

Exceeding Boundari Innovative Energy Sa



Energy savings

Uniting **VRV**, VRT and VAV technologies

Automatic refrigerant charge function

- Optimised operation efficiency
- •Higher installation quality
- Easier installation

es with vings

system has been embraced proudly introduces nologies of savings and

+VAV

Contents

Background of VRV development			
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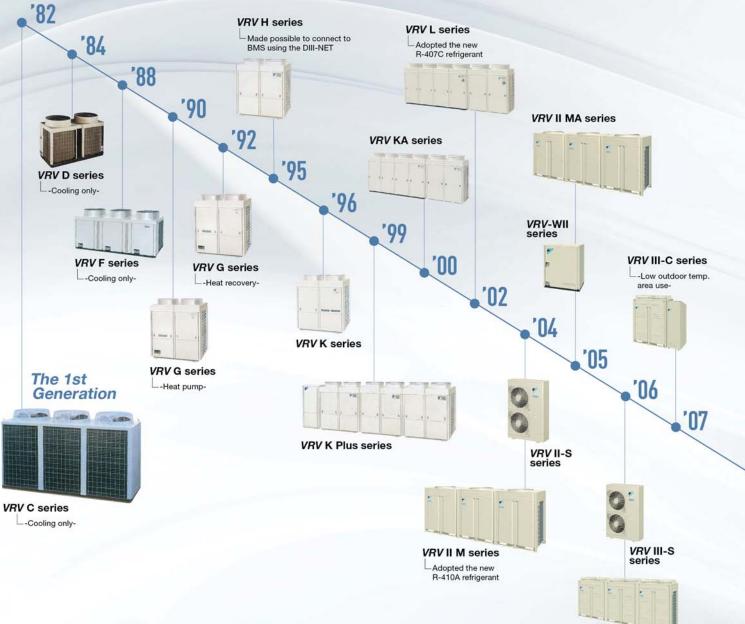
High reliability

- New inverter PC board
- •Double backup operation
- •Refrigerant cooling for PC board

VRV is a trademark of Daikin Industries, Ltd.

Development history

To meet the needs of the times, we've been continuously developing technologies as the leading air conditioning manufacturer in the world.



VRV III series

VRV series released in 1982

<The birth of innovative products that changed the history of air conditioning technology>

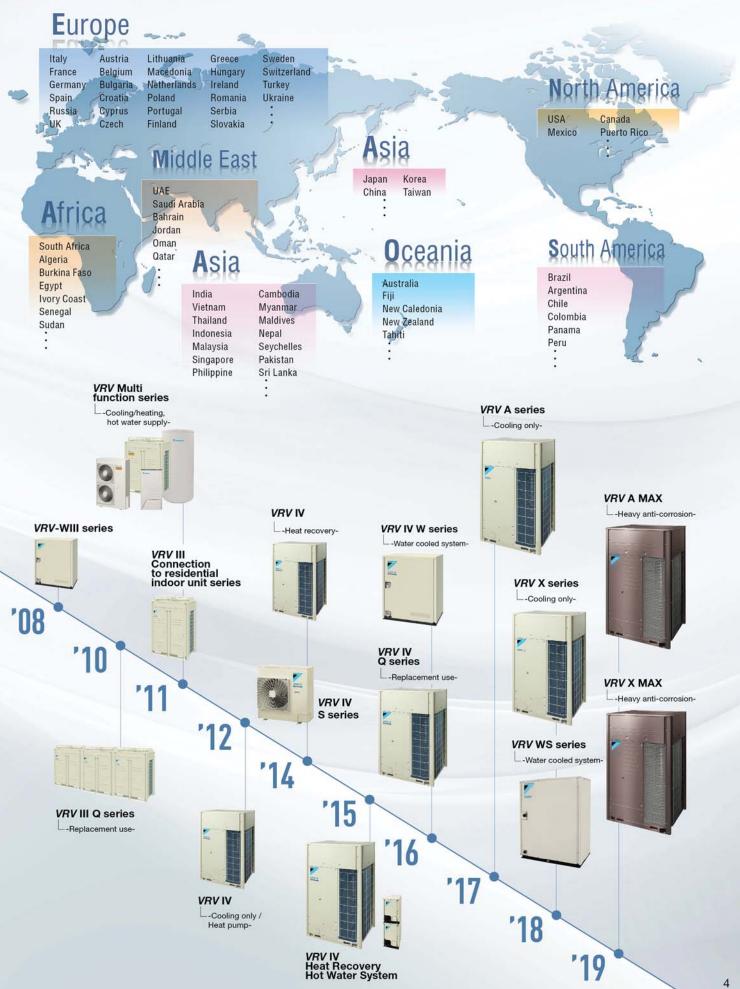
- 2.5-year development term
- Completion of development in May, 1982
- Technical award of Japan Society of Refrigerating & Air-conditioning Engineers in 1983



* VRV is a trademark of Daikin Industries, Ltd.

Expansion of the country of sale

Sales is undergoing in more than 70 countries



VRV User Benefits



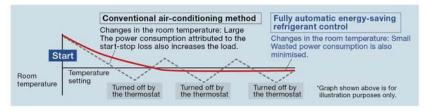
First launched in 1982, the Daikin *VRV* system has been providing comfort and reliability to building owners and their tenants for over 35 years. Leveraging the latest in energy-saving technology, Daikin has further improved energy savings while reducing space requirements. This added value is one reason why Daikin is the right choice for building owners.

Energy saving & comfortable environment

Based on the idea of using only as much space as absolutely required, Daikin first launched its commercial multi-split air conditioning systems in 1982. Since then, customers have benefitted from much increased energy efficiency. Now, our revolutionary new systems dramatically reduce energy with VRT Smart Control. During operating periods, control programs ensure thermal loading is generally low, thus boosting energy efficiency. This greatly reduces the amount of energy required for building air conditioning.

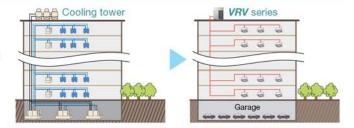
While optimally operating at low load, it maintains a comfortable indoor environment.





Efficient space utilisation

Daikin **VRV** system can be used to develop a large-scale air conditioning system on a single refrigerant system, thus reducing the space required for air conditioning equipment. Because the difference in height between the indoor and the outdoor unit can be as large as 90 m, even with a 20-storey building all of the outdoor units can be placed on the rooftop for more efficient utilisation of space.



High reliability

Double backup operation

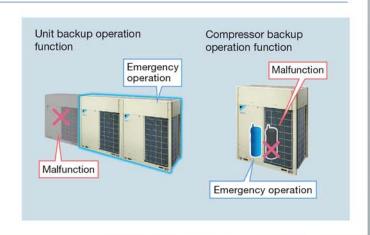
Daikin **VRV** outdoor unit goes beyond just highly reliable compressors with a backup system that ensures continued operation.

Unit backup

Should one outdoor unit in a multiple unit system fail, the other outdoor units switch to emergency operation. If for some reason a failure occurs, the system for that unit does not completely stop, and air conditioning is maintained.

Compressor backup

Since units are equipped with two compressors, even if one compressor fails, the other compressor carries on in emergency mode.





Comfortable environment

While operating optimally at low load, VRT smart operation maintains the indoor temperature and ensures a comfortable environment.



Residential Indoor Units

Because indoor units developed for residential use can be connected, it is possible to realise quiet operation.

