VRV IV

360° efficiency

VRV IV water cooled

Variable refrigerant temperature

Customise your VRV for best seasonal efficiency and comfort

Thanks to its revolutionary variable refrigerant temperatue technology (VRT), VRV IV continuously adjusts both the inverter compressor speed and the refrigerant temperature, providing the necessary capacity to meet the building load with the highest seasonal efficiency at all times!

- **Seasonal efficiency increased by 28%**
- **The first weather compensating control on the market**
- **Customer comfort is assured thanks to higher outblow temperatures (preventing cold draughts)**

How does it work?

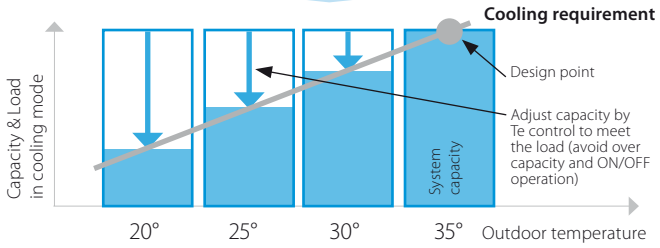
VRF standard
Capacity is controlled only with the variance of the inverter compressor

Daikin VRV IV
Variable Refrigerant Temperature control for energy saving in partial load condition.
The capacity is controlled by the inverter compressor AND variation of the evaporating (Te) and condensing (Tc) temperature of the refrigerant in order to achieve the highest seasonal efficiency.

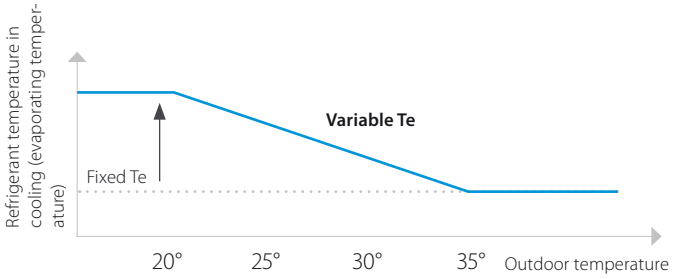
Calculate the benefit of variable refrigerant temperature for your project in our seasonal solutions calculator:

http://extranet.daikineurope.com/en/software/downloads/solutions-seasonal-simulator/default.jsp

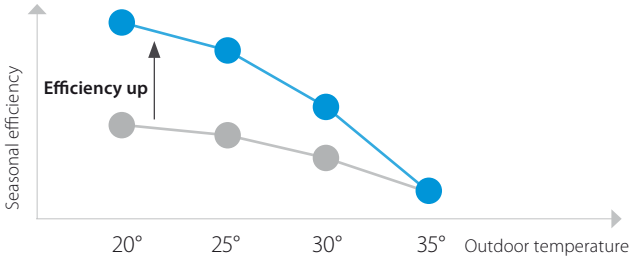
The colder it gets, the lower the load on the building and the lower the capacity need



The lower the capacity need the higher the refrigerant temperature can be



A higher refrigerant temperature results in a higher seasonal efficiency and higher comfort



Success story

Live test: up to 46% less energy consumed

A field trial was carried out at a fashion store chain in Germany and showed that the innovative Daikin VRV IV delivers dramatically better energy efficiency compared with previous models.

The trial results showed that the new VRV IV system consumed up to 60% less energy than the VRV III system, particularly during cooling. Overall energy savings during heating averaged 20%.

How effective is the VRV IV heat pump technology?

The trial demonstrated that by using air, an infinitely renewable and free energy source, the VRV IV system provides a complete and environmentally sustainable solution for heating, cooling and ventilation in commercial applications. The trial also showed that only by monitoring climate control systems carefully and intelligently businesses can identify and control energy waste. This is a service which Daikin also offers.

Different modes to maximise efficiency and comfort

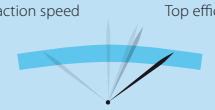
For maximum energy efficiency and customer satisfaction, the outdoor unit needs to adapt the evaporating/condensing temperature at the optimum point for the application.

Check on YouTube

https://www.youtube.com/DaikinEurope

How to set the different modes?

