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

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

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

Read these Safety considerations for Installation carefully before installing an air conditioner or heat pump. After completing the installation, make sure that the unit operates properly during the startup operation.

Instruct the customer on how to operate and maintain the unit.

Inform customers that they should store this Installation Manual with the Operation Manual for future reference. Always use a licensed installer or contractor to install this product.

Improper installation can result in water or refrigerant leakage, electrical shock, fire, or explosion.

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

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

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

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

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

🔍 INFORMATION ... This symbol identifies useful tips or additional information.

⚠️ DANGER 

- Refrigerant gas is heavier than air and replaces oxygen. A massive leak will result in oxygen depletion, especially in basements, and an asphyxiation hazard will result in serious injury or death.
- Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding will result a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes will result in a gas leak and potential explosion resulting in severe injury or death.
- If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas will result in producing toxic gas if it comes into contact with fire. Exposure to this gas will result in severe injury or death.
- After completing the installation work, check that the refrigerant gas does not leak throughout the system.
- Do not install unit in an area where flammable materials are present due to risk of explosions that will result in serious injury or death.
- Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation will result in injuries or death by suffocation.

⚠️ WARNING 

- Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation could result in water leakage, electric shock, or fire.
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, could result in oxygen deficiency.
- Use only specified accessories and parts for installation work. Failure to use specified parts could result in water leakage, electric shocks, fire, or the unit falling.
- Install the air conditioner or heat pump on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength could result in the unit falling and causing injuries.
- Take into account strong winds, typhoons, or earthquakes when installing. Improper installation could result in the unit falling and causing accidents.
- Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local, state and national regulations. An insufficient power supply capacity or improper electrical construction could result in electric shocks or fire.
- Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. Improper connections or installation could result in fire.
- When wiring, position the wires so that the control box cover can be securely fastened. Improper positioning of the control box cover could result in electric shocks, fire, or the terminals overheating.
- Before touching electrical parts, turn off the unit.
- This equipment can be installed with a Ground-Fault Circuit Interrupter (GFCI). Although this is a recognized measure for additional protection, with the grounding system in North America, a dedicated GFCI is not necessary.
- Securely fasten the unit terminal cover (panel). If the terminal cover/panel is not installed properly, dust or water may enter the outdoor unit and could result in fire or electric shock.
- When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R410A) such as air. Any presence of air or other foreign substance in the refrigerant circuit could result in abnormal pressure rise or rupture, resulting in injury.
- Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion could result.
• Do not touch the switch with wet fingers. Touching a switch with wet fingers may result in electric shock.
• Do not allow children to play on or around the unit or it may result in injury.
• The heat exchanger fins are sharp enough to cut, and may result in injury if improperly used. To avoid injury wear glove or cover the fins when working around them.
• Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. It may result in your hands getting burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
• Install drain piping to proper drainage. Improper drain piping may result in water leakage and property damage.
• Insulate piping to prevent condensation.
• Be careful when transporting the product.
• Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may result.
• Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.
• Refrigerant R410A in the system must be kept clean, dry, and tight.
  (a) Clean and Dry - Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.
  (b) Tight - R410A does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth’s protection against harmful ultraviolet radiation. R410A can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter Refrigerant Piping and follow the procedures.
  Since R410A is a blend, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in a state of gas, its composition can change and the system will not work properly.
• The indoor unit is for R410A. See the catalog for indoor models that can be connected. Normal operation is not possible when connected to other units.
• Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with electronic fluorescent lamps (inverter or rapid start types). Install the indoor unit far away from fluorescent lamps as much as possible.
• Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors. This unit is for indoor use.
• Do not install the air conditioner or heat pump in the following locations:
  (a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen. Plastic parts may deteriorate and fall off and thus may result in water leakage.
  (b) Where corrosive gas, such as sulfurous acid gas, is produced. Corroding copper pipes or soldered parts may result in refrigerant leakage.
  (c) Near machinery emitting electromagnetic waves. Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.
  (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions may result in a fire.
• Take adequate measures to prevent the outdoor unit from being used as a shelter by small animals. Small animals making contact with electrical parts may result in malfunctions, smoke, or fire. Instruct the customer to keep the area around the unit clean.

