MODELS

Ceiling-mounted Duct type

FXMQ30MVJU
FXMQ36MVJU
FXMQ48MVJU

Ceiling-mounted Built-in type

FXSQ12MVJU    FXSQ18MVJU    FXSQ24MVJU
FXSQ30MVJU    FXSQ36MVJU    FXSQ48MVJU

Read these instructions carefully before installation.
Keep this manual in a handy place for future reference.
This manual should be left with the equipment owner.
## 1. SAFETY CONSIDERATIONS

Please read these “SAFETY CONSIDERATIONS” carefully before installing air conditioning equipment and be sure to install it correctly. After completing the installation, make sure that the unit operates properly during the start-up operation. Please instruct the customer on how to operate the unit and keep it maintained.

Also, inform customers that they should store this installation manual along with the operation manual for future reference. This air conditioner comes under the term “appliances not accessible to the general public”.

### WARNING

- Indication a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### CAUTION

- Indication 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

- Indication situation that may result in equipment or property-damage-only accidents.

### COMMON ITEM

- **WARNING**
  - Ask your dealer or qualified personnel to carry out installation work. Do not try to install the machine by yourself. Improper installation may result in water leakage, electric shocks or fire.
  - Perform installation work in accordance with this installation manual. Improper installation may result in water leakage, electric shocks or fire.
  - When installing the unit in a small room, take measures against to keep refrigerant concentration from exceeding allowable safety limits in the event of refrigerant leakage. Contact the place of purchase for more information. Excessive refrigerant in a closed ambient can lead to oxygen deficiency.
  - Be sure to use only the specified accessories and parts for installation work. Failure to use the specified parts may result in water leakage, electric shocks, fire or the unit falling.
  - Install the air conditioner on a foundation strong enough to withstand the weight of the unit. A foundation of insufficient strength may result in the equipment falling and causing injuries.
  - Carry out the specified installation work after taking into account strong winds, typhoons or earthquakes. Improper installation work may result in the equipment 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 laws and regulations and this installation manual. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.
  - Make sure that all wiring is secured, the specified wires and used, and no external forces act on the terminal connections or wires. Improper connections or installation may result in fire.
  - When wiring the power supply and connecting the remote controller wiring and transmission wiring, position the wires so that the electric parts box lid can be securely fastened. Improper positioning of the electric parts box lid may result in electric shocks, fire or the terminals overheating.
  - If the refrigerant gas leaks during installation, ventilate the area immediately. Toxic gas may be produced if the refrigerant gas comes into contact with fire.
  - After completing the installation work, check that the refrigerant gas does not leak. Toxic gas may be produced if the refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker.
  - Before touching electrical parts, turn off the unit.
  - Ground the air conditioner. Do not connect the ground wire to gas or water pipes, lightning rod or a telephone ground wire. Improper grounding may result in electric shocks.
  - Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.
  - Install an leak circuit breaker, as required. If an leak circuit breaker is not installed, electric shock may result.

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**FXMQ30/36/48MVJU**

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**FXSQ12/18/24/30/36/48MVJU**

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## 3. SELECTING INSTALLATION SITE

- **WARNING**
  - Do not install the unit in areas exposed to rain or water.
  - Do not install the unit in areas exposed to strong wind or the like.

- **CAUTION**
  - Proper installation will ensure the long-term operation of the unit.
  - An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.

- **NOTE**
  - Check for electrical wiring and water piping when selecting the installation site.
  - Check the location of the power supply lines before selecting the installation site.

### 3-1. General Requirements

- The installation site must be strong enough to withstand the weight of the unit.
- The installation site must be level and dry.
- The installation site must be accessible to the general public.
- The installation site must be away from heat sources such as stoves, ovens, and hot water heaters.
- The installation site must be protected from direct sunlight.

### 3-2. Specific Requirements

- The installation site must be strong enough to withstand the weight of the unit.
- The installation site must be level and dry.
- The installation site must be accessible to the general public.
- The installation site must be protected from direct sunlight.
- The installation site must be away from heat sources such as stoves, ovens, and hot water heaters.

