



# VRV IV S-series compact heat pump Technical data book RXYSCQ-TV1



RXYSCQ4TMV1B  
RXYSCQ5TMV1B  
RXYSCQ6TMV1B



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# 1 Features

## 1 - 1 RXYSCQ-TV1

### The most compact VRV

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- › 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, Perfera ...
- › Incorporates VRV IV standards & technologies: Variable Refrigerant Temperature and full inverter compressors
- › Customize your VRV for best seasonal efficiency & comfort with the weather dependant Variable Refrigerant Temperature function. Increased seasonal efficiency with up to 28%. No more cold draft by supply of high outblow temperatures
- › 3 steps in night quiet mode to reduce sound levels at night
- › Possibility to limit peak power consumption between 30 and 80%, for example during periods with high power demand
- › Connectable to all VRV control systems
- › Keep your system in top condition via the Daikin Cloud Service: 24/7 monitoring for maximum efficiency, extended lifetime and immediate service support thanks to failure prediction



Inverter

## 2 Specifications

### 1 - 1 RXYSCQ-TV1

Technical Specifications					RXYSCQ4TV1	RXYSCQ5TV1	RXYSCQ6TV1
Recommended combination					3 x FXSQ25A2VEB + 1 x FXSQ32A2VEB	4 x FXSQ32A2VEB	2 x FXSQ32A2VEB + 2 x FXSQ40A2VEB
Cooling capacity	Prated,c			kW	12.1 (1)	14.0 (1)	15.5 (1)
Heating capacity	Nom.	6°CWB		kW	12.1 (2)	14.0 (2)	15.5 (2)
	Prated,h			kW	8.4	9.7	10.7
	Max.	6°CWB		kW	14.2 (2)	16.0 (2)	18.0 (2)
Power input - 50Hz	Heating	Nom.	6°CWB	kW	2.82 (2)	3.44 (2)	4.18 (2)
COP at nom. capacity	6°CWB			kW/kW	4.29	4.07	3.71
SCOP					4.6	4.7	
SEER					8.1	7.7	7.1
ηs,c					322.8	303.4	281.3
ηs,h					182.3	185.1	186.0
Space cooling	A Condition (35°C - 27/19)		EERd		3.2	2.7	
			Pdc	kW	12.1	14.0	15.5
	B Condition (30°C - 27/19)		EERd		5.5	5.0	4.5
			Pdc	kW	8.9	10.3	11.4
	C Condition (25°C - 27/19)		EERd		11.4	10.5	8.9
			Pdc	kW	5.7	6.6	7.3
	D Condition (20°C - 27/19)		EERd		18.6	19.9	21.2
			Pdc	kW	4.8	4.9	5.0
Space heating (Average climate)	TBivalent	COPd (declared COP)			2.8	2.7	
			Pdh (declared heating cap)	kW	8.4	9.7	10.7
			Tbiv (bivalent temperature)	°C	-10		
	TOL	COPd (declared COP)			2.8	2.7	
			Pdh (declared heating cap)	kW	8.4	9.7	10.7
			Tol (temperature operating limit)	°C	-10		
	A Condition (-7°C)	COPd (declared COP)			3.2	3.1	
			Pdh (declared heating cap)	kW	7.4	8.5	9.5
	B Condition (2°C)	COPd (declared COP)			4.5		4.4
			Pdh (declared heating cap)	kW	4.5	5.2	5.8
	C Condition (7°C)	COPd (declared COP)			6.3	6.4	6.6
			Pdh (declared heating cap)	kW	3.4		3.7
	D Condition (12°C)	COPd (declared COP)			7.9	8.1	8.2
			Pdh (declared heating cap)	kW	4.0		
Capacity range				HP	4	5	6
PED	Category				Category I		
	Most critical part	Name			Compressor		
PED	Most critical part	Ps*V		Bar*	167		
Maximum number of connectable indoor units					64 (3)		
Indoor index connection	Min.				50.0	62.5	70.0
	Max.				130.0	162.5	182.0
Dimensions	Unit	Height	mm		823		
		Width	mm		940		
		Depth	mm		460		
	Packed unit	Height	mm		995		
		Width	mm		1,030		
		Depth	mm		580		
Weight	Unit		kg		89		
	Packed unit		kg		101		
Packing	Material				Carton		
	Weight		kg		3.8		
Packing 2	Material				Wood		
	Weight		kg		5.8		
Packing 3	Material				Plastic		
	Weight		kg		1.1		
Casing	Colour				Daikin White		
	Material				Painted galvanized steel plate		
Heat exchanger	Type				Cross fin coil		
	Indoor side				Air		
	Outdoor side				Air		
	Air flow rate	Cooling	Rated	m³/h	5,460		
		Heating	Rated	m³/h	5,460		
Fan	Quantity				1		
Fan motor	Quantity				1		
	Type				DC motor		
	Output				W		
					200		