CAUTION

NOTE

Codes and Regulations
This product is designed and manufactured to comply with national codes. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations. Rated performance is achieved after 72 hours of operation.
The original instructions are written in English. All other languages are translations of the original instructions.
1. BEFORE INSTALLATION

1-1 Precautions
- Hold the unit by the hanging brackets (4 points) when opening the box and moving it, and do not lift it holding on to any other part especially the refrigerant piping.
- About installation of outdoor and indoor unit, refer to the installation manual provided with outdoor and indoor unit.
- 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.

1-2 Accessories
Check the following accessories are included with your unit.

NOTE • Do not throw away any of the accessories until installation is complete.

<table>
<thead>
<tr>
<th>BSQ36 · 60TVJ</th>
<th>BSQ96TVJ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td>1) Accessory pipes</td>
</tr>
<tr>
<td></td>
<td>(BSQ36 only)</td>
</tr>
<tr>
<td><strong>Quantity</strong></td>
<td>1 pc.</td>
</tr>
<tr>
<td><strong>Shape</strong></td>
<td>1)-1</td>
</tr>
<tr>
<td></td>
<td>4/3/8 (φ9.5)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1-3 Combination
- This Branch Selector unit is only for systems for models T series and PC series.
- It cannot be connected to systems for models M, P, PA and PB series.
- For series of applicable indoor units, refer to the catalog or other literature.
- Select the Branch Selector unit to fit the total capacity (sum of unit's capacity) and max. number of the indoor units to be connected downstream. About indoor unit's capacity, refer to the Table 2.

Table 1

<table>
<thead>
<tr>
<th>Model</th>
<th>Total capacity of all downstream indoor units</th>
<th>Max. number of all downstream indoor units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSQ36TVJ</td>
<td>A ≤ 36</td>
<td>4</td>
</tr>
<tr>
<td>BSQ60TVJ</td>
<td>36 &lt; A ≤ 60</td>
<td>8</td>
</tr>
<tr>
<td>BSQ96TVJ</td>
<td>60 &lt; A ≤ 96</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Capacity expressed as indoor unit’s model No.</th>
<th>07</th>
<th>09</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
<th>48</th>
<th>54</th>
<th>72</th>
<th>96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor unit’s capacity (for use in computation)</td>
<td>7.5</td>
<td>9.5</td>
<td>12</td>
<td>18</td>
<td>24</td>
<td>30</td>
<td>36</td>
<td>42</td>
<td>48</td>
<td>54</td>
<td>72</td>
<td>96</td>
</tr>
</tbody>
</table>

<Example>
In case of the Branch Selector unit with connect two FXFQ12P and two FXMQ18P.
Total capacity = 12×2+18×2 = 60 → Select BSQ60TVJ
1-4 Checklist
Exercise particular care concerning the following items during installation work and check again after installation is complete:

Post-installation checklist

<table>
<thead>
<tr>
<th>Checklist</th>
<th>If defective</th>
<th>Check here.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the Branch Selector unit been installed securely?</td>
<td>The unit may fall, vibrate, or operate noisily.</td>
<td></td>
</tr>
<tr>
<td>Did you conduct a gas leak inspection?</td>
<td>The unit may fail to heat or cool as designed.</td>
<td></td>
</tr>
<tr>
<td>Was the unit fully insulated? (Refrigerant pipes)</td>
<td>The unit may leak water.</td>
<td></td>
</tr>
<tr>
<td>Is the supply voltage the same as the voltage indicated on the label?</td>
<td>The unit may fail to operate or burn up.</td>
<td></td>
</tr>
<tr>
<td>Are there any wiring mistakes or erroneous wiring or erroneous pipe</td>
<td>The unit may fail to operate, burn up, or produce abnormal noise.</td>
<td></td>
</tr>
<tr>
<td>connections?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the unit been grounded?</td>
<td>The unit may pose a hazard in the event of a short-circuit.</td>
<td></td>
</tr>
<tr>
<td>Is the thickness of the electrical wiring the same as described in the</td>
<td>The unit may fail to operate or burn up.</td>
<td></td>
</tr>
<tr>
<td>specifications?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Delivery checklist

