Engineering Data

VAM-GVJU

Energy Recovery Ventilator
VAM-GVJU
Energy Recovery Ventilators

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# 1. Specifications

<table>
<thead>
<tr>
<th>Model name</th>
<th>VAM300GVJU</th>
<th>VAM470GVJU</th>
<th>VAM600GVJU</th>
<th>VAM1200GVJU</th>
</tr>
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<tbody>
<tr>
<td><strong>Airflow</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Temperature recovery efficiency percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td>100 %</td>
<td>65</td>
<td>68</td>
<td>72</td>
</tr>
<tr>
<td>Heating</td>
<td>75 %</td>
<td>70</td>
<td>72</td>
<td>74</td>
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<td></td>
<td>75 %</td>
<td>65</td>
<td>66</td>
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<td>Enthalpy recovery efficiency percentage</td>
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<tr>
<td>Cooling</td>
<td>100 %</td>
<td>40</td>
<td>45</td>
<td>49</td>
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<tr>
<td>Heating</td>
<td>75 %</td>
<td>48</td>
<td>50</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>75 %</td>
<td>57</td>
<td>59</td>
<td>60</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single phase 208/230V, 60Hz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating current</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat exchange</td>
<td>EX-H</td>
<td>A</td>
<td>1.4</td>
<td>3.5</td>
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<tr>
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<td>H</td>
<td>A</td>
<td>1.2</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>A</td>
<td>0.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Bypass</td>
<td>EX-H</td>
<td>A</td>
<td>1.4</td>
<td>3.5</td>
</tr>
<tr>
<td>mode</td>
<td>H</td>
<td>A</td>
<td>1.2</td>
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<td></td>
<td>L</td>
<td>A</td>
<td>0.7</td>
<td>2.5</td>
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<tr>
<td><strong>Power consumption</strong></td>
<td></td>
<td></td>
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<tr>
<td>Heat exchange</td>
<td>EX-H</td>
<td>W</td>
<td>307</td>
<td>776</td>
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<tr>
<td>mode</td>
<td>H</td>
<td>W</td>
<td>274</td>
<td>672</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>W</td>
<td>146</td>
<td>545</td>
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<td>Bypass</td>
<td>EX-H</td>
<td>W</td>
<td>307</td>
<td>776</td>
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<tr>
<td>mode</td>
<td>H</td>
<td>W</td>
<td>274</td>
<td>672</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>W</td>
<td>146</td>
<td>545</td>
</tr>
<tr>
<td><strong>Casing</strong></td>
<td>Galvanized steel plate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Insulation material</strong></td>
<td>Self-extinguishing urethane foam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Connection duct diameter</strong></td>
<td>in.</td>
<td>φ 8</td>
<td>φ 10</td>
<td>φ 14</td>
</tr>
<tr>
<td><strong>Heat exchange system</strong></td>
<td>Air to air cross flow total heat (Sensible + Latent heat) exchange</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heat exchanger core</strong></td>
<td>Specially processed nonflammable paper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Air filter</strong></td>
<td>Multidirectional fibrous fleeces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motor output</strong></td>
<td>EX-H</td>
<td>cfm</td>
<td>300</td>
<td>470</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>cfm</td>
<td>300</td>
<td>470</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>cfm</td>
<td>170</td>
<td>390</td>
</tr>
<tr>
<td><strong>Airflow rate</strong></td>
<td>EX-H</td>
<td>cfm</td>
<td>300</td>
<td>470</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>cfm</td>
<td>300</td>
<td>470</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>cfm</td>
<td>170</td>
<td>390</td>
</tr>
<tr>
<td><strong>External static pressure</strong></td>
<td>EX-H</td>
<td>in. H₂O</td>
<td>0.64</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>in. H₂O</td>
<td>0.26</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>in. H₂O</td>
<td>0.16</td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Operating sound</strong></td>
<td>EX-H</td>
<td>dB(A)</td>
<td>37.0</td>
<td>42.0</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>dB(A)</td>
<td>33.5</td>
<td>38.5</td>
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<tr>
<td></td>
<td>L</td>
<td>dB(A)</td>
<td>25.5</td>
<td>35.0</td>
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<tr>
<td><strong>Weight</strong></td>
<td>LBS</td>
<td>71</td>
<td>121</td>
<td>148</td>
</tr>
</tbody>
</table>

**Note:**

1. Efficiency is rated based on ANSI/AHRI standard 1060.
2. Operating current and power consumption vary depending on the condition.
3. Operating sound is measured at 59 in. below the center of the unit in an anechoic chamber.
   - Operating sound level generally becomes greater than this value depending on the operating conditions, reflected sound and peripheral noise.
4. The sound level at the air discharge port is about 8 dB higher than the above operating sound.
5. The specifications, designs and information here are subject to change without notice.

---

**Specifications**

*EDUS711116*

**VAM-GVJU**
2. Dimensions

VAM300GVJU

Unit (in.)

VAM470GVJU

Unit (in.)

Note:
1. Be sure to provide an inspection hatch (10x10 in.) to inspect air filters, heat exchanger cores and fans.

3D073380

3D073381
VAM600GVJU

Service access for heat exchanger, air filter, and fans

Unit (in.)

Dimensions

VAM1200GVJU

Service access for heat exchanger, air filter, and fans

Unit (in.)

Note:
1. Be sure to provide an inspection hatch (18X18 in.) to inspect air filters, heat exchanger cores and fans.

3D0733B2

3D0733B3
3. Wiring Diagrams

For the VAM300GVJU/VAM470GVJU/VAM600GVJU units, if using the Central Remote Controller, connect it to the unit in accordance with the attached manual. If using the Adapter PCB, connect it to the unit in accordance with the attached manual.
IF USING THE CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED MANUAL.

IF USING THE ADAPTER PCB, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED MANUAL.
4. Electric Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Hz</th>
<th>Volts</th>
<th>Voltage range</th>
<th>MCA</th>
<th>MOP</th>
<th>KW</th>
<th>FLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAM300GVJU</td>
<td>60</td>
<td>208V/230V</td>
<td>Max. 253V</td>
<td>1.6</td>
<td>15</td>
<td>0.09x2</td>
<td>1.4</td>
</tr>
<tr>
<td>VAM470GVJU</td>
<td>60</td>
<td>208V/230V</td>
<td>Min. 187V</td>
<td>3.9</td>
<td>15</td>
<td>0.28x2</td>
<td>3.5</td>
</tr>
<tr>
<td>VAM600GVJU</td>
<td>60</td>
<td>208V/230V</td>
<td>Max. 253V</td>
<td>4.2</td>
<td>15</td>
<td>0.28x2</td>
<td>3.7</td>
</tr>
<tr>
<td>VAM1200GVJU</td>
<td>60</td>
<td>208V/230V</td>
<td>Max. 253V</td>
<td>8.1</td>
<td>15</td>
<td>0.28x4</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Symbols:
- MCA: Min. Circuit Amps (A)
- MOP: Max. Overcurrent Protective Device (A)
- KW: Fan Motor Rated Output (kW)
- FLA: Full Load Amps (A)
- FM: Fan Motor

Note:
1. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
2. Maximum allowable voltage unbalance between phases is 2%.
3. MCA/MFA
   \[
   \text{MCA} = 1.25 \times \text{FLA(FM1)} + \text{FLA(FM2)}
   \]
4. Select wire size based on MCA.
5. Sound Levels

5.1 Overall Sound Level

Notes:
1. Operating sound is measured in an anechoic chamber.
2. The operating sound level becomes greater than this value depending on the operating conditions, reflected sound and peripheral noise.
3. Operating sound varies depending on operating and ambient conditions.

<table>
<thead>
<tr>
<th>Model name</th>
<th>Airflow rate</th>
<th>dBA</th>
<th>Power source</th>
<th>Single phase 208V, 60Hz</th>
<th>ERV mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAM300GVJU</td>
<td>Ex-H</td>
<td>34.5</td>
<td>Single phase 208V, 60Hz</td>
<td>31.5</td>
<td>21.5</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>40.0</td>
<td>Single phase 230V, 60Hz</td>
<td>37.0</td>
<td>33.0</td>
</tr>
<tr>
<td>VAM470GVJU</td>
<td>L</td>
<td>41.0</td>
<td>ERV mode</td>
<td>37.0</td>
<td>33.1</td>
</tr>
<tr>
<td></td>
<td>Ex-H</td>
<td>43.0</td>
<td></td>
<td>39.0</td>
<td>35.0</td>
</tr>
<tr>
<td>VAM600GVJU</td>
<td>H</td>
<td>54.0</td>
<td></td>
<td>50.9</td>
<td>42.8</td>
</tr>
<tr>
<td>VAM1200GVJU</td>
<td>L</td>
<td>58.6</td>
<td></td>
<td>56.0</td>
<td>52.9</td>
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</tbody>
</table>

5.2 Sound Power Level

Notes:
1. These values are based on AHRI Standard 260 “Sound Rating of Ducted Air Moving and Conditioning Equipment.”
2. Power level varies depending on operating and ambient conditions.

<table>
<thead>
<tr>
<th>Model name</th>
<th>Airflow rate</th>
<th>DBA</th>
<th>Power source</th>
<th>Single phase 208V, 60Hz</th>
<th>ERV mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAM300GVJU</td>
<td>Ex-H</td>
<td>54.0</td>
<td>Single phase 208V, 60Hz</td>
<td>50.9</td>
<td>42.8</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>58.6</td>
<td>Single phase 230V, 60Hz</td>
<td>56.0</td>
<td>52.9</td>
</tr>
<tr>
<td>VAM470GVJU</td>
<td>L</td>
<td>57.7</td>
<td>ERV mode</td>
<td>54.9</td>
<td>52.0</td>
</tr>
<tr>
<td>VAM1200GVJU</td>
<td>H</td>
<td>62.2</td>
<td></td>
<td>58.8</td>
<td>51.4</td>
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</table>
5.3 Octave Band Level

5.3.1 208V

208V, 60Hz

VAM300GVJU

VAM470GVJU

VAM600GVJU

VAM1200GVJU
5.3.2 230V

230V, 60Hz
VAM300GVJU

VAM470GVJU

VAM600GVJU

VAM1200GVJU
6. Performance Characteristics

**VAM300GVJU**

- 60 Hz, 230V
- 60 Hz, 208V

**VAM470GVJU**

- 60 Hz, 230V
- 60 Hz, 208V

**VAM600GVJU**

- 60 Hz, 230V
- 60 Hz, 208V

**VAM1200GVJU**

- 60 Hz, 230V
- 60 Hz, 208V
7. Installation Drawing

VAM300GVJU

VAM470GVJU
8. Installation Manual

- VAM300GVJU, VAM470GVJU, VAM600GVJU

- VAM1200GVJU

<table>
<thead>
<tr>
<th>Model name</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAM1200GVJU</td>
<td>43-11/16</td>
<td>47-13/16</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>49-5/8</td>
<td>–</td>
<td>19-5/8</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

100 or higher from the floor for installation in high places
1. SAFETY CONSIDERATIONS ........................................ 1
2. BEFORE INSTALLATION ..................................... 2
3. SELECTING INSTALLATION SITE ......................... 3
4. PREPARATIONS BEFORE INSTALLATION ............... 3
5. THE METHOD OF INSTALLATION ........................... 4
6. DUCT CONNECTION ........................................ 5
7. SYSTEM ...................................................... 6
8. ELECTRIC WIRING WORK ................................... 8
9. FIELD SETTING AND TEST RUN .......................... 13
10. DESCRIPTION OF SYSTEM AND APPLICABLE PATTERNS ........................................... 15

1. SAFETY CONSIDERATIONS
Read these “SAFETY CONSIDERATIONS for Installation” carefully before installing the ERV unit. After completing the installation, make sure that the unit operates properly during a test run.

