

INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation manual completely before installing the product.
Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
Please retain this installation manual for future reference after reading it thoroughly.

Vertical Air Handling Unit



P/NO : MFL67206508

<http://www.lghvac.com>
www.lg.com

IMPORTANT!

Please read this instruction sheet completely before installing the product.

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.



WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others. Installation of all field wiring and components MUST conform with local building codes or, in the absence of local codes, with the National Electrical Code 70 and the National Building Construction and Safety Code or Canadian Electrical code and National Building Code of Canada.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

CAUTION: Improper installation, adjustment, alteration, service or maintenance can void the warranty. The weight of the condensing unit requires caution and proper handling procedures when lifting or moving to avoid personal injury. Use care to avoid contact with sharp or pointed edges.

Safety Precautions

- Always wear safety eye wear and work gloves when installing equipment.
- Never assume electrical power is disconnected. Check with meter and equipment.
- Keep hands out of fan areas when power is connected to equipment.
- R-410A causes frostbite burns.
- R-410A is toxic when burned.

NOTE TO INSTALLING DEALER: The Owners Instructions and Warranty are to be given to the owner or prominently displayed near the indoor Furnace/Air Handler Unit.



Special warnings

When wiring:

Electrical shock can cause severe personal injury or death. Only a qualified, experienced electrician should attempt to wire this system.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause accidental injury or death.
- Ground the unit following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- The choice of materials and installations must comply with the applicable local/national or international standards.

When transporting:

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your finger.

When installing...

... **in a wall:** Make sure the wall is strong enough to hold the unit's weight.

It may be necessary to construct a strong wood or metal frame to provide added support.

... **in a room:** Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to wall and floors.

... **in moist or uneven locations:** Use a raised concrete pad or concrete blocks provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

... **in an area with high winds:** Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

... **in a snowy area(for Heat Pump Model):** Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When connecting refrigerant tubing

- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Check carefully for leaks before starting the test run.

When servicing

- Turn the power OFF at the main power box(mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.

TABLE OF CONTENTS

Installation Requirements	Required Parts	Required Tools
Safety Precautions 4		
Features 6		
Accessories 6		
Duct Connection Dimensions 7		
Installation 8		
Selection of the best location 8		
Upflow Installation 9		
Duct work 10		☐ Level gauge
Horizontal-left Installation 11		☐ Screw driver
Combination indoor units.....12		☐ Electric drill
Flaring work.....13	☐ Four type "A" screws	☐ Hole core drill
Connection of piping - Indoor,		
Outdoor, BD Unit 14	☐ Pipes: Gas side	☐ Hexagonal wrench
Insulation 16	Liquid side (Refer to	☐ Gas-leak detector
Condensate Drain 17	Product Data)	☐ Vacuum pump
Wiring Connection 19	☐ Insulation materials	☐ Gauge manifold
Remote controller installation 21	☐ Additional drain pipe	
Wired remote controller installation ..23		
Optional operation 24		
Installer Setting - Test Run Mode 24		
Installer Setting - Setting Address of		
Central Control 25		☐ Owner's manual
Installer Setting - Thermistor 26		☐ Thermometer
Installer Setting - Group Setting 27		
Installer Setting - Celsius / Fahrenheit		
Switching 28		
Installer Setting - E.S.P.....29		
Name and function of wired remote		
controller(Accessory).....30		☐ Internal Electric Heater instal-
Name and function of wireless remote		lation manual
controller(Accessory).....31		
Internal Electric Heater(Accessory) .32		
Dip Switch Setting of Indoor unit		
PCB 33		
Product Data 34		
External Static Pressure & Air Flow .34		
Minimum airflow by heater capacity .35		
Internal Electric Heater Static pressure		
drop factors 35		
Air Filter (Field supply) Static pressure		
drop factors 36		

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 to properties only.

■ 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 use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit. • 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. There is risk of fire or electric shock.	Always ground the product. • 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.	Always install a dedicated circuit and breaker. • Improper wiring or installation may cause fire or electric shock.	Use the correctly rated breaker or fuse. • There is risk of fire or electric shock.
Do not modify or extend the power cable. • There is risk of fire or electric shock.	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.	Be cautious when unpacking and installing the product. • Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.

For installation, 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.

- It may cause injury, accident, or damage to the product.

Be sure the installation area does not deteriorate with age.

- If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.

Use a vacuum pump or inert (nitrogen) gas when doing leakage test or air purge. Do not compress air or Oxygen and do not use Flammable gases. Otherwise, it may cause fire or explosion.

- There is the risk of death, injury, fire or explosion.

■ Operation

Do not store or use flammable gas or combustibles near the product.

- There is risk of fire or failure of product.

⚠ CAUTION

■ Installation

Always check for gas (refrigerant) leakage after installation or repair of product.

- Low refrigerant levels may cause failure of product.

Install the drain hose to ensure that water is drained away properly.

- A bad connection may cause water leakage.

Keep level even when installing the product.

- To avoid vibration or water leakage.

Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.

- It may cause a problem for your neighbors.

Use two or more people to 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. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.

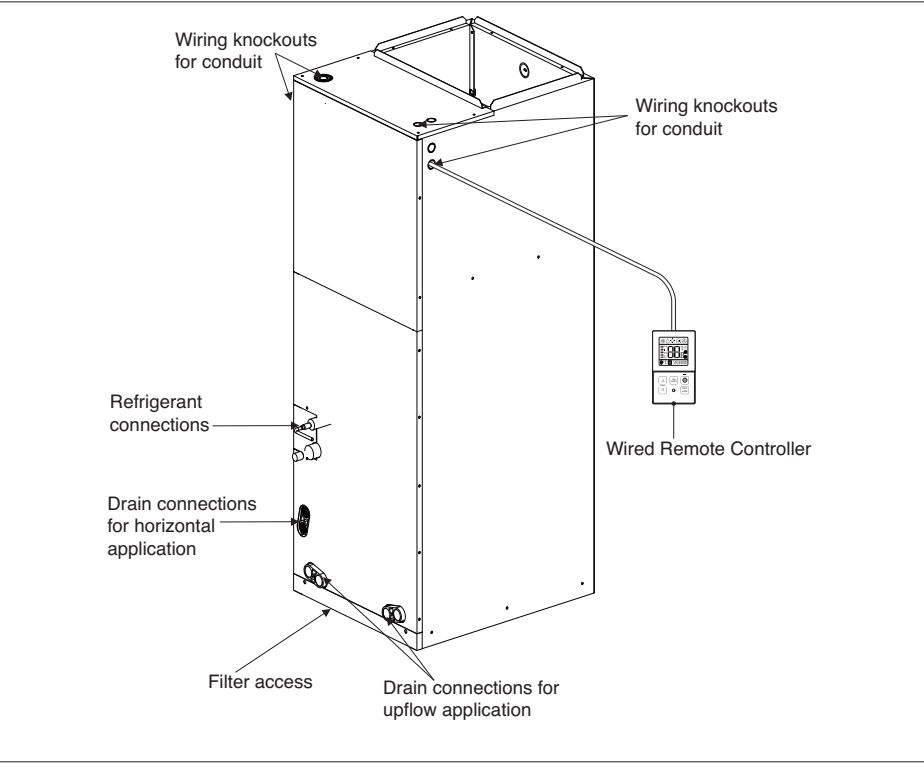
If you eat the liquid from the batteries, brush your teeth and see doctor. Do not use the remote if the batteries have leaked.

- The chemicals in batteries could cause burns or other health hazards.

Safely dispose of the packing materials.

- Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries.
- Tear apart and throw away plastic packaging bags so that children may not play with them. If children play with a plastic bag which was not torn apart, they face the risk of suffocation.

