



VRV® THE TOTAL SOLUTION
INTEGRATED CLIMATE CONTROL

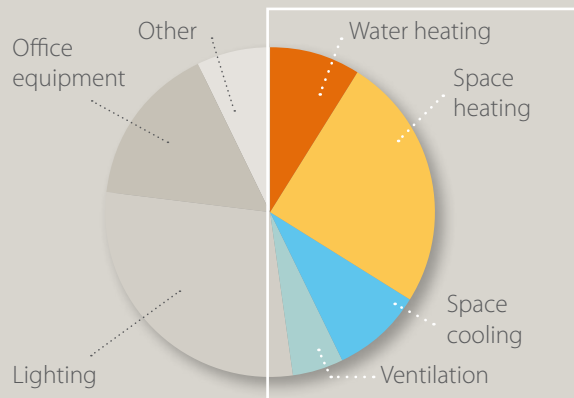
Total Solution Concept

The Daikin VRV® Total Solution provides a single point of contact for the design and maintenance of your integrated climate control system. Our modular units enable you to select the right mix of equipment and technology to ensure that you achieve the optimal balance of temperature, humidity and air freshness for the perfect comfort zone with maximum energy efficiency and cost effectiveness.

DID YOU KNOW THAT...

our VRV® solution can be used to control up to 50% of an office building's energy consumption, giving you control over energy costs and the building's environmental impact.

Total energy consumption for an office building



Source: EIA; 1995, Commercial buildings Energy consumption survey



Heating and cooling



Wide range of indoor units that fit rooms of any size and shape

- > Perfect comfort
- > Whisper-quiet operation
- > Stylish design
- > Concealed installation possible

+
SAVE UP TO 15%
COMPARED
TO TRADITIONAL
SYSTEMS

User friendly control systems



Full control for maximum efficiency

- > From individual control to the management of multiple buildings
- > User friendly touch screen control
- > Remote control & monitoring via internet

VRV® Outdoor Units

Integrated heat pump solution

- › Solution for every climate from -25°C to +50°C
- › Flexible to fit any building
- › Top efficiencies to ensure low running costs and CO₂ emissions



Air separation through air curtains

A highly efficient solution to doorway climate separation

- › Most efficient open-door solution
- › Year-round comfort, even on the most demanding days
- › Free air curtain heating possible

+
SAVE UP TO 72%
COMPARED TO
AN ELECTRIC AIR
CURTAIN



Ventilation

Create a high-quality indoor environment

- › Heat is reclaimed between out and indoor air
- › Free cooling possible
- › Optimum control of humidity
- › For one room or your entire building

+
SAVE UP TO 40%
THANKS TO
LOWER COOLING
AND HEATING
REQUIREMENTS



Hot water

Use heat pump technology to produce hot water

- › Free hot water production possible
- › Possibility to connect to solar panels
- › Possible applications: bathrooms, sinks, under floor heating and radiators
- › Hot water up to 80°C

+
SAVE UP TO 17%
COMPARED
TO A GAS BOILER



Possible Shop Solution

To view the full VRV® product range, refer to www.daikin.eu or your local sales representative



DID YOU KNOW THAT...

... if your system has just 10% less refrigerant optimal, the power consumption to maintain capacity can rise by 40%. Therefore we have developed our automatic refrigerant charging function & refrigerant containment check to ensure the optimal capacity and efficiency through the life time of the system.



VRV® heat pump

- › Energy saving inverter heat pump technology, COP up to 4.5
- › Control each indoor unit individually
- › Flexible to fit any building:
 - › indoor installation, useful in city centres
 - › outdoor installation, maximise floor space



Round flow cassette with auto cleaning panel

- › Lower maintenance cost (filter cleaning can be done with a vacuum cleaner)
- › Up to 10% energy savings compared to yearly cleaning
- › Perfect comfort: 360° air discharge
- › Unique by Daikin



User-friendly control

- › Easy to use, menu based control
- › Contemporary design
- › Schedule timer increases comfort and energy efficiency
- › Supports multiple languages



Biddle air curtain

Highly efficient solutions to combat the issue of climate separation across your doorway

- › Most efficient open-door solution giving substantial energy savings of up to 72% and a payback period of only 1.5 years compared to electric air curtains
- › Year-round comfort ensured by the constant discharge velocity and unique adjustable jet air-flow width (European patent)



Possible Office Solution

DID YOU KNOW THAT...

