Fresh air for the residential and commercial sector
Heat reclaim ventilation and air handling applications
Advantages

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Navigation

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The different chapters in the catalogue are shown at the side. You will be taken directly to the index page of the with a single click.

All page numbers clickable
Click any page number you see and you will go directly to the page.

Links to technical documentation
On the pages with technical drawings you can click the button above to get access to all technical drawings available for the product

VIEW ALL TECHNICAL DRAWINGS ON MY.DAIKIN.EU
VAM / VKM - HEAT RECLAIM VENTILATION

DAIKIN AIR HANDLING UNIT AND ERQ/VRV PLUG & PLAY CONNECTION
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Why choose Daikin

Our promise is to ensure that your customers can depend on Daikin for the ultimate in comfort, so that they are free to focus on their own working and home lives.

We promise to dedicate ourselves to technological excellence, a design focus and the highest quality standards so that your customers can trust and rely on the comfort we deliver.

Our promise to the planet is absolute. Our products are at the forefront of low energy consumption and we continuously innovate to reduce the environmental impact of HVACR solutions further.

We lead where others follow. We will continue our global leadership in HVACR solutions as our specialist expertise in all market sectors combined with 90 years’ experience enable us to deliver added value in long-lasting relationships based on trust, respect and credibility.
Ventilation

Fresh air for the residential and commercial sector

Daikin commercial ventilation systems provide outdoor fresh air, remove stale air and balance the humidity within a building. This all helps to create a clean and comfortable environment that enhances the well-being of building users. Ventilation also provides free cooling, using fresh outside air, and has the option of heat recovery to provide the highest levels of energy efficiency and comfort.
Why Daikin ventilation and air purification?

Fresh air is vital to our quality of life and well being. But as buildings become more airtight, fresh air circulation is much reduced. Daikin offers a variety of ventilation, air purification and large scale air handling solutions to help provide a fresh, healthy and comfortable environment in offices, hotels, stores and other commercial environments.

Why we need fresh air in buildings

As building regulations raise standards in the energy efficient design of buildings, insulation levels become much higher, reducing the heating and cooling demand in buildings. However, stale air can remain trapped and cause:

› Need of oxygen
› Greater risk of allergies
› Odours lingering for longer
› Increased condensation causing mould

Unique products that make the difference

in efficiency
› Recovery of up to 80% of heat lost through ventilation, reducing running costs
› Free night-time cooling using fresh outside air

in comfort
› Enhances the well-being of building users by introducing fresh air and balancing humidity
› Medium and fine dust filters (M6, F7, F8)
› Uses heat recovered from outgoing air to warm up incoming air to comfortable levels

in installation
NEW
› Preselected Daikin AHU and condensing unit for plug & play connection thanks to same pipe diameters, factory mounted controls, expansion valves, etc.
› The preselected ADT-FDI AHU unit simplifies the selection process; it’s as easy as selecting a normal indoor unit
› Total fresh air solution with Daikin supplying both the VAM and the electrical heater
› Integrates seamlessly in the Daikin total solution, ensuring a single point of contact

in control
› Connect CO₂ sensors to prevent over-ventilation, while ensuring the correct amount of oxygen
› Intelligent Touch Manager: cost-effective mini BMS integrates HRV and Daikin air handling units

Top reliability
› Most extensive testing before new units leave the factory
› Widest support network and after sales service
› All spare parts available in Europe
Benefits for installers
Daikin’s compact designs and modular assembly deliver shorter installation time
› All parts are manufactured by Daikin to work seamlessly together to ensure guaranteed compatibility
› Reduced configuration and installation times by using pre-set and factory-installed components

Benefits for consultants
Daikin’s wide range of systems provides a total solution concept allowing maximum flexibility
› From small ventilation systems to large air handling units, we have systems suitable for all applications
› Seamless integration of all Daikin components
› Easy integration with a Daikin or third-party BMS
› Tailor-made solutions to meet your client’s needs

Benefits for owners
High air quality is essential for peak performance and optimal environment conditions
› Highly efficient heat recovery is combined with free cooling to ensure the lowest running costs
› Optional CO₂ sensors ensure the correct balance of oxygen and CO₂ while avoiding over-ventilation
› Fresh filtered air at the correct level of humidity is introduced to maximise the health benefits

Save energy with heat recovery
The beauty of Daikin commercial ventilation systems is that they can use heat reclaimed from the stale air being extracted from buildings to heat the incoming clean air to a comfortable temperature. This reduces the load on the air conditioning system, delivering 40% energy savings compared with introducing unheated fresh air into a building.

Integrated ventilation
Ventilation can be integrated with Daikin’s cooling and heating systems, for simplified control of the entire system. By including ventilation as part of a complete climate control solution, it is possible to manage up to 50% of a building’s energy use - delivering huge potential savings in running costs and carbon emissions.
Heat Reclaim Ventilation

Proper ventilation is a key component of climate control in buildings, offices and shops. In its basic function, it ensures a flow of incoming fresh air and outgoing stale air. Our HRV (heat reclaim ventilation) solution can do much more. It can recover heat and optimise the balance between indoor and outdoor temperature and humidity, thus reducing the load on the air conditioning system up to 40% and increasing efficiency.

Widest range of DX ventilation on the market

Daikin offers a variety of solutions from small heat recovery ventilation to large-scale air handling units for the provision of fresh air ventilation to homes, or commercial outlets such as offices, hotels, stores and others.

Daikin air handling units combined with DX condensing units

From small to large commercial spaces, Daikin offers a range of R-410A inverter condensing units for use in conjunction with air handling units. In situations where Daikin’s commercial HRV range cannot satisfy the ventilation requirement due to building constraints (large atriums, banqueting halls, etc.), air handling units represent the ideal solution. Air handling units provide large fresh air volumes (>500 m/h) and high ESPs, enabling the use of extensive ductwork runs.
Five components of indoor air quality

- **Ventilation:** Ensures the correct amount of fresh air
- **Energy recovery:** Delivers energy savings by transferring heat and moisture between airflows
- **Air processing:** Delivers the right supply temperature to decrease the indoor unit load
- **Humidification:** Ensures relative indoor humidity levels are respected
- **Filtration:** Separates pollen, dust and pollution odours that are harmful to individuals' health

Which system offers me the best solution?

- **VAM-FC**
  - High efficiency heat exchange
  - Eurovent energy class A+
  - Extensive airflow

- **VKM-GB(M)**
  - Pre-sized combinations (OU&AHU)
  - Simple ordering process
  - Quick selection in VRVXpress
  - With DX coil
  - Increased comfort
  - Humidifier option

- **D-AHU MODULAR R**
  - Plug & play
  - Fully customizable
  - 4 types of control

- **D-AHU Modular R with DX connection**

<table>
<thead>
<tr>
<th>150</th>
<th>500</th>
<th>1,000</th>
<th>2,000</th>
<th>2,500</th>
<th>15,000</th>
<th>25,000</th>
<th>m³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Heat recovery" /></td>
<td><img src="image2.png" alt="Air processing" /></td>
<td><img src="image3.png" alt="D-AHU MODULAR R" /></td>
<td><img src="image4.png" alt="VKM-GB(M)" /></td>
<td><img src="image5.png" alt="ADT-FDI" /></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Create a high-quality indoor environment

The Daikin HRV (heat reclaim ventilation) unit recovers up to 80% of heat energy lost through ventilation and maintains a comfortable and clean indoor environment without changing the room’s temperature.

Save up to 40% on running costs through integration

Integrating the HRV with Daikin’s Sky Air and VRV air conditioning ensures that the system always operates in the most efficient and comfortable way. For example, the free cooling available via the ventilation unit will enable the air conditioning unit to be switched off and so saving running costs. Thanks to heat recovery and integration, up to 40% of the total running costs can be saved!
HRV
Heat reclaim ventilation

Ventilation
Air processing
Humidification

High efficiency
- Energy saving ventilation via heat recovery of both heat and humidity 12
- Reduce the load on the air conditioning system by up to 40% 12
- Nighttime free cooling 13
- Prevent energy losses from over-ventilation with CO₂ sensor 13

High indoor air quality & whisper quiet operation
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Maximum flexibility
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- Connection to field-supplied booster fan increases flexibility even more 19
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- No drain needed 19
- Flexible 19
In traditional ventilation systems, conditioned air from the building is simply expelled, then new unheated air is brought into the building. So a large volume of air is heated up or cooled down unnecessarily, leading to a substantial waste of energy. Daikin’s HRV solutions prevent energy being wasted by recovering up to 80% waste heat from the outgoing air, thus offering much greater levels of efficiency, while improving comfort levels too.

Specially developed heat exchange element

The heat exchange element uses a high efficiency paper (HEP) possessing superior moisture absorption and humidifying properties. The heat exchange unit rapidly recovers heat contained in latent heat (vapour). The element is made of a material with flame resistant properties and is treated with an anti-moulding agent.

Energy saving ventilation via heat recovery of both heat and humidity

Recovers up to 80% of waste heat

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Thanks to the heat and moisture exchange the hot and humid outside air is brought to levels close to indoor conditions saving on the air conditioning running cost and maintaining comfort. This also ensures correct levels of humidity inside (comfort up) compared to metal heat exchangers.

Reduce the load on the air conditioning system by up to 40%

- 24% by using heat recovery ventilation (in comparison with normal ventilation fans)
- 6% by switching over to auto-ventilation mode
- 2% by using the pre-cool, pre-heat control (reduces air conditioning load)
- 5% by running the HRV until after the air conditioning is switched on
- 3% by enabling the free cooling operation overnight
- 3% by preventing over-ventilation with the optional \( \text{CO}_2 \) sensor

Advantages of integration of ventilation and air conditioning (automatic change over)

- High efficiency
- Operation of the high efficiency paper.
- Cross flow of air to exchange heat and moisture.

Temperature and humidity is exchanged between the layers

<table>
<thead>
<tr>
<th>Condition</th>
<th>Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>30.6°C</td>
<td>32°C</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>62%</td>
<td>70%</td>
</tr>
<tr>
<td>Temperature</td>
<td>27.4°C</td>
<td>26°C</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>63%</td>
<td>50%</td>
</tr>
</tbody>
</table>

SA: Supply Air (to room)
RA: Return Air (from room)

Temperature and humidity is exchanged between the layers

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<td>50%</td>
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</tbody>
</table>

SA: Supply Air (to room)
RA: Return Air (from room)
Night-time free cooling

Night-time free cooling operation is an energy saving function operating at night when the air conditioning is switched off. By ventilating rooms containing office equipment that increases room temperature, night purge reduces the cooling load when air conditioning is switched on in the morning, reducing the daily running costs.

The VAM can also perform nighttime free cooling in stand alone operation. The set temperature is a field setting at installation.

<table>
<thead>
<tr>
<th>9 AM</th>
<th>5 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/C</td>
<td>Ventilation</td>
</tr>
<tr>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

Free cooling

9 AM … 5 PM

<table>
<thead>
<tr>
<th>A/C</th>
<th>Ventilation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set T°</td>
<td>Indoor temperature</td>
</tr>
</tbody>
</table>

Example of CO₂ sensor operation in a meeting room:

- **Morning meeting** (9 AM - 12 PM): Decrease in air volume and more energy saving compared to fixed ventilation rate.
- **Lunch time** (12 PM - 1 PM): Increase in air volume and better comfort compared to fixed ventilation rate.
- **Meeting** (5 PM - 7 PM): When many people are in the room, more fresh air is brought in to maintain comfortable CO₂ levels. When fewer people are in the room, energy is saved by bringing in less fresh air.

**Up to 75% less energy consumed for ventilation in Herten building**

A two-year test, running from March 2011-February 2013, at a ‘netZero Energy Building’ in Herten has revealed that a huge energy saving is possible by using CO₂ sensors in conjunction with the Daikin VAM systems.

