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CONTENTS

The original instructions are written in English. All other languages are translations of the original instructions.

1. SAFETY PRECAUTIONS

Be sure to follow this “SAFETY PRECAUTIONS”.
This product comes under the term “appliances not accessible to the general public”.
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This manual classifies the precautions into WARNINGS and CAUTIONS.
Be sure to follow all the precautions below: They are all important for ensuring safety.

⚠ **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.

- After the installation is completed, test the air conditioner and check if the air conditioner operates properly. Give the user adequate instructions concerning the use and cleaning of the indoor unit according to the Operation Manual. Ask the user to keep this manual and the Operation Manual together in a handy place for future reference.

⚠ WARNING

- Ask your local dealer or qualified personnel to carry out installation work.
  Improper installation may result in water leakage, electric shocks or a fire.
- Perform installation work in accordance with this installation manual.
  Improper installation may result in water leakage, electric shocks or a fire.
- Consult your local dealer regarding what to do in case of refrigerant leakage.
  When the air conditioner is installed in a small room, it is necessary to take proper measures so that the amount of any leaked refrigerant does not exceed the concentration limit in the event of a leakage.
  Otherwise, this may lead to an accident due to oxygen deficiency.
- Be sure to use only the specified parts and accessories for installation work.
  Failure to use the specified parts may result in the air conditioner falling down, water leakage, electric shocks, a fire, etc.
- Install the air conditioner on a foundation that can withstand its mass.
  Insufficient strength may result in the air conditioner falling down and causing injury.
  In addition, it may lead to vibration of indoor units and cause unpleasant chattering noise.
- Carry out the specified installation work in consideration of strong winds, typhoons, or earthquakes. Improper installation may result in an accident such as air conditioner falling.
- Make certain that all electrical work is carried out by qualified personnel according to the applicable legislation (note 1) and this installation manual, using a separate circuit.
  In addition, even if the wiring is short, make sure to use a wiring that has sufficient length and never connect additional wiring to make the length sufficient.
  Insufficient capacity of the power supply circuit or improper electrical construction may lead to electric shocks or a fire.
  (note 1) applicable legislation means “All international, national and local directives, laws, regulations and/or codes which are relevant and applicable for a certain product or domain”.
- Earth the air conditioner.
  Do not connect the earth wiring to gas or water piping, lightning conductor or telephone earth wiring.
  Incomplete earthing may cause electric shocks or a fire.
  A high surge current from lightning or other sources may cause damage to the air conditioner.
- Be sure to install an earth leakage circuit breaker.
  Failure to do so may cause electric shocks and a fire.
- Disconnect the power supply before touching the electric components.
  If you touch the live part, you may get an electric shocks.
- Make sure that all wiring is secure, using the specified wiring and ensuring that external forces do not act on the terminal connections or wiring.
  Incomplete connection or fixing may cause an overheat or a fire.
- When wiring between the indoor and outdoor units, and wiring the power supply, form the wiring orderly so that the control box lid can be securely fastened.
  If the control box lid is not in place, overheat of the terminals, electric shocks or a fire may be caused.
- If refrigerant gas leaks during installation work, ventilate the area immediately.
  Toxic gas may be produced if refrigerant gas comes into contact with a fire.
- After completing the installation work, check to make sure that there is no leakage of refrigerant gas.
  Toxic gas may be produced if refrigerant gas leaks into the room and comes into contact with a source of a fire, such as a fan heater, stove or cooker.
- Never directly touch any accidental leaking refrigerant. This could result in severe wounds caused by frostbite.

⚠ CAUTION

- Install drain piping according to this installation manual to ensure good drainage, and insulate the piping to prevent condensation.
  Improper drain piping may cause water leakage, make the furniture get wet.
- Install the air conditioner, power supply wiring, remote controller wiring and transmission wiring at least 1 meter away from televisions or radios to prevent image interference or noise.
  (Depending on the radio waves, a distance of 1 meter may not be sufficient to eliminate the noise.)
- Install the indoor unit as far as possible from fluorescent lamps.
  If a wireless remote controller kit is installed, the transmission distance may be shorter in a room where an electronic lighting type (inverter or rapid start type) fluorescent lamp is installed.
- Do not install the air conditioner in places such as the following:
  1. Where there is mist of oil, oil spray or vapour for example a kitchen.
     Resin parts may deteriorate, and cause them to fall out or water to leak.
  2. Where corrosive gas, such as sulfurous acid gas, is produced.
     Corrosion of copper pipings or brazed parts may cause the refrigerant to leak.
  3. Where there is machinery which emits electromagnetic waves.
     Electromagnetic waves may disturb the control system, and cause malfunction of the equipment.
  4. Where flammable gases may leak, where carbon fibre or ignitable dust is suspended in the air or where volatile flammables, such as thinner or gasoline, are handled.
     If the gas should leak and remained around the air conditioner, it may cause ignition.
- The air conditioner is not intended for use in a potentially explosive atmosphere.

