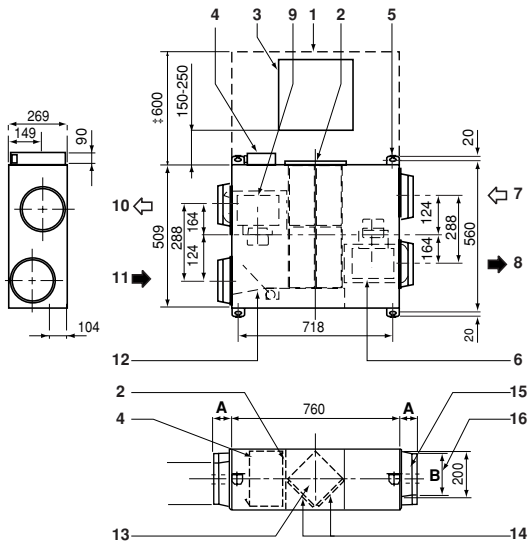




# INSTALLATION MANUAL

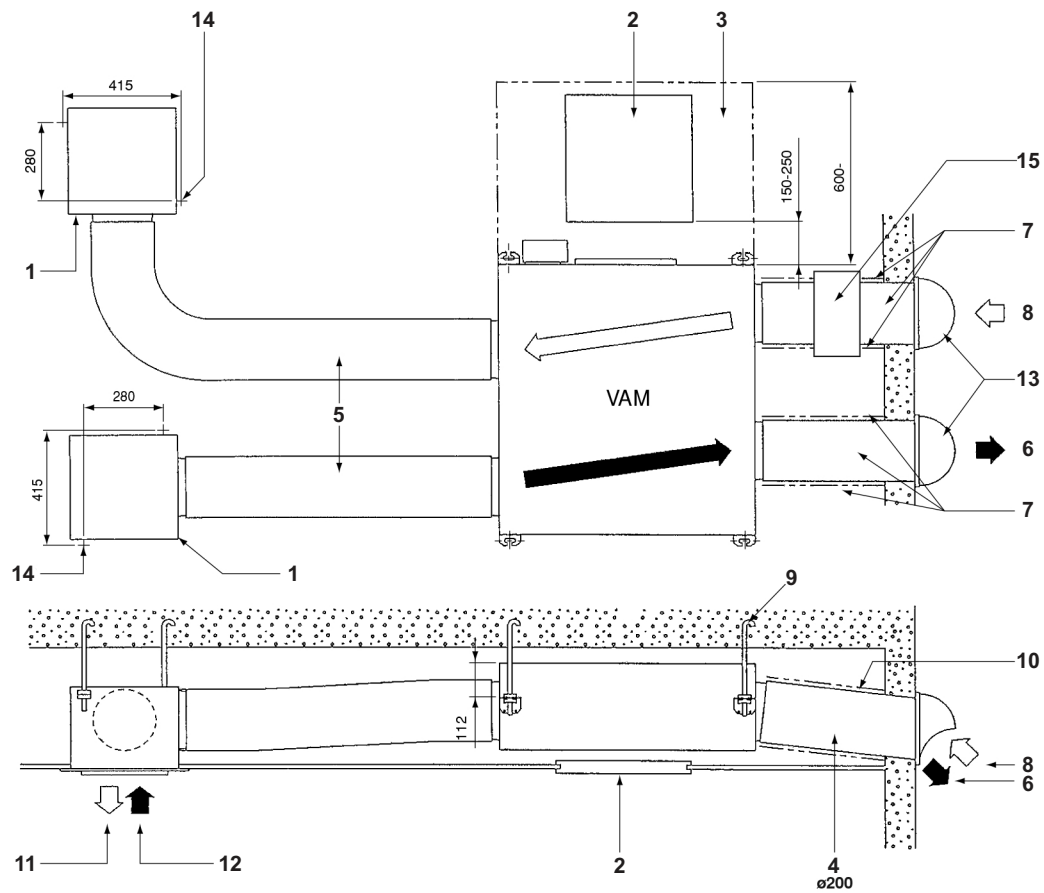
## **Total Heat Exchanger HRV (Heat Reclaim Ventilation) (Ceiling mounted duct type)**

VAM150FC  
VAM250FC



	A	B
VAM150F	145	97
VAM250F	132	146

1



2

**CE - DECLARATION-OF-COMFORMITY**  
**CE - KONFORMITÄTSPERKLÄRUNG**  
**CE - DECLARATION-DE-CONFORMITE**  
**CE - CONFORMITEITSPERKLARING**

**CE - DECLARACION-DE-CONFORMIDAD**  
**CE - DICHIARAZIONE-DE-CONFORMITA**  
**CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ**

**CE - DECLARACIÓN-DE-CONFORMIDAD**  
**CE - ЗАЯВЛЕНИЕ-О-СОТВЕТСТВИИ**  
**CE - OPEVLJENJE-SEKLEPILNOSTI**  
**CE - FÖRSÄKRAN-OM-ÖVERENSSTÄMMELSE**

**CE - ZJAVJA-O-USKLABENOSTI**  
**CE - ILMOUTUS-YHDENMUKAISUUDESTA**  
**CE - DEKLARACJA-ZGODNOŚCI**  
**CE - DECLARATIE-DE-CONFORMITATE**

**CE - ATTIKTES-DEKLARACIA**  
**CE - ATBILS-TĪBAS-DEKLARACIJA**  
**CE - VYHLÁŠENIE-ZHODY**  
**CE - UYUMULULUK-BEYANI**

**Daikin Europe N.V.**

- 01 (EN) declares under its sole responsibility that the air conditioning models to which this declaration relates:
- 02 (D) erklärt auf seine alleinige Verantwortung daß die Modelle der Klimaanlage für die diese Erklärung bestimmt ist:
- 03 (F) déclare sous sa seule responsabilité que les appareils d'air conditionné visés par la présente déclaration:
- 04 (NL) verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de airconditioning units waarop deze verklaring betrekking heeft:
- 05 (E) declara bajo su única responsabilidad que los modelos de aire acondicionado a los cuales hace referencia la declaración:
- 06 (I) dichiara sotto sua responsabilità che i condizionatori modello a cui è riferita questa dichiarazione:
- 07 (GR) δηλώνει με αποκλειστική της ευθύνη ότι η παρούσα δήλωση αφορά αποκλειστικά τα κλιματιστικά μονοτέλα στα οποία αναφέρεται η παρούσα δήλωση:
- 08 (P) declara sob sua exclusiva responsabilidade que os modelos de ar condicionado a que esta declaração se refere:

**VAM150FCVE\*, VAM250FCVE\*,**  
 \*, \*\*, 1, 1.2, 3, ..., 9

- 01 are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:
  - 02 werden folgenden Norm(en) oder einem anderen Normdokument oder Dokumenten entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:
  - 03 sont conformes à la ou aux norm(e)s ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:
  - 04 conform de volgende norm(en) of één of meer andere technische documenten zijn, op voorwaarde dat ze worden gebruikt overeenkomstig onze instructies:
  - 05 están en conformidad con la(s) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones:
  - 06 sono conformi all(i) seguente(i) document(o) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni:
  - 07 εντά conformούν με το(ί) ακόλουθ(όν) πρότυπο(ί) ή άλλο(α) έγγραφο(ί) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:
- EN60335-2-40,**
- 01 following the provisions of:
  - 02 gemäß den Vorschriften der:
  - 03 conformément aux stipulations des:
  - 04 overeenkomstig de bepalingen van:
  - 05 siguiendo las disposiciones de:
  - 06 secondo le prescrizioni per:
  - 07 με τηρών τη(ν) διάταξη(ών) του:
  - 08 de acordo com o previsto em:
  - 09 в соответствии с положениями:
- 06 Nota \* as set out in <A> and judged positively by <B>
  - 07 Znakom \* wie in de <A> aangegeven und von <B> positief beoordeeld/zertifiekert <B>
  - 08 Nota \* tel que défini dans <A> et évalué positivement par <B> conformément au Certificat <B>
  - 09 Примечание \* как указано в <A> и в соответствии с сертификатом <B> одобряю <B>
  - 10 Bemærk \* som anført i <A> og positivt vurderet af <B> i henhold til Certificat <B>

- 09 estão em conformidade com a(s) seguinte(s) norma(s) ou outro(s) documento(s) normativo(s), desde que estes sejam utilizados de acordo com as nossas instruções:
- 10 соответствуют следующим стандартам или другим нормативным документам, при условии их использования согласно нашим инструкциям:
- 10-overbore følgende standard(er) eller andre/andre retningsreguleringe dokument(er), forudsat at disse anvendes i henhold til vore instruktioner:
- 11 respektive utövning är utförd i överensstämmelse med och följer följande standard(er) eller andra i normgivande dokument, under förutsättning att användning sker i överensstämmelse med våra instruktioner:
- 12 respektive uslyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forudsætning at disse bruges i henhold til våre instruksjoner:
- 13 zaštata sauravien standarden ja muiden objeektien dokumenttien vaatmuksia edellyttäen, että niitä käytetään ohjeidemme mukaisesti:
- 14 za prepočtadu, že jsou využívány v souladu s našimi pokyny, odpovídají následující normám nebo normativním dokumentům:
- 15 u skladu sa slijedećim standardom(im) ili drugim normativnim dokumentom(im) a, uz uvjet da se oni koriste u skladu s našim uputama:

- 16 megjelenek az alábbi szabvány(ok)nak vagy egyéb irányváb dokumentum(ok)nak, ha azokat előírással szerezni használják:
- 17 спрeхляга вимоги наступлюючyх норм i инyх документiв нормалiзацyючyх, под умовинкe за уживанe са згоднe з насьми iнструкцiями:
- 18 sunt in conformitate cu urmatoarele (standard(e) sau alte) document(e) normative (i) conform fiia ce acestea sa fie utilizate in conformitate cu instructiunile noastre
- 19 skladen z nasledujicimi standardi in drugiimi normativi, pod pogojem, da se uporabijo v skladu z našimi navodili:
- 20 on vastavuses järgmistele standarditele või teistele normaliseeritud dokumentidele, kui need kasutatakse vastavalt meie juhendile:
- 21 съответстват на следните стандарти или други нормативни документи, при условие, че се използват съгласно нашите инструкции:
- 22 аtlinha zemau nurobiulus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
- 23 tad, ja tiechi atbilstoši ražotāja norādījumiem, abtās sekošiem standartiem un citiem normatīviem dokumentiem:
- 24 su v zrode z nasledovnymi normami (ili) inymi (normativnymi) dokumentami, za predpokladu, ze sa pouzivaji v sllade s našim navodom:
- 25 üritun, lalmatlamizma göre kullanılması koşulluyle aşağıdaki standartlar ve norm belirlen beğenile uyumludur:

**Low Voltage 2014/35/EU**  
**Electromagnetic Compatibility 2014/30/EU \***

- 01 Directives, as amended.
- 02 Direktiv, gemäß Änderung.
- 03 Directives, telles que modifiées.
- 04 Richtlijnen, zoals gewijzigd.
- 05 Directives, según lo amendedo.
- 06 Directives, come da modifica.
- 07 Obyňvny, otme, syovny (normirovani).
- 08 Directivas, conforme alteração em.
- 09 Директивe, со взыми поправакми.
- 10 Direktiiv, med sehere ændringer.
- 11 Direktiv, med foretagne ændringer.
- 12 Direktiv, med foretagne ændringer.
- 13 Direktiiv, selgisiina kuni ne ovat muudetud.
- 14 v platném znění.
- 15 Smerice, kako je izmijenjeno.
- 16 riavlyv(ek) is modobasak revidelkezesel.
- 17 z poznejšymi popravkami.
- 18 Direktiiv, cu amendamentele respective.
- 19 Direktive z nemi spremembami.
- 20 Direktivă koss muadaltsega.
- 21 Директив, с ревіре коменяма.
- 22 Direktivose su raplyvėjimas.
- 23 Direktiivus un to papildinėjimus.
- 24 Smerice, v patinom znenii.
- 25 Dėgisiinišis halierynis Yovimeklker.