You can include indoor units that operate at min.19 dB(A), and to reduce the noise of refrigerant passing through the piping by remotely installing an BP unit.





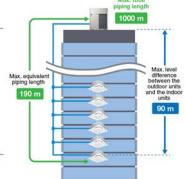
Varied lineup of models

System applications range from family residences to large commercial buildings. With 26 types of indoor unit available, comfortable airflow is ensured in every space.

Long piping provides more flexible system design

Greater design freedom is provided because equivalent piping between indoor and outdoor

unit can run as large as 190 m and reach a maximum height difference of 90 m.



Compatible with engineering software

We at Daikin provide the software, the simulation results, and drawing materials to support the business-information modeling (BIM) currently entering the mainstream in construction industries.

Energy efficient

Daikin's innovative energy-saving technology helps you to achieve your green building solution.







Automatic Refrigerant Charge Function

The automatic refrigerant charge function automates the charging of the proper refrigerant amount and the closing of shut-off valves by simply pressing a switch after pre-charging. Simplified installation eliminates excessive and insufficient refrigerant charge amounts due to calculation mistakes, and this has led to higher installation quality.

Lightweight and compact large-capacity single units

Systems can be configured with single modules providing up to 20 HP. The lightweight and compact bodies are both easy to install and can be transported in elevators.

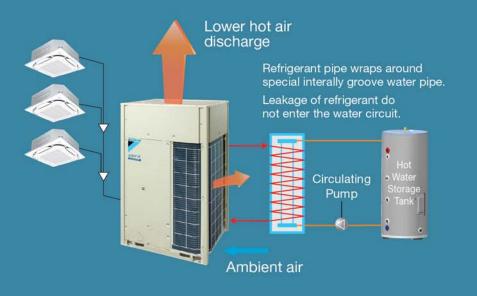
Simple piping, easy wiring

The REFNET piping system and DIII-NET system simplify refrigerant piping and control wiring installation.



IN HEAT RECOVERY HOT WATER SYSTEM

Suitable for

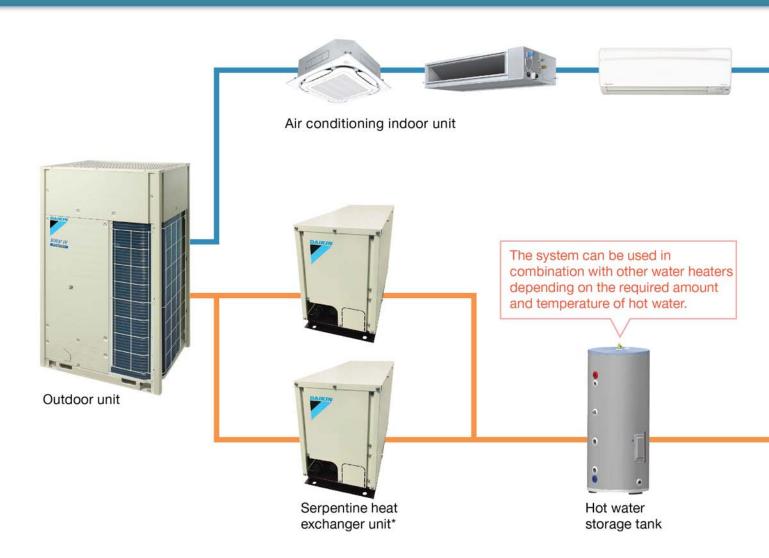




RWHQ-T

Cooling Only

6 HP - 60 HP (16 kW) (168 kW)



different business applications IN HEAT RECOVERY HOT WATER SYSTEM



Flexible combination of VRV IV indoor units achieves comfort and aesthetic



Extremely energy-efficient energy source

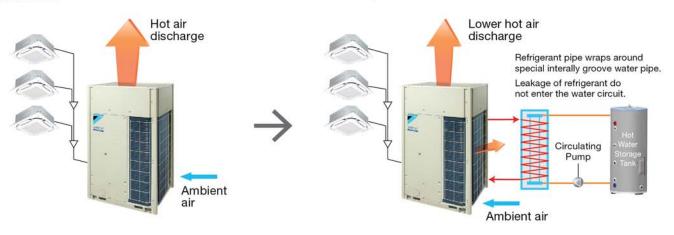


The energy-efficient system recovers waste heat

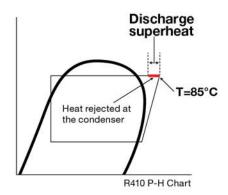
Waste heat from air conditioning (which usually released into the ambience) is recovered to heat water.

In a conventional system, waste heat from air conditioning is released into the ambience.

This system recovers waste heat from air conditioning to heat water.



During the air conditioning operation, the refrigerant is compressed by a compressor into a high-temperature, high-pressure gas. The refrigerant is then fed into the heat exchanger for heat transfer to the circulating water.



Air conditioning combined with hot water supply Compact system

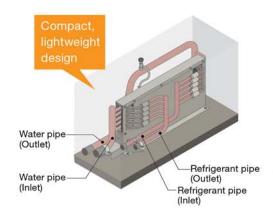
Energy to supply hot water Cost-effective

Hot water temperature Up to 65 °C

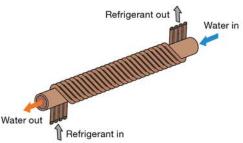
Can be used in combination with other water heaters depending on the required amount and temperature of hot water.



The Serpentine Heat Exchanger Unit recovers heat.



The proprietary Serpentine Heat Exchanger achieves excellent heat exchange efficiency.



The high-temperature, high-pressure refrigerant pipe is coiled around the water pipe.

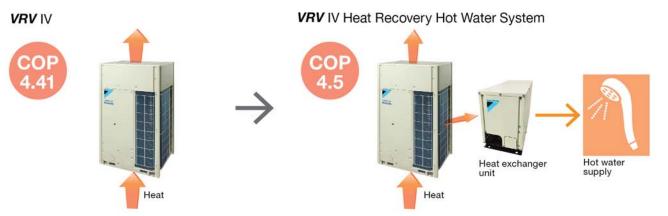


Refrigerant leakage does not contaminate water.

Increased energy efficiency of the outdoor unit

The waste heat from air conditioning is transferred to heat water.

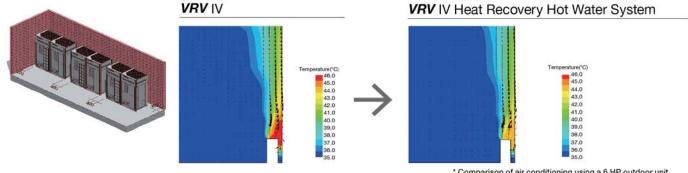
This mechanism reduces the amount of heat processed by the outdoor unit, resulting in better operation efficiency.



* Comparison of air conditioning using a 6 HP outdoor unit

Reducing short circuits

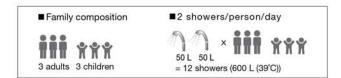
The temperature of exhaust heat from the outdoor unit is lower, minimising in ambient temperature increase. In the event of a short circuit, capacity reduction is minimised.