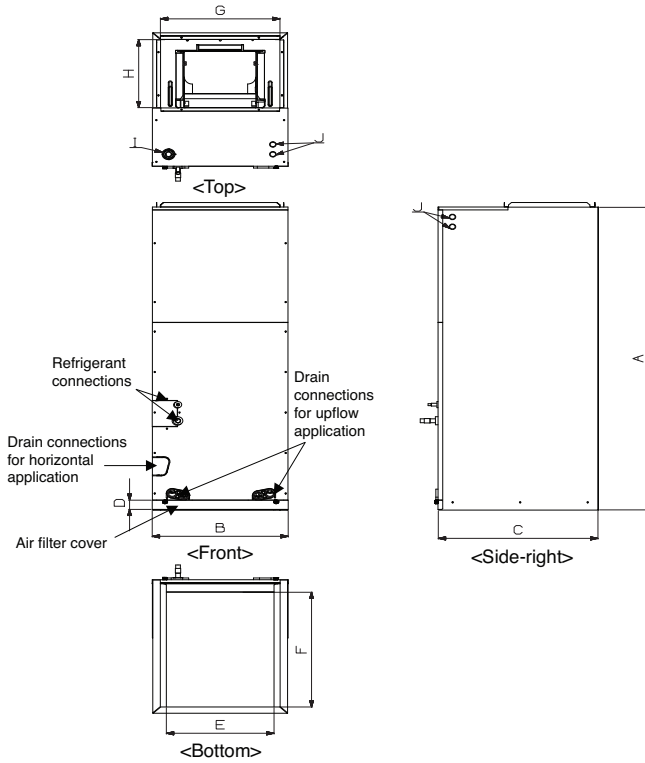
Features



Accessories

Accessory	Model Name
Wired remote controller	PREMTB10U
Wireless remote controller	PQWRHQ0FDB
Internal electric heater	ANEH053B1 ANEH103B2

Duct Connection Dimensions



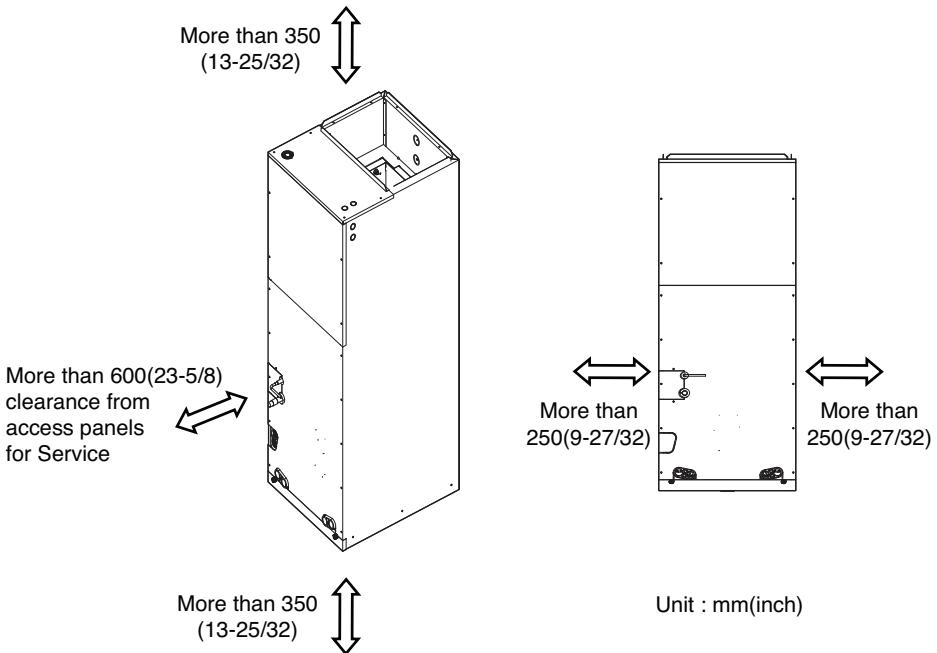
(Unit: inch(mm))

Capacity (kBtu/h)	Dimensions								Wiring Knock out		Refrigerant Connections Pipe size	
	A	B	C	D	E	F	G	H	I	J		
	Height	Width	Depth						Power	Communi- cation	Liquid	Gas
24	48-5/8 (1236)	18 (457)	21-3/8 (540)	1-9/16 (40)	17-1/2 (445)	20 (530)	17 (432)	12-1/8 (308)	1-11/16 (43)	7/8 (22)	1/4 (6.35)	1/2 (12.7)
36	48-5/8 (1236)	18 (457)	21-3/8 (540)	1-9/16 (40)	17-1/2 (445)	20 (530)	17 (432)	12-1/8 (308)	1-11/16 (43)	7/8 (22)	3/8 (9.52)	5/8 (15.88)

Installation

Selection of the best location

- Where optimum air distribution can be ensured.
- Where nothing blocks air passage and install the duct work.
- Where condensate can be properly drained.
- Where the ceiling is strong enough to bear the indoor unit weight.
- Where the false ceiling is not noticeably on an incline.
- Where sufficient clearance for maintenance and service can be ensured.
- Where piping between indoor and outdoor units is possible within the allowable limit. Refer to the installation manual for the outdoor unit.
- Vertical Air Handling Unit can be installed for upflow and horizontal-left positions.



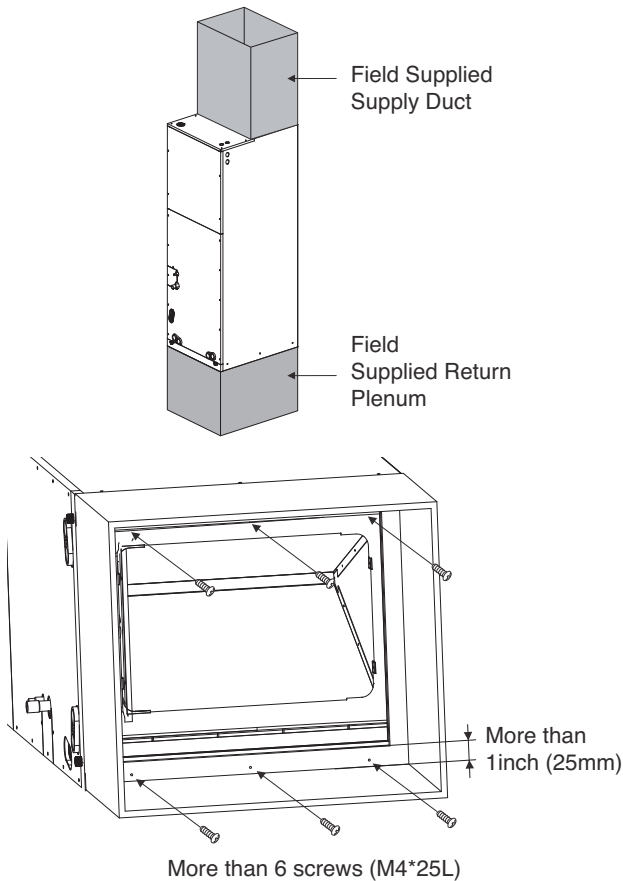
NOTE : The primary and secondary drain line must be trapped to allow proper drainage of condensate water, If the secondary drain line is not used, it must be capped.

⚠ CAUTION

In the case of sea coast installation, salt residue may cause corrosion of cabinet and component parts. Please take appropriate anti-corrosion measures.

Upflow Installation

- Position unit for plenum installation.
- The plenum should be secured in order to support the installation of adapter callers accommodate the installation of any duct work.
- Seal all duct work according to local codes to prevent air leakage. Ensure that filter access is unobstructed.
- The air handler support platform should be sturdy enough to support the cabinet plus any accessory components including filter box.
- The minimum height clearance is 14inches(350mm) to maintain proper air flow.
- Vibration isolators (purchased locally) must be placed between the unit and the pedestal.
- An illustration showing an example of where a vibration isolator should be added would clarify what the installing contractor should do to properly position the isolator.

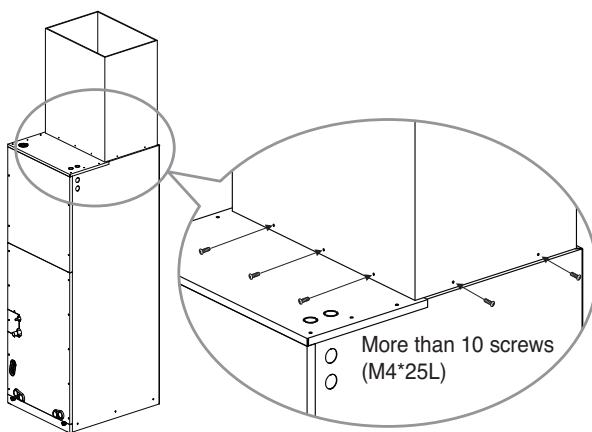


CAUTION

Do not connect the screws on Front and Rear side, it may cause the filter can not be mounted.

