

technical data

VRV[®] II Systems

RXYSQ-M7V3B

Main features

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RXYSQ4-6M7V3B

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1 Features

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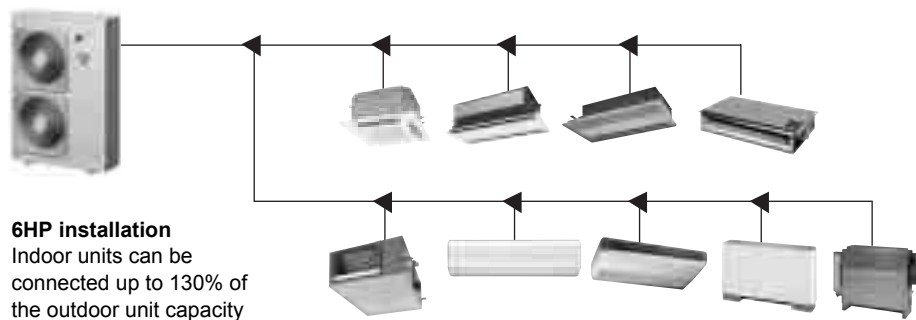
VRVII-S:

- Space saving
- Small capacity
- Slim design
- Silent operation
- Super wide range of indoor units

1 - 1 Flexible design & easy installation

① Up to 9 indoor units can be connected of a single outdoor unit

- 9 indoor units for a 6HP installation
- 8 indoor units for a 5HP installation
- 6 indoor units for a 4HP installation



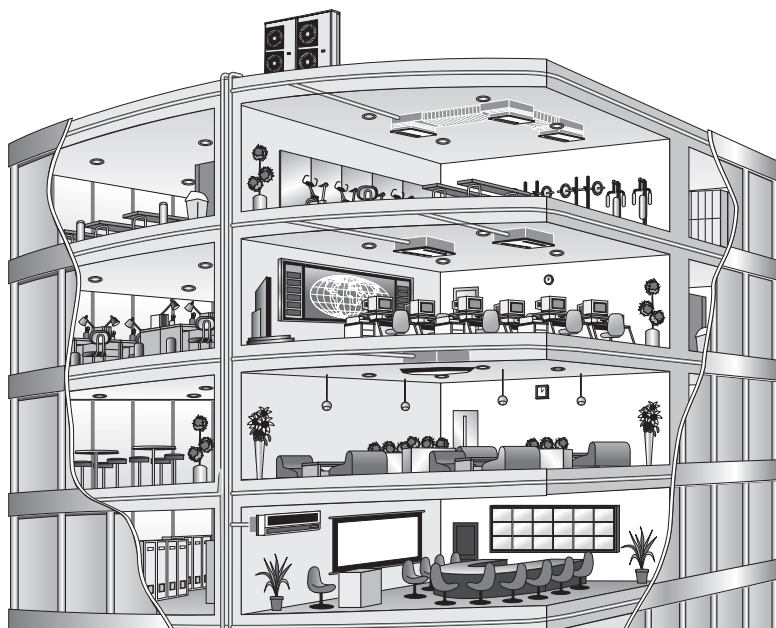
② Flexible piping design

The VRVII-S provides the long piping length possibility of 150m (175m equivalent piping length), with a total piping length of 300m. If the outdoor unit is installed above the indoor units, the height difference can be up to a maximum of 50m^{1/2}.

These generous allowances facilitate an extensive variety of system designs.

NOTES

- 1 40 m when the outdoor unit is installed below indoor units.
- 2 Maximum piping length between the indoor unit and the first branch is 40 m.