Instruct the customer on how to operate and maintain the unit. Inform the customer that this Installation Manual should be kept 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.

Means of DANGER, WARNING, CAUTION and NOTE Symbols:

\[\text{DANGER}\] Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

\[\text{WARNING}\] Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

\[\text{CAUTION}\] 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.

\[\text{NOTE}\] Indicates situations that may result in equipment or property-damage accidents only.

\[\text{DANGER}\] Do not ground units to water pipes, gas pipes, telephone wires or lightning rods as incomplete grounding can cause a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes could cause a gas leak and potential explosion causing severe injury or death.

Do not install unit in an area where flammable materials are present due to risk of explosions that can cause serious injury or death.

Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails, other metal or wood parts, including plastic packing materials used for transportation may cause injuries or death by suffocation.

\[\text{WARNING}\] Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation may result in water leakage, electric shock or fire.

Use only specified accessories and parts for installation work. Failure to use specified parts may result in water leakage, electric shocks, fire or the unit falling.

Install the unit on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength may result in the unit falling and causing injuries.

Take into account strong winds, typhoons or earthquakes when installing. Improper installation may result in the unit falling and causing accidents.

Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local state and national regulations. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.

Make sure that all wiring is secured, that specified wires are used and that no external forces act on the terminal connections or wires. Improper connections or installation may result in fire.

When wiring, position the wires so that the control box cover can be securely fastened. Improper positioning of the control box cover may result in electric shocks, fire or the terminals overheating.

Before touching electrical parts, turn off the unit.

Be sure to install a ground fault circuit interrupter if one is not already available. This helps prevent electrical shocks or fire.

Do not change the setting of the protection devices. If the pressure switch, thermal switch or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion may occur.

Locate the outdoor air intake vent so that it does not take in exhaust air which contains combustion air, etc. Incorrect installation may cause a loss of oxygen in the room, leading to serious accidents.

Install the two outdoor ducts with down slope to prevent rainwater from entering the unit. If this is not done completely, water may enter the building, damage furniture, and cause electric shocks and fire.

Insulate the duct and the wall electrically when a metal duct is to be penetrated through the metal lattice and wire lattice or metal lining of a wooden structure wall. Improper duct work may cause electric shocks or fire.

Make sure the temperature and humidity near the unit and the air suction/discharge air grille is within limit dictated by the usage conditions.

1. Refrigerated truck or other locations with low temperatures.
2. Place such as bathroom or heated pools subjected to moisture.

This may cause fires or electric leak or electric shocks.

Make sure that a snow protection measure is taken. If no protection snow may enter through the outdoor ducts, and cause damaging furniture and electric shock and fire.
CAUTION

- Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.
- Do not allow children to play on or around the unit to prevent injury.
- Be careful when transporting the product.
- Do not install the unit in the following locations:
  (a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen. Plastic parts may deteriorate and fall off or result in water leakage.
  (b) Where corrosive gas, such as sulfuric acid gas, is produced. Corroding copper pipes or soldered parts may result in damage.
  (c) Near machinery emitting electromagnetic waves. Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.
  (d) Where flammable gas may leak, where there is carbon fiber or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions can cause a fire.
- Do not allow exhaust air to enter the outdoor air intake vent. This may cause the air of the room to become contaminated, harming the health.

NOTE

- Install the power supply and control wires for the unit at least 3.3 feet away from televisions or radios to prevent image interference or noise. Depending on the radio waves, a distance of 3.3 feet may not be sufficient to eliminate the noise.
- Dismantling the unit and additional parts must be done in accordance with the relevant local, state and national regulations.
- This unit is an appliance that should not be accessible to the general public.
- Insulate the two outdoor ducts and the supply air duct to prevent condensation. If this is not done completely, water may enter the building, may damage furniture, etc.
- In areas where insects are easily attracted to a light, such as where there is a window or light near a ventilation opening, extremely small insects can sometimes infiltrate the room by passing through the ventilation opening. Since totally preventing against infiltration by extremely small insects is difficult, it is important to consider a serious solution like a filter box (field supply) during the design process to protect against insect infiltration.

2. BEFORE INSTALLATION

The accessories needed for installation must be retained in your custody until the installation work is completed. Do not discard them!

1. Decide upon a line of transport.
2. 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.

Hold the unit by the hanger brackets (4) when opening the crate and moving it, and do not lift it holding on to any other part (especially the duct connecting flange).

2-1 PRECAUTIONS

- Be sure to instruct customers how to properly operate the unit (especially maintenance of air filter, and operation procedure) by having them carry out operations themselves while looking at the manual.
- 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.

2-2 DIMENSIONS

- See figure 1 (All dimensions are in inches.)
  1. Service space for the heat exchanger cores, the air filters, control box and fans
  2. Service cover
  3. Inspection hatch (218 in.)
  4. Control box
  5. Hanger bracket (7/16×1-9/16 in. oval hole)
  6. Exhaust fan
  7. OA (Outdoor air) Outdoor air from outside
  8. EA (Exhaust air) Exhaust air to outside
  9. Supply air fan
  10. SA (Supply air) Supply air to inside
  11. RA (Return air) Return air from inside
  12. Damper
  13. Heat exchanger core
  14. Air filters
  15. Duct connecting flange

2-3 ACCESSORIES

Check the following accessories are included with your unit.

<table>
<thead>
<tr>
<th>Name</th>
<th>Duct connecting flange</th>
<th>M4 tapping screw (For connecting duct)</th>
<th>Wire harness for external damper operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>4 pcs.</td>
<td>Refer to Table 1</td>
<td>1 pc.</td>
</tr>
<tr>
<td>Shape</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Clamp</th>
<th>Insulation tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>5 pcs.</td>
<td>1 pc.</td>
</tr>
<tr>
<td>Shape</td>
<td></td>
<td>(Other)</td>
</tr>
</tbody>
</table>

- Installation manual
- Operation manual
2-4  OPTIONAL ACCESSORIES

- This unit can be made a part of different systems: as part of the interlocking system used together with VRV System, and as an independent system using only the ERV. A remote controller is required for this unit when using the unit as an independent system.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Quantity of tapping screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model name</td>
<td>Quantity</td>
</tr>
<tr>
<td>VAM300GVJU</td>
<td>16 pcs.</td>
</tr>
<tr>
<td>VAM470GVJU, 600GVJU, 1200GVJU</td>
<td>24 pcs.</td>
</tr>
</tbody>
</table>

3. SELECTING INSTALLATION SITE

**CAUTION**

- When moving the unit during or after unpacking, make sure to lift it by holding its hanger brackets. Do not exert any pressure on other parts, especially duct connecting flange.
- Attach additional thermal insulation material to the unit body when it is believed that the temperature and the relative humidity in the ceiling exceed 86°F and 80%. Use glass wool, polyethylene foam, or similar with a thickness of 7/8 in. or more as thermal insulation material.

1. Select an installation site where the following conditions are fulfilled and that meet with your customer's approval.
   - Install in a place which has sufficient strength and stability. (Beams, ceiling and other locations capable of fully supporting the weight of the unit.)
   - Insufficient strength is dangerous. It may also cause vibration and unusual operating noise.
   - Where nothing blocks air passage.
   - Do not install the unit directly against a ceiling or wall. (If the unit is in contact with the ceiling or wall, it can cause vibration.)
   - Where sufficient clearance for maintenance and service can be ensured.

**[PRECAUTION]**

- Install the unit, power supply wiring and transmission wiring at least 40 in. away from televisions or radios in order to prevent image interference or noise. (Depending on the radio waves, a distance of 40 in. may not be sufficient enough to eliminate the electric noise.)
- The bellows may not be used in some districts, so exercise caution. (Contact your local government office or fire department for details.)

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. (Installation pitch is mentioned as follows. Refer to it to check for points requiring reinforcing.)

4. PREPARATIONS BEFORE INSTALLATION

1. Confirm the positional relationship between the unit and suspension bolts. (Refer to figure 1)
   Leave space for servicing the unit and include an inspection hatch. (Always open a hole on the side of the control box so that the air filters, heat exchanger cores and fans can be easily inspected and serviced.)

2. Make sure the range of external static pressure is not exceeded.
   See the fan speed and static pressure performance characteristic drawing as well as the general catalog for the range of the external static pressure setting.

3. Open the installation hole. (Pre-set ceilings)
   - Once the installation hole is opened in the ceiling where the unit is to be installed, pass transmission wiring and remote controller wiring to the unit’s wiring hole. See “8-2 WIRING EXAMPLE”.
   - After opening the ceiling hole, make sure ceiling is level if needed. It might be necessary to reinforce the ceiling frame to prevent shaking. Consult an architect or carpenter for details.
4. Install the suspension bolts.
(Use 1/2"UNC suspension bolts.)
Use a hole-in-anchor, sunken insert, sunken anchor for existing ceilings, or other part to be procured in the field to reinforce the ceiling to bearing the weight of the unit.

![Diagram of suspension bolts and anchor](image)

Note: All the above parts are field supply.

5. THE METHOD OF INSTALLATION

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

- Example of Installation, VAM300GVJU (See figure 2), VAM470GVJU, VAM600GVJU (See figure 3), VAM1200GVJU (See figure 4)
  1. Air suction/discharge grille (field supply)
  2. Inspection hatch (18 in.) (field supply)
  3. Service space for the heat exchanger cores, air filters, control box and fans
  4. Duct (field supply)
  5. Duct (field supply) or flexible duct (field supply)
  6. Branch duct (field supply) (only for VAM470GVJU-1200GVJU)
  7. Flexible duct (field supply)
  8. Silencer (field supply)
  9. EA (Exhaust air to outside)
  10. Thermal insulation (field supply)
  11. OA (Outdoor air from outside)
  12. Suspension bracket for absorbing vibration (field supply)
  13. Suspension bolt (field supply)
  14. Gradient of down to outside ≥ 1/30
  15. SA (Supply air to inside)
  16. RA (Return air from inside)
  17. Round hood (field supply)
  18. Suspension bolt position

<Cautions on installing the ducts>

- When using the unit at a quiet place, use a silencer (field supply) and flexible duct (field supply) at the part of the air discharge outlet on the indoor side “SA” (supply air to inside) of the unit to counter the noise.
- When selecting installation materials, consider the required volume of airflow and noise level in that particular installation.
- When the outdoor air infiltrates into the ceiling and the temperature and humidity in the ceiling become high, insulate the metal portions of the unit.

