

VRV III

VRV-WII



logo verwijderen !!

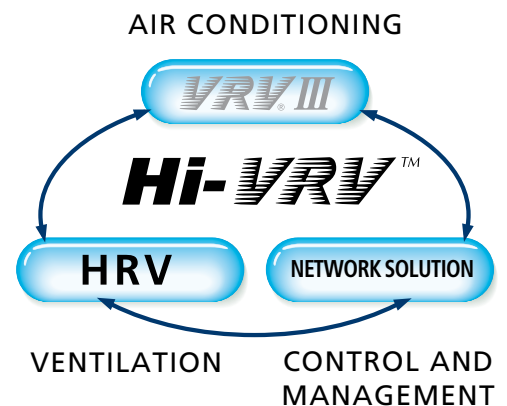
R-410A

What is **Hi-VRV™**?

In recent years, design styles for intelligent buildings such as hotels, banks and offices etc. have increasingly featured large areas of glazing with attendant high solar heat gains that can only be dissipated by means of air conditioning. Not surprisingly therefore, air conditioning has grown in importance and is now widely accepted as an integral component of most modern architectural concepts.

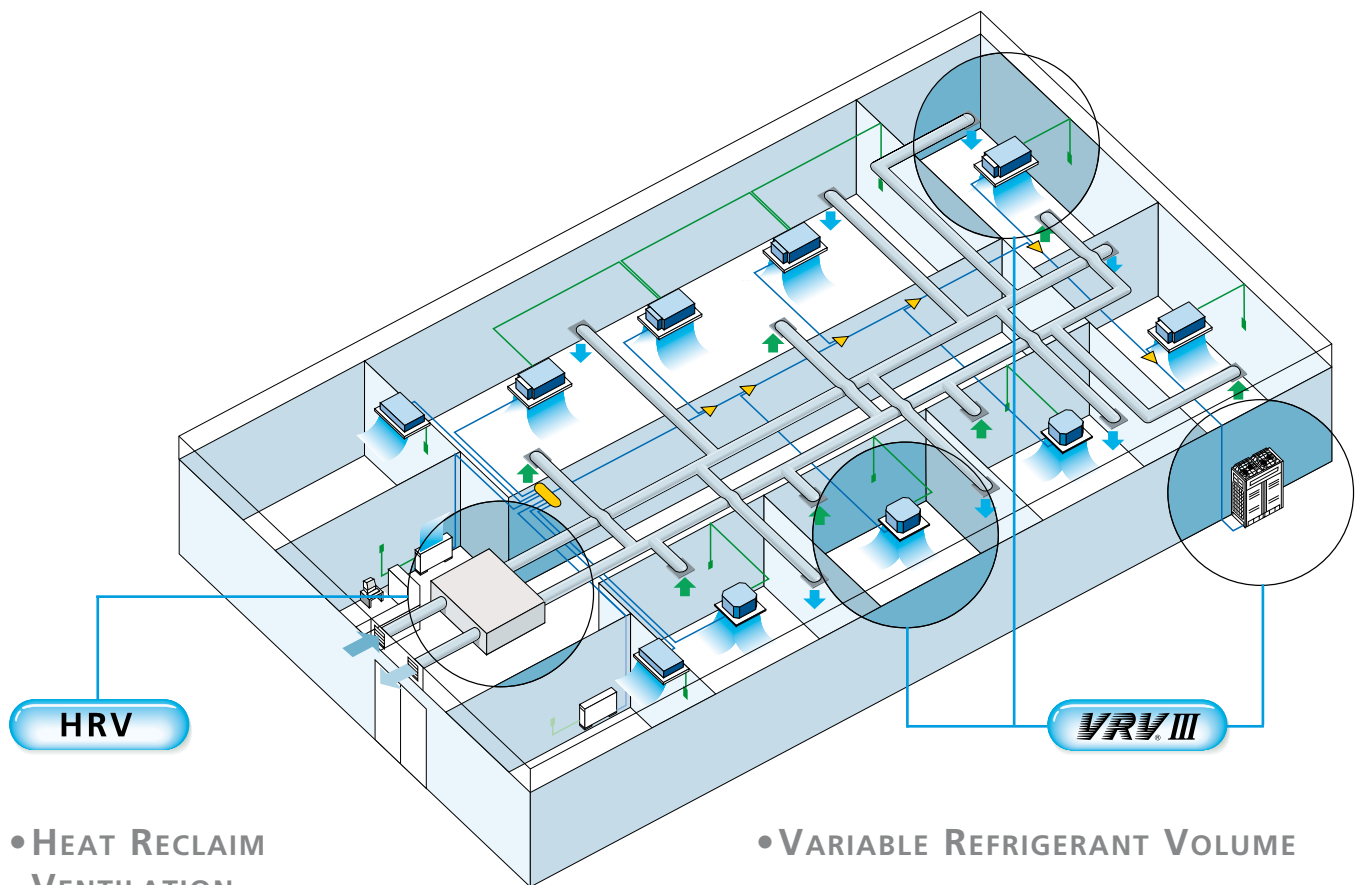
The increasing use of electronic office equipment raises thermal loadings still further to a point whereby, even in winter, internal temperatures can reach uncomfortable levels. The demand for cooling or heating can also vary considerably through-out the day depending on the number and occupation of personnel on the premises. But end users have come to expect far more than just cooling and heating from their air conditioning.

The ideal modern system must be energy efficient, easy to install, flexible, reliable and user friendly. Fresh air must be supplied without increasing energy consumption and the role of central management facilities should also be considered in this respect for medium to large sized buildings. The Daikin Hi-VRV system meets all these demands.



The innovative Hi-VRV selection programme, Daikin's flag ship software package, enables you to exploit the system's possibilities to the max and guarantees the end user a perfect service. From now on you can fully plan your Daikin air-conditioning project on a step-by-step basis without difficulty.





• HEAT RECLAIM VENTILATION

Heat and humidity are exchanged between supply and exhaust air, which

- brings outdoor air close to indoor air conditions
- recovers energy loss
- realises considerable reduction of air conditioning capacity

• VARIABLE REFRIGERANT VOLUME

- available in cooling only, heat pump and heat recovery formats.
- a rapid response system in which up to 64 indoor units can operate on the same refrigerant circuit.
- an inverter driven compressor enables the output of the outdoor unit to be modulated in accordance with the cooling/heating demand of the zone which it controls.

NETWORK SOLUTION

DS-net

The ideal solution for control and management of up to 2,000 indoor units.

Intelligent touch Controller

Allows detailed and easy monitoring and operation of VRV systems (maximum 2 x 64 control groups).

Intelligent Manager

The ideal solution for control and management of maximum 1,024 VRV indoor units.

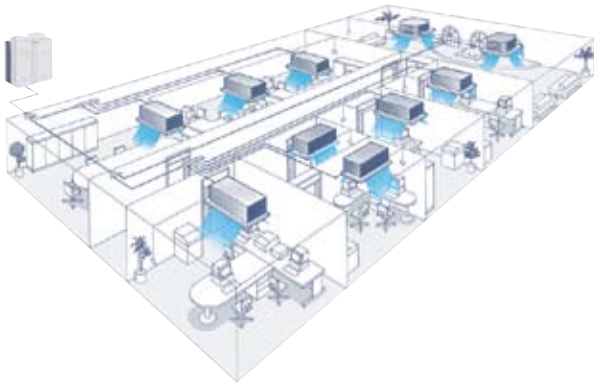
BMS-IF

Open network integration of VRV monitoring and control functions into LonWorks® networks.

BACnet Gateway

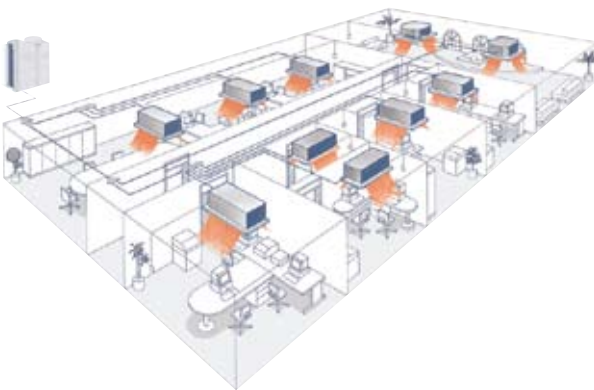
Integrated control system for seamless connection between VRV and BMS systems.

The VRV Systems



VRVIII INVERTER COOLING ONLY

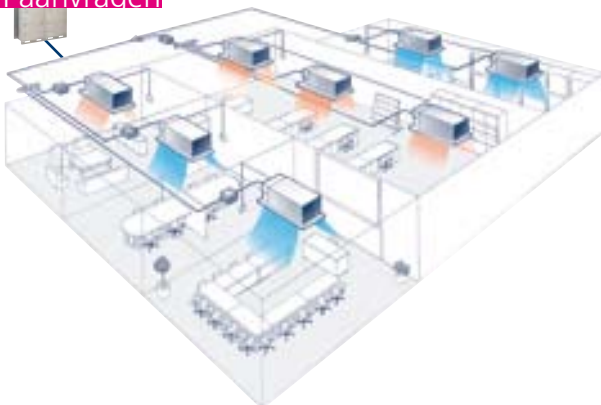
- For cooling operation from one system
- Up to 29 indoor units can be operated from a single outdoor unit without the need for an additional adapter PCB.
- The line-up of 5, 8, 10, 12, 16, 18hp models is ideally suited to applications in smaller facilities and minor expansions and upgrades.



