Water cooled VRV IV W-series

Variable Refrigerant Temperature

VRV IV standards:

✓ Variable refrigerant temperature

Customize your VRV for best seasonal efficiency & comfort

- ✓ Full inverter compressors
- ✓ Reluctance brushless DC compressor
- ✓ Sine wave DC inverter
- ✓ Manual demand function
- ✓ Geothermal operation

For more information on these features refer to the VRV IV technologies tab

Efficiency not influenced by outdoor conditions

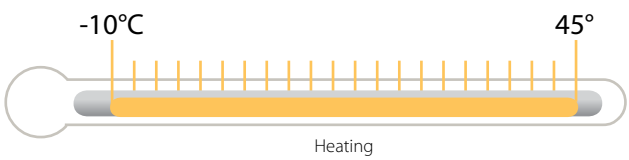
The water cooled VRV unit operates at a superior efficiency, even in the most extreme outdoor temperatures thanks to geothermal operation.

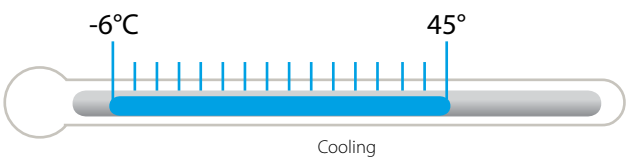
Because the temperature of ground water, lakes and rivers, remains relatively constant the year round, our water-cooled system maintains its superior efficiency, even in the most extreme outdoor temperatures, when the efficiency of air-cooled systems goes down.

Wide operation range

Standard water cooled outdoor units have a wide operation range between 10°C & 45°C inlet water temperature, both in heating and cooling. In geothermal mode the operation range is extended even more, down to -10°C* in heating and 6°C in cooling mode.

* Ethylene glycol should be added to the water when the water inlet temperature is below 5°C





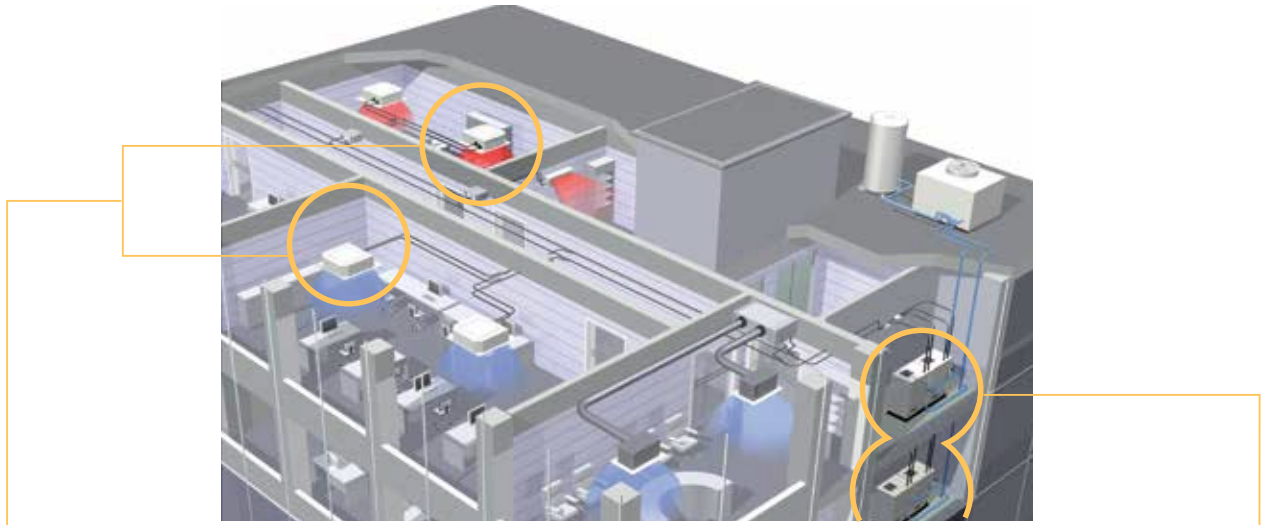
High energy efficiencies results from 2-stage heat recovery

