or failure.

Do not touch the metal parts of the product when removing the air filter.

- Otherwise, it may cause personal injury.

Do not let children step on the product.

- Otherwise, children may be seriously injured.

Do not step or put anything on the product.

- Otherwise, it may cause personal injury and failure of product.

Be cautious that water could not enter the product.

- Otherwise, it may cause fire or electric shock.

CAUTION

■ Installation

Always inspect gas leakage after installation and repair of product.

- Otherwise, it may cause failure of product.

Keep the level even when install the product.

- Otherwise, it may cause vibration or water leakage.

Do not carry the product by oneself.

- Otherwise it may harm to your health.

Install the drain hose to ensure that drain can be securely done.

- Otherwise, it may cause water leakage.

Do not install the product where the noise or hot wind from the outdoor unit could give any damage to the neighborhoods.

- Otherwise, it may cause dispute with the neighborhoods.

Do not install the product exposed to sea wind(salt) directly.

- Otherwise, it may cause the rust on product.

■ Operation

Do not expose your skin directly to cool air for a long time.

- Otherwise, it may harm to your health.

Turn the main power off when cleaning the product.

- Otherwise, it may cause fire and electric shock.

Do not use the product for special purpose to preserve animals, vegetables, precision device, or works of art, etc.

- Otherwise, it may cause loss of property.

Do not place obstacles around the inlet or outlet of air flow.

- Otherwise, it may cause failure of product.

Use a soft cloth to clean, Do not use wax, tinner or a strong detergent, etc.

- Otherwise, it may change the appearance of the product.

When flammable gas leaks, open the window for ventilation before turn the product on.

- Otherwise, it may cause explosion or fire.

Do not put a pet or houseplant where it is exposed to direct air flow.

- This could injure the pet or plant.

Stop operation and close the window in storm or hurricane.

- Otherwise, it may cause failure of product or electric shock.

Always insert the filter securely. Clean the filter every two weeks.

- Otherwise, it may cause failure of the product.

Do not drink drained water from the product.

- Otherwise, it may harm to your health.

Do not insert your hand or bars, etc. into the air inlet/outlet.

- Otherwise, it may cause personal injury.

Do not use the product at the closed space for a long time.

- Otherwise, it may cause suffocation due to poor oxygen.

Do not operate the product for a long time at high humid place, and leave a door or a window open.

- Otherwise, water may drop and wet or damage furniture, etc.

Do not step on an unstable bench when maintaining the product, etc.

- Otherwise, it may cause personal injury.

Replace the 2 batteries with new ones of same type.

- Otherwise, it may cause fire or explosion.

Do not charge or disassemble the batteries and throw into a fire.

- Otherwise, it may cause fire or an explosion.

If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water.

- Otherwise it may harm to your health.

Introduction

Symbols Used in this Manual



This symbol alerts you to the risk of electric shock.

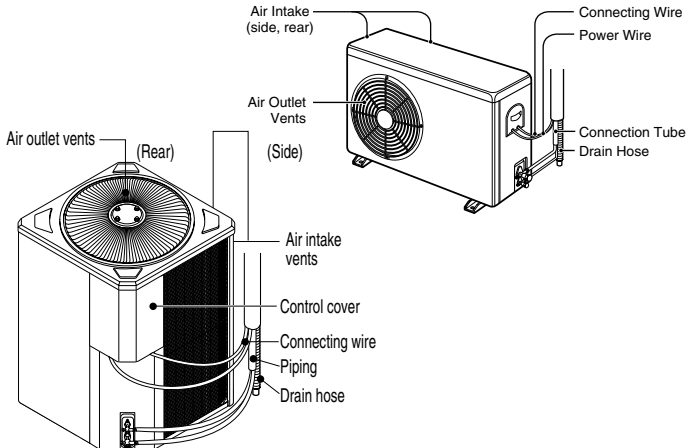
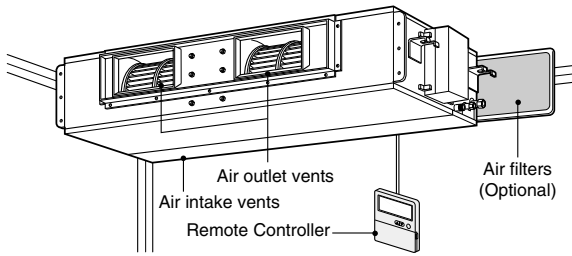


This symbol alerts you to hazards that could cause harm to the air conditioner.

NOTICE

This symbol indicates special notes.

Features



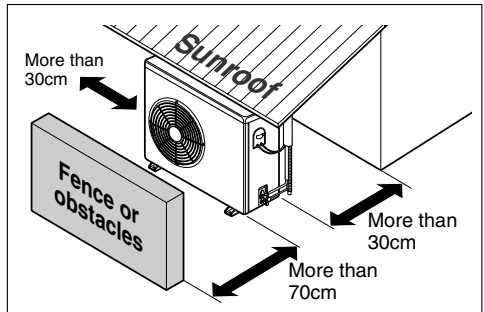
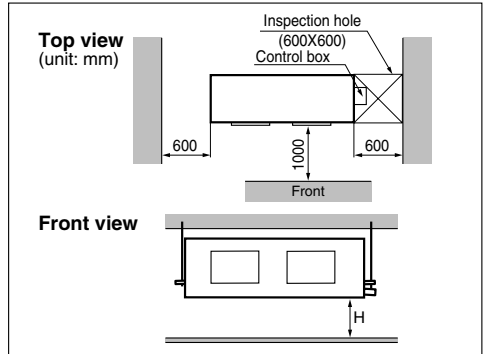
Installation of Indoor, Outdoor Unit

Selection of the best location

Indoor unit

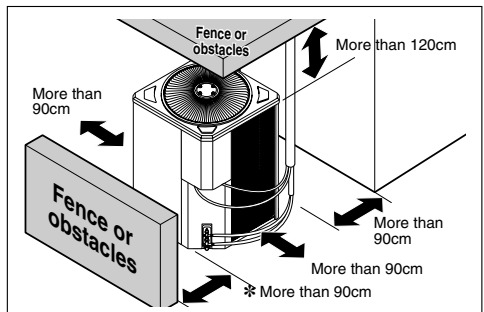
Install the air conditioner in the location that satisfies the following conditions.