- 21 Zabeleška \* kako je izmijeneno v <A> i oceneno poskupljeno ot <B> skladno
- 22 Pastaba \* kaip nusulyta <A> ir kapijėgiami nusirešia <B> pagal Sertifikačią <B>
- 23 Pastabas \* kė norėdėtis <A> un abliusi <B> pozityviam veėjėjimams sėkėmė ar sertifikatu <B>
- 24 Pastabėna \* ako bdo uvedeno v <A> si pozitivne zibeite <B> v sllade s osvedćenim <B>
- 25 Not \* <A> da beiridigi gbi ve <B> Sertifikašna gėre <B> taratindan olumtu olarak degeendindigi gbi.

<A>	DAIKIN.TCF.009J/06-2019
<B>	DEKRA (NB0344)
<C>	592777-KRQ/ECM95-4303



Hironitsu Iwasaki  
 Director  
 Ostend, 2nd of September 2019

*(Handwritten signature)*

**CONTENTS**

	Page
Safety considerations .....	1
Dimensions .....	2
Installation .....	2
System .....	4
Electric wiring .....	6
Configuration .....	10
Test run .....	18
Wiring diagram .....	19



**HRV – Heat Reclaim Ventilation**

Please read this installation manual carefully and install the unit properly to keep it at full capacity for a long time.

Please provide some necessary parts, for example round hoods, air suction/discharge grilles etc., before the installation of the unit.

The English text is the original instruction. Other languages are translations of the original instructions.

**SAFETY CONSIDERATIONS**

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

Also, inform customers that they should store this installation manual along with the operation manual for future reference.

This air conditioner comes under the term "appliances not accessible to the general public".

**Meaning of warning and caution symbols**



**WARNING** Failure to follow these instructions properly may result in personal injury or loss of life.



**CAUTION** Failure to observe these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.



**WARNING**

- Never inspect or service the unit by yourself. Ask a qualified service person to perform this work.
- Electric shock may result. Before servicing the unit, always shut off power.
- Persons servicing the unit are required to wear gloves.
- All wiring must be performed by an authorized electrician and must comply with the applicable legislation.
- Always use the air filter.  
If the air filter is not used, heat exchange elements will be clogged, possibly causing poor performance and subsequent failure.
- Do not change operations suddenly. It can result not only in malfunction but also failure of switches or relays in the body.
- This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.  
Children should be supervised to ensure that they do not play with the appliance.
- Do not use an HRV or an air suction/discharge grille in the following places:
  - Places such as machinery plants and chemical plants where gas, which contains noxious gas or corrosive components of materials such as acid, alkali, organic solvent and paint, is generated.
  - Places such as bathrooms subjected to moisture. Electric leak or electric shock and other failure can be caused.
  - Places subjected to high temperature or direct flame.  
Avoid a place where the temperature near the HRV unit and the air suction/discharge air grille exceeds 50°C. If the unit is used at high temperature, deformed air filter and heat exchange element or burned motor result. Unit ambient temperature conditions should be between -15°C and 50°C (80% relative humidity or less)
  - Places subjected to much carbon black. Carbon black attaches to air filter and heat exchange element, disabling them.
  - The equipment is not intended for use in a potentially explosive atmosphere.
- Improper installation or attachment of equipment or accessories could result in electric shock, short-circuit, leaks, fire or other damage to the equipment. Be sure only to use accessories, optional equipment and spare parts made by Daikin which are specially designed for use with the products as of subject in this manual and have them installed by an installer.

## DIMENSIONS

(See figure 1)

- 1 Maintenance space for the heat exchange elements, air filters and fans
- 2 Maintenance cover
- 3 Inspection hole □ 450 mm
- 4 Switch box
- 5 4x 14x40 mm Ceiling hook (Oval hole)
- 6 Exhaust air fan
- 7 OA (Outdoor air) Fresh air from outdoors
- 8 EA (Exhaust air) Exhaust air to outdoors
- 9 Supply air fan
- 10 SA (Supply air) Supply air to room
- 11 RA (Return air) Return air from room
- 12 Damper plate
- 13 Heat exchange elements
- 14 Air filters
- 15 Applicable duct
- 16 Nominal diameter

## INSTALLATION

### Installation position



#### CAUTION

- **The appliance is designed to be a built-in appliance. It shall not be accessible to the general public. Adequate measures have to be taken to prevent access by other than qualified persons.**
- **Install the unit in a place strong enough to support its weight.**  
Poor installation is hazardous. It also causes vibrations and unusual operating noise.
- **Provide the service space and the inspection holes.**  
(Be sure to provide the inspection holes to inspect the air filters, the heat exchange elements and fans.)
- **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.)

### ■ Example of Installation (See figure 2)

- 1 Air suction/discharge grille (option)
- 2 Inspection hole □ 450 mm (field supply)
- 3 Maintenance space for the heat exchange elements, air filters and fans
- 4 Duct (field supply)
- 5 Duct (Ø200) (field supply) or (\*) Flexible duct (option)
- 6 EA (Exhaust air to outdoors)
- 7 Heat Insulator (field supply)
- 8 OA (Outdoor air) Fresh air from outdoors
- 9 Suspension bolt (field supply)
- 10 Gradient of down to outdoor  $\geq 1/50$
- 11 SA (Supply air to room)
- 12 RA (Return air from room)
- 13 Round hood (field supply)
- 14 Suspension bolt position
- 15 Additional external damper (field supply)

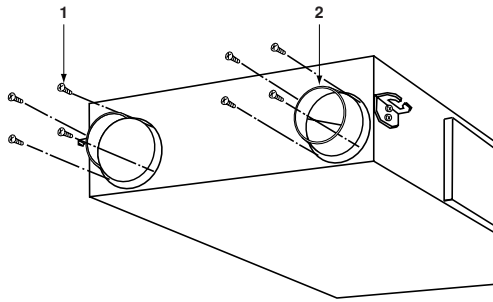


#### CAUTIONS

##### on installing the ducts

- The parts marked with (\*) are effective in reducing blowing noise.
- When using the unit at a quiet place, use the optional silencer box and flexible duct at the part of the air discharge outlet on the indoor side "SA" (supply air to room) of the unit, to counter the noise.
- When selecting installation materials, consider the required volume of air flow 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.
- Access inside the unit is only allowed through the service hole. Install grilles in case no ducts are installed.
- Unit sound pressure level is less than 70 dB(A).

## Method of installation

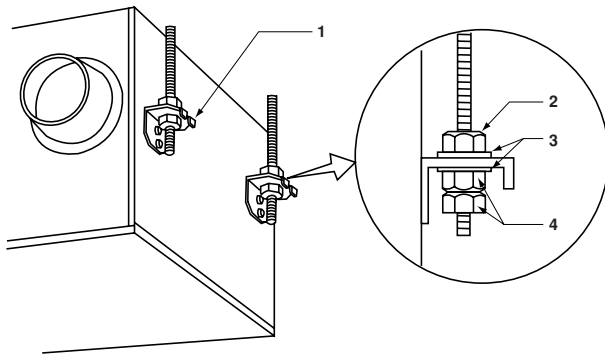


- 1 Screw (accessories)
- 2 Duct connecting flange (accessories)

- Installation of duct connecting flanges  
Attach the provided duct connecting flanges using screws (accessories).

screws provided	
VAM150	16
VAM250	16
VAM350	16
VAM500	16

screws provided	
VAM650	24
VAM800	24
VAM1000	24
VAM1500	24
VAM2000	24



- 1 Ceiling hook
- 2 Nut
- 3 Washer
- 4 Double nuts

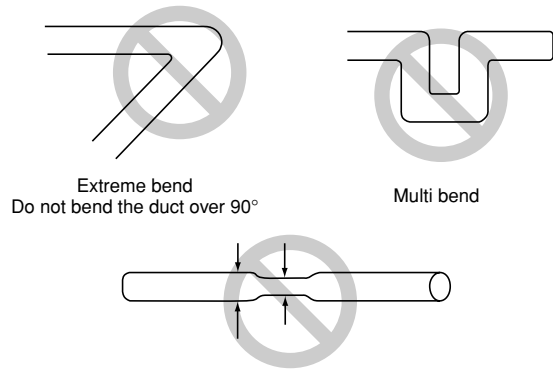
## Installation of HRV

- Install the anchor bolt (M10 to 12) in advance.  
Pass the metal suspension bracket through the anchor bolt and secure the anchor bolt with washer and nut.  
(Before installation, check for foreign objects such as vinyl and paper remaining inside the fan housing.)
- The metal suspension bracket is fitted on top of the standard unit.  
If the anchor bolt is long, install it on the bottom of the unit.  
(Be sure to screw in the removed mounting screw on top to prevent air leakage.)  
Install the duct caution name plate properly on the indoor side (SA·RA) and outdoor side (EA·OA).

**NOTE** Remove the two fixing metals for transportation if it prevents installation work. (Be sure to screw in the removed mounting screw on the body side to prevent air leakage.)

## Duct connection

Do not connect the ducts as follows

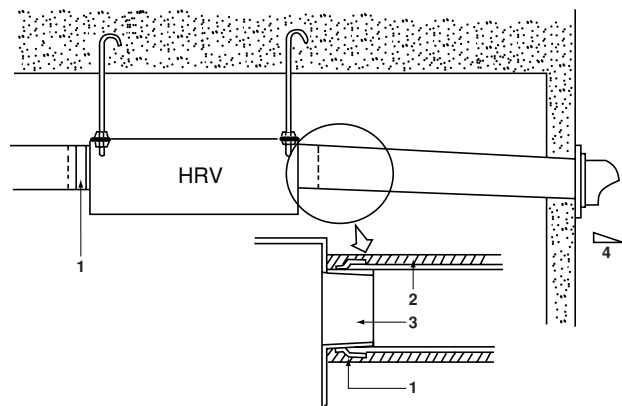


Extreme bend  
Do not bend the duct over 90°

Multi bend

Reduce the diameter of the duct to be connected.  
Do not reduce the duct diameter halfway.