VRVIII INVERTER HEAT PUMP

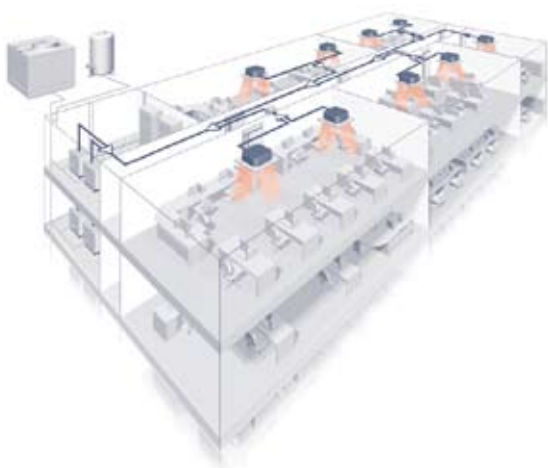
- For either cooling or heating operation from one system
- Up to 64 indoor units can be operated from a single outdoor unit without the need for an additional adapter PCB.
- An extensive capacity range starting at 5hp, then from 8hp to 54hp in 2hp increments meets all customer requirements concerning small to large buildings, whether new or existing

OPI aanvragen



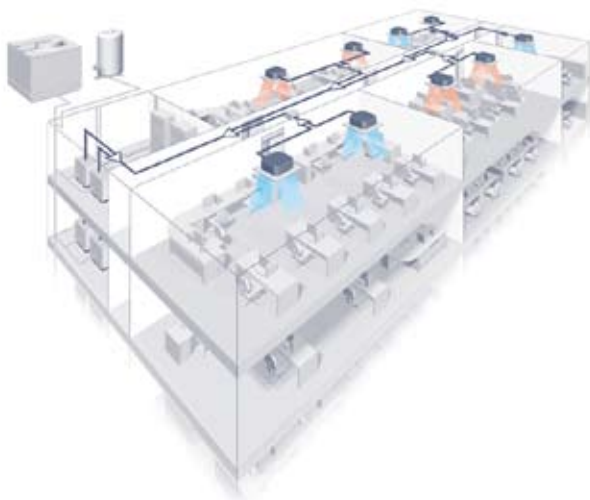
VRVIII INVERTER HEAT RECOVERY

- For simultaneous cooling and heating operation from one system
- Up to 64 indoor units can be operated from a single outdoor unit in VRVIII heat recovery format.
- Extensive capacity range from 8hp to 48hp in 2hp increments for VRVIII, meets all customer requirements concerning small to large buildings, whether new or existing.
- Heat recovery is achieved by diverting exhaust heat from indoor units in cooling mode to areas requiring heating.
- The BS unit switches the system between cooling and heating modes.



VRV-WII INVERTER HEAT PUMP

- For either cooling or heating operation from one system
- Up to 32 indoor units can be operated from a VRV-WII outdoor unit without the need for an additional adapter PCB.
- Available in 10, 20 and 30 HP models



VRV-WII INVERTER HEAT RECOVERY

- For simultaneous cooling and heating operation from one system
- Up to 32 indoor units can be executed from a VRV-WII outdoor unit without the need for an additional adapter PCB
- Available in 10, 20 and 30 HP models
- Heat recovery is achieved by diverting exhaust heat from indoor units in cooling mode to areas requiring heating.
- The BS unit switches the system between cooling and heating modes.

Features

1. WIDE APPLICATION RANGE

1 VRV8 Cooling Only/Heat Pump Outdoor Unit Range



VRV8 cooling only	VRV8 heat pump	N° of outdoor units*	N° of compressors*	Maximum n° of connectable indoor units	Minimum capacity index - 50%	Maximum ** capacity index - 130%	Capacity steps
RXQ5P	RXYQ5P	1	1	8	62.5	162.5	18
RXQ8P	RXYQ8P	1	1	13	100	260	24
RXQ10P	RXYQ10P	1	2	16	125	325	37
RXQ12P	RXYQ12P	1	2	19	150	390	37
RXQ14PA	RXYQ14PA	1	3	23	175	455	51
RXQ16PA	RXYQ16PA	1	3	26	200	520	51
RXQ18PA	RXYQ18PA	1	3	29	225	585	55
-	RXYQ20P	2	3	32	250	650	35
-	RXYQ22P	2	4	35	275	715	36
-	RXYQ24P	2	4	39	300	780	40
-	RXYQ26P	2	4	42	325	845	40
-	RXYQ28P	2	5	45	350	910	45
-	RXYQ30P	2	5	49	375	975	45
-	RXYQ32P	2	6	52	400	1,040	46
-	RXYQ34P	2	6	55	425	1,105	50
-	RXYQ36P	2	6	58	450	1,170	50
-	RXYQ38P	3	6	61	475	1,235	41
-	RXYQ40P	3	7	64	500	1,300	46
-	RXYQ42P	3	7	64	525	1,365	46
-	RXYQ44P	3	7	64	550	1,430	46
-	RXYQ46P	3	8	64	575	1,495	66
-	RXYQ48P	3	8	64	600	1,560	66
-	RXYQ50P	3	9	64	625	1,625	56
-	RXYQ52P	3	9	64	650	1,690	56
-	RXYQ54P	3	9	64	675	1,755	56

* Based on optimised footprint combinations.

** Please contact your local Daikin dealer for more information.





5 Wide Range of Indoor Units

VRV air conditioning brings summer freshness and winter warmth to offices, hotels, department stores and many other commercial premises. It enhances the indoor environment and creates a basis for increased business prosperity and whatever the air conditioning requirement, a Daikin indoor unit will provide the answer. VRV air conditioning can be supplied via **13 different indoor unit models** in a total of **75 variations**.



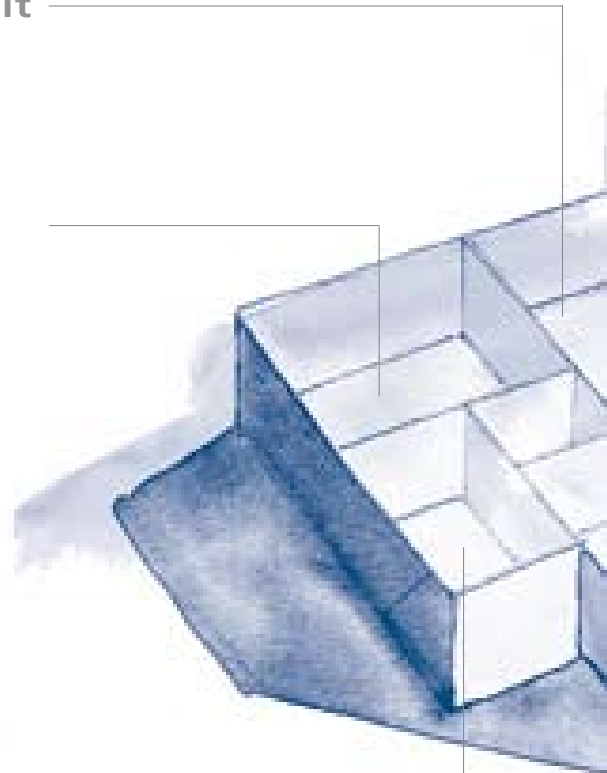
Cassette type unit



Concealed ceiling unit



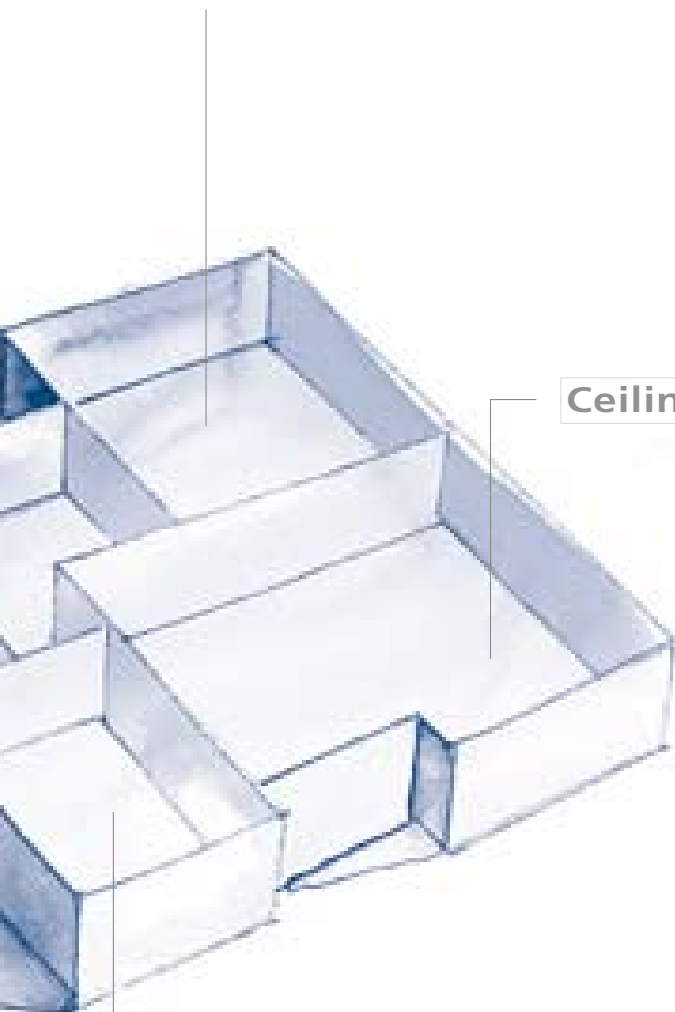
Floor standing unit





Indoor units		20	25	32	40	50	63	71	80	100	125	200	250
Roundflow ceiling mounted cassette	FXFQ	X	X	X	X	X	X		X	X	X		
4-way blow ceiling mounted cassette	FXZQ	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	X	X										
Slim concealed ceiling unit	FXDQ	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		
Wall mounted unit	FXAQ	X	X	X	X	X	X						
Ceiling suspended unit	FXHQ									X			
4-way blow ceiling suspended unit	FXUQ							X		X	X		
Floor standing unit	FXLQ	X	X	X	X	X	X						
Concealed floor standing unit	FXNQ	X	X	X	X	X	X						

Concealed floor standing unit



Ceiling suspended unit



Wall mounted unit



6 Integrated ventilation

Daikin offers a variety of solutions for the provision of fresh air ventilation to offices, hotels, stores and other commercial outlets – each one complementary to and as flexible as the VRV system itself.