- The place shall easily bear a load exceeding four times the indoor unit's weight.
- The place shall be able to inspect the unit as the figure.
- The place where the unit shall be leveled.
- The place shall allow easy water drainage. (Suitable dimension "H" is necessary to get a slope to drain as figure.)
- The place shall easily connect with the outdoor unit.
- The place where the unit is not affected by an electrical noise.
- The place where air circulation in the room will be good.
- There should not be any heat source or steam near the unit



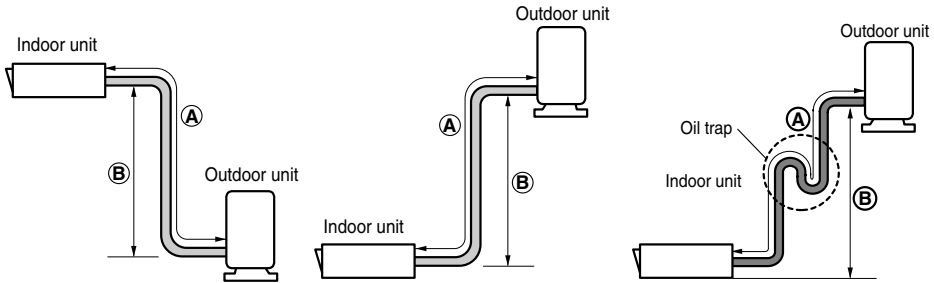
Outdoor unit

- If an awning is built over the unit to prevent direct sunlight or rain exposure, be careful that heat radiation from the condenser is not restricted.
- There should not be any animals or plants which could be affected by hot air discharged.
- Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.



Piping length and the elevation

Capacity	Pipe Size (Diameter: Ø)		Length A(m)		Elevation B(m)		*Additional refrigerant (g/m)
	Gas	Liquid	Standard	Max.	Standard	Max.	
18K BTU/h	5/8"	1/4"	7.5	30	5	15	30
24K BTU/h	5/8"	1/4"	7.5	30	5	15	30
30K BTU/h	5/8"	1/4"	7.5	30	5	15	35
36K BTU/h	5/8"	1/4"	7.5	30	5	15	40
42K BTU/h	3/4"	3/8"	7.5	30	5	15	70
48K BTU/h	3/4"	3/8"	7.5	30	5	15	70
60K BTU/h	3/4"	1/2"	7.5	30	5	15	100



If piping length is more than 5m



CAUTION:

- If 24K Model is installed at a distance of 15m, 225g of refrigerant should be added $(15-7.5) \times 30g = 225g$
- Capacity is based on standard length and maximum allowance length is on the basis of reliability.
- Improper refrigerant charge may result in abnormal cycle.
- Oil trap should be installed every 10 meters.

Indoor unit installation

Installation of Unit

Install the unit above the ceiling correctly.

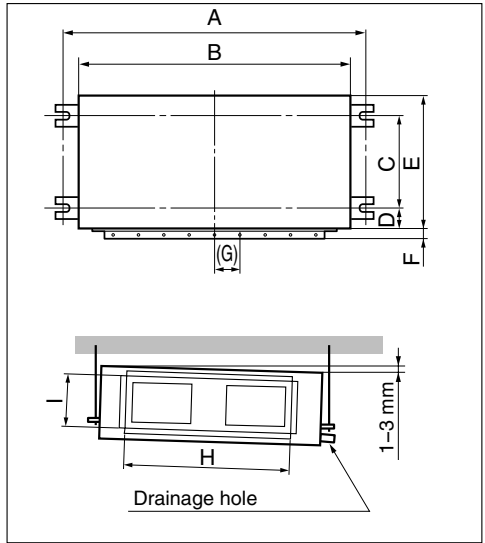
CASE 1

POSITION OF SUSPENSION BOLT

- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.
- Apply a filter Accessory at air return hole.

(Unit:mm)

Dimension Capacity	A	B	C	D	E	F	(G)	H	I
18K BTU/h	948	880	355	45.5	450	30	87	750	163
24K BTU/h									
30K BTU/h	1248	1180	355	45.5	450	30	87	830	186
36K BTU/h									
42K BTU/h									
48K BTU/h	1292	1230	570.5	54	680	30	120	1006	294
60K BTU/h									

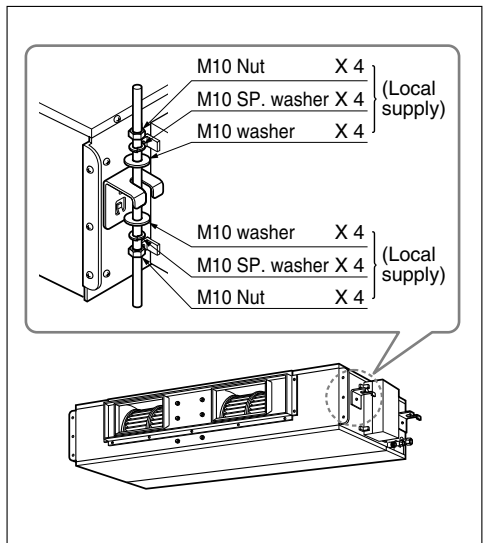


CASE 2

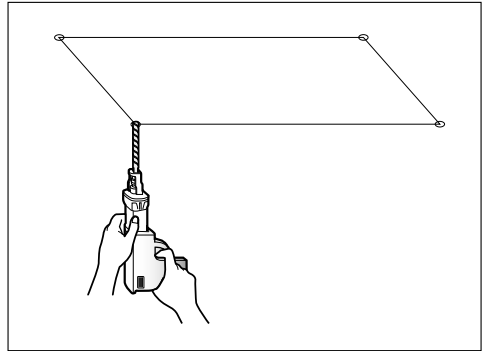
- Install the unit leaning to a drainage hole side as a figure for easy water drainage.

POSITION OF CONSOLE BOLT

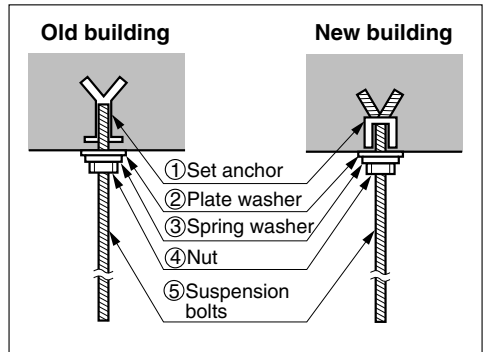
- A place where the unit will be leveled and that can support the weight of the unit.
- A place where the unit can withstand its vibration.
- A place where service can be easily performed.



- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of ceiling.



- Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the set anchor firmly.
- Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



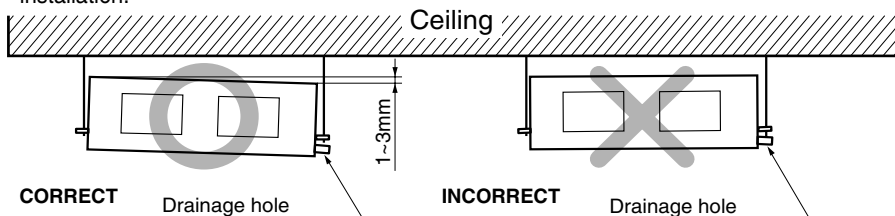
CAUTION:
Tighten the nut and bolt to prevent unit falling.

CAUTION

1. Install declination of the indoor unit is very important for the drain of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 5mm.