- 1 The minimal radius of bends for flexible ducts are as follows:  
300 mm duct: 200 mm diameter  
375 mm duct: 250 mm diameter
- 2 To prevent air leakage, wind aluminium tape round the section after the duct connecting flange and the duct are connected.
- 3 Install the opening of the indoor air intake as far as from the opening of the exhaust suction.
- 4 Use the duct applicable to the model of unit used (Refer to the outline drawing.)
- 5 Install the two outdoor ducts with down slope (slope of 1/50 or more) to prevent entry of rain water. Also, provide insulation for both ducts to prevent dew formation. (Material: Glass wool of 25 mm thick)
- 6 If the level of temperature and humidity inside the ceiling is always high, install a ventilation equipment inside the ceiling.
- 7 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.

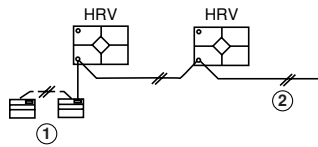
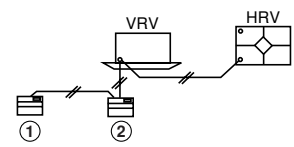
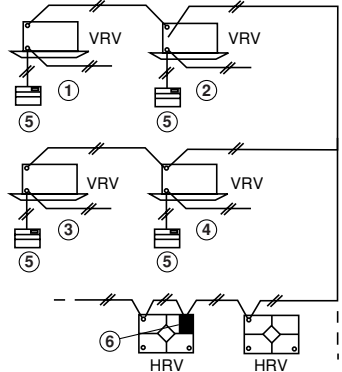


- 1 Aluminium tape (field supply)
- 2 Insulation material (field supply)
- 3 Duct connecting flange (option)
- 4 Slope over 1/50

# SYSTEM

## Independent system

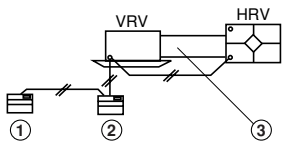
Air conditioner linked operation system

		System	Standard method	Related items in Electric wiring
Independent system		 <p>1 Remote controller for HRV      2 2-wire cord (produced locally)</p>	<ul style="list-style-type: none"> <li>Up to 16 units can be controlled with the remote controller for HRV. (A system with two remote controls can be created in the master/slave switching.)</li> <li>All HRV operations can be used and indicated.</li> <li>Operation monitor output and humidifier operation are possible using Adapter PCB.</li> <li>Remote control cord should be procured locally. (Maximum cord length: 500 m)</li> </ul>	"When connecting to remote controller for HRV" on page 15
Combined operation system with VRV systems and Sky-air series	1-group linked operation system	 <p>1 Remote controller for air conditioner (Remote controller for HRV)      2 Remote controller for air conditioner</p>	<ul style="list-style-type: none"> <li>A combined total of up to 16 air conditioners and the HRV can be controlled.</li> <li>The HRV ventilation mode can be operated independently when air conditioners are not being used.</li> <li>Using the local setting of the remote controller for air conditioners, various settings such as precool/pre-heat reservation on/off, ventilation flow rate, ventilation mode, etc.</li> </ul>	"Standard 1-group linked-control system" on page 15
	Multi-group (2 or more) linked operation system	 <p>1 Group 1      4 Group 4 2 Group 2      5 Remote controller for HRV 3 Group 3      6 Distant control adapter</p>	<ul style="list-style-type: none"> <li>Since all VRV units are connected to a single line in view of installation, all VRV units are subjects for operation.</li> <li>If there are problems operating all VRV units, do not use this system.</li> </ul>	"Linked control with more than two groups" on page 16

**NOTE**



- Adapter PCB for external input/output BRP4A50A; Distant control adapter KRP2A51: Installation box KRP1BA101, mounting plate EKMP25VAM.
- Operation of two or more group is not possible with direct duct connection.
- With VAM types, the direct duct connection shown can also be selected for 1-group operation systems.

		System	Standard method	Related items in Electric wiring
Direct duct connection system		 <p>1 Remote controller for air conditioner (Remote controller for HRV)      2 Remote controller for air conditioner 3 Duct</p>	<ul style="list-style-type: none"> <li>The HRV will operate only when the air conditioner fan is on.</li> <li>When the air conditioner is not being used, the HRV can be operated in circulation or ventilation modes.</li> <li>Other specifications are the same as those of the standard system.</li> </ul>	"Direct duct connection system for 1-group operation system" on page 16



# Centralized control system (VRV system)

		System	Standard method	Related items in Electric wiring
Centralized control system	"All"/individual control system	<p>1 Remote controller for air conditioner 2 Adapter PCB for remote controller, Schedule timer, On/Off controller</p>	<ul style="list-style-type: none"> <li>Use of the on/off controller, Adapter PCB for remote control or schedule timer enables centralized control of the entire system. (maximum of 64 groups)</li> <li>The on/off controller can turn on or off the individual units.</li> <li>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.</li> </ul>	"All"/"individual" control" on page 17
	Zone control system	<p>1 Zone 1 2 Zone 2 3 Remote controller for air conditioner 4 Central controller</p>	<ul style="list-style-type: none"> <li>Use of the centralized controller enables zone control via the centralized control line. (maximum of 64 zones)</li> <li>The central controller displays the "Filter" indication and abnormality warnings, and enables resetting.</li> <li>The centralized controller allows ventilation operation for each zone independently.</li> </ul>	"Zone control system" on page 17

**NOTE**



Wiring adapter for remote contact: BRP4A50A, Adapter PCB for remote control: KRP2A51, schedule timer: DST301B51, on/off controller: DCS301B51, controller: DCS302C51, BRC1E53.



# ELECTRIC WIRING



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

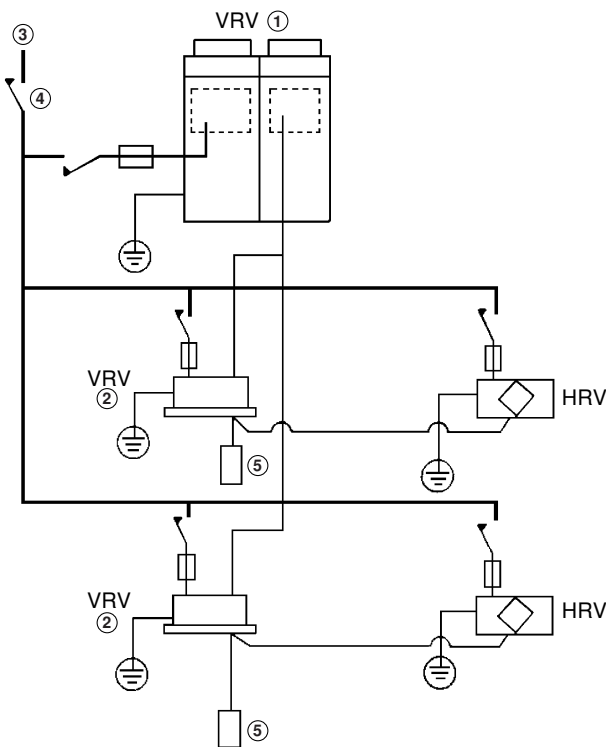
## Connection of wiring

- Connect the wires in accordance with the diagram of each system.
- All wiring must be performed by an authorized electrician.
- All field supplied parts and materials and electric works must conform to local codes.
- Use copper wire only

## Connection of wiring

- A main switch or other means of disconnection, having a contact separation in all poles, must be incorporated in the fixed wiring in accordance with applicable legislation. Do not turn on the main switch until all the wiring is complete.
- 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.
- Fit the power supply wiring of each unit with a switch and fuse as shown in the drawing.
- Be sure to give the electric grounding (earth) connection.

## Complete system example



- Power supply wiring
- Transmission wiring
- Switch
- Fuse
- 1 Outdoor unit
- 2 Indoor unit
- 3 Power supply
- 4 Main switch
- 5 Remote controller

## Component electrical specifications

VAM	150F	250F
Units	JVE, 5VE	
Type	JVE, 5VE	
50 Hz	Power supply Max. 264 V/Min. 198 V	
60 Hz	Power supply Max. 242 V/Min. 198 V	
Power supply (*)		
MCA (A)	0.9	0.9
MFA (A)	16	16
Fan motor (*)		
KW (kW)	0.03x2	0.03x2
FLA (A)	0.4x2	0.4x2

(\*) MCA: Min. Circuit Amps  
MFA: Max. Fuse Amps  
KW: Motor Rated Output  
FLA: Full Load Amps

**NOTE** For details, refer to ELECTRICAL DATA.




## Specifications for field supplied fuses and wire


VAM	150F	250F
Type	JVE, 5VE	
Power supply wiring		
Field supplied fuses	16 A	
Wire	H05VV-U3G	
Size	Wire size must comply with local codes	
Transmission wiring		
Wire	Shield wire (2 wire)	
Size	0.75-1.25 mm <sup>2</sup>	

## Precautions

- Do not connect wires of different gauge to the same power supply terminal. Looseness in the connection may cause overheating. When connecting more than one wire to the power supply wiring, use a 2 mm<sup>2</sup> (Ø1.6) gauge wire.
 

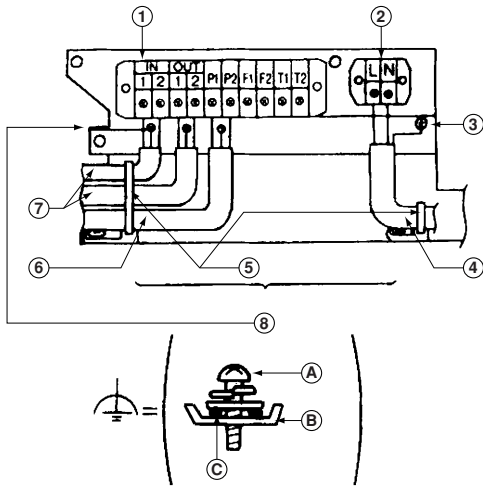


Same gauge wires



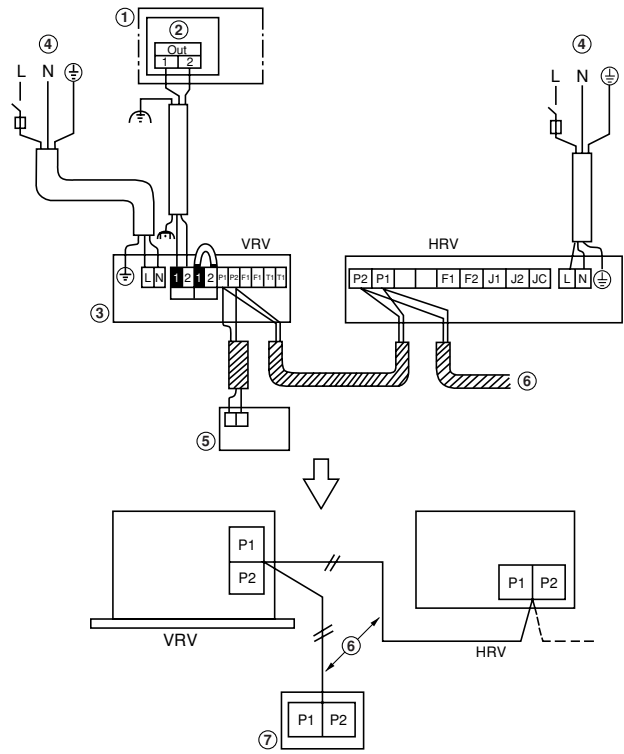
Different gauge wires
- Keep total current of crossover wiring between indoor units less than 12 A. When using two power wiring of a gauge greater than 2 mm<sup>2</sup> (Ø1.6), branch the line outside the terminal board of the unit in accordance with electrical equipment standards. The branch must be sheathed so as to provide an equal or greater degree of insulation as the power supply wiring itself.
- Do not connect wires of different gauge to the same grounding terminal. Looseness in the connection may deteriorate protection.
- Keep the power supply wiring distant from other wires to prevent noise.
- For remote controller wiring, refer to the "Installation manual of the remote controller".