(1) Attach duct connecting flange

<VAM300GVJU>
Attach the 4 included duct connecting flanges using the included screws.
Match the symbol on the duct joints (the triangle △ on the flange) to the position marking on the unit when attaching.

![Diagram of duct connecting flanges](image)

<VAM470GVJU, VAM600GVJU, VAM1200GVJU>
Attach the 4 included duct joints using the included screws.

![Diagram of duct joints](image)

-In case of VAM1200GVJU>

1. Screw
2. Duct joint symbol
3. Duct connecting flange
4. Unit position marking

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of screws</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAM300GVJU</td>
<td>16</td>
</tr>
<tr>
<td>VAM470GVJU</td>
<td>24</td>
</tr>
<tr>
<td>VAM600GVJU</td>
<td>24</td>
</tr>
<tr>
<td>VAM1200GVJU</td>
<td>24</td>
</tr>
</tbody>
</table>

(2) Installing the unit

Pass hanger bracket over the bolts and secure with commercially available washers and nuts.
(When installing the unit, make sure there are no foreign objects (plastic, paper, etc.) inside the fan housing by looking inside through the duct hole before connecting the duct.)
- When reversing the hanger brackets in order to install the unit upside down, be sure to secure them with the original screws.
- Attach the indoor (SA, RA) and outdoor (EA, OA) ducts by referring to figure 2 to 4.
6. **DUCT CONNECTION**

*Perform duct work by following instructions below*

1. Do not connect the ducts as shown below.
   - **Extreme bend** : Do not bend the duct over 90°.
   - **Multi bend** : Reduce the diameter of the duct to be connected.
   - **A bend right next to the outlet** : Do not reduce the duct diameter halfway.

2. The minimum radius of bends for flexible ducts are as follows:
   - 4 in. diameter duct : 4 in.
   - 6 in. diameter duct : 6 in.
   - 8 in. diameter duct : 12 in.
   - 10 in. diameter duct : 15 in.

3. To prevent air leakage, wind aluminum tape round the section after the duct connecting flange and the duct are connected. (Refer to the figure below.)

4. To prevent air leakage, install the opening of the indoor air intake as far as from the opening of the exhaust suction.

5. Use the duct applicable to the unit used (Refer to figure 1.)

6. Install the two outdoor ducts with down slope (slope of 1/30 or more) to prevent entry of rain water. Also, provide insulation for both ducts to prevent dew formation. (Material : Glass wool of 1 in. thick)
   - If the unit is going to be used in cold places where the outside temperature reaches 14°F or below, insulate the indoor ducts as well.

7. If the level of temperature and humidity inside the ceiling is always high, install a ventilation equipment inside the ceiling.

8. Insulate the duct and the wall electrically when a metal duct is to be penetrated through the metal lattice and wire lattice or metal lining of a wooden structure wall.

9. Using flexible or silent ducts can be effective in reducing the air discharge sound of the supply air to inside (SA).
   - Select materials keeping in mind the fan speed and operating sound of the unit. Consult your Daikin dealer for selection.

10. Set the pitch between the exhaust air outlet (EA) and the outdoor air intake (OA) to at least 3 times the duct diameter.

11. Do not use a bent cap or a round hood as the outdoor hood if they might get rained on directly. (We recommend using a deep hood (field supply).)

12. When using a deep hood, make sure the duct from the deep hood (outer wall) to the unit is at least 40 in. long.

Select the proper materials taking fan speed and noise levels into consideration before installation.

- Aluminum tape (field supply)
- Insulation material (field supply)
- Duct connecting flange (accessory)
- Slope over 1/30
- OA (Outdoor air) Outdoor air from outside
- EA (Exhaust air to outside)
- Suspension bolt (field supply)
- Suspension bracket for absorbing vibration (field supply)
# 7. SYSTEM

## 7-1 Independent system

### Interlocking system with VRV or SkyAir system

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>Standard method</th>
<th>Related items in Electric wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent system</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| ![Diagram](image) | • Up to 16 units can be controlled with the remote controller. (A system with two remote controls can be created in the main/sub setting.)  
• All ERV operations can be used and indicated.  
• Operation monitor output and humidifier operation are possible using the Adapter PCB.  
• Remote control cord should be field supply. (Maximum cord length: 1640 ft.) | 10-1-1 |

### 1-group linked operation system

| ![Diagram](image) | • A combined total of up to 16 air conditioners and the ERV can be controlled.  
• The ERV mode can be operated independently when air conditioners are not being used.  
• Using the field setting of the remote controller for air conditioners, various settings such as pre-cool/pre-heat reservation on/off, ventilation rate, ventilation mode, etc. | 10-2-1 |

### Multi-group (2 or more) linked operation system

| ![Diagram](image) | • Since all VRV units are connected to a single line in view of installation, all VRV units are subjects for operation.  
• If there are problems operating all VRV units, do not use this system. | 10-2-3 |

---

**NOTE**

(1) Adapter PCB: KPR50-2; Installation box for adapter PCB: KRP50-2A90  
(2) Operation of two or more group is not possible with a direct duct connection as below.  
(3) The direct duct connection can also be selected for 1-group linked operation system.
## 7-2 CENTRALIZED CONTROL SYSTEM (VRV SYSTEM)

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>Standard method</th>
<th>Related items in Electric wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>“All”/Individual control system</td>
<td>• Use of the ON/OFF controller, Adapter PCB for remote control, Schedule timer, ON/OFF controller.</td>
<td>10-3-2</td>
</tr>
<tr>
<td>Centralized control system</td>
<td>• The ON/OFF controller can turn on or off the individual units. • The schedule timer and ON/OFF controller can be used together. However, the Adapter PCB for remote control cannot be used with another centralized control device.</td>
<td></td>
</tr>
<tr>
<td>Zone control system</td>
<td>• Use of the centralized controller enables zone control via the centralized control line. (maximum of 64 zones) • The centralized controller displays the “Filter” indication and abnormality warnings, and enables resetting. • The centralized controller allows ventilation operation for each zone independently.</td>
<td>10-3-3</td>
</tr>
</tbody>
</table>

### [Caution]

(1) Adapter PCB: KRP50-2, schedule timer DST301BA61, ON/OFF controller. DCS301C71, Central remote controller: DCS302C71
8. ELECTRIC WIRING WORK

- Shut off the power supply before doing any work.
- All field supplied parts, materials and electric works must conform to local codes.
- Use copper wire only.
- All wiring must be performed by an authorized electrician.
- See also the “Wiring Diagram label” attached to the control box cover when laying electrical wiring.
- Wire the remote controller as shown in the wiring diagram label. See the “Remote Controller Installation Manual” for details on how to install and lay the wiring for the remote controller.
- Install a ground fault circuit interrupter for the power supply wiring.
- Make sure the ground resistance is no greater than 100Ω. This value can be as high as 500Ω when using a ground fault circuit interrupter since the protective ground resistance can be applied.
- Do not let the ground wire come in contact with gas pipes, water pipes, lightning 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.
- Do not turn on the power supply (wiring interrupter or ground fault circuit interrupter) until all other work is done.
- Use vinyl cord with sheath or cable (2 wire) of AWG18-16 for transmission wiring.

--- CAUTION ---

Before obtaining access to terminal devices, all power supply circuits must be interrupted.

8-1 PRECAUTIONS WHEN LAYING POWER SUPPLY WIRING

[PRECAUTION]

1. A circuit breaker capable of shutting down power supply to the entire system must be installed.
2. 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.
3. Fit the power supply wiring of each unit with a disconnect switch as shown in the drawing below.
4. Be sure to give the electric grounding connection.
5. 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 block for remote controller/Transmission wiring (X2M)</th>
<th>Tightening torque (ft-lbf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply terminal block (X1M)</td>
<td>0.68 – 1.06</td>
</tr>
<tr>
<td>Ground terminal (M4)</td>
<td>1.07 – 1.43</td>
</tr>
</tbody>
</table>

6. Connect round crimp-style terminals provided with insulation sleeves to the terminal block for power supply. Be sure to follow the instructions provided below if the specified terminals cannot be used. **Otherwise, abnormal heat may be generated as a result of the loosening of the wires.**

7. Do not connect wires of different gauge to the same grounding terminal. Looseness in the connection may deteriorate protection.
8. Keep the power supply wiring distant from other wires to prevent noise.
1. Component electrical specifications

<table>
<thead>
<tr>
<th>Units</th>
<th>Power supply</th>
<th>Fan motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Voltage range</td>
<td>MCA</td>
</tr>
<tr>
<td>VAM300GVJU</td>
<td>Single phase 208/230V 60 Hz</td>
<td>Max.253V Min.187V</td>
</tr>
<tr>
<td>VAM470GVJU</td>
<td>Single phase 208/230V 60 Hz</td>
<td>Max.253V Min.187V</td>
</tr>
<tr>
<td>VAM660GVJU</td>
<td>Single phase 208/230V 60 Hz</td>
<td>Max.253V Min.187V</td>
</tr>
<tr>
<td>VAM1200GVJU</td>
<td>Single phase 208/230V 60 Hz</td>
<td>Max.253V Min.187V</td>
</tr>
</tbody>
</table>

Symbol) MCA: Minimum Circuit Ampacity (A)
MOP: Maximum Overcurrent Protective Device (A)
KW: Motor Rated Output (kW)
FLA: Full Load Ampacity (A)

**NOTE**

1. When using a ground fault circuit interrupter, make sure to select one useful also to protection against overcurrent and short-circuit.
2. The length of the transmission wiring and remote controller wiring are as follows.
   - Length of outdoor-indoor transmission wiring ... max 3280 ft. (total wiring length 6560 ft.)
   - Length of remote controller wiring between indoor unit and remote controller ... max 1640 ft.

8-2 WIRING EXAMPLE

**CAUTION**

Before opening the control box, be sure to turn off the power supply of the units and other devices connected with the units.

**<OPENING THE CONTROL BOX>**

1. Remove the screws fixing the cover and open the control box as shown below.
2. Secure the power supply wiring and the transmission wiring with the clamp, as shown in 8-2.
--- CAUTION ---

If the unit is installed upside down, be sure to use a liquid-tight connector of conduit for power supply and ground wiring to prevent water from infiltrating.

