

# VRV IV S-series heat pump

## The most compact VRV

Most compact unit on the market  
823mm high & 88kg



Control systems



Indoor units

VRV type indoor units  
Residential type indoor units  
(such as Daikin Emura)



Air curtain

Biddle Air curtain for VRV (CYV)



Ventilation

Heat Reclaim ventilation  
(VAM/VKM) AHU  
connection kit



RXYSQ4, 5TV1



RXYSQ4, 5, 6TV1/TY1



RXYSQ8, 10, 12TY1



### VRV IV standards:

### Variable refrigerant temperature

Customize your VRV for best seasonal efficiency & comfort

### VRV configurator

Software for simplified commissioning, configuration and customisation

- › Refrigerant containment check
- › Night quiet mode
- › Low noise function
- › Connectable to stylish indoor units (Daikin Emura, Nexura)
- › Full inverter compressors
- › Gas cooled PCB (not available on RXYSQ4,5,6,8TY1)
- › Reluctance brushless DC compressor
- › Sine wave DC inverter
- › DC fan motor
- › E-pass heat exchanger
- › I demand function
- › Manual demand function

For detailed explanation of these functions refer to vrv iv technologies tab

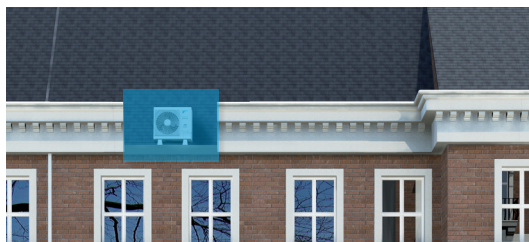
## Widest range of front blow units on the market



## Lowest height on the market

### Ideal for roof installations

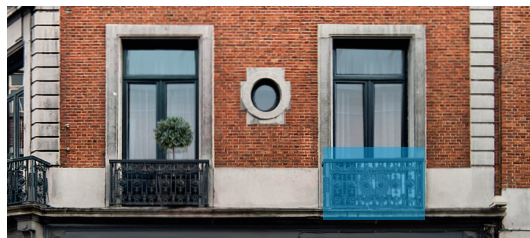
- › The low height mini VRV can be hidden in many places where a twin fan unit cannot due to its low height.



Unnoticeable for parapet installation

### Ideal to install below a window on a Balcony

- › Daikin VRV IV S-series compact can be installed discretely on a balcony thanks to its compact dimensions, offering you air conditioning while being almost unnoticeable.