View seen from VRV



- 1 Terminal board for transmission wiring
- 2 Terminal board for power supply
- 3 Grounding terminal
- 4 Power supply wiring
- 5 Clamp material (attached)
- 6 Remote controller wiring
- 7 Unit wiring
- 8 Field supply wire/Earth terminal (attached)  
Ground the shield part of shielded wire.
- A Earth screw (attached)
- B C-cup washer (attached)
- C Shield part

Wiring example



- 1 Outdoor unit/BS unit
- 2 Switch box
- 3 Indoor unit
- 4 Power supply 220-240 V~50 Hz
- 5 Remote controller (VRV)
- 6 Transmission wiring
- 7 Remote controller (HRV)

- All transmission wiring except for the remote controller wires is polarized and must match the terminal symbol.
- Use shield wire in transmission wiring. Ground the shield of the shield wire to "⏏", at the grounding screw, with the C-cup washer.
- Sheathed wire materials may be used for transmission wiring, but they are not suitable for EMC (Electromagnetic Compatibility) (European Directive).  
When using sheathed wire, electromagnetic Compatibility must conform to Japanese standards stipulated in the Electric Appliance Regulatory Act.  
Transmission wiring need not be grounded when using sheathed wire.

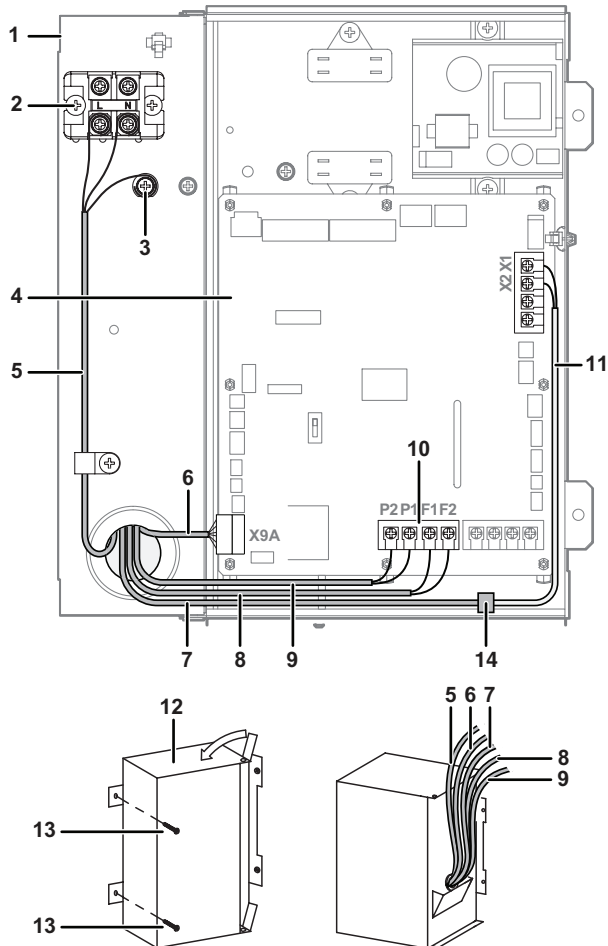
## Opening the switch box



### CAUTION

Before opening the cover, be sure to turn off the power switches of the main units and other devices connected with the main units.

- Remove the screw securing the cover and open the switch box.
- Secure the power cord control wires with the clamp, as shown in the next figures.

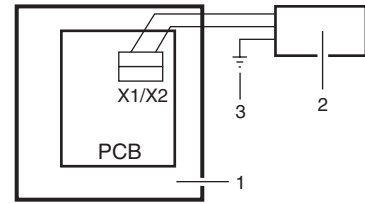


- 1 Switch box
- 2 Terminal board
- 3 Grounding terminal
- 4 Control PCB
- 5 Power supply cable
- 6 BRP4A50A (optional accessory)
- 7 Double or reinforced insulated flexible cable (0.75 mm<sup>2</sup>) to external damper or heater (field supply)
- 8 KRP2A51 (optional accessory)
- 9 Transmission wiring to optional controller
- 10 Transmission wiring terminal board
- 11 Wiring for connection of additional damper or heater
- 12 Switch box cover
- 13 Securing screw
- 14 Insulated splices-closed barrel connector (0.75 mm<sup>2</sup>) (field supply)

## Required electrical connections for possible additional field supplied external damper

The external damper prevents the intake of outdoor air if the HRV is switched off. (Refer to figure 2, item 19).

1. The HRV's main unit PCB operates the HRV and supplies power for the external damper.



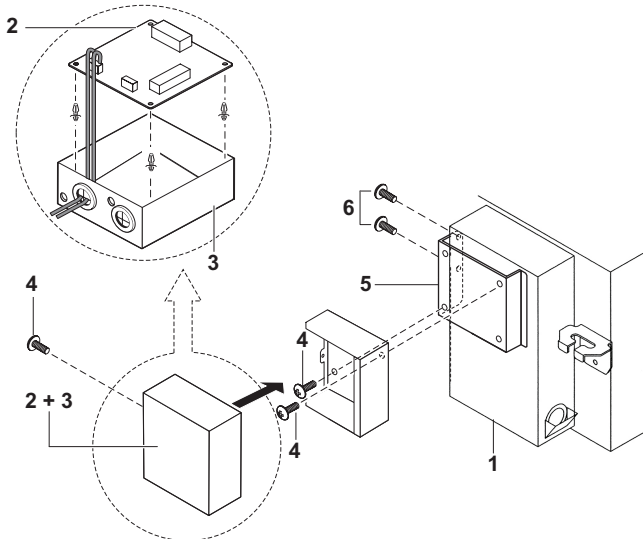
- 1 HRV main unit
- 2 External damper
- 3 Earth to external damper, if no class II construction (EN60335-2-40)

Source voltage supply starts when HRV starts operating.  
Source voltage supply is stopped when HRV is switched off.

Supply voltage	Connected load capacity
220 V	≤0.5 A
230 V	
240 V	

2. Required electrical connections  
Connect one end of the accessory harness to the X1/X2 connector on the PCB and the other end to the harness leading to the external damper via a insulated splices-closed barrel connector (0.75 mm<sup>2</sup>).  
Make sure that the wire is released from strain.
3. Required settings
  - Mode No.: 18 (Group control) or 28 (Individual control)
  - Setting switch No.: 3
  - Setting position No.: 03

## How to install the optional adapter circuit board (KRP2A51)



- 1 Switch box
- 2 KRP2A51 (optional accessory)
- 3 KRP1BA101 (installation box)
- 4 Screw (supplied with the installation box)
- 5 EKMP25VAM (mounting plate)
- 6 Screw

- 1 Attach the optional mounting plate (EKMP25VAM).
- 2 Attach the optional PCB (KRP2A51) in the installation box (KRP1BA101).
- 3 Follow the installation instructions provided with the option kit (KRP2A51 and KRP1BA101).
- 4 Guide the PCB wire through the dedicated holes and attach it as instructed in "Opening the switch box" on page 8.
- 5 Attach the option to the optional mounting plate as shown in the figure.
- 6 Fasten the switch box when the wires are connected.

## How to install the optional heater control kit (BRP4A50A)

When operating the HRV units at or below  $-10^{\circ}\text{C}$  of the outdoor air temperature, use a field supplied preheater to preheat outdoor air.

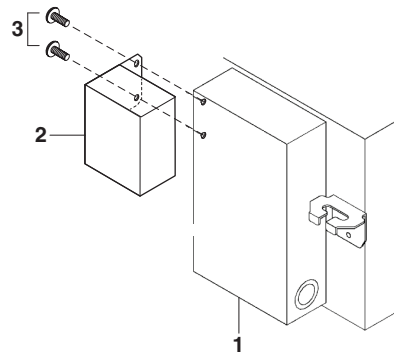
The BRP4A50A kit is required to have an ON/OFF delay control when a preheater is used (initial setting is required).



### CAUTION

- For electric heater, safety devices, and installation location, follow the standards or regulations of each country.
- Use a nonflammable duct for the electric heater. Be sure to keep a distance of  $\geq 2$  m between the heater and HRV unit for safety.
- Use a different power supply and different circuit breaker for the HRV units and electric heaters.
- For setting the initial setting on the remote controller, see 19(29)-8-03 or 19(29)-8-04 in chapter "List of settings" on page 12.

Install the heater control kit to the outside of the switch box of the HRV unit as shown below.

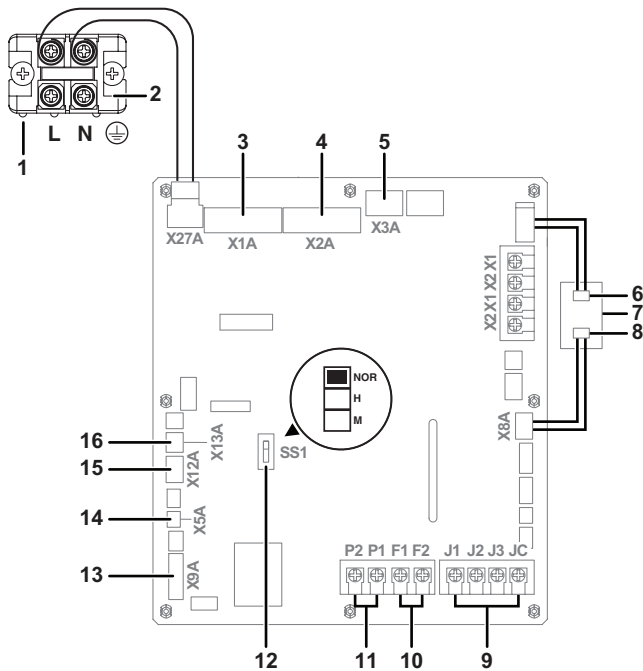


- 1 Switch box
- 2 BRP4A50A (optional accessory)
- 3 Screw

- 1 Follow the installation instruction provided with option kit (BRP4A50A) to assemble the heater control kit.
- 2 Attach the heater control kit to the switch box as shown in the figure above.
- 3 Guide the PCB wire the dedicated holes and attach it as instructed in "Opening the switch box" on page 8.
- 4 Fasten the switch box when the wires are connected.

Power cord connection, control wire terminals and switches on the electronic control unit (printed circuit board)

- Connect the power cord to the L and N terminals.
- Secure the power cord with the power cord clamp, as shown in "Opening the switch box" on page 8.
- Be sure to connect the electric grounding (earth).