### 3-3. Electrical Requirements

- The installation site must be strong enough to withstand the weight of the unit.
- The installation site must be level and dry.
- The installation site must be accessible to the general public.
- The installation site must be protected from direct sunlight.
- The installation site must be away from heat sources such as stoves, ovens, and hot water heaters.

### 3-4. Water Requirements

- The installation site must be strong enough to withstand the weight of the unit.
- The installation site must be level and dry.
- The installation site must be accessible to the general public.
- The installation site must be protected from direct sunlight.
- The installation site must be away from heat sources such as stoves, ovens, and hot water heaters.

### 3-5. Mechanical Requirements

- The installation site must be strong enough to withstand the weight of the unit.
- The installation site must be level and dry.
- The installation site must be accessible to the general public.
- The installation site must be protected from direct sunlight.
- The installation site must be away from heat sources such as stoves, ovens, and hot water heaters.

### 3-6. Ventilation Requirements

- The installation site must be strong enough to withstand the weight of the unit.
- The installation site must be level and dry.
- The installation site must be accessible to the general public.
- The installation site must be protected from direct sunlight.
- The installation site must be away from heat sources such as stoves, ovens, and hot water heaters.
2. BEFORE INSTALLATION

- Do not install the air conditioner in the following locations:
  (a) where a mineral oil mist or an 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 sulfuric 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 result in a malfunction of the equipment.
  (d) where flammable gases may leak, where there are carbon fiber or ignitable dust suspensions in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions may result in fire.

- 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 sulfuric 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.

- 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.

- Install the indoor and outdoor units, power supply wiring and connecting wires at least 3.5ft. away from televisions or radios in order to prevent image interference or noise. (Depending on the radio waves, a distance of 3.5ft. may not be sufficient enough to eliminate the noise.)
- Remote controller (wireless kit) transmitting distance can result shorter than expected in rooms with electronic fluorescent lamps. (inverter or rapid start types) Install the indoor unit as far away from fluorescent lamps as possible.
- This unit 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.
- Dismantling of the unit, treatment of the refrigerant, oil and eventual other parts, should be done in accordance with the relevant local and national regulations.

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.
FXMQ30MVJU  FXMQ48MVJU
FXMQ36MVJU

2-1 ACCESSORIES

Check the following accessories are included with your unit.

<table>
<thead>
<tr>
<th>Name</th>
<th>Metal clamp</th>
<th>Drain hose</th>
<th>Insulation for fitting</th>
<th>Sealing pad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>1 pc.</td>
<td>1 pc.</td>
<td>1 each.</td>
<td>1 each.</td>
</tr>
</tbody>
</table>

Shape

<table>
<thead>
<tr>
<th>Name</th>
<th>Clamp</th>
<th>Screws for duct flanges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>6 pcs.</td>
<td>As described in table below</td>
</tr>
</tbody>
</table>

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

### a. Items to be checked after completion of work

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

### b. Items to be checked at time of delivery

Also review the “SAFETY CONSIDERATIONS”

<table>
<thead>
<tr>
<th>Items to be checked</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you explain about operations while showing the operation manual to your customer?</td>
<td></td>
</tr>
<tr>
<td>Did you hand the operation manual over to your customer?</td>
<td></td>
</tr>
</tbody>
</table>

### c. Points for explanation about operations

The items with WARNING and CAUTION marks 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.

2-2 OPTIONAL ACCESSORIES

Table 1

<table>
<thead>
<tr>
<th>Name</th>
<th>Wired type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote controller</td>
<td>BRC1C71</td>
</tr>
</tbody>
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2-3 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 3/8" 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.
- 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.)

### NOTE

- Install the indoor and outdoor units, power supply wiring and connecting wires at least 3.5ft. away from televisions or radios in order to prevent image interference or noise. (Depending on the radio waves, a distance of 3.5ft. 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.

4. PREPARATIONS BEFORE INSTALLATION

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

(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 acoustic (insulation material) to the inside of the duct, and vibration insulation rubber to the suspension bolts.