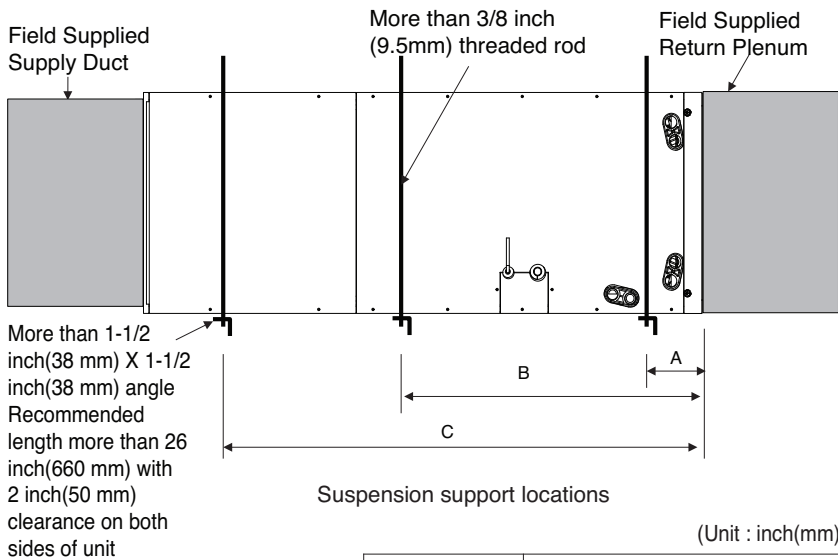
Duct work

- Over 10 screws should be used for joining supply duct with the unit.
- To prevent vibration transmission, exploit flexible connectors between duct and the unit. It is mandatory that the flexible connector between unit and duct at discharge connection should be made off heat resistive material when electric heater is installed.
- Duct work must be insulated and covered with vapor barrier when routed through unconditioned space.
- To prevent the formation of condensation, insulate the duct well.
- Internal acoustical insulation lining may necessary for the metal duct system if it do not have 90° elbow and 10ft. of main duct to first branch takeoff.
- It is advised that a fibrous duct work could be used as a substitute if built and installed in accordance with the most recent edition of SMACNA construction standard on fibrous glass ducts.
- Collectively fibrous duct work and acoustical lining shall obey National Fire Protection Association standards 90A or B as tested by UL standard 181 for class 1 air ducts.
- Seal around the delivery duct subsequent to when the duct is secured so that to facilitate prevention of air leakage.



Horizontal-left Installation

- It is particular that the units should not be installed in such a manner that the access panels facing up or down
- It should be confirmed that the installation is in accordance with all relevant building codes that may necessitate installation of external condensate pan.
- Set up a support for unit by locating it in or above external condensate pan.
- Angle steel support brackets with threaded rods which supporting the units from the underside should be used as shown in the figure below if the units are suspended.
- If not suspended then also it should be supported as same as mentioned above and also carefully isolated to avoid sound transmission. The size of the support should comparatively bigger than the unit and the unit must be place at centre of the support.
- Locally available vibration isolators must be placed between the unit and the support.
- The same installation method of up flow type has to be used in the case of Return Plenum and supply duct.



Capacity (kBtu/h)	Dimension		
	A	B	C
24 36	4(100)	23(580)	41-11/32 (1050)

⚠ CAUTION

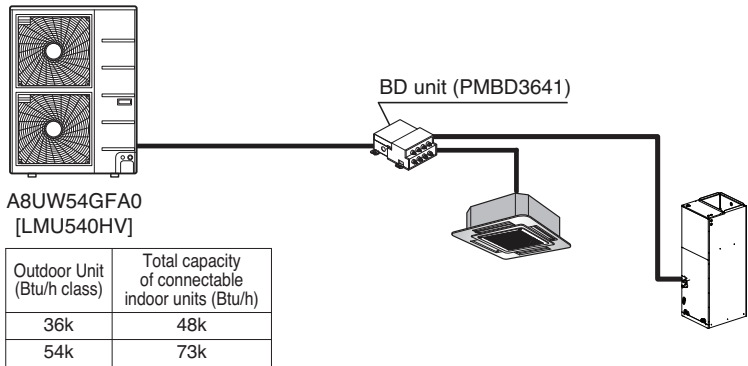
To ensure proper drainage for horizontal installations, unit must be installed so it is within 1/8" level of the length and width of unit.

Combination indoor units

The indoor units connectable to the outdoor unit are shown below

Indoor Unit		Outdoor Unit (Btu/h class)	
Type	Capacity (Btu/h class)	36k	54k
Vertical AHU	24k	O	O
	36k	X	O
Ceiling Concealed Duct (High Static)	24k	O	O
	36k	X	O

- NOTICE** :
- 1. The total capacity(in Btu/h unit) of connected indoor unit models represents the total sum of the figures expressed in the indoor model name.
 - 2. Combinations in which the total capacity of the connected indoor units exceeds the capacity of the outdoor unit will reduce the capacity of each indoor unit below the rated capacity during simultaneous operation. Therefore, if circumstances allows, combine indoor units within the capacity of the outdoor unit.
 - 3. VAHU, Ceiling Concealed Duct(High Static) type indoor unit's combination calculation method as below.
Calculation method for total capacity of connectable indoor unit to an outdoor unit
= (Sum of all VAHU & Ceiling Concealed Duct(High Static) type indoor units capacity x 1.3) + Sum of all other indoor unit's capacity



Example)

4Way CST
AMNW18GTQA0
[LMCN185HV]

VAHU
AMNW36GNJA0
[LMVN360HV]

Total rated capacity index : 18 + 36 x 1.3 = 64.8 < 73

Flaring work

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

1) Cut the pipes

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

2) Burrs removal

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

3) Putting nut on

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

4) Flaring work

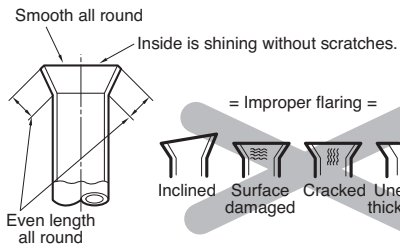
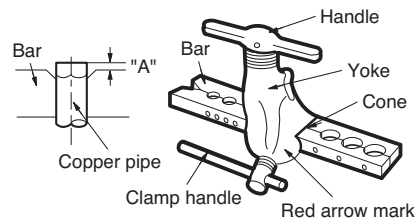
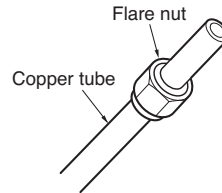
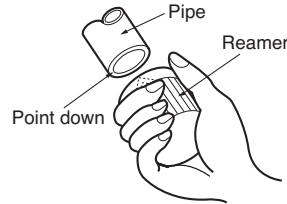
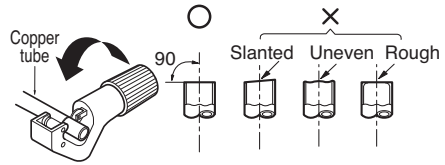
- Carry out flaring work using flaring tool as shown below.