Using CO₂ sensors has the most energy-saving potential in buildings where occupancy fluctuates during a 24-hour period, is unpredictable and peaks at a high level. For example office buildings, government facilities, retail stores and shopping malls, movie theaters, auditoriums, schools, entertainment clubs and nightclubs. The ventilation unit’s reaction to fluctuations in CO₂ can be easily adjusted by the customer.
Creating a high quality environment

Maintain a comfortable indoor environment without fluctuations in room temperature.

How do the HRV units work?

In heating we bring in cold outdoor fresh air and want to avoid cold draught and dry air.

1. Cold outside air is crossed with hot inside air. In the example the incoming air is heated up from 0 to 16°CDB while keeping the same relative humidity. This is the effect of the heat and moisture exchange.

2. The DX coil further heats up the air to prevent cold draught. In the example the incoming air is further heated from 16 to 34°CDB. Because the air is heated up the relative humidity decreases.

3. To counter negative effects of dry air the air passes the humidifier which adds moisture in case needed. In the example the relative humidity rises from 22 to a comfortable 42%.

The result is incoming fresh air with the same humidity and slightly higher temperature for perfect comfort.

In cooling we bring in hot outdoor fresh air and want to prevent additional load on the air conditioning system and too hot indoor temperatures.

1. Hot outside air is crossed with cold inside air. In the example the incoming air is cooled down from 34 to 27°CDB while keeping the same relative humidity. This is the effect of the heat and moisture exchange.

2. The DX coil further cools down the air to prevent hot indoor temperatures and reduce the load on the air conditioning system. In the example the incoming air is further cooled down from 27 to 20°CDB.

3. No humidification is needed in cooling as the air is not dried out.

The result is incoming fresh air with a slightly lower temperature for perfect comfort.
Best comfort results thanks to the latent heat exchange

Our paper heat exchanger exchanges not only heat but also moisture. This regulates the humidity levels of the air that is brought in, which ensures maximum comfort.

Operation of humidification and air processing in heating mode (VKM-GBM)

Humidifier element:

Utilising the principle of capillary action, water is permeated throughout the humidifier element. The heated air from the DX coil passes through the humidifier and absorbs the moisture.

Optional medium and fine dust filters available

M6, F7 and F8 filters are available on the VAM models to meet your customer request or the local legislation.

As one has no control of the air quality in the building surroundings, you can rely on one of our dust filters to ensure the best indoor air quality possible.
Can operate in over and underpressure to prevent unpleasant odours

The user can select 2 fresh-up modes via the remote control for a more comfortable air environment.

1. **Supply rich mode (overpressure):**

A higher air supply than air exhaust maintains proper room pressure to prevent back-flow of toilet/kitchen odours or moisture inflow.

2. **Exhaust fresh-up (underpressure):**

A higher exhaust air than air supply decreases room pressure to prevent the leaking of odours or floating bacteria into other rooms.

---

### Low operation sound level

Continuous research by Daikin into reducing operation sound levels has resulted in sound pressure levels down to 20.5dBA (VAM150).

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### Daikin indoor units

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**Table of perceived loudness**

<table>
<thead>
<tr>
<th>DBA</th>
<th>PERCEIVED LOUDNESS</th>
<th>SOUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Threshold of hearing</td>
<td>-</td>
</tr>
<tr>
<td>20</td>
<td>Extremely soft</td>
<td>Rustling leaves</td>
</tr>
<tr>
<td>40</td>
<td>Very soft</td>
<td>Quiet room</td>
</tr>
<tr>
<td>60</td>
<td>Moderately loud</td>
<td>Normal conversation</td>
</tr>
<tr>
<td>80</td>
<td>Very loud</td>
<td>City traffic noise</td>
</tr>
<tr>
<td>100</td>
<td>Extremely loud</td>
<td>Symphonic orchestra</td>
</tr>
<tr>
<td>120</td>
<td>Threshold of feeling pain</td>
<td>Jet taking off</td>
</tr>
</tbody>
</table>
Plug and play - integrated ventilation

The integration of ventilation into a total building climate system, such as the VRV system, offers numerous advantages. Daikin supplies all components of the entire system, simplifying its design and presenting an ideal solution for the building itself and a 'one-stop' solution for the client. As well as design benefits, it also simplifies project follow-up, installation and subsequent commissioning and maintenance since only one party is involved. Finally, the end user benefits from 'interlocking' ventilation with air conditioner operation by virtue of greatly simplified overall system control.

Flexible installation

Horizontal or vertical installation

The VAM units can be installed horizontal in false ceilings for example. However if there are no false ceilings or the space is limited the unit can also be installed vertically in narrow service spaces or behind a wall. In this way the consultant can focus fully on the design of the building.

Slim Design

At just 285 mm high, the slim design of the HRV unit enables it to be mounted in narrow ceiling cavities and irregularly shaped spaces.

Ideal solution for shops, restaurants or offices requiring maximum floor space for furniture, decorations and fittings

Our HRV range of units are not only energy efficient, they also blend in any interior and leave all the maximum of usable floor space. The units are invisible to see and can be installed in service spaces, making service possible while the building is in operation.

Wide range of units

The wide Daikin range ensures correct equipment design and sizing.
High Static Pressure

External static pressure (ESP) up to 157 Pa facilitates the use with flexible ducts of varying lengths.

Wide operation range

The HRV unit can be installed practically anywhere. The standard operation range (outdoor temperature) is from -15°C to 40°CDB (50°CDB for VAM units) and can be extended down if a Daikin preheater is installed.

1 Contact your local dealer for more information and restrictions

Daikin’s supplied preheater VH provides a total solution for fresh air and preheating.

- Integrated electrical heater concept (no additional accessories required)
- Standard dual flow and temperature sensor
- Flexible setting with adjustable setpoint
- Increased safety with 2 cut-outs: manual & automatic
- BMS integration thanks to:
  - volt free relay or error indication
  - 0-10V DC input for setpoint control
Connection to field-supplied booster fan increases flexibility even more

- Allows the installation to be adapted exactly to the installation space, filters, comfort, sound requirements and energy use
- Longer ducting or use of central duct possible
- Overcomes actual field situation when ducting is different from calculation

Example when HRV ESP is not high enough or field situation differs from calculation

No booster fan

HRV

Comfort | Comfort | Discomfort

with booster fan

HRV

Comfort | Comfort | Comfort

The furthest room is not well ventilated because the unit's ESP is too low for the actual field situation. This is overcome with the additional booster fan.

Simple Design and Construction

The VAM unit can be installed either horizontally or upside down always allowing easy access for inspection and maintenance. A 450 mm square inspection hatch enables maintenance and heat exchange element replacement to be performed with ease.

No drain needed

In comparison to a unit with a metal heat exchanger, the VAM models do not require a drain, giving greater flexibility for the installation of the units.

Flexible

Compared to a standard air handling unit, the VAM models provide much greater flexibility of use: for example, in hotel rooms that are not in use the VAM is switched off and in an office building the different tenants have individual control. Additionally, by using the VAM models, the renovation of a building can be carried out in phases.
Specifications
Heat reclaim ventilation

Ventilation with heat recovery as standard

- Energy saving ventilation using indoor heating, cooling and moisture recovery
- Ideal solution for shops, restaurants or offices requiring maximum floor space for furniture, decorations and fittings
- Free cooling possible when outdoor temperature is below indoor temperature (e.g. during nighttime)
- Reduced energy consumption thanks to specially developed DC fan motor
- Prevent energy losses from over-ventilation while improving indoor air quality with optional CO₂ sensor
- Can be used as stand alone or integrated in the Sky Air or VRV system
- Wide range of units: air flow rate from 150 up to 2,000 m³/h
- Optional medium and fine dust filters M6, F7, F8 to meet customer request or legislation
- Shorter installation time thanks to easy adjustment of nominal air flow rate, so less need for dampers compared with traditional installation.
- Specially developed heat exchange element with High Efficiency Paper (HEP)

Benefits

- No drain piping needed
- Can operate in over- and under pressure
- Total solution for fresh air with Daikin supply of both VAM / VKM and electrical heaters

VAM-FC

Power input - 50Hz

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>VAM</th>
<th>150FC</th>
<th>250FC</th>
<th>350FC</th>
<th>500FC</th>
<th>650FC</th>
<th>800FC</th>
<th>1000FC</th>
<th>1500FC</th>
<th>2000FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power input</td>
<td>kW</td>
<td>0.132</td>
<td>0.132</td>
<td>0.132</td>
<td>0.132</td>
<td>0.132</td>
<td>0.132</td>
<td>0.132</td>
<td>0.132</td>
<td>0.132</td>
</tr>
<tr>
<td>Bypass mode</td>
<td>kW</td>
<td>0.058</td>
<td>0.058</td>
<td>0.058</td>
<td>0.058</td>
<td>0.058</td>
<td>0.058</td>
<td>0.058</td>
<td>0.058</td>
<td>0.058</td>
</tr>
</tbody>
</table>

| Temperature exchange efficiency - 50Hz | % | 72.0 (2) | 73.2 (2) | 74.2 (2) | 75.2 (2) | 76.2 (2) | 77.2 (2) | 78.2 (2) | 79.2 (2) | 80.2 (2) |
| Enthalpy exchange efficiency - 50Hz | % | 63.2 (2) | 63.2 (2) | 63.2 (2) | 63.2 (2) | 63.2 (2) | 63.2 (2) | 63.2 (2) | 63.2 (2) | 63.2 (2) |
| Heating | % | 66.2 (2) | 66.2 (2) | 66.2 (2) | 66.2 (2) | 66.2 (2) | 66.2 (2) | 66.2 (2) | 66.2 (2) | 66.2 (2) |

| Operation mode | Heating mode | bypass mode, fresh-up mode | |
| Dimensions | Unit Height×Width×Depth mm | 285×795×525 | 300×620×460 | 364×1000×668 | 364×1000×668 | 364×1000×668 | 364×1000×668 | 364×1000×668 | 364×1000×668 |
| Weight | Unit kg | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 |
| Casing | Material | Galvanised steel plate | |
| Fan-Air flow rate - 50Hz | m³/h | 150 (1)/210 (2) | 250 (1)/350 (2) | 350 (1)/500 (2) | 500 (1)/650 (2) | 650 (1)/650 (2) | 750 (1)/800 (2) | 800 (1)/1000 (2) | 1000 (1)/1000 (2) |
| Bypass mode | m³/h | 150 (1)/210 (2) | 250 (1)/350 (2) | 350 (1)/500 (2) | 500 (1)/650 (2) | 650 (1)/650 (2) | 750 (1)/800 (2) | 800 (1)/1000 (2) | 1000 (1)/1000 (2) |
| Fan-External static pressure - 50Hz | Pa | 90 (5)/140 (2) | 150 (5)/210 (2) | 200 (5)/250 (2) | 300 (5)/350 (2) | 400 (5)/450 (2) | 500 (5)/600 (2) | 600 (5)/700 (2) | 700 (5)/800 (2) |
| Air filter | Type | Multidirectional fibrous fleece | |
| Sound pressure level - 50Hz | dB | 75 (2) | 87 (2) | 100 (2) | 113 (2) | 126 (2) | 139 (2) | 152 (2) | 165 (2) |
| Operation range | Min. | CDB | 15 | -5 | |
| Max. | CDB | 50 | 50 | 50 | 50 |
| Relative humidity | % | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Connection duct diameter | mm | 100 | 150 | 200 | 250 | 250 | 350 | 350 | 350 |
| Current | Amperes | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Specific energy consumption | kWh/m³ | -60.6 (2) | -60.6 (2) | -60.6 (2) | -60.6 (2) | -60.6 (2) | -60.6 (2) | -60.6 (2) | -60.6 (2) |
| Average climate | kWh/m³ | -22.1 (2) | -22.1 (2) | -22.1 (2) | -22.1 (2) | -22.1 (2) | -22.1 (2) | -22.1 (2) | -22.1 (2) |
| Warm climate | kWh/m³ | -5.3 (2) | -5.3 (2) | -5.3 (2) | -5.3 (2) | -5.3 (2) | -5.3 (2) | -5.3 (2) | -5.3 (2) |
| SEC class | D (2) | B (2) | B (2) | B (2) | B (2) | B (2) | B (2) | B (2) | B (2) |
| Maximum flow rate | m³/h | 130 (5) | 207 (5) | 207 (5) | 207 (5) | 207 (5) | 207 (5) | 207 (5) | 207 (5) |
| at 100 Pa ESP | Electric power input | kW | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 |
| Sound power level (Lwa) | dB | 40 | 50 | 61 | 72 | 83 | 94 | 105 | 116 |
| Annual electricity consumption | kWh/a | 18.9 (6) | 18.9 (6) | 18.9 (6) | 18.9 (6) | 18.9 (6) | 18.9 (6) | 18.9 (6) | 18.9 (6) |
| Annual heating | kWh/a | 41.0 (6) | 41.0 (6) | 41.0 (6) | 41.0 (6) | 41.0 (6) | 41.0 (6) | 41.0 (6) | 41.0 (6) |
| Saves energy | kWh/a | 80.2 (7) | 80.2 (7) | 80.2 (7) | 80.2 (7) | 80.2 (7) | 80.2 (7) | 80.2 (7) | 80.2 (7) |
| Warming climate | kWh/a | 8.5 (6) | 8.5 (6) | 8.5 (6) | 8.5 (6) | 8.5 (6) | 8.5 (6) | 8.5 (6) | 8.5 (6) |