Stage 1: Heat recovery between indoor units in the same refrigerant circuit

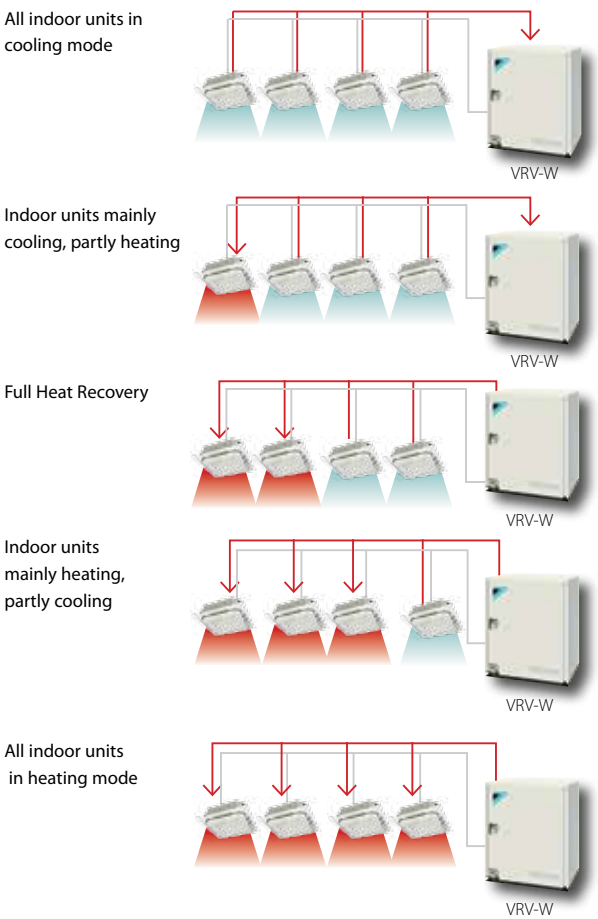
Heat exhausted from indoor units in cooling mode is transferred to units in areas requiring heating, maximising energy efficiency and reducing electricity costs.

Stage 2: Heat recovery between the outdoor units via the water loop - also available on heat pump units!

Second stage heat recovery is achieved within the water loop between the water cooled outdoor units.

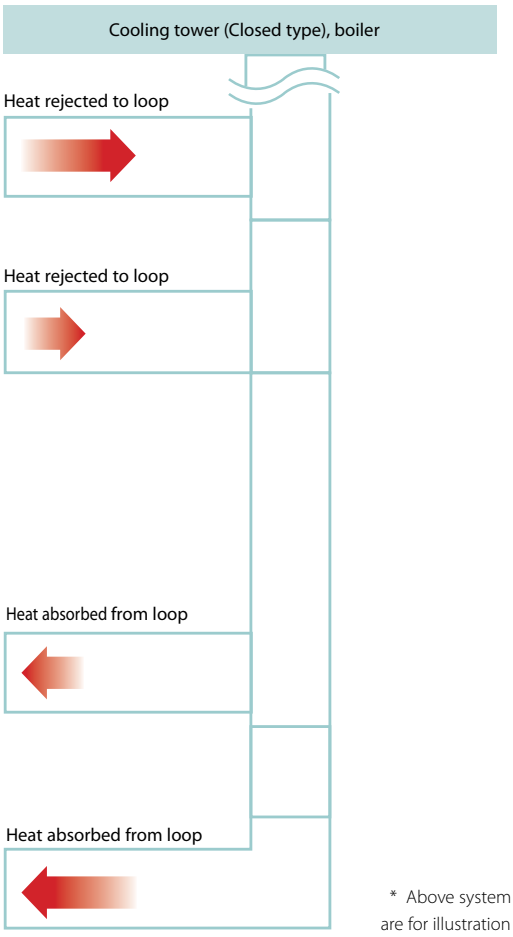


Heat recovery between indoor units



Heat recovery between outdoor units

(Heat recovery and heat pump)