2. BEFORE INSTALLATION

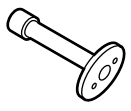
- **When moving the unit while removing it from the carton box, be sure to lift it by holding on to the four lifting lugs without exerting any pressure on other parts, especially, the refrigerant piping, drain piping, and other resin parts.**
- Be sure to check the type of R410A refrigerant to be used 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.
- When moving the unit at or after opening, hold the unit by the hanger brackets (× 4). Do not apply force to the refrigerant piping, drain piping or plastic parts.
- 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 exposed to combustible gases and where volatile flammable gas like thinner or gasoline is used. (Gas in the vicinity of the unit could ignite.)**
  - **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.

2-1 PRECAUTIONS

- Be sure to read this manual before installing the indoor unit.
- Entrust installation to the place of purchase or a qualified serviceman. Improper installation could lead to leaks and, in worse cases, electric shock or fire.
- Use only parts provided with the unit or parts satisfying required specifications. Unspecified parts could cause the unit to fall out of place, or could lead to leaks and, in worse cases, electric shock or fire.
- Be sure to mount an air filter (part to be procured in the field) in the suction air passage in order to prevent water leaking, etc.

2-2 ACCESSORIES

Check the following accessories are included with your unit.

Name	Attached piping (1)	(Other)
Quantity	1 set	• Operation manual • Installation manual • Screws for flange connection (M5) (40 pcs.) • Insulation material (for hanger)(2 pcs.) • Washers (8 pcs.) • Clamps (3 pcs.) • Hexagon head bolt for pipe flange (M10) (2pcs.) • Spring washer for pipe flange (M10) (2pcs.)
Shape		

2-3 OPTIONAL ACCESSORIES

- These are two types of remote controllers: wired and wireless. Select a remote controller according to customer request and install in an appropriate place.

Table 1

Remote controller		
Wired type	BRC1E52	
Wireless type	Heat pump type	BRC4C65
	Cooling only type	BRC4C66

NOTE

- If you wish to use a remote controller that is not listed in Table 1, select a suitable remote controller after consulting catalogs and technical materials.

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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?	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 PRECAUTIONS”.

Items to be checked	Check
Have you explained how to operate the air conditioner showing the operation manual to the customer?	
Have you handed the operation manual and the installation manual to the customer?	

c. Points for explanation about operations

The items with ⚠WARNING or ⚠CAUTION mark in the operation manual are the items pertaining to possibilities for bodily injury and material damage in addition to the general usage of the product. Accordingly, it is necessary that you make a full explanation about the described contents and also ask your customers to read the operation manual.

2-4 NOTE TO 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

Please attach additional thermal insulation material to the unit body when it is believed that the relative humidity in the ceiling exceeds 80%. Use glass wool, polyethylene foam, or similar with a thickness of 10 mm or more as thermal insulation material.

(1) Select an installation site where the following conditions are fulfilled and that meets with your customer’s approval.
- In the upper space (including the back of the ceiling) of the indoor unit where there is no possible dripping of water from the refrigerant pipe, drain pipe, water pipe, etc.
- Where optimum air distribution can be ensured.
- Where nothing blocks the air passage.
- Where condensate can be properly drained.
- If supporting structural members are not strong enough to take the unit’s weight, the unit could fall out of place and cause serious injury.
- Where the false ceiling is not noticeably on an incline.
- Where there is no risk of flammable gas leakage.
- Where sufficient clearance for maintenance and service can be ensured. **(Refer to Fig. 1)**
- Where piping between indoor and outdoor units is possible within the allowable limit. (Refer to the installation manual of the outdoor unit.)

⚠ CAUTION

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

(2) Use suspension bolts for installation. Check whether the ceiling is strong enough to support the weight of the unit or not. If there is a risk, reinforce the ceiling before installing the unit.