Ideal solution for shops, restaurants or offices requiring maximum floor space for furniture, decorations and fittings.
Electrical heater for VAM

VH

- Total solution for fresh air with Daikin supply of both VAM and electrical heaters
- Increased comfort in low outdoor temperature thanks to the heated outdoor air
- Integrated electrical heater concept (no additional accessories required)
- Standard dual flow and temperature sensor
- Flexible setting with adjustable setpoint
- Increased safety with 2 cut-outs: manual & automatic
- BMS integration thanks to:
  - Volt free relay for error indication
  - 0-10VDC input for setpoint control

<table>
<thead>
<tr>
<th>ELECTRICAL HEATER FOR VAM</th>
<th>VH</th>
<th>(VH)</th>
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</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>220/250V ac 50/60 Hz. +/-10%</td>
<td></td>
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<tr>
<td>Output current (maximum)</td>
<td>19A at 40°C (ambient)</td>
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<tr>
<td>Temperature sensor</td>
<td>5k ohms at 25°C (Table 502 1T)</td>
<td></td>
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<tr>
<td>Temperature control range</td>
<td>0 to 40°C / (0-10V 0-100%)</td>
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<tr>
<td>Control fuse</td>
<td>20 x 5mm 250mA</td>
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<tr>
<td>LED indicators</td>
<td>Power ON - Yellow</td>
<td></td>
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<tr>
<td></td>
<td>Heater ON - Red (solid or flashing, indicating pulsed control)</td>
<td></td>
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<tr>
<td>Mounting holes</td>
<td>Airflow fault - Red</td>
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<td>98mm x 181mm centres 5 mm ø holes</td>
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<tr>
<td>Maximum ambient adjacent to terminal box</td>
<td>35°C (during operation)</td>
<td></td>
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<tr>
<td>Auto high temp. cutout</td>
<td>100°C Pre-set</td>
<td></td>
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<tr>
<td>Man. reset high temp. cutout</td>
<td>125°C Pre-set</td>
<td></td>
</tr>
<tr>
<td>Run relay</td>
<td>1A 120V AC or 1A 24V DC</td>
<td></td>
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<tr>
<td>BMS setpoint input</td>
<td>0-10VDC</td>
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<tr>
<th>HF 1B 2B 3B 4B 4/AB 5B</th>
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<tbody>
<tr>
<td>Capacity kW 1 1 1 1.5 2.5 2.5</td>
</tr>
<tr>
<td>Duct diameter mm 100 150 200 250 250 300</td>
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<tr>
<td>Connectable VAM VAM150FC VAM250FC VAM500FC VAM800FC VAM800FC VAM1500FC</td>
</tr>
<tr>
<td>Connectable VAM VAM350FC VAM650FC VAM1000FC VAM1000FC VAM2000FC</td>
</tr>
</tbody>
</table>

For the selection of the appropriate capacity, please refer to the VAM selection software.
NOTE
1 Be sure to provide the inspection hole (450x450 mm) to inspect the air filters, the exchange elements and fans.

VAM150FC

NOTE
1 Be sure to provide the inspection hole (450x450 mm) to inspect the air filters, the exchange elements and fans.

VAM250FC
NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.  

VAM350FC

VAM500FC

NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.
NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

3D081164
NOTES
1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

VAM1000FC

VAM1500FC

NOTES
1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.
VAM2000FC

NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

VAM150FC

NOTES

1. The fan speeds are valid for 230 V, 50 Hz power supply.
Detailed technical drawings

VAM250FC

Notes
1. The fan speeds are valid for 230-V, 50-Hz power supply.

VAM350FC

Legend
- Ultra-high speed
- High speed
- Low speed

Notes
1. The fan speeds are valid for 230-V, 50-Hz power supply.
VAM500FC

Legend
L1 = Low speed lower limit
L8 = Low speed factory setting
L15 = Low speed upper limit
H1 = High speed lower limit
H8 = High speed factory setting
H15 = High speed upper limit
UH1 = Ultra-high speed lower limit
UH8 = Ultra-high speed factory setting
UH15 = Ultra-high speed upper limit

Notes
1. The fan speeds are valid for 230V, 50Hz power supply.

VAM650FC

Legend
L1 = Low speed lower limit
L8 = Low speed factory setting
L15 = Low speed upper limit
H1 = High speed lower limit
H8 = High speed factory setting
H15 = High speed upper limit
UH1 = Ultra-high speed lower limit
UH8 = Ultra-high speed factory setting
UH15 = Ultra-high speed upper limit

Notes
1. The fan speeds are valid for 230V, 50Hz power supply.
VAM800FC

Legend
L1  = Low speed lower limit
L8  = Low speed factory setting
L15 = Low speed upper limit
H1  = High speed lower limit
H8  = High speed factory setting
H15 = High speed upper limit
UH1 = Ultra-high speed lower limit
UH8 = Ultra-high speed factory setting
UH15 = Ultra-high speed upper limit

Notes
1. The fan speeds are valid for 230-V, 50-Hz power supply.

VAM1000FC

Legend
L1  = Low speed lower limit
L8  = Low speed factory setting
L15 = Low speed upper limit
H1  = High speed lower limit
H8  = High speed factory setting
H15 = High speed upper limit
UH1 = Ultra-high speed lower limit
UH8 = Ultra-high speed factory setting
UH15 = Ultra-high speed upper limit

Notes
1. The fan speeds are valid for 230-V, 50-Hz power supply.
VAM1500FC

Legend
L1 = Low speed lower limit
L8 = Low speed factory setting
L15 = Low speed upper limit
H1 = High speed lower limit
H8 = High speed factory setting
H15 = High speed upper limit
UH1 = Ultra-high speed lower limit
UH8 = Ultra-high speed factory setting
UH15 = Ultra-high speed upper limit

Notes
1. The fan speeds are valid for 230-V, 50-Hz power supply.

3D100384

VAM2000FC

Legend
L1 = Low speed lower limit
L8 = Low speed factory setting
L15 = Low speed upper limit
H1 = High speed lower limit
H8 = High speed factory setting
H15 = High speed upper limit
UH1 = Ultra-high speed lower limit
UH8 = Ultra-high speed factory setting
UH15 = Ultra-high speed upper limit

Notes
1. The fan speeds are valid for 230-V, 50-Hz power supply.
Heat reclaim ventilation, humidification and air processing

Pre heating or cooling of fresh air for lower load on the air conditioning system

- Energy saving ventilation using indoor heating, cooling and moisture recovery
- Creates a high quality indoor environment by pre conditioning incoming fresh air
- Humidification of the incoming air results in comfortable indoor humidity level, even during heating
- Ideal solution for shops, restaurants or offices requiring maximum floor space for furniture, decorations and fittings
- Free cooling possible when outdoor temperature is below indoor temperature (eg. during nighttime)
- Low energy consumption thanks to DC fan motor
- Prevent energy losses from over-ventilation while improving indoor air quality with optional CO₂ sensor

Operation example: humidification & air processing (heating mode)

Humidifier element:
Utilizing the principle of capillary action, water is permeated throughout the humidifier element. The heated air from the DX coil passes through the humidifier and absorbs the moisture.

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>VKM-GB/VKM-GBM</th>
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<tbody>
<tr>
<td>Power input - 50Hz</td>
<td>Heat exchange mode</td>
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<tr>
<td></td>
<td>Bypass mode</td>
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NOTES

1. Leave space for servicing the unit and include inspection hatch. (Always open a hole on the side of the control box so that the air filters, heat exchange elements, and fans can easily be inspected and serviced.)

2. Install the two outdoor ducts with down slope (slope of 1/30 or more) to prevent entry of rain water, also, provide insulation for three ducts (outdoor ducts and indoor supply air duct) to prevent dew condensation. (Material: glass wool of 25mm thick)

3. Do not turn the unit upside down.

4. Make sure to install drain piping, and insulate drain piping to prevent dew condensation.

5. Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air from forming.

6. 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) (optional accessory).

7. In areas where freezing may occur, always take steps to prevent the pipes from freezing.

8. Do not place something which shouldn’t get wet at the below of this unit. The dew would fall at following case, where humidity is 80% more, or the exit of drain socket is choked up, or the air filter is very dirty.

3D083014
NOTES

1. Leave space for servicing the unit and include inspection hatch. (Always open a hole on the side of the control box so that the air filters, heat exchange elements, and fans can easily be inspected and serviced.)
2. Install the two outdoor ducts with down slope (slope of 1/30 or more) to prevent entry of rain water, also, provide insulation for three ducts (outdoor ducts and indoor supply air duct) to prevent dew condensation. (Material: glass wool of 25mm thick)
3. Do not turn the unit upside down.
4. Use city water or clean water.
   Include water supply piping with strainer, a water supply shut-off valve, and a drain valve (both locally procured) somewhere along the water supply piping that can be reached from the inspection.
5. It is impossible to connect the water supply piping directly to public piping. Use a cistern tank (of the approved type), if you need to get your water supply from public piping.
6. Make sure the supply water is between 5°C and 40°C in temperature.
7. Make sure the supply water is between 5°C and 40°C in temperature.
8. Insulate the water supply piping to prevent condensation from forming.
9. Make sure to install drain piping, and insulate drain piping to prevent dew condensation.
10. Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air from forming.
11. Install in a location where the air around the unit or taken into the humidifier will not stop below 0°C.
12. 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) (optional accessory).
13. In areas where freezing may occur, always take steps to prevent the pipes from freezing.
14. Do not place something which shouldn’t get wet at the below of this unit. The dew would fall at following case, where humidity is 80% more, or the exit of drain socket is choked up, or the air filter is very dirty.
15. Feed clean water. If the supply water is hard water, use a water softener because of short life.

Life of humidifying element is about 3 years (4,000 hours), under the supply water conditions of hardness: 150 mg/L. (Life of humidifying element is about 1 years (1500 hours), under the supply water conditions of hardness: 400 mg/L.)
NOTES

1. Leave space for servicing the unit and include inspection hatch. (Always open a hole on the side of the control box so that the air filters, heat exchange elements, and fans can easily be inspected and serviced.)