Front of view

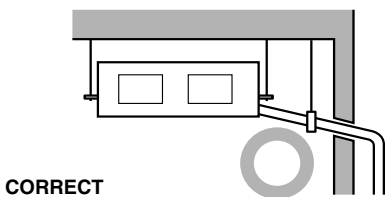
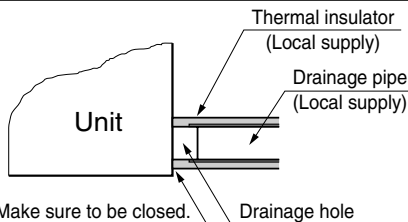
- The unit must be horizontal or declined to the drain hose connected when finished installation.



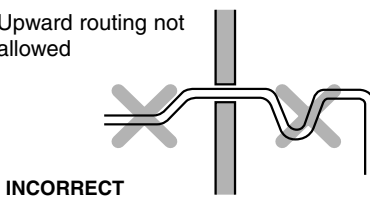
CAUTION FOR GRADIENT OF UNIT AND DRAIN PIPING

Lay the drain hose with a downward inclination so water will drain out.

- Always lay the drain with downward inclination (1/50 to 1/100). Prevent any upward flow or reverse flow in any part.
- 5mm or thicker formed thermal insulator shall always be provided for the drain pipe.



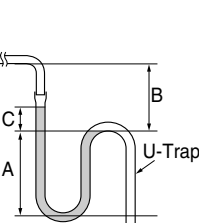
- Upward routing not allowed



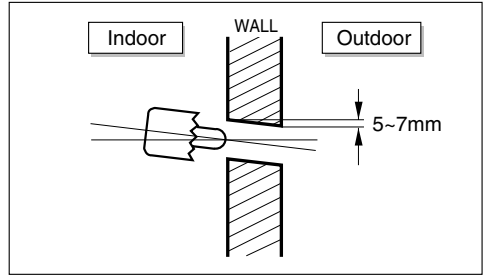
- Install the P-Trap (or U-Trap) to prevent a water leakage caused by the blocking of intake air filter.

Applied U-Trap Dimension

- A ≥ 70mm
- B ≥ 2C
- C ≥ 2 x SP
- SP = External Pressure (mmAq)
- Ex) External Pressure = 10mmAq
- A ≥ 70mm
- B ≥ 40mm
- C ≥ 20mm



- Drill the piping hole with 70mm dia, hole core drill.
- Piping hole should be slightly slant to the outdoor side.



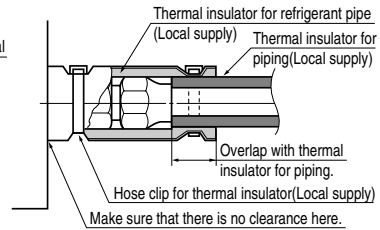
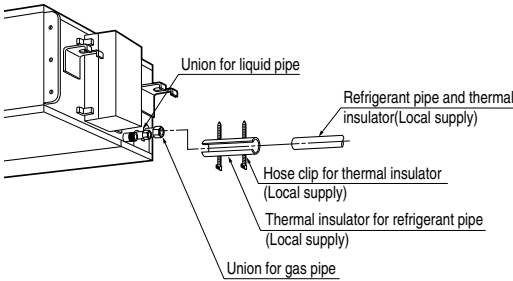
INSULATION, OTHERS

Insulate the joint and tubes completely.

THERMAL INSULATION

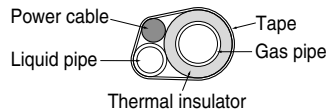
All thermal insulation must comply with local requirement.

INDOOR UNIT



REFRIGERANT PIPE

- Insulate and tape the gas piping.



TEST AND CHECK

■ After all workings are finished, check the working and operation.

- Air distribution _____ Is the air circulation good?
- Drain _____ Is the drainage smoothly and no sweating?
- Gas leakage _____ Is the piping connection correctly?
- Wiring _____ Is the wiring connection correctly?
- Lock-bolt _____ Is the lock-bolt of compressor loosened?

INSTALLATION OF REMOTE CONTROL BOX

Install the remote control box and cord correctly.

POINT OF REMOTE CONTROLLER INSTALLATION

- Although the room temperature sensor is in the indoor unit, the remote control box should be installed in such places away from direct sunlight and high humidity.

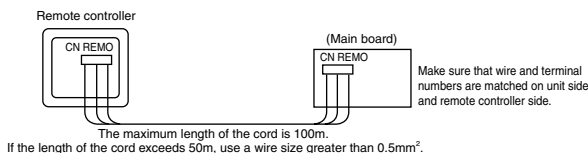
INSTALLATION OF THE REMOTE CONTROL BOX

- Select places that is not splashed by water.
- Select control position after receiving customer approval.
- The room temperature sensor of the thermostat for temperature control is built in the indoor unit.
- This remote controller equipped with liquid crystal display. If this position is higher or lower, display is difficult to see. (The standard height is 1.2~1.5m high)

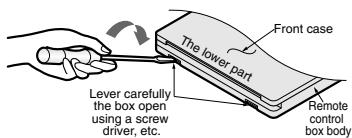
ROUTING OF THE REMOTE CONTROL CORD

- Keep the remote control cord away from the refrigerant piping and the drain piping.
- To protect the remote control cord from electrical noise, place the cord at least 5cm away from other power cables. (Audio equipment, Television set, etc)
- If the remote control cord is secured to a wall, provide a trap at the top of the cord to prevent water droplets from running.

ELECTRICAL WIRING TO THE INDOOR UNIT



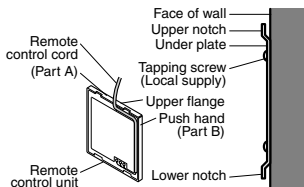
DISASSEMBLING OF THE REMOTE CONTROLLER



WHEN THE REMOTE CONTROL BOX IS INSTALLED WITH THE CORD EXPOSED.

PROCEDURE OF INSTALLATION

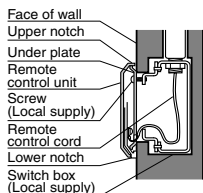
1. Fix the under plate on the wall by self tapping screws (accessory).
2. Make a slit (Part A) at the top side of the remote control box by nipper.
3. Rout the cord as shown in the following figure. In this case, push the cord into the around of case (Part B).
4. Hook the remote control unit on the under plate.



WHEN THE REMOTE CONTROL BOX IS INSTALLED WITH THE CORD BURIED.

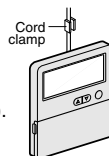
PROCEDURE OF INSTALLATION

1. Fix the under plate on the switch box by screws (Local supply). In this case, fit the under plate on the wall, and be careful of deformation.
2. Receive the remote control cord in the switch box.
3. Hook the remote control unit on the under plate.



FIXING OF REMOTE CONTROL CORD

1. Fix the cord clamps on the wall by $\phi 3$ tapping screws (Local supply).
2. Fix the remote control cord.



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 5ft(1.5m) 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 a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly as shown in Fig.1.
(The standard height is 1.2~1.5 m from floor level.)