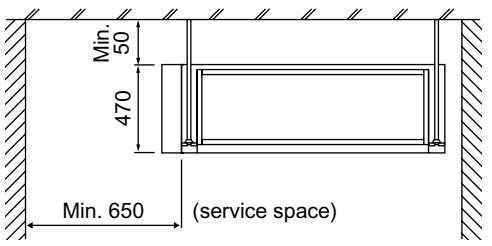


Fig. 1 (length: mm)

4. PREPARATIONS BEFORE INSTALLATION

(1) Relative positions of indoor unit and suspension bolt. **(Refer to Fig. 2)**

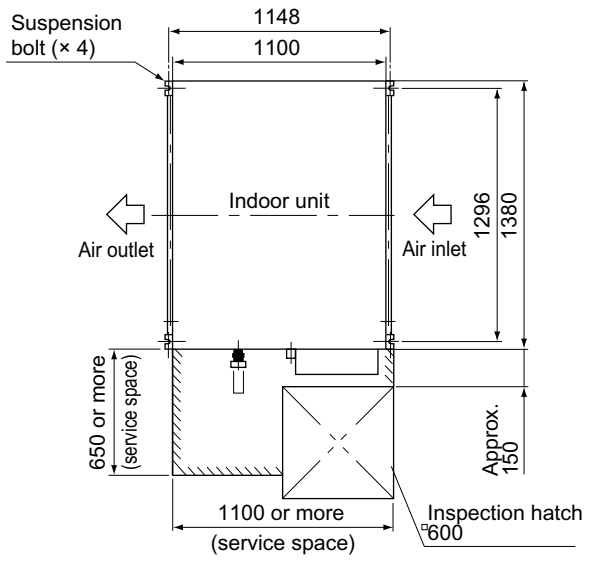
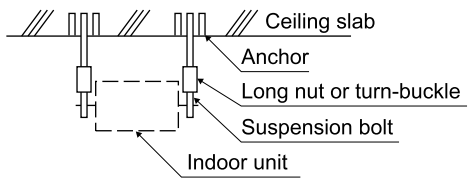


Fig. 2 (length: mm)

(2) Install a canvass duct to the air discharge outlet and air inlet so that vibration from the machine body isn’t transmitted to the duct or ceiling.
You should also apply sound absorbing material to the inside of the duct, and vibration insulation rubber to the suspension bolts.

(3) Install suspension bolts.
(Use bolts of 10 mm diameter.)
- Install the equipment where supporting structures are strong enough to bear the equipment's weight. Use embedded inserts or anchor bolts with new buildings and hole-in-anchors with old buildings.

〈Installation example〉

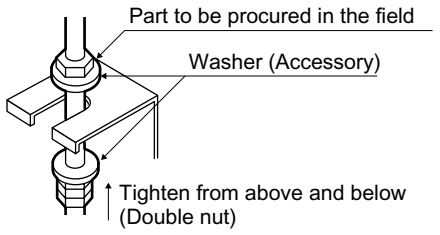


Note) All the above parts are field supplied.

5. INDOOR UNIT INSTALLATION

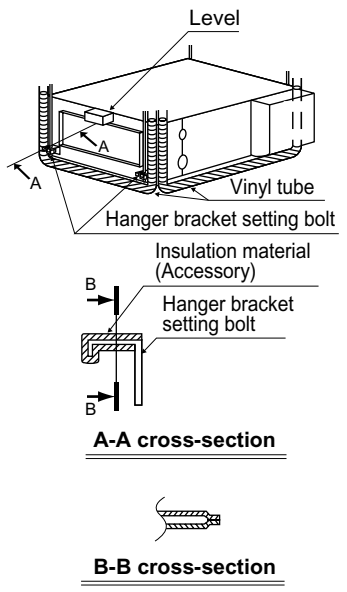
Installing optional accessories before installing the indoor unit is easier.
As for the parts to be used for installation work, be sure to use the provided accessories and specified parts designated by our company.

(1) Fix the hanger bracket to the suspension bolt. Tighten both upper and lower nuts firmly using washers.



(2) Adjust the height of the unit.

(3) Make sure the unit is level.
- Level the unit with a level when installing. If the unit is not level, it could become the source of water leaks.
- When leveling the unit, check all four corners with a level or a vinyl tube containing water. (See the figure on the right.)



(4) Tighten the nuts on the top.

(5) Insulate the two hanger brackets on the discharge side with the insulation material. (× 2) Insulate the edges so that the surface and edges of the hanger brackets cannot be seen.