2. Install the two outdoor ducts with down slope (slope of 1/30 or more) to prevent entry of rain water, also, provide insulation for three ducts (outdoor ducts and indoor supply air duct) to prevent dew condensation. (Material: glass wool of 25mm thick)

3. Do not turn the unit upside down.

4. Make sure to install drain piping, and insulate drain piping to prevent dew condensation.

5. Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air from forming.

6. 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) (optional accessory).

7. In areas where freezing may occur, always take steps to prevent the pipes from freezing.

8. Do not place something which shouldn’t get wet at the bottom of this unit. The dew would fall at following cases, where humidity is 80% or more, or the exit of drain socket is choked up, or the air filter is very dirty.
NOTES

1. Leave space for servicing the unit and include inspection hatch. (Always open a hole on the side of the control box so that the air filters, heat exchange elements, and fans can easily be inspected and serviced.)
2. Install the two outdoor ducts with down slope (slope of 1/30 or more) to prevent entry of rain water, also, provide insulation for three ducts (outdoor ducts and indoor supply air duct) to prevent dew condensation. (Material: glass wool of 25mm thick)
3. Do not turn the unit upside down.
4. Use city water or clean water. Include water supply piping with strainer, a water supply shut-off valve, and a drain valve (both locally procured) somewhere along the water supply piping that can be reached from the inspection hatch.
5.  It is impossible to connect the water supply piping directly to public piping. Use a cistern tank (of the approved type), if you need to get your water supply from public piping.
6. Make sure the supply water 0.02MPa to 0.49MPa (0.2 kg/cm² to 5 kg/cm²)
7. Make sure the supply water is between 5°C and 40°C in temperature.
8. Insulate the water supply piping to prevent condensation from forming.
9. Make sure to install drain piping, and insulate drain piping to prevent dew condensation.
10. Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air from forming.
11. Install in a location where the air around the unit or taken into the humidifier will not drop below 0°C.
12. 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) (optional accessory).
13. In areas where freezing may occur, always take steps to prevent the pipes from freezing.
14. Do not place anything which shouldn’t get wet at the bottom of this unit. The dew would fall at following case, where humidity is 80% more, or the exit of drain socket is choked up, or the air filter is very dirty.
15. Feed clean water. If the supply water is hard water, use a water softener because of short life.

Life of humidifying element is about 3 years (4,000 hours), under the supply water conditions of hardness: 150 mg/L. (Life of humidifying element is about 1 years (1500 hours), under the supply water conditions of hardness: 400 mg/L.)
1. Leave space for servicing the unit and include inspection hatch. (Always open a hole on the side of the control box so that the air filters, heat exchanger elements, and fans can easily be inspected and serviced.)
2. Install the two outdoor ducts with down slope (slope of 1/30 or more) to prevent entry of rain water, also, provide insulation for three ducts (outdoor ducts and indoor supply air duct) to prevent dew condensation. (Material: glass wool of 25mm thick)
3. Do not turn the unit upside down.
4. Make sure to install drain piping, and insulate drain piping to prevent dew condensation.
5. Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air from forming.
6. 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) (optional accessory).
7. In areas where freezing may occur, always take steps to prevent the pipes from freezing.
8. Do not place something which shouldn’t get wet at the bottom of this unit. The dew would fall at following case, where humidity is 80% more, or the exit of drain socket is choked up, or the air filter is very dirty.

NOTES

3D083016
1. Leave space for servicing the unit and include inspection hatch. (Always open a hole on the side of the control box so that the air filters, heat exchange elements, fans and humidifier elements can easily be inspected and serviced.)

2. Install the two outdoor ducts with down slope (slope of 1/30 or more) to prevent entry of rain water. Also, provide insulation for three ducts (outdoor ducts and indoor supply air duct) to prevent dew condensation. (Material: glass wool of 25mm thick)

3. Do not turn the unit upside down.

4. Use city water or clean water.
   Include water supply piping with strainer, a water supply shut-off valve, and a drain valve (both locally procured) somewhere along the water supply piping that can be reached from the inspection.

5. It is impossible to connect the water supply piping directly to public piping. Use a cistern tank (of the approved type), if you need to get your water supply from public piping.

6. Make sure the supply water is between 5°C and 40°C in temperature.

7. Make sure the supply water is between 5°C and 40°C in temperature.

8. Insulate the water supply piping to prevent condensation from forming.

9. Make sure to install drain piping, and insulate drain piping to prevent dew condensation.

10. Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air from forming.

11. Install in a location where the air around the unit or taken into the humidifier will not drop below 0°C.

12. 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) (optional accessory).

13. In areas where freezing may occur, always take steps to prevent the pipes from freezing.

14. Do not place something which shouldn't get wet at the below of this unit. The dew would fall at following case, where humidity is 80% more, or the exit of drain socket is choked up, or the air filter is very dirty.

15. Feed clean water. If the supply water is hard water, use a water softener because of short life.

Life of humidifying element is about 3 years (4,000 hours), under the supply water conditions of hardness: 150 mg/L. (Life of humidifying element is about 1 years (1500 hours), under the supply water conditions of hardness: 400 mg/L.)
VKM50GB

50Hz, 220V-240V

[Reading of Performance Characteristics]

1) For example: 19(29)-07
   Mode no. : 19(29)
   First code: 1 (Supply \( \frac{2}{5} \) Exhaust \( \frac{3}{5} \))
   Second code no.: 07

2) Rated point: ●
3) The characteristic of each tap becomes a setup of the characteristic of the same code number.

3D082904

VKM50GBM

50Hz, 220V-240V

[Reading of Performance Characteristics]

1) For example: 19(29)-07
   Mode no. : 19(29)
   First code: 1 (Supply \( \frac{2}{5} \) Exhaust \( \frac{3}{5} \))
   Second code no.: 07

2) Rated point: ●
3) The characteristic of each tap becomes a setup of the characteristic of the same code number.

3D082901
[Reading of Performance Characteristics]

1) For example: 19(29)-07
   Mode no.: 19(29)
   First code: 1 (Supply) 2 (Exhaust) 3
   Second code no.: 07

2) Rated point:

3) The characteristic of each tap becomes a setup of the characteristic of the same code number.

[Reading of Performance Characteristics]

1) For example: 19(29)-07
   Mode no.: 19(29)
   First code: 1 (Supply) 2 (Exhaust) 3
   Second code no.: 07

2) Rated point:

3) The characteristic of each tap becomes a setup of the characteristic of the same code number.
**VKM100GB**

---

**50Hz, 220V-240V**

---

**Operating air flow rate range**

---

**External static pressure (Pa)**

---

**Air flow rate (m³/h)**

---

**Exchange efficiency (%)**

---

[Reading of Performance Characteristics]

1) For example: 19(29)-(2)-07
   Mode no.: 19(29)
   First code: [Supply] 2 [Exhaust] 3
   Second code no.: 07

2) Rated point: ●

3) The characteristic of each tap becomes a setup of the characteristic of the same code number.

---

**VKM100GBM**

---

**50Hz, 220V-240V**

---

**Operating air flow rate range**

---

**External static pressure (Pa)**

---

**Air flow rate (m³/h)**

---

**Exchange efficiency (%)**

---

[Reading of Performance Characteristics]

1) For example: 19(29)-(2)-07
   Mode no.: 19(29)
   First code: [Supply] 2 [Exhaust] 3
   Second code no.: 07

2) Rated point: ●

3) The characteristic of each tap becomes a setup of the characteristic of the same code number.

---

**VIEW ALL VKM-GB(M) TECHNICAL DRAWINGS ON MY.DAIKIN.EU**

---
Control systems

INTELLIGENT TOUCH MANAGER DCM601A51

WIRED REMOTE CONTROL BRC1E53A/B/C
Control systems

User friendly control systems 44
Overview 45
Individual control systems 46
Centralised control systems 48
User friendly control systems

Interlock of the ventilation operation with the air conditioner operation

Interlock of the ventilation operation with the air conditioner operation greatly simplifies overall system control. The same remote control centralises air conditioning and ventilation functions. By incorporating a variety of centralised control equipment, the user can build a large, high grade centralised control system.

“Super Wiring” System

A Super Wiring system is used to enable the shared use of wiring between indoor units, outdoor units and the centralised remote control. This system makes it easy for the user to retrofit the existing system with a centralised remote control, simply by connecting it to the outdoor units. Thanks to a non-polarity wiring system, incorrect connections become impossible and installation time is reduced.
Overview of control systems

Individual control systems

5 individual control systems give the user control over the VRV system and the combined ventilation.

› BRC1DS2 and BRC1ES3A/B/C are wired remote controllers, giving access to room temperature settings, schedule timer, … Next to that they also have user friendly HRV functions.
› BRC301B61 is a wired controller exclusively designed for VAM units.
› BRC2ES2C and BRC3ES2C are compact, easy to use remote controllers, ideal for use in hotel bedrooms.

Centralised control systems

By combining the (optional) centralised control equipment listed below, the user can achieve a wide range of comprehensive centralised control systems for air conditioning and ventilation.

Network solutions

HRV units are connectable to all current Daikin network solutions:

- **DCS601C51**
  Allows detailed and easy monitoring and operation of VRV systems (maximum 64 control groups).

- **DCC601A51**
  Touch screen centralized controller with cloud connection for up to 32 indoor units.

- **DCM601A51**
  The ideal solution for full control and management of maximum 512 VRV indoor units.

- **DMS504B51**
  Open network integration of VRV monitoring and control functions into LonWorks networks.

- **DMS502A51**
  Integrated control system for seamless connection between VRV and BMS systems.

Other integration devices

Simple solutions for unique requirements

› Low cost option to satisfy simple control requirements
› Deployed on single or multiple units

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
</tr>
</thead>
</table>
| KRP2A* | Wiring adapter for electrical appendices  
  - Start and stop up to 16 indoor units remotely (1 group) (KRP2A* via P1 P2)  
  - Alarm indication / fire shut-down |
| KRP50-2 / KRP1CA* | Adapter PCB for humidifier  
  - To connect third party humidifier  
  - Start and stop operation of humidifier |
| BRP4A50(A) | Adapter PCB for third party heater  
  - To connect third party heater  
  - For ON / OFF delay control when pre heater is used |

For more information consult the Daikin controls systems brochure or contact your local dealer.
- Control up to 16 indoor units or 8 HRV units (1 group)
- Easy to use: all main functions directly accessible
- Easy setup: improved graphical user interface for advanced menu settings
- Simultaneous ON/OFF of HRV and air conditioner (BRC1D52/BRC1E53A/B/C)
- Airflow rate switching
- Ventilation mode switching
- Self diagnostic functions
- Filter sign display and reset
- Timer settings, simultaneous control with air conditioner (BRC1D52/BRC1E53A/B/C)
- ON/OFF of VAM (BRC301B61)
- Independent operation of HRV
- Timer settings (BRC301B61)
- Fresh-up mode switching (HRV only)
  (Selectable by field setting: supply mode, exhaust mode)
A variety of units can be controlled using only the BRC1D52 or the BRC1E53A

- **Group Control**
  One air conditioner remote control simultaneously controls up to 16 air conditioning and HRV* units.

- **Control using 2 remote controls**
  Allows control of air conditioning and HRV units from two locations by connecting two air conditioner remote controls. (group control is possible)

- **Long-distance Remote Control**
  Remote operation control - from a distant control room for example - is possible thanks to wiring of up to 500 m. (2 remote controllers possible)

  *1: Count VKM unit as two air conditioner indoor units. For details, see below.

