
VRV SYSTEM Inverter Air Conditioners

MODELS**Floor standing type and Concealed floor standing type**

FXLQ07MVJU	FXNQ07MVJU
FXLQ09MVJU	FXNQ09MVJU
FXLQ12MVJU	FXNQ12MVJU
FXLQ18MVJU	FXNQ18MVJU
FXLQ24MVJU	FXNQ24MVJU

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION.
KEEP THIS MANUAL IN A HANDY PLACE FOR FUTURE REFERENCE.

LIRE SOIGNEUSEMENT CES INSTRUCTIONS AVANT L'INSTALLATION.
CONSERVER CE MANUEL A PORTEE DE MAIN POUR REFERENCE ULTERIEURE.

LEA CUIDADOSAMENTE ESTAS INSTRUCCIONES ANTES DE INSTALAR.
GUARDE ESTE MANUAL EN UN LUGAR A MANO PARA LEER EN CASO DE TENER
ALGUNA DUDA.

English

Français

Español

CONTENTS

1. SAFETY CONSIDERATIONS	1
2. BEFORE INSTALLATION.....	3
3. SELECTING INSTALLATION SITE	4
4. PREPARATIONS BEFORE INSTALLATION	5
5. INDOOR UNIT INSTALLATION.....	5
6. REFRIGERANT PIPING WORK	6
7. DRAIN PIPING WORK	7
8. ELECTRIC WIRING WORK	8
9. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER	9
10. FIELD SETTING	11
11. TEST OPERATION	12

1. SAFETY CONSIDERATIONS

Read these **SAFETY CONSIDERATIONS for Installation** carefully before installing air conditioning equipment. After completing the installation, make sure that the unit operates properly during the startup operation.

Instruct the customer on how to operate and maintain the unit. Inform customers that they should store this Installation Manual with the Operation Manual for future reference.

Always use a licensed installer or contractor to install this product. Improper installation can result in water or refrigerant leakage, electrical shock, fire, or explosion.

Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

 **DANGER** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

 **NOTE** Indicates situations that may result in equipment or property-damage accidents only.

DANGER

- Refrigerant gas is heavier than air and replaces oxygen. A massive leak can lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.
- Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding can cause a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes could cause a gas leak and potential explosion causing severe injury or death.

- If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas may produce toxic gas if it comes in contact with fire. Exposure to this gas could cause severe injury or death.
- After completing the installation work, check that the refrigerant gas does not leak throughout the system.
- Do not install unit in an area where flammable materials are present due to risk of explosions that can cause serious injury or death.
- Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation may cause injuries or death by suffocation.

WARNING

- Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation may result in water leakage, electric shock, or fire.
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, can lead to oxygen deficiency.
- Use only specified accessories and parts for installation work. Failure to use specified parts may result in water leakage, electric shocks, fire, or the unit falling.
- Install the air conditioner or heat pump on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength may result in the unit falling and causing injuries.
- Take into account strong winds, typhoons, or earthquakes when installing. Improper installation may result in the unit falling and causing accidents.
- Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local, state and national regulations. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.
- Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. Improper connections or installation may result in fire.
- When wiring, position the wires so that the control box cover can be securely fastened. Improper positioning of the control box cover may result in electric shocks, fire, or the terminals overheating.
- Before touching electrical parts, turn off the unit.
- This equipment can be installed with a Ground-Fault Circuit Interrupter (GFCI). Although this is a recognized measure for additional protection, with the grounding system in North America, a dedicated GFCI is not necessary.
- Securely fasten the outdoor unit terminal cover (panel). If the terminal cover/panel is not installed properly, dust or water may enter the outdoor unit causing fire or electric shock.

- When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R410A) such as air. Any presence of air or other foreign substance in the refrigerant circuit can cause an abnormal pressure rise or rupture, resulting in injury.
- Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion may occur.

⚠ CAUTION

- Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.
- Do not allow children to play on or around the unit to prevent injury.
- Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Heat exchanger fins are sharp enough to cut. To avoid injury wear glove or cover the fins when working around them.
- Install drain piping to proper drainage. Improper drain piping may result in water leakage and property damage.
- Insulate piping to prevent condensation.
- Be careful when transporting the product.
- Do not turn off the power supply immediately after stopping operation. Always wait for at least 5 minutes before turning off the power supply. Otherwise, water leakage may occur.
- Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.
- Refrigerant R410A in the system must be kept clean, dry, and tight.
 - (a) Clean and Dry - Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.
 - (b) Tight - R410A does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection against harmful ultraviolet radiation. R410A can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter Refrigerant Piping Work and follow the procedures.
- Since R410A is a blend, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in a state of gas, its composition can change and the system will not work properly.
- The indoor unit is for R410A. See the catalog for indoor models that can be connected. Normal operation is not possible when connected to other units.
- Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors.

- Do not install the air conditioner or heat pump in the following locations:
 - (a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen. Plastic parts may deteriorate and fall off or result in water leakage.
 - (b) Where corrosive gas, such as sulfurous acid gas, is produced. Corroding copper pipes or soldered parts may result in refrigerant leakage.
 - (c) Near machinery emitting electromagnetic waves. Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.
 - (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions can cause a fire.
- Take adequate measures to prevent the outdoor unit from being used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunctions, smoke, or fire. Instruct the customer to keep the area around the unit clean.