## 2 Specifications

### 1 - 1 RXYSCQ-TV1

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Technical Specifications					RXYSCQ4TV1	RXYSCQ5TV1	RXYSCQ6TV1
Compressor	Quantity				1		
	Type				Hermetically sealed swing compressor		
Operation range	Crankcase heater				W		
	Cooling	Min.	°CDB		33		
		Max.	°CDB		-5.0		
	Heating	Min.	°CWB		46.0		
		Max.	°CWB		-20.0		
Sound power level	Cooling	Nom.	dBA		68.0 (4)	69.0 (4)	70.0 (4)
Sound pressure level	Cooling	Nom.	dBA		51.0 (5)	52.0 (5)	53.0 (5)
	Heating		dBA		53.0 (5)		54.0 (5)
Refrigerant	Type				R-410A		
	GWP				2,087.5		
	Charge				TCO2Eq		
	Charge				kg		
Refrigerant oil	Type				Synthetic (ether) oil FVC50K		
Piping connections	Liquid	Type			Flare connection		
		OD	mm		9.52		
	Gas	Type			Flare connection		
		OD	mm		15.9		19.1
		Total piping length	System	Actual	m	300 (6)	
Defrost method					Reversed cycle		
Capacity control	Method				Inverter controlled		
Indication if the heater is equipped with a supplementary heater					no		
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0		
Power consumption in other than active mode	Crankcase heater	Cooling	PCK	kW	0.000		
		Heating	PCK	kW	0.049		
	Off mode	Cooling	POFF	kW	0.039		
		Heating	POFF	kW	0.049		
	Standby mode	Cooling	PSB	kW	0.039		
		Heating	PSB	kW	0.049		
	Thermostat-off mode	Cooling	PTO	kW	0.000		
		Heating	PTO	kW	0.049		
Cooling	Cdc (Degradation cooling)				0.25		
Heating	Cdh (Degradation heating)				0.25		
Safety devices	Item	01		High pressure switch			
		02		Fan driver overload protector			
		03		Inverter overload protector			
		04		PC board fuse			

Standard accessories: Installation manual; Quantity: 1;

Standard accessories: Operation manual; Quantity: 1;

Standard accessories: Connection pipes; Quantity: 1;

Electrical Specifications				RXYSCQ4TV1	RXYSCQ5TV1	RXYSCQ6TV1
Power supply	Name			V1		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	220-240		
Power supply intake				Both indoor and outdoor unit		
Voltage range	Min.		%	-10		
	Max.		%	10		
Current	Nominal running current (RLA)	Cooling	A	19.0 (7)		23.2 (7)
Current - 50Hz	Starting current (MSC) - remark			See note 11		
	Zmax	List		No requirements		
	Minimum	Remark		Equipment complies with EN/IEC 61000-3-12		
	Ssc value					
	Minimum circuit amps (MCA)		A	29.1 (8)		
	Maximum fuse amps (MFA)		A	32 (9)		
	Total overcurrent amps (TOCA)		A	29.1 (10)		
	Full load amps (FLA)	Total	A	0.6 (11)		
Wiring connections - 50Hz	For power supply	Quantity		3G		
	For connection with indoor	Quantity		2		
		Remark		F1,F2		

(1)Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m; level difference: 0m |

(2)Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m; level difference: 0m |

(3)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%). |

(4)Sound power level is an absolute value that a sound source generates. |

(5)Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. |



## 2 Specifications

### 1 - 1 RXYSCQ-TV1

(6)Refer to refrigerant pipe selection or installation manual |

(7)RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB |

(8)MCA must be used to select the correct field wiring size. The MCA can be regarded as the maximum running current. |

(9)MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker). |

(10)TOCA means the total value of each OC set. |

(11)FLA means the nominal running current of the fan |

Cooling: T1: indoor temp. 26,7°CDB, 19,4°CWB, outdoor temp. 35°CDB, AHRI 1230:2010, power input indoor units (duct type) included |

Cooling: T3: indoor temp. 29,0°CDB, 19,0°CWB, outdoor temp. 46°CDB, ISO15042:2011, power input indoor units (duct type) included |

Cooling: T2: indoor temp. 26,6°CDB, 19,4°CWB, outdoor temp. 48°CDB, AHRI 1230:2010, power input indoor units (duct type) included |