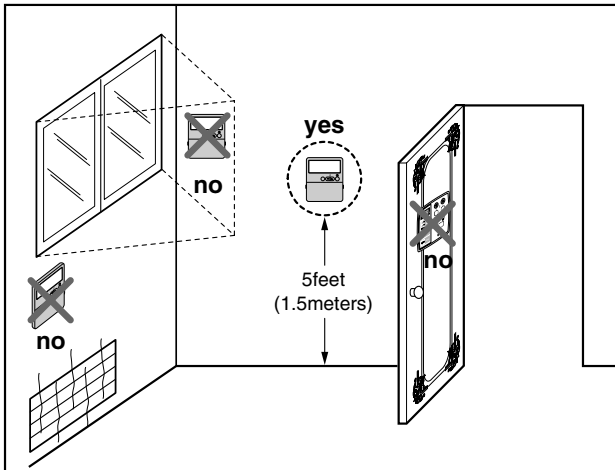


Fig.1 Typical locations for remote controller

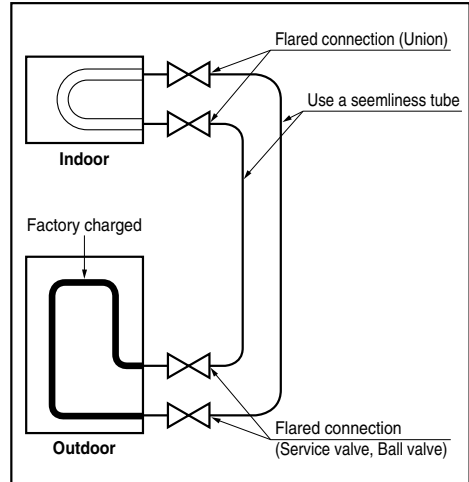
REFRIGERANT PIPING

Perform the work according to the Service Manual or Installation Guide.

- Use two spanners when connecting the refrigerant pipe to the unit.
- Make a bend with a radius as large as possible.
- Perform air purge with R-22 or vacuum drying.
- When piping work is finished, check all joints.

■ Add refrigerant if piping is over 7.5m.

Capacity	Addition volume
18K BTU/h	30 g/m
24K BTU/h	30 g/m
30K BTU/h	35 g/m
36K BTU/h	40 g/m
42K BTU/h	70 g/m
48K BTU/h	70 g/m
60K BTU/h	100 g/m



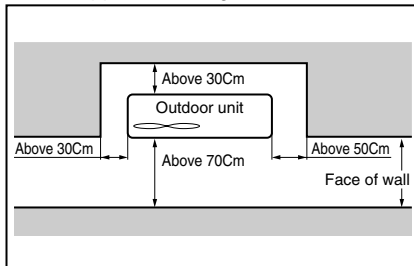
INSTALLATION OF OUT DOOR UNIT

Select a location that satisfies the following conditions. Install the unit firmly in place.

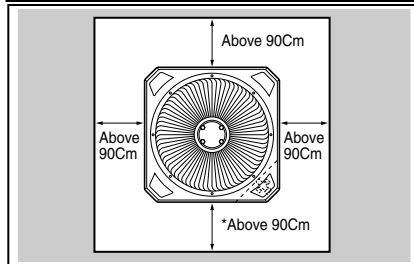
■ **Select the following location**

- A place where the air conditioner can get good ventilation.
- A place where it shall not annoy the neighbors.
- A place where the unit shall be leveled and that can support the weight of unit and withstand its vibrations.

■ **Keep a maintenance space**



* **One side must be 90Cm for service. Two of the remaining three sides may be 30Cm.**



ELECTRICAL WIRING

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 circuit breaker between the power source and the unit. A disconnection device to adequately disconnect all supply lines must be fitted.
- Capacity of circuit breaker

Capacity	1 Phase	3 Phase
18K BTU/h	20A	-
24K BTU/h	25A	-
30K BTU/h	30A	-
36K BTU/h	35A	-
42K BTU/h	-	20A
48K BTU/h	-	20A
60K BTU/h	-	25A

WIRING CONNECTION

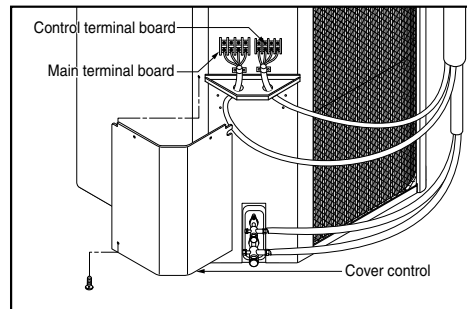
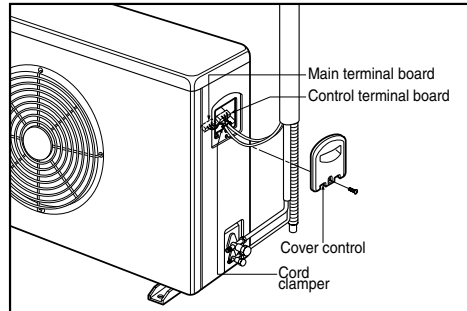
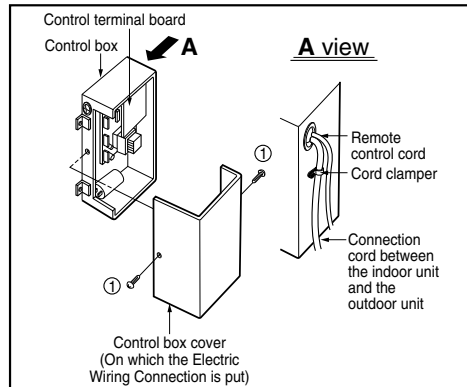
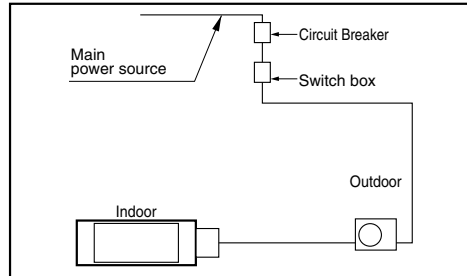
Indoor unit

- Remove the control box cover for electrical connection between the indoor and outdoor unit.
(Remove crews ①.)
- Use the cord clammer to fix the cord.

Outdoor unit

- Remove the control cover for wiring connection.
- Use the cord clammer to fix the cord.
- Earthing work
Connect the cable of diameter 1.6mm² or more to the earthing terminal provided in the control box and do earthing.

※ Please check !!



Connecting Pipes to the Indoor Unit

Preparation of Piping

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

Cut the pipes and the cable.

- 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 1.5m longer than the pipe length.

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.