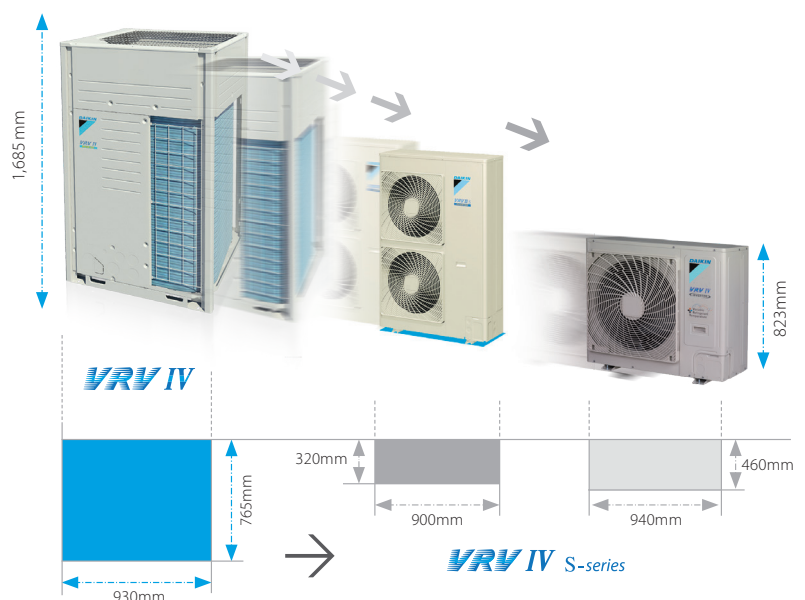


Low height make the unit invisible from inside and unnoticeable from the outside



## Space saving design

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

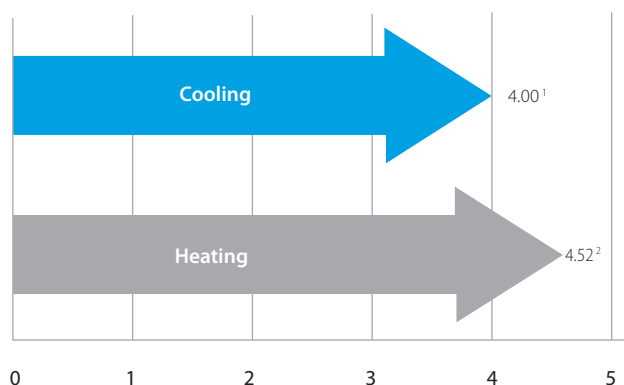




## High COP values

A major feature of VRV IV S-series is its exceptional energy efficiency. The system achieves high COPs during both cooling and heating operation by the use of refined components and functions.

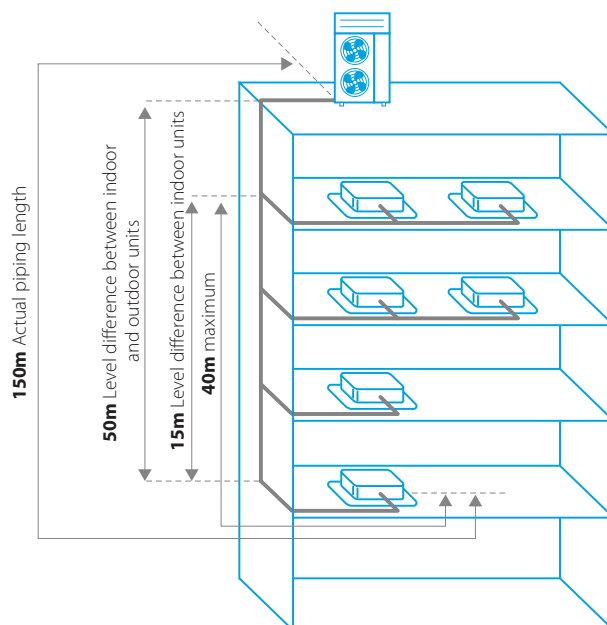
- <sup>1</sup> Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°C, equivalent refrigerant piping: 5m, level difference: 0m.
- <sup>2</sup> Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m



## Flexible piping design

	VRV indoors connected	Stylish indoors connected
Total piping length	300m	250m
Longest length actual (Equivalent)	150m (175m)	
Minimum length between outdoor unit and first branch	-	5m
Minimum piping length between BP and indoor unit	-	2m
Maximum piping length between BP and indoor unit	-	15m
Longest length after first branch	40m	40m
Level difference between indoor and outdoor units	50m (40m <sup>1</sup> )	30m
Level difference between indoor units	15m	15m

<sup>1</sup> Outdoor unit in lowest position



# VRV IV S-series

## technologies

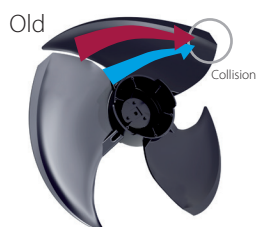
### Super aero grille

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

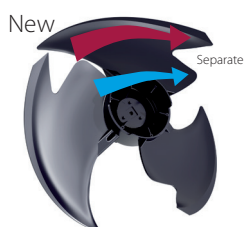
### Refrigerant-cooled PCB

- › Reliable cooling because it is not influenced by ambient air temperature
- › Smaller switchbox for smoother air flow through the heat exchanger increasing heat exchange efficiency with 5%

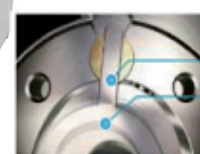
### Improved fan blades



Air streams collide and generate loss



Air streams are smoothed around V-cut and reduces air flow loss



Vane fixed to rotor  
Rotor

### Compressor

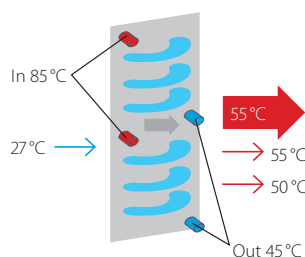
Swing type > **no oil separator**  
Vane & rotor are unified resulting in:

- › Reduced noise level
- › Longer compressor life
- › Higher efficiency thanks to the absence of internal refrigerant leakage between high and low pressure side

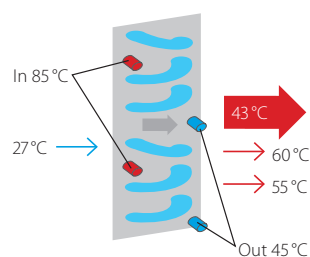
### E-Pass heat exchanger

Optimising the heat exchanger's path layout prevents heat being transferred from the overheated gas section to the sub-cooled liquid section which is a more efficient way to use the heat exchanger.