⚠ CAUTION

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

6. REFRIGERANT PIPING WORK

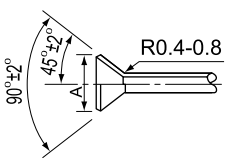
〈For refrigerant piping of outdoor units, see the installation manual attached to the outdoor unit.〉
〈Execute heat insulation work completely on both sides of the gas piping and the liquid piping. Otherwise, a water leakage can result sometimes.〉
(When using a heat pump, the temperature of the gas piping can reach up to approximately 120°C, so use insulation which is sufficiently resistant.)
〈Also, in cases where the temperature and humidity of the refrigerant piping sections might exceed 30°C or RH80%, reinforce the refrigerant insulation. (20 mm or thicker) Condensation 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.〉

⚠ CAUTION

- **Use a pipe cutter and flare suitable for the type of refrigerant.**
- **Apply ester oil or ether oil to the inside of the flare portions before connecting.**
- **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.**

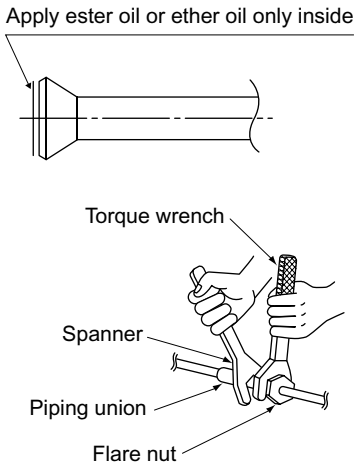
- The outdoor unit is charged with refrigerant.
- Be sure to use both a spanner and torque wrench together, as shown in the drawing, when connecting or disconnecting pipes to/from the unit.
- To prevent flare nut cracking and gas leaks, be sure to use both a spanner and torque wrench together, as shown in the drawing below, when connecting or disconnecting pipes to/from the unit.
- Refer to the Table 2 for the dimensions of flare nut spaces.
- When connecting the flare nut, coat the flare (inside only) with ester oil or ether oil, rotate three or four times first, then screw in.
- Refer to the Table 2 for tightening torque.
- Ventilate if refrigerant gas leaks while performing work.

Table 2

Pipe size	Tightening torque	Flare dimensions A (mm)	Flare shape
ϕ 6.4 (1/4")	14.2 – 17.2N·m	8.7 – 9.1	
ϕ 9.5 (3/8")	32.7 – 39.9N·m	12.8 – 13.2	
ϕ 12.7 (1/2")	49.5 – 60.3N·m	16.2 – 16.6	
ϕ 15.9 (5/8")	61.8 – 75.4N·m	19.3 – 19.7	

NOTE

The flare nuts used must be those included with the main body.



⚠ CAUTION

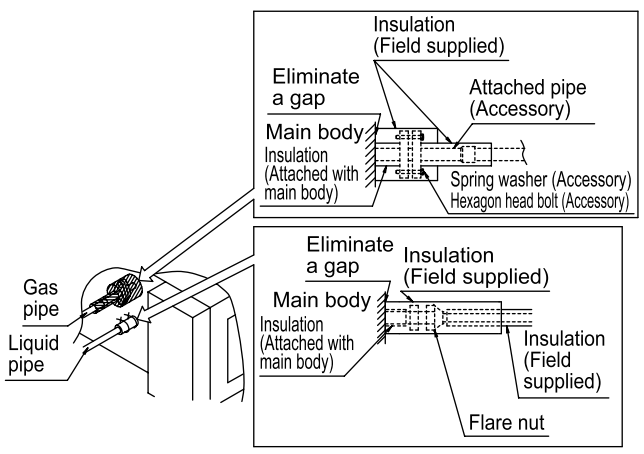
Over-tightening may damage the flare and cause a refrigerant leakage.

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 ".
The turning torque of the hexagon head bolts (Accessory) to connect the attached pipe (Accessory) to the unit is 21.5 – 28.9 N·m.

- After checking the pipe-connection for gas leakage, be sure to insulate the liquid and gas piping, referring to the figure below.

⚠ CAUTION

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



NOTE

- Attached piping is needed for connecting gas piping. When connecting the included piping, use the included piping flange hex bolts (2) and spring washers (2).

- Connect refrigerant piping and branching according to the attached installation manuals that come with the outdoor unit.