(3) Install suspension bolts. (Use bolts of 3/8" 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.

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.

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NOTE

Setting the unit at an angle opposite to the drain piping might cause leaks.
6. REFRIGERANT PIPING WORK

6-1 GENERAL INSTRUCTIONS
- For refrigerant piping of outdoor units, see the installation manual attached to the outdoor unit.
- 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.
- The outdoor unit is charged with refrigerant.

**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.

6-2 Connecting the refrigerant piping
- When connecting the flare nut, coat the flare both inside and outside with ester oil or ether oil and initially tighten by hand 3 or 4 turns before tightening firmly.
- 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.
- Refer to the Table 2 to determine the proper tightening torque.

---

**Table 2**

<table>
<thead>
<tr>
<th>Pipe size</th>
<th>Tightening torque (ft.lbf)</th>
<th>Flare dimensions A (in.)</th>
<th>Flare shape (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>φ 1/4&quot;</td>
<td>10.4 – 12.7</td>
<td>0.342-0.358</td>
<td></td>
</tr>
<tr>
<td>φ 3/8&quot;</td>
<td>24.1 – 29.4</td>
<td>0.504-0.520</td>
<td></td>
</tr>
<tr>
<td>φ 1/2&quot;</td>
<td>36.5 – 44.5</td>
<td>0.638-0.654</td>
<td></td>
</tr>
<tr>
<td>φ 5/8&quot;</td>
<td>45.6 – 55.6</td>
<td>0.760-0.776</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**
- Apply ester oil or ether oil around the flare portions before connecting.
- The flare nuts used must be those included with the main body.
- Over-tightening may damage the flare and cause a refrigerant leakage.

---

6-3 Piping insulation
- 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 250°F, so use insulation which is sufficiently resistant.
- Also, in cases where the temperature and humidity of the refrigerant piping sections might exceed 86°F or RH80%, reinforce the refrigerant insulation. (13/16" or thicker) Condensation may form on the surface of the insulating material.
- Check the pipe connector for gas leaks, then insulate it as shown in the drawing below.
- 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. (Fasten both ends with the clamps (accessory).)
- Wrap the sealing pad (accessory) only around the insulation for the joints on the gas piping side.

---

**Table 3**

<table>
<thead>
<tr>
<th>Pipe size</th>
<th>Further tightening angle</th>
<th>Recommended arm length of tool (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>φ 1/4&quot;</td>
<td>60 to 90 degrees</td>
<td>Approx. 5 7/8</td>
</tr>
<tr>
<td>φ 3/8&quot;</td>
<td>60 to 90 degrees</td>
<td>Approx. 7 7/8</td>
</tr>
<tr>
<td>φ 1/2&quot;</td>
<td>30 to 60 degrees</td>
<td>Approx. 9 13/16</td>
</tr>
<tr>
<td>φ 5/8&quot;</td>
<td>30 to 60 degrees</td>
<td>Approx. 11 13/16</td>
</tr>
</tbody>
</table>

**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.
6-4 Brazing refrigerant piping

- 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 2.9psi. with a pressure-reducing valve if brazing while inserting nitrogen into the piping.

**NOTE**

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

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 piping inside the building.)

(1) Carry out the drain piping.

- Keep piping as short as possible and slope it downwards so that air may not remain trapped inside the pipe.
- Keep pipe size equal to or greater than that of the connecting pipe (Vinyl pipe of 1” nominal diam. and 1 1/4” outer diam.).
- Use the attached drain hose and clamp. Tighten the clamp firmly.
- Insulate the metal clamp with the sealing pad.