1 Features

1 - 1 Flexible design & easy installation

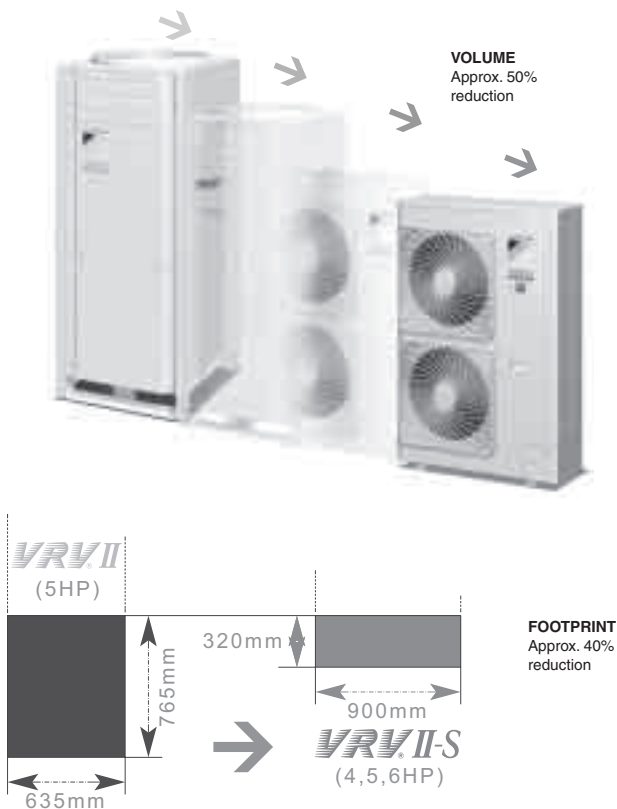
③ Super wide range of indoor units

Whatever the air conditioning requirement, a Daikin indoor unit can provide the solution. The VRVII-S can be combined with 12 different indoor units in a total of 70 variations.

Indoor units		20	25	32	40	50	63	80	100	125
600x600 4-way blow ceiling mounted cassette	FXZQ	x	x	x	x	x				
4-way blow ceiling mounted cassette	FXFQ	x	x	x	x	x	x	x	x	x
2-way blow ceiling mounted cassette	FXCQ	x	x	x	x	x	x	x		x
Ceiling mounted corner cassette	FXKQ		x	x	x		x			
Small concealed ceiling unit	FXDQ-M	x	x							
Slim concealed ceiling unit	FXDQ-N	x	x	x	x	x	x			
Concealed ceiling unit	FXSQ	x	x	x	x	x	x	x	x	x
Large concealed ceiling unit	FXMQ				x	x	x	x	x	x
Wall mounted unit	FXAQ	x	x	x	x	x	x			
Ceiling suspended unit	FXHQ			x			x		x	
Floor standing unit	FXLQ	x	x	x	x	x	x			
Concealed floor standing	FXNQ	x	x	x	x	x	x			

④ Space saving design

The VRVII-S is slimmer and more compact, resulting in significant savings in installation space.



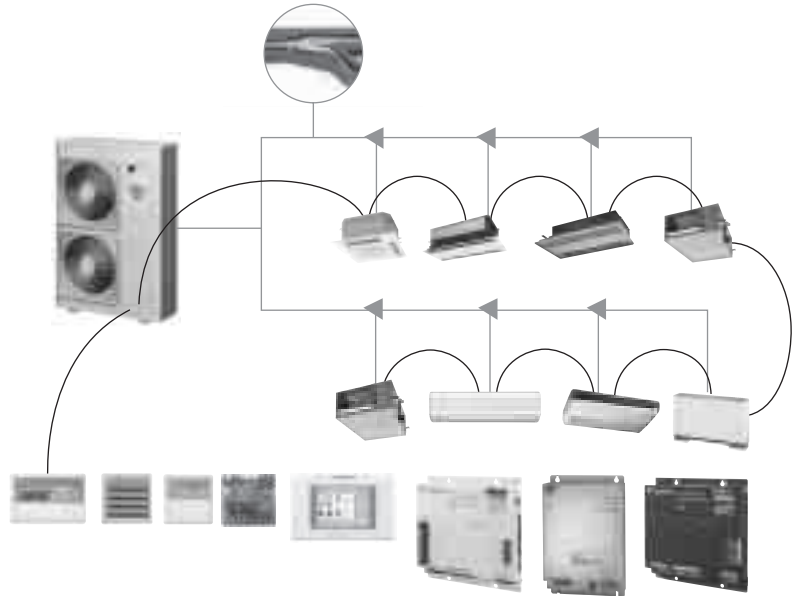
⑤ Simple wiring and piping connection

— SIMPLE WIRING

- Super Wiring allows the shared use of wiring between indoor units, outdoor units and the centralised remote controls.
- 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.
- The use of non polarity wiring, makes incorrect connection impossible and reduces installation time.