- |                             |  |
|-----------------------------|--|
| 1 Power supply              | 10 Centralized control   |
| 2 Terminals                 | 11 Remote controller   |
| 3 Supply air fan            | 12 Factory setting (no operation if remote controller is attached) |
| 4 Exhaust air fan           | 13 BRP4A50A (optional accessory)                                   |
| 5 Damper                    | 14 Damper  |
| 6 Primary                   | 15 Indoor air thermistor   |
| 7 Power supply PCB          | 16 Outdoor air thermistor  |
| 8 Secondary                 |  |
| 9 No voltage external input |  |

## CONFIGURATION

Using the remote controller of the VRV-system air conditioner to make HRV unit settings

The settings (format: XX(XX)-X-XX), for example 19(29)-1-02, that are used in this chapter are composed of 3 parts, divided by "-":

- Mode number: for example 19(29), where 19 is the mode number for group settings and 29 is the mode number for individual settings.
- Switch number: for example, 1
- Position number: for example, 02.

## Operating procedure

You can use either the user interface of the heat reclaim ventilation units or of the air conditioner to adjust the heat reclaim ventilation unit settings.

### Initial setting

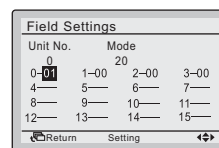
- 1 Mode nos. 17, 18 and 19: Group control of HRV units.
- 2 Mode nos. 27, 28 and 29: Individual control

### To change the settings with BRC1E53

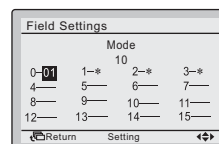
Make sure that the switch box lids on the heat reclaim ventilation unit are closed.

- 1 Shortly press a button to turn on the screen light.
- 2 Press and hold the Cancel button (1) for at least 4 seconds to enter the Service Settings menu.
- 3 Go to Field Settings with the Up/Down buttons and press the Menu/Enter button (2).
- 4 Press the Left/Right buttons to highlight the number under Mode.
- 5 Press the Up/Down buttons to select the required mode number. **Result:** Depending on the mode number that you select, starting at 20, you will also have to select a unit number, for the individual control.
- 6 Use the Left/Right buttons to highlight the number under Unit No.
- 7 Use the Up/Down buttons to select an indoor unit number. Selecting a unit number is NOT necessary when you are configuring the entire group.
- 8 Use the Left/Right buttons to select a position number (0 to 15) for the switch number that you want to change.

In case of individual settings:

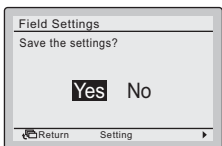


In case of group settings:

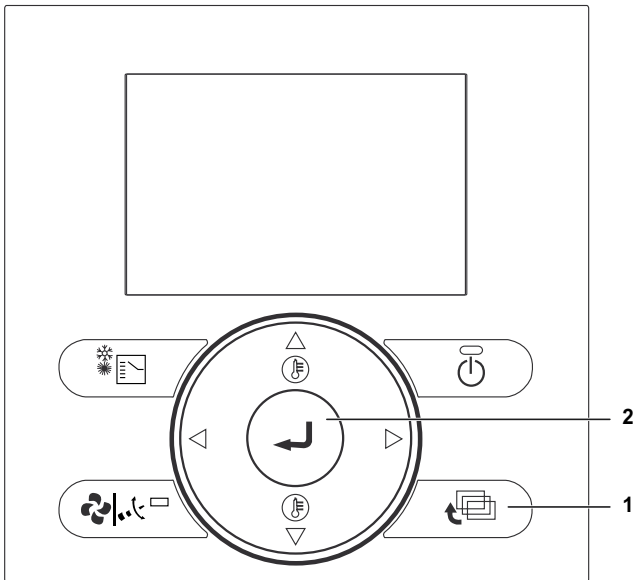


- 9 Use the Up/Down buttons to select the required position number.

- 10 Press the Menu/Enter (2) button and confirm the selection with Yes.



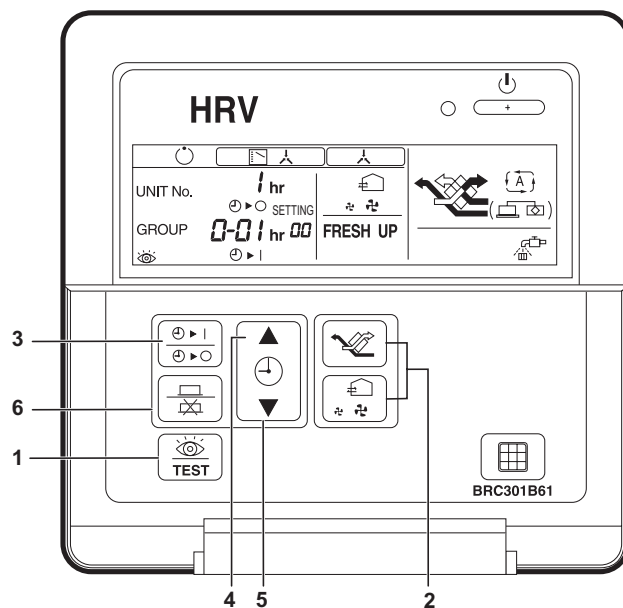
- 11 You have completed all the changes, press the Cancel button (1) twice to return to the normal mode.



### To change the settings with BRC301B61

Make sure that the switch box lids on the heat reclaim ventilation unit are closed.

- 1 With the unit in normal mode, press the Inspection/Trial button (1) for more than 4 seconds to enter the local setting mode.
- 2 Use the Ventrilation mode button (up - 2) and the Airflow rate button (down - 2) to select a mode number.  
**Result:** The code display is blinking.
- 3 To configure settings for individual units under group control, press the Timer setting on/off button (3) and select the number of that unit that you want to configure.
- 4 To select the setting switch number press the top section of the Timer button (4). To select the setting position number, press the lower section of the Timer button (5).
- 5 Press the Program/Cancel button (6) once, to enter the setting.  
**Result:** The code display stops blinking and lights up.



**NOTE** Setting 18(28)-11 CANNOT be selected with the user interface.

## List of settings

Mode No.		Setting switch No.	Description of Setting	Setting position No.(Caution *1.)					
Group settings	Individual settings			01	02	03	04	05	06
17	27	0	Filter cleaning time setting	Approx. 2500 hours	Approx. 1250 hours	No counting	–	–	–
		2	Precool/preheat on/off setting	Off	On	–	–	–	–
		3	Precool/preheat time setting	30 min	45 min	60 min	–	–	–
		4	Fan speed initial setting	Normal	Ultra high	–	–	–	–
		5	Yes/No setting for direct duct connection with VRV system Setting for cold areas (Fan operation selection for heater thermo OFF)	No duct (Air flow setting)	With duct (fan off)	–	–	–	–
				–	–	No duct		With duct	
		8	Centralized zone interlock setting	No	Yes	Priority on operation	–	–	–
9	Preheat time extension setting	0 min	30 min	60 min	90 min	–	–		
18	28	0	External signal JC/J2	Last command	Priority on external input	–	–	–	–
		1	Setting for direct Power ON	Off	On	–	–	–	–
		2	Auto restart setting	Off	On	–	–	–	–
		3	Humidification operation setting External output signal switching (between X1 and X2)	Only heating	Always	Only heating	Always	–	–
				humidification output	humidification output	fan damper output	fan damper output	–	–
		4	Indication of ventilation mode/No indication	Indication	No Indication	–	–	–	–
		7	Fresh up air supply/exhaust setting	No Indication	No Indication	Indication	Indication	–	–
Supply	Exhaust			Supply	Exhaust	–	–		
8	External input terminal function selection (between J1 and JC)	Fresh-up	Overall alarm	Overall malfunction	Forced off	Fan forced off	Air flow increase		
9	BRP4A50A Output switching selection between X3 and X4	Heater output	Error output	–	–	–	–		
19	29	8	Stop ventilation by automatic ventilation air flow control	Allowed	Not allowed	Allowed	Not allowed	–	–
			Fan residual operation	Off	Off	Heater operation	Heater operation	–	–

### NOTE

■ Factory settings are grey marked.



■ Group number setting for central controller

Mode No. 00: Group controller

Mode No. 30: Individual controller

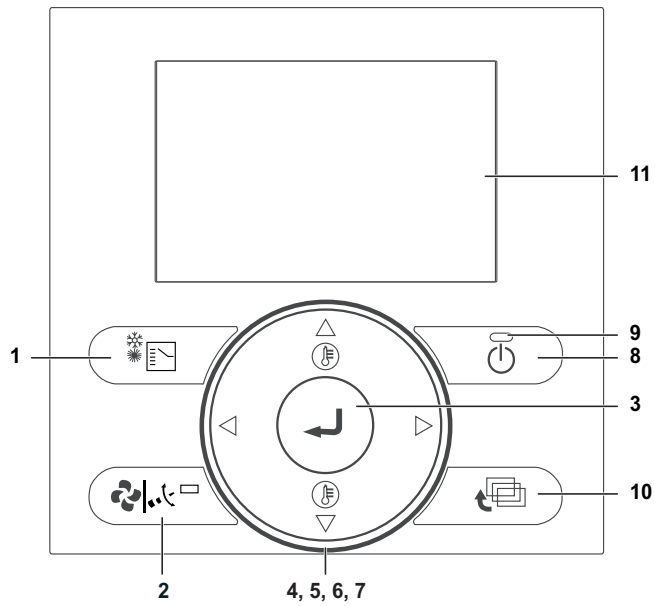
For the setting procedure, see "Group number setting for central control" in the operation manual of either the ON/OFF controller or the central controller.



## About the controller

### Controller for VRV system air conditioner

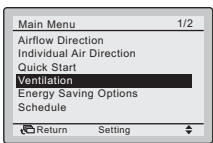
Please read the manual supplied with the controller (BRC1E53) for more detailed instructions.



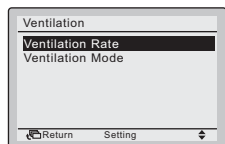
- 1 Operation Mode Selector button
- 2 Fan Speed/Airflow Direction button
- 3 Menu/Enter button
- 4 Up button
- 5 Down button
- 6 Right button
- 7 Left button
- 8 ON/OFF button
- 9 Operation lamp
- 10 Cancel button
- 11 LCD with backlight

### To change the ventilation rate

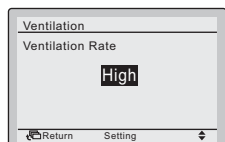
- 1 Press the Menu/Enter button to display the main menu.
- 2 Press the Up/Down buttons to select Ventilation and press the Menu/Enter button.



- 3 Press the Up/Down buttons to select Ventilation Rate and press the Menu/Enter button.



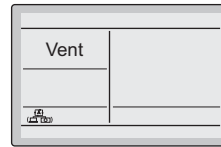
- 4 Press the Up/Down buttons to change the setting to Low or High and press the Menu/Enter button to confirm.



### To select ventilation mode

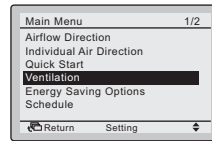
Ventilation mode is used when cooling or heating is not necessary, so only the heat reclaim ventilation units are operating.