**NOTE**

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 electric parts 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 circuit breaker capable of shutting down power supply to the entire system must be installed.
- 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, lighting 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

<table>
<thead>
<tr>
<th>Units</th>
<th>Power supply</th>
<th>Fan motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Hz</td>
<td>Volts</td>
</tr>
<tr>
<td>FXMQ30MVJU</td>
<td>60</td>
<td>208-230</td>
</tr>
<tr>
<td>FXMQ36MVJU</td>
<td>2.9</td>
<td>15</td>
</tr>
<tr>
<td>FXMQ48MVJU</td>
<td>4.4</td>
<td>15</td>
</tr>
</tbody>
</table>

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

8-3 SPECIFICATIONS FOR FIELD SUPPLIED FUSES AND WIRE

<table>
<thead>
<tr>
<th>Model</th>
<th>Power supply wiring</th>
<th>Remote controller wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field fuses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>Wire</td>
<td>Size</td>
</tr>
<tr>
<td>15A</td>
<td>Sheathed wire (2 wire)</td>
<td>AWG 18-16</td>
</tr>
</tbody>
</table>

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. 3280ft. (Total wiring length: 6560ft.)
   (2) Indoor unit – Remote controller: Max. 1640ft.

9. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

9-1 HOW TO CONNECT WIRINGS
(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. (Tightening torque: 0.97ft.lbf ±10 %)
   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.

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 electric parts box.
• When clamping the wires, be sure no pressure 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 electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box lid firmly. When attaching the electric parts 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 1 15/16", otherwise electrical noise (external static) could cause mistaken operation or breakage.

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. 3280ft. (Total wiring length: 6560ft.)
   (2) Indoor unit – Remote controller: Max. 1640ft.

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 electric parts box.
• When clamping the wires, be sure no pressure 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 electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box lid firmly. When attaching the electric parts 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 1 15/16", otherwise electrical noise (external static) could cause mistaken operation or breakage.

NOTE
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. (Tightening torque: 0.97ft.lbf ±10 %)
   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 below for the tightening torque of the terminal screws.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Size</th>
<th>Tightening torque (ft-lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal block for remote controller (GP)</td>
<td>M3.5</td>
<td>0.58 – 0.72</td>
</tr>
<tr>
<td>Power supply terminal block</td>
<td>M4</td>
<td>0.87 – 1.08</td>
</tr>
</tbody>
</table>

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 1 15/16” 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 electric parts box lid. Make sure the lid closes tight. Incomplete connections could result in overheating, and in worse case, electric shock or fire.

Continued to “COMMON ITEM” (P18)
2-1 ACCESSORIES
Check the following accessories are included with your unit.

<table>
<thead>
<tr>
<th>Name</th>
<th>Metal clamp</th>
<th>Paper pattern for installation</th>
<th>Drain hose</th>
<th>Insulation for fitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>1 pc.</td>
<td>1 pc.</td>
<td>1 pc.</td>
<td>1 each.</td>
</tr>
<tr>
<td>Shape</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Screws for fixing panels are attached to decoration panel.

2-2 OPTIONAL ACCESSORIES
- Parts listed on the below table are required with this indoor unit.

Table 1

<table>
<thead>
<tr>
<th>Name</th>
<th>Sealing pad</th>
<th>Screws for duct flanges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>1 each</td>
<td>1 set</td>
</tr>
<tr>
<td>Shape</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Screws for fixing the paper pattern for installation.

- (Other) Operation manual
- Installation manual
- Sealing material
  - (Small) 1 3/8×5 7/8 (2 pcs.)

Table 2

<table>
<thead>
<tr>
<th>Name</th>
<th>Remote controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Wired type</td>
</tr>
<tr>
<td>Model</td>
<td>BRC1C71</td>
</tr>
</tbody>
</table>

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

a. Items to be checked after completion of work

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

b. Items to be checked at time of delivery

Also review the “SAFETY CONSIDERATIONS”

<table>
<thead>
<tr>
<th>Items to be checked</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you explain about operations while showing the operation manual to your customer?</td>
<td></td>
</tr>
<tr>
<td>Did you hand the operation manual over to your customer?</td>
<td></td>
</tr>
</tbody>
</table>

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

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 3/8” 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.
- Where optimum air distribution can be ensured.
- Where nothing blocks air passage.
- Where condensate can be properly drained.
- 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.
- 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.
- Where piping between indoor and outdoor units is possible within the allowable limit. (Refer to the installation manual for the outdoor unit.)