6 patents

Set up the main operation mode of the system	Define how the system reacts to changing loads	
Step 1	**Step 2**	
Automatic* Quick reaction speed — Top efficiency  The perfect balance: Achieves top efficiency throughout the year, reacts quickly on the hottest days	Powerful	Where a quick increase of load is expected such as conference rooms. Quick reaction speed to changing load has priority, with temporarily colder outblow as a result.
	Quick	Same as above but slower response than the powerful mode.
	Mild *	This mode would be suitable for most office applications and it is the factory set mode. The perfect balance: Slower reaction speed with top efficiency
High sensible (User selection) Quick reaction speed — Top efficiency  Year round top efficiency	Powerful	Gives customer choice for fixing coil temperature which avoids cold draughts. A quick reaction speed to changing load has priority, with temporarily colder outblow as a result.
	Quick	Same as above but slower response.
	Mild	The air off temperature remains fairly constant. Suitable for low ceiling rooms.
	Eco	Coil temperature would not change due to fluctuating load. Suitable for computer rooms. Suitable for low ceiling rooms.
Basic Current VRF standard	No submodes	This is how most other VRF systems work and can be used for all general type of applications. Suitable for computer rooms. Suitable for low ceiling rooms.

* Factory setting

	VRV III 20HP (2 modules)	VRV IV 18HP (1 module)
Period	March 2012 - February 2013	March 2013 - February 2014
Avg (kWh/Month)	2.797	1.502
Total (KWh)	33.562	18.023
Total (€)	6.041	3.244
Yearly (operation cost/m² (€/m²)	**9,9**	**5,3**
	46% savings = € 2.797	

Measured data

Fashion store Unterhaching (Germany)

› Floor space: 607m²
› Energy cost: 0,18 €/kWh
› System taken into account for consumption:
- VRV IV heat pump with continuous heating
- Round flow cassettes (without auto cleaning panel)
- VAM for ventilation (2x VAM2000)
- Biddle Air curtain.

VRV IV outdoor unit
products overview

REYQ-T

VRV IV

VRV IV heat recovery

- Fully integrated solution with heat recovery for maximum efficiency with COPs of up to 8!
- Covers all thermal needs of a building via single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains
- 'Free' heating and hot water through heat recovery
- Perfect personal comfort for guests/tenants via simultaneous cooling and heating
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature and continuous heating
- Unique range of single- and multi BS boxes

RYYQ-T

RXYQ-T(9)

VRV IV

VRV IV heat pump

- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains
- Can be connected to stylish indoor units (Daikin Emura, Nexura)
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature and continuous heating

RXYQQ-T

VRV IV Q-series

Replacement VRV IV

- Cost-effective and fast replacement through re-use of existing piping
- Up to 40% more efficient than R-22 systems
- No interuption of daily business while replacing your system
- Replace Daikin and other manufacturers' systems safely
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature

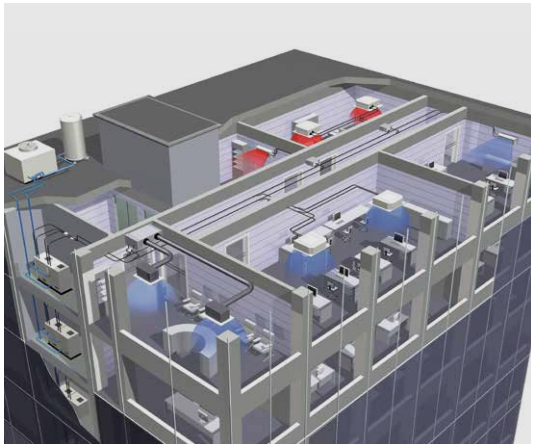
RWEYQ-T

VRV IV W-series

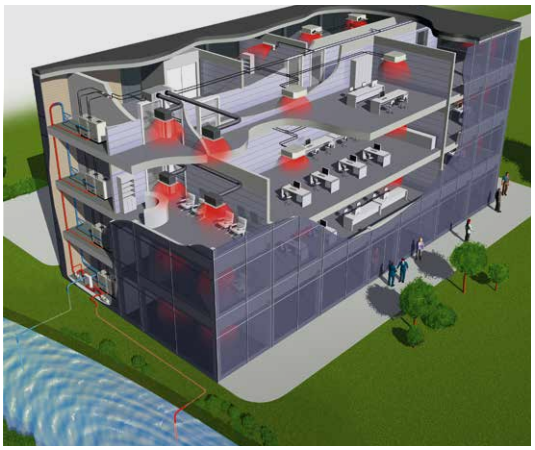
Water cooled VRV IV

- Reduces CO_2 emissions by using geothermal energy as an energy source
- Geothermal mode eliminates need for an external heating or cooling source
- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains
- Compact and lightweight design can be stacked for maximum space saving
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature
- Variable water flow control option increases flexibility and control

VRV IV water cooled series



Standard operation



Geothermal operation

Outdoor unit					RWEYQ	8T	10T	16T	18T	20T	24T	26T	28T	30T
System	Outdoor unit module 1					RWEYQ8T	RWEYQ10T	RWEYQ8T		RWEYQ10T	RWEYQ8T			RWEYQ10T
	Outdoor unit module 2					-		RWEYQ8T	RWEYQ10T		RWEYQ8T		RWEYQ10T	
	Outdoor unit module 3					-					RWEYQ8T	RWEYQ10T		
Capacity range					HP	8	10	16	18	20	24	26	28	30
Cooling capacity	Nom.				kW	22.4	28.0	44.8	50.4	56.0	67.2	72.8	78.4	84.0
Heating capacity	Nom.				kW	25.0	31.5	50.0	56.5	63.0	75.0	81.5	88.0	94.5
Power input - 50Hz	Cooling	Nom.			kW	4.42	6.14	8.8	10.6	12.3	13.3	15.0	16.7	18.4
	Heating	Nom.			kW	4.21	6.00	8.4	10.2	12.0	12.6	14.4	16.2	18.0
EER						5.07	4.56	5.07	4.77	4.56	5.07	4.86	4.69	4.56
COP						5.94	5.25	5.94	5.53	5.25	5.94	5.65	5.43	5.25
Maximum number of connectable indoor units						36								
Indoor index connection	Min.					100	125	200	225	250	300	325	350	375
	Nom.					200	250	400	450	500	600	650	700	750
	Max.					260	325	520	585	650	780	845	910	975
Dimensions	Unit	HeightxWidthxDepth			mm	1,000x780x550		-						
Weight	Unit				kg	137		-						
Fan	Air flow rate	Cooling	Nom.		m^3/min	-								
Sound power level	Cooling	Nom.			dBA	-								
Sound pressure level	Cooling	Nom.			dBA	50	51	53	54		55			56
Operation range	Inlet water temperature	Cooling	Min.~Max.		°CDB	10~45								
		Heating	Min.~Max.		°CWB	-10~45								
Refrigerant	Type / GWP					R-410A/2,087.5								
	Charge				kg/ TCO_2Eq	3.5/7.3	4.2/8.8	-						
Piping connections	Liquid	OD			mm	9.52		12.7	15.9		19.1			
	Gas	OD			mm	19.10 (1)	22.2 (1)	28.6 (1)			34.9 (1)			
	Discharge gas	OD			mm	15.9 (2) / 19.10 (3)	19.1 (2) / 22.10 (3)	22.2 (2) / 28.60 (3)			28.6 (2) / 34.90 (3)			
	Water	Inlet/Outlet				PT1 1/4B internal thread/PT1 1/4B internal thread								
	Total piping length	System	Actual		m	300								
Power supply	Phase/Frequency/Voltage				Hz/V	3N~/50/380-415								
Current - 50Hz	Maximum fuse amps (MFA)				A	20		32			50			

(1) In case of heat pump system, gas pipe is not used (2) In case of heat recovery system (3) In case of heat pump system (4) Not Eurovent certified
Contains fluorinated greenhouse gases

VRV IV Heat Recovery

360° efficiency

installation efficiency

design efficiency

operational efficiency

FAST design + QUICK installation + MORE free heat + MAX comfort

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