... it is possible to power your VRV® system via photovoltaic cells and have a zero emission building?

To view the full VRV® product range, refer to www.daikin.eu or your local sales representative



VRV® Heat recovery

- › Provide free heating by transferring heat from areas requiring cooling to areas requiring heating or hot water
- › Perfect comfort:
simultaneous heating and cooling possible
- › Control each indoor unit individually
- › Flexible to fit any building:
 - › indoor installation, useful in city centres
 - › outdoor installation, maximise usable floor space



Central control

- › Easy to use touch screen
- › Detailed and easy monitoring and control for up to 128 indoor units
- › Monitoring and control of multiple buildings, via the web
- › Many energy saving functions such as scheduled shut down of the system in the evening, connection to movement sensors, holiday schedules, and so on
- › Easy management of electrical consumption and division of running costs among multiple tenants

Cassette

- › Perfect comfort: sound level down to 25 dBA = sound of rustling leaves.
- › Fits flush into 60x60 ceiling modules thus lowering installation costs



+
**MOST SILENT
 CASSETTE ON
 THE MARKET**



Fresh air

- › Connect VRV® energy-saving inverter technology to air handling units to heat up or cool down fresh air efficiently
- › Combining ventilation and air conditioning in one system
- › Ideal for medium to large buildings

Technical cooling

- › Cooling of server rooms and other technical areas down to as low as -20°C outdoor temperature
- › Year-round technical cooling ensures year-round free heating of your hot water



Hot water

- › Use heat pump technology to produce hot water
- › Free production of hot water possible by transferring heat from areas requiring cooling.
- › Possibility to connect solar panels
- › Possible applications: sinks, under floor heating and radiators

Possible Hotel Solution

To view the full VRV® product range, refer to www.daikin.eu or your local sales representative



DID YOU KNOW THAT...

You can also connect a VRV® system to a geothermal water ring. As the temperature at 10m under the ground is almost constant all year round this ensures high efficiencies even in extreme weather conditions.



VRV® heat recovery

- › Provide free heating by transferring heat from areas requiring cooling to areas requiring heating or hot water
- › Perfect comfort: simultaneous heating and cooling of different areas is possible
- › Control each indoor unit individually
- › Flexible to fit any building:
 - › indoor installation, useful in city centres
 - › outdoor installation, maximise usable floor space



Concealed unit

- › Especially developed for small, well-insulated rooms such as hotel bedrooms
- › Perfect comfort: very low sound level ensuring a good night's rest
- › Blends unobtrusively with any interior décor
- › Maximises usable space: very compact dimensions to reduce the ceiling void to a minimum



Central control

- › Full control and management of VRV® systems with up to 1,024 indoor units
- › Simple visual navigation and extensive graphical reporting
- › Full control of all the air conditioning system's functions and the basic building functions such as fire alarm etc. to optimize energy efficiency, comfort and safety
- › Monitoring and control of multiple buildings via the web



Simple hotel remote control

- › Easy to use for hotel guests
- › Meets all the guests' needs because every room is individually controlled
- › Automatically integrated in Daikin network solutions



Hot water

- › Use heat pump technology to produce hot water
- › Free production of hot water possible by transferring heat from areas requiring cooling.
- › Possible applications: bathrooms, under floor heating and radiators
- › Hot water up to 80°C

Possible Residential Solution



DID YOU KNOW THAT...

when you opt for a Daikin air conditioner, you are also thinking of the environment?

When we produce your air conditioner, we do our utmost to recycle, reduce waste and use renewable energy.