Standard heat exchanger



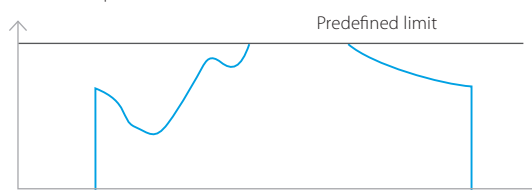
e-Pass heat exchanger



### I-demand function

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

Power consumption



# VRV IV S-series compact heat pump

## The most compact VRV

- › Compact & lightweight single fan design makes the unit almost unnoticeable
- › Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units and Biddle air curtains
- › Wide range of indoor units: either connect VRV or stylish indoor units such as Daikin Emura, Nexura ...
- › Incorporates VRV IV standards & technologies: Variable Refrigerant Temperature and full inverter compressors
- › 3 steps in night quiet mode
- › Possibility to limit peak power consumption between 30 and 80%, for example during periods with high power demand
- › Contains all standard VRV features



RXYSCQ-TV1

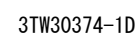
Outdoor unit		RXYSCQ		4TV1		5TV1	
Capacity range			HP		4		5
Cooling capacity	Nom.		kW		12.1		14.0
Heating capacity	Nom.		kW		12.1		14.0
	Max.		kW		14.2		16.0
Power input - 50Hz	Cooling	Nom.	kW		3.43		4.26
	Heating	Nom.	kW		3.18		3.91
		Max.	kW		4.14		5.00
EER			kW		3.53		3.29
COP at nominal capacity			kW		3.81		3.58
COP at maximum capacity			kW		3.43		3.20
Maximum number of connectable indoor units					64 (1)		
Indoor index connection	Min.				50		62.5
	Nom.					-	
	Max.				130		162.5
Dimensions	Unit	HeightxWidthxDepth	mm		823x940x460		
Weight	Unit		kg		94		
Fan	Air flow rate	Cooling	Nom.	m <sup>3</sup> /min	91		
Sound power level	Cooling	Nom.		dBA	68		69
Sound pressure level	Cooling	Nom.		dBA	51		52
Operation range	Cooling	Min.~Max.		°CDB	-5~46		
	Heating	Min.~Max.		°CWB	-20~15.5		
Refrigerant	Type				R-410A		
	Charge		kg		3.7		
			TCO <sub>2</sub> eq		7.7		
	GWP				2,087.5		
Piping connections	Liquid	OD	mm		9.52		
	Gas	OD	mm		15.9		
	Total piping length	System	Actual	m	-		
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/220-240		
Current - 50Hz	Maximum fuse amps (MFA)			A	32		

(1) Actual number of units depends on the indoor unit type (VRV DX indoor, RA DX indoor, etc.) and the connection ratio restriction for the system (being: 50% ≤ CR ≤ 130%).

(2) Contains fluorinated greenhouse gases



## RXYSQ-TV1



## RXYSCQ-TV1

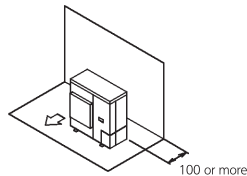
## Required installation space

The unit of the values is mm.

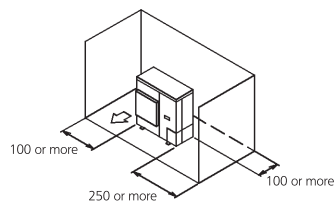
## (A) When there are obstacles on suction sides.

## ● No obstacle above

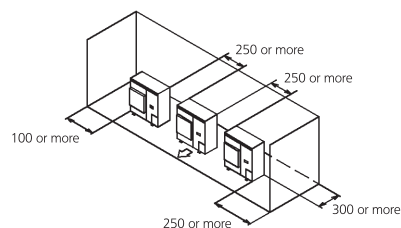
- ① Stand-alone installation
- Obstacle on the suction side only