### System Characteristics

<table>
<thead>
<tr>
<th>Necessary Accessories</th>
<th>System Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRC1D52 or BRC1E53A/B/C</td>
<td>Independent operation of HRV is possible</td>
</tr>
<tr>
<td>BRC301B61*</td>
<td>Operation is possible using 2 remote controls</td>
</tr>
<tr>
<td>BRC1D52 or BRC1E53A/B/C</td>
<td>Multiple HRV units can be simultaneously controlled in batch. (Up to 8 or 16 HRV* units can be connected)</td>
</tr>
<tr>
<td>BRC1D52 or BRC1E53A/B/C</td>
<td>Air conditioner remote control can be used</td>
</tr>
</tbody>
</table>

### System Construction

<table>
<thead>
<tr>
<th>System construction</th>
<th>Necessary Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Operation system</td>
<td>BRC1D52 or BRC1E53A/B/C or BRC301B61*</td>
</tr>
<tr>
<td>Standard system</td>
<td>BRC1D52 or BRC1E53A/B/C</td>
</tr>
<tr>
<td>Air conditioning interlocked control (VRV, Sky Air) system</td>
<td>BRC1D52 or BRC1E53A/B/C</td>
</tr>
</tbody>
</table>

#### Standard system

- Indoor unit
- HRV

During group control operation, the VKM unit has a capacity equivalent to 2 standard indoor units. Up to 16 standard indoor units can be connected at the same time.

Connectable indoor units:

<table>
<thead>
<tr>
<th>VKM</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. no. of VRV</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: The VKM uses 2 remote controller addresses per unit. The number of units that can be group controlled is shown above.

### Multiple groups interlocked Operation system

- Group 1
- Group 2

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor unit</td>
<td>Indoor unit</td>
</tr>
<tr>
<td>BRC1D52 or BRC1E53A/B/C</td>
<td>BRC1D52 or BRC1E53A/B/C</td>
</tr>
</tbody>
</table>

#### Multiple groups interlocked Operation system

- Can control interlocked operation of multiple groups of VRV or Sky Air indoor units
- When one of the multiple groups operates, HRV units are interlocked and operate simultaneously

**Centralised control by KRP2 adaptor or intelligent Touch Manager controller**

* BRC301B61 only available for VAM-FA/FB
By combining the (optional) centralised control equipment listed below, the user can achieve a wide range of comprehensive centralised control systems for air conditioning and ventilation.

**Centralised remote control - DCS302C51**
- A maximum of 64 groups (128 indoor units, max. 10 outdoor units) can be controlled
- Group control (up and down buttons are added for group selection)
- Zone control
- Malfunction code display
- Max. wiring length 1,000 m (total: 2,000 m)
- Combination with unified ON/OFF control, schedule timer and BMS system
- Airflow volume and direction can be controlled individually for indoor units in each group operation.
- Ventilation volume and mode can be controlled for Heat Reclaim Ventilation (VKM).
- Up to 4 ‘operation/stop’ pairs can be set per day by connecting a schedule timer.

**Unified on/off control - DCS301B51**
- Providing simultaneous and individual control on 16 groups of indoor units
- A maximum of 16 groups (128 air conditioning indoor and HRV units) can be controlled
- 2 remote controls in separate locations can be used
- Centralised control indication
- Maximum wiring length of 1,000m (total: 2,000m)

**Schedule timer - DST301B51**
- Enabling 64 groups to be programmed
- A maximum of 128 air conditioning indoor and HRV units can be controlled
- 8 types of weekly schedule
- A maximum of 48 hours back-up power supply
- Maximum wiring length of 1,000m (total: 2,000m)

---

**Number of HRV units that can be connected per system**

<table>
<thead>
<tr>
<th>System</th>
<th>Units Connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralised remote control</td>
<td>2 units</td>
</tr>
<tr>
<td>Unified on/off control</td>
<td>8 units</td>
</tr>
<tr>
<td>Schedule timer</td>
<td>1 unit</td>
</tr>
</tbody>
</table>
Centralised control systems

**Centralised remote control - DCS302C51**
- The centralised remote control provides settings and monitoring functions and can control up to 128 VRV and HRV units.
- Control is possible in 3 different patterns: individual, batch or zone.
- Multiple groups can be controlled within the same zone.
- Multiple HRV units can be operated independently.
- System without air conditioning or HRV remote controls can be constructed.
- Control system can be expanded depending on requirements by combining a variety of centralised control systems.

**Unified ON/OFF control - DCS301B51**
- One controller can control the on/off operation of 16 groups of units collectively or individually.
- Up to 8 controllers can be installed in one centralised transmission line (in one system), which enables control of up to 128 groups. (16 groups x 8 = 128 groups)

**Schedule timer - DST301B51**
- One schedule timer can control the weekly schedule of up to 128 units.
- HRV remote control can set the individual operation of each HRV unit.
- Control system can be expanded depending on its purposes by combining a variety of centralised control equipment.

**System construction**

<table>
<thead>
<tr>
<th>Batch / Individual Control System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor unit</td>
</tr>
<tr>
<td>BRC1D52</td>
</tr>
<tr>
<td>BRC1E53A/B/C</td>
</tr>
<tr>
<td>DCS301B51</td>
</tr>
<tr>
<td>DST301B51</td>
</tr>
<tr>
<td>HRV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zone Control System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor unit</td>
</tr>
<tr>
<td>BRC1D52</td>
</tr>
<tr>
<td>BRC1E53A/B/C</td>
</tr>
<tr>
<td>DCS302C51</td>
</tr>
<tr>
<td>HRV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Necessary Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSC301B51 or DST301B51, BRC1D52 or BRC1E53A/B/C If necessary: DCS302C51</td>
</tr>
</tbody>
</table>

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</tr>
</tbody>
</table>

**Air Conditioning Interlocked Centralised Control System**
For small to large commercial spaces Daikin offers a range of R-410A inverter condensing units for use in conjunction with air handling units. In situations where Daikin commercial range ventilation units cannot satisfy the ventilation requirement due to building constraints (large atriums, banquet halls etc), air handling units represent the ideal solution. Air handling units provide large fresh air volumes (>500 m³/h) and high ESPs enabling the use of extensive ductwork runs.

An air handler or air handling unit provides a tailor-made solution for optimising air conditions throughout multiple spaces. An air handler can be customised to your building - with no installation restrictions or design limitations - as air handler units are based on a completely unique modular design, so they can be sized (in increments of 1 cm) to your exact requirements.
Daikin air handling units

**Air handling unit applications**

Why choose Daikin air handling units with a DX connection? 52
Pre-sized fresh air unit - ADT-FDI 53

Why use VRV and ERQ condensing units for connection to air handling units? 56

In order to maximise installation flexibility, 4 types of control systems are offered 57
VRV - for larger capacities (from 8 to 54HP) 58
ERQ - for smaller capacities (from 100 to 250 class) 59
Integration of VRV and ERQ in third party air handling units 60
Pair and multi application selection 61
Options & accessories 66
Daikin air handling units solutions
You will find your match

Why choose Daikin air handling units with a DX connection?

Simplifying business
The unique total solution approach by Daikin helps businesses to propose better cross-pillar solutions, to increase their success ratio by providing unmatchable product combinations to the end-user and to simplify the life of installers by supplying high-quality products coming from the same manufacturer. Contrary to other manufacturers, Daikin does not use OEM products in its AHU with DX offer. Many competitors are either offering OEM DX outdoor units or OEM AHU which create additional problems when warranties or faults arise. **Having a single interface for your business makes Daikin the right choice.**

Supporting tools
**Selecting an AHU in combination with a DX unit has never been this easy** amongst manufacturers. The well known VRV xpress selection software has been modified to integrate pre-sized AHU combinations with DX outdoor units or just to select outdoor units connected to expansion valve kits. If a more complex selection is required, then the new Astra web can be utilized to make unique tailor-made solutions for any project requirements.

One stop shop
Daikin is the only global manufacturer in the market capable of offering a true plug & play solution where Daikin AHUs manufactured by Daikin Applied Europe and certified by Eurovent, offer off-the-shelf compatibility with Daikin’s unique VRV outdoor unit range for the best performance in the market. This unique integration of cross-pillar products under the same umbrella, gives the customer both peace-of-mind and added value when promoting a total solution approach.

Complete range of possibilities
Thanks to the most complete offer in the market, Daikin has the solution for all types of commercial applications requiring fresh air. Daikin provides ventilation solutions based on AHU from 2,500 m³/h up to 140,000 m³/h either with natural heat recovery or more advanced ventilation solutions where a VRV outdoor unit can be connected to the Daikin AHU for ultimate climate control. The harmonized control between the VRV outdoor unit and the AHU offer outstanding 24h/7 control of the system when connected to an iTM.

Advantages
› Unique manufacturer offering a complete range
› Plug & play solution
› Direct iTM compatibility
› VRV Xpress supporting AHU business
› Pre-sized AHU + DX outdoor units for fresh air

Easy selection in
Xpress
New pre-sized fresh air solution

Easy to design
› A wide range of preselected AHU and VRV combinations meet the needs of all European climates
› Range from 2,000 m³/h to 17,000 m³/h
› Designed for outdoor temperatures up to 46°CDB
› The VRV outdoor unit and connection kits (to the coil of the AHU), are all factory mounted and configured

Easy integration
› Fully compatible communication between AHU control and outdoor units, and standard BMS (Modbus and BACnet)
› Remote operation (of set point operation mode and on/off fresh air solution) is managed by Daikin’s unique intelligent Touch Manager, via BACnet/IP interface
› The unit is also accessible through a dedicated web page, available at anytime from anywhere

Easy installation
› Factory mounted controls and same piping diameter between the AHU coil and the VRV outdoor unit
› Factory developed control logic guarantees faster installation compared to other third party combinations of AHU and controls
› Commissioning becomes extremely easy thanks to Daikin’s fresh air solution

Fast Quotation
› Daikin’s fresh air solution is incorporated into the VRVXpress tool, which serves to send accurate quotations and offer more insight about the VRV range
› VRVXpress selection is as easy as any other VRV indoor unit
› With VRVXpress, the consultant is able to gain a competitive edge by offering accurate and reliable quotations

Download Xpress now with the new pre-sized combination from my.daikin.eu

More details in the dedicated brochure
## Pre-sized fresh air solution

**High-end ventilation with heat recovery**

- Pre-sized unit, complete with selection, quotation and easy ordering
- Directly connects to preselected Daikin VRV outdoor units
- IE premium efficiency motor
- High efficiency heat wheel (heat recovery)
- Compact design
- Indoor air quality compliant with VDI hygiene guidelines
- Operating limits from -20°C to +46 °C ambient temperature
- Monitor and control with the intelligent Touch Manager
- Cannot be combined with Daikin indoor units