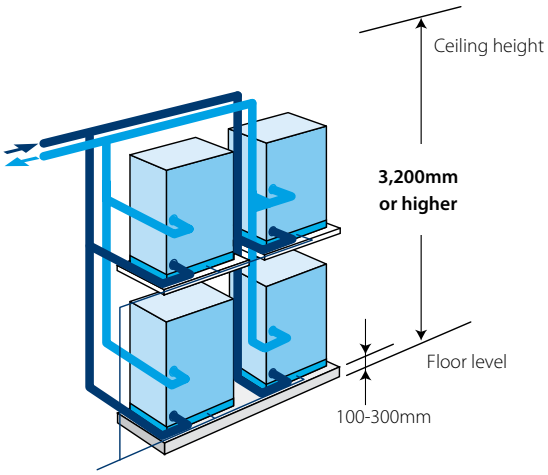


* Above system configurations are for illustration purposes only.

Space saving - Stacked configuration

The adoption of a new water heat exchanger and optimization of the refrigerant control circuit has resulted in the industry's most compact and lightweight design. The unit weight of 149kg* and height of 1,000 mm makes installation easy. Stacked configuration is also possible, contributing further to space savings.

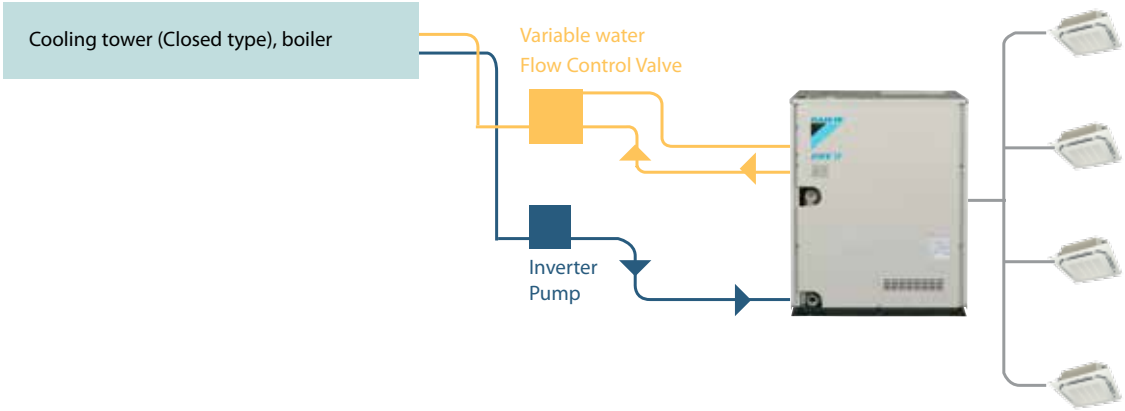
* for 8HP unit



Stacked configuration is possible.

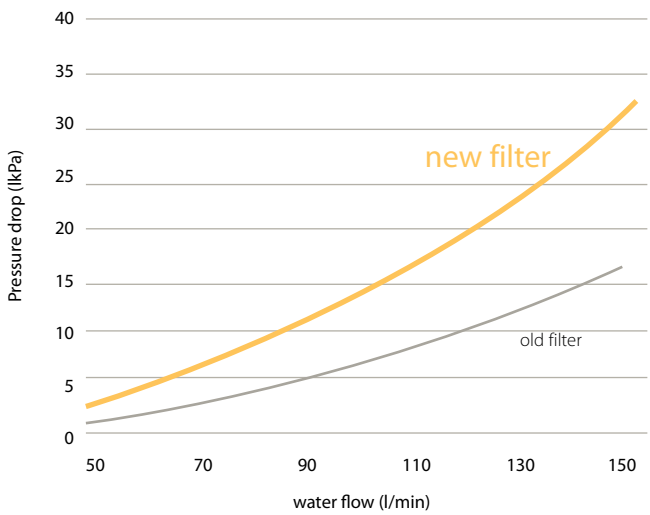
Variable water flow control

The variable water flow control option reduces energy use by the circulation pump by reducing the water flow when possible and not using a fixed water flow all the time.



Standard water strainer

A standard water strainer reduces installation time. The new filter also has less pressure drop at higher water flows.



For Gerard Schröder the choice for this system was an easy one: 'As far as I'm concerned, with the VRV Heat Recovery system, Daikin has the Rolls Royce in heat pump technology. If you want to build a sustainable office building, there really is no other alternative.'