- Obstacle on both sides

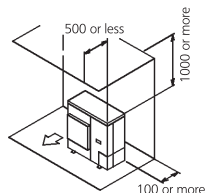


- ② Series installation (2 or more)
- Obstacle on both sides

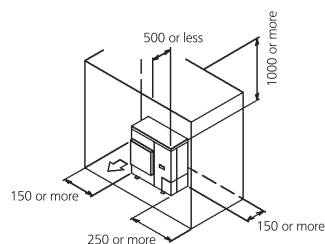


## ● Obstacle above, too.

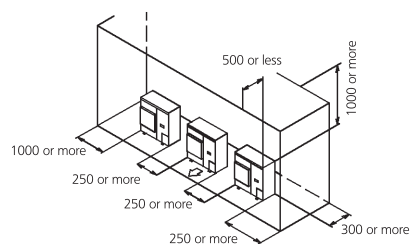
- ① Stand-alone installation
- Obstacle on the suction side, too



- Obstacle on the suction side and both sides



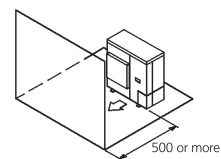
- ② Series installation (2 or more)
- Obstacle on the suction side and both sides



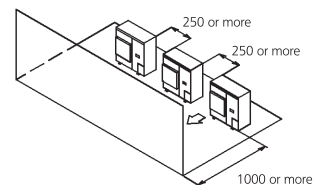
## (B) When there are obstacles on discharge sides.

## ● No obstacle above

- ① Stand-alone installation

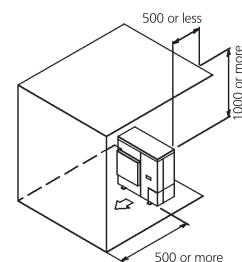


- ② Series installation (2 or more)

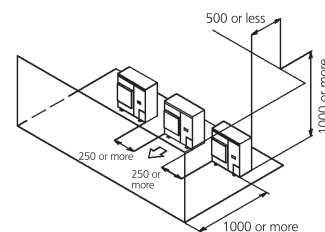


## ● Obstacle above, too

- ① Stand-alone installation



- ② Series installation (2 or more)



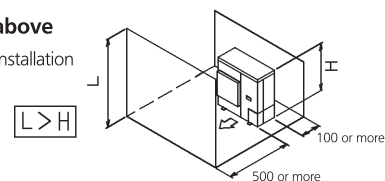
## (C) When there are obstacles on both suction and discharge sides.:

## Pattern 1

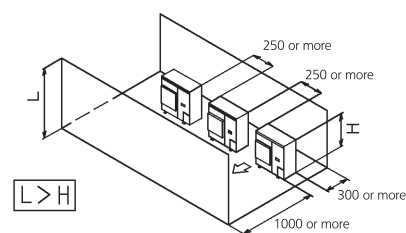
When the obstacles on the discharge side is higher than the unit.  
(There is no height limit for obstructions on the intake side.)

## ● No obstacle above

- ① Stand-alone installation



- ② Series installation (2 or more)



3D089310A

## RXYSQC-TV1

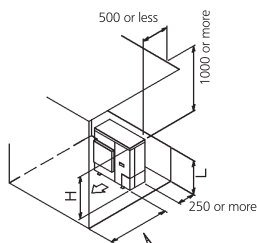
## ● Obstacle above, too

## ① Stand-alone installation

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	750
	$1/2 H < L \leq H$	1000
$H < L$	Set the stand as: $L \leq H$	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.

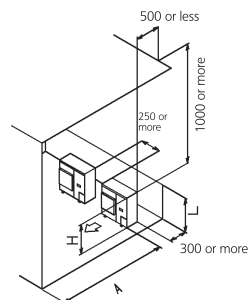


## ② Series installation (2 or more)

The relations between H, A and L are as follows.

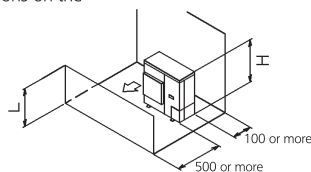
	L	A
$L \leq H$	$0 < L \leq 1/2 H$	1000
	$1/2 H < L \leq H$	1250
$H < L$	Set the stand as: $L \leq H$	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.  
Only two units can be installed for this series.

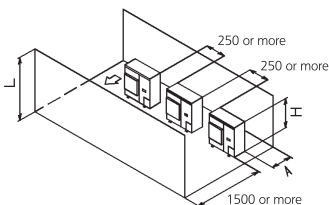


## Pattern 2

When the obstacle on the discharge side is lower than the unit:  
(There is no height limit for obstructions on the intake side.)