⚠ NOTE

- Install the power supply and transmission wires for the indoor and outdoor units at least 3.5 feet (1 m) away from televisions or radios to prevent image interference or noise. Depending on the radio waves, a distance of 3.5 feet (1 m) may not be sufficient to eliminate the noise.
 - Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant local, state, and national regulations.
 - Do not use the following tools that are used with conventional refrigerants: gauge manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.
 - If the conventional refrigerant and refrigerator oil are mixed in R410A, the refrigerant may deteriorate.
 - This air conditioner or heat pump is an appliance that should not be accessible to the general public.
 - As design pressure is 450 psi, the wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.
-

2. BEFORE INSTALLATION

- When moving the unit while removing it from the packing case, be sure to lift it by the four hanger brackets. Avoid putting any pressure on other parts especially the refrigerant piping.
- Be sure to check the type of R410A refrigerant to be used before installing the unit. (Using an incorrect refrigerant will prevent normal operation of the unit.)
- The accessories needed for installation must be retained in your custody until the installation work is completed. Do not discard them!
- Decide upon a line of transport.
- Leave the unit inside its packaging while moving, until reaching the installation site. Where unpacking is unavoidable, use a sling of soft material or protective plates together with a rope when lifting, to avoid damage or scratches to the unit.
- For the installation of an outdoor unit, refer to the installation manual attached to the outdoor unit.
- Do not install or operate the unit in rooms mentioned below.
 - Laden with mineral oil, or filled with oil vapor or spray like in kitchens. (Plastic parts may deteriorate which could eventually cause the unit to fall out of place, or could lead to leaks.)
 - Where corrosive gas like sulfurous gas exists. (Copper tubing and brazed spots may corrode which could eventually lead to refrigerant leaks.)
 - Where machines can generate electromagnetic waves. (Control system may malfunction.)
 - Where the air contains high levels of salt such as that near the ocean and where voltage fluctuates greatly such as that in factories.
- Also in vehicles or vessels.
- This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment. If installed as a household appliance it could cause electromagnetic interference.

⚠ WARNING

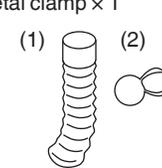
- Entrust installation to the place of purchase or an authorized serviceman. Improper installation could lead to leaks and, in worse cases, electric shock or fire.
- Use of unspecified parts could lead to the unit falling, leaks and, in worse cases, electric shock or fire.

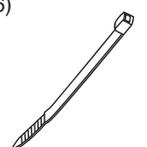
⚠ NOTE

- Be sure to read this manual before installing the indoor unit.

2-1 ACCESSORIES

Check the following accessories are included with your unit.

Name	Drain hose	Insulation for fitting
Quantity	1 set	1 each
Shape	Hose × 1 Metal clamp × 1 	(3) For gas pipe  (4) For liquid pipe 

Name	Sealing pad	Clamp
Quantity	1 pc.	8 pcs.
Shape	(5) 	(6) 

Name	Leveling screw	[Other] • Operation manual • Installation manual
Quantity	4 pcs.	
Shape	(7) 	

2-2 OPTIONAL ACCESSORIES

Table 1

Remote controller	
Wired type	BRC1E73

FOR THE FOLLOWING ITEMS, TAKE SPECIAL CARE DURING CONSTRUCTION AND CHECK AFTER INSTALLATION IS FINISHED.

a. Items to be checked after completion of work

Items to be checked	If not properly done, what is likely to occur.	Check
Are the indoor and outdoor unit fixed firmly?	The units may drop, vibrate or make noise.	
Is the gas leak test finished?	It may result in insufficient cooling.	
Is the unit fully insulated?	Condensate water may drip.	
Does drainage flow smoothly?	Condensate water may drip.	
Does the power supply voltage correspond to that shown on the name plate?	The unit may malfunction or the components burn out.	
Are wiring and piping correct?	The unit may malfunction or the components burn out.	
Is the unit safely grounded?	It may be dangerous at electric leakage.	
Is wiring size according to specifications?	The unit may malfunction or the components burn out.	
Is something blocking the air outlet or inlet of either the indoor or outdoor units?	It may result in insufficient cooling.	
Are refrigerant piping length and additional refrigerant charge noted down?	The refrigerant charge in the system is not clear.	

b. Items to be checked at time of delivery

Also review the "SAFETY CONSIDERATIONS"

Items to be checked	Check
Did you explain about the indoor unit operation while showing the operation manual to your customer?	
Did you hand the operation manual over to your customer?	

2-3 NOTE TO THE INSTALLER

Be sure to instruct customers how to properly operate the unit (especially cleaning filters, operating different functions, and adjusting the temperature) by having them carry out operations themselves while looking at the manual.

3. SELECTING INSTALLATION SITE

(1) Select an installation site where the following conditions are satisfied and that meets with your customer's approval.

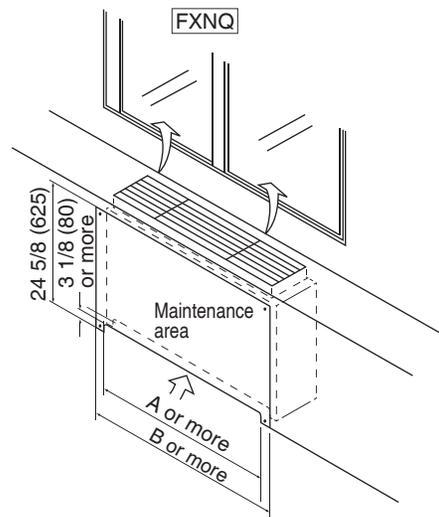
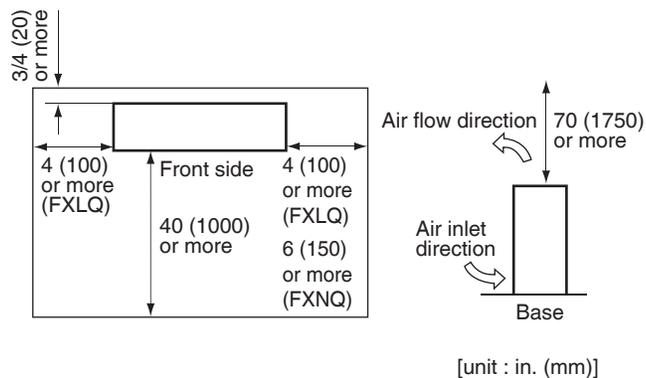
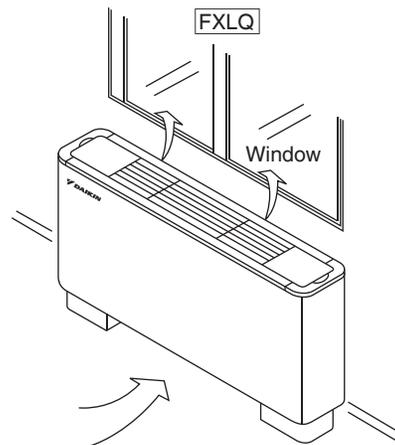
- The floor is strong enough to bear the indoor unit weight.
- The floor is not significantly inclined.
- Nothing blocks the air passage.
- Condensate can be properly drained.
- Sufficient clearance for installation and maintenance can be ensured.
- Optimum air distribution can be ensured.
- There is no risk of flammable gas leakage.
- Piping between indoor and outdoor units is possible within the allowable limit. (Refer to the installation manual of the outdoor unit.)