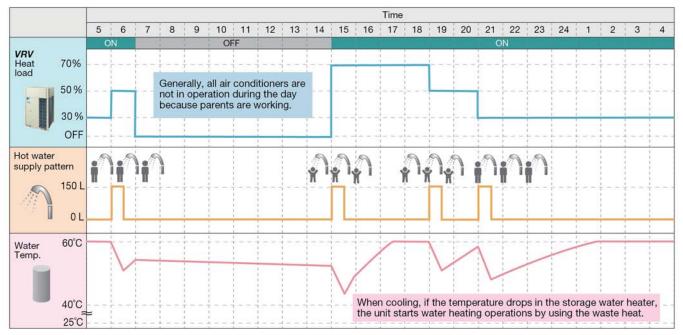


Innovative and reliable system

Example on usage of VRV IV Heat Recovery Hot Water System for residence

In a sample family model of 3 adults and 3 children, the waste heat generated by air conditioning is sufficient to supply hot water for everybody's showers.





Air conditioner load conditions

Operation time: 16 hours/day

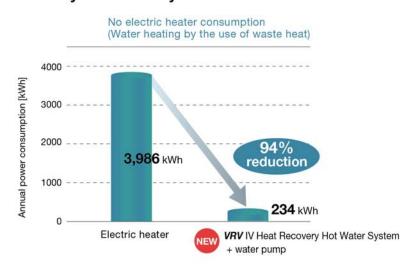
Water-heating load Tank capacity: 200 L

Boiling temperature: 25°C to 60°C (tap water)

Amount of hot water per person per time (standard): 50 L/shower (39°C) (water dispensed: 10 L/min.; shower time: 5 min./shower) Amount of water required in tank to dispense 39°C hot water

Comparison between VRV IV Heat Recovery Hot Water System and electric heater

Because waste heat is used to heat water, annual electricity consumption can be reduced approximately 94% compared with consumption for separate operation of air conditioning and an electric water heater.



VRV IV Heat Recovery Hot Water Controller

Features

Convertible Remote Controller

Main Remote Control & Sub Remote Controller are both convertible and interchangeable.

Anti-Bacteria

By default, this would be activated every Monday morning at 2am, heating storage water up to 60°C for 10 minutes.

Vacation Mode

This disable all other functions, except for anti-bacterial mode.



BRCS82

Auto Restart

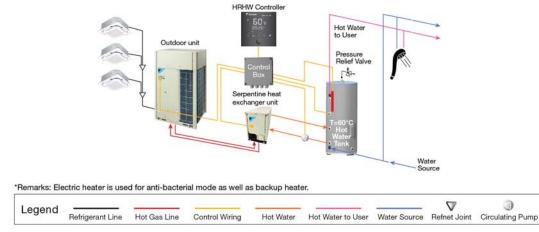
When power supply is restored after a failure, the system would revert to the last operational function.

Safety-Error Code

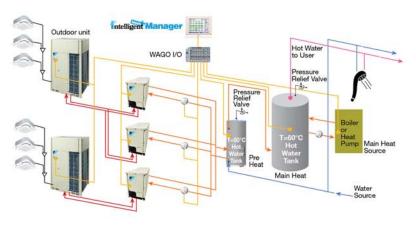
If thermistors or communication line are faulty, as a safety precaution, operation of the electric heater is disabled.

VRV IV Heat Recovery Hot Water System overview

Schematic Diagram For Residential Application



Schematic Diagram For Commercial Application



*Remark: Works as a supplementary heating system to a dedicated boiler or heat pump boiler.



One of the Proposed Commercial Schematic Diagrams

Indoor Unit Lineup

Enhanced range of choices

A mixed of stylish and quiet **VRV** type indoor units and residential type indoor units can be combined into one system.

/RV indoor units															1	lew li	neu
Type	Madel Name	Capacity Range	20 0.8 HP		32	40		63	71	80			140		250		
Туре	Model Name	Capacity Index	20 20		31.25 HP			2.5 HP 62.5	71	80	100	5 HP 125	6 HP	8 HP 200	10 HP 250	16 HP	20 H
Ceiling Mounted Cassette (Round Flow with Sensing)	FXFSQ-AVS			•	•	•	•	•		•	•	•	•				
Ceiling Mounted Cassette (Round Flow)	FXFQ-AVS	8		•	•	•	•	•		•	•	•	•				
Ceiling Mounted Cassette (Compact Multi Flow)	FXZQ-MVES	=	•	•													
4-Way Flow Ceiling Suspended	FXUQ-AVEB								•		•						
Ceiling Mounted Cassette (Double Flow)	FXCQ-AVMS		•	•													
Ceiling Mounted Cassette (Single Flow)	FXEQ-AV36		•	•	•	•	•	•									
Slim Ceiling Mounted Duct (3D Airflow with Sensing)	FXDSQ-AVM		•		•		•	•									
	FXDQ-PDV2S (with drain pump)		•	•	•												
Slim Ceiling Mounted Duct	FXDQ-PDVTS (without drain pump)	(700mm width type)	•	•	•												
(Standard Series)	FXDQ-NDV2S (with drain pump)						•	•									
	FXDQ-NDVTS (without drain pump)	(900 / 1,100mm width type)				•	•	•									
Slim Ceiling Mounted Duct Compact Series)	FXDQ-SPV1		•		•			•									
Middle Static Pressure Ceiling Mounted Duct	FXSQ-PAVS		•	•	•		•	•		•	•	•	•				
	FXMQ-PAVS		•														
Ceiling Mounted Duct	FXMQ-MVES																
	FXMQ-PVM																
Outdoor-Air Processing Unit	FXMQ-MFV1											•		•			
	FXHQ-MAVS	-			•						•						
Ceiling Suspended	FXHQ-AVMS											•	•				
Wall Mounted	FXAQ-AVMS	155	•			•											
Floor Standing	FXLQ-MAVE		•		•												
Concealed Floor Standing	FXNQ-MAVE		•	•	•		•										
	FXVQ-NY1													•		•	
Floor Standing Duct	FXVQ-NY16 (high static pressure type)																
	FXBQ-PVE					•											
Clean Room Air Conditioner	FXBPQ-PVE							•									
Heat Reclaim Ventilator with DX-Coil	VKM-GAV1		Airt	flow	rate	500-	1000	m³/h									
Heat Reclaim Ventilator	VAM-GJVE	00	Airt	low	rate	150-2	2000	m³/h									
Air Handling Unit	AHUR														6–120	HP	

Residential indoor units with connection to BP units

			09	12	18		28
Type	Model Name	Rated Capacity (kW)	2.5	3.5	5.0	6.0	
		Capacity Index	25	35	50	60	71
Slim Ceiling	FDKS-EAVMS	(700 mm width type)		•			
Mounted Duct	FDKS-C(A)VMS	(900/1,100 mm width type)	•		•		
Wall Mounted	FTKS-DVMS		•				
yvali iviounted	FTKS-FVMS						•









Note: BP units (BPMKS967B2/3S) are necessary for residential indoor units.

*Some model names might differ and some products might not be available depending on the country of sale. For further information, please contact one of our sales companies.