Outside diameter		A	
mm	inch	mm	inch
Ø6.35	1/4	1.1~1.3	0.04~0.05
Ø9.52	3/8	1.5~1.7	0.06~0.07
Ø12.7	1/2	1.6~1.8	0.06~0.07
Ø15.88	5/8	1.6~1.8	0.06~0.07
Ø19.05	3/4	1.9~2.1	0.07~0.08

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

5) Check

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



Connection of piping - Indoor, Outdoor, BD Unit

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

Capacity	Refrigerant Connections Pipe size	
(kBtu/h)	Liquid	Gas
24	1/4 (Ø6.35)	1/2 (Ø12.7)
36	3/8 (Ø9.52)	5/8 (Ø15.88)

BD Unit	Refrigerant Connections Pipe Size (inch (mm))		Connectable Indoor Unit Capacity (kBtu/h class)
	Liquid	Gas	
PMBD3620	1/4 (Ø6.35) x 2EA	3/8 (Ø9.52) x 2EA	9/12/18/24k
PMBD3630	1/4 (Ø6.35) x 3EA	3/8 (Ø9.52) x 3EA	9/12/18/24k
PMBD3640	1/4 (Ø6.35) x 4EA	3/8 (Ø9.52) x 4EA	9/12/18/24k
PMBD3641	1/4 (Ø6.35) x 4EA	3/8 (Ø9.52) x 3EA	9/12/18/24k (A/B/C ROOM)
		1/2 (Ø12.7) x 1EA	36k (D ROOM)

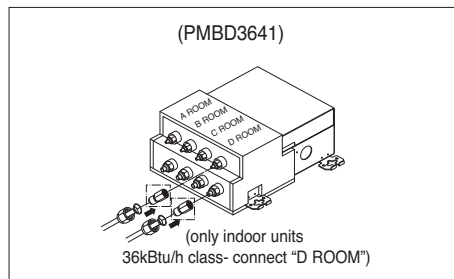
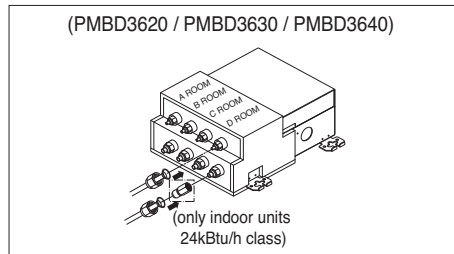
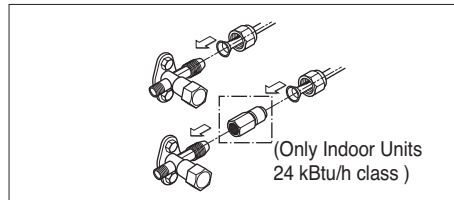
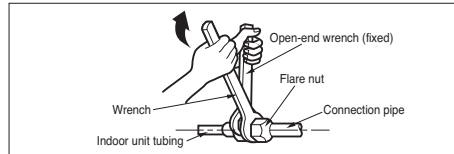
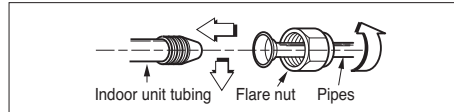
* BD Unit(PMBD3641) includes the sockets.

(Ø 12.7 Ø 15.88 x 1EA, Ø 6.35 Ø 9.52 x 1EA)

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

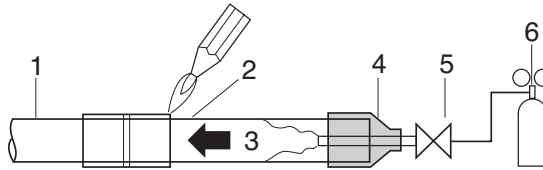
- When tightening the flare nut with torque wrench ensure the direction for tightening follows the arrow on the wrench.

Outside diameter		Torque		
mm	inch	N. m	kgf.m	lbf.ft
Ø6.35	1/4	14~18	1.4~1.8	10~13
Ø9.52	3/8	34~42	3.5~4.3	25~31
Ø12.7	1/2	49~61	5.0~6.2	36~45
Ø15.88	5/8	69~82	7.0~8.4	51~60
Ø19.05	3/4	100~120	10.0~12.2	73~88



⚠ CAUTION

Always blow nitrogen into pipe which is brazed. Always use a non-oxidizing brazing material for brazing the parts and do not use flux. If not, oxidized film can cause clogging or damage to the compressor unit and flux can harm the copper piping or refrigerant oil.



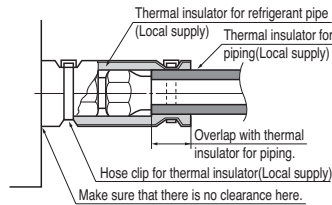
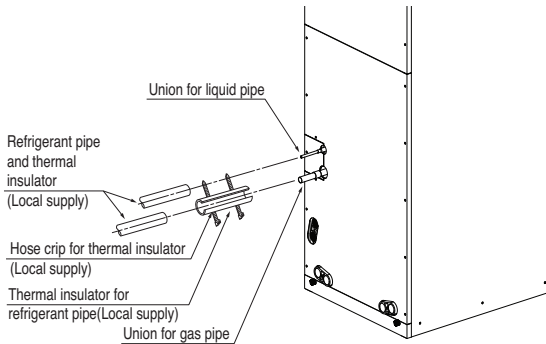
1	Refrigerant piping	4	Taping
2	Pipe to be brazed	5	Valve
3	Nitrogen	6	Pressure-reducing valve

Note : The torch tip should be positioned at the opposite angle to shop the correct way to apply heat on the pipe coupling.

Insulation

Insulate the joint and tubes completely.

Thermal insulation : All thermal insulation must comply with local requirement.

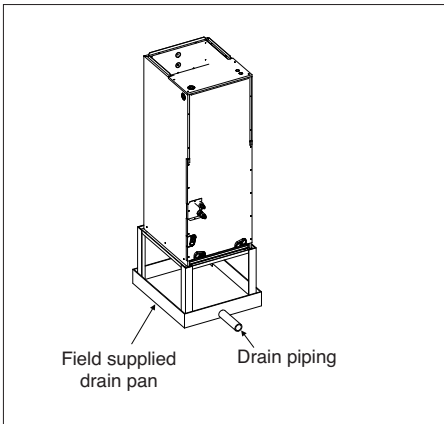


1. Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance [over 120°C(248°F)].
2. Precautions in high humidity circumstance:
This air conditioner has been tested according to the "KS Standard Conditions with Mist" and confirmed that there is not any default. However, if it is operated for a long time in high humid atmosphere [dew point temperature: more than 23°C(73.4°F)], water drops are liable to fall. In this case, add heat insulation material according to the following procedure:
 - Heat insulation material to be prepared... Adiabatic glass wool with thickness 10 to 20mm.
 - Stick glass wool on all air conditioners that are located in ceiling atmosphere.

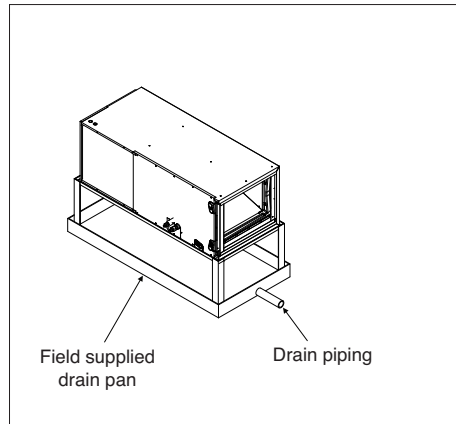
Condensate Drain

- The drainage performance has to be optimized by installing both primary and secondary drain lines along with properly sized condensate traps in order to prevent property damage.
- Care should be taken to avoid the blocking of filter access panel while connecting condensate drain lines. The primary and secondary condensate traps has to be primed after connecting to the drain pan.
- A field supplied external condensate pan has to be installed underneath the entire unit if the unit is above the living space . Other wise damage may result due to condensate over flow. Also a additional external condensate line should run from unit in to the pan.
- The entire condensate should be drained from the external condensate pan to some noticeable area. It is advised to install traps in condensate lines as near to the coil as possible. The outlet of each trap should be below its connection to the condensate pan avert condensate from overflowing drain pan.
- If located above the living area then all traps should be prime and insulated and also tested for leakage.
- PVC 3/4 inch(19.05mm) male pipe thread fitting is advised to use at condensate pan with gentle tight.
- For easy drain flow the drain hose has to be pointed downward.
- Care should be taken to not use pipe joint connection or PVC/CPVC for units drain line connection. Use only Teflon tape.
- For preventing winter freeze up on condensate line special means should be provided for drainage.

Case I

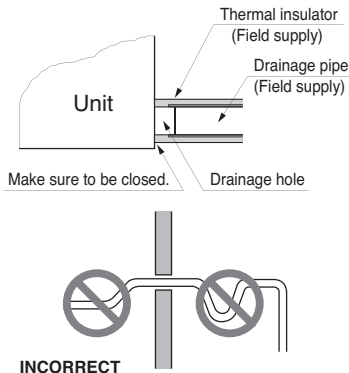


Case II



GRADIENT OF UNIT AND DRAIN PIPING

- Always lay the drain with downward inclination(1/50 to 1/100).
Prevent any upward flow or reverse flow in any part.
- 5/24 inch(5mm) or thicker formed thermal insulator shall always be provided for the drain pipe.