<FIX THE CONDUIT (FIELD SUPPLY)>
<VAM300GVJU, VAM470GVJU, VAM600GVJU>
- To make a conduit connection for power supply and ground wiring, remove the screws and detach the conduit fixing plate from the control box.
- Attach the conduit to the conduit fixing plate and fasten it with a conduit locknut.
- Then, put them back to the original position with the screws.

--- NOTE ---

In case of installing the optional Adapter PCB the installation box (option) is needed. See 8-4 on how to install it.

--- WIRING PROCEDURE ---
<VAM300GVJU, VAM470GVJU, VAM600GVJU>

1. **Power supply terminal block**
   - Ground terminal (M4 screw + spring washer + flat washer + cup washer)
   - Power supply and ground wire sheath

2. **Ground wire**
   - Power supply wiring
   - Wiring through-hole

3. **Clamp (accessory)**
   - Power supply and ground wire sheath

4. **Control box**
   - Printed circuit board
   - Terminal block (X2M)
   - (For transmission wiring)

5. **Factory setting**
   - SS1 is a switch for setting the remote control. Changing the setting will prevent normal functions.
   - Terminal block (X2M)
   - (For transmission wiring)

6. **Factory setting**
   - Do not change the switch setting.
   - SS1 is a switch for setting the remote control. Changing the setting will prevent normal functions.
   - Terminal block (X2M)
   - (For transmission wiring)

--- VAM1200GVJU ---

1. **Power supply terminal block**
   - Ground terminal (M4 screw + spring washer + flat washer + cup washer)
   - Power supply and ground wire sheath

2. **Clamp (accessory)**
   - Power supply wiring
   - Wiring through-hole

3. **Clamp (accessory)**
   - Power supply and ground wire sheath

--- VAM1200GVJU ---

1. **Factory setting**
   - Do not change the switch setting.
   - SS1 is a switch for setting the remote control. Changing the setting will prevent normal functions.
   - Terminal block (X2M)
   - (For transmission wiring)

2. **Factory setting**
   - Do not change the switch setting.
   - SS1 is a switch for setting the remote control. Changing the setting will prevent normal functions.
   - Terminal block (X2M)
   - (For transmission wiring)
3. Be sure to connect a ground wire.

**Precautions when connecting a ground wire**
When pulling the ground wire out, wire it so that it comes through the cut out section of the cup washer.
(An improper ground connection may prevent a good ground from being achieved.)

4. Be sure to connect the remote control wiring and the transmission wiring to the terminals on the X2M terminal block.

**[PRECAUTIONS]**
- Refer to the “Remote Controller Installation Manual” on how to install and lay the wiring for the remote controller.
- Do not, under any circumstances, connect the power wiring to the remote controller or transmission wiring terminal block. Doing so can destroy the entire system.
- Connect the remote controller and transmission wiring their respective terminal blocks.
- Use non-shielded wire in transmission wiring.

8-3 Power supply connection, transmission wire terminals and switches on the printed circuit board
- Connect the power supply to the L1 and L2 terminals.
- Secure the power supply with the power cord clamp.
- Be sure to give a grounding connection.
8-4 How to install the optional Adapter PCB (KRP50-2, KRP50-2A90)

<VAM300GVJU, VAM470GVJU, VAM600GVJU>

- When installing the optional adapter PCB, it is necessary to prepare the fixing box (KRP50-2A90)
  1. Open the control box cover by following the procedure described in the "8-2" <OPENING THE CONTROL BOX> section.
  2. Remove the screws and install the adapter PCB.
  3. After wiring, fasten the control box cover.

![Diagram of fixing box](image)

<table>
<thead>
<tr>
<th>Component</th>
<th>Fixing Screw</th>
<th>Clamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fixing board</td>
<td>3 pcs.</td>
<td>2 pcs.</td>
</tr>
<tr>
<td>2. PCB support</td>
<td>3 pcs.</td>
<td>2 pcs.</td>
</tr>
<tr>
<td>3. Fixing screw</td>
<td>3 pcs.</td>
<td>2 pcs.</td>
</tr>
<tr>
<td>4. Cover (Attached to adapter PCB)</td>
<td>3 pcs.</td>
<td>2 pcs.</td>
</tr>
<tr>
<td>5. Control box</td>
<td>3 pcs.</td>
<td>2 pcs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applicable adapter name</th>
<th>Kit name</th>
<th>Fixing box</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Adapter PCB for Humidifier</td>
<td>KRP50-2</td>
<td>KRP50-2A90</td>
</tr>
<tr>
<td>B Adapter PCB for remote control</td>
<td>KRP4A72</td>
<td>KRP50-2A90</td>
</tr>
</tbody>
</table>

<VAM1200GVJU>

- When installing the optional adapter PCB, it is necessary to prepare the fixing box (KRP50-2A90)
  1. Open the control box cover by following the procedure described in the "8-2" <OPENING THE CONTROL BOX> section.
  2. Remove the screws and install the adapter PCB.
  3. After wiring, fasten the control box cover.
  
  - The adapter circuit board (KRP50-2) can be installed on the inner right-hand side of the control box.
  - The attachment box (optional accessory) is not required.
9. FIELD SETTING AND TEST RUN

9-1 Press and hold Cancel button for 4 seconds or longer.
Service settings menu is displayed.

9-2 Select “Field Settings” in the Service Settings menu, and press Menu/OK button.
Field settings screen is displayed.

9-3 Highlight the mode and select desired “Mode No.” by using ▲▼ (Up/Down) button.

9-4 In the case of setting per unit during group control (When Mode No. such as “20”, “21”, “22”, “23”, “25” are selected), highlight the unit No. and select “Indoor unit No.” to be set by using ▲▼ (Up/Down) button.
(In the case of group total setting, this operation is not needed.)

9-5 Highlight SECOND CODE NO. of the FIRST CODE NO. to be changed and select desired “SECOND CODE NO.” by using ▲▼ (Up/Down) button. Multiple identical mode number settings are available.

9-6 Press Menu/OK button. Setting confirmation screen is displayed.

9-7 Select “Yes” and press Menu/OK button. Setting details are determined and field settings screen returns.

9-8 In the case of multiple setting changes, repeat “9-3” to “9-7”.

9-9 After all setting changes are completed, press Cancel button twice.

9-10 Backlight goes out and “Checking the connection. Please stand by.” is displayed for initialization. After the initialization, the basic screen returns.
### List of Settings

<table>
<thead>
<tr>
<th>Mode No.</th>
<th>FIRST CODE NO.</th>
<th>Description of Setting</th>
<th>SECOND CODE NO. (NOTE 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>0</td>
<td>Filter cleaning time setting</td>
<td>01 02 03 04 05 06</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Nighttime free cooling operation start time (after other air conditioners operating together with the unit have been stopped)</td>
<td>Off 2 hours 4 hours 6 hours 8 hours –</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Pre-cool/pre-heat on/off setting</td>
<td>Off On – – – –</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Pre-cool/pre-heat time setting</td>
<td>30 min 45 min 60 min – – – –</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Fan speed initial setting</td>
<td>Normal Extra high – – – –</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Yes/No setting for direct duct connection with VRV system</td>
<td>No duct (Airflow setting) With duct (fan off) – – – –</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Centralized/individual setting</td>
<td>Centralized Individual – – – –</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Centralized zone interlock setting</td>
<td>No Yes – – – –</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Pre-cool time extension setting</td>
<td>0 min 30 min 60 min 90 min – – – –</td>
</tr>
<tr>
<td>18</td>
<td>0</td>
<td>External signal JC/J2</td>
<td>Last command Priority on external input Priority on operation – – – –</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Setting for direct Power ON</td>
<td>Off On – – – –</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Auto restart setting</td>
<td>Off On – – – –</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>External damper operation</td>
<td>– – On – – – –</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Indication of ventilation mode/Not indication</td>
<td>Indication No Indication – – – –</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Fresh up air supply/exhaust setting</td>
<td>No Indication Indication – – – –</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>External input terminal function selection (between J1 and JC)</td>
<td>Fresh up Overall alarm Overall malfunction Forced off Fan forced off Airflow increase</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>KRP50-2 output switching selection (between 1 and 3)</td>
<td>Fan on/off Abnormal – – – –</td>
</tr>
<tr>
<td>19</td>
<td>29</td>
<td>Electric heater setting</td>
<td>No delay Exchange On, off delay On, off delay – – – –</td>
</tr>
<tr>
<td></td>
<td>1a</td>
<td>“Fresh up” on/off setting</td>
<td>Off On – – – –</td>
</tr>
</tbody>
</table>

**NOTE**

1. The setting positions within the bolded cell are factory setting.
2. The settings are applied to the entire group, but if the mode No. individual settings is selected, the settings can be applied to individual unit. However, it is only possible to check any changes made to individual setting in individual mode. (For group control, the changes are made but the display remains as it was when shipped from the factory.)
3. Do not set anything not shown above. If the applicable functions are not available, they will not be displayed.
4. Group number setting for centralized controller
   (1) Mode No. 00: Group controller
   (2) Mode No. 30: Individual controller
   * Regarding the setting procedure, refer to the section “Group number setting for centralized control” in the operating manual of either the ON/OFF controller or the central controller.
9-11 Perform a test run.

(1) Before turning on the power supply, be sure to check that the control box cover is closed.

(2) Perform a test run according to “OPERATION MANUAL”.

• An error code is displayed on the remote controller when an malfunction occurs. Check the error code on the display to identify the point of trouble. An explanation of error codes and the corresponding trouble is provided in “OPERATION MANUAL”. If the display shows any of the following, there is a possibility that the wiring was done incorrectly or that the power supply is not ON, so check again.

<table>
<thead>
<tr>
<th>Remote controller display</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>UB</td>
<td>• Incorrect setting the MAIN/SUB of the remote controller.</td>
</tr>
<tr>
<td>No display</td>
<td>• The power supply to the unit is off.</td>
</tr>
<tr>
<td></td>
<td>• The indoor unit and/or ERV have not been wired for power supply.</td>
</tr>
<tr>
<td></td>
<td>• Incorrect wiring for the remote controller, the transmission wiring and/or the FORCED OFF wiring.</td>
</tr>
<tr>
<td></td>
<td>• The remote controller wiring is disconnected.</td>
</tr>
<tr>
<td></td>
<td>• Incorrect setting the “SS1” switch of PC board.</td>
</tr>
</tbody>
</table>

10. DESCRIPTION OF SYSTEM AND APPLICABLE PATTERNS

10-1 INDEPENDENT SYSTEM

10-1-1 When connecting to remote controller
(Refer to “9. FIELD SETTING AND TEST RUN”.)

Check the switch “SS1” on the PC board to the factory setting.

Factory Setting

![Diagram of Factory Setting]

Do not change the switch setting. Changing the setting will stop the unit from operating normally.