Specifications

VRV IV HEAT RECOVERY Series Outdoor Units

High-(СОР Ту	pe									
MODEL			RWHQ12THY1	RWHQ14THY1	RWHQ16THY1	RWHQ18THY1	RWHQ20THY1	RWHQ22THY1	RWHQ24THY1		
LOUSSICO STATE			RWHQ6TY1S	RWHQ6TY1S	RWHQ8TY1S	RWHQ6TY1S	RWHQ6TY1S	RWHQ6TY1S	RWHQ8TY1S		
Combination	units		RWHQ6TY1S	RWHQ8TY1S	RWHQ8TY1S	RWHQ6TY1S	RWHQ6TY1S	RWHQ8TY1S	RWHQ8TY1S		
			-	10 -1 2	: - :	RWHQ6TY1S	RWHQ8TY1S	RWHQ8TY1S	RWHQ8TY1S		
Power supply	/				3-phase 4-	wire system, 380-	415 V, 50 Hz				
		Btu/h	109,000	131,000	153,000	164,000	186,000	207,000	229,000		
Cooling capa	city	Btu/h*	109,900	131,900	153,700	164,800	186,800	208,600	230,700		
		kW	32.0/32.2*	38.4/38.7*	44.8/45.1*	48.0/48.3*	54.4/54.8*	60.8/61.2*	67.2/67.6*		
COP			4.51	4.42	4.35	4.49	4.46	4.41	4.36		
Power consu	mption	kW	7.10	8.68	10.3	10.7	12.2	13.8	15.4		
Capacity con	acity control %			10-100 7-100							
Casing colou	ır				ly	vory white (5Y7.5/	1)				
	Туре		Hermetically Sealed Scroll Type								
Compressor	Motor output	kW	(2.4x1)+ (2.4x1)	(2.4x1)+ (3.4x1)	(3.4x1)+ (3.4x1)	(2.4x1)+(2.4x1)+ (2.4x1)	(2.4x1)+(2.4x1)+ (3.4x1)	(2.4x1)+(3.4x1)+ (3.4x1)	(3.4x1)+(3.4x1)+ (3.4x1)		
Airflow rate		m³/min	119+119	119+157	157+157	119+119+119	119+119+157	119+157+157	157+157+157		
Dimensions (HxWxD)	mm	(1,657x9	30x765)+(1,657x	930×765)	(1,657x930x765)+(1,657x930x765)+(1,657x930x765)					
Machine weig	ght	kg		185+185			185+1	85+185			
Sound level		dB(A)	58	5	9		60	000011110100000	61		
Operation ran	nge	°CDB				15 to 49					
D-6/	Туре					R-410A					
Refrigerant	Charge	kg		6.4+6.4			6.4+6	.4+6.4			
Piping connections	Liquid	mm		₱12.7(Brazing)			≠ 15.9(E	Brazing)			
Indoor unit)	Gas	mm			≠ 28.6(Brazing)			≠ 34.9(Brazing)		
Piping connections	Inlet pipe	mm		₱19.1(Brazingx2))		≠ 19.1(B	razingx3)			
(Heat exchanger unit)	Outlet pipe	mm		₱19.1(Brazingx2)			≠ 19.1(B	razingX3)			

High-0	СОР Ту	pe									
MODEL			RWHQ42THY1	RWHQ44THY1	RWHQ46THY1	RWHQ48THY1	RWHQ50THY1				
			RWHQ14TY1S	RWHQ14TY1S	RWHQ14TY1S	RWHQ16TY1S	RWHQ16TY1S				
Combination	units		RWHQ14TY1S	VHQ14TY1S RWHQ14TY1S RWHQ16TY1S		RWHQ16TY1S	RWHQ16TY1S				
			RWHQ14TY1S	RWHQ16TY1S	RWHQ16TY1S	RWHQ16TY1S	RWHQ18TY1S				
Power supply			3-phase 4-wire system, 380-415 V, 50 Hz								
		Btu/h	409,000	427,000	444,000	461,000	478,000				
Cooling capa	city	BTU/h*	411,100	429,900	447,000	464,000	481,100				
	kW		120.0/120.5*	125.0/126.0*	130.0/131.0*	135.0/136.0*	140.0/141.0*				
COP			3.70	3.62	3.55	3.49	3.41				
Power consur	mption	kW	32.4	34.5	36.6	38.7	41.1				
Capacity cont	trol	%	4-100		3-1	100					
Casing colour					Ivory white (5Y7.5/1)						
	Туре		Hermetically Sealed Scroll Type								
Compressor	Motor output	kW	(2.9X1)+(3.3X1)+(2.9X1)+ (3.3X1)+(2.9X1)+(3.3X1)		(2.9X1)+(3.3X1)+(3.6X1)+ (3.7X1)+(3.6X1)+(3.7X1)						
Airflow rate		m³/min			233+233+233						
Dimensions (H	H×W×D)	mm		(1,657X1,240X76	65)+(1,657X1,240X765)+(1	,657X1,240X765)					
Machine weig	ht	kg		1	285+285+285						
Sound level		dB(A)		65			66				
Operation ran	ge	°CDB			15 to 49						
Type					R-410A						
Refrigerant	Charge	kg	10.3+10.3+10.3	10.3+10.3+10.4	10.3+10.4+10.4	10.4+10.4+10.4	10.4+10.4+10.5				
Piping Liquid mm		mm			₱19.1(Brazing)						
(Indoor unit) Gas mm			₱ 41.3(Brazing)								
Piping connections	Inlet pipe	mm	₱ 19.1(BrazingX3)								
(Heat exchanger unit)	Outlet pipe	mm			₱ 19.1(BrazingX3)						

Note: Specifications are based on the following conditions:

•Cooling: Indoor temp.: 27°CDB, 19°CWB, 27°CDB, 19.5°CWB. Outdoor temp.: 35°CDB, Equivalent piping length: 7.5 m, Level difference: 0 m.

•Sound level: Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5 m.

During actual operation, these values are normally somewhat higher as a result of ambient conditions and oil recovery mode. When there is concern for noise to the surrounding area such as residences, we recommend investigating the installation location and taking soundproofing measures.



RWHQ-T

RWHQ26THY1	RWHQ28THY1	RWHQ30THY1	RWHQ32THY1	RWHQ34THY1	RWHQ36THY1	RWHQ38THY1	RWHQ40THY1
RWHQ8TY1S	RWHQ8TY1S	RWHQ8TY1S	RWHQ8TY1S	RWHQ8TY1S	RWHQ8TY1S	RWHQ12TY1S	RWHQ12TY1S
RWHQ8TY1S	RWHQ8TY1S	RWHQ10TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ14TY1S	RWHQ12TY1S	RWHQ14TY1S
RWHQ10TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ14TY1S	RWHQ14TY1S	RWHQ14TY1S	RWHQ14TY1S
		3	-phase 4-wire syst	em, 380-415 V, 50 H	z		
248,000	267,000	286,000	305,000	327,000	348,000	365,000	389,000
249,900	268,900	288,000	306,900	329,300	349,700	366,800	390,700
72.8/73.3*	78.3/78.8*	83.9/84.4*	89.4/90.0*	95.9/96.5*	102.0/102.5*	107.0/107.5*	114.0/114.5*
4.16	4.08	3.94	3.89	3.85	3.82	3.73	3.74
17.5	19.2	21.3	23.0	24.9	26.7	28.7	30.5
6-1	100		5-100			4-100	1
			Ivory whit	e (5Y7.5/1)			
			Hermetically Se	ealed Scroll Type			
(3.4x1)+(3.4x1)+ (4.1x1)	(3.4x1)+(3.4x1)+ (5.2x1)	(3.4x1)+(4.1x1)+ (5.2x1)	(3.4x1)+(5.2x1)+ (5.2x1)	(3.4x1)+(5.2x1)+ (2.9x1)+(3.3x1)	(3.4x1)+(2.9x1)+(3.3x1)+ (2.9x1)+(3.3x1)	(5.2x1)+(5.2x1)+ (2.9x1)+(3.3x1)	(5.2x1)+(2.9x1)+(3.3x1) (2.9x1)+(3.3x1)
157+157+165	157+157+178	157+165+178	157+178+178	157+178+233	157+233+233	178+178+233	178+233+233
(1,657)	x930x765)+(1,657x9	930x765)+(1,657x93	0x765)	(1,657x930x765)+ (1,657x930x765)+ (1,657x1,240x765)	(1,657x930x765)+ (1,657x1,240x765)+ (1,657x1,240x765)	(1,657x930x765)+ (1,657x930x765)+ (1,657x1,240x765)	(1,657x930x765)+ (1,657x1,240x765)- (1,657x1,240x765)
185+18	35+200	185+20	00+200	185+200+285	185+285+285	200+200+285	200+285+285
61	e	2		63		64	1
			151	to 49			
			R-4	110A			
6.4+6.4+6.5	6.4+6.4+6.8	6.4+6.5+6.8	6.4+6.8+6.8	6.4+6.8+10.3	6.4+10.3+10.3	6.8+6.8+10.3	6.8+10.3+10.3
			≠ 19.1(Brazing)			
			∲ 19.1(B	razingx3)			
			≠ 19.1(B	razingX3)			