- 1 Press the Operation Mode Selector button several times until the ventilation mode is selected.

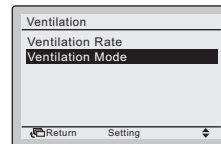


### To change the ventilation mode

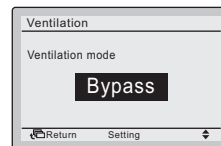
- 1 Press the Menu/Enter button to display the main menu.
- 2 Press the Up/Down buttons to select Ventilation and press the Menu/Enter button



- 3 Press the Up/Down buttons to select Ventilation Mode and press the Menu/Enter button



- 4 Press the Up/Down buttons to select the required ventilation mode.




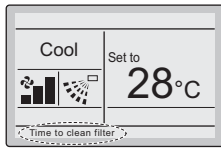
### Ventilation modes

You can change the ventilation mode in the main menu.

Mode	Description
Auto mode	Using information from the air conditioner (cooling, heating, fan, and set temperature) and heat reclaim ventilation unit (indoor and outdoor temperatures), this mode automatically switches between heat reclaim ventilation mode and bypass mode.
Heat reclaim ventilation mode (energy reclaim ventilation)	Outdoor air is supplied to the room after passing through a heat exchange element, where heat is exchanged with the room air.
Bypass mode	The indoor air bypasses the heat exchange element. This means that outdoor air is supplied to the room without heat exchange with the room air.

## Time to clean filter indication

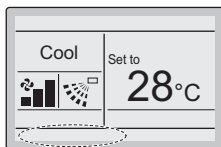
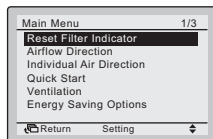
When the filter pressure drop becomes too large, the following message or icon is displayed at the bottom of the basic screen: Time to clean filter or . Clean the filters.



## To remove the Time to clean filter indication

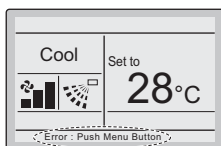
- 1 Press the Menu/Enter button.
- 2 Press the Up/Down buttons to select Reset Filter Indicator.
- 3 Press the Menu/Enter button.

**Result:** You return to the basic screen. The Time to clean filter indication is no longer displayed.

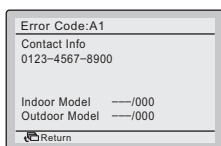


## About error indications

If an error occurs, there is an error icon in the basic screen and the operation lamp blinks. If a warning occurs, ONLY the error icon blinks and the operation lamp does NOT. Press the Menu/Enter button to display the error code or warning and contact information.

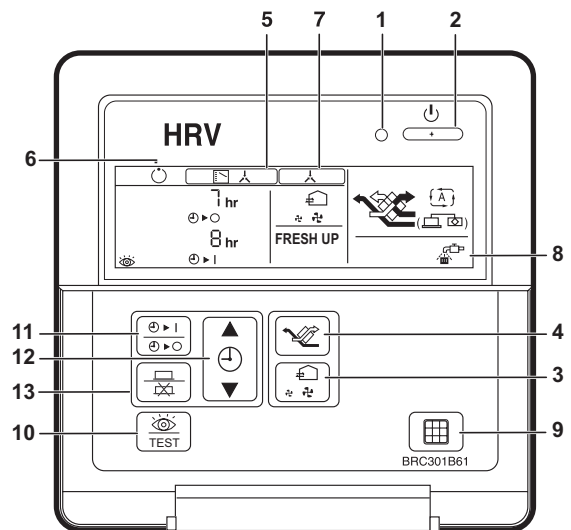












The error code blinks and the contact address and model name appear as shown below. In this case, notify your dealer about the error code.





## Controller for heat reclaim ventilation units


For non-independent systems, starting, stopping and setting timer is NOT possible with this controller (BRC301B61). In such cases, use the air conditioner controller (BRC1E53) or the central controller.



1. Operation lamp  
This red pilot lamp lights up while the unit is in operation.
2. Operation/Stop button  
Press this button once and the unit starts to operate. Press this button again and the unit stops.
3. Air flow rate changeover button  
Use this button to change the air flow to "  " Low, "  " High mode, "  " FRESH UP" Low Fresh-up, or "  " FRESH UP" High Fresh-up mode.  
When this indication does NOT show, the volume of outdoor air supplied into the room and that of the room air exhausted outdoor is equal.  
For "FRESH UP" operation
  - If the Fresh-up setting is set to "Fresh up air supply": The volume of outdoor air supplied into the room is larger than that of room air exhausted outdoors. This prevents odours and moisture from kitchens and toilets from flowing into the room. This is the factory setting.
  - If the Fresh-up setting is set to "Fresh up air exhaust": The volume of room air exhausted outdoors is larger than that of outdoor air supplied into the room. This prevents hospital odours and airborne micro-organisms from flowing out of the room into the corridors.  
To change this setting, see "List of settings" on page 12.
4. Ventilation mode changeover button  
"  " Automatic mode  
The unit's temperature sensor automatically changes the operation mode of the unit to Bypass mode or heat reclaim ventilation mode.  
"  " Heat reclaim ventilation mode  
In this mode, the outdoor air passes through the heat exchange element to effect heat reclaim ventilation.  
"  " Bypass mode  
In this mode, the outdoor air does not pass through the heat exchange element, but passes it to effect Bypass ventilation.
5. Indication of operation control method:     
When the operation of the heat reclaim ventilation units is linked to the air conditioners, this indication may be displayed. While this indication is displayed, the heat reclaim ventilation units CANNOT be turned on or off with the controller of the heat reclaim ventilation units.




6. Indication of operation standby:  This icon indicates that the unit is precooling/preheating. The unit's start-up is delayed until precooling/preheating is finished. Precooling/preheating means that the heat reclaim ventilation units are NOT started while linked air conditioners are starting up, for example, before office hours. During this period, the cooling or heating load is reduced to bring the room temperature to the set temperature in a short time.


7. Indication of centralized control:  When a remote controller for air conditioners or devices for centralized control are connected to the heat reclaim ventilation units, this indication may be displayed. While this indication is displayed, you may NOT be able to turn the heat reclaim ventilation units on or off, or use the timer function with the controller of the heat reclaim ventilation unit.



8. Indication of air filter cleaning When the display shows "", clean the filter.

9. Filter signal reset button

10. Inspection button Use this button only when servicing the unit.

11. Schedule timer button:  /  or  . This button enables or disables the schedule timer.

12. Time adjust button:  .

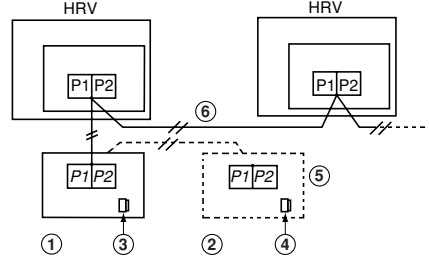
13. Programming button:  /  .

To set the timer

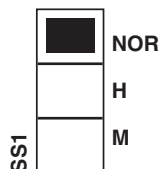
- 1 Press the schedule timer button.
- 2 Press the time adjust button to set the time.
- 3 Press the programming button to save the setting.

Independent system

When connecting to remote controller for HRV



- 1 Master unit
- 2 Slave unit
- 3 Switch position: Slave
- 4 Switch position: Master
- 5 Remote controller for HRV
- 6 Maximum connection line length: 500 m



Factory settings: Do NOT change the switch settings. SS1 is a setting switch for special purposes. Changing the settings will stop the unit from operating normally.

For raising the remote-controlled ventilation air flow rate from "High" to "Ultra-High", connect the remote controller for the air-conditioner to HRV and make settings on site.

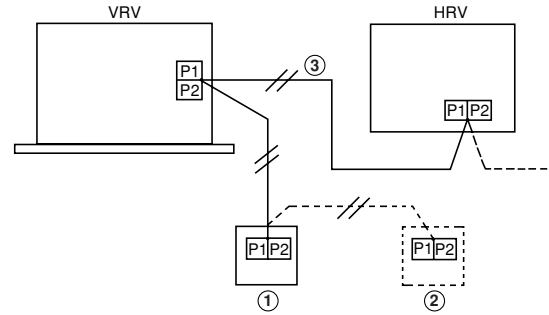
(Refer to "List of settings" on page 12.)

Keep the switch on the PCB at the factory setting.

Wiring and connections in combination with "VRV-SYSTEM"

Standard 1-group linked-control system

- The remote control of the air conditioner can be used to control up to 16 air conditioner indoor units and HRV units.
- Initial settings can be made for the functions of the HRV units (pre-cool/pre-heat, ventilation air flow, ventilation mode and "Fresh-Up"). Use the remote controller of the air conditioner to make the initial settings for the HRV units. Refer to "Initial setting" under Item "Configuration" on page 10



- 1 Remote controller for air conditioner
- 2 Remote controller for HRV
- 3 Connecting line can be extended up to 500 m maximum

Pre-cool/pre-heat function

When the pre-cool/pre-heat function is set, the HRV unit switches 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 of the air conditioner.

If the air conditioner is re-started within two hours after the operation was stopped, this function does not operate.

Example 1:

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

- Set the mode No. to "17" for group control, or "27" for individual control, the setting switch No. to "2" and the setting position No. to "02"
- Set the mode No. to "17" for group control, or "27" for individual control, the setting switch No. to "3" and the setting position No. to "03"

Example 2:

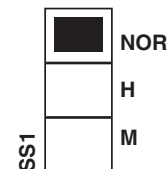
To switch the ventilation air flow to ultra high setting. (The units are set at the high air flow setting at the factory)

- Set the mode No. to "17" for group control, or "27" for individual control, the setting switch No. to "4" and the setting position No. to "02"

Example 3:

Air ventilation rate setting using remote control	Default factory settings	When set as in example 2
Low	Low (L) air flow rate	Low (L) air flow rate
High	High (H) air flow rate	Ultra-high (UH) air flow rate

When the remote controller is connected, keep the switches on the heat reclaim ventilation unit PCB at the default factory settings.

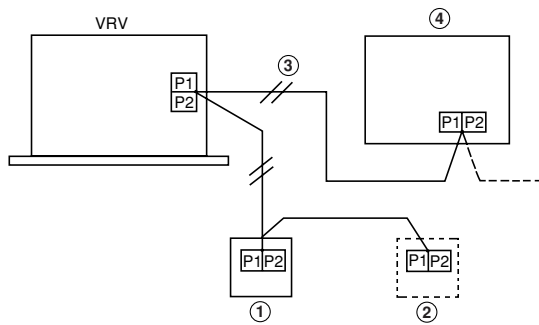


Factory settings: Do NOT change the switch settings.

SS1 is a setting switch for special purposes. Changing the settings will stop the unit from operating normally.

## Direct duct connection system for 1-group operation system

Line connections and the settings of the switches on the HRV unit PCB should be the same as for "Standard system for 1-group system".