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)

Flaring work

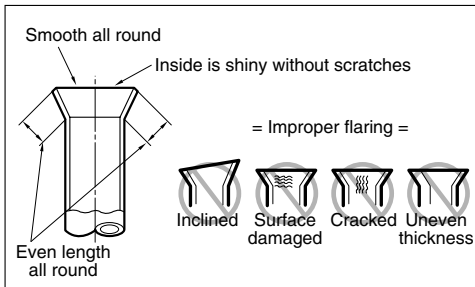
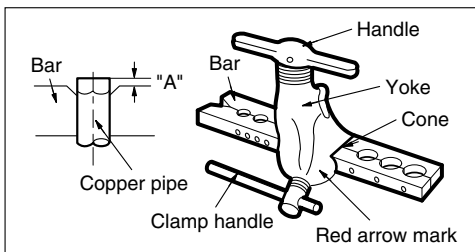
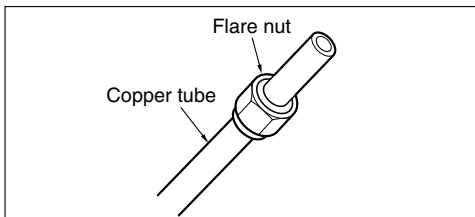
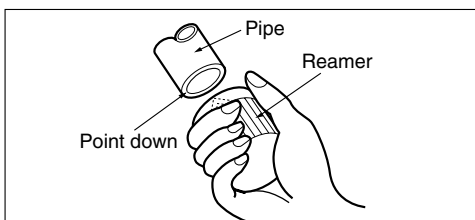
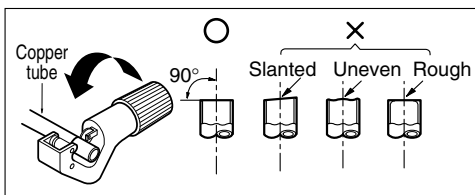
- Carry out flaring work using flaring tool as shown below.

Outside Diameter	"A"
1/4"	0~0.5
3/8"	0.5~0.8
1/2"	0.5~0.8
5/8"	0.8~1.0
3/4"	1.0~1.3

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

Check

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



Pipe bending

Annealed copper pipe with small diameter ($\phi 6.35$ or $\phi 9.52$) can be easily bent manually. In this case, secure large R(radius) for the bend section and gradually bend pipe. If annealed copper pipe is large in diameter ($\phi 15.88$ or $\phi 19.05$), bend pipe with bender. Use bender appropriate for the pipe diameter.

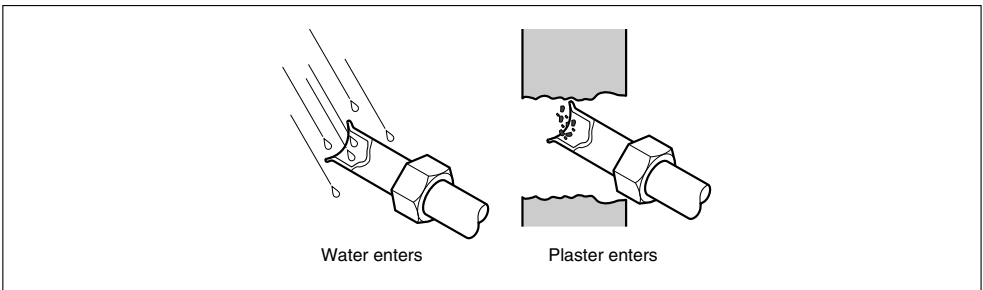
Brazing

In refrigerant piping, bending (in particular, acute bending) must be minimized to reduce piping resistance. Bending is, however, necessary in some places by virtue of the installation position of devices auxiliary to the packaged air conditioner, or of the building structure, piping distance or finishing appearance. If a more acute bend is required than that attainable by pipe bender, perform brazing using ready-made elbow. Aside from this function, brazing also serves to connect straight pipes, generally using ready-made sockets. While brazing, protect piping against heat with wet cloth to avoid damaging valve packing or burning thermal insulator with burner heat. While brazing, blow inert gas (nitrogen gas or carbonic gas) to prevent formation of oxidation film in copper piping; otherwise, the refrigerant circuit will clog. The blowing of nitrogen gas (or carbonic gas) through 3-way valves is described in the following:

Refrigerant piping(Flare piping)

When connecting piping, be sure to keep piping dry(keep piping away from water), clean (keep piping away from dust) and airtight (avoid refrigerant leakage).

When connecting piping on rainy days or making a through-hole in wall, take due care to prevent water or plaster from entering piping.



CAUTION:

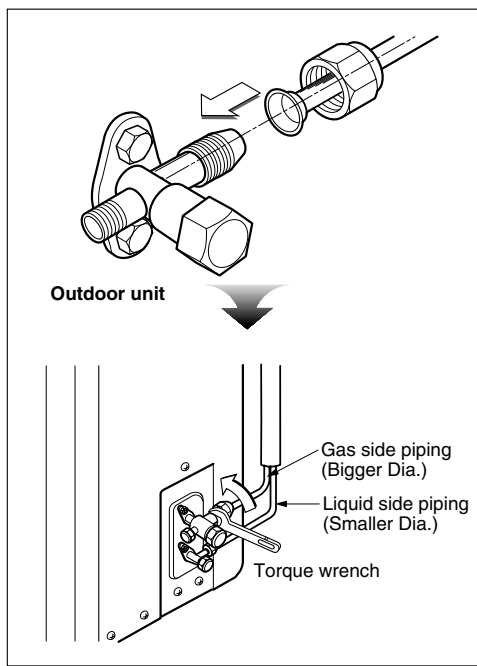
- This procedure is designed to prevent formation of oxidation film by filling piping with inert gas. Note that excessive gas pressure will generate pinholes at brazed points.
(Nitrogen gas: Supply pressure 0.05~0.1kg/cm²G)
- When supplying inert gas, be sure to open one end of piping.

Connecting Pipes to the Outdoor Unit

Connecting the pipes to the Outdoor unit

- Align the center of the pipings and sufficiently tighten the flare nut with fingers.
- 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.

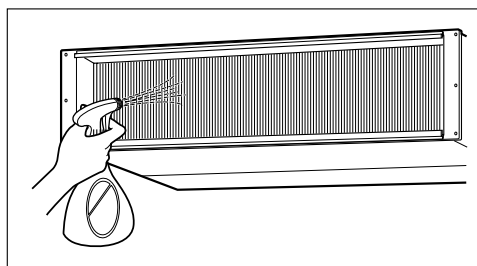
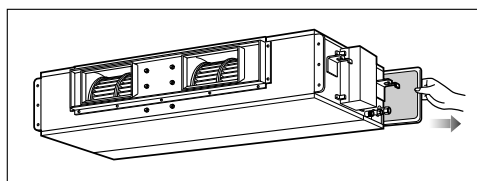
Pipe size	Torque
1/4"	1.8kg.m
3/8"	4.2kg.m
1/2"	5.5kg.m
5/8"	6.6kg.m
3/4"	6.6kg.m



Checking the Drainage

Checking the Drainage

- Remove the Air Filter.
- Check the drainage.
 - Spray one or two glasses of water upon the evaporator.
 - Ensure that water flows drain hose of indoor unit without any leakage.