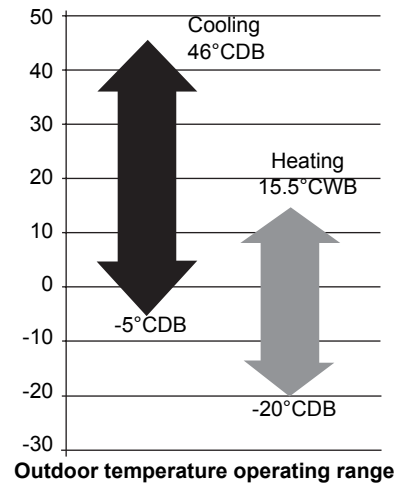
— PIPING CONNECTION

- The unified Daikin REFNET piping system is specially designed for simple installation
- REFNET joints and headers (both accessories) can cut down on installation work and increase system reliability



⑥ Wide operation range

The VRVII-S system can be installed practically anywhere. The incorporation of a high pressure “dome” type compressor results in a remarkable outdoor operating temperature range from as low as -20°C in heating mode to as high as 46°C in cooling mode.



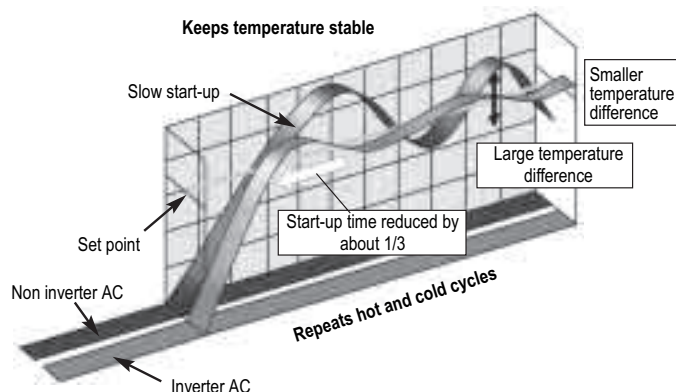
1 Features

1 - 2 Energy efficient solution and quiet operation

① Inverter control

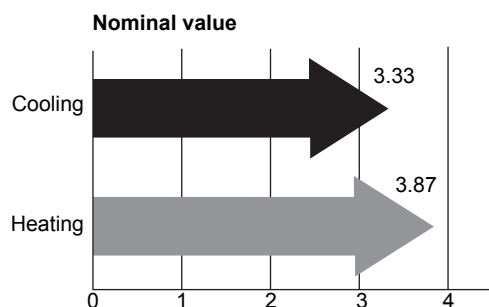
The application of inverter control saves energy for two basic reasons:

- 1 It enables compressor speed to vary according to the cooling/heating load and therefore consume only the power necessary to match that load. The 50 Hz frequency of the power supply is inverted to a higher or lower frequency according to the required capacity to heat or cool the room. If a lower capacity is needed, the frequency is decreased and less energy is used.
- 2 Under partial load conditions, the energy efficiency is higher. If the compressor rotates more slowly because less capacity is needed, the coil becomes virtually oversized. Improved efficiencies can therefore be achieved than are possible with non inverter compressors, which always run at the same speed.



② High COP values

A major feature of VRVII-S is its exceptional energy efficiency, the system achieving high COPs during both cooling and heating operation by the use of refined components and functions.



1 Features

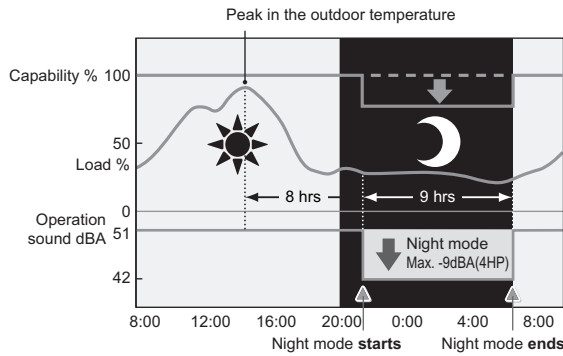
1 - 2 Flexible design & easy installation

③ Super silent operation

Quietness is another important feature. To reduce noise and ensure comfortable operation, the latest technologies and features have been applied to the outdoor units.