1. Main remote controller
2. Sub remote controller

10-2 Interlocking system with VRV system

10-2-1 Standard 1-group linked operation system

• The remote control can be used to control up to 16 air conditioner indoor units and ERV units.
• Initial settings can be made for the functions of the ERV units (pre-cool/pre-heat, ventilation rate, ventilation mode and "Fresh up").

Use the remote controller to make the initial settings for the ERV units.

Refer to “9. FIELD SETTING AND TEST RUN”.

Pre-cool/pre-heat function

When the pre-cool/pre-heat function is set, the ERV unit will be turned on at the preset time (30, 45 or 60 minutes) after the VRV-system air conditioner begins cooling or heating operation. The function is set OFF at the factory.

Therefore, to use this function, the initial setting must be made using the remote controller.

If the air conditioner is re-started within two hours after the operation stopped, this function is disabled.

Example 1:

To switch on the pre-cool/pre-heat function and turn on the ERV unit 60 minutes after the air conditioner is turned on.

(1) Set the mode No. to “17” for group control or “27” for individual control, the FIRST CODE NO. to “2” and the SECOND CODE NO. to “02”

(2) Set the mode No. to “17” for group control or “27” for individual control, the FIRST CODE NO. to “3” and the SECOND CODE NO. to “03”

Example 2:

To switch the ventilation airflow to extra high setting.
(The units are set at the high airflow setting at the factory)

Set the mode No. to “17” for group control or “27” for individual control, the FIRST CODE NO. to “4” and the SECOND CODE NO. to “02”
10-2-2 Direct duct connection system for 1-group linked operation system
Transmission wiring and the setting of the switch on the PCB should be the same as for "10-2-1 Standard 1-group linked operation system".

1. Main remote controller
2. Sub remote controller

Set the switch on the PCB to the default factory setting.

1. Be sure to set the initial settings to direct duct connection: Enabled.
2. Set the mode No. to “17”, the FIRST CODE NO. to “5” and the SECOND CODE NO. to “02”.

10-2-3 Linked operation with more than two groups
• Mount the optional KRP4A72 Adapter PCB for remote control on the control box of ERV unit.
• A maximum of 64 air conditioners and ERV units can be connected to the F1 and F2 terminals.
• Use the remote controller to make the initial settings.
1. Remote controller
2. Transmission wiring can be extended up to 3280 ft.
3. Optional adapter PCB KRP4A72

<Procedure>
1. Remote controller
2. Make the remote controller settings; Set the centralized zone interlock setting to ON. Mode No. “17”, FIRST CODE NO. “08” and SECOND CODE NO. “02”.
3. Turn off the power supply.
4. Disconnect the remote controller. Now the field settings are complete.

10-3 Centralized control system
10-3-1 “All” control
When using Adapter PCB for remote control (KRP4A72) or schedule timer (DST301BA61)
• A maximum of 64 air conditioners and ERV units can be connected to the F1 and F2 terminals.
• This system does not require group number setting for centralized control. (auto-address system)
• The Adapter PCB for remote control and schedule timer cannot be used together.
• The Adapter PCB for remote control can be mounted on the control box of either the ERV unit or air conditioner. (The ERV unit can accept only KRP4A72.)

1. Remote controller
2. Remote controller
3. Transmission wiring can be extended up to 3280 ft.
4. Schedule timer (DST301BA61)
5. Adapter PCB for remote control (KRP4A72)
6. ON/OFF signal
10-3-2 "All"/"Individual" control
When using the ON/OFF controller (DCS301BA61)
• A maximum of 64 air conditioners and ERV units can be connected to the F1 and F2 terminals.
• This system allows connection of four ON/OFF controllers.
• It is necessary to assign a centralized control group number to each ERV unit and air conditioner. Regarding the setting of the group number, refer to the section on "the centralized control group number setting" in the operation manual of the ON/OFF controller.
• Use the remote controller to make the initial settings.

Procedure
1. Turn on the ERV-1 and ON/OFF controller.
2. Set the central control group number using the field setting on the remote controller.
3. Mode No.: "00"
4. Central control group No.: "2-05"
5. Turn off the ERV-1 and ON/OFF controller.
The setting is now complete.
• For the ventilation airflow setting, follow the procedure described in the 10-3-1 section.

10-3-3 Zone control system
• A maximum of 64 air conditioners and ERV units can be connected to the F1 and F2 terminals.
• The ERV units will turn on and off in accordance with the zone operation command from the centralized controller.

Zone 2
The ERV units operate in the linked operation mode, as described in the section, "10-2-3 Linked operation with more than two groups" For the initial setting, follow the procedure described in the 10-2-3 section.
• It is necessary to assign a centralized control group number to each ERV unit and air conditioner. Regarding the setting of the group number, refer to the section on "the centralized control group number setting" in the operation manual of the Centralized controller. Refer to the "10-3-2 "All"/individual control" section for the setting procedure.
• For the ventilation airflow setting, follow the procedure described in the 10-3-1 section.
• For the zone setting from the centralized controller, refer to the operation manual of the centralized controller.
• The centralized controller can be used to control the individual units in the zone for ventilation operation.

Example:
Follow the procedure below to set the centralized group No. 2-05 to ERV 1.
Procedure
1. Remote controller
2. Remote controller
3. Transmission wiring can be extended up to 3280 ft.
4. Schedule timer
5. ON/OFF controller
10-4-2 Fresh up operation

**<Purposes>**
When combined with a local ventilating fan (such as the one in bathroom and kitchen), the airflow rate of ERV is balanced by either fan operation or exhaust operation. However, a circuit with low voltage and current (24V, 10 mA) is formed between the JC and J1, so a relay with low-load contact point must be used.

**<Functions>**
The unit performs overcharged operation to prevent back flow of odor.

**<Necessary parts>**
Operation contact of exhaust ventilating fan (field supply)

**<Example of control wiring>**

**<System description>**

1. Local ventilating fan
2. Power supply

10-4-3 External Damper Operation (FIELD SUPPLY)

**• Explanation of functions**
Intake of outdoor air can be prevented when ERV is switched OFF if this damper is incorporated in the system.

1. The PCB of the ERV unit supplies power for an external damper.

**<Diagram>**
1. Air suction/discharge grille
2. External damper (field supply)
3. 5/18 in. Inspection hatch
4. Control box
5. Thermal insulation
6. OA (Outdoor air from outside)
7. EA (Exhaust air to outside)
8. Round shape hood
9. PC board
10. ERV unit

- Power supply is turned ON when the ERV unit starts operating.
- Power supply is turned OFF when the ERV unit is switched OFF.

### Required setting changes for switchover to X15A output
(see below for details)

### Wiring
Connect one end of the harness to X15A on the PC board and the other end to the harness leading to the damper via a connector such as a closed connector.

<table>
<thead>
<tr>
<th>Power supply voltage</th>
<th>Connected load capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>208V</td>
<td>0.5A or less</td>
</tr>
<tr>
<td>230V</td>
<td></td>
</tr>
</tbody>
</table>

## Setting changes
To make the X15A output available, change the field setting by the remote controller as below.

Mode No.: 18 (group control) or 28 (individual control)
FIRST CODE NO.: 3
SECOND CODE NO.: 03

### 10-4-4 Nighttime free cooling operation
(automatic heat purge function at night)
The nighttime free cooling is an energy-saving function which works at night when the air conditioners are off, reducing the cooling load in the morning when the air conditioner is turned on by ventilating rooms which contain office equipment which raises the room temperature.

- Nighttime free cooling only works during cooling and when connected to VRV system.
- Nighttime free cooling is set to "off" in the factory setting; so request your dealer to turn it on if you intend to use it.

### Operation image
(a) Outdoor temperature
(b) Indoor temperature
(c) Set temperature
(d) Operating state of Air conditioner
(e) Operating state of ERV

#### EXPLANATION OF NIGHTTIME FREE COOLING OPERATION IMAGE
The unit compares between the indoor and outdoor temperatures after the air conditioning operation stops for the night. If the following conditions are satisfied, the operation starts, and when the indoor temperature reaches the air conditioning setting, the operation stops.

**Conditions**

1. the indoor temperature is higher than the air conditioning setting and
2. the outdoor temperature is lower than the indoor temperature.

If the above conditions are not satisfied, reevaluation is made every 60 minutes.

---

**NOTE**

- The Nighttime free cooling operation works when the ERV unit is off. Therefore, it is not possible to stop the nighttime free cooling operation, though the forced off is input from the optional controllers for centralized control.

MODELS VAM300GVJU VAM470GVJU VAM600GVJU

(1) Hanger bracket
(2) Duct connecting flange
(3) Exhaust fan
(4) Air filter
(5) Damper
(7) Service cover
(8) Heat exchanger core
(6) Control box
(9) Nameplate
(10) Supply air fan
(11) Remote controller (Optional accessory)

Important
Sometimes when first using the unit, the smell of the heat exchanger core may be noticeable, but it is not harmful. The smell will gradually go away as the unit is used.

(12) Damper motor
(13) EA (Exhaust air) [Exhaust air to outside]
(14) OA (Outdoor air) [Fresh air from outside]
(15) Service space for the air filter, the heat exchanger core and control box
(16) RA (Return air) [Return air from inside]
(17) SA (Supply air) [Supply air to inside]
MODEL VAM1200GVJU

(1) Hanger bracket
(2) Duct connecting flange
(3) Exhaust fan
(4) Air filter
(5) Damper
(6) Control box
(7) Service cover
(8) Heat exchanger core
(9) Nameplate
(10) Supply air fan
(11) Remote controller (Optional accessory)
(12) Damper motor
(13) EA (Exhaust air) [Exhaust air to outside]
(14) OA (Outdoor air) [Fresh air from outside]
(15) Service space for the air filter, the heat exchanger core and control box
(16) RA (Return air) [Return air from inside]
(17) SA (Supply air) [Supply air to inside]

It exchanges heat (temperature and humidity) from indoors with the air taken in from outdoors, changes the outside air to the same condition as indoors and then brings it indoors.

Important
Sometimes when first using the unit, the smell of the heat exchanger core may be noticeable, but it is not harmful. The smell will gradually go away as the unit is used.
MODELS VAM300GVJU - 600GVJU

(1) Service cover

(2) Fixture

(3) Hanger

MODELS VAM300GVJU - 600GVJU

(1) Heat exchanger core (2 pcs.)

(2) Handle

(3) Rail

(4) Air filter

MODEL VAM1200GVJU

(1) Heat exchanger core (4 pcs.)

(2) Handle

(3) Rail

(4) Air filter
CONTENTS

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1. SAFETY CONSIDERATIONS

Read these SAFETY CONSIDERATIONS for Operations carefully before installing the ERV unit. After completing the installation, make sure that the unit operates properly during a test run. Instruct the customer on how to operate and maintain the unit.