### Pre-selected fresh air solution

**ADT-FDI**

<table>
<thead>
<tr>
<th>ADT03FDI-80</th>
<th>ADT03FDI-100</th>
<th>ADT03FDI-125</th>
<th>ADT04FDI-125</th>
<th>ADT04FDI-140</th>
<th>ADT04FDI-200</th>
<th>ADT05FDI-200</th>
<th>ADT06FDI-250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airflow Nominal Air Flow valid for Cooling (1) and Heating(2) m³/h</td>
<td>2,200</td>
<td>2,700</td>
<td>3,200</td>
<td>3,600</td>
<td>4,000</td>
<td>4,700</td>
<td>5,500</td>
</tr>
<tr>
<td>Integrated expansion valve kit Type</td>
<td>EKE XV80</td>
<td>EKE XV100</td>
<td>EKE XV125</td>
<td>EKE XV25</td>
<td>EKE XV140</td>
<td>EKE XV200</td>
<td>EKE XV200</td>
</tr>
<tr>
<td>Integrated control box Type</td>
<td>EKEQFCBA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Rating Eurovent Energy Class</td>
<td>A+</td>
<td>A</td>
<td>A+</td>
<td>A</td>
<td>A+</td>
<td>A</td>
<td></td>
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<tr>
<td>ERP Compliance</td>
<td>ErP 2018</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Heat Recovery Technology</td>
<td>% Sorption Heat Wheel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat Recovery Technology Winter Nom. %</td>
<td>81.5</td>
<td>79.2</td>
<td>76.9</td>
<td>81.1</td>
<td>79.6</td>
<td>77.8</td>
<td>79</td>
</tr>
<tr>
<td>ESP Nom. Pa</td>
<td>1,388</td>
<td>1,508</td>
<td>1,660</td>
<td>1,402</td>
<td>1,512</td>
<td>1,637</td>
<td>1,456</td>
</tr>
<tr>
<td>Supply Fan power input Nom. kW</td>
<td>0.53</td>
<td>0.7</td>
<td>0.92</td>
<td>0.89</td>
<td>1.08</td>
<td>1.35</td>
<td>1.4</td>
</tr>
<tr>
<td>Filter class Supply F7+ F7</td>
<td>Extract F7+ F7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions Unit Height mm</td>
<td>1,540</td>
<td>1,740</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width mm</td>
<td>2,500</td>
<td>2,620</td>
<td>2,780</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth mm</td>
<td>990</td>
<td>1,200</td>
<td>1,400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight Kg</td>
<td>549</td>
<td>659</td>
<td>840</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Power Input Nom. kW</td>
<td>1.55</td>
<td>2</td>
<td>2.3</td>
<td>2.25</td>
<td>2.63</td>
<td>3.15</td>
<td>3.25</td>
</tr>
<tr>
<td>AHU power supply Electrical voltage V/ph/Hz</td>
<td>230V/1Ph/50Hz</td>
<td>400V/3Ph/50Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Door opening (following supply air direction)</td>
<td>Right</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended outdoor unit Type</td>
<td>ERQ100AV1</td>
<td>ERQ125AV1</td>
<td>ERQ140AV1</td>
<td>ERQ200AV1</td>
<td>ERQ200AW1</td>
<td>ERQ250AW1</td>
<td></td>
</tr>
</tbody>
</table>

### ADT-FDI-250

<table>
<thead>
<tr>
<th>ADT07FDI-250</th>
<th>ADT07FDI-140</th>
<th>ADT07FDI-200</th>
<th>ADT08FDI-200</th>
<th>ADT09FDI-200</th>
<th>ADT05FDI-250</th>
<th>ADT06FDI-250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airflow Nominal Air Flow valid for Cooling (1) and Heating(2) m³/h</td>
<td>6,900</td>
<td>7,400</td>
<td>8,000</td>
<td>8,700</td>
<td>10,000</td>
<td>11,500</td>
</tr>
<tr>
<td>Integrated expansion valve kit Type</td>
<td>EKE XV250</td>
<td>EKE XV40</td>
<td>EKE XV200</td>
<td>EKE XV250</td>
<td>EKE XV250</td>
<td></td>
</tr>
<tr>
<td>Integrated control box Type</td>
<td>EKEQFCBA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Rating Eurovent Energy Class</td>
<td>A</td>
<td>A+</td>
<td>A</td>
<td>A+</td>
<td>A+</td>
<td>A</td>
</tr>
<tr>
<td>ERP Compliance</td>
<td>ErP 2018</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Heat Recovery Technology</td>
<td>% Sorption Heat Wheel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat Recovery Technology Winter Nom. %</td>
<td>77.9</td>
<td>80.2</td>
<td>79.3</td>
<td>78.1</td>
<td>78.4</td>
<td>79.7</td>
</tr>
<tr>
<td>ESP Nom. Pa</td>
<td>1,580</td>
<td>1,438</td>
<td>1,491</td>
<td>1,581</td>
<td>1,429</td>
<td>1,438</td>
</tr>
<tr>
<td>Supply Fan power input Nom. kW</td>
<td>1.86</td>
<td>1.82</td>
<td>2.04</td>
<td>2.35</td>
<td>2.48</td>
<td>2.82</td>
</tr>
<tr>
<td>Filter class Supply F7+ F7</td>
<td>Extract F7+ F7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions Unit Height mm</td>
<td>1920</td>
<td>2,180</td>
<td>2,460</td>
<td>2,570</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width mm</td>
<td>2,980</td>
<td>3,100</td>
<td>3,150</td>
<td>2,940</td>
<td>3,300</td>
<td></td>
</tr>
<tr>
<td>Depth mm</td>
<td>1,400</td>
<td>1,600</td>
<td>1,440</td>
<td>1,940</td>
<td>2,300</td>
<td></td>
</tr>
<tr>
<td>Weight Kg</td>
<td>887</td>
<td>1,063</td>
<td>1,449</td>
<td>1,594</td>
<td>1,973</td>
<td></td>
</tr>
<tr>
<td>Total Power Input Nom. kW</td>
<td>4.14</td>
<td>4.07</td>
<td>4.48</td>
<td>5.08</td>
<td>5.37</td>
<td>6.06</td>
</tr>
<tr>
<td>AHU power supply Electrical voltage V/ph/Hz</td>
<td>400V/3Ph/50Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Door opening (following supply air direction)</td>
<td>Right</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended outdoor unit Type</td>
<td>ERQ250AW1</td>
<td>ERQ200AV1</td>
<td>ERQ200AW1</td>
<td>ERQ250AW1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Cooling: indoor temp. 27°CDB, 19.0°CWB; outdoor temp. 35°CDB; equivalent refrigerant piping: 5m; level difference: 0m
(2) Heating: indoor temp. 20°CDB; outdoor temp. -15°CDB; equivalent refrigerant piping: 5m; level difference: 0m
Daikin's new fresh air solution

High efficient EC fan

Factory fitted and tested DX heat exchanger

4-door design

Traditional design
2 doors with gasket between extract and exhaust air. Higher leakage rates due to pressure differences

Daikin design
4 doors greatly reducing leakages as there is no connection between extract and exhaust air

Efficient filtration

Heat wheel for heat recovery
Why use VRV and ERQ condensing units for connection to air handling units?

High Efficiency

Daikin heat pumps are renowned for their high energy efficiency. Integrating the AHU with a heat recovery system is even more effective since an office system can frequently be in cooling mode while the outdoor air is too cold to be brought inside in an unconditioned state. In this case heat from the offices is merely transferred to heat up the cold incoming fresh air.

Outside air = 10°C

Fresh air supplied at 21°C.
The temperature difference with the outdoor air is heated up for free by heat recovery via A/C system

Indoor temperature 22°C,
needs cooling because of solar radiation.
The excessive heat can be transferred to the AHU

Fast response to changing loads resulting in high comfort levels

Daikin ERQ and VRV units respond rapidly to fluctuations in supply air temperature, resulting in a steady indoor temperature and resultant high comfort levels for the end user. The ultimate is the VRV range which improves comfort even more by offering continuous heating, also during defrost.

Easy Design and Installation

The system is easy to design and install since no additional water systems such as boilers, tanks and gas connections etc. are required. This also reduces both the total system investment and running cost.

Daikin Fresh air package

› If the pre-sized fresh air solution does not match the need.
› Plug & play connection between VRV/ERQ and the entire D-AHU modular range.
› Factory fitted and welded control and expansion valve kits.
In order to maximise installation flexibility, 4 types of control systems are offered

W control: Off the shelf control of air temperature (discharge temperature, suction temperature, room temperature) via any DDC controller, easy to setup

X control: Precise control of air temperature (discharge temperature, suction temperature, room temperature) requiring a preprogrammed DDC controller (for special applications)

Y control: Control of refrigerant (Te/Tc) temperature via Daikin control (no DDC controller needed)

Z control: Control of air temperature (suction temperature, room temperature) via Daikin control (no DDC controller needed)

1. W control (T_s/T_r/T_ROOM control):

Air temperature control via DDC controller

Room temperature is controlled as a function of the air handling unit suction or discharge air (customer selection). The DDC controller is translating the temperature difference between set point and air suction temperature (or air discharge temperature or room temperature) into a proportional 0-10V signal which is transferred to the Daikin control box (EKEQFCBA). This voltage modulates the capacity requirements of the outdoor unit.

2. X control (T_s/T_r/T_ROOM control):

Precise air temperature control via DDC controller

Room temperature is controlled as a function of the air handling unit suction or discharge air (customer selection). The DDC controller is translating the temperature difference between set point and air suction temperature (or air discharge temperature or room temperature) into a reference voltage (0-10V) which is transferred to the Daikin control box (EKEQFCBA). This reference voltage will be used as the main input value for the compressor frequency control.

3. Y control (T_e/T_c control):

By fixed evaporating /condensing temperature

A fixed target evaporating or condensing temperature can be set by the customer. In this case, room temperature is only indirectly controlled. A Daikin wired remote control (BRC1D52 or BRC1E52A/B - optional) have to be connected for initial set-up but not required for operation.

4. Z control (T_s/T_ROOM control):

Control your AHU just like a VRV indoor unit with 100% fresh air

Allows the possibility to control the AHU just like a VRV indoor unit. Meaning temperature control will be focused on return air temperature from the room into the AHU. Requires BRC1D52 or BRC1E52A/B for operation. The only control that allows the combination of other indoor units to the AHU at the same time.

<table>
<thead>
<tr>
<th>Option kit</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possibility W</td>
<td>Off-the-shelf DDC controller that requires no pre-configuration</td>
</tr>
<tr>
<td>Possibility X</td>
<td>Pre-configured DDC controller required</td>
</tr>
<tr>
<td>Possibility Y</td>
<td>Using fixed evaporating temperature, no set point can be set using remote control</td>
</tr>
<tr>
<td>Possibility Z</td>
<td>Using Daikin infrared remote control BRC1D52 or BRC1E52A/B</td>
</tr>
</tbody>
</table>

* EKEQMCB (for 'multi' application)
An advanced solution for both pair and multi application

› Inverter controlled units
› Heat recovery, heat pump
› R-410A
› Control of room temperature via Daikin control
› Large range of expansion valve kits available
› BRC1E52A/B is used to set the set point temperature (connected to the EKEQMCBA).
› Connectable to all VRV heat recovery and heat pump systems

W, X, Y control for VRV IV heat pump
Z control for all VRV outdoor units
ERQ - for smaller capacities (from 100 to 250 class)

A basic fresh air solution for pair application

- Inverter controlled units
- Heat pump
- R-410A
- Wide range of expansion valve kits available
- Perfect for the Daikin Modular air handling unit

The "Daikin Fresh Air Package" provides a complete Plug & Play Solution including AHU, ERQ or VRV Condensing Unit and all unit control (EKEQ, EKEX, DDC controller) factory mounted and configured. The easiest solution with only one point of contact.