VRV-WIII geothermal system,
Daikin Altherma HT, Sky Air,
aircooled chiller with heat recovery,
iManager, iTouch Manager, ACNSS

Park Phi, Enschede The Netherlands

BREEAM excellent office building

BREEAM new construction 2011, v1.0
Excellent
169-NOP-2010

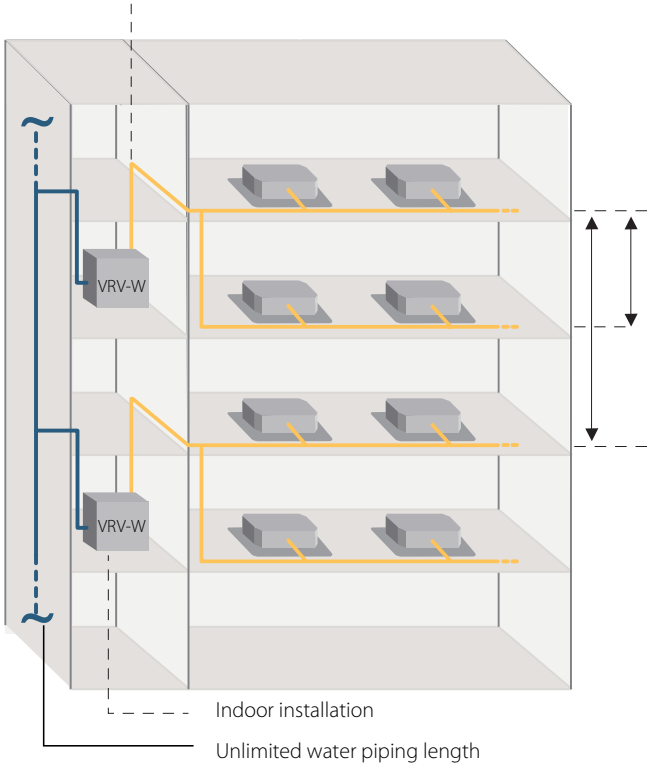
Flexible piping design

Flexible water piping

Water cooled VRV uses water as its heat source, so it is optimal for large buildings, including tall, multi-storey buildings, because the system can tolerate water pressure of up to 1.96 MPa.

Furthermore, if the currently installed heat source's water temperature is between 10°C and 45°C, it may be possible to use the existing water pipe work and heat source. This alone makes it an ideal system solution for building refubishment projects.

Actual piping length between the VRV-W and indoor units: 120m (Equivalent piping length: 140m)



Water piping
Refrigerant piping

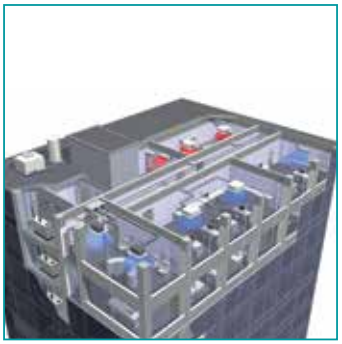
Level difference between indoor units: 15m

Level difference
between the VRV-W
and indoor units:
50m if the VRV-W is above
40m if the VRV-W is below

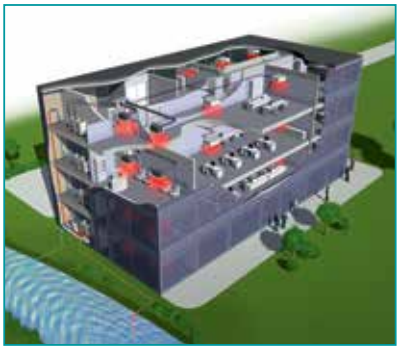
Total piping length	300m
Longest length actual (Equivalent)	120m (140m)
Longest length after first branch	40m (90m[1])
Level difference between indoor and outdoor units	50m (40m[2])
Level difference between indoor units	15m