MSC means the maximum current during start up of the compressor. This unit uses only inverter compressors. Starting current is always  $\leq$  max. running current. |

In accordance with EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with  $S_{sc} \geq$  minimum  $S_{sc}$  value |

Maximum allowable voltage range variation between phases is 2%. |

Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits. |

The automatic ESEER value corresponds with normal VRV IV-S heat pump operation, including the advanced energy saving functionality (variable refrigerant temperature control). |

The standard ESEER value corresponds with normal VRV IV-S heat pump operation, not taking into account the advanced energy saving functionality. |

Sound values are measured in a semi-anechoic room. |

EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current  $> 16A$  and  $\leq 75A$  per phase |

$S_{sc}$ : Short-circuit power |

For detailed contents of standard accessories, see installation/operation manual

# 3 Options

## 3 - 1 Options

### RXYSCQ-TV1

#### VRV4-S Heat pump Option list

Nr.	Item	RXYSCQ4~6TMV1B	RXYSQ4~6T7V1B RXYSQ4~6T8VB(9)	RXYSQ4~6T7Y1B RXYSQ4~6T8YB(9)	RXYSQ8~12TMY1B	RXYSQ6T7Y1B9 RXYSQ6T8Y1B9	RXYSQ6TMYFK
I.	Refnet header	-	-	-	KHRQ22M64H	-	KHRQ22M64H
		-	-	-	KHRQ22M20T	-	KHRQ22M20T
II.	Refnet joint	-	-	-	KHRQ22M29T9	-	KHRQ22M29T9
		-	-	-	KHRQ22M64T	-	KHRQ22M64T
1a.	Cool/heat selector (switch)	-	KRC19-26	-	KRC19-26	-	-
1b.	Cool/heat selector (fixing box)	-	KJB111A	-	KJB111A	-	-
1c.	Cool/heat selector (PCB)	-	EBRP2B	-	-	-	-
1d.	Cool/heat selector (cable)	-	-	EKCHSC	-	EKCHSC	-
2.	Drain plug kit	-	EKDK04	-	EKDK04	-	-
3.	VRV configurator	-	EKPCCAB*	-	EKPCCAB*	-	-
4.	Demand PCB	-	DTA104A61/62*	-	DTA104A61/62*	-	-
5.	Branch provider - 2· rooms	-	BPMKS967A2	-	-	-	-
6.	Branch provider - 3· rooms	-	BPMKS967A3	-	-	-	-

#### Notes

- All options are kits
- To mount option ·1a·, option ·1b· is required.
- For ·RXYSCQ4~6T7V1B·  
For ·RXYSCQ4~6T8VB·  
To operate the cool/heat selector function, options ·1a· and ·1c· are both required.
- For ·RXYSCQ4~6T7Y1B·  
For ·RXYSCQ4~6T8YB·  
To operate the cool/heat selector function, options ·1a· and ·1d· are both required.

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# 4 Combination table

## 4 - 1 Combination Table

### RXYSCQ-TV1

#### Unit combination restrictions: ·VRV4· outdoor units (all models) + ·15·-class indoor units

Units in scope: ·FXZQ15A· and ·FXAQ15A·.

1. In case the system contains these indoor units and the total connection ratio (·CR·) ≤ ·100·%: no special restrictions. Follow the restrictions that apply to regular ·VRV DX· indoor units.
2. In case the system contains these indoor units and the total connection ratio (·CR·) > ·100·%: special restrictions apply.
  - A. When the connection ratio (·CR1·) of the sum of all ·FXZQ15A· and/or ·FXAQ15A· units in the system ≤ ·70·%, and ALL other ·VRV DX· indoor units have an individual capacity class > ·50·: no special restrictions.
  - B. When the connection ratio (·CR1·) of the sum of all ·FXZQ15A· and/or ·FXAQ15A· units in the system ≤ ·70·%, and NOT ALL other ·VRV DX· indoor units have an individual capacity class > ·50·: the restrictions below apply.
    - ° 100% < CR ≤ 105% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·70·%.
    - ° 105% < CR ≤ 110% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·60·%.
    - ° 110% < CR ≤ 115% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·40·%.
    - ° 115% < CR ≤ 120% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·25·%.
    - ° 120% < CR ≤ 125% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·10·%.
    - ° 125% < CR ≤ 130% -> ·FXZQ15A· and ·FXAQ15A· cannot be used.

#### Remark

Only the ·15·-class indoor units explicitly mentioned on this page are in scope. Other indoor units follow the rules that apply to regular ·VRV DX· indoor units.