! WARNING

- If the supporting structural members are not strong enough to take the unit's weight, the unit could fall out of place and cause serious injury.
- Do not install unit in an area where flammable materials are present due to the risk explosion resulting in serious injury or death.

! CAUTION

- Install the indoor and outdoor units, power supply wiring and connecting wires at least 3.5 ft. (1 m) away from televisions or radios in order to prevent image interference or noise. (Depending on the radio waves, a distance of 3.5 ft. (1 m) may not be enough to eliminate the noise.)



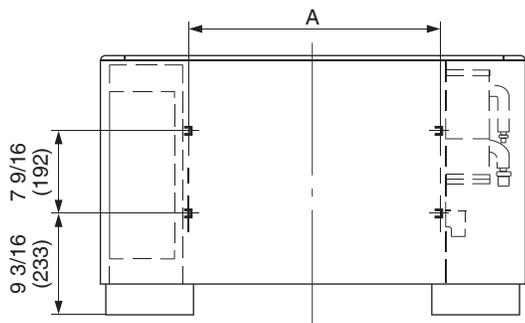
(IMPORTANT) Leave sufficient clearance for air inlet and maintenance.

[unit: in. (mm)]

Model	A	B
FXNQ07 · 09MVJU	23 (570)	41 (1030)
FXNQ12MVJU	28 (710)	46 (1170)
FXNQ18 · 24MVJU	39 (990)	57 (1450)

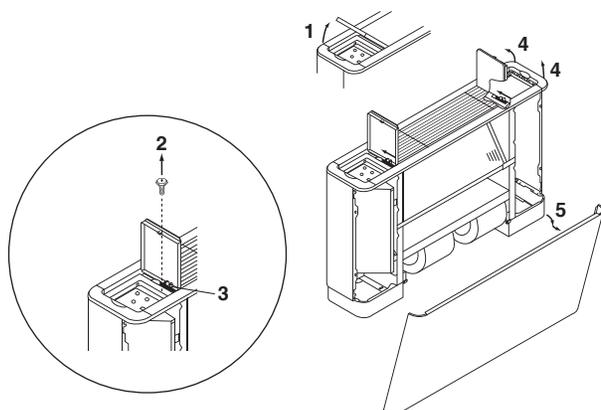
4. PREPARATIONS BEFORE INSTALLATION

(1) Positioning of holes for fastening to the wall



Model	A	[unit: in. (mm)]
07 · 09 type	23 1/4 (590)	
12 type	28 3/4 (730)	
18 · 24 type	39 3/4 (1010)	

(2) How to open / close the front panel (FXLQ)

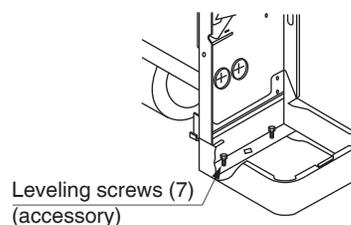


1. Open the lid of control panel (both left and right)
 2. Remove screws (both left and right) that lock the knobs in position.
 3. Push the knobs (both left and right) to the rear.
 4. Lift the front of the top plate.
 5. Lower the front panel towards the front of the unit.
- To close, perform the procedure in opposite order. Pull towards the front of the unit the knob snaps in place.

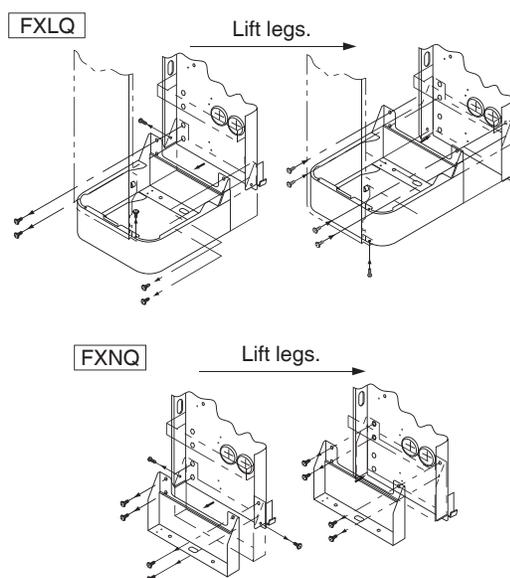
5. INDOOR UNIT INSTALLATION

As for the parts to be used for installation work, be sure to use the provided accessories and specified parts designated by Daikin.

- (1) Level the indoor unit with the leveling screws (7). If the floor is too uneven to level the unit, place the unit on a flat base and level.



- (2) If the unit is in danger of falling over, either fasten to the wall using the holes provided, or fasten to the floor with an optional floor fastener.
- (3) The legs can be retracted if the indoor unit is to be hung on a wall. To do so, lift the legs as shown in the figure below.



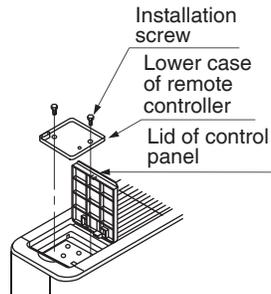
NOTE

1. Use the installation mount for installation. Check whether the wall is strong enough to bear the weight of the unit or not. If there is a risk, reinforce the wall before installing the unit.
2. The unit requires a minimum 4 in. (100 mm) clearance on the underside for air intake. Also, ensure the unit is level when installed so that drainage flows smoothly. If inclined, water can leak.
3. The quality of the wall could affect operating sound.