Applied U-Trap Dimension

A ≥ 2-9/16 inch (70mm)

B ≥ 2C

C ≥ 2 x SP

SP = External Pressure (in.wc)

Ex) External Pressure = 0.4in.wc(10mmAq)

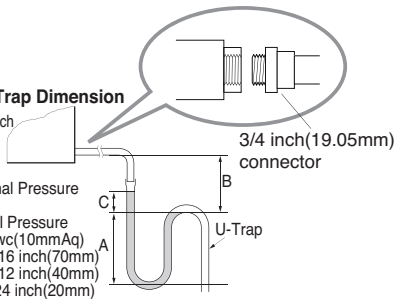
A ≥ 2-9/16 inch(70mm)

B ≥ 1-7/12 inch(40mm)

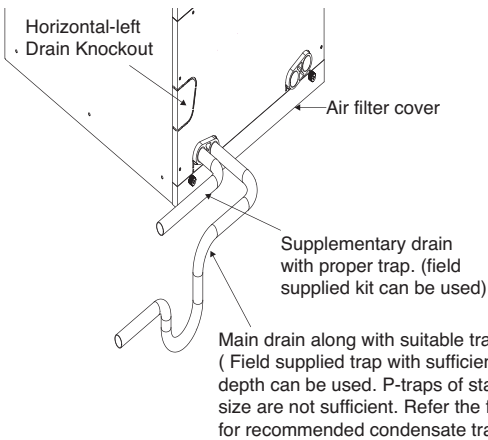
C ≥ 19/24 inch(20mm)

CORRECT

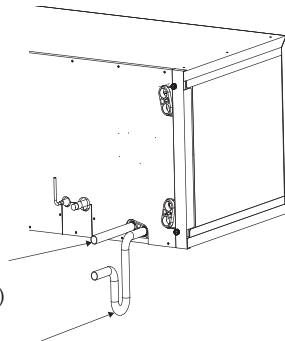
- Install the U-Trap to prevent a water leakage caused by the blocking of intake air filter.



Upflow Drain



Horizontal-left Drain



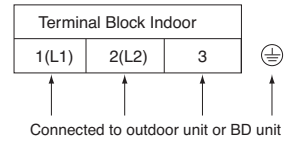
CAUTION

The supplied flexible drain hose should not be strained.
A strained hose may cause leakage of water.

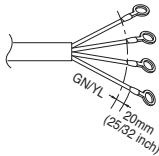
Wiring Connection

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.

208/230V 1Φ 60Hz



■ Connecting cable

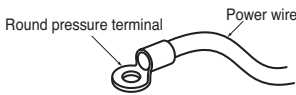


The power connecting cable between the outdoor and indoor units must comply with the following specifications: NRTL Recognized (for example, UL or ETL recognized and CSA certified).

AWG 18-4 is the minimum recommended wire size, however, the selected conductors must comply with local codes and be suitable for installation in wet locations.

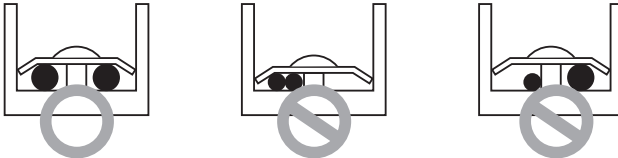
■ Precautions when laying power wiring

Use round pressure terminals for connections to the power terminal block.

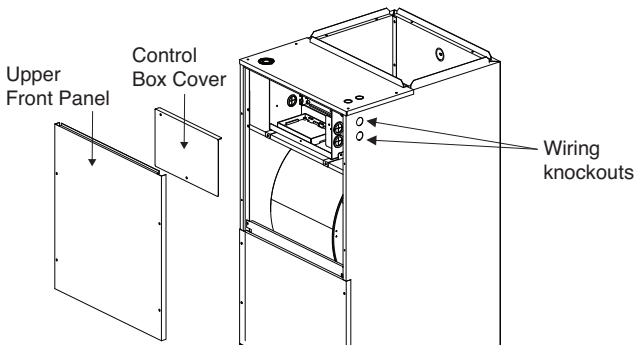


When none are available, follow the instructions below.

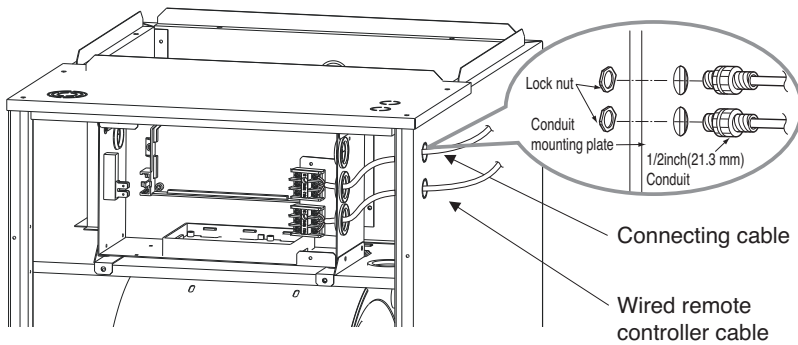
- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.



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



1. Detach the upper panel & control box cover.
And remove two wiring Knockouts.



2. Install conduit to the wiring knockouts.

Connect connecting/wired remote controller cable to terminal block through the wiring knockouts.

NOTICE :

1. Use connection cable NRTL(UL, ETL, CAS...) listed and stranded copper(4) THHN conductors, sun-light (UV) resistant ROHS compliant PVC jacket 600V direct burial listed, approved for wet conditions. Temperature rated for $-20^{\circ}\text{C}(-4^{\circ}\text{F})$ to $90^{\circ}\text{C}(194^{\circ}\text{F})$. And this cable should be enclosed in conduit.

⚠ WARNING

- Be sure to comply with local and national codes while running the wire from the indoor unit to the outdoor unit(size of wire and wiring method, etc).
- Every wire must be connected firmly.
- No wire should be allowed to touch refrigerant tubing, the compressor or any moving parts.
- The communication wirings of air conditioner should be separate and isolated from external device's electric wiring such as computers, elevator, radio & Television broadcasting facilities, as well as medical imaging offices.

HAND OVER

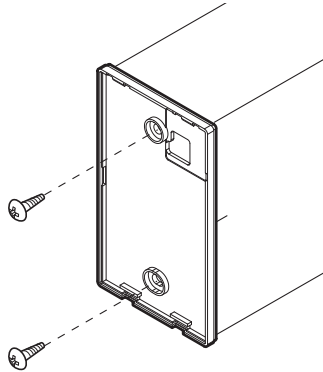
Teach the customer the operation and maintenance procedures, using the operation manual. (air filter cleaning, temperature control, etc.)

NOTE : Openings where field wiring enters the cabinet must be completely sealed.

Remote controller installation

Please fix tightly using provided screw after placing remote controller setup board on the place where you like to setup.

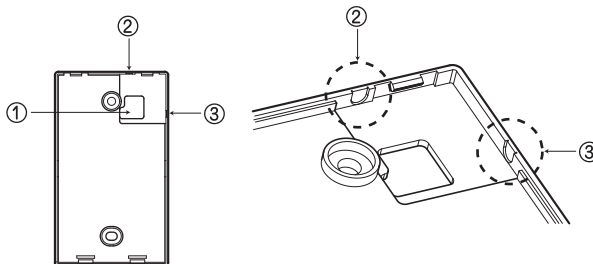
- Please set it up not to bend because poor setup could take place if setup board bends.
Please set up remote controller board fit to the reclamation box if there is a reclamation box.



Can set up Wired remote controller cable into three directions.

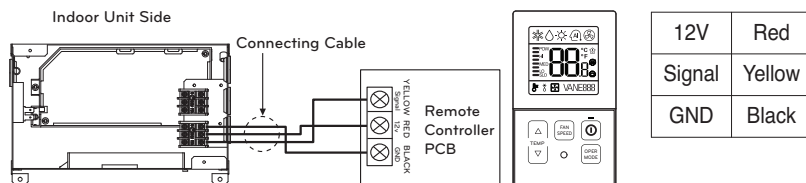
- Setup direction: the surface of wall reclamation, upper, right
- If setting up remote controller cable into upper and right side, please set up after removing remote controller cable guide groove.
- * Remove guide groove with long nose.