Inform the customer that this Operation Manual should be kept with the Installation Manual for future reference.

Meanings of DANGER, WARNING, CAUTION and NOTE Symbols:

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

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

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

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

⚠️ DANGER

- Do not install the unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.

- Any abnormalities in the operation of the unit such as smoke or fire could result in severe injury or death. Turn off the power and contact your dealer immediately.

- Safely dispose of the packing materials. Packing materials, such as nails, other metal or wooden parts, may cause stabs or other injuries.

- Tear apart and throw away plastic packaging bags so that children will not play with them. Children playing with plastic bags face the danger of death by suffocation.

⚠️ WARNING

- Contact your dealer for repair and maintenance. Improper repair and maintenance may result in electric shock and fire. Only use accessories made by Daikin that are specifically designed for use with the equipment and have them installed by a professional.

- Contact your dealer to move and reinstall the unit. Incomplete installation may result in water leakage, electric shock and fire.

- Never let the unit or the remote controller get wet. Water can cause an electric shock or a fire.

- Never use flammable spray such as hair spray, lacquer, or paint near the unit. Flammable spray may cause a fire.

- When a fuse blows out, never replace it with one of incorrect ampere ratings or different wires. Always replace any blown fuse with a fuse of the same specification.

- Never inspect or service the unit by yourself. Contact a qualified service person to perform this work.

- Turn off all electrical power before doing any maintenance to avoid the risk of serious electric shock; never sprinkle or spill water or liquids on the unit.

- Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.

- Do not allow children to play on or around the unit to prevent injury.

- Do not put a finger or other objects into the air inlet or air outlet. The fan is rotating at high speed and will cause injury.

- Do not put a flower vase or other containers with water or other liquids on the unit could cause electric shock or fire if a spill occurs.

- Never touch the internal parts of the controller. Do not remove the front panel because some parts inside are dangerous to touch. To check and adjust internal parts, contact your dealer.

- Be sure to establish a ground connection. Do not ground the unit to an utility pipe, arrester or telephone earth. Incomplete ground may cause electric shock or fire. A high surge current from lightning or other sources may cause damage to the unit.

- Be sure to install a ground fault circuit interrupter. Failure to install a ground fault circuit interrupter may result in electric shocks or fire.

- Consult your dealer if the ERV unit submerges owing to a natural disaster, such as a flood or typhoon. Do not operate the ERV unit in that case, or otherwise a malfunction, electric shock or fire may result.

English 1

3P034927-7M
• Do not start or stop operating the ERV unit with the power supply breaker turned ON or OFF. Otherwise, fire or water leakage may result. Furthermore, the fan will rotate abruptly if power failure compensation is enabled, which may result in injury.
• Do not change operations roughly. It can result not only in malfunction but also failure of switches or relays in the unit.
• Turn off the power supply when the unit is not to be used for long period of time. Otherwise, the unit may get hot or catch on fire due to dust accumulation.
• Do not block air inlets or outlets. If the fan does not blow air throughout the entire room, it may cause oxygen deficiency leading to bad health condition or long-term health problems.
• Locate the outdoor air intake vent so that it does not take in exhaust air which contains combustion air, etc. Incorrect installation may cause a loss of oxygen in the room, leading to serious accidents.
• Install the two outdoor ducts with down slope to prevent rainwater from entering the unit. If this is not done completely, water may enter the building, damaging furniture, and cause electric shock and fire.
• Use electric insulation between the duct and the wall when using metal ducts to pass metal or wire laths or metal plating into wooden buildings. This may cause electric shock short circuits or fire.

CAUTION
• Do not use the unit for any other purposes other than ventilation. Do not use the unit for cooling precision instruments, food, plants, animals or works of art.
• Before cleaning, stop the operation of the unit by turning the power off or by pulling the supply cord out from its receptacle. Otherwise, an electric shock and injury may result.
• Do not wash the unit with excessive water. An electric shock or fire may result.
• Avoid placing the controller in a spot splashed with water. Water entering the controller may cause an electric shock or damage the internal electronic parts.
• Do not operate the unit when using a room-fumigation type. This may cause the interior of the room to become contaminated and harming the health.
• Do not change operations roughly. It can result not only in malfunction but also failure of switches or relays in the unit.
• Turn off the power supply when the unit is not to be used for long period of time. Otherwise, the unit may get hot or catch on fire due to dust accumulation.
• Do not block air inlets or outlets. If the fan does not blow air throughout the entire room, it may cause oxygen deficiency leading to bad health condition or long-term health problems.
• Locate the outdoor air intake vent so that it does not take in exhaust air which contains combustion air, etc. Incorrect installation may cause a loss of oxygen in the room, leading to serious accidents.
• Install the two outdoor ducts with down slope to prevent rainwater from entering the unit. If this is not done completely, water may enter the building, damaging furniture, and cause electric shock and fire.
• Use electric insulation between the duct and the wall when using metal ducts to pass metal or wire laths or metal plating into wooden buildings. This may cause electric shock short circuits or fire.

NOTE
• Never press the button of the remote controller with a hard, pointed object. The remote controller may be damaged.
• Never pull or twist the electric wire of the remote controller. It may cause the unit to malfunction.
• Do not place appliances that produce open flames in places that are exposed to the air flow of the unit or under the unit. It may cause incomplete combustion or deformation of the unit due to the heat.
• Do not expose the controller to direct sunlight. The LCD display can become discolored and may fail to display the data.
• Do not wipe the controller operation panel with benzene, thinner, chemical dust cloth, etc. The panel may get discolored or the coating can peel off. If it is heavily dirty, soak a cloth in water-diluted neutral detergent, squeeze it well and wipe the panel clean. Then wipe it with another dry cloth.
• Dismantling of the unit and additional parts should be done in accordance with the relevant local, state and national regulations.
• Do not use the unit or an air suction/discharge grille in the following places.
  a. Places with a mist of mineral oil, such as cutting oil.
  b. Locations such as coastal areas where there is a lot of salt in the air.
  c. Locations such as hot springs where there is a lot of sulfur in the air.
  d. Locations such as factories where the power voltage varies a lot.
  e. In cars, boats, and other vehicles.
  f. Locations such as kitchens where oil may splatter or where there is steam in the air.
  g. Locations where equipment produces electromagnetic waves.
  h. Places with an acid or alkaline mist.
  i. Places where fallen leaves can accumulate or where weeds can grow.
  j. Place subjected to much carbon black.
  k. Carbon black attaches to air filter and heat exchanger core, making them unable to use.
• Take snow protection measures. Contact your dealer for the details of snow protection measures, such as the use of a snow protection hood.
• Do not attempt to do electrical work or grounding work unless you are licensed to do so. Consult with your dealer for electrical work and grounding work.
• Consult your dealer if the unit in operation generates unusual noise.
• Always use the air filter. If the air filter is not used, heat exchanger core will be clogged, possibly causing poor performance and subsequent failure.
• Do not operate the ERV unit in Bypass mode when the room air is under heating in winter or when the outdoor temperature is 86°F or higher. This may cause condensation to form on the main unit or on discharge grille or around air supply opening.
• Insulate the two outdoor ducts to prevent dew condensation (and the indoor duct as well if needed). If this is not done completely, water may enter the building, damaging furniture, etc.
2. WHAT TO DO BEFORE OPERATION

This operation manual is for the following systems with standard control. Before initiating operation, contact your Daikin dealer for the information that corresponds to your system type and mark.

If your installation has a customized control system, ask your dealer for the operation that corresponds to your system.

2-1 NAMES OF PARTS (Refer to figure 1)

(1) Hanger bracket
(2) Duct connecting flange
(3) Exhaust fan
(4) Air filter
(5) Damper
(6) Control box
(7) Service cover
(8) Heat exchanger core
(9) Nameplate
(10) Supply air fan
(11) Remote controller (Optional accessory)
(12) Damper motor
(13) EA Exhaust air to outside
(14) OA Outdoor air from outside
(15) Service space for the air filter, the heat exchanger core and control box.
(16) RA Return air from inside
(17) SA Supply air to inside

2-2 BUTTON LOCATIONS AND DESCRIPTIONS OF REMOTE CONTROLLER

1. Operation mode selector button
   • Press this button to select the operation mode of your preference.
   *Available modes vary with the indoor unit model.
2. Fan speed control button
   • Press this button to select the fan speed of your preference.
   *Available fan speeds vary with the indoor unit model.
3. Menu/OK button
   • Used to indicate the main menu.
   For details, refer to the operation manual attached to the remote controller.
   • Used to enter the selected item.
4. Up button ▲
   • Used to raise the setpoint.
   • The item above the current selection will be highlighted.
   (The highlighted items will be scrolled continuously when the button is continuously pressed.)
   • Used to change the selected item.
5. Down button ▼
   • Used to lower the setpoint.
   • The item below the current selection will be highlighted.
   (The highlighted items will be scrolled continuously when the button is continuously pressed.)
   • Used to change the selected item.
6. Right button ►
   • Used to highlight the next items on the right-hand side.
   • Each screen is scrolled in the right-hand direction.
7. Left button ◄
   • Used to highlight the next items on the left-hand side.
   • Each screen is scrolled in the left-hand direction.
8. On/Off button
   • Press this button and system will start.
   • Press this button again to stop the system.
9. Operation lamp (Green)
   • This lamp illuminates solid during normal operation.
   • This lamp blinks if an error occurs.
10. Cancel button
    • Used to return to the previous screen.
11. LCD (with backlight)
    • The backlight will be illuminated for approximately 30 seconds by pressing any button.
    • If two remote controllers are used to control a single indoor unit, only the controller to be accessed first will have backlight functionality.
**NAMES AND FUNCTIONS**

**Liquid Crystal Display**
- Two types of liquid crystal display (LCD) are available. The standard display is set by default.
- Detailed display can be selected in the main menu.
- The displayed contents of the screen vary with the operation mode of the indoor unit model. (The following display will appear when the indoor unit is in automatic operation.)
- For details, refer to the operation manual attached to the remote controller.

[Detailed display example]

1. **Operation mode**
   - Used to display the current operation mode: Cool, Heat, Vent, Fan, Dry or Auto.

2. **Fan Speed**
   - Used to display the fan speed that is set for the indoor unit.
   - The fan speed will not be displayed if the connected model does not have fan speed control functionality.

3. **Setpoint display**
   - Used to display the setpoint for the indoor unit.
   - Use the Celsius/Fahrenheit item in the main menu to select the temperature unit (Celsius or Fahrenheit).