Standa	ty Btu/h Btu/h kW ption kW ol % Type Motor output kW m³/mit	е									
MODEL			RWHQ6TY1S	RWHQ8TY1S	RWHQ10TY1S	RWHQ12TY1S	RWHQ14TY1S	RWHQ16TY1S			
Combination	Combination units		-	=	1=	-	_	No.			
Power supply				3-phase 4-wire system, 380-415 V, 50 Hz							
		Btu/h	54,600	76,400	95,500	114,000	136,000	154,000			
Cooling capa	city	Btu/h*	54,900	76,900	96,000	115,000	137,300	154,400			
			16.0/16.1*	22.4/22.6*	28.0/28.2*	33.5/33.7*	40.0/40.3*	45.0/45.3*			
COP			4.51	4.37	3.88	3.75	3.70	3.49			
Power consur			3.55	5.13	7.22	8.93	10.8	12.9			
		%	20-	100	16-100	15-100	11-100	10-100			
Casing colour					Ivory white	e (5Y7.5/1)	!:				
	ng colour Type		Hermetically Sealed Scroll Type								
Compressor	Motor output	kW	2.4X1	3.4X1	4.1X1	5.2X1	(2.9X1)+(3.3X1)	(3.6X1)+(3.7X1)			
Airflow rate		m³/min	119	157	165	178	2:	33			
Dimensions (F	ł×W×D)	mm		1,657X9	930×765		1,657X1,240X765				
Machine weig	ht	kg	18	35	20	00	2	35			
Sound level		dB(A)	55	56	57	59	60	61			
Operation ran	ge	°CDB			15 1	to 49					
	Type				R-4	110A					
Refrigerant	Charge	kg	6	.4	6.5	6.8	10.3	10.4			
Piping				₱ 9.5(Brazing)			≠ 12.7(Brazing)				
(Indoor unit)	Gas	mm	≠ 19.1(Brazing)	≠ 22.2(Brazing)		≠ 28.6(Brazing)				
Piping	Inlet pipe	mm	夕 19.1(Brazing)								
Piping Inlet pipe mm connections Heat exchanger unit Outlet pipe mm		mm			≠ 19.1(E	Brazing)					

Specifications

VRV IV HEAT RECOVERY Series Outdoor Units

Stand	ard Typ	e		Į į								
MODEL			RWHQ18TNY1	RWHQ20TNY1	RWHQ22TNY1	RWHQ24TNY1	RWHQ26TNY1	RWHQ28TNY1	RWHQ30TNY1			
LAISSON AND AND AND AND AND AND AND AND AND AN			RWHQ8TY1S	RWHQ8TY1S	RWHQ8TY1S	RWHQ10TY1S	RWHQ12TY1S	RWHQ14TY1S	RWHQ14TY1S			
Combination	units		RWHQ10TY1S	RWHQ12TY1S	RWHQ14TY1S	RWHQ14TY1S	RWHQ14TY1S	RWHQ14TY1S	RWHQ16TY1S			
					30-33	33 - 33	-	5 - 3	_			
Power supply	y				3-phase 4-v	vire system, 380-	415 V, 50 Hz					
		Btu/h	172,000	191,000	213,000	232,000	251,000	273,000	290,000			
Cooling capa	ng capacity Btu/h*		173,000	191,900	214,300	233,400	252,300	274,700	291,700			
	kW		kW		50.4/50.7*	55.9/56.3*	62.4/62.8*	68.0/68.4*	73.5/74.0*	80.0/80.5*	85.0/85.5*	
COP			4.06	3.96	3.92	3.78	3.73	3.70	3.59			
Power consu	mption	kW	12.4	14.1	15.9	18.0	19.7	21.6	23.7			
Capacity con	pacity control %		8-	100	7-100 6-100 5-100							
Casing colou	ır			Ivory white (5Y7.5/1)								
	Туре		Hermetically Sealed Scroll Type									
Compressor	Motor output	kW	(3.4x1)+ (4.1x1)	(3.4x1)+ (5.2x1)	(3.4x1)+(2.9x1)+ (3.3x1)	(4.1x1)+(2.9x1)+ (3.3x1)	(5.2x1)+(2.9x1)+ (3.3x1)	A Committee of the Comm	(2.9x1)+(3.3x1)+ (3.6x1)+(3.7x1)			
Airflow rate		m³/min	157+165	157+178	157+233	165+233	178+233	233	+233			
Dimensions ((HxWxD)	mm		30x765)+ 930x765)	(1,657x93	30x765)+(1,657x1	,240x765)		240x765)+ ,240X765)			
Machine wei	ght	kg	185-	+200	185+285	200-	+285	285	+285			
Sound level	7.6	dB(A)	60	6	51	62	6	33	64			
Operation ran	nge	°CDB				15 to 49						
D. 61	Type					R-410A						
Refrigerant	Charge	kg	6.4+6.5	6.4+6.8	6.4+10.3	6.5+10.3	6.8+10.3	10.3+10.3	10.3+10.4			
Piping	Liquid	mm		≠ 15.9(Brazing)			≠ 19.1(Brazing)				
(Indoor unit)	nnections		≠ 28.6(Brazing) ≠ 34.9(Brazing)									
Piping connections	Inlet pipe	mm	₱19.1(Brazingx2)									
Heat exchanger unit	Outlet pipe	mm				₱19.1(BrazingX2)						