(4) Perform the following procedure to mount the remote controller (optional accessory) on the unit if desired. (FXLQ type only)

- Open the left side lid of control panel and mount the lower case of the remote controller.

See the installation manual attached to the remote controller for instructions on screw fastening and wiring for the remote controller.



CAUTION

- Setting the unit at an angle opposite to the drain piping might cause leaks.

6. REFRIGERANT PIPING WORK

For refrigerant piping of outdoor units, see the installation manual attached to the outdoor unit. Execute heat insulation work completely on both sides of the gas piping and the liquid piping. Otherwise, condensation may occur causing water damage.

(When using a heat pump, the temperature of the gas piping can reach up to approximately 250°F (120°C), so use insulation that is sufficiently resistant.)

Also, in cases where the temperature and humidity of the refrigerant piping sections might exceed 86°F (30°C) or RH80%, reinforce the refrigerant insulation. (13/16" (20 mm) or thicker) Condensate may form on the surface of the insulating material.

Before refrigerant piping work, check which type of refrigerant is used. Proper operation is not possible if the types of refrigerant are not the same.

NOTE

- Use a pipe cutter and flare suitable for the type of refrigerant.
- To prevent dust, moisture or other foreign matter from infiltrating the tube, either pinch the end or cover it with tape.
- Do not allow anything other than the designated refrigerant to get mixed into the refrigerant circuit, such as air, etc.
- If any refrigerant gas leaks while working on the unit, ventilate the room thoroughly right away.

- The outdoor unit is charged with refrigerant.
- Use copper alloy seamless pipes.
- To prevent flare nut cracking and gas leaks, be sure to use both a spanner and torque wrench together, as shown in the drawing, when connecting or disconnecting pipes to / from the unit.
- Refer to Table 2 for the dimensions of flare.
- When making a flare connection, coat the flared inner surface only with ether oil or ester oil.
Then, turn the flare nut 3 to 4 times with your hand and screw in the nut.
- Refer to the Table 2 for tightening torque.

- After inspecting pipe joints for gas leakage, be sure to insulate with the accessory joint insulation for fitting (3) (4) while referring to the figure below. (Fasten both ends with clamps (6).)
- Wrap only the gas line side with the sealing pad (5). Bend the pad over the insulation for fitting (union) from above.

Coat the flared inner surface only with ether oil or ester oil

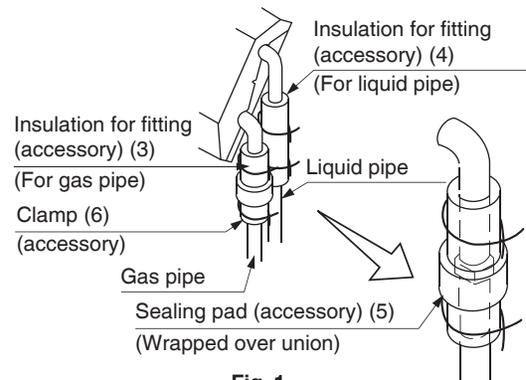


Torque wrench

Spanner

Piping union

Flare nut



Use "Table 3" as a reference if a torque wrench is not available. Once work is complete, make sure there is no gas leaking. As the flare nut is tightened with the wrench, the torque will suddenly increase. From that position, tighten the nut to the angle shown on "Table 3".

- Make absolutely sure to execute heat insulation works on the pipe-connecting section after checking gas leakage by thoroughly studying the following figure and using the attached heat insulating materials for fitting (3) and (4). (Fasten both ends with the clamps (6) (accessory).) (Refer to Fig. 1)

CAUTION

- Be sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensate or burns if touched.

CAUTION

CAUTION TO BE TAKEN WHEN BRAZING REFRIGERANT PIPING

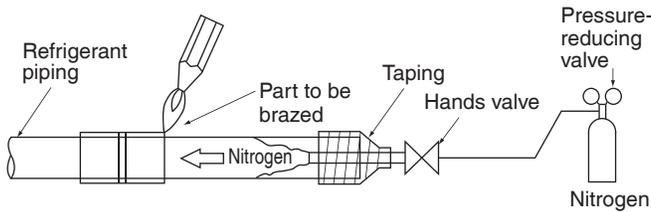
Do not use flux when brazing refrigerant piping. Therefore, use the phosphor copper brazing filter metal (BCuP) which does not require flux.

(Flux has an extremely negative effect on refrigerant piping systems. For instance, if chlorine based flux is used, it will cause pipe corrosion. If the flux contains fluorine, it will damage the refrigerant oil.)

DANGER

- Use of oxygen may cause an explosion resulting in serious injury or death. Only use nitrogen gas.
- Refrigerant gas may produce toxic gas if it comes in contact with fire such as from a fan heater, stove or cooking device. Exposure to this gas could cause severe injury or death.

- Before brazing local refrigerant piping, nitrogen gas shall be blown through the piping to expel air from the piping. If brazing is done without nitrogen gas blowing, a large amount of oxide film develops inside the piping, and could cause system malfunction.
- When brazing the refrigerant piping, only begin brazing after having carried out nitrogen substitution or while inserting nitrogen into the refrigerant piping. Once this is done, connect the indoor unit with a flared or a flanged connection.
- Nitrogen should be set to 2.9 psi (0.02 MPa) with a pressure-reducing valve if brazing while inserting nitrogen into the piping.



NOTE

Use the flare nuts attached with the unit.

- Refer to Table 2 for tightening torque.