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>ERQ</th>
<th>100AV1</th>
<th>125AV1</th>
<th>140AV1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity range</td>
<td>HP</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Cooling capacity</td>
<td>kW</td>
<td>11.2</td>
<td>14.0</td>
<td>15.5</td>
</tr>
<tr>
<td>Heating capacity</td>
<td>kW</td>
<td>12.5</td>
<td>16.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Power input</td>
<td>Cooling Nom. kW</td>
<td>2.81</td>
<td>3.51</td>
<td>4.53</td>
</tr>
<tr>
<td>Heating Nom. kW</td>
<td>2.74</td>
<td>3.86</td>
<td>4.57</td>
<td></td>
</tr>
<tr>
<td>EER</td>
<td>3.99</td>
<td>4.15</td>
<td>3.94</td>
<td></td>
</tr>
<tr>
<td>COP</td>
<td>4.56</td>
<td>4.15</td>
<td>3.94</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>Unit HeightxWidthxDepth mm</td>
<td>1,345x900x320</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>Unit kg</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing Material</td>
<td>Painted galvanized steel plate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fan-Air flow rate</td>
<td>Cooling Nom. m³/min</td>
<td>106</td>
<td>102</td>
<td>105</td>
</tr>
<tr>
<td>Heating Nom. m³/min</td>
<td>66</td>
<td>67</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Sound power level</td>
<td>Cooling Nom. dBA</td>
<td>50</td>
<td>51</td>
<td>53</td>
</tr>
<tr>
<td>Heating Nom. dBA</td>
<td>52</td>
<td>53</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>Heating Min./Max. °CDB</td>
<td>-5/46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation range</td>
<td>Heating Min./Max. °CWB</td>
<td>-20/15.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerant</td>
<td>Type</td>
<td>R-410A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charge</td>
<td>kg</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCO₂eq</td>
<td>8.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GWP</td>
<td>2.0875</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Expansion valve (electronic type)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping connections</td>
<td>Liquid OD mm</td>
<td>9.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas OD mm</td>
<td>15.9</td>
<td>19.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drain OD mm</td>
<td>26x3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>Phase/Frequency/Voltage Hz/V</td>
<td>1N~/50/220-240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>Maximum fuse amps (MFA) A</td>
<td>32.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Integration with third party air handling units

Integration of ERQ and VRV in third party air handling units

a wide range of expension valve kits and control boxes

### Combination table

<table>
<thead>
<tr>
<th>Control box</th>
<th>Expansion valve kit</th>
<th>Allowed connection with VRV indoor units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERQ100</td>
<td></td>
<td>Not possible</td>
</tr>
<tr>
<td>ERQ25S</td>
<td></td>
<td>Not possible</td>
</tr>
<tr>
<td>ERQ140</td>
<td></td>
<td>Not possible</td>
</tr>
<tr>
<td>ERQ200</td>
<td></td>
<td>Not possible</td>
</tr>
<tr>
<td>ERQ250</td>
<td></td>
<td>Not possible</td>
</tr>
<tr>
<td>VRV III</td>
<td></td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

- P (pair application): combination depends on the capacity of the air handling unit
- n1 (multi application): Combination of AHUs and VRV DX indoors (mandatory). To determine the exact quantity please refer to the engineering data book.
- n2 (multi application): Combination of AHUs and VRV DX indoors (not mandatory). To determine the exact quantity please refer to the engineering data book.
- Control box EKEQFA can be connected to some types of VRV IV outdoor units (with a maximum of 3 boxes per unit). Do not combine EKEQFA control boxes with VRV DX indoor units, RA indoor units or hydroboxes.

### Capacity table

#### Cooling

<table>
<thead>
<tr>
<th>EKEXV Class</th>
<th>Allowed heat exchanger capacity (kW)</th>
<th>Allowed heat exchanger volume (dm³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>Standard</td>
</tr>
<tr>
<td>50</td>
<td>5.0</td>
<td>5.6</td>
</tr>
<tr>
<td>63</td>
<td>6.3</td>
<td>7.1</td>
</tr>
<tr>
<td>80</td>
<td>7.9</td>
<td>9.0</td>
</tr>
<tr>
<td>100</td>
<td>10.0</td>
<td>11.2</td>
</tr>
<tr>
<td>125</td>
<td>12.4</td>
<td>14.0</td>
</tr>
<tr>
<td>140</td>
<td>15.5</td>
<td>16.0</td>
</tr>
<tr>
<td>200</td>
<td>17.7</td>
<td>22.4</td>
</tr>
<tr>
<td>250</td>
<td>24.7</td>
<td>28.0</td>
</tr>
<tr>
<td>400</td>
<td>35.4</td>
<td>45.0</td>
</tr>
<tr>
<td>500</td>
<td>49.6</td>
<td>56.0</td>
</tr>
</tbody>
</table>

Saturated evaporating temperature: 6°C
Air temperature: 20°C DB / 19°C WB

#### Heating

<table>
<thead>
<tr>
<th>EKEXV Class</th>
<th>Allowed heat exchanger capacity (kW)</th>
<th>Allowed heat exchanger volume (dm³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>Standard</td>
</tr>
<tr>
<td>50</td>
<td>5.6</td>
<td>6.3</td>
</tr>
<tr>
<td>63</td>
<td>7.1</td>
<td>8.0</td>
</tr>
<tr>
<td>80</td>
<td>8.9</td>
<td>10.0</td>
</tr>
<tr>
<td>100</td>
<td>11.2</td>
<td>12.5</td>
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<tr>
<td>125</td>
<td>13.9</td>
<td>16.0</td>
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<tr>
<td>140</td>
<td>17.4</td>
<td>18.0</td>
</tr>
<tr>
<td>200</td>
<td>19.9</td>
<td>25.0</td>
</tr>
<tr>
<td>250</td>
<td>27.8</td>
<td>31.5</td>
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<tr>
<td>400</td>
<td>39.8</td>
<td>50.0</td>
</tr>
<tr>
<td>500</td>
<td>55.1</td>
<td>63.0</td>
</tr>
</tbody>
</table>

Saturated condensing temperature: 46°C
Air temperature: 20°C DB

#### EKEXV - Expansion valve kit for air handling applications

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>EKEXV</th>
<th>50</th>
<th>63</th>
<th>80</th>
<th>100</th>
<th>125</th>
<th>140</th>
<th>200</th>
<th>250</th>
<th>400</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>Unit</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound pressure level Nom.</td>
<td>dBA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation range</td>
<td>On coil Heating Min.</td>
<td>°CDB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerant</td>
<td>Type / GWP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping connections</td>
<td>Liquid OD mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(I) The temperature of the air entering the coil in heating mode can be reduced to -5°CDB. Contact your local dealer for more information.

(2) 45% Relative humidity.

#### EKEQ - Control box for air handling applications

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>EKEQ</th>
<th>FCBA</th>
<th>DCB</th>
<th>MCBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>See note</td>
<td>Pair</td>
<td>Multi</td>
<td>VRV</td>
</tr>
<tr>
<td>Outdoor unit</td>
<td>ERQ / VRV</td>
<td>ERQ</td>
<td>VRV</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>Unit</td>
<td>132x400x200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>3.9</td>
<td>3.6</td>
<td></td>
</tr>
</tbody>
</table>

The combination of EKEQCB and ERE is in pair application. The EKEQCB can be connected to some type of VRV IV outdoor units with a maximum of 3 control boxes. The combination with DX indoor units, hydroboxes, RA outdoor units, ... is not allowed. Refer to the combination table drawing of the outdoor unit for details.
Selection

Pair application selection

› the outdoor unit is connected to ONE COIL (with single circuit or maximum 3 interlaced circuits) using up to 3 control boxes
› indoor unit combination is not allowed
› only works with X, W, Y control

Step 1: Required AHU capacity

An AHU with double flow, heat recovery and 100% fresh air is to be installed in Europe where the outdoor sizing temperature is 35 °CDB and the target supply air temperature for fresh air is 25 °CDB. Load calculations point to a required capacity of 45kW. By checking on the EKEXV capacity table, for cooling operation, 40kW falls within the 400 class valve. Since 40kW is not the nominal capacity, a class adjustment has to be done: 40/45=0,89 and 0,89x400=356. So the capacity class of the expansion valve kit is 356.

Step 2: Outdoor unit selection

For this AHU, a VRV IV heat pump model with continuous heating is going to be used (RYYQ-T series). For a capacity of 40kW at 35 °CDB, an outdoor of 14HP (RYYQ14T). The capacity class of the 14 HP outdoor unit is 350. Total connection ratio of the system is 356/350=102% hence it falls within the range 90-110%.

Multi application selection

› the outdoor unit can be connected to multiple COILS (and their control boxes)
› indoor units are also connectable but not mandatory
› only works with Z control

Step 1: Required AHU capacity

An AHU with double flow, heat recovery and 100% fresh air is to be installed in Europe where the outdoor sizing temperature is 35 °CDB and the target supply air temperature for fresh air is 25 °CDB. On top of this, for this building, 5 round-flow cassette units FXFQ50A will also be connected to this OU. Load calculations point to a required capacity of 20kW for the AHU and 22,5 kW for the indoor units. By checking on the EKEXV capacity table, for cooling operation, 20kW falls within the 200 class valve. Since 22,4 kW is the nominal capacity, a class adjustment has to be done: 20/22,4=0,89 and 0,89x200=178. So the capacity class of the expansion valve kit is 178. Total capacity class of the indoor unit system is 178+250=428

Step 2: Outdoor unit selection

For this system where a AHU is connected with indoor units, it is mandatory to use a heat recovery unit. By consulting the engineering databook for REYQ-T, the total required capacity of 42,5 kW requires a 16HP model REYQ16T. Which will deliver 45kW at the design temperature of 35 °CDB. This unit has a capacity class of 400. Total connection ratio of the system is 428/400=107% hence it falls within the range 50-110%.

Step 3: Control box selection

In this particular case, the control will work with precise air temperature control. Only W or X control allow this. Since the consultant wants to use an “off-the-shelf” DDC module, the EKEQFCBA box with W control allows easy set-up due to pre-set factory values.

Step 3: Control box selection

In this particular case, the control will work with precise air temperature control. Only W or X control allow this. Since the consultant wants to use an “off-the-shelf” DDC module, the EKEQMCBA control box.
Air handling application

Pair application examples

Pair application layout #1: Example for W or X control with EKEQFCBA box

Outdoor unit compatibility

RYYQ8T > RYYQ54T
RXYQ8T > RXYQ54T
RWEYQ8T8 > RWEYQ30T8
ERQ100 > ERQ250

(1) Only available in 1 to 1 combination

Connection restrictions

Connection Ratio VRV: between 90-110%
Connection Ratio ERQ: between 50-110%

CR= \[ \frac{\sum IU CC}{\sum OU CC} = \frac{\sum (CF \times EKEXV CC)}{\sum OU CC} \]

CF is the correction factor
CC is the capacity class

More than 3 control boxes connected to same outdoor

Two control boxes connected to Outdoor 1 to circuits 1 and 2 of coil A. Control box 3 connected to outdoor 2 and circuit 3 of coil A.

Two control boxes on coil A (2 circuits) and another control box on coil B (1 circuit). Both connected to same outdoor
Air handling application

Pair application layout #2: Example for Y control with EKEQFCBA box

Outdoor unit compatibility

RYYQ8T > RYYQ54T
RXYQ8T > RXYQ54T
RWEYQ8T8 > RWEYQ30T8
ERQ100 > ERQ250

(1) Only available in 1 to 1 combination

Connection restrictions

Connection Ratio between 90-110%
Connection Ratio ERQ: between 50-110%

CR = \[ \frac{\sum IU \text{ CC}}{\sum OU \text{ CC}} = \frac{\sum (CF \times EKEXV \text{ CC})}{\sum OU \text{ CC}} \]

CF is the correction factor
CC is the capacity class

More than 3 control boxes connected to same outdoor

Two control boxes connected to Outdoor 1 to circuits 1 and 2 of coil A. Control box 3 connected to outdoor 2 and circuit 3 of coil A.

Two control boxes on coil A (2 circuits) and another control box on coil B (1 circuit). Both connected to same outdoor.
Air handling application

Multi application examples

Multi application layout #1: Example for Z control with EKEQMCBA box and no VRV indoor units

Outdoor unit compatibility
RYYQ8T > RYYQ54T
RXYQ8T > RXYQ54T
RWEYQ8T8 > RWEYQ30T8

EKEQMCBA control box
ERQ100 > ERQ250
EKEQDCB control box
(1) Only available in 1 to 1 combination

Connection restrictions
Connection Ratio between 90-110%

Connection Ratio ERQ: between 50-110%

CR= \[ \frac{\sum IU \ CC}{\sum OU \ CC} = \frac{\sum (CF \times EKEXV \ CC)}{\sum OU \ CC} \]

CF is the correction factor
CC is the capacity class

More than 3 control boxes connected to same outdoor

Two control boxes connected to Outdoor 1 to circuits 1 and 2 of coil A. Control box 3 connected to outdoor 2 and circuit 3 of coil A.