<table>
<thead>
<tr>
<th>Checklist</th>
<th>Check here.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a cover been installed on the control box?</td>
<td></td>
</tr>
<tr>
<td>Did you give the customer the installation manual?</td>
<td></td>
</tr>
</tbody>
</table>

2. SELECTING INSTALLATION SITE

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

- Where is resistible against weight of Branch Selector unit.
- Locations where the wall is not significantly tilted.
- Where sufficient clearance for maintenance and service can be ensured. (Refer to Fig. 1.)
- Locations where an inspection hole (refer to Fig. 2) can be installed to the control box side (see Note).
- Where the total piping length involving indoor unit and outdoor unit is below the allowable piping length. (See installation manual attached to outdoor unit.)

Note: The control box mounting surface can be changed.
For information on how to change the mounting surface, refer to “4. BRANCH SELECTOR UNIT INSTALLATION”.

![Diagram](fig1.png)

![Diagram](fig2.png)

<table>
<thead>
<tr>
<th>Branch Selector unit Name</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSQ36TVJ</td>
<td>10 (250) or more</td>
<td>10 (250) or more (*1)</td>
</tr>
<tr>
<td>BSQ60TVJ</td>
<td>10 (250) or more (*2)</td>
<td>10 (250) or more (*2)</td>
</tr>
<tr>
<td>BSQ96TVJ</td>
<td>12 (300) or more (*3)</td>
<td>12 (300) or more (*3)</td>
</tr>
</tbody>
</table>

(*1) When using accessory pipes 1)-1, 2 (refer to 5-5 Piping connection), provide a service space of at least 12 in. (300 mm).

(*2) When using accessory pipes 1)-1, 2 (refer to 5-5 Piping connection), provide a service space of at least 14 in. (350 mm).

(*3) When using accessory pipes 1)-1, 2 (refer to 5-5 Piping connection), provide a service space of at least 16 in. (400 mm).

---

**WARNING**

Securely install the unit at a location that is capable of withstanding its weight.
Inadequate strength may cause the indoor unit to fall, resulting in bodily injury.
CAUTION
To prevent video and audio interference, install the Branch Selector unit as well as associated power wiring and signal transmission lines at least 40 in. (1 m) away from TVs and radios. However, depending on the reception, interference may result even if a minimum distance of 40 in. (1 m) is maintained.

3. PREPARATIONS BEFORE INSTALLATION
Refer the Fig. 3 and install the suspension bolts and hanging brackets.

Suspension bolts: For supporting the product
• Use 3/8 in. (M8) to 7/16 in. (M10) suspension bolts.
• When holes are to be made anew, used embedded inserts and embedded foundation bolts. When holes are already provided, use hole-in-anchors or the like.
Install the Branch Selector unit so that its weight can be withstood.

Hanging bracket: For supporting the connection pipe
• Be sure to support the connection piping around the unit using hanging brackets that are kept within 40 in. (1 m) of the body side surface. Hanging excessive weight on the Branch Selector unit hanging bracket could cause the unit to fall and injure someone.

4. BRANCH SELECTOR UNIT INSTALLATION
Use only accessories and parts which are of the designated specification when installing.

(1) When necessary, use the following procedure to change the control box mounting. (Refer to Fig. 4.)
1) Remove the control box cover. (2 screws)
2) Remove the control box. (2 screws)
3) Remove the top panel. (4 screws)
4) Remove the coil cover. (1 screw)
5) Change the pull out direction of the wire (motorized valve coil) between the body and the control box.
6) Rotate the coil cover 180 degrees and attach it.
7) Turn the top panel around 180 degrees and attach it.
8) Attach the control box.
9) Attach the control box cover.