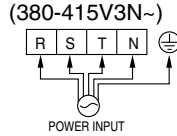
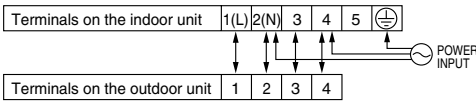
Connecting Cables between Indoor Unit and Outdoor Unit

Connecting cables to the Indoor Unit

- 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

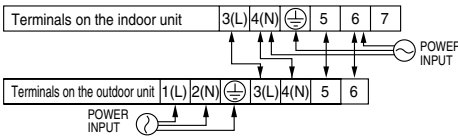
■ 42K/48K/60K Btu

- Cooling only type



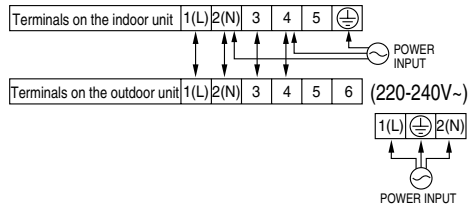
■ 18K/24K Btu

- Cooling only type



■ 30K/36K Btu

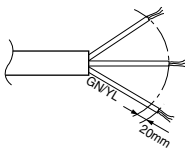
- Cooling only type



CAUTION

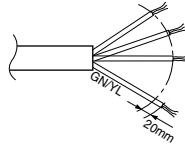
The power cord connected to the outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).

The connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



NORMAL CROSS-SECTIONAL AREA

Capacity	1 Phase	3 Phase
18K BTU/h	2.5mm ²	-
24K BTU/h	2.5mm ²	-
30K BTU/h	3.5mm ²	-
36K BTU/h	5.5mm ²	-
42K BTU/h	-	3.5mm ²
48K BTU/h	-	3.5mm ²
60K BTU/h	-	3.5mm ²



NORMAL CROSS-SECTIONAL AREA
 0.75mm² (18K/24K/30K/36K/42K)
 1.25mm² (48K/60K)

If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.



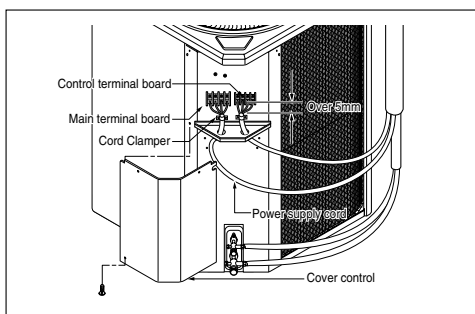
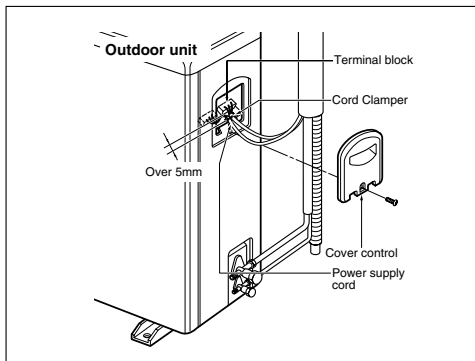
CAUTION: Make sure that the screws of the terminal fixed tightly.

Clamping of cables

- Arrange 2 power cables on the control panel.
- First, fasten the steel clamp with a screw to the inner boss of control panel.
- For the cooling model, fix the other side of the clamp with a screw strongly. For the heat pump model, put the 0.75mm² cable(thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel.
- In Australia, the length of power supply cord measured from the entry of the power supply cord to the middle of live pin on the power plug should be over 1.8m.

Connecting the cable to the Outdoor Unit

- Remove the Cover control from the unit by loosening a screw.
Connect the wires to the terminals on the control board individually as following.
- Secure the cable onto the control board with the holder (clammer).
- Refix the cover control to the original position with the screw.



CAUTION: After the confirmation of the above conditions, prepare the wiring as follows:

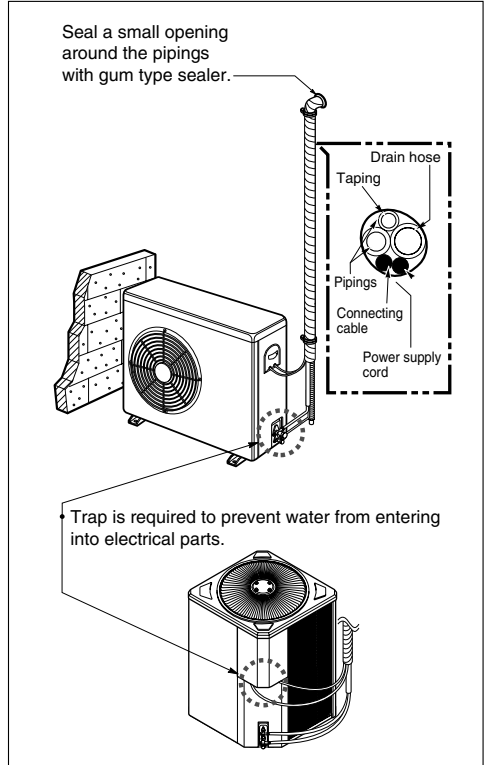
- 1) Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram pasted on the inside of control box cover.
- 2) Provide a circuit breaker switch between power source and the unit.
- 3) The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)
- 4) Specification of power source
- 5) Confirm that electrical capacity is sufficient.
- 6) Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- 7) Confirm that the cable thickness is as specified in the power sources specification.
(Particularly note the relation between cable length and thickness.)
- 8) Never fail to equip a leakage breaker where it is wet or moist.
- 9) The following troubles would be caused by voltage drop-down.
 - Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - Proper starting power is not given to the compressor.

Form the pipings

- Wrap the connecting portion of indoor unit with the Insulation material and secure it with two Plastic Bands. (for the right pipings)
- If you want to connect an additional drain hose, the end of the drain-outlet should keep distance from the ground. (Do not dip it into water, and fix it on the wall to avoid swinging in the wind.)

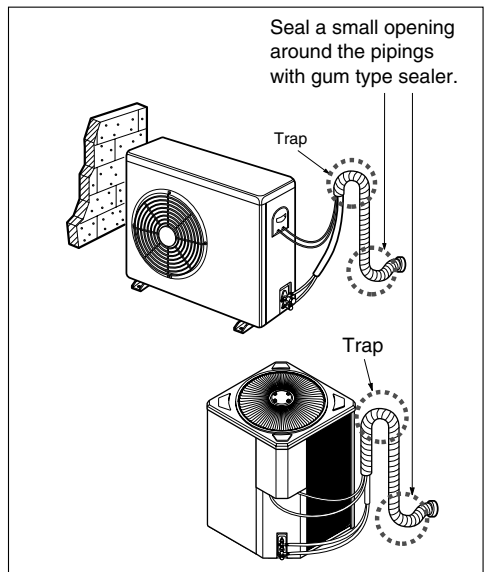
In case of the Outdoor unit being installed below position of the Indoor unit.