Two control boxes on coil A (2 circuits) and another control box on coil B (1 circuit). Both connected to same outdoor
Multi application layout #2: Example for Z control with EKEQMCBA box and VRV indoor units

Outdoor unit compatibility
Not mandatory to have VRV DX indoors:
RYYQ8T > RYYQ54T
RXYQ8T > RXYQ54T
RWEYQ8T8 > RWEYQ30T8
Mandatory to have VRV DX indoors:
REYQ8T > REYQ54T

Connection restrictions
Connection Ratio between 50-110%
CR = \( \frac{\sum IU CC}{\sum OU CC} = \frac{\sum (CF \times EKEXV CC)}{\sum OU CC} \)

RULES:
\( \sum EKEXV CC: 0-60\% \)
\( \sum IU CC: 50-110\% \)

CF is the correction factor
CC is the capacity class

More than 3 control boxes connected to same outdoor
Two control boxes connected to Outdoor 1 to circuits 1 and 2 of coil A. Control box 3 connected to outdoor 2 and circuit 3 of coil A.
Two control boxes on coil A (2 circuits) and another control box on coil B (1 circuit). Both connected to same outdoor
Options & accessories

VH ELECTRICAL HEATER FOR VAM

HIGH EFFICIENCY FILTERS

FILTERS
### Options & accessories

#### Heat reclaim ventilation - VAM

<table>
<thead>
<tr>
<th>VAM 150FC</th>
<th>VAM 250FC</th>
<th>VAM 350FC</th>
<th>VAM 500FC</th>
<th>VAM 800FC</th>
<th>VAM 1000FC</th>
<th>VAM 1500FC</th>
<th>VAM 2000FC</th>
<th>VKM 50GB(M)</th>
<th>VKM 80GB(M)</th>
<th>VKM 100GB(M)</th>
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</table>

#### Heat reclaim ventilation VKM

<table>
<thead>
<tr>
<th>VKM 50GB(M)</th>
<th>VKM 80GB(M)</th>
<th>VKM 100GB(M)</th>
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</table>

#### Air handling unit applications

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<th>EXERF</th>
<th>EXEDC</th>
<th>EXEMDA</th>
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</tbody>
</table>

#### Individual control systems

- **BRC301B61**
  - VAM wired remote control
- **BRC1E53A/B/C**
  - Premium wired remote control with full-tekst interface and back-light
- **BRC1D52**
  - Standard wired remote control with weekly timer

#### Centralised control systems

- **DCS601A51**
  - Intelligent Tablet Controller
- **DCS302C51**
  - Centralised remote control
- **DCS301B51**
  - Unified ON/OFF control
- **DST301B51**
  - Schedule timer

#### Individual control systems

- **BRC301B61**
- **BRC1E53A/B/C**
- **BRC1D52**

#### Centralised control systems

- **DCS601A51**
- **DCS302C51**
- **DCS301B51**
- **DST301B51**

#### Building Management System & Standard protocol interface

- **DCM601A5A**
- **EKMBDXA**
- **DMS502A51**
- **DMS504B51**

#### Filters

- **EN779 Medium M6**
- **EN779 Fine F7**
- **EN779 Fine F8**

#### Sensors

- **Model name**
- **Nominal pipe diameter (mm)**
  - 200
  - 250
  - 250
  - 250
  - 250
  - 250

#### CO₂ sensor

<table>
<thead>
<tr>
<th>BRYMA50</th>
<th>BRYMA65</th>
<th>BRYMA85</th>
<th>BRYMA100</th>
<th>BRYMA200</th>
<th>BRYMA220</th>
<th>BRYMA400</th>
<th>BRYMA100</th>
<th>BRYMA200</th>
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</tbody>
</table>

#### Electrical heater

- **VH1B**
- **VH2B**
- **VH3B**
- **VH3B**
- **VH4B**
- **VH4B**
- **VH6B**
- **VH6B**
- **VH8B**
- **VH8B**

#### Others

- **Wiring adapter for external monitoring/control (controls 1 entire system)**
- **Adapter PCB for humidifier**
- **Adapter PCB for third party heater**
- **External wired temperature sensor**

#### Notes

1. Do not connect the system to DIII-net devices LONWorks interface, BACnet interface, intelligent Touch Manager, EKMBDXA are allowed.
2. Installation box KRP1BA101 needed
3. Fixing plate EKMPVAM additionally needed for VAM1500-2000
4. 3rd party heater and 3rd party humidifier cannot be combined
5. Installation box KRP1BA90 needed

<table>
<thead>
<tr>
<th>VH electrical heater for VAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage 220/250V ac 50/60 Hz. +/-10%</td>
</tr>
<tr>
<td>Output current (maximum) 19A at 45°C (ambient)</td>
</tr>
<tr>
<td>Temperature sensor 5ohms at 25°C (table S02 IT)</td>
</tr>
<tr>
<td>Temperature control range 0 to 40°C (0-10V 0-100%)</td>
</tr>
<tr>
<td>Run on timer Adjustable from 1 to 2 minutes (factory set at 1.5 minutes)</td>
</tr>
<tr>
<td>Control fuse 20 X 5 mm 250 m A</td>
</tr>
<tr>
<td>LED indicators Power ON - Yellow</td>
</tr>
<tr>
<td>Heating ON - Red (solid or flashing, indicating pulsed control)</td>
</tr>
<tr>
<td>Airflow fault - Red</td>
</tr>
<tr>
<td>Mounting holes 98mm X 181mm centres 5 mm a holes</td>
</tr>
<tr>
<td>Maximum ambient adjacent to terminal box 35°C (during operation)</td>
</tr>
<tr>
<td>Auto high temp. cutout 100°C Pre-set</td>
</tr>
<tr>
<td>Man. reset high temp. cutout 120°C Pre-set</td>
</tr>
<tr>
<td>Run relay 1A 120V AC or 1A 24V DC</td>
</tr>
<tr>
<td>BMS setpoint input 0-10VDC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VH electrical heater for VAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity kW 1 1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>Duct diameter mm 100 100 150 150 200 200 250 250 250 350 350</td>
</tr>
<tr>
<td>Connectable VAM VAM150FC VAM250FC VAM500FC VAM800FC VAM800FC VAM1500FC VAM2000FC VAM350FC VAM650FC VAM1000FC VAM1000FC VAM2000FC</td>
</tr>
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We’re here to help you!
Online and offline

http://literature.daikinpromoshop.eu
Tools and platforms

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<td>Supporting tools, software and apps</td>
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Commercial market - literature overview for professional network

### Solution guides:

- **VRV IV range**
  Detailed VRV IV standards and technologies benefits, Main features and specs of VRV IV product range
  17-206

- **Sky Air Bluevolution**
  Detailed info on the R-32 Sky Air range
  17-116

- **VRV IV i-series**
  Main benefits, application examples and specs of VRV IV i-series product range
  17-207

- **VRV IV S-series**
  Main benefits, application examples and specs of VRV IV S-series product range
  17-208

- **Water-to-air heat pump**
  Detailed info on VRV IV W-series, application examples, technical system design background
  17-209

### Focus topics:

- **Replacement Technology**
  Clear installer benefits of VRV replacement technology
  15-214

- **Technical cooling**
  Clear installer benefits why to choose Daikin for technical cooling
  17-140

### Product flyers:

- **Wired Remote Control**
  Detailed info on BRC1E53A/B/C remote control
  15-306

- **RTD modbus interface**
  Detailed info on RTD controls and applications
  15-308

- **i-Net**
  Detailed information on the remote monitoring service
  15-542

### Product catalogues:

- **Sky Air Catalogue**
  Detailed technical information & benefits on Sky Air/Ventilation/Biddle Air Curtain/Control systems/AHU
  17-100

- **VRV Catalogue**
  Detailed technical information & benefits of the VRV total solution
  17-200

- **Ventilation Catalogue**
  Detailed info on Ventilation products
  17-203
All latest Daikin catalogues are available in a convenient library on the internet: www.daikineurope.com/support-and-manuals/catalogues
Supporting tools, software and apps

New web based Xpress selection software

Making selection easy, anytime, anywhere

› Web & cloudbased, access to your projects from anywhere, anyplace…
› Platform (Windows, Mac, …) and hardware (laptop, desktop, tablet) independent
› Re-engineered GUI for maximum easy of use

› No need to do local installation
› No tool updates required (always latest version available)
› Possibility to copy / share projects

Main functions

Easy selection, anytime, anywhere

Easy editing of piping

Intuitive interface

Clear wiring overview, easy to make control groups

Clear overview of control groups and central controls
Other selection software

VRV Pro
Enables VRV air conditioning systems to be engineered in a precise and economical way, taking into account the complex piping rules. Moreover, it ensures optimum operating cycles and maximum energy efficiency.
› Accurate heat load calculation
› Precise selection based on peak loads
› Energy consumption indication

Ventilation Xpress
Selection tool for ventilation devices (VAM, VKM). The selection is based on given supply/extract airflows (including fresh up and given ESP of supply/extract ducting):
› Determines size of electrical heaters
› Visualisation of psychrometric chart
› Visualisation of selected configuration
› Required field settings mentioned in the report

Webbased ASTRA selection for air handling units
A powerful tool to select the right Air Handling Units for your needs.
› 3D interface
› Quick selection procedures
› New print-out possibilities and report shapes

WAGO selection tool
The WAGO Selection Tool is specifically designed to select the optimal WAGO I/O system for your needs.
› Easy selection of WAGO materials
› Material list creation
› Time saving
  • Includes wiring schemes
  • Contains commissioning/preset data for
Plugins and third-party software tools

Building Information Modelling (BIM) support

› BIM improves efficiency of design and build phase
› Daikin is among the first to supply a full library of BIM objects for its VRV products

VRV CAD 2D

› Displays VRV pipe design on a Autocad 2D floorplan
› Improves project management
› Accurately calculates the pipe dimensions and refnets
› Determines the outdoor unit size
› Validates VRV pipe rules
› Accounts for the extra refrigerant charge, including a max room concentration check

Energy simulation and design aid tools

Seasonal simulator

› The Seasonal Simulator is an innovative software tool that calculates and compares potential seasonal efficiency ratings.
› This user-friendly tool compares various Daikin systems, annual power consumption, CO2 emissions, and much more, to present an accurate ROI calculation in a matter of minutes.

Psychrometrics diagram  NEW

› The Psychrometrics Diagram Viewer demonstrates the changing properties of moist air.
› With this tool, users can choose two points with specific conditions, plot them on the diagram and select actions to change the conditions, i.e. heat, cool and mix air.
Service tools

Error code app

Quickly know the meaning of fault codes, for each product family and the potential cause

D-Checker

D-checker is a software application used to record and monitor operation data of Daikin applied, split, Multi-split, Sky-air units, Daikin Altherma LT, ground source heat pump, Hybrid, ZEAS, Conveni-pack & R410A Booster unit

Bluetooth adaptor  NEW

Monitoring of Split, Sky Air and VRV data via any bluetooth device
• No need to access the outdoor unit
• Connects with D-Checker software (for laptops)
• Connects with monitoring app (for tablets or smartphones)

VRV Service-Checker

• Connected via F1/F2 bus to check multiple systems at the same time
• Connection of external pressure sensors possible

Online support

NEW Business portal
› Experience our new extranet that thinks with you at my.daikin.eu
› Find information in seconds via a powerful search
› Customise the options so you see only info relevant for you
› Access via mobile device or desktop

my.daikin.eu

Internet

Find our solution for different applications:

Find more commercial details on our flagship products via our dedicated minisites

See our references

www.daikineurope.com/references
New pre-sized fresh air solution

Select your AHU like any other VRV indoor

- Easy selection
- Fast quotation
- Easy ordering
- Easy installation

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