HRV - HEAT RECLAIM VENTILATION

- Heat and humidity are exchanged between supply and exhaust air, which
 - brings outdoor air close to indoor air conditions
 - recovers energy loss
 - realises considerable reduction of air conditioning capacity
- The heat exchanger modulates the humidity and temperature of incoming fresh air to match indoor conditions.
- The balance achieved between indoor and outdoor ambients, enables the cooling/heating load placed on the air conditioning system to be reduced. (Heat and humidity are exchanged)
- Most energy saving solution as smaller indoor units can be selected:
 - Size down of indoor units down to 40 %
 - Payback total VAM system: ±2.5 years*
- *conditions:
 - outside cooling conditions: 30°C / outside heating conditions: - 8°C
 - Inside cooling conditions: 24°C / inside heating conditions: 22°C
 - Ventilation per room: 150m³/h
- Ideal modular concept to cope with the fresh air requirements

FXMQ-MFV1 – OUTDOOR AIR PROCESSING UNIT

- 100% fresh air intake possible
- Leaves maximum floor and wall space for furniture, decorations and fittings
- Operation range: -5°C to 43°C
- 225 Pa external static pressure allows extensive ductwork runs and flexible application: ideal for use in large areas
- Drain pump kit available as accessory

VRV+EXV-KIT - VRV AIR HANDLING APPLICATIONS

- Inverter controlled units
- Large capacity range (from 5HP to 18HP)
- Cooling only
- Control z: control of air temperature (suction temperature, room temperature) via Daikin control (no DDC controller needed)
- Large range of expansion valve kits available
- Drain pump kit available as accessory



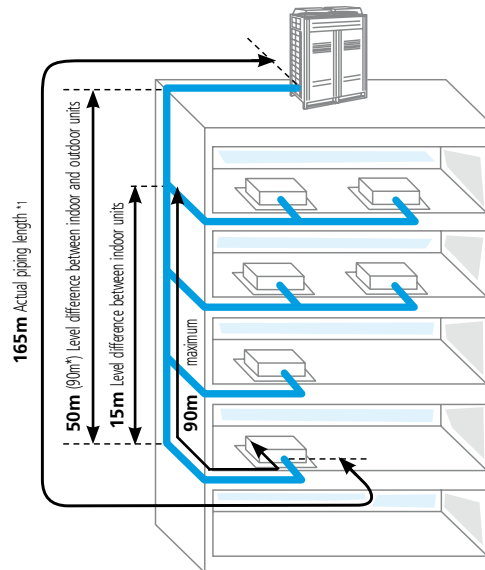
7 Extended Piping Length

VRVIII

VRVIII offers an extended piping length of 165m (190m equivalent piping length) with a total system piping length of 1,000m.

In case the outdoor unit is located above the indoor unit the height difference is 50m standard. It can be extended to 90m*

In case the outdoor unit is located below the indoor unit, the height difference is 40m standard. Height differences up to maximum 90m are possible*.



Actual piping length 165 m

Equivalent piping length 190 m

After the first branch, the difference between the longest piping length and the shortest piping length can be maximum 40m, provided that the longest piping length amounts to maximum 90m.

* For more information, please contact your local Daikin dealer.



8 Super Silent Mode

		5HP	8HP	10HP	12HP	14HP	16HP	18HP
Step 1	50dB	14.7	19.9	19.9	20.9	19.9	20.1	20.2
		100%	98%	78%	69%	55%	49%	44%
Step 2	45dB	11.9	15.1	15.1	15.6	15.5	15.6	15.6
		93%	74%	59%	51%	43%	38%	34%

Step 1 fixes the operating sound value at 50dBA. When the sound level of an 8HP outdoor unit is fixed at 50dBA it will operate at 98 % of its nominal capacity. Step 2 fixes the operating sound value at 45dBA. When the sound level of the same 8HP outdoor unit is fixed at 45dBA it will operate at 74 % of its nominal capacity.

For some applications the operating sound level of the outdoor unit might be too high. VRVIII super silent mode however, allows the sound level to be fixed in order to avoid noise pollution.



10 Back-up Function

In the event of a compressor malfunction, the remotely controlled or field set back-up function in the outdoor unit in question (and also between different outdoor units) will allow emergency operation of another compressor in order to maintain 8 hour maximum interim capacity.



11 Year Round Cooling and/or Heating

- Designed to provide simultaneous year round cooling and/or heating, VRV heat recovery systems are modular in concept and are therefore, ideal for use in rooms or zones that generate varying thermal loads according to building orientation or local hot or cold spots.
- It is possible for the same meeting room to give rise to differing thermal loads depending on the time of day, number of occupants present, location and usage pattern of lighting and electronic office equipment.
- The colder it is outside, the warmer it needs to be indoors, which means that the capacity of the air-cooled outdoor unit drops. Water-cooled air conditioners are not subject to this problem. The boiler ensures that sufficient enough additional heat is always available indoors.





12 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 provision of rust proof steel sheet on the underside of the unit gives additional protection.



Improvement in corrosion resistance

Corrosion resistance rating

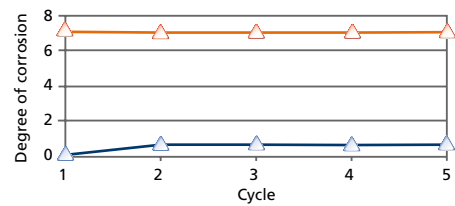
	Non-treated	Anti-corrosion treated
Salt corrosion	1	5 to 6
Acid rain	1	5 to 6

Performed tests :

VDA Wechseltest

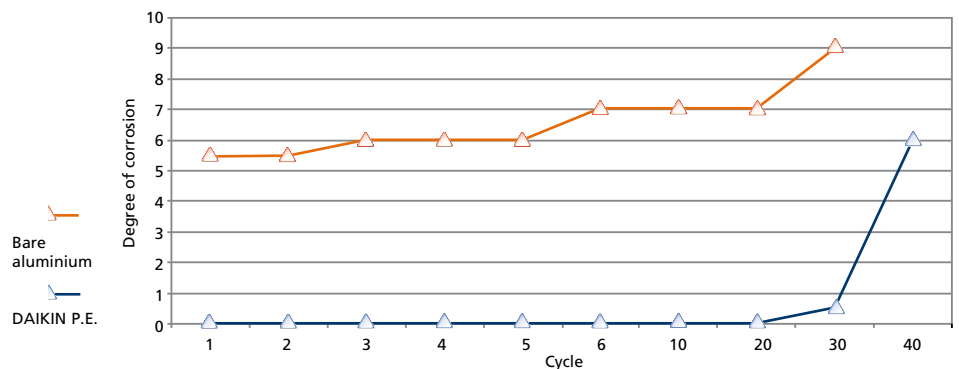
contents of 1 cycle (7 days):

- 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 1 cycle (48 hours) according to DIN50018 (0.21)
- testing period : 40 cycles

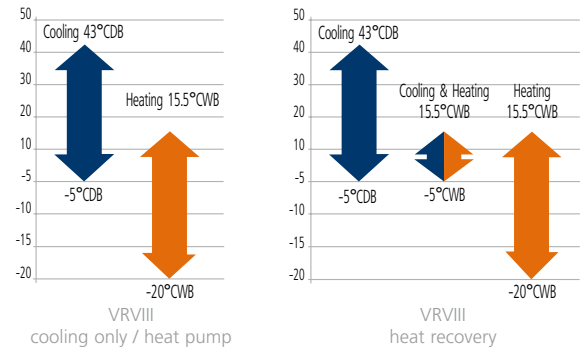




13 Operation Range

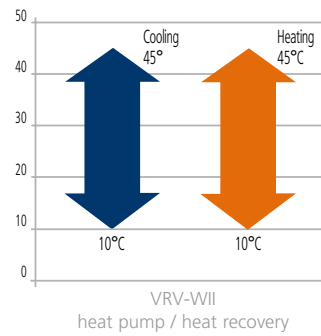
VRVIII

Standard operation down to -20°C outdoor ambient temperature. Advanced PI control of the outdoor unit enables VRVIII series to operate at outdoor ambients down to -5°C in cooling mode and down to -20°C in heating mode.



VRV-WII

Wide operation range of the water-cooled units between 10°C & 45°C, both in cooling and heating.