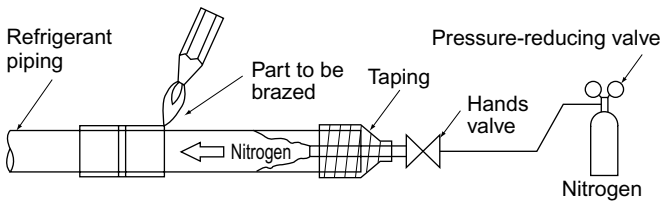
Indoor units to be connected	Gas piping diameter	Liquid piping diameter
FXMQ200MBVE	ϕ19.1 Use attached piping.	ϕ9.5
FXMQ250MBVE	ϕ22.2 Use attached piping.	ϕ9.5

⚠ CAUTION

CAUTION TO BE TAKEN WHEN BRAZING REFRIGERANT PIPING

Do not use flux when brazing refrigerant piping. Therefore, use the phosphor copper brazing filler metal (BCuP-2: JIS Z 3264/B-Cu93P-710/795: ISO 3677) which does not require flux.
(Flux has extremely harmful influence on refrigerant piping systems. For instance, if the chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will damage the refrigerant oil.)

- Before brazing local refrigerant piping, nitrogen gas shall be blown through the piping to expel air from the piping.
  If your 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 0.02 MPa with a pressure-reducing valve if brazing while inserting nitrogen into the piping.



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 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 the angle shown below:

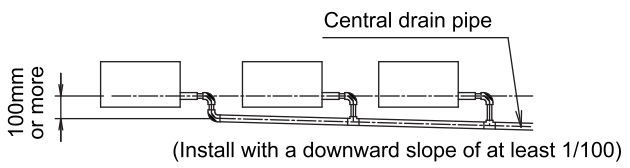
Table 3

Pipe size	Further tightening angle	Recommended arm length of tool
ϕ 6.4 (1/4")	60 to 90 degrees	Approx. 150mm
ϕ 9.5 (3/8")	60 to 90 degrees	Approx. 200mm
ϕ 12.7 (1/2")	30 to 60 degrees	Approx. 250mm
ϕ 15.9 (5/8")	30 to 60 degrees	Approx. 300mm

7. DRAIN PIPING WORK

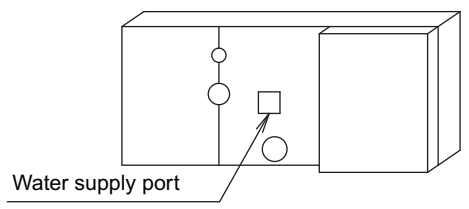
Rig the drain pipe as shown below and take measures against condensation. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings. Insulate the drain hose inside the building.

(1) Carry out the drain piping.
- A drain trap need not be installed.
- The drain pipe should be short with a downward slope lower than 1/100 and should prevent air pockets from forming.
- The diameter of the piping is the same as that of the connecting pipe (PS1B), and should be kept equal to or greater than that of the connecting pipe.
- If converging multiple drain pipes, install according to the procedure shown below. (Select an appropriate central drain pipe thickness for the units they will be connected to.)



(Install with a downward slope of at least 1/100)

(2) After piping work is finished, check drainage flows smoothly.
- Open the water supply port, add approximately 1 liter of water slowly into the drain pan and check drainage flow. Pools of drainage can cause the drain pipes to clog.



⚠ 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.

8. ELECTRIC WIRING WORK

8-1 GENERAL INSTRUCTIONS

- All field supplied parts and materials and electric works must conform to local codes.
- Use copper wire only.
- For electric wiring work, refer to also “Wiring diagram label” attached to the control box lid.
- For remote controller wiring details, refer to the installation manual attached to the remote controller.
- All wiring must be performed by an authorized electrician.
- This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and BS unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- A main switch or other means for disconnection, having a contact separation in all poles, must be incorporated in the fixed wiring in accordance with relevant local and national legislation.
  Note that the operation will restart automatically if the main power supply is turned off and then turned back on again.
- Refer to the installation manual attached to the outdoor unit for the size of power supply wiring connected to the outdoor unit, the capacity of the circuit breaker and switch, and wiring instructions.
- Be sure to ground the air conditioner.
- Do not connect the ground wire to gas and water pipes, lightning rods, or telephone ground wires.
  - Gas pipes : might cause explosions or fire if gas leaks.
  - Water pipes : no grounding effect if hard vinyl piping is used.
  - Telephone ground wires or lightning rods : might cause abnormally high electric potential in the ground during lighting storms.