(2) Attach the hooks to the suspension bolts.
Be sure to use the nuts (3/8 in. (M8) or 7/16 in. (M10): 3 pcs, 4 locations) and washers (For 3/8 in. (M8), Outside diameter dimension 15/16 in. (24 mm) to 1-1/8 in. (28 mm), For 7/16 in. (M10): Outside diameter 1-3/16 in. (30 mm) to 1-5/16 in. (34 mm): 2 pcs, 4 locations) (field supply) from both the top and bottom sides of the hanging bracket and make sure they are tightened correctly.
5. REFRIGERANT PIPING WORK

- For instruction for installing piping between the outdoor unit and Branch Selector unit, selecting a refrigerant branch kit, and installing piping between the refrigerant branch kit and the indoor unit, refer to the installation manual and equipment design materials included with the outdoor unit.
- Before beginning the work, be sure to verify that the type of refrigerant used is R410A. (The unit will not operate correctly with a different type of refrigerant.)
- Insulate all of the piping, including the liquid pipes, high/low pressure gas pipes, suction gas pipes, gas pipes, and the pipe connections for these. Not insulating these pipes could result in water leaks or burns. In particular, low-temperature gas flows in the high/low pressure gas piping during full cooling operation, so the same amount of insulation as used for the suction gas pipes is required. In addition, high-temperature gas flows in the high/low pressure gas piping and gas piping, so use insulation that can withstand more than 250°F (120°C).
- Select insulation material as necessary for the installation environment. For details, refer to the Engineering Data Book. If you fail to do so, condensation could form on the surface of the insulation.

NOTE
- This product only uses the new refrigerant (R410A). Be sure to use the special pipe cutters for R410A, during installation.
- Make sure that nothing besides the specified refrigerant, such as air, gets into the refrigerant piping.
- If refrigerant gas leaks during the work, ventilate the area. (The outdoor units are filled with refrigerant.)

5-1 Piping material selection
- Use only pipes which are clean inside and outside and which do not accumulate harmful sulfur, oxidants, dirt, cutting oils, moisture, or other contamination. (Foreign materials inside pipes including oils for fabrication must be 9 mg/10 ft. (9 mg/3 m) or less.)
• For information regarding the piping allowable maximum length, allowable height difference, and allowable length after a branch, refer to the installation manual that came with the outdoor unit or Engineering Data Book.

• The refrigerant branch kit (sold separately) is required for piping branches. For information on how to select a refrigerant branch kit, refer to the installation manual that came with the outdoor unit or Engineering Data Book.

5-2 Protection against contamination when installing pipes
Protect the piping to prevent moisture, dirt, dust, etc. from entering the piping.

<table>
<thead>
<tr>
<th>Place</th>
<th>Installation period</th>
<th>Protection method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor</td>
<td>More than a month</td>
<td>Pinch the pipe</td>
</tr>
<tr>
<td></td>
<td>Less than a month</td>
<td>Pinch or tape the pipe</td>
</tr>
<tr>
<td>Indoor</td>
<td>Regardless of the period</td>
<td>Pinch the pipe</td>
</tr>
</tbody>
</table>

**NOTE**
Exercise special caution to prevent dirt or dust when passing piping through holes in walls and when passing pipe edges to the exterior.

5-3 Pipe connection work precautions
• When brazing refrigerant piping, begin working after replacing the nitrogen (*1) or perform brazing while nitrogen is flowing in the refrigerant piping (*2) (refer to Fig. 5).

  (*1) For details on nitrogen replacement, see the “VRV Installation Manual” (available at any Daikin dealer).

  (*2) The pressure regulator for the nitrogen released when doing the brazing should be set to about 2.9 psi (0.02 MPa) (enough to feel a slight breeze on your cheek).

**NOTE**
• Do not use an anti-oxidizing agent when brazing the piping. Residual debris could clog the piping or cause parts to malfunction.

• Do not use a flux when brazing the refrigerant pipe joints.