Standa	ard Typ	е											
MODEL			RWHQ48TNY1	RWHQ50TNY1	RWHQ52TNY1	RWHQ54TNY1	RWHQ56TNY1	RWHQ58TNY1	RWHQ60TNY1				
			RWHQ14TY1S	RWHQ14TY1S	RWHQ16TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ20TY1S				
Combination	units		RWHQ16TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ20TY1S	RWHQ20TY1S				
			RWHQ18TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ20TY1S	RWHQ20TY1S	RWHQ20TY1S				
Power supply	r			3-phase 4-wire system, 380-415 V, 50 Hz									
		Btu/h	461,000	478,000	495,000	512,000	532,000	553,000	573,000				
Cooling capa	city	Btu/h*	464,000	481,100	498,200	515,200	535,700	556,200	576,600				
		kW	135.0/136.0*	140.0/141.0*	145.0/146.0*	150.0/151.0*	156.0/157.0*	162.0/163.0*	168.0/169.0*				
COP			3.46	3.38	3.33	3.27	3.22	3.17	3.13				
Power consur	ower consumption kW		39.0	41.4	43.5	45.9	48.5	51.1	53.7				
Capacity control %						3-100							
Casing colour	r				ly	ory white (5Y7.5/1	1)						
	Туре		Hermetically Sealed Scroll Type										
Compressor	Motor output	kW			(3.6X1)+(3.7X1)+(4.4X1)+ (4.0X1)+(4.4X1)+(4.0X1)			(4.4X1)+(4.0X1)+(4.6X1)+ (5.5X1)+(4.6X1)+(5.5X1)	(4.6X1)+(5.5X1)+(4.6X1)+ (5.5X1)+(4.6X1)+(5.5X1)				
Airflow rate		m³/min		233+23	33+233		233+233+268	233+268+268	268+268+268				
Dimensions (H	H×W×D)	mm		(1,	657X1,240X765)+(1,657X1,240X765)-	+(1,657x1,240x765	i)					
Machine weig	ght	kg		285+28	35+285		285+285+320	285+320+320	320+320+320				
Sound level		dB(A)		66		67	68	69	70				
Operation ran	Operation range °CDB		1			15 to 49							
	Type					R-410A	,						
Refrigerant	Charge	kg	10.3+10.4+10.5	10.3+10.5+10.5	10.4+10.5+10.5	10.5+10.5+10.5	10.5+10.5+11.8	10.5+11.8+11.8	11.8+11.8+11.8				
Piping	3/4					≠ 19.1(Brazing)							
(Indoor unit)	Gas	mm											
Piping	Inlet pipe	mm	₱ 19.1(BrazingX3)										
(Heat exchanger unit)	onnections					₱ 19.1(BrazingX3)							

Note: Specifications are based on the following conditions;

*Cocling: Indoor temps: 27°CDB, 19°CWB; 27°CWB, 19.5°CWB, Outdoor temps: 35°CDB, Equivalent piping length: 7.5 m, Level difference: 0 m,

*Sound level: Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5 m.

During actual operation, these values are normally somewhat higher as a result of ambient conditions and oil recovery mode. When there is concern for noise to the surrounding area such as residences, we recommend investigating the installation location and taking soundproofing measures.



RWHQ-T

			· II·				111		
RWHQ32TNY1	RWHQ34TNY1	RWHQ36TNY1	RWHQ38TNY1	RWHQ40TNY1	RWHQ42TNY1	RWHQ44TNY1	RWHQ46TNY1		
RWHQ14TY1S	RWHQ10TY1S	RWHQ12TY1S	RWHQ8TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ14TY1S		
RWHQ18TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ14TY1S	RWHQ16TY1S	RWHQ14TY1S		
5-2	RWHQ12TY1S	RWHQ12TY1S	RWHQ18TY1S	RWHQ16TY1S	RWHQ16TY1S	RWHQ16TY1S	RWHQ18TY1S		
		3	-phase 4-wire syste	em, 380-415 V, 50 H	łz				
307,000	324,000	345,000	362,000	382,000	406,000	423,000	444,000		
309,000	326,200	346,300	363,400	383,900	407,700	426,500	447,000		
90.0/90.6*	95.0/95.6*	101.0/101.5*	106.0/106.5*	112.0/112.5*	119.0/119.5*	124.0/125.0*	130.0/131.0*		
3.45	3.78	3.77	3.61	3.64	3.65	3.57	3.52		
26.1	25.1	26.8	29.4	30.8	32.6	34.7	36.9		
	5-100			3-100					
			Ivory white	e (5Y7.5/1)					
			Hermetically Se	aled Scroll Type					
(2.9x1)+(3.3x1)+ (4.4x1)+(4.0x1)	(4.1x1)+(5.2x1)+ (5.2x1)	(5.2x1)+(5.2x1)+ (5.2x1)	(3.4x1)+(5.2x1)+ (4.4x1)+(4.0x1)	(5.2x1)+(5.2x1)+ (3.6x1)+(3.7x1)	(5.2x1)+(2.9x1)+(3.3x1)+ (3.6x1)+(3.7x1)	(5.2x1)+(3.6x1)+(3.7x1)+ (3.6x1)+(3.7x1)	(2.9x1)+(3.3x1)+(2.9x1) (3.3x1)+(4.4x1)+(4.0x1		
233+233	165+178+178	178+178+178	157+178+233	178+178+233	178+23	3+233	233+233+233		
(1,657x1,240x765)+ (1,657x1,240x765)	 The state of the s	(1,657x930x765)+ 930x765)		(1,657x930x765)+ .240x765)	(1,657x930x765)+((1,657x1	(1,657x1,240x765)- (1,657x1,240x765)- (1,657x1,240x765)			
285+285	200+2	00+200	185+200+285	200+200+285	200+2	85+285	285+285+285		
64	63	6	4		65		66		
			15 t	o 49					
			R-4	10A					
10.3+10.5	6.5+6.8+6.8	6.8+6.8+6.8	6.4+6.8+10.5	6.8+6.8+10.4	6.8+10.3+10.4	6.8+10.4+10.4	10.3+10.3+10.5		
			≠ 19.1(E	Brazing)					
≠ 34.9(E	Brazing)								
≠ 19.1(BrazingX2)		1	≠ 19.1(Bi	razingx3)	75				
₱19.1(BrazingX2)			≠ 19.1(Bi	razingx3)					

Space S	Saving Ty	ре						
MODEL			RWHQ18TY1S	RWHQ20TY1S	RWHQ22TSY1	RWHQ24TSY1		
					RWHQ10TY1S	RWHQ12TY1S		
Combination	units		-	-	RWHQ12TY1S	RWHQ12TY1S		
					92/92	5=0		
Power supply				3-phase 4-wire system	em, 380-415 V, 50 Hz			
		Btu/h	171,000	191,000	210,000	229,000		
Cooling capa	city	Btu/h*	171,600	192,300	211,000	230,000		
	kW		50.0/50.3*	56.0/56.4*	61.5/61.9*	67.0/67.4*		
COP	P		3.27	3.13	3.80	3.74		
Power consur	ver consumption kW		15.3	17.9	16.2	17.9		
Capacity con	rol	%	10-100		8-100			
Casing colour				Ivory white	e (5Y7.5/1)			
	Туре			aled Scroll Type				
Compressor	Motor output	kW	(4.4X1)+(4.0X1)	(4.6X1)+(5.5X1)	(4.1×1)+(5.2×1)	(5.2X1)+(5.2X1)		
Airflow rate		m³/min	233	268	165+178	178+178		
Dimensions (H	1×W×D)	mm	1,657X1,	240×765	(1,657X930X765)-	+(1,657X930X765)		
Machine weig	ht	kg	285	320	200-	-200		
Sound level		dB(A)	62	65	61	62		
Operation ran	ge	°CDB		151	to 49			
D. 61	Туре			R-4	110A			
Refrigerant	Charge	kg	10.5	11.8	6.5+6.8	6.8+6.8		
Piping connections	Liquid	mm		≠ 15.9(Brazing)			
(Indoor unit)	Gas	mm		≠ 28.6(Brazing)				
Piping	Inlet pipe	mm	≠ 19.1(E	Brazing)	≠ 19.1(Br	razingx2)		
connections (Heat exchanger unit)	Outlet pipe	mm	≠ 19.1(E	Brazing)	≠ 19.1(Br	azingX2)		