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1 Night quiet function (max. - 9dBA)



NOTES

- This function is available for on site setting.
- The relationship between outdoor temperature (load) and time shown in the graph is merely an example

During the night the sound level of the outdoor unit can be reduced for a certain period: starting time and ending time can be input

2 modes¹ with low operating sound level at night:

- **Mode 1** Automatic mode
Set on the outdoor PCB. Time of maximum temperature is memorised. The low operating mode will become active 8 hours² after the peak temperature in the daytime and operation will return to normal after 9 hours³.
- **Mode 2** Customized mode
Starting and ending times can be input. (External control adapter for outdoor unit, DTA104A61 or DTA104A62 and a separately ordered timer are necessary.)

NOTES

- 1 Determine which mode to select depending on the climatic characteristics of each country.
- 2 Initial setting. Can be selected from 6, 8 and 10 hours.
- 3 Initial setting. Can be selected from 8, 9 and 10 hours.

Daikin indoor units operate at sound levels as low as 25 dBA

dB(A)	Perceived loudness	Sound
0	Threshold of hearing	-
20	Extremely soft	Rustling leaves
40	Very soft	Quiet room
60	Moderately loud	Normal conversation
80	Very loud	City traffic noise
100	Extremely loud	Symphonic orchestra
120	Threshold of feeling	Jet taking off



1 Features

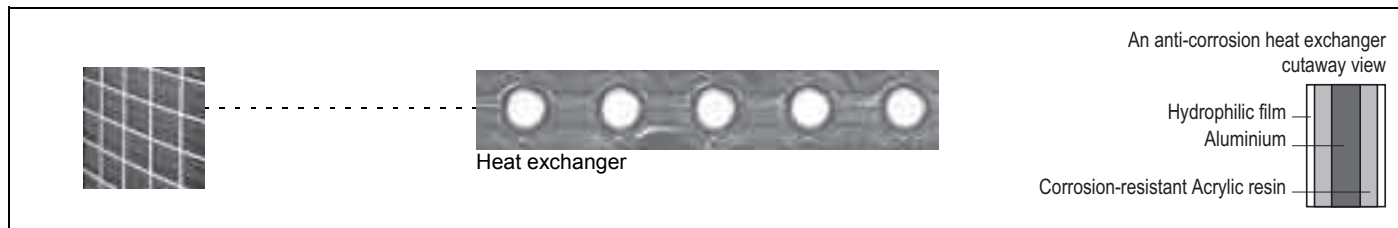
1 - 3 Reliability

① Anti corrosion treatment

Special anti corrosion treatment of the heat exchanger provides 5 to 6 times greater resistance against acid rain and salt corrosion. The use of rust proof steel sheet on the underside of the unit gives additional protection.

Improvement in corrosion resistance

Corrosion resistance rating		
	Non-treated	Anti-corrosion treated
Salt corrosion	1	5 to 6
Acid rain	1	5 to 6



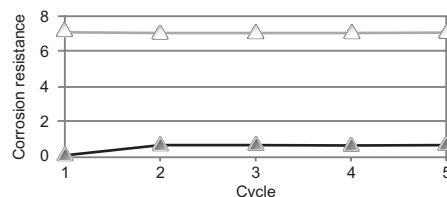
Performed tests:

• VDA Wechselltest

Contents of single cycle (7 days):

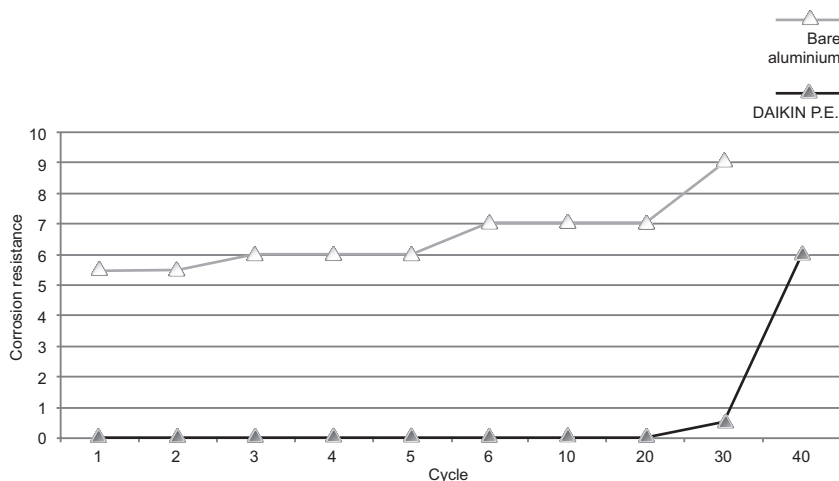
- 24 hours salt spray test SS DIN 50021
- 96 hours humidity cycle test KFW DIN 50017
- 48 hours room temperature & room humidity