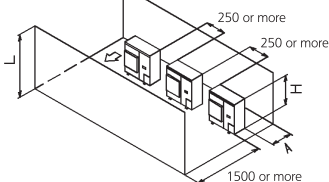
## ● No obstacle above

① Stand-alone installation  
 $L > H$ 

## ② Series installation (2 or more)

The relations between H, A and L are as follows.

	L	A
$L > H$	$0 < L \leq 1/2 H$	250
	$1/2 H < L \leq H$	300



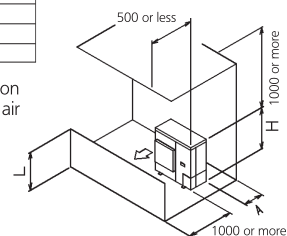
## ● Obstacle above, too

## ① Stand-alone installation

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	100
	$1/2 H < L \leq H$	200
$H < L$	Set the stand as: $L \leq H$	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.



## ② Series installation

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	250
	$1/2 H < L \leq H$	300
$H < L$	Set the stand as: $L \leq H$	

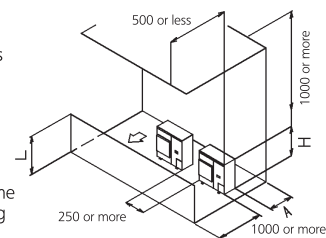
Close the bottom of the installation frame to prevent the discharged air from being bypassed.

Only two units can be installed for this series.

## (D) Double-decker installation

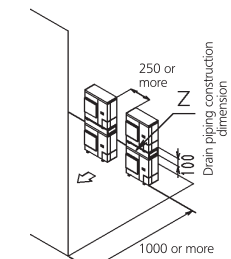
## ① Obstacle on the discharge side.

Close the gap Z (the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.  
Do not stack more than two unit.



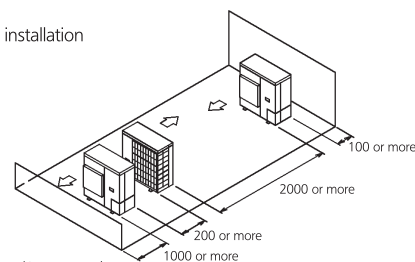
## ② Obstacle on the suction side.

Close the gap Z (the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.  
Do not stack more than two unit.



## (E) Multiple rows of series installation (on the rooftop, etc.)

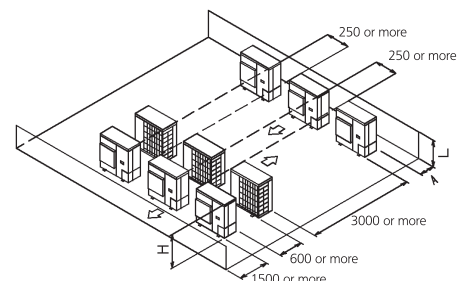
## ① One row of stand-alone installation



## ② Rows of series installation (2 or more)

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	250
	$1/2 H < L \leq H$	300
$H < L$	Can not be installed	



## RXYSQ-TV1 // RXYSQ4-6TY1

## ● Obstacle above, too

## ① Stand-alone installation

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	750
	$1/2 H < L \leq H$	1000
$H < L$	Set the stand as : $L \leq H$	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.

## ② Series installation (2 or more)

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	1000
	$1/2 H < L \leq H$	1250
$H < L$	Set the stand as : $L \leq H$	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.  
Only two units can be installed for this series.

## Pattern 2

When the obstacle on the discharge side is lower than the unit:  
(There is no height limit for obstructions on the intake side.)

## ● No obstacle above

## ① Stand-alone installation

$L \leq H$

## ② Series installation (2 or more)

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	250
	$1/2 H < L \leq H$	300

## ● Obstacle above, too

## ① Stand-alone installation

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	100
	$1/2 H < L \leq H$	200
$H < L$	Set the stand as : $L \leq H$	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.

## ② Series installation

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	250
	$1/2 H < L \leq H$	300
$H < L$	Set the stand as : $L \leq H$	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.  
Only two units can be installed for this series.

## (D) Double-decker installation

## ① Obstacle on the discharge side.

Close the gap A (the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.

Do not stack more than two unit.

## ② Obstacle on the suction side.

Close the gap A (the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.

Do not stack more than two unit.

## (E) Multiple rows of series installation (on the rooftop, etc.)

## ① One row of stand-alone installation

## ② Rows of series installation (2 or more)

The relations between H, A and L are as follows.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	250
	$1/2 H < L \leq H$	300
$H < L$	Can not be installed	