- ① Reclamation to the surface of the wall
- ② Upper part guide groove
- ③ Right part guide groove



<Wire guide grooves>

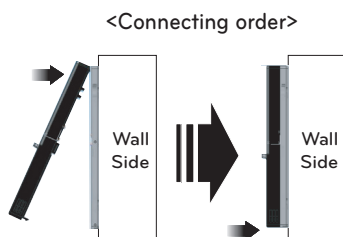
Please connect indoor unit and remote controller using connection cable.



Please use extension cable if the distance between wired remote controller and indoor unit is more than 10m(32-4/5ft).

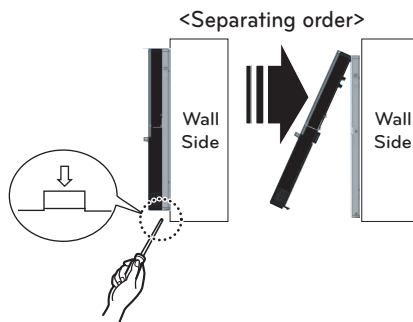
Please fix remote controller upper part into the setup board attached to the surface of the wall, as the picture below, and then, connect with setup board by pressing lower part.

- Please connect not to make a gap at the remote controller and setup board's upper and lower, right and left part.



When separating remote controller from setup board, as the picture below, after inserting into the lower separating hole using screw driver and then, spinning clockwise, remote controller is separated.

- There are two separating holes. Please individually separate one at a time.
- Please be careful not to damage the inside components when separating.



⚠ CAUTION

When installing the wired remote controller, do not bury it in the wall.

(It can cause damage in the temperature sensor.)

Do not install the cable to be 50m or above.

(It can cause communication error.)

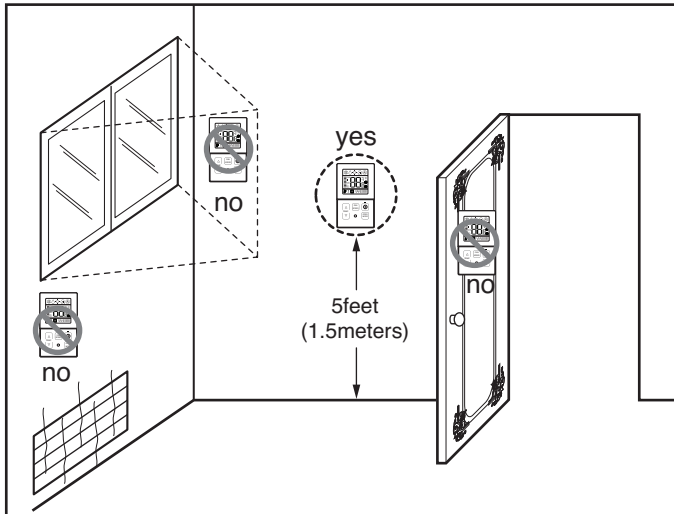
- When installing the extension cable, check the connecting direction of the connector of the remote controller side and the product side for correct installation.
- If you install the extension cable in the opposite direction, the connector will not be connected.
- Specification of extension cable: 2547 1007 22# 2 core 3 shield 5 or above.
- Apply totally enclosed noncombustible conduit in case of local building code Requiring plenum cable usage.

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:

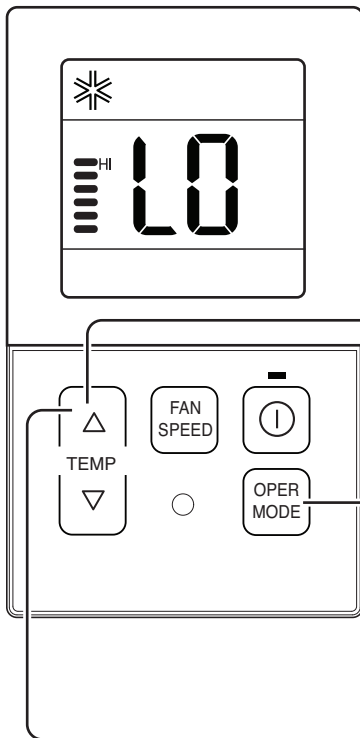
- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with LCD. display. For proper display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



[Fig.1]

Optional operation

Installer Setting - Test Run Mode



1 When pressing the  button and  button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.

- After entering into the installer setting mode, select the test run mode code value by pressing the  button.

* Test run mode code value : 01

2 When pressing the  button, the test operation mode will be performed, and it is displayed as shown in the left figure.

3 When pressing the  button and  button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

4 When approx. 18 minutes are elapsed after starting of the test oper-mode, the system will be stopped automatically and converted to the standby state.

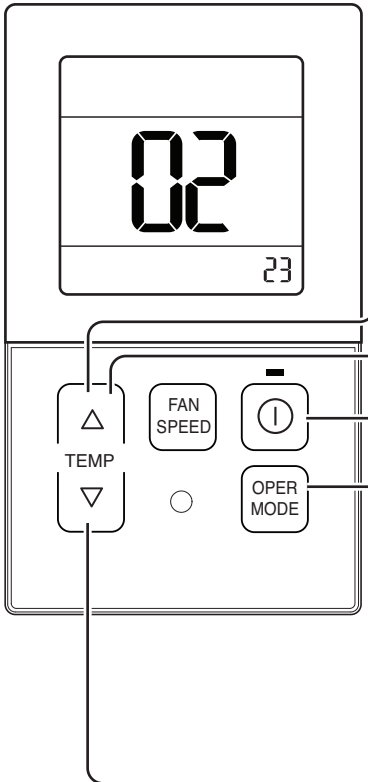
- If any button is inputted during the test run mode, the test run mode will be forced to be released.

• What is the test run mode??

- This means the operation of the product under the cooling, strong wind, and Comp on state without performing room temperature control in order to confirm the installed state during the product installation.

Installer Setting - Setting Address of Central Control

It's the function to use for connecting central control.
Please refer to central controller manual for the details.

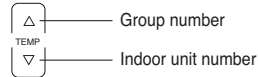


1 When pressing the button and button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.

- After entering into the installer setting mode, select the central control address setting code value by pressing the button.

* Setting address of central control code value
: 02

2 Set up the group number and indoor unit with the temperature adjustment(,) buttons.



For example, when setting as
[Group number=2 Indoor number=3]
it will be displayed as shown in the left figure.

3 When pressing the button, the system will be set up with the address value which has been established at present.

4 When pressing the button and button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

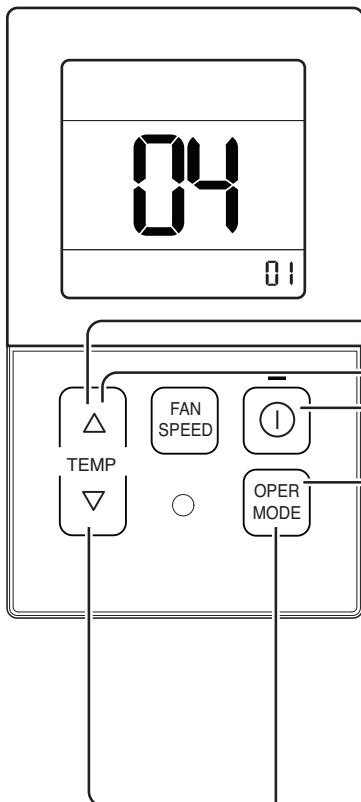
- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

- If you connect the indoor unit to the central controller, you should set the network address of the indoor unit so that the central controller could recognize it.
 - The center-control address is composed of the group number and the indoor-unit number.
- Note : The remote controller displays 'HL' if central controller has locked the remote controller .

* In the case when the lock is set up at the central controller, 'HL' will be indicated on the display window of the wired remote controller and the indoor unit will not be controlled by the remote controller.

Installer Setting - Thermistor

This is the function to select the temperature sensor to judge the room temperature.