Table 2

Piping size [in. (mm)]	Tightening torque [lbf-ft. (N-m)]	Dimension for processing flare A [in. (mm)]	Flare shape
φ 1/4 (6.4)	10.4 – 12.7 (15.7±1.5)	0.342 – 0.358 (8.9±0.2)	
φ 3/8 (9.5)	24.1 – 29.4 (36.3±3.6)	0.504 – 0.520 (13.0±0.2)	
φ 1/2 (12.7)	36.5 – 44.5 (54.9±5.4)	0.638 – 0.654 (16.4±0.2)	
φ 5/8 (15.9)	45.6 – 55.6 (68.6±6.8)	0.760 – 0.776 (19.5±0.2)	

Not recommendable but in case of emergency

You must use a torque wrench but if you are obliged to install the unit without a torque wrench, you may follow at the installation method mentioned below.

After the work is finished, make sure to check that there is no gas leak.

When you keep on tightening the flare nut with a spanner, there is a point where the tightening torque suddenly increases. From that position, further tighten the flare nut at the angle shown below:

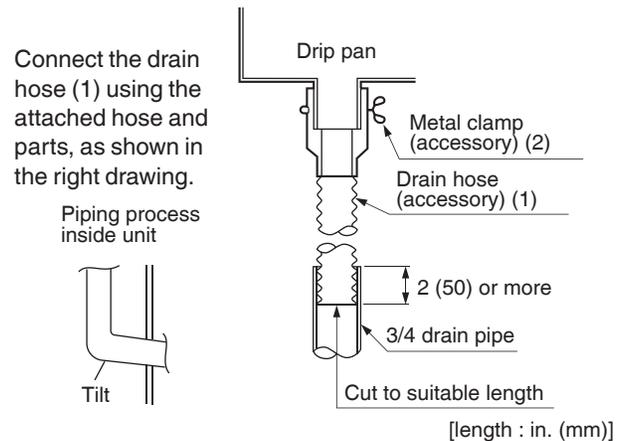
Table 3

Piping size [in. (mm)]	Tightening angle	Recommended arm length of tool used [in. (mm)]
φ 1/4 (6.4)	60° – 90°	Approx. 6 (150)
φ 3/8 (9.5)	60° – 90°	Approx. 8 (200)
φ 1/2 (12.7)	30° – 60°	Approx. 10 (250)
φ 5/8 (15.9)	30° – 60°	Approx. 12 (300)

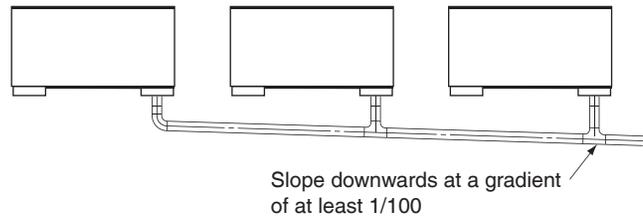
7. DRAIN PIPING WORK

Install the drain pipe as shown below. Improperly installed piping could lead to leaks and eventually wet furniture and belongings.

- (1) Carry out the drain piping.



- If converging multiple drain pipes, install according to the procedure shown below.



Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.

- (2) After piping work is finished, check drainage flows smoothly.
 - Add approximately 1/4 gal (1L) of water slowly from the air outlet and check drainage flow.
- (3) Be sure to insulate all indoor pipes.

CAUTION

- Drain piping connections
Do not connect the drain piping directly to sewage pipes that smell of ammonia. The ammonia in the sewage might enter the indoor unit through the drain pipes and corrode the heat exchanger.
- Keep in mind that it will become the cause of getting drain pipe blocked if water collects on drain pipe.

8. ELECTRIC WIRING WORK

8-1 GENERAL INSTRUCTIONS

- Make sure that all electric wiring work is carried out by qualified personnel according to the applicable legislation and this installation manual, using a separate dedicated circuit.
Insufficient capacity of the power supply circuit or improper electrical construction may lead to electric shocks or a fire.
- This equipment can be installed with a Ground-Fault Circuit Interrupter (GFCI). Although this is a recognized measure for additional protection, with the grounding system in North America, a dedicated GFCI is not necessary.
- Do not turn on the power supply (branch switch, branch overcurrent circuit breaker) until all the works are finished.
- Multiple number of indoor units are connected to one outdoor unit. Name each indoor unit as A-unit, B-unit and the like. When these indoor units are wired to the outdoor unit and the Branch Selector unit, always wiring the indoor unit to the terminal indicated with the same symbol on the terminal block. If the wiring and the piping are connected to the incorrect indoor units and operated, it will result in malfunction.
- Make sure to ground the air conditioner.
Grounding resistance should be according to applicable legislation.
- Do not connect the ground wiring to gas or water pipings, lightning conductor or telephone ground wiring.
 - Gas pipingIgnition or explosion may occur if the gas leaks.
 - Water pipingHard vinyl tubes are not effective ground.
 - Lightning conductor or telephone ground wiring.....
Electric potential may rise abnormally if struck by a lightning bolt.
- For electric wiring work, refer to also the WIRING DIAGRAM attached to the control box cover.
- Carry out wiring between the outdoor units, indoor units and the remote controllers according to the wiring diagram.
- Carry out installation and wiring of the remote controller according to the installation manual attached to the remote controller.
- Do not touch the Printed Circuit Board assembly. It may cause malfunction.

8-2 ELECTRICAL CHARACTERISTICS

Units				Power supply		Fan motor	
Model	Hz	Volts	Voltage range	MCA	MOP	W	FLA
FXLQ07 · 09MVJU, FXNQ07 · 09MVJU	60	208- 230	Max. 253 Min. 187	0.3	15	15	0.2
FXLQ12MVJU, FXNQ12MVJU				0.5	15	25	0.4
FXLQ18 · 24MVJU, FXNQ18 · 24MVJU				0.6	15	35	0.5

MCA: Min. Circuit Amps (A); MOP: Max. Overcurrent Protective Device (A)
W: Fan Motor Rated Output (W); FLA: Full Load Amps (A)

8-3 SPECIFICATION FOR FIELD SUPPLY FUSES AND WIRING

Power supply wiring		Remote controller wiring Transmission wiring	
MOP 	Size	Wiring	Size
15A	Wiring size and length must comply with local codes.	2-conductor, stranded non-shielded copper cable PVC/vinyl jacket (NOTE 2)	AWG 18-16