Specifications

VRV IV HEAT RECOVERY HOT WATER SYSTEM Series Outdoor Units Space Saving Type

MODEL			RWHQ26TSY1	RWHQ28TSY1	RWHQ30TSY1	RWHQ32TSY1	RWHQ34TSY1	RWHQ36TSY1		
			RWHQ8TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ16TY1S	RWHQ18TY1S		
Combination	units		RWHQ18TY1S	RWHQ16TY1S	RWHQ18TY1S	RWHQ20TY1S	RWHQ18TY1S	RWHQ18TY1S		
			-	-	-	-	_	-		
Power supply	1				3-phase 4	wire system, 380-4	15 V, 50 Hz			
		Btu/h	247,000	268,000	285,000	305,000	324,000	341,000		
Cooling capa	acity Btu/h* 248,600 269,500		286,600	307,300	326,200	342,900				
	kW		72.4/72.9*	78.5/79.0*	83.5/84.0*	89.5/90.1*	95.0/95.6*	100.0/100.5*		
COP			3.55	3.60	3.45	3.34	3.37	3.27		
Power consu	mption	kW	20.4	21.8	24.2	26.8	28.2	30.6		
Capacity con	trol	%	7-100	6-	5-100					
Casing colou	r				Ivory white	(5Y7.5/1)				
	Type		Hermetically Sealed Scroll Type							
Compressor	Motor output	kW	(3.4x1)+(4.4x1)+ (4.0x1)	(5.2x1)+(3.6x1)+ (3.7x1)	(5.2x1)+(4.4x1)+ (4.0x1)	(5.2x1)+(4.6x1)+ (5.5x1)	(3.6x1)+(3.7x1)+ (4.4x1)+(4.0x1)	(4.4x1)+(4.0x1)+ (4.4x1)+(4.0x1)		
Airflow rate		m³/min	157+233	+233 178+233		178+268	233+233			
Dimensions (HxWxD)	mm		(1,657x930x765)+	(1,657x1,240x765)		(1,657x1,240x765)+,657x1,240x765)		
Machine weig	ght	kg	185+285	200	+285	200+320	285	+285		
Sound level		dB(A)	6	3	64	66	6	65		
Operation ran	nge	°CDB		,	15 to	49				
	Туре				R-4	10A				
Refrigerant	Charge	kg	6.4+10.5	6.8+10.4	6.8+10.5	6.8+11.8	10.4+10.5	10.5+10.5		
iping Liquid mm			≠ 19.1(E							
connections (Indoor unit) Gas mm				φ34.9(Brazing) φ41.3(Brazin						
Piping	Inlet pipe					razingx2)				
connections Heat exchanger unit)	Outlet pipe	mm			≠ 19.1(B	razingX2)				

Note: Specifications are based on the following conditions;

During actual operation, these values are normally somewhat higher as a result of ambient conditions and oil recovery mode. When there is concern for noise to the surrounding area such as residences, we recommend investigating the installation location and taking soundproofing measures.

[•]Cooling: Indoor temp.: 27°CDB, 19°CWB,; 27°CDB, 19.5°CWB, Outdoor temp.: 35°CDB, Equivalent piping length: 7.5 m, Level difference: 0 m.

[•]Sound level: Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5 m.



RWHQ-T

RWHQ38TSY1	RWHQ40TSY1	RWHQ42TSY1	RWHQ44TSY1	RWHQ46TSY1	RWHQ48TSY1	RWHQ50TSY1 RWHQ12TY1S				
RWHQ18TY1S	RWHQ20TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ12TY1S					
RWHQ20TY1S	RWHQ20TY1S	RWHQ12TY1S	RWHQ12TY1S	RWHQ16TY1S	RWHQ18TY1S	RWHQ18TY1S				
-	-	RWHQ18TY1S	RWHQ20TY1S	RWHQ18TY1S	RWHQ18TY1S	RWHQ20TY1S				
		3-phase 4	4-wire system, 380-4	15 V, 50 Hz						
362,000	382,000	399,000	420,000	440,000	457,000	478,000				
363,400	383,900	400,900	421,400	443,600	460,600	481,100				
106.0/106.5*	112.0/112.5*	117.0/117.5*	123.0/123.5*	129.0/130.5*	134.0/135.0*	140.0/141.0*				
3.19	3.13	3.52	3.44	3.48	3.39	3.33				
33.2	35.8	33.2	35.8	37.1	39.5	42.1				
			4-100			3-100				
4-100 3-100 Ivory white (5Y7.5/1)										
Ivory white (5Y7.5/1) Hermetically Sealed Scroll Type										
(4.4x1)+(4.0x1)+ (4.6x1)+(5.5x1)	(4.6x1)+(5.5x1)+ (4.6x1)+(5.5x1)	(5.2x1)+(5.2x1)+ (4.4x1)+(4.0x1)	(5.2x1)+(5.2x1)+ (4.6x1)+(5.5x1)	(5.2x1)+(3.6x1)+(3.7x1)+ (4.4x1)+(4.0x1)	(5.2x1)+(4.4x1)+(4.0x1)+ (4.4x1)+(4.0x1)	(5.2x1)+(4.4x1)+(4.0x1)- (4.6x1)+(5.5x1)				
233+268	268+268	178+178+233	178+178+268	178+23	33+233	178+233+268				
(1,657x1,240x765)	+(1,657x1,240x765)		(1,657x930x765)+ ,240x765)	(1,657x930x765)+(1,657x1,240x765)+ (1,657x1,240x765)						
285+320	320+320	200+200+285	200+200+320	200+28	5+285	200+285+320				
67	68	65	67	6	66					
			15 to 49							
			R-410A							
10.5+11.8	11.8+11.8	6.8+6.8+10.5	6.8+6.8+11.8	6.8+10.4+10.5	6.8+10.5+10.5	6.8+10.5+11.8				
	100000000000000000000000000000000000000		₱19.1(Brazing)							
≠ 19.1(E	Brazingx2)	≠ 19.1(Brazingx3)								
≠ 19.1(E	Brazingx2)		₱19.1(BrazingX3)							

Specifications

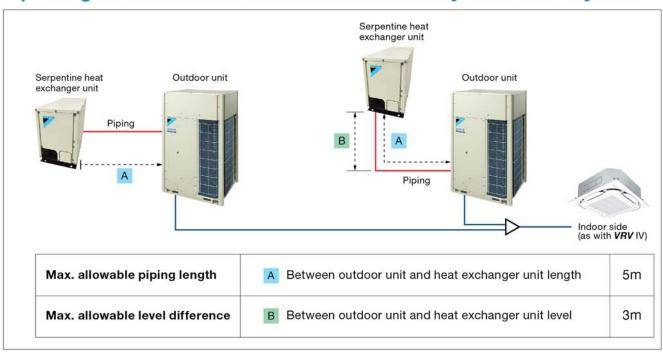


Serpentine Heat Exchanger Unit (HWHQ30A)