14 Low Operation Sound Level

- Continuous research by Daikin into reducing operation sound levels has resulted in the development of a purpose designed inverter scroll compressor and fan.
- Daikin indoor units have very low sound operation levels, down to 25dB(A)

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

← DAIKIN INDOOR UNIT





2. ENVIRONMENTAL AWARENESS

1 Higher EER/COP

Option 1: Compact Combinations

Compact combinations from 5HP to 54HP provide the smallest footprint

HP	16	18	20	22	24	26	28	30	32	34	36
8			1			1					
10				1			1				
12			1	1	2			1			
14									1		
16	1									1	
18		1				1	1	1	1	1	2

EER/COP Values

HP	16	18	20	22	24	26	28	30	32	34	36
EER	3.17	3.02	3.68	3.62	3.49	3.28	3.26	3.20	3.11	3.09	3.02
COP	3.88	3.69	4.08	4.04	3.47	3.84	3.83	3.81	3.83	3.79	3.69

Option 2: High EER/COP Combinations

High EER/COP combinations provide the most energy efficient outdoor units from 16HP to 36HP

HP	16	18	20	22	24	26	28	30	32	34	36
8	2	1			3	2	1		1		
10		1	2	1		1	2	3		1	
12				1					2	2	3

Optimised EER/COP Values

HP	16	18	20	22	24	26	28	30	32	34	36
EER	4.04	3.88	3.78	3.62	4.02	3.94	3.84	3.77	3.60	3.56	3.49
COP	4.27	4.15	4.09	4.04	3.97	4.20	4.13	4.09	4.05	4.02	3.99

← 30 % RISE

2 Smaller Refrigerant Charge

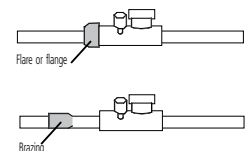
Compared to previous series VRVIII has the smallest refrigerant amount in the system.

10HP	R-22 VRV-K	R-407C VRV-K	R-410A VRVII	R-410A VRVIII
Refrigerant charge	13.5 kg	11.2 kg	8.6 kg	8.4 kg
	100 %	83 %	63.7 %	62.2 %

← 37.8 % REDUCTION

3 Improved Refrigerant Containment

All flange and flare connections in the unit have been replaced by brazing connections to ensure improved refrigerant containment.





4 Refrigerant Containment Check

The refrigerant volume of the complete system is calculated from the following data:

- outdoor temperature
- reference system temperatures
- reference pressure temperatures
- refrigerant density
- types and number of indoor units

When activating the refrigerant containment check, the unit switches into cooling mode and duplicates certain reference conditions based on memory data. The result indicates whether or not refrigerant leakage has occurred.

5 RoHS Compliance

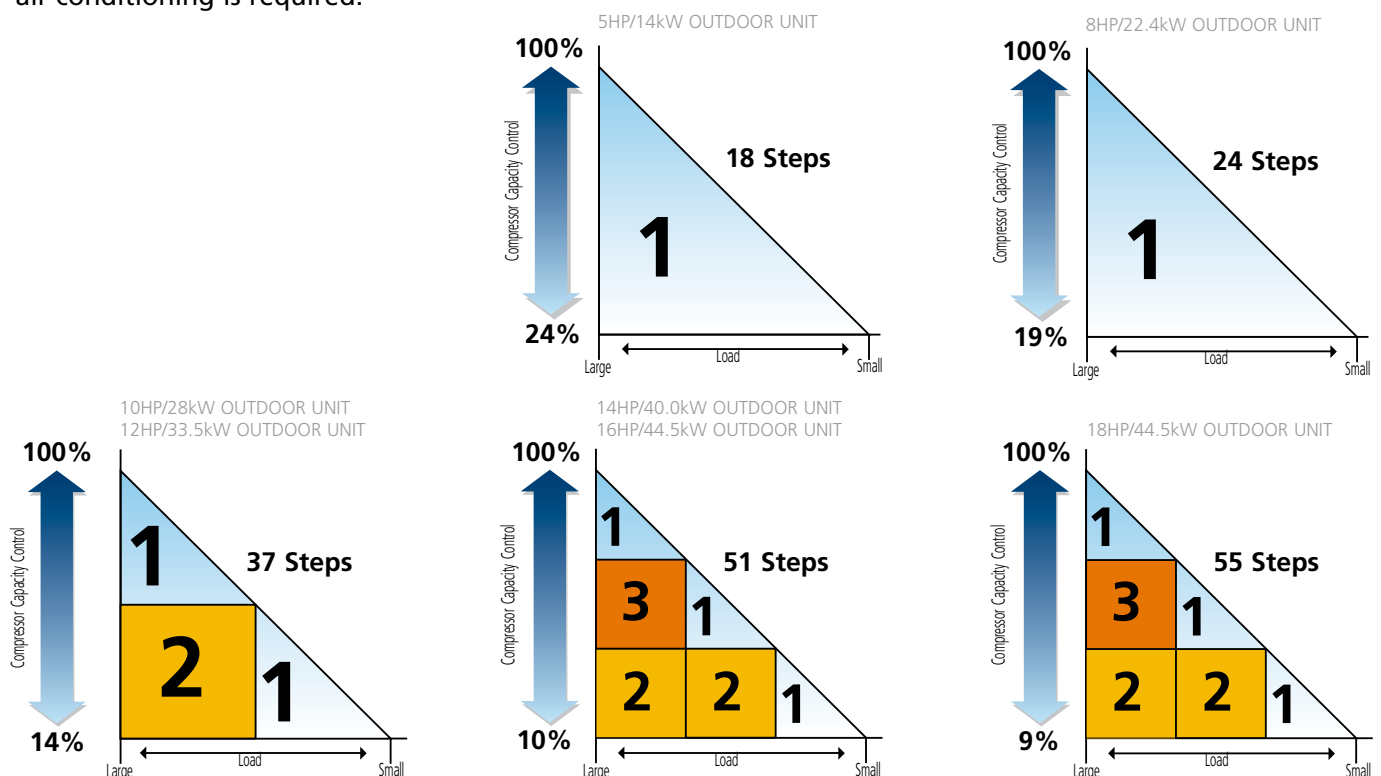
Restriction of Hazardous Substances in electrical and electronic equipment (2002/95/EC)

Hazardous substances include Lead (Pb), Cadmium (Cd), Hexavalent Chromium (Cr6+), Mercury (Hg), Polybrominated biphenyls (PBB), Polybrominated diphenylether (PBDE).

Although RoHS regulations are only applicable to small and large household equipment, Daikin environmental policy nevertheless ensures that VRVIII will be totally in line with RoHS.

6 Inverter Technology

The linear VRV system makes use of a variable Proportional Integral (PI) control system which uses refrigerant pressure sensors to give added control over inverter and ON/OFF control compressors in order to abbreviate control steps into smaller units to provide precise control in both small and larger areas. This in turn enables individual control of up to 60 indoor units of different capacity and type at a ratio of 50~200 % in comparison with outdoor units capacity. 5 HP outdoor units use inverter control compressors only. VRV systems have low running costs because it permits each zone to be controlled individually. That is, only those rooms that require air conditioning will be heated or cooled, while the system can be shut down completely in rooms where no air conditioning is required.

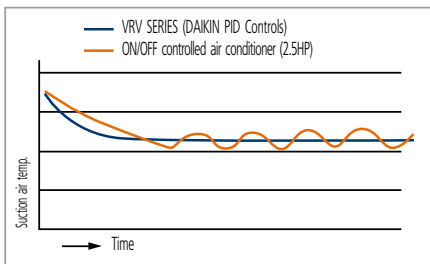




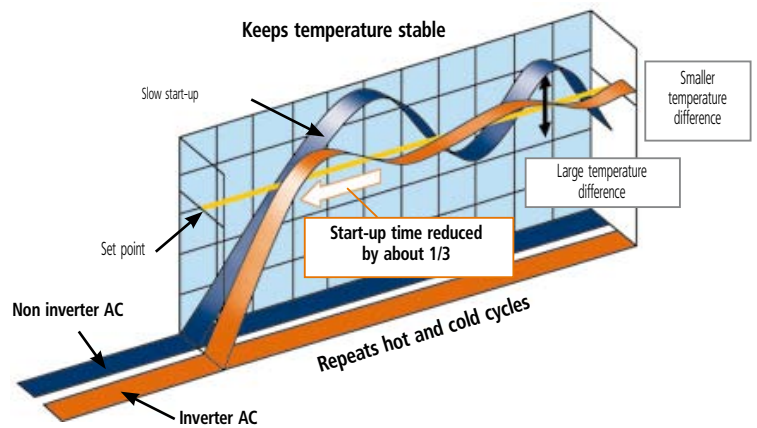
7 Smart Control Brings Comfort

An electronic expansion valve, using PID control, continuously adjusts the refrigerant volume in response to load variations of the indoor units. The VRV system thus maintains comfortable room temperatures at a virtually constant level, without the temperature variations typical of conventional ON/OFF control systems.

Cooling



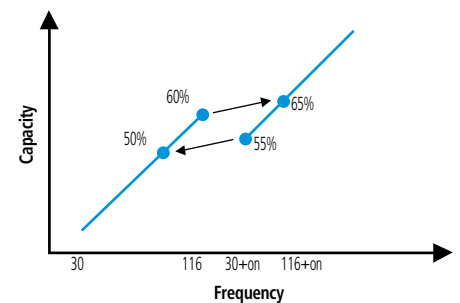
Note: the graph shows the data, measured in a test room assuming actual heating load.