The lengths of remote controller wiring and transmission wirings are as follows:

- (1) Remote controller wiring (indoor unit - remote controller)Max. 1,640 ft. (500 m)
- (2) Transmission wirings Total wiring length 6,560 ft. (2,000 m)
 - Outdoor unit - Indoor unit Max. 3,280 ft. (1,000 m)
 - Outdoor unit - Branch Selector unit Max. 3,280 ft. (1,000 m)
 - Branch Selector unit - Indoor unit Max. 3,280 ft. (1,000 m)
 - Indoor unit - Indoor unit Max. 3,280 ft. (1,000 m)

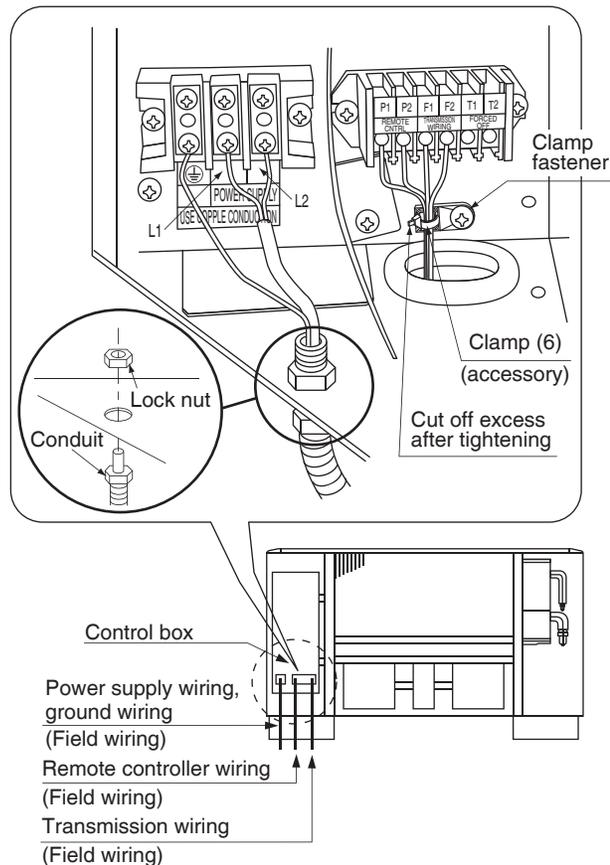
NOTE 

1. Shows only in case of protected piping. Use H07RN-F in case of no protection.
2. Vinyl cord with sheath or cable (Insulated thickness : 1/16 in. (1 mm) or more).

9. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

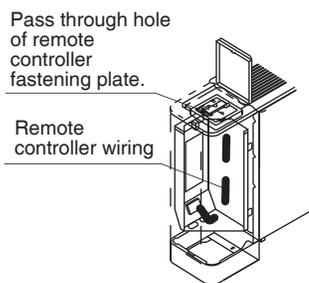
9-1 HOW TO CONNECT WIRINGS

- Remove the control box cover and connect the wirings.



NOTE

- For wiring to the control box, also see “Wiring Diagram” label on the back of the control box cover.
- Do not confuse remote controller wiring and transmission wiring when connecting to the terminal block.
- Fasten the wiring with accessory clamp (6).
- If mounting a remote controller on the unit, wire as shown in the figure on the right.



WARNING

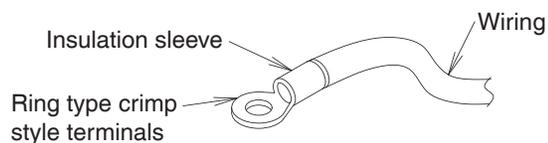
- Never connect power supply wiring to the terminal block for remote controller wiring as this could damage the entire system.
- Use only specified wire and connect wires to the terminal tightly. Be careful wires do not place external stress on terminals. Keep wires in neat order so as to not obstruct other equipment. Make sure that the control box cover fits tightly. Incomplete connections could result in overheating and, in worse case, result in electric shock or fire.

CAUTION

- To avoid a short circuit in the control box, be sure to apply sealing material or putty (not included) to the wiring hole to prevent the infiltration of water as well as insects or other small creatures. Otherwise a short-circuit may occur inside the control box.
- When clamping the wirings, be sure no tension is applied to the wire connections by using the included clamps. Also, when wiring, make sure the control box cover fits snugly by arranging the wirings neatly and attaching the control box cover firmly. When attaching the control box cover, make sure no wirings get caught in the edges. Pass the wirings through the hole to prevent damage.
- Make sure the remote controller wiring, the wiring between the units, and other electric wiring do not pass through the same locations outside of the unit, separating them by at least 5”, otherwise electric noise (external static) could cause mistaken operation or breakage.

CAUTION FOR WIRING

- The indoor units in the same system can be connected to the power supply from one branch switch. However, selection of branch switch, branch over current circuit breaker and wiring size must be according to applicable legislation.
- For connection to the terminal block, use a ring type crimp style terminals with insulation sleeve or insulate the wirings properly.

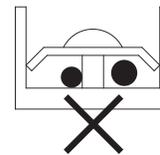
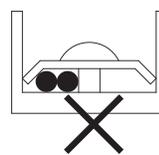
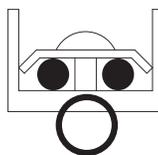


- If the above is not available, make sure to fulfill the following requirements.

Connection of 2 wirings of same size must be carried out on both sides.

Connection of 2 wirings on one side is prohibited.

Connection of wirings of different sizes is prohibited.



(Abnormal heating may occur if the wirings are not tightened securely.)

- Use the required wirings, connect them securely and fix these wirings securely so that external force may not apply to the terminals.

- Use a proper screw driver for tightening the terminal screws.
If an improper screw driver is used, it may damage the screw head and a proper tightening cannot be carried out.
- If a terminal is over tightened, it may be damaged.
Refer to the table shown below for tightening torque of terminals.