8-2 ELECTRICAL CHARACTERISTICS

Units				Power supply		Fan motor	
Model	Hz	Volts	Voltage range	MCA	MFA	kW	FLA
FXMQ200MBVE	50	220-240	Max. 264 Min. 198	10.3	16	1.100	4.3
FXMQ250MBVE				10.3	16	1.100	5.6

MCA: Min. Circuit Amps (A); MFA: Max. Fuse Amps (A)
kW: Fan Motor Rated Output (kW); FLA: Full Load Amps (A)

8-3 SPECIFICATIONS FOR FIELD SUPPLIED WIRE

Model	Power supply wiring		Remote controller wiring Transmission wiring	
	Wire	Size	Wire	Size
FXMQ200MBVE	H05VV-U3G	Size must comply with local codes.	Sheathed wire (2 wire)	0.75 - 1.25 mm^2
FXMQ250MBVE				

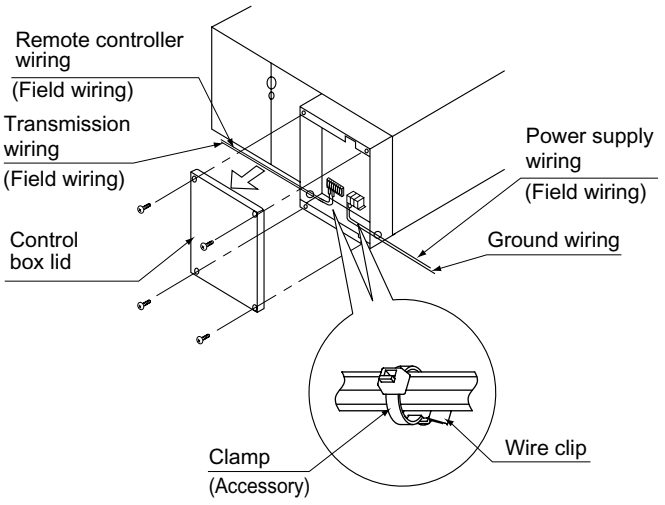
NOTE

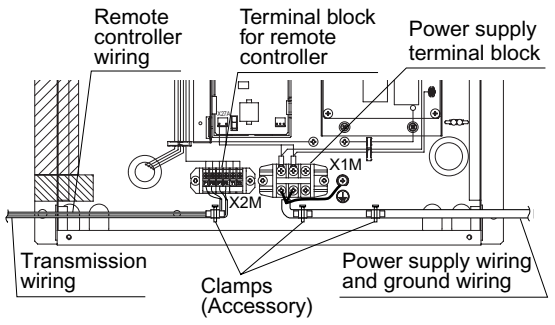
1. Allowable length of transmission wiring between indoor/outdoor units and between the indoor unit and the remote controller is as follows.
(1) Outdoor unit – Indoor unit:
Max. 1000 m (Total wiring length: 2000 m)
(2) Indoor unit – Remote controller:
Max. 500 m

9. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

9-1 HOW TO CONNECT WIRINGS

(Remove the control box lid and wire as shown in the figure below.)



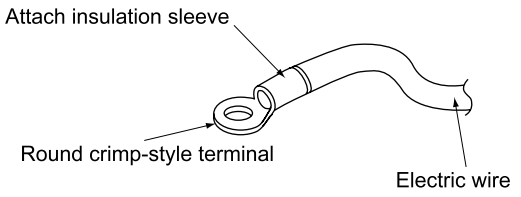


⚠ CAUTION

- Be sure to attach the sealing material or putty (field supplied) to hole of wiring to prevent the infiltration of water as well as any insects and other small creatures from outside. Otherwise a short-circuit may occur inside the control box.
- When clamping the wires, be sure no tension is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the lid on the control box fits snugly by arranging the wires neatly and attaching the control box lid firmly. When attaching the control box lid, make sure no wires get caught in the edges. Pass wiring through the wiring through holes to prevent damage to them.
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them by at least 50mm, otherwise electrical noise (external static) could cause mistaken operation or breakage.

[PRECAUTIONS]

1. **Use round crimp-style terminals for connecting wires to the power supply terminal block.**
   If unavailable, observe the following points when wiring.
   - Do not connect wires of different gauge to the same power supply terminal.
     (Looseness in the connection may cause overheating.)
   - Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal.



2. **Tightening torque for the terminal screws.**
   - Use the correct screwdriver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
   - If the terminal screws are tightened too hard, screws might be damaged.
   - Refer to the Table 4 for the tightening torque of the terminal screws.