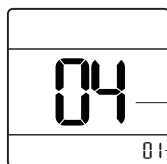


1 When pressing the button and button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.

- After entering into the installer setting mode, select the thermistor sensor setting code value by pressing the .

* Thermistor sensor selection code value : 04

2 Select the desired setting value with the temperature up() , down() button.



*Setting value
01: Remote controller
02: Indoor unit
03: 2TH

3 When pressing the button, currently established thermistor sensor location will be set up.

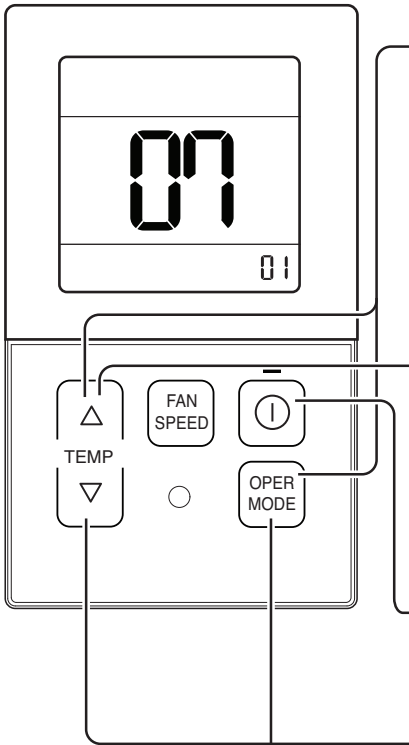
4 When pressing the button and button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

• As the characteristic of the '2TH' function can be different in accordance with the products, refer to the product instruction manual for its detail.

Installer Setting - Group Setting

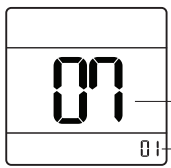
It is a function for settings in group control, or 2-remote controller control.



- When pressing the  button and  button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.

 - After entering into the installer setting mode, select the ceiling height setting code value by pressing the oper-mode button.

* Remote controller master/slave setting code value : 07
- Select the desired setting value with the temperature up() , down() button.



*Setting value
00:Slave
01:Master
- When pressing the  button, currently established static pressure value will be set up.
- When pressing the  button and  button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

 - If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

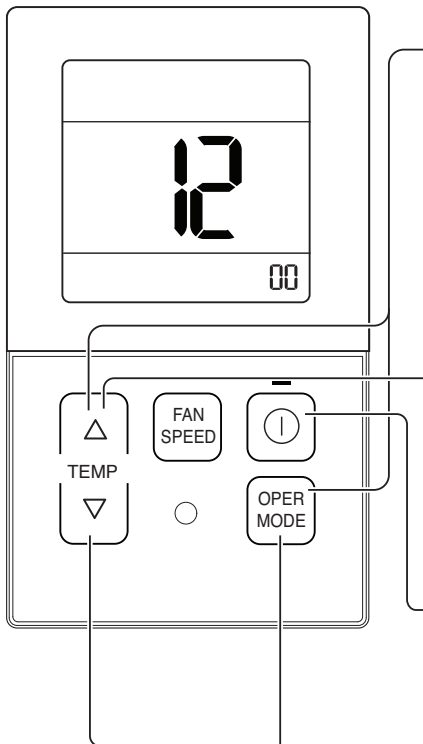
Remote controller	Function
Master	Indoor unit operates based on master remote controller at group control. (Master is set when delivering from the warehouse.)
Slave	Setup all remote controllers except one master remote controller to slave at group control

* Refer to the 'group control' part for details

- When controlling in groups, basic operation settings, airflow strength weak/medium/strong, lock setting of the remote controller, time settings, and other functions may be restricted.

Installer Setting - Celsius / Fahrenheit Switching

This function is used for switching the display between Celsius and Fahrenheit.
(Optimized only for U.S.A)

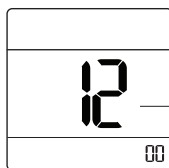


1 When pressing the button and button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.

- After entering into the installer setting mode, select the ceiling height setting code value by pressing the oper-mode button.

* Celsius/Fahrenheit setting code value : 12

2 Select the desired setting value with the temperature up(), down() button.



*Setting value
00:Celsius
01:Fahrenheit

3 When pressing button, currently established celsius/Fahrenheit setting value will be set up.

4 When pressing the button and button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

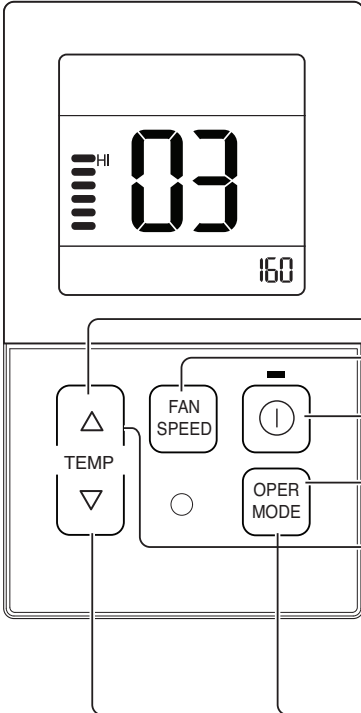
- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

- Whenever press temp up(), down() button in Fahrenheit mode, the temperature will increase/drop 2 degrees.

Installer Setting - E.S.P.

This is the function that decides the strength of the wind for each wind level and because this function is to make the installation easier.

- If you set ESP incorrectly, the air conditioner may malfunction.
- This setting must be carried out by a certificated-technician.



1 When pressing the button and button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.

- After entering into the installer setting mode, select the E.S.P code value by pressing the .

* E.S.P code value : 03

2 Select the desired air flow rate with the button. Whenever pressing the , [SLo→Lo→Med→Hi→Po] will be indicated.

3 Select the desired air flow rate value with the temperature up(), down() button.

* E.S.P value range : 0~255

- E.S.P value will be indicated at the upper right section of the display window.

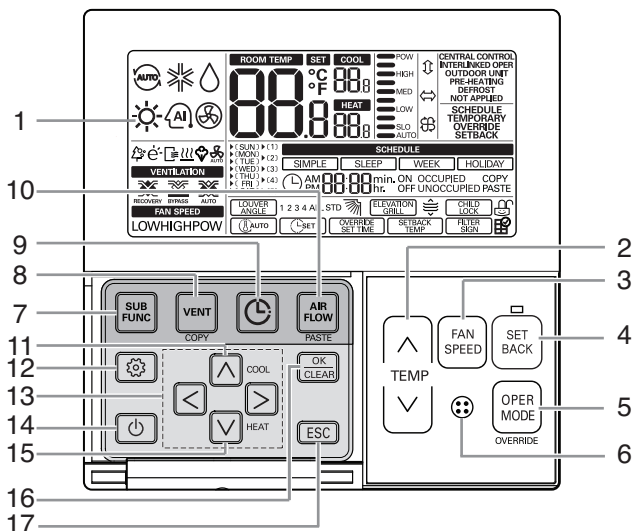
4 When pressing the button, currently established E.S.P value will be set up.

5 When pressing the button and button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

- Precaution shall be taken not to alter the E.S.P value corresponded to each air flow section.
- E.S.P value can be varied according to the products.
- In the case of going to the next air flow rate stage by pressing the fan-speed button during the setup of the E.S.P value, the E.S.P value of previous air flow rate will be maintained by remembering the E.S.P value prior to the shift.

Name and function of wired remote controller(Accessory)



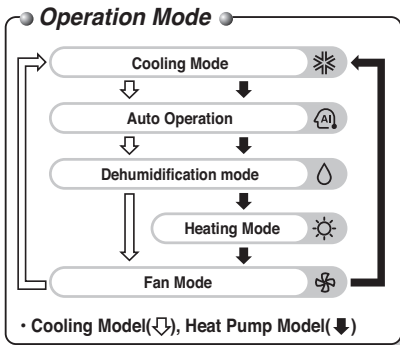
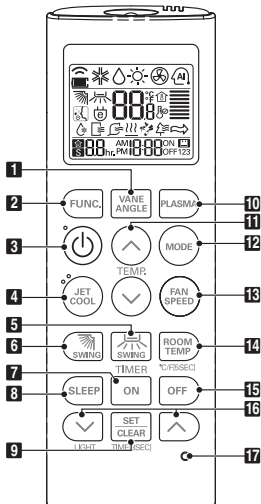
- | | |
|--|----------------------------------|
| 1. Operation indication screen | 10. Air flow button |
| 2. Set temperature button | 11. Cooling desired temperature |
| 3. Fan Speed button | 12. Function setting button |
| 4. Set back button | 13. Up, Down, Left, Right button |
| 5. Operation mode selection button | 14. On/Off button |
| 6. Wireless remote controller receiver | 15. Heating desired temperature |
| - Some product don't receive the wireless signals. | 16. Setting/Cancel button |
| 7. Sub function button | 17. Exit button |
| 8. Ventilation button | |
| 9. Reservation button | |

※ Some functions may not be operated and displayed depending on the product type.