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

4. PREPARATIONS BEFORE INSTALLATION

(1) Relation of ceiling opening to unit and suspension bolt position

<table>
<thead>
<tr>
<th>Model</th>
<th>A (in.)</th>
<th>B (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FXSQ12MVJU</td>
<td>21 5/8</td>
<td>23 5/8</td>
</tr>
<tr>
<td>FXSQ18MVJU</td>
<td>27 9/16</td>
<td>29 1/2</td>
</tr>
<tr>
<td>FXSQ24MVJU</td>
<td>39 3/8</td>
<td>41 5/16</td>
</tr>
<tr>
<td>FXSQ30 · 36 · 48MVJU</td>
<td>55 1/16</td>
<td>57 1/16</td>
</tr>
</tbody>
</table>

- For standard installation (air inlet on the bottom side), choose one of the below two means of installation.
- Note: For other than standard installation, contact your Daikin dealer for details.

For mounting air inlet panel with canvas connection

<table>
<thead>
<tr>
<th>Model</th>
<th>A (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FXSQ12MVJU</td>
<td>24</td>
</tr>
<tr>
<td>FXSQ18MVJU</td>
<td>29 7/8</td>
</tr>
<tr>
<td>FXSQ24MVJU</td>
<td>41 11/16</td>
</tr>
</tbody>
</table>
(2) The fan speed for this indoor unit is preset to provide standard external static pressure.
- If higher or lower external static pressure is required, reposition the adapter for the PC board. Refer to "9. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER".

(3) Install the suspension bolts. (Use bolts of 3/8" diameter.)
Use a hole-in-anchor, sunken insert, sunken anchor for existing ceilings, and a sunken insert, sunken anchor or other part to be procured in the field to reinforce the ceiling to bearing the weight of the unit.

5. INDOOR UNIT INSTALLATION
Installing optional accessories (except for the decoration panel) 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) Install the indoor unit temporarily.
- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket.

<table>
<thead>
<tr>
<th>Model</th>
<th>A (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FXSQ12MVJU</td>
<td>24</td>
</tr>
<tr>
<td>FXSQ18MVJU</td>
<td>29 7/8</td>
</tr>
<tr>
<td>FXSQ24MVJU</td>
<td>41 11/16</td>
</tr>
<tr>
<td>FXSQ30 · 36 · 48MVJU</td>
<td>57 7/16</td>
</tr>
</tbody>
</table>
(2) Check the unit is horizontally level.

**NOTE**
- The indoor unit is equipped with a built-in drain pump and float switch. At each of the unit’s 4 corners, verify that it is level by using a level or a water-filled vinyl tube. (If the unit is inclined against condensate flow, the float switch may malfunction and cause water to drip.)

(3) Tighten the upper nut.

(4) Fix the paper pattern for installation.
- The paper pattern for installation corresponds with the measurements of the ceiling opening. Consult the builder for details.
- Attach the paper pattern for installation to the unit with the screws as shown in the drawing. The paper pattern for installation is marked for 3 types of ceiling openings. Read the notations carefully when installing.

---

### 6. REFRIGERANT PIPING WORK

#### 6-1 GENERAL INSTRUCTIONS
- For refrigerant piping of outdoor units, see the installation manual attached to the outdoor unit.
- 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.
- The outdoor unit is charged with refrigerant.

**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.

---

### 6-2 Connecting the refrigerant piping
- When connecting the flare nut, coat the flare both inside and outside with ester oil or ether oil and initially tighten by hand 3 or 4 turns before tightening firmly.

- 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 3 for the dimensions of flare nut spaces.
- Refer to the Table 3 to determine the proper tightening torque.