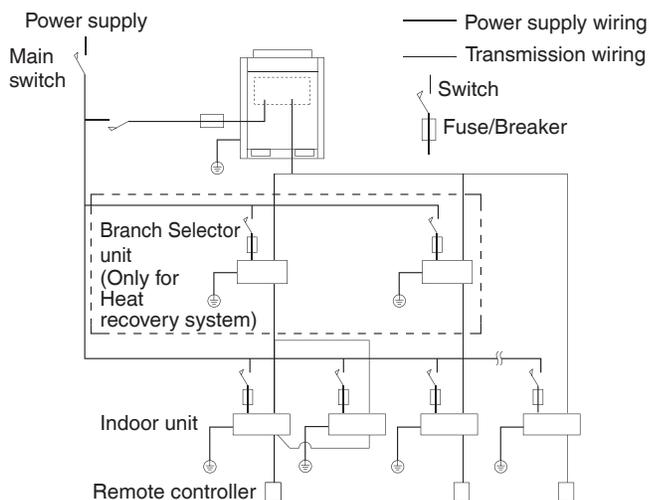
	Tightening torque [lb·ft. (N·m)]
Terminal block for remote controller and transmission wirings	0.65 ± 0.07 (0.88 ± 0.08)
Terminal for power supply	0.965 ± 0.095
Ground terminal	(1.31 ± 0.13)

- Do not carry out soldering finish when stranded wirings are used.

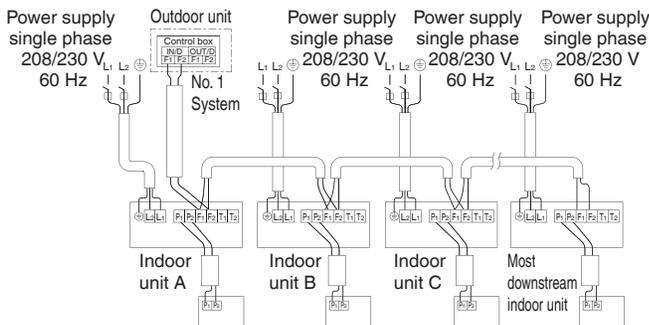
9-2 WIRING EXAMPLE

- Fit the power supply wiring of each unit with a switch and fuse as shown in the drawing.

COMPLETE SYSTEM EXAMPLE (3 systems)

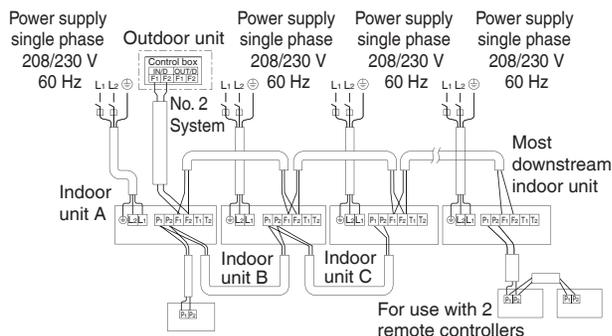


1. When using 1 remote controller for 1 indoor unit. (Normal operation)

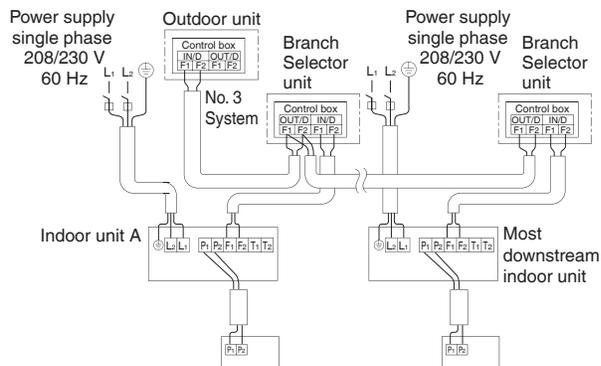


2. For group control or use with 2 remote controllers

Note: It is not necessary to designate indoor unit address when using group control. The address is automatically set when power is activated.



3. When including Branch Selector unit



[PRECAUTIONS]

1. Do not ground the equipment on gas pipes, water pipes or lightning rods, or crossground with telephones. Improper grounding could result in electric shock.

⚠ WARNING

This equipment can be installed with a Ground-Fault Circuit Interrupter (GFCI). Although this is a recognized measure for additional protection, with the grounding system in North America, a dedicated GFCI is not necessary.

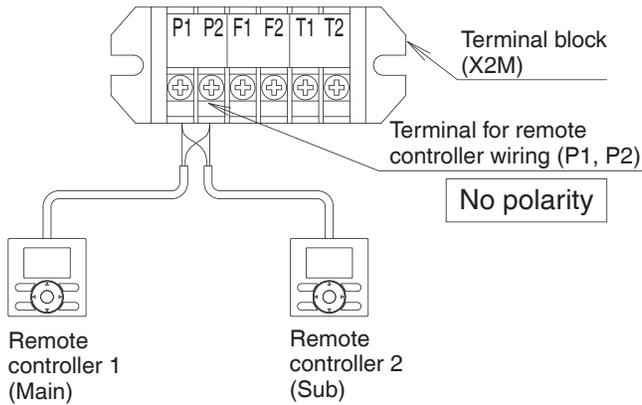
9-3 FOR CONTROL WITH 2 REMOTE CONTROLLERS (TO CONTROL 1 INDOOR UNIT WITH 2 REMOTE CONTROLLERS)

- For control with 2 remote controllers, set one remote controller as Main and the other remote controller as Sub.

< Changeover method from Main to Sub and vice versa >
Refer to the installation manual attached to the remote controller.