Using a chlorine flux may cause the pipes to corrode, and if it contains fluoride it may cause the refrigerant lubricant to deteriorate, adversely affecting the refrigerant piping system.

Use phosphor copper brazing (B-Cu93P-710/795: ISO 3677) which does not require flux.

5-4 Pipe size selection
From Example of connection 1 and 2 below and Table 3, 4 and 5 select the piping size between the outdoor unit (refrigerant branch kit) and Branch Selector unit, and between the Branch Selector unit and the indoor unit (refrigerant branch kit).
Example of connection 1: When 1 indoor unit is connected downstream from the Branch Selector unit

Determine using Table 3 based on the total capacity of the indoor units connected downstream.

Select from Table 4 depending on the capacity type of the indoor unit.

To refrigerant branch kit or outdoor unit

To refrigerant branch kit or outdoor unit

Example of connection 2: When there is a branch downstream from the Branch Selector unit

Determine using Table 3 based on the total capacity of the indoor units connected downstream.

For information on selecting the size of piping between the refrigerant branch kits and between a refrigerant branch kit and the indoor unit, refer to the installation manual that came with the outdoor unit or Engineering Data Book.

Table 3 Indoor unit total capacity and pipe size

<table>
<thead>
<tr>
<th>Total capacity index of indoor units (x)</th>
<th>Pipe size (Outside diameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Upstream</td>
</tr>
<tr>
<td></td>
<td>Suction</td>
</tr>
<tr>
<td></td>
<td>in.</td>
</tr>
<tr>
<td></td>
<td>mm</td>
</tr>
<tr>
<td>x &lt; 54</td>
<td>5/8</td>
</tr>
<tr>
<td>54 ≤ x &lt; 72</td>
<td>3/4</td>
</tr>
<tr>
<td>72 ≤ x ≤ 96</td>
<td>7/8</td>
</tr>
</tbody>
</table>

Table 4 Indoor unit connection pipe size

<table>
<thead>
<tr>
<th>Capacity type of indoor units</th>
<th>Pipe size (Outside diameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas pipe</td>
</tr>
<tr>
<td></td>
<td>in.</td>
</tr>
<tr>
<td></td>
<td>mm</td>
</tr>
<tr>
<td>07, 09, 12, 18</td>
<td>1/2</td>
</tr>
<tr>
<td></td>
<td>1/4</td>
</tr>
<tr>
<td>24, 30, 36, 42, 48, 54</td>
<td>5/8</td>
</tr>
<tr>
<td>72</td>
<td>3/4</td>
</tr>
<tr>
<td>96</td>
<td>7/8</td>
</tr>
</tbody>
</table>

* The Branch Selector unit downstream connection pipe sizes are shown below. If the pipe diameter differs from that of the indoor unit connection pipe size selected from Table 4, follow the instructions in “5-5 Piping connection” and use the included pipe to make the connection.

Table 5 Branch Selector unit connection pipe size

<table>
<thead>
<tr>
<th>Branch Selector unit</th>
<th>Pipe size (Outer diameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas pipe</td>
</tr>
<tr>
<td></td>
<td>in.</td>
</tr>
<tr>
<td></td>
<td>mm</td>
</tr>
<tr>
<td>BSQ36TVJ</td>
<td>5/8</td>
</tr>
<tr>
<td>BSQ60TVJ</td>
<td>7/8</td>
</tr>
<tr>
<td>BSQ96TVJ</td>
<td>7/8</td>
</tr>
</tbody>
</table>
5-5 Piping connection
Follow the connection example below and connect the site piping.

BSQ36TVJ type

When the downstream indoor unit total capacity is 36 or less and when one indoor unit with a capacity of 24 to 36 is connected downstream.

BSQ60TVJ type

When the downstream indoor unit total capacity is more than 36 but less than 54 and when one indoor unit with a capacity of 42 to 54 is connected downstream.

BSQ96TVJ type

When the downstream indoor unit total capacity is more than 60 but less than 72 and when one indoor unit with a capacity of 96 is connected downstream.