The thermostat can control stable room temperature at $\pm 0.5^{\circ}\text{C}$ from set point.

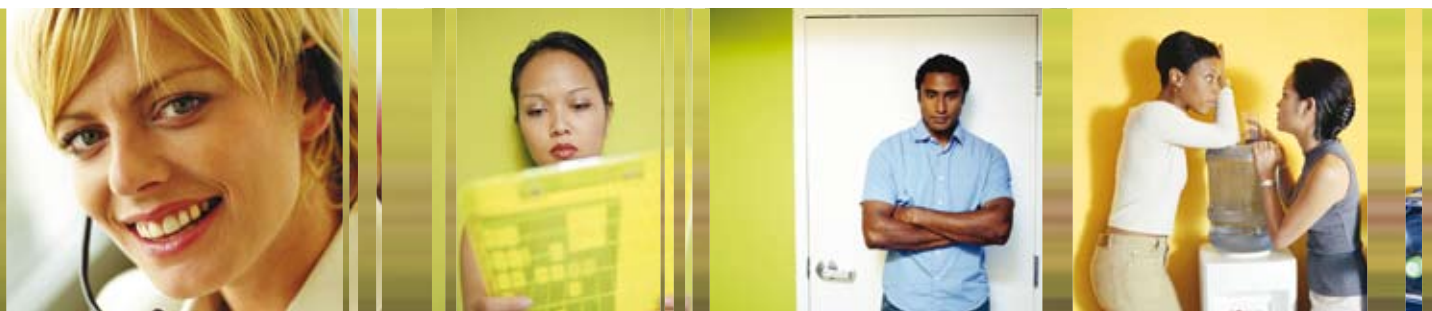
8 Less Frequent Start/Stop Cycle

- the technique adopted by Daikin, of regulating the capacity using multiple compressors clearly results in minimum switching losses and power surges because of the overlap in capacity and frequency
- since Daikin utilises small 5HP inverter compressors, the influence of harmonics is less than that generated by a single large compressor
- the use of multiple compressors by Daikin also ensures a 50 % standby facility
- smaller compressors are cheaper and faster to replace



9 Refrigerant Recovery Function

The refrigerant recovery function enables all expansion valves to be opened. In this way the refrigerant can be drained from the piping system.





3. INSTALLATION & MAINTENANCE FRIENDLY DESIGN

1 Automatic Charge Function

Conventional Way:

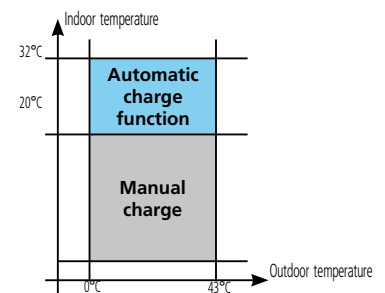
1. calculation of additional refrigerant charging volume
2. charging the unit with additional refrigerant
3. measuring the weight of the cylinder
4. judgment based on pressure (test operation)

VRVIII

With VRVIII however, these 4 steps are omitted since VRVIII unit can be charged with the necessary amount of refrigerant automatically via a push button on the PCB. Automatic charging will cease once the appropriate amount of refrigerant has been transferred.



If temperature drops below 20°C manual charging is necessary. After having switched to heating and once the indoor temperature rises above 20°C, push the auto charge button to activate auto charge function. Refrigerant containment is only available after performing the automatic charge function.



2 Automatic Test

When refrigerant charging has ceased, pushing the test operation button on the PCB will initiate a check on the wiring, shut off valves, sensors and refrigerant volume. This test ceases automatically when completed.



3 Easy Maintenance

Self Diagnostic Function

This function operated via push button on the PCB, speeds up troubleshooting and should be used for start-up and maintenance. Disconnected thermistors, faulty solenoid valves or motor operated valves, compressor malfunctions, communication errors, etc can be diagnosed quickly.



Automatic Information Storage

During unit operation, storage of data from the last 5 minutes occurs automatically. In cases of malfunction, analysis of data from the last 5 minutes will be carried out to identify the location of the problem and cause of malfunction. Measures to eliminate the cause of malfunction then be implemented.



4 Duty Cycling

The cyclical start-up sequence of multiple outdoor units systems equalized compressor duty and extends operating life



5 Short Installation Time

Thanks to small refrigerant pipes and REFNET piping options, the VRV piping system can be installed very easily and quickly.

Installation of the VRV system can also be implemented floor by floor, so that sections of the building can be put into use very quickly, or enabling the air conditioning system to be commissioned and operated in stages, rather than on final completion of the project.

6 Modular & Lightweight

Modular design enables units to be joined together in rows with an outstanding degree of uniformity.

The design of the outdoor units is sufficiently compact to allow them to be taken up to the top of a building in a commercial elevator, overcoming site transportation problem, particularly when outdoor units need to be installed on each floor.

7 No structural reinforcement necessary

Thanks to the lightweight and vibration-free construction of the outdoor units, floors do not need to be reinforced, reducing the overall cost of the building.





8 Refrigerant Piping

Reduced piping diameters

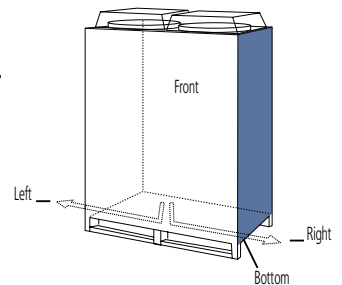
Use of high efficiency R-410A enables the VRVIII to operate on a smaller refrigerant charge to be used, leading to a reduction in liquid and gas pipe diameters.

Reduced piping costs thanks to modular design

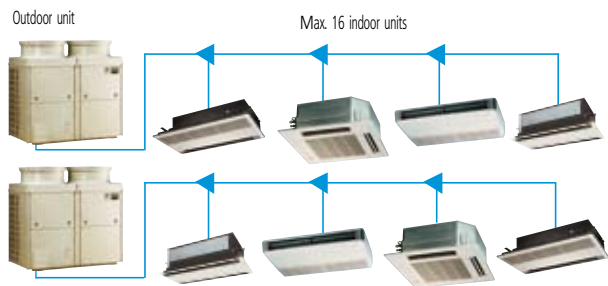
Smaller diameter liquid and gas piping contributes to a reduction in installation space and installation costs.

4-way Piping Connection

VRV series not only offer the possibility to run piping from the front, but also from the left, right or bottom, thus providing greater freedom of layout.

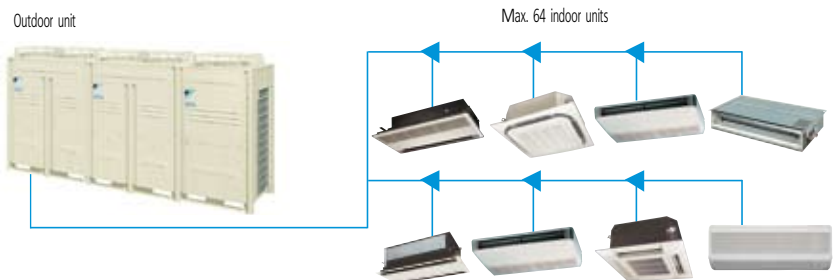


Non Modular VRF System

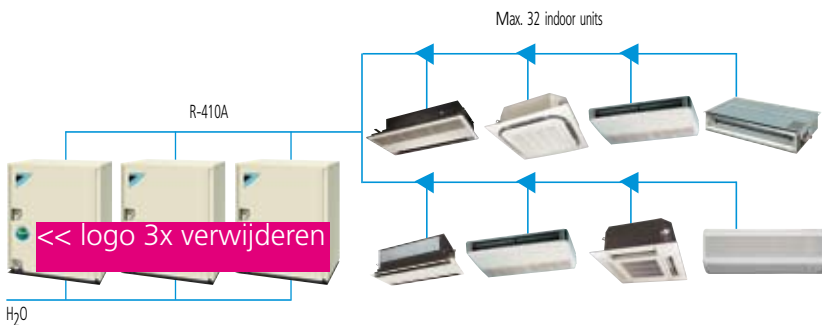


Around 30% reduction in installation costs for refrigerant piping.

VRVIII System



VRV-WII System





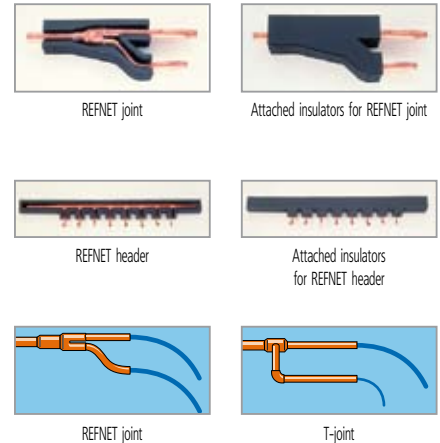
9 Unified REFNET piping

The unified Daikin REFNET piping system is especially designed for simple installation

The use of REFNET piping in combination with electronic expansion valves, results in a dramatic reduction in imbalance in refrigerant flowing between indoor units, despite the small diameter of the piping.

REFNET joints and headers (both accessories) can cut down on installation work and increase system reliability.

Compared to regular T-joints, where refrigerant distribution is far from optimal, the Daikin REFNET joints have specifically been designed to optimise refrigerant flow.



10 Sequential Start

Up to 3 outdoor units can be connected to 1 power supply and can be turned on sequentially. This allows the number of breakers and their capacities to remain small and simplifies wiring (for models of 10Hp or less).