	Single Heat Exchanger Unit								
New Model Name (RWHQ-TY1S, HWHQ30A	RWHQ6TY1S +HWHQ30A	RWHQ8TY1S +HWHQ30A	RWHQ10TY1S +HWHQ30A	RWHQ12TY1S +HWHQ30A	RWHQ14TY1S +HWHQ30A	RWHQ16TY1S +HWHQ30A	RWHQ18TY1S +HWHQ30A	RWHQ20TY1S +HWHQ30A	
Rated inlet temperature	°C	40							
Rated water flow	L/min		10						
Range of inlet temperature	°C		20-65						
Range of water flow	L/min		5-20						
Rated Hot-water capacity *1	kW	3.2	3.3	3.3	3.5	3.7	4.0	4.2	4.4
Machine weight	kg		27						
Diameter of Refrigerant pipe (Gas)	mm		φ19.1 (Braze)						
Diameter of Refrigerant pipe (Liquid)	mm		φ19.1 (Braze)						
Diameter of water pipe (Inlet)	mm	φ25.4 (Screw)							
Diameter of water pipe (Outlet)	mm	ф25.4 (Screw)							
Piping length (max)	m	2 (5)							
Design pressure (Water side)	MPa	0.5							
Loss of Head *2	m	0.2							
Casing colour	Ivory white (5Y7.5/1)								
Dimensions (H×W×D)	mm	n 446 × 306 × 765					-		

Note: It is necessary to satisfy the water standard of Daikin for the water that is used. In the case that the water standard is not satisfied, special measures are required. Please contact your local sales office for details.

Pipe length restriction of VRV IV Heat Recovery Hot Water System



^{*1: [}Cooling] Indoor temp.: 27°CDB, 19°CWB, Outdoor temp.: 35°CDB, Inlet water temperature 40°C, Water flow 10L/min, Indoor load 100%, Outdoor-Heat Exchanger Unit 2m.

^{*2:} Water flow 10L/min.

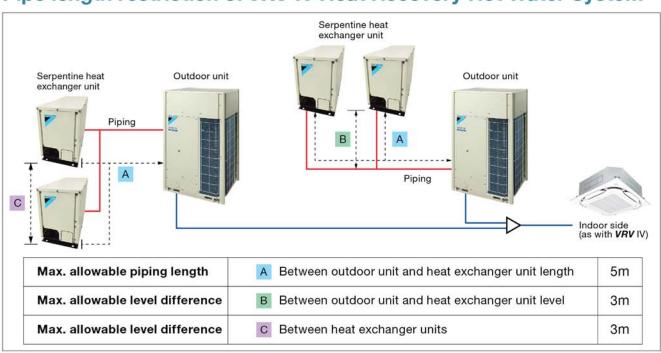


	Double Heat Exchanger Unit								
New Model Name (RWHQ-TY1S, HWHQ30A	RWHQ6TY1S +HWHQ30Ax2		RWHQ10TY1S +HWHQ30Ax2						
Rated inlet temperature	°C		40						
Rated water flow	L/min		20 (10 × 2)						
Range of inlet temperature	°C		20-65						
Range of water flow	L/min		10-40 (5-20 × 2)						
Rated Hot-water capacity *1	kW	5.4	5.6	5.6	5.9	6.2	6.8	7.1	7.4
Machine weight	kg		54 (27 × 2)						
Diameter of Refrigerant pipe (Gas)	mm		φ19.1 (Braze) × 2						
Diameter of Refrigerant pipe (Liquid)	mm		φ19.1 (Braze) × 2						
Diameter of water pipe (Inlet)	mm		ф25.4 (Screw) × 2						
Diameter of water pipe (Outlet)	mm		φ25.4 (Screw) × 2						
Piping length (max)	m		2 (5)						
Design pressure (Water side)	MPa	0.5							
Loss of Head *2	m	0.2							
Casing colour	Ivory white (5Y7.5/1)								
Dimensions (H×W×D)	mm	(446 × 306 × 765) + (446 × 306 × 765)							

Note: It is necessary to satisfy the water standard of Daikin for the water that is used. In the case that the water standard is not satisfied, special measures are required. Please contact your local sales office for details.

- *1:[Cooling] Indoor temp.: 27°CDB, 19°CWB, Outdoor temp.: 35°CDB, Inlet water temperature 40°C, Water flow 10L/min, Indoor load 100%, Outdoor-Heat Exchanger Unit 2m.
- *2: Water flow 10L/min.

Pipe length restriction of VRV IV Heat Recovery Hot Water System

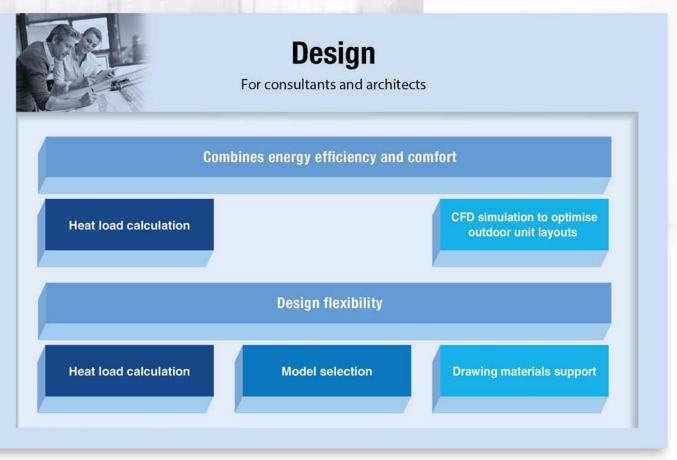


Daikin Engineering Supports

VRV Design and Sales Proposal Assistance

Daikin provides engineering supports for *VRV* systems. It consists of design supports that can assist consultants and architects, as well as sales proposal supports for air conditioning engineers and dealers. We at Daikin provide the software, the simulation results, and drawing materials to support the business-information modeling (BIM) currently entering the mainstream in construction industries.









Model Selection Software

VRV Xpress

VRV Xpress is a flexible design software that optimises equipment selection. It can empower consultants and air conditioning engineers so they can fully enhance their equipment selections to design the most effective, optimum systems possible. The software also allows the choice of outdoor units based on peak loads rather than the sum of required capacities for each indoor unit. This fine-tuning feature reduces **VRV** system sizes and increases efficiency.



CFD Simulation to Optimise Outdoor Unit Layouts DT FLOW II

DT FLOW II is a simulation software that uses computational fluid dynamics (CFD), aiming to optimise outdoor unit layouts right at the design stage. When discharged air from the outdoor unit is drawn back into the suction vent, it can short circuit the system and lead to: decrease in efficiency of cooling operations, capacity shortages, operation cut-offs, and shorter lifetime for the outdoor unit. To avoid the need for expensive layout modifications once construction is complete, Daikin uses the CFD method at the early design stage. This can help consultants and architects optimise their outdoor unit arrangement.



Heat Load Calculation

DACCS-HKGSG and HKGSA

The DACCS program uses a steady-state load calculation method to compute heat load over a 24-hour period on summer and winter days. The heat load coming in through outer walls and rooftops from strong summer sunlight can be substantial, but the DACCS program applies effective temperature differences based on the effects of heat accumulated in the walls. The program also accesses 24-hour weather data for all major cities. The standard design data includes accurate weather information for 140 countries.



Drawing Supports

CAD Symbols

Users download CAD symbol drawing materials, including 2D CAD symbols and 3D Revit data, for *VRV* systems designing. The 3D Revit data contains specifications for Daikin products, including things like capacities and electric characteristics to support Business Information Modeling (BIM).



MEMO

MEMO



Warning

- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself.
 Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the user's manual carefully before using this product. The user's manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

Cautions on product corrosion

- 1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
- 2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

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