When the downstream indoor unit total capacity is more than 60 but less than 72

When the downstream indoor unit total capacity is 72 or more but 96 or less and when one indoor unit with a capacity of 96 is connected downstream.
When one indoor unit with a capacity of 72 is connected downstream

5-6 Piping insulation

- After the gas leak inspection is completed, refer to the following figures and use the included insulation tube 3) and clamps 2) to apply the insulation.

--- CAUTION ---

- Insulate all of the piping including the liquid pipes, high/low pressure gas pipes, suction gas pipes, gas pipes, and the pipe connections for these. Not insulating these pipes could result in water leaks or burns. In particular, low-temperature gas flows in the high/low pressure gas pipes during full cooling operation, so the same amount of insulation as used for the suction gas pipes is required. In addition, high-temperature gas flows in the high/low pressure gas piping and gas piping, so use insulation that can withstand more than 250°F (120°C).

- When reinforcing the insulation material in accordance with the installation environment, also reinforce the insulation on the piping protruding from the unit. Insulation material required for reinforcement work should be supplied in the field. For more information, refer to the Engineering Data Book.

--- Insulation Installation Precautions ---

1. Seal so that air cannot be in and out of the end.
2. Do not over tighten the clamp so as to maintain the insulation thickness.
3. Be sure to attach the insulation (field supply) with the seams facing up. (See figure at right.)
6. ELECTRIC WIRING WORK

6-1 General instructions

- All wiring must be performed by an authorized electrician.
- All field supplied parts and materials, electric works must conform to local codes.
- Always ground wires. (In accordance with national regulations of the pertinent country.)
- Always turn off the power before performing the electric wire installation work.
- Follow the “WIRING DIAGRAM” attached to the unit body to wire the outdoor unit and indoor units.
- Properly connect wire of the specified wire type and copper thickness. Also use the included clamp to avoid applying excessive force to the terminal (field wire, ground wire).
- Do not let the ground wire should come in contact with gas pipes, water pipes, lighting rods, or telephone ground wires.
  - Gas pipes: gas leaks can cause explosions and fire.
  - Water pipes: cannot be grounded if hard vinyl pipes are used.
  - Telephone ground and lightning rods: the ground potential when struck by lightning gets extremely high.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.
- This system consists of multiple Branch Selector unit. Mark each Branch Selector unit as unit A, unit B . . . , and be sure the terminal board wiring to the outdoor unit and indoor unit are properly matched. If wiring and piping between the outdoor unit, Branch Selector unit and an indoor unit are mismatched, the system may cause a malfunction.
- Do not turn on the power supply (branch switches, overload interrupters) until all other work is done.

6-2 Example for the whole system

6-3 Power circuit, safety device and cable requirements

- A power circuit (refer to Table 6) must be provided for connection of the unit. The circuit must be protected with safety devices in accordance with local and national codes. i.e a fuse, a circuit breaker or a GFCI.
- When using residual current operated circuit breakers, be sure to use a high-speed type (0.1 second or less) 30 mA rated residual operating current.
- Use copper conductors only.
- Use insulated wire for the power cord.
- Select the power supply cable type and size in accordance with relevant local and national regulations.
- Use vinyl cord with sheath or cable (2-wire) of AWG 18-16 for transmission wiring.
### Table 6

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Hz</th>
<th>Voltage</th>
<th>Voltage range</th>
<th>Power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td>BSQ36TVJ</td>
<td>VJ</td>
<td>60</td>
<td>208/230</td>
<td>187</td>
<td>253</td>
</tr>
<tr>
<td>BSQ60TVJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSQ96TVJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MCA: Minimum Circuit Ampacity (A); MOP: Maximum Overcurrent Protective Device (A)

**NOTE**
- Table 6 of electrical characteristics refers to one Branch Selector unit.
- See the Engineering Data Book for other details.