Table 4

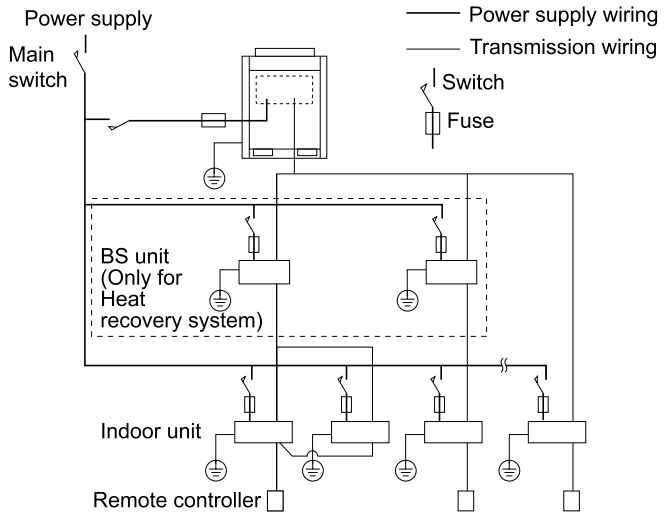
Terminal	Size	Tightening torque
Terminal block for remote controller (6P)	M3.5	0.79 – 0.97 N·m
Power supply terminal block	M4	1.18 – 1.44 N·m
Ground terminal	M5	3.02 – 4.08 N·m

3. Do not connect wires of different gauge to the same grounding terminal. Looseness in the connection may deteriorate protection.
4. Outside of the unit, keep transmission wiring at least 50 mm away from power supply wiring. The equipment may malfunction if subjected to electrical (external) noise.
5. For remote controller wiring, refer to the “INSTALLATION MANUAL OF REMOTE CONTROLLER” attached to the remote controller.
6. **Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system.**
7. Use only specified wire and tightly connect wires to terminals. Be careful wires do not place external stress on terminals. Keep wiring in neat order and so as not to obstruct other equipment such as popping open the control box lid. Make sure the lid closes tight. Incomplete connections could result in overheating, and in worse case, electric shock or fire.

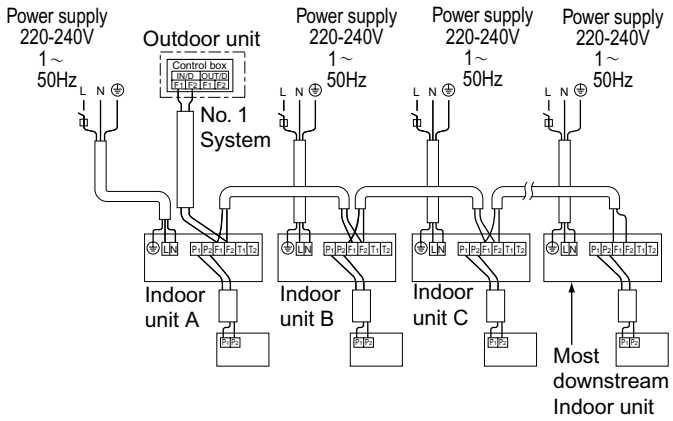
9-2 WIRING EXAMPLE

- 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.

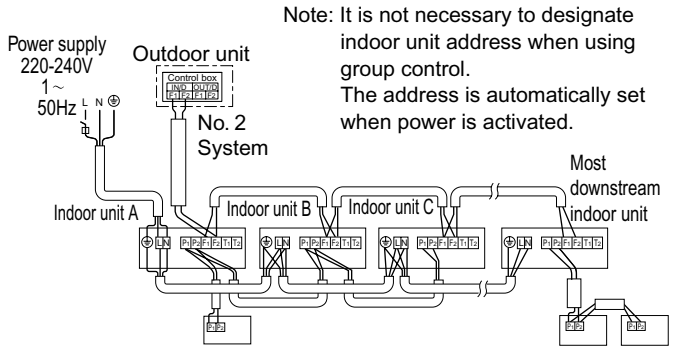
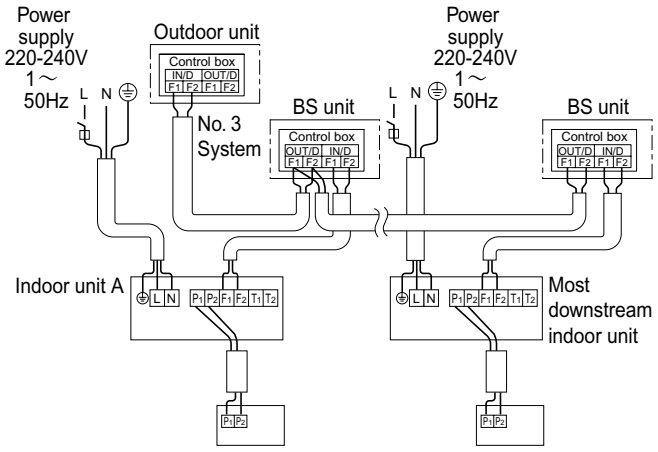


Fig. 3

3. When including BS unit



[PRECAUTIONS]

1. A single switch can be used to supply power to units on the same system. However, branch switches and branch circuit breakers must be selected carefully.
2. Do not ground the equipment on gas pipes, water pipes or lightning rods, or cross ground with telephones. Improper grounding could result in electric shock.