- Tape the Pipings, drain hose and Connecting Cable from bottom to top.
- Form the pipings gathered by taping along the exterior wall and fix it onto the wall by saddle or equivalent.



In case of the Outdoor Unit being installed above position of the Indoor Unit.

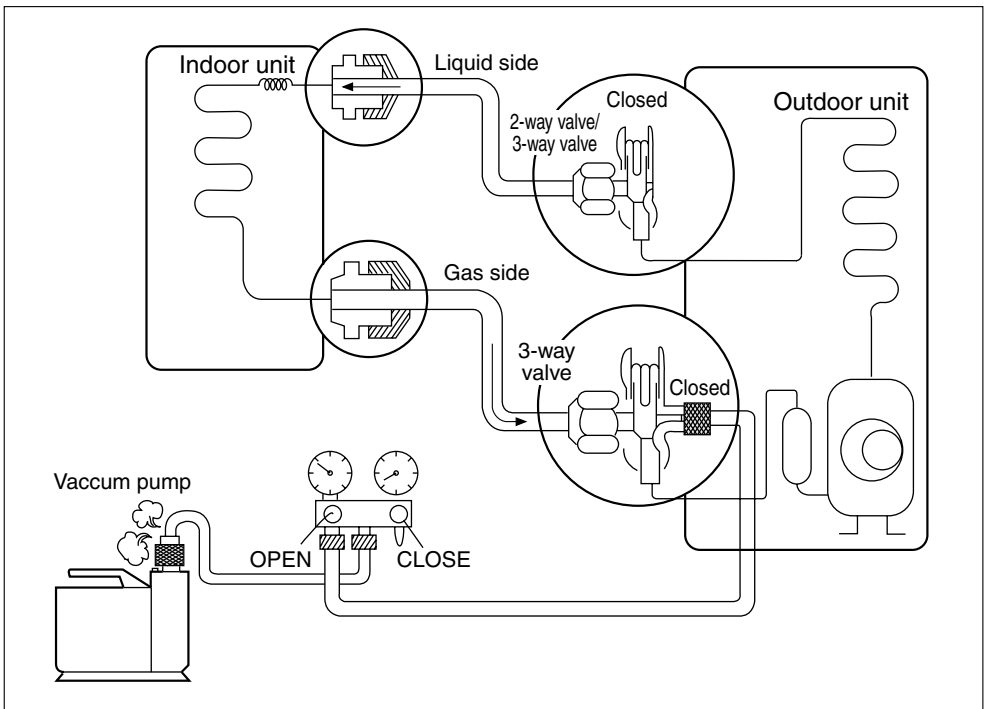
- Tape the Pipings and Connecting cable from bottom to top.
- Form the pipings gathered by taping along the exterior wall, and make the trap prevent water from entering into the room.
- Fix the pipings onto the wall by saddle or equivalent.



Air Purging of the Connecting Pipes and the Indoor Unit

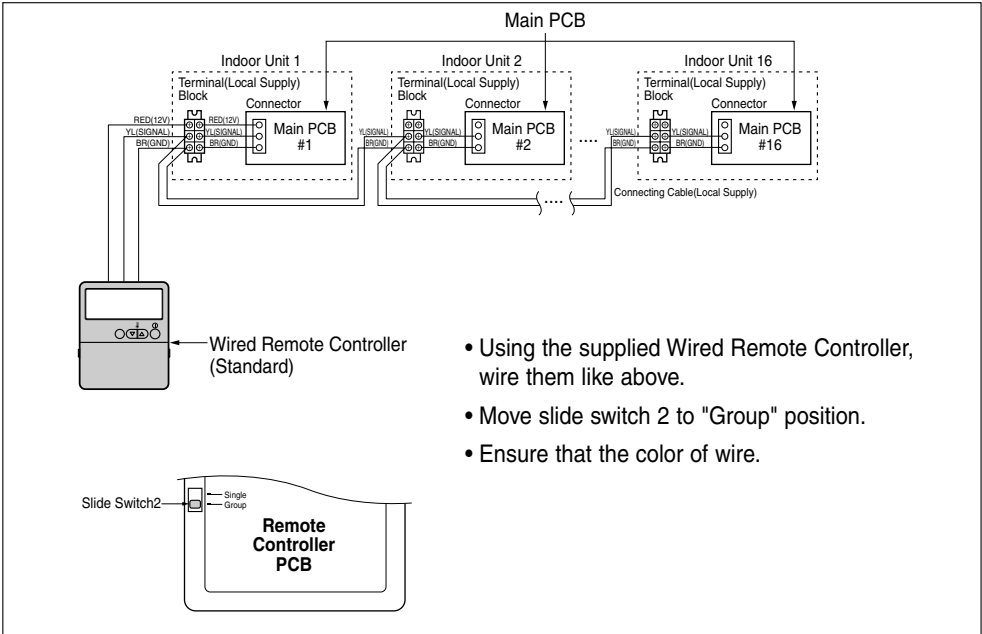
The air which contains moisture remaining in the refrigeration cycle may cause a malfunction on the compressor.

1. Confirm that both the liquid side valve and the gas side valve are set to the closed position.
2. After connecting the piping, check the joints for gas leakage with gas leak detector.
3. Remove the service port nut, and connect the gauge manifold and the vacuum pump to the service port by the charge hose.
4. Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below -76cmHg.
5. Remove the valve stem nuts, and fully open the stems of the 2-way and 3-way valves with a hexagon wrench.
6. Tighten the valve stem nuts of the 2-way valve and 3-way valve.
7. Disconnect the charge hose and fit the nut to the service port.
(Tightening torque: 1.8kg.m)



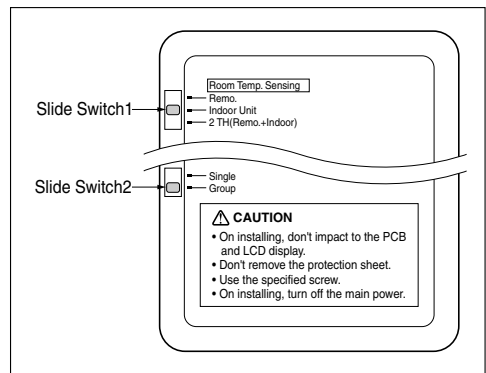
Group Control

It operates maximum 16 Units by only one Wired Remote Controller, and each Unit starts sequentially to prevent overcurrent.