### 6-4 Wiring example

**WARNING**
Install circuit protection safety devices in accordance with local and national codes.
Failure to install circuit protection safety devices in accordance with local and national codes may result in electric shock or fire.

- Here is shown a wiring example for one system transmission wiring.
- Connect “TO IN/D UNIT (F1, F2)” terminals on the printed circuit board of the outdoor unit and “TO OUT/D UNIT (F1, F2)” terminals on the printed circuit board of the first Branch Selector unit A.

### NOTE
1. Connect cooling-dedicated air conditioners to “TO OUT/D UNIT (F1, F2)” terminals of the final Branch Selector unit.
2. Use 2-core wire for the transmission wiring. Using a multi-core wire with 3 or more cores when 2 or more indoor units are used at once could cause abnormal stoppage. (Only use 3-core wire in the COOL/HEAT SELECTOR.)
3. Absolutely do not connect the power supply wiring to the transmission wiring terminal block. Doing so could damage the entire system.
4. For the transmission wiring, use wire that is within the following ranges. Exceeding these limits could cause a transmission error.
   - **(1)** Between the Branch Selector unit and indoor units: Max. 3,280 ft. (1,000 m)
   - Between the Branch Selector unit and outdoor unit: Max. 3,280 ft. (1,000 m)
   - Between Branch Selector units: Max. 3,280 ft. (1,000 m)
   - Total wiring length: 6,560 ft. (2,000 m) or less
   - Branch point max: 16 branch points
   - **(2)** Between a Branch Selector unit and COOL/HEAT SELECTOR
   - Maximum wiring length: 1,640 ft. (500 m) or less
5. When the shield wire is used, be sure to ground the one side of the shield wire.
   - The total wiring length is 4,920 ft. (1,500 m) when shielded wire is used.
6-5  **Wiring connections**

Remove the control box cover on the side and follow the directions to connect the wires.

**(Transmission wiring)**

Remove the control box cover and connect the wires to “TO IN/D UNIT (F1, F2)” and “TO OUT/D UNIT (F1, F2)” terminals (printed circuit board (A1P)).

At this time, pass the wiring into the unit through the wiring through hole (left) and use the included clamps 2) to securely hold the wires (in 2 places).

**(Power supply wiring and ground wire)**

Remove the control box cover and connect the power supply wiring to the power terminal block (X1M).

Also connect the ground wire to the ground wire terminal. Pass both the power supply wire and the ground wire together through the wire through hole (right) and into the control box and use the included clamps 2) to securely hold the wires (in 2 places).

Be sure to wire the ground wire so that comes out of the slit in the cup washer.

(Not doing so could cause insufficient ground wire contact and causing the wire not to function as a ground.)
NOTE

- Use ring-type crimp style terminal for connections to the power terminal block. (Refer to Fig. 6.) Also, insulate the crimped area by attaching an insulation sleeve, etc.
- Use an appropriate screwdriver for tightening the terminal screw. Using a screwdriver that is too small could damage the screw head and prevent proper tightening.
- Over tightening the terminal screw could damage the screw. Refer to the Table 7 for the terminal screw tightening torque.
- When fastening the wire, use the included clamp 2) so as not to apply tensile force to the wire connection and then securely fasten the wire. Also, after wiring is completed, organize the wiring so that the control box cover does not pop up and then properly replace the control box cover. Make sure no wires are pinched when replacing the control box cover. Always use the wire through hole to protect the wires.
- Do not pass the transmission wiring and power supply wiring through the same locations and outside of the unit keep them separated by at least 2 in. (50 mm). Not doing so could cause the transmission wiring to pick up electric noise (external noise) and result in a malfunction or breakdown.
- After the wiring working is complete, use sealer (field supply) to seal closed the wire through hole. (Entry by small animals, etc., could cause a malfunction.)

7. INITIAL SETTING

--- WARNING ---
Electric shock hazard! Before performing work, be sure to disconnect any power source connected to the unit.

- When the refrigerant piping and wire installation work is completed, make the following settings as required.