[Detailed display example 1]

10. **Changeover controlled by the master indoor unit**
11. **Setback**
12. **Air Flow Direction** (Displayed only when the air conditioner is in operation.)
13. **Current Day/time (12/24 hour time display)**
14. **Detailed selection**

15. **(X) display**
   - No Fan speed display (with no fan speed control function)
   - No Air Flow Direction display (with no air flow direction settings)
   - No Clock display (when the clock has not been set)
   - No Detailed item display (with no detailed items selected)

4. **Stand by for Defrost/Hot start “MANUAL”**
   - If ventilation icon is displayed in this field:
     - Indicates that the energy recovery ventilator is connected.
5 Message
The following messages may be displayed.
"This function is not available"
• Displayed for a few seconds when an operation button is pressed and the indoor unit does not provide the corresponding function.
• In a remote control group, the message will not appear if at least one of the indoor units provides the corresponding function.
"Error: Push Menu button"
"Warning: Push Menu button"
• Displayed if an error or warning is detected.
"Time to clean filter"
"Time to clean element"
"Time to clean filter & element"
• Displayed as a reminder when it is time to clean the filter or element (heat exchange core).
6 Ventilation
• Displayed when the energy recovery ventilator is connected.
• Ventilation Mode icon, " ERV BYPASS "
  These icons indicate the current ventilation mode (ERV only) (AUTO, ERV, BYPASS).
• Air Purify ICON " AIR PURIFY "
  This icon indicates that the air purifying unit (option) in operation.
7 display
• Displayed when the key lock is set.
8 display
• Displayed if the Schedule or Off timer is enabled.
9 Under Centralized control " MASTER "
• Displayed if the system is under the management of a multi zone controller (option) and the operation of the system through the remote controller is limited.
10 Changeover controlled by the master indoor unit " CENTRAL CONTROL "
• Displayed when another indoor unit on the system has the authority to change the operation mode between cool and heat.
11 Setback " SETBACK "
• The setback icon flashes when the unit is turned on under the setback control.
12 Air Flow Direction " "
• Displayed when the air flow direction and swing are set.
• If the connected indoor unit model does not include oscillating louver this item will not be displayed.
13 Current Day/Time (12/24 hour time display)
• Displayed if the clock is set.
  • If the clock is not set, "-- : -- " will be displayed.
  • 12 hour time format is displayed by default.
• Select 12/24 hour time display option in the main menu under "Clock & Calendar".
14 Detailed selection
• Displayed if the detailed display item is selected.
  • Detailed items are not selected by default.
15 display
• Displayed when the clock needs to be set.
  • The schedule function will not work unless the clock is set.

2-3 Explanation for SYSTEMS
This unit can be made a part of two different systems: as part of an interlocking system together with VRV or SkyAir system and as the independent system using only the ERV unit. The remote controller is required when using the unit as the independent system.
Ask your dealer what kind of system is set up before operation.
See the operation manuals for details on how to operate each remote controller.

■ OPERATION for EACH SYSTEM (Refer to figure 2)
• Independent system
The ERV unit can be operated by the remote controller.
• Interlocking system with VRV or SkyAir system
Both of the air conditioner and the ERV unit can be operated by the remote controller.
In mild climates when only the ERV unit is used without the air conditioner, select "ventilation mode" with the operation mode selector button.
• Centralized system
When the remote controller is not connected with the ERV unit, the centralized controller controls it.
When the remote controller is connected with the ERV unit, operation can be done by the centralized controller or the remote controller.
During the indication of centralized control " CENTRAL CONTROL " appears on the display, the ON/OFF and timer operation may not be possible with the remote controller.
Other operations can be performed using the remote controller.

3. OPERATION PROCEDURE
3-1 INDEPENDENT AND INTERLOCKING OPERATION

■ VENTILATION SCREEN DISPLAY PROPERTIES

Operation

1. Press Menu/OK button and display the main menu screen.
2. Press ▲▼ buttons to select "Ventilation" on the main menu screen.
3. Press Menu/OK button to display the ventilation screen.
### CHANGING THE VENTILATION RATE

**Operation**

1. Navigate to the ventilation screen (see above).
2. Press \( \uparrow \downarrow \) buttons to select “Ventilation Rate” on the ventilation screen.
3. Press Menu/OK button to display the ventilation rate screen.
4. Press \( \uparrow \downarrow \) the buttons to toggle between the “Low” and “High” settings. * Only modes that can be set are displayed.
5. Selecting and confirming the desired ventilation rate will take you back to the basic screen. (Pressing the Cancel button takes you back to the previous screen without changing the ventilation rate.)

### CHANGING THE VENTILATION MODE

**Operation**

1. Display the ventilation screen. (See page 5.)
2. Press \( \uparrow \downarrow \) buttons to select “Ventilation Mode” on the ventilation screen.
3. Pressing the \( \uparrow \downarrow \) buttons cycles through the settings in the order shown below.
4. Selecting and confirming the desired ventilation mode will take you back to the basic screen. (Pressing the Cancel button takes you back to the previous screen without changing the ventilation mode.)
5. * Only modes that can be set are displayed.

- **Auto mode**
  Using information from the air conditioner (cool, heat, fan, and setpoint) and the energy recovery ventilator unit (indoor and outdoor temperatures), the ventilation mode is automatically changed between ERV and Bypass.
- **ERV mode**
  Outdoor air is passed through the ERV core and is supplied to the conditioned space.
- **Bypass mode**
  Outdoor air is supplied to the conditioned space without passing through the ERV core.
NOTE

- Do not change operations suddenly.
  It can result not only in malfunction but also failure of switches or relays in the remote controller.
- Never press the button of the remote controller with a hard, pointed object.
  The remote controller may be damaged.

FRESH UP OPERATION

- If the field setting for Fresh up operation is set to “Fresh up air supply”: The volume of outdoor air supplied into the room is larger than that of exhaust air to outside. (This operation prevents odor and moisture from kitchens and toilets from flowing into rooms.)
- If the field setting for Fresh up operation is set to “Fresh up air exhaust”: The volume of exhaust air to outside is larger than that of outdoor air supplied into the room. (This operation prevents hospital odor and floating bacteria from flowing out to corridors.)

DIRECT DUCT CONNECTION SYSTEM

Installation Examples

Direct duct connection system

Independent duct system

The ERV unit cannot be operated independently when the air conditioner is connected to the ERV unit via a duct. When using the ERV unit, set the fan speed of air conditioner to “Low”.

SCHEDULE AND OFF TIMER

For details of the following settings, refer to the operation manual attached to the remote controller.

SCHEDULE

Daily Patterns
- Day settings are selected from three patterns, i.e., “7Days”, “Weekday/Weekend” and “Weekday/Sat/Sun”.

Settings
- Set the startup time and operation stop time.
  ON: Startup time, cooling and heating temperature setpoints can be configured.
  OFF: Operation stop time, cooling and heating setback temperature setpoints can be configured.
  ( ← : Indicates that the setback function is disabled for this time period.)
  ⋅ : Indicates that the temperature setpoint and setback temperature setpoint for this time period is not specified. The last active setpoint will be utilized.
- Up to five actions can be set for each day.

OFF TIMER

Settings:
- Possible to set in 10 minute increments from 30 to 180 minutes.

3-3 NIGHTTIME FREE COOLING OPERATION

(AUTOMATIC HEAT PURGE FUNCTION AT NIGHT)

The nighttime free cooling is an energy-saving function which works at night when the air conditioner is off, reducing the cooling load in the morning when the air conditioner is turned on by ventilating rooms which contain office equipment which raises the room temperature.
- Nighttime free cooling only works during cooling and when connected to VRV system.
- Nighttime free cooling is set to “off” in the factory settings; so request your dealer to turn it on if you intend to use it.

Operation image

EXPLANATION OF NIGHTTIME FREE COOLING OPERATION IMAGE

The unit compares the indoor and outdoor temperatures after the air conditioner stops for the night. If the following conditions are satisfied, the operation starts, and when the indoor temperature reaches the air conditioning setting, the operation stops.

<Conditions>
(1) the indoor temperature is higher than the air conditioning setting and
(2) the outdoor temperature is lower than the indoor temperature.

If the above conditions are not satisfied, reevaluation is made every 60 minutes.

NOTE

- The nighttime free cooling operation works when the ERV unit is off. Therefore, it is not possible to stop the nighttime free cooling operation, though the forced off is input from the optional controllers for centralized control.
4. MAINTENANCE  
(for a qualified service person only)

--- WARNING ---

• ONLY A QUALIFIED SERVICE PERSON IS ALLOWED TO PERFORM MAINTENANCE.
• BEFORE SERVICING TURN OFF ALL POWER SUPPLY.
• To clean or do maintenance on the ERV, be sure to stop operation and turn the power switch off. It may cause electric shock or injury.
• Do not wash the ERV with water. Doing so may result in an electric shock.

--- CAUTION ---

• Use gloves when cleaning. Cleaning without gloves may cause injury.
• Watch your step. Use caution, as this requires working in high places.
• Do not use benzene or thinner to clean the outside surfaces of the unit. This may cause cracks, discoloration or machine trouble.

4-1 HOW TO CLEAN THE AIR FILTER

Clean the air filter when the display shows the message “Time to clean filter” at the bottom. It will display that it will operate for a set amount of time.

--- CLEANING FREQUENCY ---

AT LEAST ONCE EVERY YEAR  
(FOR GENERAL OFFICE USE)  
(CLEAN THE FILTER MORE FREQUENTLY IF NEEDED.)

• Increase the frequency of cleaning if the unit is installed in a room where the air is extremely contaminated.
• If the dirt becomes impossible to clean, change the air filter (The replacement air filter is optional).

1. Remove the service cover.  
   Go into ceiling through the inspection hatch, remove a fixture of service cover and take it off.  
   (Refer to figure 3)

2. Remove the air filter.  
   Take out from the heat exchanger cores.  
   (Refer to figure 4)

3. Clean the air filter.  
   (Refer to figure 5)  
   Use a vacuum cleaner A) or wash the air filter with water B).
   A) Using a vacuum cleaner  
   B) Washing with water  
   When the air filter is very dirty, use a soft brush and neutral detergent.  
   After cleaning, remove water and dry in the shade.

--- NOTE ---

• Do not wash the air filter with hot water of more than 122°F, as doing so may result in discoloration and/or deformation.
• Do not expose the air filter to fire, as doing so may result in burning.
• Do not use gasoline, thinner or other organic solvents. This may cause discoloration or deformation.

4. Fix the air filter.  
   If the air filter is washed, remove water completely and allow to dry for 20 to 30 minutes in the shade. When dried completely, install the air filter back in place.  
   (Refer to figure 6)

--- NOTE ---

• Be sure to install the air filter after servicing.  
   (Missing air filter causes clogged heat exchanger core.) The air filter is an optional item and the replacement is available.

5. Put the service cover back securely in place.  
   Refer to the section (4-1, 1).

--- NOTE ---

• Do not remove the air filter except when cleaning. Breakdown may occur.

4-2 OPTIMUM OPERATION

Observe the following precautions to ensure the system operates.