11 Cross Wiring Check

The cross wiring check facility available on the VRV is the first of its type in the industry to warn operatives of connection errors in inter unit wiring and piping. This function identifies and alerts system errors by means of on/off LEDs on the outdoor unit's PC boards.

12 Simplified Wiring

A simple 2-wire non-shielded multiplex transmission system links each outdoor unit to multiple indoor units using one 2-core wire, thus simplifying the wiring operation.

Furthermore, outdoor units have power connection outlets on side and front, resulting in easier installation and maintenance and saving space when rows of units are connected together.





13 "Super Wiring" System

A Super Wiring system is used to enable the shared use of wiring between indoor units, outdoor units and the centralised remote control.

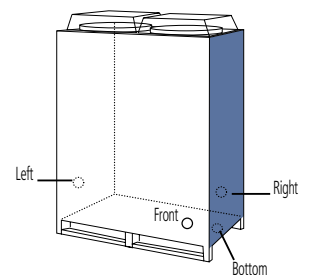
This system makes it easy for the user to retrofit the existing system with a centralised remote control, simply by connecting it to the outdoor units.

Thanks to a non polarity wiring system, incorrect connections become impossible and installation time is reduced.



14 4-way Wiring Connection

Wiring can be fed from the front panel, both left and right side panels and bottom panel of the outdoor unit.



15 Auto Address Setting Function

Allows wiring between indoor and outdoor units, as well as group control wiring of multiple indoor units, to be performed without the bothersome task of manually setting each address.



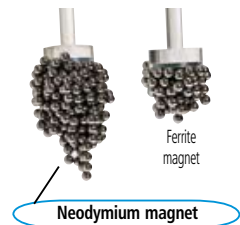
Outdoor Units

1. VRVIII

1 VRVIII Technology

1 Reluctance Brushless DC Compressor

- The reluctance brushless DC motor provides significant increases in efficiency compared to conventional AC inverter motors, simultaneously using 2 different forms of torque (normal and reluctance torque) to produce extra power from small electric currents.
- The motor comprises powerful neodymium magnets, that create the reluctance torque. These magnets are approximately 12 times stronger than ferrite magnets and make a major contribution to its energy saving characteristics.
- **High thrust mechanism (VRVIII cooling only/heat pump)**
By introducing high pressure oil, the reactive force from the fixed scroll is added to the internal force, thereby reducing thrust losses. This results in improved efficiency and suppressed sound level



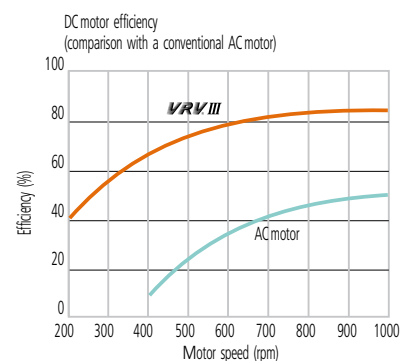
2 Sine Wave DC Inverter

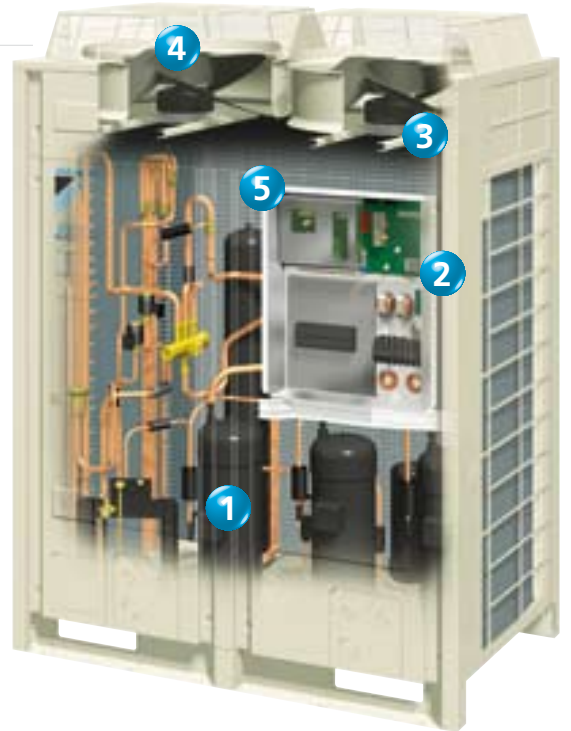
Optimizing the sine wave curve, results in smoother motor rotation and improved motor efficiency.



3 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.





4 Dual DC Fans

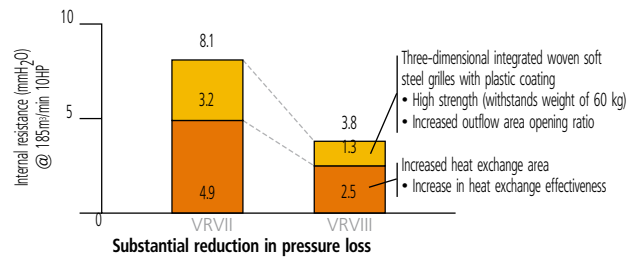
- Maximum 10% increase in airflow (16 HP) due to dual DC fans
- Increased output and reduced pressure loss together with increased external static pressure and reduced rated fan input.

10 HP: 3 blades, ø700
 -> 4 blades, ø680
 blade area increased by 25%,
 uneven pitch: No NZ noise

18 HP: ø700 -> ø540 x 2
 blade area increased by 20%,
 sound reduced by 0.7 dB

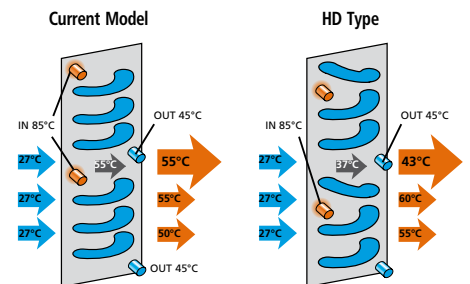


Fans optimized for their casings
 (increased air flow without sound increase)



5 e-Pass Heat Exchanger

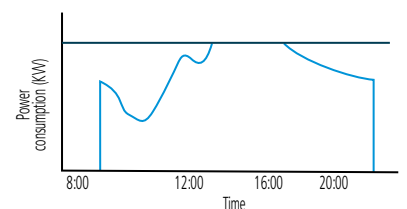
Optimization of the path layout of the heat exchanger prevents heat transferring from the overheated gas section towards the sub cooled liquid section - a more efficient use of the heat exchanger.



In cooling mode, the heat exchanger of the condenser is improved. This means an improvement of COP by 3%.

6 i-Demand Function

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



3 VRV^{III} HEAT PUMP - SMALL FOOTPRINT COMBINATION

RXYQ-P(A)			RXYQ5P7W1B	RXYQ8P7W1B	RXYQ10P7W1B	RXYQ12P7W1B	RXYQ14P7W1BA	RXYQ16P7W1BA	RXYQ18P7W1BA	
Nominal capacity	cooling	kW	14.0	22.4	28.0	33.5	40.0	45.0	49.0	
	heating	kW	16.0	25.0	31.5	37.5	45.0	50.0	56.5	
COP	cooling		3.98	4.03	3.77	3.48	3.23	3.17	3.02	
	heating		4.00	4.27	4.09	3.97	3.98	3.88	3.69	
Capacity range		HP	5	8	10	12	14	16	18	
Power input (nominal)	cooling	kW	3.52	5.56	7.42	9.62	12.4	14.2	16.2	
	heating	kW	4.00	5.86	7.70	9.44	11.30	12.90	15.30	
Max n° of indoor units to be connected			8	13	16	19	23	26	29	
Indoor index connection	minimum		62.5	100	125	150	175	200	225	
	maximum		162.5	260	325	390	455	520	585	
Casing	colour		Daikin White							
	material		Painted galvanised steel							
Dimensions	unit	height	mm	1,680	1,680	1,680	1,680	1,680	1,680	
		width	mm	635	930	930	930	1,240	1,240	
		depth	mm	765	765	765	765	765	765	
Weight	unit	kg	159	187	240	240	316	316	324	
Fan	type		Propeller							
	air flow rate (nominal at 230V)	cooling	m³/min	95	171	185	196	233	233	239
		heating	m³/min	95	171	185	196	233	233	239
external static pressure (MAX)		Pa	78Pa in high static pressure							
Compressor	type		Hermetically sealed scroll compressor							
Operation range	cooling	minimum	°CDB	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	
		maximum	°CDB	43.0	43.0	43.0	43.0	43.0	43.0	
	heating	minimum	°CWB	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	
		maximum	°CWB	15.0	15.0	15.0	15.0	15.0	15.0	
Sound level (nominal)	cooling	sound power	dB(A)	72	78	78	80	80	80	
		sound pressure	dB(A)	54	57	58	60	60	60	
Refrigerant	type		R-410A							
	charge	kg	6.2	7.7	8.4	8.6	11.3	11.5	11.7	
	control		Expansion valve (electronic type)							
Refrigerant Oil	type		Synthetic (ether) oil							
	charged Volume	l	1.7	2.1	3.9	3.9	5.7	5.7	5.8	
Piping Connections	liquid	type		Brazed connection						
		diameter (OD)	mm	9.52	9.52	9.52	12.7	12.7	12.7	
	gas	type		Brazed connection						
		diameter (OD)	mm	15.9	19.1	22.2	28.6	28.6	28.6	
	heat insulation		Both liquid and gas pipes							
max. total length	m	1,000	1,000	1,000	1,000	1,000	1,000	1,000		
Defrost method			Reversed cycle							
Defrost control			Sensor for outdoor heat exchanger temperature							
Capacity control method			Inverter controlled							
Capacity control [%]			~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	
Safety devices			HPS, fan motor driver overload protector, overcurrent relay, inverter overload protector, PC board fuse							
Power supply	name		W1	W1	W1	W1	W1	W1	W1	
	phase		3N~	3N~	3N~	3N~	3N~	3N~	3N~	
	frequency	Hz	50	50	50	50	50	50	50	
	voltage	V	400	400	400	400	400	400	400	

Notes: Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.
 Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 7.5m, level difference : 0m.
 Sound power level is an absolute value that a sound source generates.
 Sound pressure level is a relative value, depending on the distance and acoustic environment.
 Sound values are measured in a semi-anechoic room.