1. Setting for when connecting the COOL/HEAT SELECTOR to the Branch Selector unit.

   (Setting description) Set the input signal from the COOL/HEAT SELECTOR (sold separately) to ON/OFF.

   (Setting method) Set the dip switches (DS1-1) on printed circuit board (A1P) as shown below before turning on the power to the Branch Selector unit.

   ![Diagram of DS1(A1P)](image)

   Turn on DS1-1.

   Table 7

<table>
<thead>
<tr>
<th>Terminal screw size</th>
<th>Tightening torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3.5 (COOL/HEAT SELECTOR/transmission wiring terminal block (A1P))</td>
<td>0.65±0.05 ft.lbf (0.88±0.08 N·m)</td>
</tr>
<tr>
<td>M4 (Power supply terminal block)</td>
<td>0.97±0.09 ft.lbf (1.31±0.13 N·m)</td>
</tr>
<tr>
<td>M4 (Ground terminal)</td>
<td>1.25±0.12 ft.lbf (1.69±0.17 N·m)</td>
</tr>
</tbody>
</table>

NOTE
This setting is read by the microcomputer when the Branch Selector unit power is turned on.
- Be sure to make the setting before turning on the power.
- Always close the control box cover after making the setting.
2. Setting when changing the “Automatic mode differential” in the Cooling/Heating Automatic Operation Mode.

〈Setting description〉
• The “Automatic mode differential” can be changed within the range of 0°F (0°C) to 12.6°F (7°C) (0°F (0°C) at factory shipment).
• For details regarding the “Automatic mode differential” and indoor unit operation, refer to the Engineering Data Book.

〈Setting method〉
The setting is made using the “Local setting mode” by the remote controller of indoor unit connected to the Branch Selector unit.
For information regarding the setting method, refer to the Engineering Data Book.
The following table gives a list of the “MODE NO.,” “FIRST CODE NO.,” and “SECOND CODE NO."

<table>
<thead>
<tr>
<th>MODE NO.</th>
<th>FIRST CODE NO.</th>
<th>SECOND CODE NO.</th>
<th>Automatic mode differential °F (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>0 (0)</td>
</tr>
<tr>
<td>12 (22)</td>
<td>4</td>
<td>2</td>
<td>1.8 (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>3.6 (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>5.4 (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>7.2 (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>9.0 (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>10.8 (6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>12.6 (7)</td>
</tr>
</tbody>
</table>

← At factory shipment.

NOTE
This setting is operated by the operation remote controller while the indoor unit power is turned on.
• When the indoor unit, outdoor unit, and Branch Selector unit installation work is completed, confirm that it is safe even with the power turned on before proceeding with the work.

8. ADDING AN ADDITIONAL CHARGE OF REFRIGERANT
Follow the instructions in the installation manual that came with the outdoor unit to add an additional charge of refrigerant.

9. CHECK OPERATION AND TEST OPERATION
(1) Verify that the control box cover is closed.
(2) Refer to the installation manual included with the outdoor unit and conduct a check and a test run after all the work on the Branch Selector unit and outdoor and indoor units is completed and the operational safety of the units is confirmed.
• You will hear the motor operated valve operating sound for about 90 seconds as it is automatically initialized (closed) after power is turned on, but this is not a problem.
• System malfunctions can be verified by means of the following method:
  Indication on the indoor operation remote controller
  Overall system malfunctions, including of the Branch Selector unit, can be identified using the LCD malfunction display on the operation remote controller. For more information about the malfunction display and its significance, refer to the service precaution name plate affixed to the indoor unit and the user manual included with the outdoor unit.
DAIKIN INDUSTRIES, LTD.
Head office:
Umeda Center Bldg., 2-4-12, Nakazaki-Nishi,
Kita-ku, Osaka, 530-8323 Japan
Tokyo office:
JR Shinagawa East Bldg., 2-18-1, Konan,
Minato-ku, Tokyo, 108-0075 Japan

DAIKIN NORTH AMERICA LLC
5151 San Felipe, Suite 500
Houston, TX 77056