#### Table 3

<table>
<thead>
<tr>
<th>Pipe size</th>
<th>Tightening torque (ft.lbf)</th>
<th>Flare dimensions A (in.)</th>
<th>Flare shape (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>φ 1/4&quot;</td>
<td>10.4 – 12.7</td>
<td>0.342-0.358</td>
<td></td>
</tr>
<tr>
<td>φ 3/8&quot;</td>
<td>24.1 – 29.4</td>
<td>0.504-0.520</td>
<td></td>
</tr>
<tr>
<td>φ 1/2&quot;</td>
<td>36.5 – 44.5</td>
<td>0.638-0.654</td>
<td></td>
</tr>
<tr>
<td>φ 5/8&quot;</td>
<td>45.6 – 55.6</td>
<td>0.760-0.776</td>
<td></td>
</tr>
</tbody>
</table>

---

**NOTE**
- Apply ester oil or ether oil around the flare portions before connecting.
- The flare nuts used must be those included with the main body.
- Over-tightening may damage the flare and cause a refrigerant leakage.

---

**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 4

<table>
<thead>
<tr>
<th>Pipe size</th>
<th>Further tightening angle</th>
<th>Recommended arm length of tool (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>φ 1/4&quot;</td>
<td>60 to 90 degrees</td>
<td>Approx. 5 7/8</td>
</tr>
<tr>
<td>φ 3/8&quot;</td>
<td>60 to 90 degrees</td>
<td>Approx. 7 7/8</td>
</tr>
<tr>
<td>φ 1/2&quot;</td>
<td>30 to 60 degrees</td>
<td>Approx. 9 13/16</td>
</tr>
<tr>
<td>φ 5/8&quot;</td>
<td>30 to 60 degrees</td>
<td>Approx. 11 13/16</td>
</tr>
</tbody>
</table>
6-3 Piping insulation
- 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 250°F, so use insulation which is sufficiently resistant.
- Also, in cases where the temperature and humidity of the refrigerant piping sections might exceed 86°F or RH80%, reinforce the refrigerant insulation. (13/16” or thicker) Condensation may form on the surface of the insulating material.
- Check the pipe connector for gas leaks, then insulate it as shown in the drawing below.
- 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. (Fasten both ends with the clamps (accessory).)
- Wrap the sealing pad (accessory) only around the insulation for the joints on the gas piping side.

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.

6-4 Brazing refrigerant piping
- 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 2.9psi with a pressure-reducing valve if brazing while inserting nitrogen into the piping.

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

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.)

(1) Carry out the drain piping
- The diameter of the drain pipe should be greater than or equal to the diameter of the connecting pipe (vinyl tube; pipe size: 13/16”, outer dimension: 1 1/4”).
- Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air pockets from forming.
- If the drain hose cannot be sufficiently set on a slope, execute the drain raising piping.
- To keep the drain hose from sagging, space hanging wires every 3.28 to 4.92 ft..

NOTE
Setting the unit at an angle opposite to the drain piping might cause leaks.
- Use the drain hose and the metal clamp. Tighten the clamp firmly. Insert the drain hose into the drain socket, up to the tape. Tighten the clamp until the screw head is less than 3/16” from the hose.
- Wrap the sealing pad over the metal clamp and drain hose to insulate.
- Insulate the drain hose inside the building.

(PRECAUTIONS FOR DRAIN RAISING PIPING)
(HOW TO INSTALL PIPING)
(1) Connect the drain hose to the drain raising pipes, and insulate them.
(2) Connect the drain hose to the drain outlet on the indoor unit, and tighten it with the metal clamp.
(3) Insulate both metal clamp and drain hose with the sealing pad.
15

• 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.

**NOTE**

• 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.

(2) After piping work is finished, check drainage flows smoothly.
  • Open the water inlet lid, add approximately 61 in³ of water gradually and check drainage flow.

**WHEN ELECTRIC WIRING WORK IS NOT FINISHED**

• Remove the electric parts box lid, connect a power supply and remote controller to the terminals.
  (Refer to the "HOW TO CONNECT WIRINGS")

Be sure attach the electric parts box lid before turning on the power.