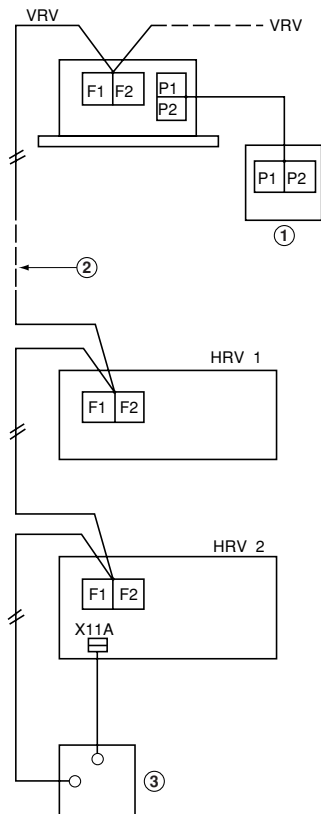
- |   |   |
|---|---|
| 1 Remote controller for air conditioner | 3 Maximum connection line length: 500 m |
| 2 Remote controller for HRV             | 4 Medium (M) air flow rate              |

Set the switches of the HRV unit PCB to the default factory settings.

- Be sure to set the initial settings to Direct duct connection: Enabled.
  - When the remote controller for HRV is not yet connected, initial settings can be performed using the air conditioner remote control. Set the mode number to "17", the setting switch number to "5", and the setting position number to "02" according to the procedure in "Configuration" on page 10.
  - When the remote controller for HRV, initial settings should be performed using the remote controller for HRV. Set the same numbers as described above when using the remote controller for air conditioner according to the procedure "Making initial settings" in the remote control instruction manual.
- Settings for other HRV functions should be made using the same method as in "Standard system for 1-group system".

## Linked control with more than two groups

- Mount the optional KRP2A51 Adapter PCB for remote control on the electric component mounting base of one HRV unit.
- A maximum of 64 air conditioners and HRV units can be connected to the F1 and F2 terminals.
- Use the remote controller of the air conditioner to make the initial settings.



- Remote controller for air conditioner
- Connecting line can be extended up to 1000 m maximum
- Optional distant control adapter KRP2A51

## Procedure

- Turn off the main power.
  - Connect the air-conditioner remote controller.
- 
- Turn on the main power.
  - Make the remote controller settings on site; Set the collective zone interlock to ON. Mode number "17", setting switch number "8" and setting position number "02".
  - Turn off the main power.
  - Disconnect the remote controller.

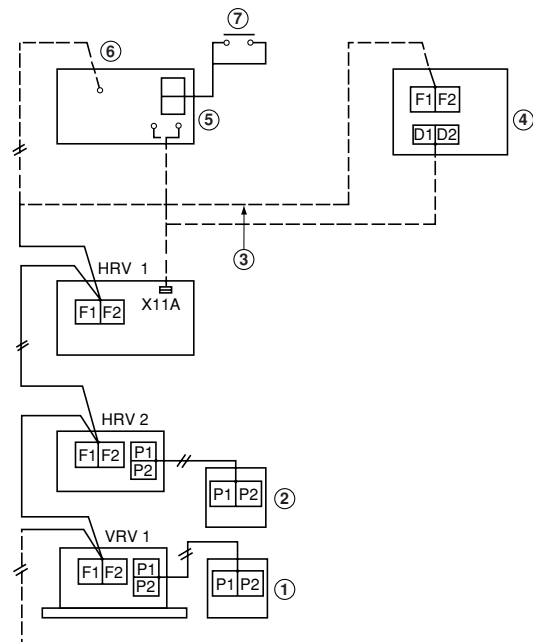
Now the on-site settings are complete.

For raising the remote-controlled ventilation air flow rate "High" to "Ultra-High", connect the remote controller for the air conditioner to HRV and make settings on site. (Refer to "Initial setting" under item "Configuration" on page 10.)

## Centralized control system

### "All" control

When using Adapter PCB for remote control (KRP2A51,52,53) or schedule timer (DST301B51)



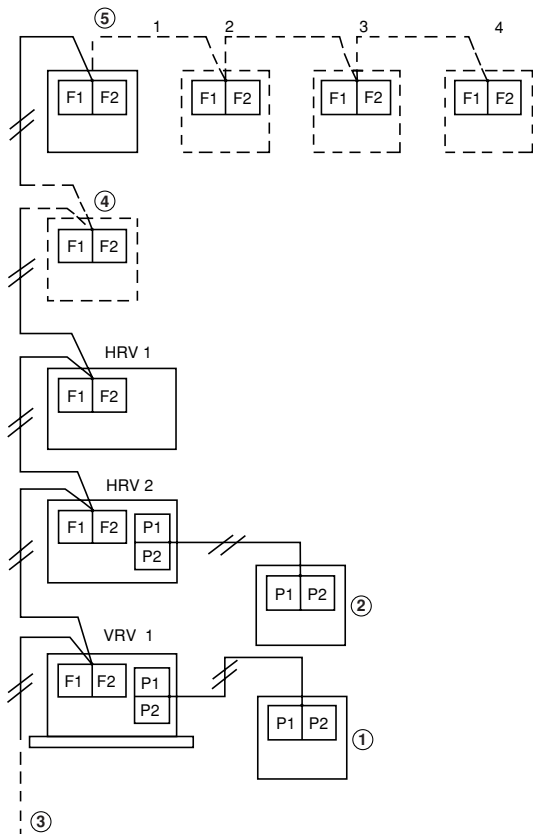
- Remote controller for air conditioner
- Remote controller for HRV
- Connecting line can be extended up to 1000 m maximum
- Schedule timer (DST301B51)
- Adapter PCB for remote control (KRP2A51)
- Distant control adapter
- On/Off signal

- A maximum of 64 air conditioners and HRV 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 electric component mounting base of either the HRV unit or air conditioner. (The HRV unit can accept only the KRP2A51)
- For raising the remote-controlled ventilation air flow rate from "High" to "Ultra-High", connect the remote controller for the air conditioner to HRV and make settings on site. (Refer to "Initial setting" under item "Configuration" on page 10.)

## "All"/"individual" control

When using the on/off controller (DCS301B51)



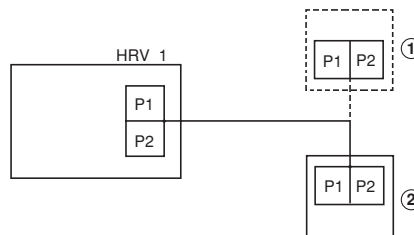
- 1 Remote controller for air conditioner
- 2 Remote controller for HRV
- 3 Connecting line can be extended up to 1000 m maximum
- 4 Schedule timer
- 5 On/Off controller

- A maximum of 64 air conditioners and HRV 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 central control group number to each HRV unit and air conditioner. Regarding the setting of the group number, refer to the section on "the centralized control group number setting" in the operating instructions of the On/off controller.
- Use the remote controller of the air conditioner to make the initial settings.

## Example:

Follow the procedure below to set the centralized group No. 2-05 to HRV 1.

## Procedure



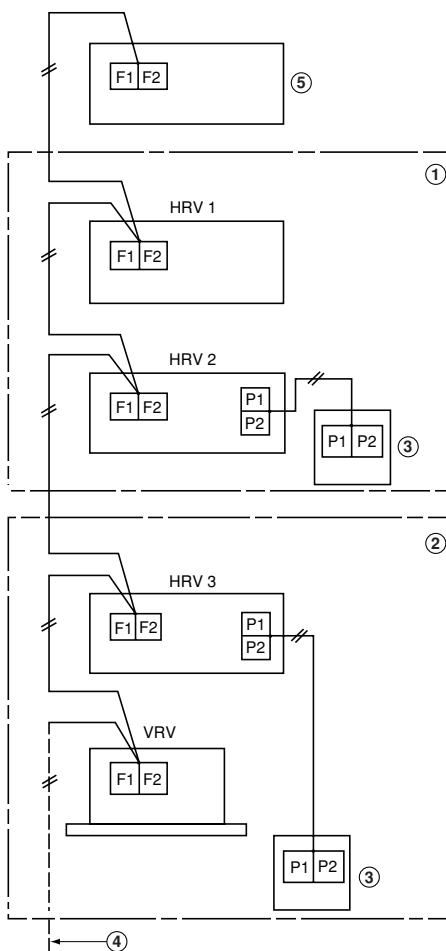
- 1 Remote controller for air conditioner
- 2 Remote controller for HRV

- 1 Set the central control group number using the local setting on the remote controller.  
Mode No.: "00"  
Central control group No.: "2-05"

The setting is now complete.

For the ventilation air flow setting, follow the procedure described in the section ""All" control" on page 16.

## Zone control system



- 1 Zone 1
- 2 Zone 2
- 3 Remote controller for HRV
- 4 Connecting line can be extended up to 1000 m maximum
- 5 Centralized controller (DCS302C51)

- A maximum of 64 air conditioners and HRV units can be connected to the F1 and F2 terminals.
- The HRV units will turn on and off in according with the zone operation command from the centralized controller.

## Zone 2

The HRV units operate in the zone-linked mode, as described in the section, "Linked control with more than two groups" on page 16. For the initial setting, follow the procedure described in that section.

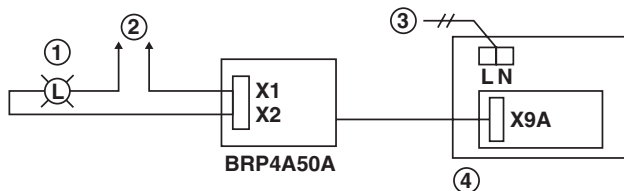
- It is necessary to assign a central control group number to each HRV unit and air conditioner.  
Regarding the setting of the group number, refer to the section on "the centralized control group number setting" in the operating instructions of the Centralized controller. Refer to the section "All"/"individual" control" on page 17 for the setting procedure.
- For the ventilation air flow setting, follow the procedure described in the section "All" control" on page 16.
- For the zone setting from the centralized controller, refer to the operating instructions of the centralized controller.
- The centralized controller can be used to control the individual units in the zone for ventilation operation.

## Remote control

### Monitor of operation

The operation of the HRV can be monitored from the outside by the connection of the adaptor PCB for remote control BRP4A50A (option).

Be sure to connect the terminal strip on the adaptor PCB for remote control BRP4A50A (option).



- 1 Operation lamp
- 2 Power source
- 3 Power source
- 4 Heat reclaim ventilation unit PCB

Wiring adapter for remote contact BRP4A50A (option)  
(To be placed in the switch box of the HRV)

## Fresh-up operation

### Purposes

When combined with a local ventilating fan (such as the one in toilet and kitchen), the air flow rate of HRV is balanced by either fan operation or exhaust operation.

However, a circuit with voltage and low current (16 V, 10 mA) is formed between J1 and J1, so a relay with low-load contact point must be used.

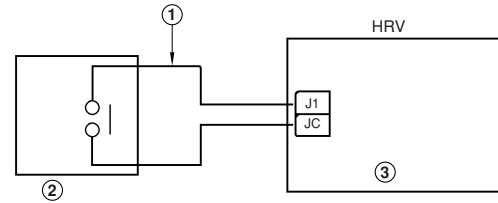
### Functions

The unit performs overcharged operation to prevent back flow of odour.