• When the display shows one of the following messages “Time to clean filter” “Time to clean filter & element” “Time to clean element”, ask a qualified service person to clean the filters (Refer to MAINTENANCE).
• Do not operate the ERV unit in Bypass mode when the indoor air is under heating in winter or when the outdoor temperature is 86°F or higher. This may cause condensation to form on the unit, discharge grille or around air supply opening.
• Keep the unit and the remote controller at least 3.3 ft. away from televisions, radios, stereos and other similar equipments. This may cause distorted picture or noise.
• Turn off the main power supply switch when it is not used for long periods of time. When the main power switch is turned on, some watts of electricity is being used even if the system is not operating.
• Do not install the remote controller where the indoor temperature and humidity, respectively, are out of the range of 32-95°F and RH 40-80%. This may cause malfunction.
• Do not install the remote controller where direct sunlight may fall on it. This may cause discoloration or deformation.

--- NOTE ---

• Do not remove the air filter except when cleaning. Breakdown may occur.

To reset the filter indicator on the remote controller, press Menu/OK button and select “Reset Filter Indicator” on the main menu screen.

Consult your dealer if you want to change the time setting for when the filter sign goes on.
4-3 HOW TO CLEAN THE HEAT EXCHANGER CORE

CLEANING FREQUENCY

AT LEAST ONCE EVERY TWO YEARS
( FOR GENERAL OFFICE USE )
(CLEAN THE CORE MORE FREQUENTLY IF NECESSARY.)

WARNING

• Replace the heat exchanger core if you find that the knob of the heat exchanger core is damaged or is deteriorated when cleaning. There is falling danger.

1. Remove the service cover.
   Refer to the section (4-1, 1).
2. Remove the air filter.
   Refer to the section (4-1, 2).
3. Take out the heat exchanger cores.
   Pull out the air filter and then pull out the two heat exchanger cores. (Refer to figure 4)
4. Use a vacuum cleaner to remove dust and foreign objects on the surface of the heat exchanger core.
   (Refer to figure 7)
   • Use the vacuum cleaner equipped with a brush on the tip of the suction nozzle.
   • Lightly contact the brush on the surface of the heat exchanger core when cleaning.
     (Do not crush the heat exchanger core while cleaning.)

CAUTION ( During Operation )

• Do not clean touching strongly with a vacuum cleaner. This may crush the mesh of the heat exchanger core.
• Never wash the heat exchanger core with water.
• Have your dealer professionally clean the filter if it is very dirty.

5. Put the heat exchanger core on the rail and insert it securely in place.
6. Install the air filter securely in place.
   (Refer to the section (4-1, 4))
7. Install the service cover securely in place.
   (Refer to the section (4-1, 5))

CAUTION

• Always use the air filter.
  If the air filter is not used, the heat exchanger core will be clogged, possibly causing poor performance and subsequent failure.

4-4 INSPECTION OF THE FAN MOTOR

NOTE

• When the fan motor fails, the remote controller does not display any error code.
 Usage under that status will lead to insufficient ventilation.
   The air supply and exhaust fans should be checked once every one or two months.
   You can make a simple check such as below way.
   To check the airflow, hold a bar of which the end has a string or other similar lightweight item over the supply grille and exhaust grille.

5. TROUBLE SHOOTING

5-1 THE FOLLOWING SITUATIONS ARE NOT MALFUNCTIONS

• The unit does not start running.
  <Symptom>
  The icon “ ” is displayed on the remote controller and pressing the on/off button causes the display to blink for a few seconds.
  <Cause>
  This indicates that the centralized device controls the unit. The blinking display indicates that the remote controller cannot be used.
  <Symptom>
  The fans start running after 1 minute when pressing On/Off button.
  <Cause>
  This indicates that the operation is in preparation. Wait for about 1 minute.
• The unit stops sometimes.
  <Symptom>
  “US” is displayed on the remote controller and the operation stops but then restarts after a few minutes.
  <Cause>
  This indicates that the remote controller is intercepting noise from electrical appliances other than the ERV unit, and this prevents communication between the units, causing them to stop. Operation automatically restarts when the noise goes away.

5-2 IF ONE OF THE FOLLOWING MALFUNCTIONS OCCURS, TAKE THE MEASURES SHOWN BELOW AND CONTACT YOUR DAIKIN DEALER

The system must be repaired by a qualified service person.
DO NOT CHECK AND REPAIR OPENING INSIDE THE UNIT BY YOURSELF.

WARNING

When the ERV is in abnormal conditions (smell of something burning, etc), cut off the power, and contact your dealer.
Continued operation under such circumstances may result in a failure, electric shock and fire.

• The unit does not operate at all.
  a. Check if there is a power failure.
     Measure: After power has been restored, start operation again.
  b. Check if the fuse has blown.
     Measure: Turn the power off and contact your dealer.
  c. Check if breaker has worked.
     Measure: Turn the power on with the breaker switch in the off position.
     Do not turn the power on with the breaker switch in the trip position.
     (Contact your dealer.)
• If a safety device such as a fuse, a breaker or a ground fault circuit interrupter frequency actuates, or ON/OFF switch does not properly work. Measure: Do not turn the power on.
• The remote controller buttons do not work well. Measure: Turn off the main power switch.

Error Code Display

Operation

1

- If an error occurs, either one of the following items will flash in the basic screen.
  "Error: Push Menu button" * The operation lamp will flash.
  "Warning: Push Menu button" * The operation lamp will not flash.
  • Press Menu/OK button.

2

- The error code will flash and the service contact and model name or code may appear.
- Notify your Daikin dealer of the Error code and model name or code.

• There are other malfunctions.
  Measure: Stop the unit.

List of error codes of Remote controller of the ERV-system

<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>Indoor air thermistor malfunction</td>
</tr>
<tr>
<td>65</td>
<td>Outdoor air thermistor malfunction</td>
</tr>
<tr>
<td>6A</td>
<td>Dumper-related malfunction</td>
</tr>
<tr>
<td>6A</td>
<td>Dumper-related malfunction + thermistor malfunction</td>
</tr>
<tr>
<td>U5</td>
<td>Transmission error between the unit and remote controller</td>
</tr>
<tr>
<td>U5</td>
<td>Setting error of remote controller</td>
</tr>
<tr>
<td>U8</td>
<td>Transmission error between main remote controller and sub remote controller</td>
</tr>
<tr>
<td>UA</td>
<td>Incorrect combination with indoor unit and remote controller.</td>
</tr>
<tr>
<td>UC</td>
<td>Central control address over lapping</td>
</tr>
<tr>
<td>UE</td>
<td>Transmission error between the unit and centralized controller</td>
</tr>
</tbody>
</table>

In case of the malfunction with the code in white letters on the black background in the unit still operates. However, be sure to have it inspected and repaired as soon as possible. If other than the above error codes are displayed, there is a possibility that the problem in question has occurred with an interlocked air conditioner or outdoor unit. See the operation manuals included with the air conditioners or outdoor units for details.

5-3 IF THE SYSTEM DOES NOT PROPERLY OPERATE EXCEPT FOR THE ABOVE MENTIONED CASE, AND NONE OF THE ABOVE MENTIONED MALFUNCTIONS IS EVIDENT, CONTACT YOUR DEALER, AND REQUEST FOR INVESTIGATION THE SYSTEM ACCORDING TO THE FOLLOWING PROCEDURES BY A QUALIFIED SERVICE PERSON

The following malfunctions must be checked by a qualified service person. Do not check by yourself.
• The unit does not operate at all.
  a. Check if there is a power failure. After power has been restored, start operation again.
  b. Check if the fuse has blown. Change the fuse.
  c. Check if breaker has worked. Contact your dealer.
  d. Are there any problems with the power or wiring? Inspect the power and wiring.
  e. Are there any problems with the fan unit? Inspect the fan motor and fan.
• Amount of discharge air is small and the discharging sound is high.
  a. Check if the air filter and heat exchanger core are clogged.
     (Check both SA and RA air filter. Check both sides of cores.)
     Clean the air filter and heat exchanger core.
• Amount of discharge air is large and so is the sound.
  a. Check if the air filter and heat exchanger core are not installed.
     Install the air filter and heat exchanger core.

6. AFTER-SALES SERVICE

WARNING

• Do not modify the unit. This may cause electric shock or fire.
• Do not disassemble or repair the unit. This may cause electric shock or fire. Contact your dealer.
• Do not remove or reinstall the unit by yourself. Incomplete installation may cause a water leakage, electric shock and fire. Contact your dealer.

■ When asking your dealer to repair, inform related staff of the details as follows:
  • Shipping date and installation date:
  • Malfunction:
    Inform the staff of the defective details. (Error code being displayed on the remote controller.)
  • Name, address, telephone number
■ Repair where the warranty term is expired
Contact your dealer. If necessary to repair, pay service is available.
■ Minimum storage period of important parts
Even after a certain type of the ERV unit is discontinued, we have the related important parts in stock for 6 years at least. The important parts indicate ones essential to operate the ERV unit.
# 10. Accessories

## 10.1 Optional Accessories (For Unit)

<table>
<thead>
<tr>
<th>Option</th>
<th>Applicable Model</th>
<th>VAM300GVJU</th>
<th>VAM470GVJU</th>
<th>VAM600GVJU</th>
<th>VAM1200GVJU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary Component</td>
<td>Air Filter for Replacement</td>
<td>KAF241G50M</td>
<td>KAF241G80M</td>
<td>KAF241G100M</td>
<td>KAF241G100Mx2</td>
</tr>
</tbody>
</table>

## 10.2 Optional Accessories (For Control)

<table>
<thead>
<tr>
<th>Option</th>
<th>Applicable Model</th>
<th>VAM300GVJU</th>
<th>VAM470GVJU</th>
<th>VAM600GVJU</th>
<th>VAM1200GVJU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized Control Device</td>
<td>Remote Controller</td>
<td>BRC1E71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Central Remote Controller</td>
<td>DCS302C71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unified ON/OFF Controller</td>
<td>DCS301C71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schedule Timer</td>
<td>DST301BA61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC Board Adaptor</td>
<td>Group Control Adaptor PCB</td>
<td>KRP4A72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>For Humidifier</td>
<td>KRP50-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installation Box for Adaptor PCB</td>
<td>KRP50-2A90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. Adaptor PCB for humidifier (KRP50-2) can be mounted on the right-hand side of control box.
Warning

Daikin Industries, Ltd.'s products are manufactured for export to numerous countries throughout the world. Daikin Industries, Ltd. does not have control over which products are exported to and used in a particular country. Prior to purchase, please therefore confirm with your local authorized importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.

Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire, or explosion.

Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire, or explosion.

Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any inquiries, please contact your local importer, distributor, or retailer.

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CAUTIONS ON PRODUCT CORROSION:

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the seashore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the seashore, contact your local distributor.