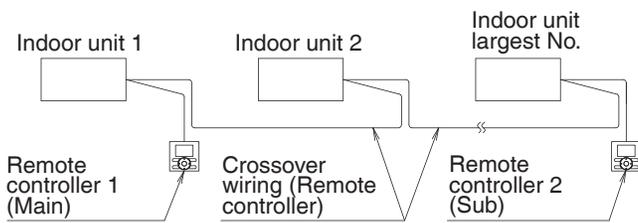
< Wiring method >

- (1) Remove the control box cover.
- (2) Carry out additional wiring from the remote controller 2 (Sub) to the terminals (P1, P2) for remote controller wiring on the terminal block (X2M) in the control box.



< Caution >

- When using the group control and the 2 remote controllers control at the same time, connect the remote controller 2 (Sub) to the indoor unit at the end of the crossover wiring (the largest No.).



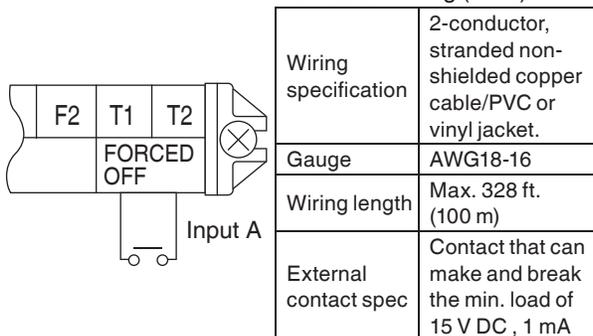
9-4 FOR CENTRALIZED CONTROL

- When centralized equipment (such as centralized controller) is used for control, it is required to set the group No. on the remote controller. For details, refer to the manuals attached to the centralized equipment.
- Connect the centralized equipment to the indoor unit connected to the remote controller.

9-5 FOR REMOTE CONTROL (FORCE OFF OR ON/OFF OPERATION)

(1) Wiring method and specification

- Remote control is available by connecting the external input to the terminal T1 and T2 on the terminal block for remote controller and transmission wiring (X2M).



(2) Actuation

- Input A of FORCED OFF and ON/OFF OPERATION will be as the table shown below.

	Input A = ON	Input A = OFF
In case of FORCED OFF	Remote controller prohibited	Remote controller permitted
In case of ON/OFF OPERATION	Operation	Stop

(3) How to choose FORCED OFF or ON/OFF OPERATION

- For choosing FORCED OFF or ON/OFF OPERATION, setting by remote controller is required. (Refer to 10. FIELD SETTING.)

10. FIELD SETTING

<<Refer to also the installation manual attached to the outdoor unit.>>

CAUTION

Before carrying out field setting, check the items mentioned in Clause 2: **a. Items to be checked after completion of work** on page 3. Check if all the installation and piping works for the air conditioner are completed.

- Check if the control box covers of the air conditioner are closed.

< FIELD SETTING >

<<After turn on the power supply, carry out field setting from the remote controller according to the installation state.>>

- Carry out setting at 3 places, MODE NO., FIRST CODE NO. and SECOND CODE NO. The settings shown by in the table indicate those when shipped from the factory.
- The method of setting procedure and operation is shown in the installation manual attached to the remote controller. (Note) Though setting of MODE NO. is carried out as a group, if you intend to carry out individual setting by each indoor unit or confirmation after setting, carry out setting with the MODE NO. shown in the parenthesis ().
- In case of remote control, for changeover of input to FORCED OFF or to ON/OFF OPERATION.
 - [1] Enter into the field setting mode with the remote controller.
 - [2] Select MODE NO. 12.
 - [3] Set the FIRST CODE NO. to 1.
 - [4-1] For FORCE OFF, set the SECOND CODE NO. to 01.
 - [4-2] For ON/OFF OPERATION, set the SECOND CODE NO. to 02.
 (It is set to FORCE OFF when shipped from the factory.)
- Ask your customer to keep the manual attached to the remote controller together with the operation manual.
- Do not carry out settings other than those shown in the table.

11. TEST OPERATION

<TEST OPERATION >

- After cleaning the indoor unit inside, carry out test operation according to installation manual attached to the outdoor unit.
- When the remote controller operation lamp flashes, it shows that something is abnormal.
Check the malfunction codes on the remote controller.
The relation between the malfunction codes and malfunction details is described in the operation manual attached to the outdoor unit.
Particularly, if the indication is one of those shown in the Table 4, it may be an error in the electrical wiring or the power supply is disconnected. Therefore, recheck wiring.

Table 4

Remote controller indication	Details
Though the centralized control is not carried out, the lamp  turns on.	<ul style="list-style-type: none"> • The terminals (T1 · T2) for FORCED OFF on the indoor unit transmission terminal block is short circuited.
[U4] displays. [UH] displays.	<ul style="list-style-type: none"> • The power supply to the outdoor unit is not made. • The power supply work to the outdoor unit is not carried out. • The transmission wiring and the remote controller wiring and FORCED OFF wiring are connected incorrectly. • The transmission wiring is disconnected.
No indication	<ul style="list-style-type: none"> • The power supply to the indoor unit is not made. • The power supply work to the indoor unit is not carried out. • The remote controller wiring and the transmission wiring and FORCED OFF wiring are connected incorrectly. • The remote controller wiring is disconnected.



CAUTION

After test operation is completed, check the items mentioned in Clause 2: **b. Items to be checked at time of delivery** on page 4.

If the interior finish work is not completed when the test operation is finished, for protection of the air conditioner, ask the customer not to operate the air conditioner until the interior finish work is completed.

If the air conditioner is operated, the inside of the indoor units may be polluted by substances generated from the coating and adhesives used for the interior finish work and cause water splash and leakage.



To the operator carrying out test operation

After test operation is completed, before delivering the air conditioner to the customer, confirm that the control box cover and the air filter are attached.

In addition, explain the power supply status (power supply ON/OFF) to the customer.

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DAIKIN INDUSTRIES, LTD.

Head office:

Umeda Center Bldg., 2-4-12, Nakazaki-Nishi,
Kita-ku, Osaka, 530-8323 Japan

Tokyo office:

JR Shinagawa East Bldg., 2-18-1, Konan,
Minato-ku, Tokyo, 108-0075 Japan