To view the full VRV® product range, refer to www.daikin.eu or your local sales representative



Mini VRV®, Heat pump

- › Cost effective, low energy consumption heating system
- › Lower CO₂ emissions compared to traditional heating systems
- › Up to 9 indoor units
- › Compact design
- › Low outdoor unit sound



Stylish indoor units

- > Remarkable blend of iconic design and functionality
- > Combines the feel of a radiator with the comfort and energy efficiency of a heat pump
- > Air purification filter
- > Perfect comfort: Whisper-quiet at around 19 dBA
- > Cools your house in summer



This picture is preliminary

+ UNIQUE:
COMBINES
THE FEEL OF A
RADIATOR...

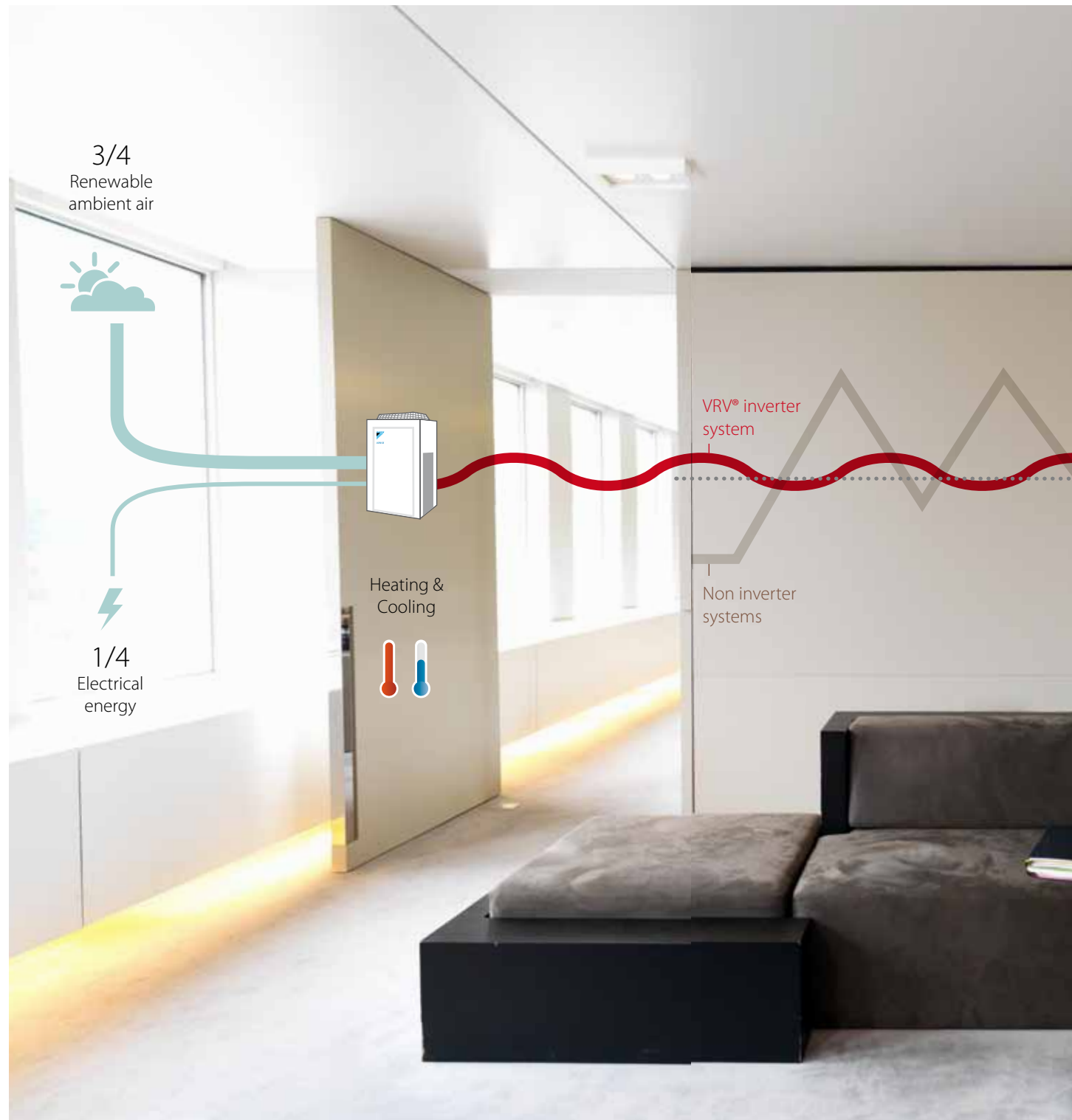


reddot design award
honourable mention 2010

The VRV® Total Solution Innovation in action

Our heat pump technology is highly energy efficient as it uses renewable energy from the outdoor air to drive the heating process, without the need for a secondary heating system. This technology delivers high output for low input, leading to a direct saving in CO₂ emissions and running costs.