Next, press the inspection/test operation button " 
① " on the remote controller. The unit will engage the test operation mode. Press the operation mode selector button " ② " until selecting FAN OPERATION “ ③ ”. Then, press the ON/OFF button “ ④ ”. The indoor unit fan and drain pump will start up. Check that the water has drained from the unit. Press “ ⑤ ” to go back to the first mode.
  • You can check whether drainage is satisfactory or not by removing the access opening lid and checking the water level of the drain pan through the access opening.
  • Be careful when doing so because the fan is turning at the same time.

8. ELECTRIC WIRING WORK

8-1 GENERAL INSTRUCTIONS

• All field supplied parts and materials, electric works must conform to local codes.
• Use copper wire only.
• Follow the “WIRING DIAGRAM” attached to the unit body to wire the outdoor unit, indoor units and the remote controller. For details on hooking up the remote controller, refer to the “INSTALLATION MANUAL OF 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 circuit breaker capable of shutting down the power supply to the entire system must be installed.

8-2 ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Model</th>
<th>Hz</th>
<th>Volts</th>
<th>Voltage range</th>
<th>MCA</th>
<th>MFA</th>
<th>W</th>
<th>FLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>FXSQ12MVJU</td>
<td>60</td>
<td>208-230</td>
<td>Max. 253 Min. 187</td>
<td>0.7</td>
<td>15</td>
<td>50</td>
<td>0.6</td>
</tr>
<tr>
<td>FXSQ18MVJU</td>
<td>1.0</td>
<td>15</td>
<td>85</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ24MVJU</td>
<td>1.4</td>
<td>15</td>
<td>125</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ30MVJU</td>
<td>1.8</td>
<td>15</td>
<td>225</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ36MVJU</td>
<td>1.8</td>
<td>15</td>
<td>225</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ48MVJU</td>
<td>2.4</td>
<td>15</td>
<td>225</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MCA:Min. Circuit Amps (A); MFA:Max. Fuse Amps (A)
**8-3 SPECIFICATIONS FOR FIELD SUPPLIED FUSES AND WIRE**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power supply wiring</th>
<th>Remote controller wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Field fuses</td>
<td>Size</td>
</tr>
<tr>
<td>FXSQ12MVJU</td>
<td>15A</td>
<td>Wire size must comply with local codes.</td>
</tr>
<tr>
<td>FXSQ18MVJU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ24MVJU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ30MVJU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ36MVJU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FXSQ48MVJU</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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. 3280 ft. (Total wiring length: 6560 ft.)
   (2) Indoor unit – Remote controller:
       Max. 1640 ft.

2. Insulated thickness: 1/16” or more
9. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

9-1 HOW TO CONNECT WIRINGS

- Lower the electric parts box, as shown in the drawing, to make connections.

**NOTE**
- After wiring, adhere the sealing material (1 3/8” × 5 7/8”) around the wires as shown below.
  [Be sure to adhere it to avoid water from outside unit.]

**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 electric parts box.
- When clamping the wires, be sure no pressure 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 electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box lid firmly. When attaching the electric parts 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 1 15/16”, otherwise electrical noise (external static) could cause mistaken operation or breakage.

**NOTE**
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. (Tightening torque: 0.97 ft.lbf ±10%)

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 below for the tightening torque of the terminal screws.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Size</th>
<th>Tightening torque (ft.lbf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal block for remote controller (6P)</td>
<td>M3.5</td>
<td>0.58 – 0.72</td>
</tr>
<tr>
<td>Power supply terminal block</td>
<td>M4</td>
<td>0.87 – 1.06</td>
</tr>
<tr>
<td>Ground terminal</td>
<td>M4</td>
<td>1.06 – 1.43</td>
</tr>
</tbody>
</table>

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 1 15/16” 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 electric parts box lid. Make sure the lid closes tight. Incomplete connections could result in overheating, and in worse case, electric shock or fire.
9-2 SETTING OF STATIC PRESSURE CHANGEOVER CONNECTOR

- According to the system static pressure requirement, reposition the adaptors of PC board inside the electric parts box as shown in the below drawings.