1 Contact your local dealer for more information and restrictions
2 In case outdoor unit is located below indoor units

Specifications



Standard operation



Geothermal operation

Heat recovery
Heating & Cooling

OUTDOOR UNIT					RWEYQ8T	RWEYQ10T
Capacity range				HP	8	10
Cooling capacity	Capacity			kW	22.4	28.0
	EER				5.07	4.56
	PI			kW	4.42	6.14
Heating capacity	Capacity			kW	25.0	31.5
	EER				5.94	5.25
	PI			kW	4.21	6.00
Power input - 50Hz	Cooling	Nom.		kW	4.42	6.14
	Heating	Nom.		kW	4.21	6.00
EER					5.07	4.56
COP					5.94	5.25
Maximum number of connectable indoor units					36	
Indoor index connection	Min.				100	125
	Nom.				200	250
	Max.				260	325
Dimensions	Unit	HeightxWidthxDepth		mm	1,000x780x550	
Weight	Unit			kg	137	137
Sound power level	Cooling	Nom.		dBA	-	
Sound pressure level	Cooling	Nom.		dBA	50	51
Operation range	Inlet water temperature	Cooling	Min.~Max.	°CDB	10~45	
		Heating	Min.~Max.	°CWB	10~45	
Refrigerant	Type				R-410A	
Piping connections	Liquid	OD		mm	9.52	
	Gas	OD		mm	19.1 (1)	22.2 (1)
	Discharge gas	OD		mm	15.9 (2) / 19.1 (3)	19.1 (2) / 22.2 (3)
	Water	Inlet/Outlet			PT1 1/4B internal thread/PT1 1/4B internal thread	
	Piping length	OU - IU	Max.	m	120	
	Total piping length	System	Actual	m	300	
	Level difference	OU - IU		m	50 (outdoor unit in highest position) / 40 (indoor unit in highest position)	
Power supply	Phase/Frequency/Voltage			Hz/V	3N~/50/380-415	
Current - 50Hz	Maximum fuse amps (MFA)			A	20	

(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

OUTDOOR SYSTEM					RWEYQ16T	RWEYQ18T	RWEYQ20T	RWEYQ24T	RWEYQ26T	RWEYQ28T	RWEYQ30T
System	Outdoor unit module 1				RWEYQ8T	RWEYQ10T		RWEYQ8T	RWEYQ10T		
	Outdoor unit module 2				RWEYQ8T		RWEYQ10T	RWEYQ8T		RWEYQ10T	
	Outdoor unit module 3							RWEYQ8T			RWEYQ10T
Capacity range				HP	16	18	20	24	26	28	30
Cooling capacity	Capacity			kW	44.8	50.4	56.0	672	72.8	78.4	84.0
	EER				5.07	4.77	4.56	5.07	4.86	4.69	4.56
	PI			kW	8.8	10.6	12.3	13.3	15.0	16.7	18.4
Heating capacity	Capacity			kW	50.0	56.5	63.0	75.0	81.5	88.0	94.5
	EER				5.94	5.53	5.25	5.94	5.65	5.43	5.25
	PI			kW	8.4	10.2	12.0	12.6	14.4	16.2	18.0
Power input - 50Hz	Cooling	Nom.		kW	9.10	10.6	12.1	13.7	15.1	16.6	18.1
	Heating	Nom.		kW	8.48	10.3	12.1	12.7	14.5	16.3	18.2
EER					4.92	4.63	4.41	4.91	4.74	4.57	4.43
COP					5.87	5.48	5.21	5.91	5.62	5.40	5.19
Maximum number of connectable indoor units					36						
Sound pressure level	Cooling	Nom.		dBA	53	54		55			56
Piping connections	Liquid	OD		mm	12.7	15.9		19.1			
	Gas	OD		mm	28.6 (1)			34.9 (1)			
	Discharge gas	OD		mm	22.2 (2) / 28.6 (3)	22.2 (2) / 28.6 (3)	22.2 (2) / 28.6 (3)	28.6 (2) / 34.9 (3)	28.6 (2) / 34.9 (3)	28.6 (2) / 34.9 (3)	28.6 (2) / 34.9 (3)
	Piping length	OU - IU	Max.	m	120						
	Total piping length	System	Actual	m	300						
	Level difference	OU - IU		m	50 (outdoor unit in highest position) / 40 (indoor unit in highest position)						
Current - 50Hz	Maximum fuse amps (MFA)			A	32			50			

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