4 VRV8 HEAT PUMP - SMALL FOOTPRINT COMBINATION

RXYQ-P		RXYQ20P7W1B	RXYQ22P7W1B	RXYQ24P7W1B	RXYQ26P7W1B	RXYQ28P7W1B	RXYQ30P7W1B	RXYQ32P7W1B	RXYQ34P7W1B	RXYQ36P7W1B		
Combination	RXYQ8P7W1B		1			1						
	RXYQ10P7W1B			1			1					
	RXYQ12P7W1B		1	1	2			1				
	RXYQ14P7W1BA								1			
	RXYQ16P7W1BA									1		
RXYQ18P7W1BA					1	1	1	1	1	2		
Nominal capacity	cooling	kW	55.9	61.5	67.0	71.4	77.0	82.5	89.0	94.0	98.0	
	heating	kW	62.5	69.0	75.0	81.5	88.0	94.0	102.0	107.0	113.0	
COP	cooling		3.68	3.62	3.49	3.28	3.26	3.20	3.11	3.09	3.02	
	heating		4.08	4.04	3.97	3.84	3.83	3.81	3.83	3.79	3.69	
Capacity range		HP	20	22	24	26	28	30	32	34	36	
Power input (nominal)	cooling	kW	15.2	17.0	19.2	21.8	23.6	25.8	28.6	30.4	32.4	
	heating	kW	15.3	17.1	18.9	21.2	23.0	24.7	26.6	28.2	30.6	
Max n° of indoor units to be connected			32	35	39	42	45	49	52	55	58	
Indoor index connection	minimum		250	275	300	325	350	375	400	425	450	
	maximum		650	715	780	845	910	975	1,040	1,105	1,170	
Casing	colour		Daikin White									
	material		Painted galvanised steel									
Fan	type		Propeller	Propeller	Propeller	Propeller	Propeller	Propeller	Propeller	Propeller	Propeller	
	air flow rate (nominal at 230V)	cooling	m ³ /min	171 + 196	185 + 196	196 + 196	171 + 239	185 + 239	196 + 239	233 + 239	233 + 239	239 + 239
		heating	m ³ /min	171 + 196	185 + 196	196 + 196	171 + 239	185 + 239	196 + 239	233 + 239	233 + 239	239 + 239
External static pressure (MAX)		Pa	78Pa in high static pressure									
Compressor	type		Hermetically sealed scroll compressor									
Operation range	cooling	minimum	°CDB	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	
		maximum	°CDB	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	
	heating	minimum	°CWB	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	
		maximum	°CWB	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
Refrigerant	type		R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	
	charge	kg	7.7 + 8.6	8.4 + 8.6	8.6 + 8.6	7.7 + 11.7	8.4 + 11.7	8.6 + 11.7	11.3 + 11.7	11.5 + 11.7	11.7 + 11.7	
	control		Expansion valve (electronic type)									
Maximum total refrigerant charge in the system	kg		Less than 100 (calculated charge less than 95)									
Refrigerant Oil	type		Synthetic (ether) oil									
	charged volume	l	2.1 + 3.9	3.9 + 3.9	3.9 + 3.9	2.1 + 5.8	3.9 + 5.8	3.9 + 5.8	5.7 + 5.8	5.7 + 5.8	5.8 + 5.8	
Piping Connections	liquid	type		Brazed connection								
		diameter (OD)	mm	15.9	15.9	15.9	19.1	19.1	19.1	19.1	19.1	19.1
	gas	type		Brazed connection								
		diameter (OD)	mm	28.6	28.6	34.9	34.9	34.9	34.9	34.9	34.9	41.3
heat insulation			Both liquid and gas pipes									
max. total length	m		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
Defrost method			Reversed cycle									
Defrost control			Sensor for outdoor heat exchanger temperature									
Capacity control method			Inverter controlled									
Capacity control [%]			~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	
Safety devices			HPS, fan motor driver overload protector, overcurrent relay, inverter overload protector, PC board fuse									
Power supply	name		W1	W1	W1	W1	W1	W1	W1	W1	W1	
	phase		3N~	3N~	3N~	3N~	3N~	3N~	3N~	3N~	3N~	
	frequency	Hz	50	50	50	50	50	50	50	50	50	
	voltage	V	400	400	400	400	400	400	400	400	400	

Notes: Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 7.5m, level difference: 0m.
 Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 7.5m, level difference: 0m
 Sound level of a multi system is determined by the individual outdoor unit and installation condition
 The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the nameplate of the unit.



RXYQ-P			RXYQ38P7W1B	RXYQ40P7W1B	RXYQ42P7W1B	RXYQ44P7W1B	RXYQ46P7W1B	RXYQ48P7W1B	RXYQ50P7W1B	RXYQ52P7W1B	RXYQ54P7W1B	
Combination	RXYQ8P7W1B		1			1						
	RXYQ10P7W1B			1			1					
	RXYQ12P7W1B		1	1	2			1				
	RXYQ14P7W1BA								1			
	RXYQ16P7W1BA									1		
RXYQ18P7W1BA		1	1	1	2	2	2	2	2	2	3	
Nominal capacity	cooling	kW	105.0	111.0	116.0	120.0	126.0	132.0	138.0	143.0	147.0	
	heating	kW	119.0	126.0	132.0	138.0	145.0	151.0	158.0	163.0	170.0	
COP	cooling		3.34	3.34	3.28	3.16	3.17	3.14	3.08	3.07	3.02	
	heating		3.89	3.89	3.86	3.78	3.79	3.78	3.77	3.75	3.70	
Capacity range		HP	38	40	42	44	46	48	50	52	54	
Power input (nominal)	cooling	kW	31.4	33.2	35.4	38.0	39.8	42.0	44.8	46.6	48.6	
	heating	kW	30.6	32.4	34.2	36.5	38.3	40.0	41.9	43.5	45.9	
Max n° of indoor units to be connected			61	64	64	64	64	64	64	64	64	
Indoor index connection	minimum		475	500	525	550	575	600	625	650	675	
	maximum		1,235	1,300	1,365	1,430	1,495	1,560	1,625	1,690	1,755	
Casing	colour		Daikin White									
	material		Painted galvanised steel									
Fan	type		Propeller									
	air flow rate (nominal at 230V)	cooling	m ³ /min	171 + 196 + 239	185 + 196 + 239	196 + 196 + 239	171 + 239 + 239	185 + 239 + 239	196 + 239 + 239	233 + 239 + 239	233 + 239 + 239	239 + 239 + 239
		heating	m ³ /min	171 + 196 + 239	185 + 196 + 239	196 + 196 + 239	171 + 239 + 239	185 + 239 + 239	196 + 239 + 239	233 + 239 + 239	233 + 239 + 239	239 + 239 + 239
	external static pressure (MAX)	Pa	78 Pa in high static pressure									
Compressor	type		Hermetically sealed scroll compressor									
Operation range	cooling	minimum	°CDB	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	
		maximum	°CDB	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	
	heating	minimum	°CWB	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	
		maximum	°CWB	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
Refrigerant	type		R-410A									
	charge	kg	7.7 + 8.6 + 11.7	8.4 + 8.6 + 11.7	8.6 + 8.6 + 11.7	7.7 + 11.7 + 11.7	8.4 + 11.7 + 11.7	8.6 + 11.7 + 11.7	11.3 + 11.7 + 11.7	11.5 + 11.7 + 11.7	11.7 + 11.7 + 11.7	
	control	Expansion valve (electronic type)										
Maximum total refrigerant charge in the system	kg		Less than 100 (calculated charge less than 95)									
Refrigerant Oil	type		Synthetic (ether) oil									
	charged Volume		l	2.9 + 3.9 + 5.8	3.9 + 3.9 + 5.8	3.9 + 3.9 + 5.8	2.1 + 5.8 + 5.8	3.9 + 5.8 + 5.8	3.9 + 5.8 + 5.8	5.7 + 5.8 + 5.8	5.7 + 5.8 + 5.8	5.8 + 5.8 + 5.8
Piping Connections	liquid	type		Brazed connection								
		diameter (OD)	mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
	gas	type		Brazed connection								
		diameter (OD)	mm	41.3	41.3	41.3	41.3	41.3	41.3	41.3	41.3	41.3
heat Insulation		Both liquid and gas pipes										
	max. total length	m	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
Defrost method	Reversed cycle											
Defrost control	Sensor for outdoor heat exchanger temperature											
Capacity control method	Inverter controlled											
Capacity control [%]	~ 100											
Safety devices	HPS, fan motor driver overload protector, overcurrent relay, inverter overload protector, PC board fuse											
Power supply	name		W1	W1	W1	W1	W1	W1	W1	W1	W1	
	phase		3N~	3N~	3N~	3N~	3N~	3N~	3N~	3N~	3N~	
	frequency	Hz	50	50	50	50	50	50	50	50	50	
	voltage	V	400	400	400	400	400	400	400	400	400	