Testing period: 5 cycles



• Kesternich test (SO2)

- Contents of single cycle (48 hours) according to DIN50018 (0.21)
- Testing period: 40 cycles



1 Features

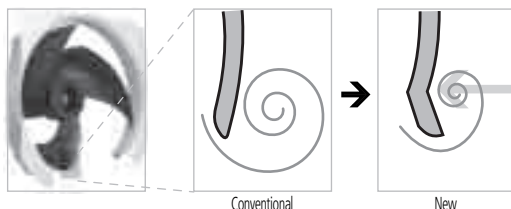
1 - 4 VRV7-S Technology

① Smooth air inlet bell mouth and aero spiral fan

These new features assist in significantly reducing noise. Guides are added to the bell mouth intake to reduce turbulence in the air flow generated by fan suction.

The new aero spiral fan features fan blades with bent blade edges, further reducing turbulence.

New aero spiral fan blade tips

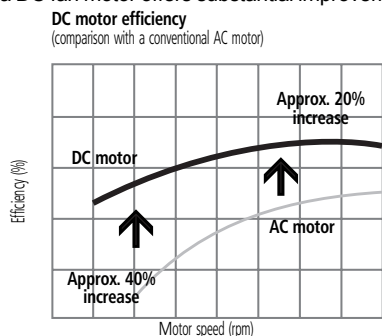


Escaping edges are sucked in by the bent blade edges, reducing overall turbulence.

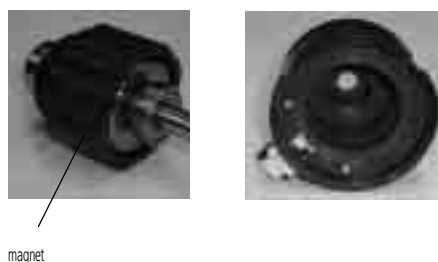


② DC fan motor

The use of a DC fan motor offers substantial improvements in operating efficiency compared to conventional AC motors, especially during low speed rotation.



DC fan motor structure



NOTE

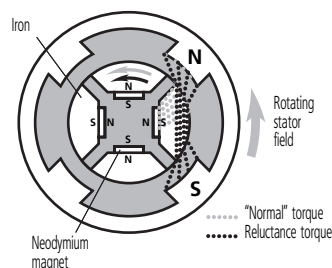
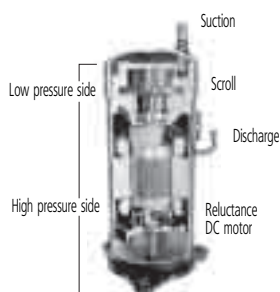
Data are based on studies conducted under controlled conditions at a Daikin laboratory

③ Super aero grille

The spiral shaped ribs are aligned with the direction of discharge flow in order to minimise turbulence and reduce noise.

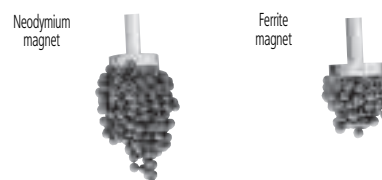
④ Reluctance brushless DC compressor

The reluctance brushless DC motor provides significant increases in efficiency compared to conventional AC inverter motors, simultaneously using two different forms of torque (normal and reluctance torque) to produce extra power from small electric currents.



Powerful magnets

The motor comprises powerful neodymium magnets that create the reluctance torque. These magnets are approximately 12 times stronger than ferrite types and make a major contribution to its energy saving characteristics

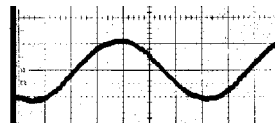


1 Features

1 - 4 VRV7-S Technology

Smooth sine wave DC inverter

Optimizing the sine wave curve results in smoother motor rotation and improved motor efficiency.



Optimal refrigerant configuration

Changes to the shape of the spiral and volume ratio result in optimal refrigerant layout.