The Daikin VRV® uses advanced heat recovery technology to extract heat from cooled areas and then reuses it to warm other areas or create hot water, thus enabling it to heat and cool different parts of the building at the same time.

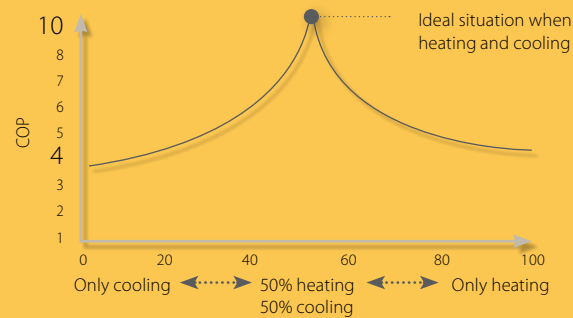




.....> Desired room temperature

DID YOU KNOW THAT...

... the Daikin VRV® system regularly delivers a Coefficient of Performance (COP) of 4 or more, meaning that it produces four units of heat energy for every one unit of electrical energy used. However, when operating in heat recovery mode, the COP can be as high as 10, making the Daikin VRV® system the most advanced of its kind.



Coefficient of performance of a Daikin VRV® heat recovery system

Personal comfort

When viewed from the perspective of the occupants of a building, it is the **comfort** level provided by the climate control system that is the most important and so:

- › the temperature has to be right
- › there has to be enough fresh air entering the area
- › the humidity level needs to be correct
- › the sound level has to be acceptable

Our integrated system addresses all of these requirements and provides individual control where possible.

Special attention has been paid to minimising the sound levels of the system. The sound levels of our indoor units can be as low as 19 dBA, while the sound emitted by our outdoor units can be lowered during noise-sensitive times such as night.

Flexible response for Optimal conditions

Our modular system allows for a high level of flexibility and we have the equipment to meet all climate control situations: from heating when the outside temperatures are as low as -25°C to ultimate cooling when it is +50°C.

Our outside equipment can be either placed on the roof to maximise interior space utilisation or inside. While, our extremely wide range of indoor units allows us to select the best possible solution no matter what the size of room or its shape. Our specially designed indoor units, ventilation units and the Biddle air curtains can be visible and form part of the décor or they can be almost invisible, depending on the needs of the users – whatever you need, our solutions are flexible enough to provide an optimal result.



Quality is something we take very seriously indeed. As a result of our ISO9001 certified production processes and the testing in our own specialised testing facilities, we know that we are supplying equipment that meets the most exacting standards for manufacture and reliability.

All this is backed up by our renowned support and **maintenance service**, which has the widest after-sales service network in the industry.

Daikin prides itself on being a reliable partner for your business and in offering a truly **trouble-free total climate control solution**.

DID YOU KNOW THAT...

Daikin provides an 'active' type of predictive maintenance service system that utilises information gained through the remote monitoring of your system, thus allowing for a service engineer to attend to problems before they impact the performance of the system. This 24/7 service ensures optimal efficiency and reliability during the life-time of the system.

Daikin is the market leader for innovation in climate control technology

With more than 85 years experience in air conditioning and 50 years in heat pumps, Daikin's passion for innovation led it to invent and then develop the variable refrigerant flow concept (the Daikin VRV® system) more than a quarter of a century ago and we are now the leading exponents of this type of integrated climate control.

Daikin, in its role as a responsible market leader, continuously seeks to improve the energy efficiency and environmental friendliness of its products and to develop new ones: for example, a VRF system based on CO₂, an environmentally friendly refrigerant.





Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory. Multi units are Eurovent certified for combinations up to 2 indoor units.



FSC

ECPEN11-208

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