※ If you want to know more information, please refer to Wide Wired Remote Control Manual.

Model : PREMTB10U

Name and function of wireless remote controller(Accessory)



1. VANE ANGLE Button

Used to set each vane angle.

2. FUNCTION SETTING Button

Used to set or clear Auto Clean, Smart Clean, Electric heater or Individual vane angle control.

3. ON/OFF Button

Used to turn on/off the unit.

4. JET COOL Button

Speed cooling operates super high fan speed.

5. LEFT/RIGHT AIRFLOW Button (OPTIONAL)

Used to set the desired left/right(horizontal) airflow direction.

6. UP/DOWN AIRFLOW Button

Used to stop or start louver movement and set the desired up/down airflow direction.

7. ON TIMER Button

Used to set the time of starting operation.

8. SLEEP TIMER Button

Used to set the time of sleeping operation.

9. SET / CLEAR Button

Used to set/clear the timer.

Used to set the current time(if it input for 3sec.)

10. PLASMA Button (OPTIONAL)

Used to start or stop the plasma-purification function.

11. ROOM TEMPERATURE SETTING Button

Used to select the room temperature.

12. OPERATION MODE SELECTION Button

Used to select the operation mode.

13. INDOOR FAN SPEED SELECTION Button

Used to select fan speed in four steps low, medium, high and chaos.

14. ROOM TEMPERATURE CHECKING Button

Used to check the room temperature.

15. OFF TIMER Button

Used to set the time of stopping operation.

16. TIMER SETTING(Up/Down)/LIGHT Button

Used to set the timer.

Used to adjust the brightness.(if it is not time adjust mode)

17. RESET Button

Used to reset the remote controller.

Model : PQWRHQ0FDB

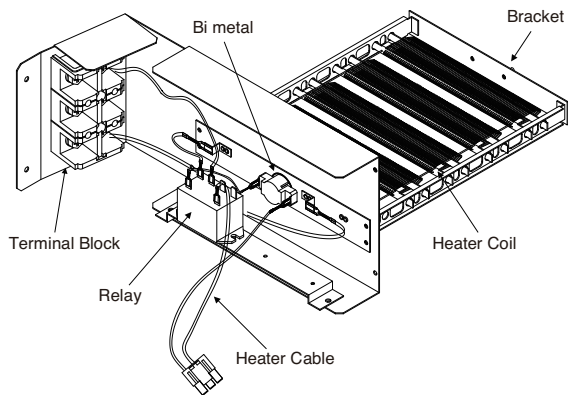
NOTE

※ Some functions may not be operated and displayed depending on the product type.

※ If you want to know more information, please refer to Wireless Remote Control Manual.

Internal Electric Heater(Accessory)

Feature (Example: 5kW)



* Note: Image shown above may vary depends on model capacity.

Available heater in model

Capacity (kBtu/h)	Heater Capacity (kW)	
	5	10
24	O	O
36	O	O

※ If you want to know more optional operation, please refer to the Internal Electric Heater Manual.

※ Heater Model

5kW: ANEH053B1

10kW: ANEH103B2

Dip Switch Setting of Indoor unit PCB

	Function	Description	Setting Off	Setting On	Default
SW1	Communication	N/A (Default)	-	-	Off
SW2	Cycle	N/A (Default)	-	-	Off
SW3	Group Control	Selection of Master or Slave	Master	Slave	Off
SW4	Dry Contact Mode	Selection of Dry Contact Mode	Wired/Wireless remote controller Selection of Manual or Auto operation Mode	Auto	Off
SW5	Installation	Fan continuous operation	Continuous operation Removal	-	Off
SW6	Heater linkage	Selection of Heating Working	-	-	Off
SW7	Etc.	Spare	-	-	Off
SW8	Etc.	Spare	-	-	Off

CAUTION

- Indoor unit without Internal Electric Heater
 - Dip switch 1, 2, 6, 8 must be set OFF.
- In the case of indoor unit with Internal Electric heater, Dip switch 6 must be set ON.
 - SW6 ON: Automatic Heater operation (Heater operates automatically according to the heater logic without owner's intervene.)
 - SW6 OFF: Heater manual operation (Owner's involvement is required for on/off operation. But the heater operation would be as per the heater logic.)
- In the case of indoor unit with Internal Electric heater, Dip switch 5 on if you want.
 - SW5 ON: Fan operates continuously. (During defrosting or oil return operation, uninterrupted heating can be attained, as a result of continuous heater and fan operation.
※ During defrosting or oil return operation tepid air can come out.
 - SW5 OFF: Fan discontinuous operation (There would be reduction in heating capacity while defrosting or oil return operation.)

Product Data

External Static Pressure & Air Flow

Capacity (kBtu/h(RT))	Flow rate (CFM)	Setting Value @ ESP(in.wc)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
36(3.0)	High(990)	80	85	90	95	100	103	*103	*103	*103	*103
	Middle(880)	65	72	80	85	92	98	103	*103	*103	*103
	Low(800)	65	69	77	82	90	96	101	*101	*101	*101
24(2.0)	High(710)	56	67	74	78	87	94	98	*98	*98	*98
	Middle(640)	53	65	70	75	85	91	96	*96	*96	*96
	Low(480)	53	55	64	70	79	84	92	*92	*92	*92

Notes :

- Air handler units are UL Listed up to 0.5 in.wc external static pressure, including air filter, set coil, and largest kW size heater, unless otherwise noted.
- * Mark means that flow rate(CFM) is decreased by 3% per 0.1in.wc
- Upper limit of flow rate(CFM) is 400CFM per ton. (In case of 24kBtu/h, maximum flow rate is $2.0 \times 400 = 800$ CFM.) If flow rate should be increased to upper limit, ESP value should be increased from high speed setting value to as much as below value.
 - from 24kBtu/h of capacity : 4
 - from 36kBtu/h of capacity : 5
- in.wc = inch Water Column, inAq
 - High static pressure is 0.5 in.wc (Factory set Default)
 - Low static pressure is 0.3 in.wc
- If you set ESP incorrectly, the air conditioner may cause cooling & heating capacity down and malfunction.

Minimum airflow by heater capacity

(Unit : CFM)

Capacity (kBtu/h)	Heater Capacity (kW)	
	5	10
24	480	480
36	780	780

⚠ CAUTION**Do not use less than minimum airflow.**

There is risk of fire or damage to the product.

Internal Electric Heater Static pressure drop factors

Heater Capacity(kW)	Static pressure drop (in.wc)
0	0
5	– 0.01
10	– 0.02

If the internal electric heater has been installed, then the ESP value has to be set.

For every increase in static pressure by 0.01 inWC, the ESP value should be increased by 1.

If the setting ESP value is inappropriate, the provided safety device will turn off the heater according to the airflow.

* in.wc = inch Water Column, inAq

Air Filter (Field supply) Static pressure drop factors

Capacity(kBtu/h)	Flow Rate(CFM)	Static pressure drop (in.WC)
24	High(710)	-0.04
	Middle(640)	-0.03
	Low(480)	-0.02
36	High(990)	-0.07
	Middle(880)	-0.05
	Low(800)	-0.05

If the air filter has been installed, then the ESP value has to be set.
For every increase in static pressure by 0.01 in.wc, the ESP value should be increased by 1.

NOTICE

Factory testing used filter media with a MERV 4 rating.
The (fan speed) Setting Value must be modified when the unit is used in conjunction with field supplied filter media.