### Necessary parts

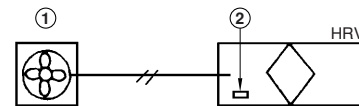
Operation contact of exhaust ventilating fan (Field supply)

### Example of control wiring



- 1 Connecting line can be extended up to 50 m maximum
- 2 (Field supply)
- 3 Printed circuit board

### System description



- 1 Local ventilating fan
- 2 Power supply

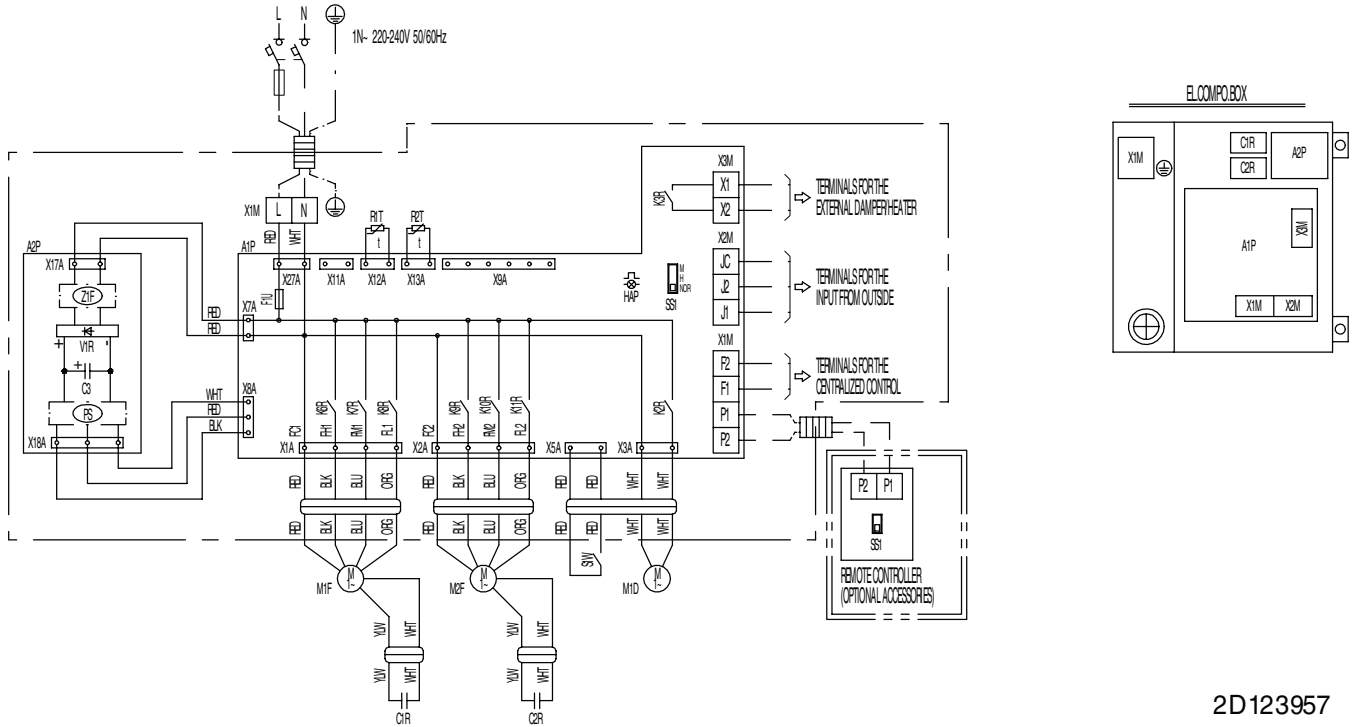
The local setting by the remote controller for the air conditioner (Refer to "Configuration" on page 10)	"J1", "JC" normal open	"J1", "JC" normal close
Fresh-up "OFF" (Factory setting)	Normal	Fresh-up
Fresh-up "ON"	Fresh-up	Fresh-up

## TEST RUN

After completing the installation of the system, check again to make sure that No error was made in wiring or switch setting on the printed circuit boards of the HRV units.

Then, turn on the power of the HRV units. Refer to the manual of the remote controller of each unit (remote controller for air conditioner, central control unit, etc.) for conducting a trial operation.

# WIRING DIAGRAM



2D123957

A1P	Printed circuit board (main)
A2P	Printed circuit board (power supply)
C1R-C2R	Capacitor (M1F, M2F)
C3 (A2P)	Capacitor
F1U (A1P)	Fuse (250 V, 10 A)
HAP (A1P)	Pilotlamp (service monitor-green)
K2R	Magnetic relay(M1D)
K3R (A1P)	Magnetic relay (external damper/heater)
K6R-K8R (A1P)	Magnetic relay(M1F)
K9R-K11R (A1P)	Magnetic relay(M2F)
M1D	Motor (damper motor)
M1F	Motor (air supply)
M2F	Motor (air exhaust)
PS (A2P)	Switching power supply
R1T	Thermistor (indoor air)
R2T	Thermistor (outdoor air)
S1W	Limit switch
SS1 (A1P)	DIP switch
V1R (A2P)	Power module
X1M	Terminal block (power supply)
X1M-X3M (A1P)	Terminal block (control)
X*A	Connector
Z1F (A2P)	Noise filter (with surge absorber)
<b>Connector for optional Accessories</b>	
X9A (A1P)	Connector (adapter PCB)
X11A (A1P)	Connector (adaptor power supply)

## NOTE



1. This wiring diagram applies only to the outdoor unit.
2. When using the optional accessory, refer to the installation manual of the optional accessory.



Terminals



Wire clamp



Connectors



Field wiring



Protective earth (screw)

Symbols show as follows:

BLK: Black  
 RED: Red  
 BLU: Blue  
 WHT: White  
 YLW: Yellow  
 ORN: Orange  
 GRN: Green

Terminals for the external damper heater

Terminals for the input from outside

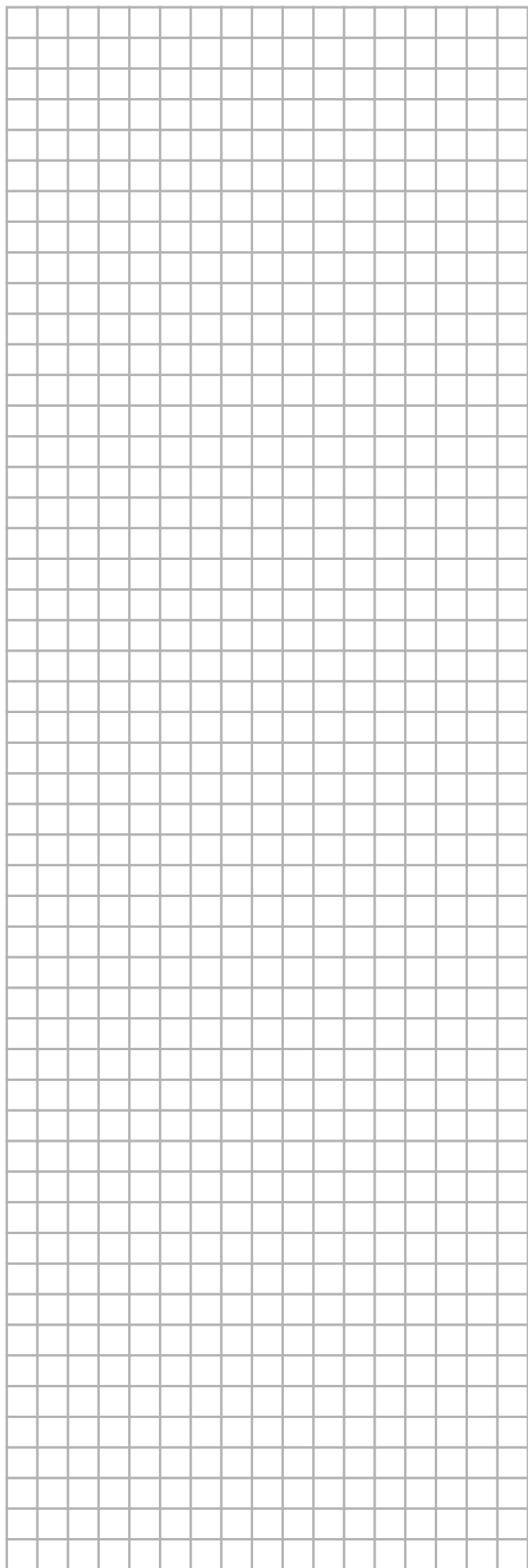
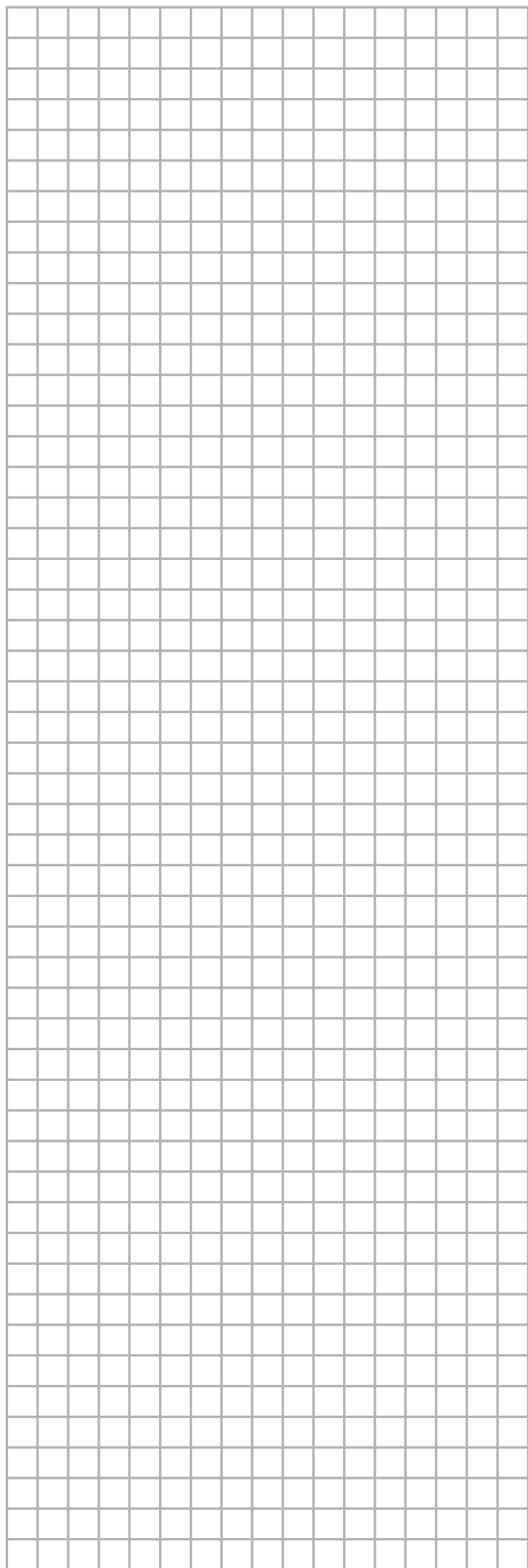
Terminals for the centralized control

Remote controller (optional accessory)

EL.COMPO BOX Electrical component box



# NOTES



ERC

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