Stronger materials

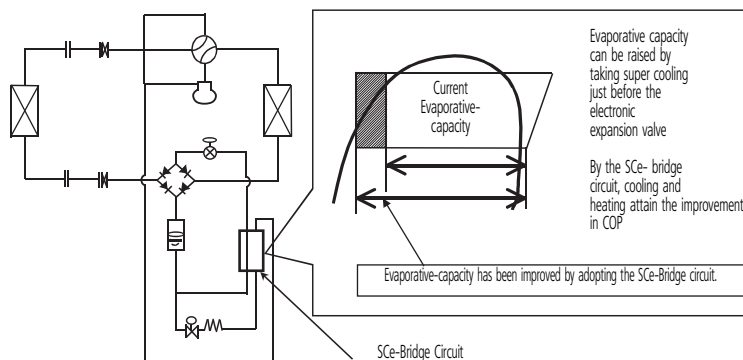
The strength of the casing has been increased by boosting the internal dome pressure.

⑤ e-Bridge circuit

Prevents accumulation of liquid refrigerant in the condenser. This results in more efficient use of the condenser surface under all conditions

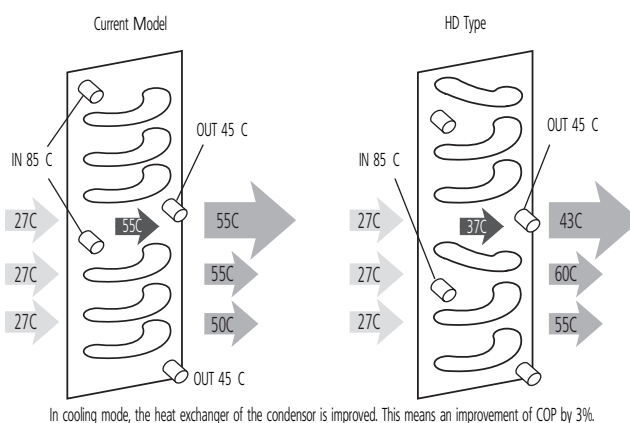
and leads in turn to better energy efficiency. Increased evaporative capacity stems from the newly developed refrigeration circuit, the SCe-bridge

circuit, which adds super cooling prior to the expansion cycle. By adopting this circuit, the COPs in both cooling and heating have been drastically improved.



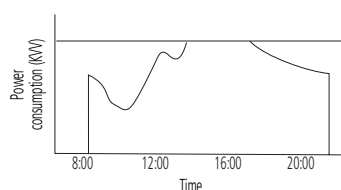
⑥ e-Pass heat exchanger

Optimization of the layout path of the heat exchanger prevents heat transferring from the overheated gas section towards the sub cooled liquid section, a more efficient use of the heat exchanger.



⑦ i-Demand function

The newly introduced current sensor minimizes the difference between actual power consumption and predefined power consumption.



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VRV II
Systems



ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.



Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

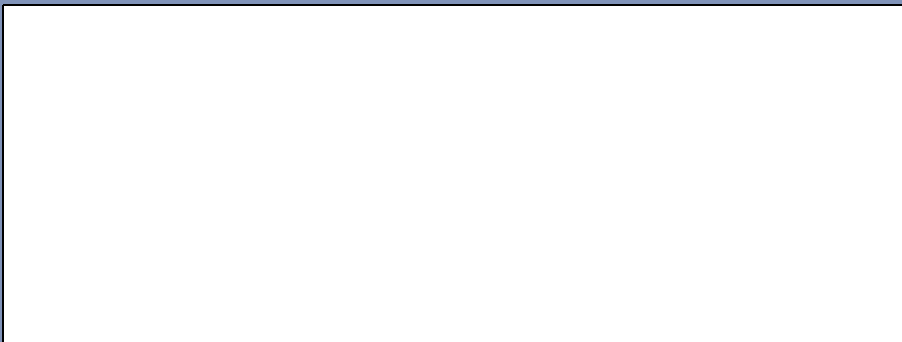


Daikin units comply with the European regulations that guarantee the safety of the product.

VRV products are not within the scope of the Eurovent certification programme.

Daikin equipment is designed for comfort applications. For use in other applications, please contact your local Daikin representative.

Specifications are subject to change without prior notice



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