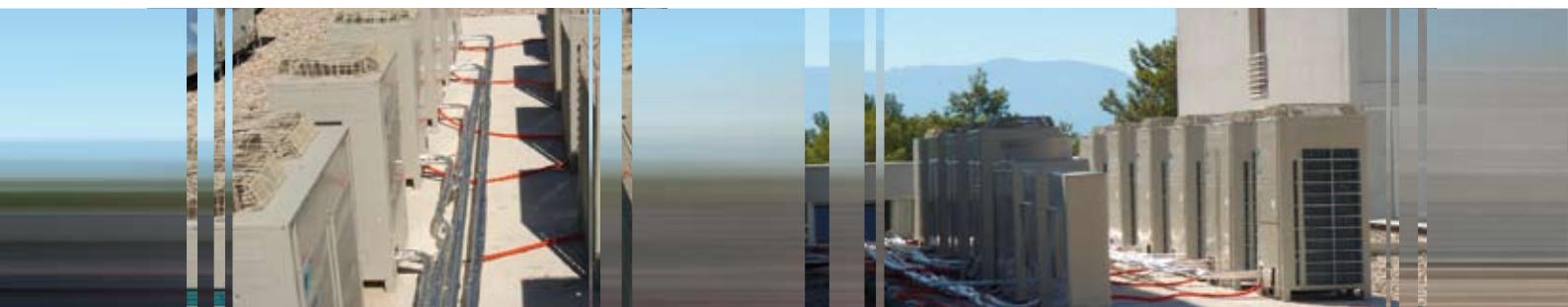
Notes: Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 7.5m, level difference: 0m.
 Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 7.5m, level difference: 0m
 Sound level of a multi system is determined by the individual outdoor unit and installation condition
 The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the namplate of the unit.



5 VRV^{III} HEAT PUMP - HIGH COP COMBINATION

RXVQ-P		RXYQ16P7W1B	RXYQ18P7W1B	RXYQ20P7W1B	RXYQ22P7W1B		
Combination	RXYQ8P7W1B		2	1			
	RXYQ10P7W1B			1			
	RXYQ12P7W1B				1		
Nominal capacity	cooling	kW	44.8	50.4	56.0	61.5	
	heating	kW	50.0	56.5	63.0	69.0	
COP	cooling		4.04	3.88	3.78	3.62	
	heating		4.27	4.15	4.09	4.04	
Capacity range	HP		16	18	20	22	
Power input (nominal)	cooling	kW	11.1	13.0	14.8	17.0	
	heating	kW	11.7	13.6	15.4	17.1	
Max n° of indoor units to be connected			26	29	32	35	
Indoor index connection	minimum		200	225	250	275	
	maximum		520	585	650	715	
Casing	colour		Daikin White				
	material		Painted galvanised steel				
Fan	type		Propeller				
	air flow rate (nominal at 230V)	cooling	m ³ /min	171 + 171	171 + 185	185 + 185	185 + 185
		heating	m ³ /min	171 + 171	171 + 185	185 + 185	185 + 185
	external static pressure (MAX)		Pa	78Pa in high static pressure			
Compressor	type		Hermetically sealed scroll compressor				
Operation range	cooling	minimum	°CDB	-5.0	-5.0	-5.0	-5.0
		maximum	°CDB	43.0	43.0	43.0	43.0
	heating	minimum	°CWB	-20.0	-20.0	-20.0	-20.0
		maximum	°CWB	15.0	15.0	15.0	15.0
Refrigerant	type		R-410A				
	charge	kg	7.7 + 7.7	7.7 + 8.4	8.4 + 8.4	8.4 + 8.6	
	control		Expansion valve (electronic type)				
Maximum total refrigerant charge in the system			Less than 100 (calculated charge less than 95)				
Refrigerant Oil	type		Synthetic (ether) oil				
	charged Volume		l	2.1 + 2.1	2.1 + 3.9	3.9 + 3.9	3.9 + 3.9
Piping Connections	liquid	type		Braze connection			
		diameter (OD)	mm	12.7	15.9	15.9	15.9
	gas	type		Braze connection			
		diameter (OD)	mm	28.6	28.6	28.6	28.6
heat insulation		Both liquid and gas pipes					
max. total length		m	1,000	1,000	1,000	1,000	
Defrost method			Reversed cycle				
Defrost control			Sensor for outdoor heat exchanger temperature				
Capacity control method			Inverter controlled				
Capacity control [%]			~ 100	~ 100	~ 100	~ 100	
Safety devices			HPS, fan motor driver overload protector, overcurrent relay, inverter overload protector, PC board fuse				
Power supply	name		W1	W1	W1	W1	
	phase		3N~	3N~	3N~	3N~	
	frequency	Hz	50	50	50	50	
	voltage	V	400	400	400	400	

Notes: Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.
 Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 7.5m, level difference : 0m
 Sound level of a multi system is determined by the individual outdoor unit and installation condition
 The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the nameplate of the unit.



RXYQ-P			RXYQ24P7W1B	RXYQ26P7W1B	RXYQ28P7W1B	RXYQ30P7W1B	RXYQ32P7W1B	RXYQ34P7W1B	RXYQ36P7W1B	
Combination	RXYQ8P7W1B		3	2	1		1			
	RXYQ10P7W1B			1	2	3		1		
	RXYQ12P7W1B						2	2	3	
Nominal capacity	cooling	kW	67.2	72.8	78.4	84.0	89.4	95.0	101.0	
	heating	kW	75.0	81.5	88.0	94.5	100.0	107.0	113.0	
COP	cooling		4.02	3.94	3.84	3.77	3.60	3.56	3.49	
	heating		3.97	4.20	4.13	4.09	4.05	4.02	3.99	
Capacity range		HP	24	26	28	30	32	34	36	
Power input (nominal)	cooling	kW	16.7	18.5	20.4	22.3	24.8	26.7	28.9	
	heating	kW	18.9	19.4	21.3	23.1	24.7	26.6	28.3	
Max n° of indoor units to be connected			39	42	45	48	52	55	58	
Indoor index connection	minimum		300	325	350	375	400	425	450	
	maximum		780	845	910	975	1,040	1,105	1,170	
Casing	colour		Daikin White							
	material		Painted galvanised steel							
Fan	type		Propeller	Propeller	Propeller	Propeller	Propeller	Propeller	Propeller	
	air flow rate (nominal at 230V)	cooling	m ³ /min	171 + 171 + 171	171 + 171 + 185	171 + 185 + 185	185 + 185 + 185	171 + 196 + 196	185 + 196 + 196	196 + 196 + 196
		heating	m ³ /min	171 + 171 + 171	171 + 171 + 185	171 + 185 + 185	185 + 185 + 185	171 + 196 + 196	185 + 196 + 196	196 + 196 + 196
	external static pressure (MAX)		Pa	78Pa in high static pressure						
Compressor	type		Hermetically sealed scroll compressor							
Operation range	cooling	minimum	°CDB	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0
		maximum	°CDB	43.0	43.0	43.0	43.0	43.0	43.0	43.0
	heating	minimum	°CWB	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0
		maximum	°CWB	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Refrigerant	type		R-410A							
	charge	kg	7.7 + 7.7 + 7.7	7.7 + 7.7 + 8.4	7.7 + 8.4 + 8.4	8.6 + 8.6 + 8.6	7.7 + 8.6 + 8.6	8.4 + 8.6 + 8.6	8.6 + 8.6 + 8.6	
	control		Expansion valve (electronic type)							
Maximum total refrigerant charge in the system		kg	Less than 100 (calculated charge less than 95)							
Refrigerant Oil	type		Synthetic (ether) oil							
	charged volume	l	2.1 + 2.1 + 2.1	2.1 + 2.1 + 3.9	2.1 + 3.9 + 3.9	3.9 + 3.9 + 3.9	2.1 + 3.9 + 3.9	3.9 + 3.9 + 3.9	3.9 + 3.9 + 3.9	
Piping Connections	liquid	type	Braze connection							
		diameter (OD)	mm	15.9	19.1	19.1	19.1	19.1	19.1	19.1
	gas	type	Braze connection							
		diameter (OD)	mm	34.9	34.9	34.9	34.9	34.9	34.9	41.3
heat insulation			Both liquid and gas pipes							
max. total length	m		1,000	1,000	1,000	1,000	1,000	1,000	1,000	
Defrost method			Reversed cycle							
Defrost control			Sensor for outdoor heat exchanger temperature							
Capacity control method			Inverter controlled							
Capacity control [%]			~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	~ 100	
Safety devices			HPS, fan motor driver overload protector, overcurrent relay, inverter overload protector, PC board fuse							
Power supply	name		W1	W1	W1	W1	W1	W1	W1	
	phase		3N~	3N~	3N~	3N~	3N~	3N~	3N~	
	frequency	Hz	50	50	50	50	50	50	50	
	voltage	V	400	400	400	400	400	400	400	

Notes: Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.
 Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 7.5m, level difference : 0m
 Sound level of a multi system is determined by the individual outdoor unit and installation condition
 The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the nameplate of the unit.

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