Two Thermistor system

- Open the rear cover of Remote Controller to set up the mode.
- Selectable options are three as follows.
 - Remo: Sensing the room Temperature.
 - Indoor Unit: Sensing the intake air into indoor Unit.
 - 2 TH: Sensing the lower temperature of the two thermistors.
- To set up the mode, adjust the slide switch to desired mode position on installing.



E.S.P.(External Static Pressure) Setting

Open the rear cover of the wired remote-controller to set the mode.
Select one of three selectable modes as follows.

■ Without Zone System

1. Position V-H, F-H:
 - This position sets the maximum E.S.P as a default set.
2. Position V-L:
 - This position sets the minimum E.S.P as a default set.

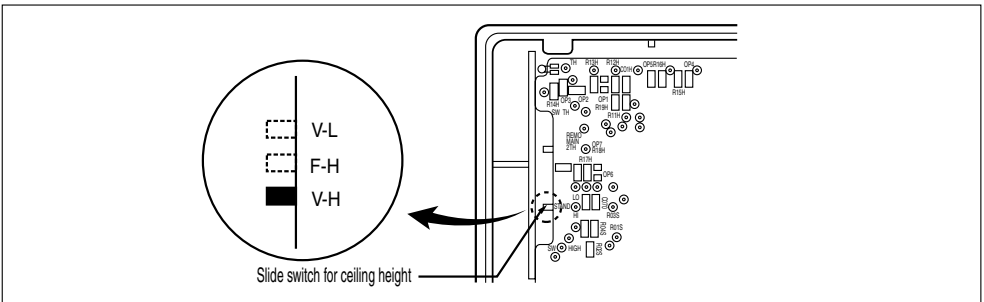
■ With Zone System

1. Position V-H:
 - Maximum E.S.P setting & Fan speed is varied according to the state of dampers by micom.
2. Position F-H:
 - Maximum E.S.P setting & Fan speed doesn't vary according to the opening & Closing of dampers.
3. Position V-L:
 - Minimum E.S.P setting & Fan speed is varied according to the state of dampers by micom.

*Maximum: 18K/24K-8mmAq
30K/36K/42K-10mmAq

Minimum: All-0mmAq

Move the slide switch to set position.



Close the rear cover and check if it works normally.



CAUTION:

- Select the position after checking duct work and E.S.P of the unit.
- Manufactured in the position F-H.

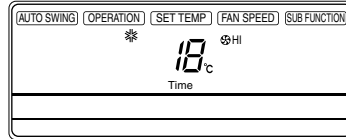
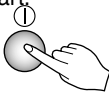
How to Set E.S.P?

Procedure of RPM change:

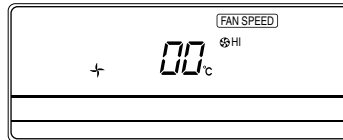
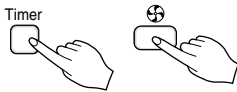
Ex) External Static pressure is 4mmAq for Model Name "LB-C246HSA1"

- To protect the unit, compressor is designed to be off during E.S.P. setting.

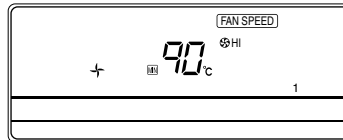
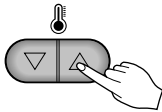
- 1** Push the "On/Off" button.
The unit will start.



- 2** Push the "Timer" and "Wind" button simultaneously for more than 3 seconds.



- 3** Push the "Up" or "Down" button for E.S.P. adjustment.
And, adjust the number which you want. (In this example, the number is "190". Refer to the table 1 on the next page.)



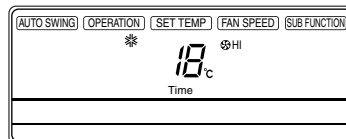
NOTICE The range of selection is from 1~254. Since, the display is two Digit only.

If the range selection is above 100 then the third digit will appear in the screen as shown.

- 4** Shift the fan speed mode by pressing the fan speed button.
And then, Adjust numbers of next steps by repeating the stage 3.
(In this example, the numbers are "220" and "235" respectively)



- 5** Push the "Timer" and "Wind" button simultaneously for more than 3 seconds.
Then, Wind Data is memorized by the EEPROM of the main PCB.



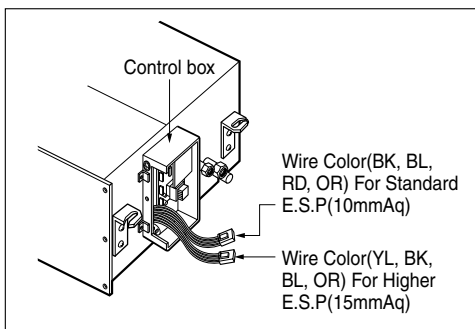
[Table. 1]

Static Pressure(mmAq)		0	2	4	6	8	10
Model Name	Step(Hi/Med/Lo)	Setting Value					
LB-C246HSA0	18 CMM	220	205	190	50	1(16.5 CMM)	-
	16.5 CMM	235	230	220	200	100(15 CMM)	-
	14 CMM	250	240	235	230	210	-
LB-C306GTA0	32 CMM	235	230	230	150	1	1(29 CMM)
LB-C366GTA0	29 CMM	247	245	245	235	230	230(27.5 CMM)
LB-C428GTA0	26.5 CMM	254	253	253	250	248	240

- NOTICE** 1. Be sure to set the value referring table 1. Unexpected set value will cause mal-function.
 2. Table 1 is based at 230V. According to the fluctuation of voltage, air flow rate varies.

High-Static Motor Connection (For 48K/60K Model)

- If working condition of indoor unit is higher than that of standard static pressure (10mmAq) change the Indoor Motor wire housing for standard motor housing for higher external static Pressure (15mmAq).



External Static Pressure & Air Flow

Static Pressure(mm Aq)		0	2	4	6	8	10	15
Model Name	Step	CMM	CMM	CMM	CMM	CMM	CMM	CMM
LB-C488ETA0	High	48.5	46.5	45	43.5	42	40	40
	Med	43	41.5	39.5	38	36.5	35	35
	Low	39	37.5	36	34.5	33	31	30
LB-C608ETA0	High	56	54	52	50	48.5	46	46
	Med	49.5	48	46	44	42	40	40.5
	Low	43.5	42	40.5	38.5	37	35	34

- The above table shows the correlation of External Static Pressure & AIR FLOW.
- Duct work must be designed within the range of on installing the unit.
- Change the wiring diagram referring to page 23 of manual on condition for High Static Pressure (Static pressure 10mmAq ↑).
- If duct work is designed under External Static Pressure, adjust the External Static Pressure applying air damper.

Checking the Power Cord (For 48/60K Model)

If the main cable for power supply is connected incorrect or wrong, it shall cause strange noise from the compressor and cooling operation does not work.

Troubles and Solutions

Troubles

- ▷ Occurrence of strange noise from compressor
- ▷ No variation of pressure gages.

Solutions

- ▷ Change the R,S wires to the terminal block.

Outdoor unit circuit