9-3 CONTROL BY 2 REMOTE CONTROLLERS (Controlling 1 indoor unit by 2 remote controllers)

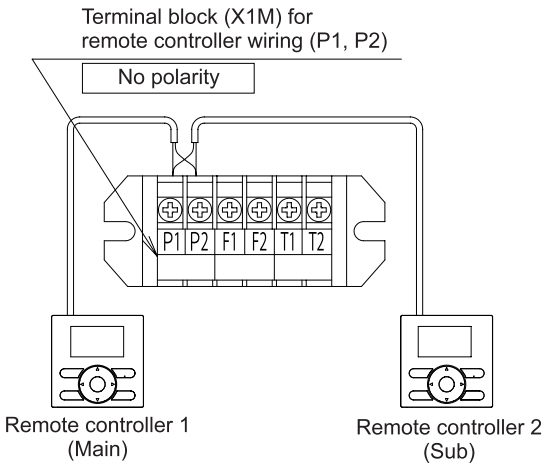
- For control with 2 remote controllers, set one remote controller as main and the other remote controller as sub.

< 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 lid.

(2) Carry out additional wiring from the remote controller 2 (Sub) to the terminals (P1•P2) for remote controller wiring on the terminal block (X1M) in the control box.



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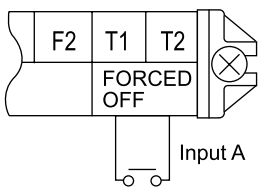
9-4 EXTERNAL REMOTE CONTROL (FORCED OFF AND ON/OFF OPERATION)

(1) Wire specifications and how to perform wiring
- Connect the input from outside to terminals T1 and T2 of the terminal block for remote controller.



Wire specification	Sheathed vinyl cord or cable (2 wire)
Gauge	0.75 - 1.25 mm^2
Length	Max. 100 m
External terminal	Contact that can ensure the minimum applicable load of 15 V DC, 1 mA.

(2) Actuation
- The Table 5 explains FORCED OFF and ON/OFF OPERATIONS in response to Input A.

Table 5

FORCED OFF	ON/OFF OPERATION
Input ON stops operation (impossible by remote controllers).	Input OFF → ON turns ON unit.
Input OFF enables control by remote controller.	Input ON → OFF turns OFF unit.

(3) How to select FORCED OFF and ON/OFF OPERATION
- Turn the power on and then use the remote controller to select operation.

9-5 CENTRALIZED CONTROL

- For centralized control, it is necessary to designate the group No. For details, refer to the manual of each optional controller for centralized control.

10. 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 FORCED OFF when shipped from the factory.)
- Ask your customer to keep the instruction attached to the remote controller together with the operation manual.
- Do not carry out setting other than those shown in the table.

External Static Pressure Settings

Change the “SECOND CODE No.” as shown in Table 6 according to the external static pressure of the duct to be connected.

Table 6

Setting	Mode No.	FIRST CODE No.	SECOND CODE No.
Standard E.S.P	13 (23)	6	1
High E.S.P	13 (23)	6	2

11. TEST OPERATION

Refer to the installation manual of the outdoor unit.

- The operation lamp of the remote controller will flash when an malfunction occurs. Check the malfunction code on the liquid crystal display to identify the point of trouble. An explanation of malfunction codes and the corresponding trouble is provided in “CAUTION FOR SERVICING” of the outdoor unit.

  If any of the items in Table 7 are displayed, there may be a problem with the wiring or power, so check the wiring again.

Table 7

Remote control display	Content
“Concentrated Management” is lit up	• There is a short circuit at the FORCED OFF terminals (T1, T2).
“U4” is lit up “UH” is lit up	• The power on the outdoor unit is off. • The outdoor unit has not been wired for power supply. • Incorrect wiring for the transmission wiring and / or FORCED OFF wiring.
No display	• The power on the indoor unit is off. • The indoor unit has not been wired for power supply. • Incorrect wiring for the remote controller wiring, the transmission wiring and / or the FORCED OFF wiring.