<table>
<thead>
<tr>
<th>Model</th>
<th>Static pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>FXSQ12-18:24MVJU</td>
<td>Black Blue</td>
</tr>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>FXSQ30-36:48MVJU</td>
<td>Black Blue</td>
</tr>
</tbody>
</table>

**NOTE**

- The unit is factory set for standard static pressure (X4A) at the time of shipping.
COMMON ITEM

9-3 WIRING EXAMPLE
• Fit the power supply wiring of each unit with a switch and fuse as shown in the drawing.

COMPLETE SYSTEM EXAMPLE

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

2. For group control or use with 2 remote controllers

9-4 CONTROL BY 2 REMOTE CONTROLLERS (Controlling 1 indoor unit by 2 remote controllers)
• When using 2 remote controllers, one must be set to “MAIN” and the other to “SUB”.

MAIN/SUB CHANGEOVER
(1) Insert a screw driver into the recess between the upper and lower part of remote controller and, working from the 2 positions, pry off the upper part. The remote controller PC board is attached to the upper part of remote controller.

(2) Turn the MAIN/SUB changeover switch on one of the two remote controller PC boards to “S”. (Leave the switch of the other remote controller set to “M”.)

Wiring Method (See “ELECTRIC WIRING WORK”)
(3) Remove the electric parts box lid

(4) Add remote control 2 (slave) to the terminal block for remote controller (P₁, P₂) in the electric parts box. (There is no polarity.) (Refer to Fig. 3 and 8-3.)

NOTE
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 crossground with telephones. Improper grounding could result in electric shock.
**9-5 COMPUTERISED 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.

<table>
<thead>
<tr>
<th>Wire specification</th>
<th>Sheathed vinyl cord or cable (2 wire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>AWG 18-16</td>
</tr>
<tr>
<td>Length</td>
<td>Max. 328ft.</td>
</tr>
<tr>
<td>External terminal</td>
<td>Contact that can ensure the minimum applicable load of 15 V DC, 10 mA.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>FORCED OFF</th>
<th>ON/OFF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input “ON” stops operation</td>
<td>Input OFF → ON turns ON unit.</td>
</tr>
<tr>
<td>(impossible by remote</td>
<td></td>
</tr>
<tr>
<td>controllers.)</td>
<td></td>
</tr>
<tr>
<td>Input OFF enables control</td>
<td>Input ON → OFF turns OFF unit.</td>
</tr>
<tr>
<td>by remote controller.</td>
<td></td>
</tr>
</tbody>
</table>

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

**9-6 CENTRALIZED CONTROL**

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

**10. FIELD SETTING**

Make sure the terminal box lids are closed on the indoor and outdoor units.
Field setting must be made from the remote controller in accordance with the installation condition.
- Setting can be made by changing the “Mode No.”, “FIRST CODE NO.”, and “SECOND CODE NO.”.
- For setting and operation, refer to the “FIELD SETTING” in the installation manual of the remote controller.

- Set the remote controller to the field set mode. For details, refer to the “HOW TO SET IN THE FIELD”, in the remote controller manual.
- When in the field set mode, select mode No. 12, then set the first code (switch) No. to “1”. Then set second code (position) No. to “01” for FORCED OFF and “02” for ON/OFF OPERATION. (FORCED OFF at factory set)

**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 4 are displayed, there may be a problem with the wiring or power, so check the wiring again.

<table>
<thead>
<tr>
<th>Remote control display</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Concentrated Management” is lit up</td>
<td>• There is a short circuit at the FORCED OFF terminals (T1, T2)</td>
</tr>
<tr>
<td>“U3” is lit up</td>
<td>• The check operation has not performed on outdoor unit P.C.B.</td>
</tr>
<tr>
<td>“U4” is lit up</td>
<td>• The power on the outdoor unit is off.</td>
</tr>
<tr>
<td>“UH” is lit up</td>
<td>• The outdoor unit has not been wired for power supply.</td>
</tr>
<tr>
<td>No display</td>
<td>• Incorrect wiring for the transmission wiring and / or FORCED OFF wiring.</td>
</tr>
</tbody>
</table>

If any of the items in Table 4 are displayed, there may be a problem with the wiring or power, so check the wiring again.