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### RXYSCQ-TV1

#### VRV4-S

#### Heat pump

#### Indoor unit combination restrictions

Indoor unit combination pattern	·VRV* DX· indoor unit	·RA DX· indoor unit	Hydrobox unit	Air handling unit (AHU) <sup>(1)</sup>
·VRV* DX· indoor unit	O	X	X	O
·RA DX· indoor unit	X	O	X	X
Hydrobox unit	X	X	X	X
Air handling unit (AHU) <sup>(1)</sup>	O	X	X	O <sub>1</sub>

O: Allowed  
X: Not allowed

#### Notes

1. O<sub>1</sub>
  - Combination of ·AHU· only + control box ·EKEQFA· (not combined with ·VRV DX· indoor units)
    - ·X·-control is possible [·EKE XV+EKEQFA\*· boxes]. No Variable Refrigerant Temperature control possible.
    - ·Y·-control is possible [·EKE XV+EKEQFA\*· boxes]. No Variable Refrigerant Temperature control possible.
    - ·W·-control is possible [·EKE XV+EKEQFA\*· boxes]. No Variable Refrigerant Temperature control possible.
  - Combination of ·AHU· only + control box ·EKEQMA· (not combined with ·VRV DX· indoor units)
    - Z-control is possible (the allowed number of [·EKE XV + EKEQMA· boxes] is determined by the connection ratio (·90-110·%) and the capacity of the outdoor unit).
2. Combination of ·AHU· and ·VRV DX· indoor units
  - Z-control is possible (·EKEQMA\*· boxes are allowed, but with a limited connection ratio).
3. (1) The following units are considered AHUs:
  - ·EKE XV + EKEQ(MA/FA) + AHU· coil
  - ·Biddle· air curtain
  - ·FXMQ\_MF· units

#### Information

- ·VKM· units are considered regular ·VRV DX· indoor units.

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## 4 Combination table

### 4 - 1 Combination Table

#### RXYSCQ-TV1

#### VRV4-S

#### Heat pump

#### Indoor unit combination restrictions

Combination table	RXYSCQ4~6TMV1B	RXYSCQ4~6T7V1B	RXYSCQ4~6T7Y1B	RXYSCQ8~12TMY1B
·VRV* DX· indoor unit	O	O	O	O
·RA DX· indoor unit	O	O	O	O
Hydrobox unit	X	X	X	X
Air handling unit (AHU) <sup>(2)</sup>	O	O	O	O

O: Allowed

X: Not allowed

#### Notes

(2) The following units are considered AHUs:

- ·EKEXV + EKEQ(MA/FA) + AHU· coil
- ·Biddle· air curtain
- ·FXMQ\_MF· units

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RXYSCQ-TY9  
RXYSCQ-TV9  
RXYSCQ-TY1  
RXYSCQ-TV1

#### VRV4-S

#### Heat pump

#### ·RA/SA DX· indoor unit

#### Compatibility list

Configuration			Indoor unit type
-RA- indoor unit	Wall-mounted	Emura	FTXJ20M (W/S)
			FTXJ25M (W/S)
			FTXJ35M (W/S)
			FTXJ50M (W/S)
		FTXM	FTXM20N
			FTXM25N
			FTXM35N
			FTXM42N
			FTXM50N
			FTXM60N
			FTXM71N
		CTXM	CTXM15M
		Stylish	FTXA20
			FTXA25
			FTXA35
			FTXA42
		FTXA50	
		Floor-standing	Flex
	Ceiling-mounted		FLXS35B
			FLXS50B
			FLXS60B
	Floor-standing	FVXM	FVXM25F
FVXM35F			
FVXM50F			
CVXM20A			
FVXM25A			
FVXM35A			
FVXM50A			
FVXM60A			
Nexura			FVXG25K
			FVXG35K
		FVXG50K	
Duct		FDXM	FDXM25F
			FDXM35F
	FDXM50F		
	FDXM60F		

#### Remark

- The limitations on the use of ·RA/SA· indoor units with the ·VRV4-S· Heat Pump are subject to the rules set out in drawings ·3D097983· and ·3D097984·.

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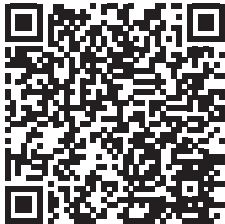
## 5 Capacity tables

### 5 - 1 Capacity Table Legend

In order to fulfill more your requirements on quick access of data in the format you require, we have developed a tool to consult capacity tables.

Below you can find the link to the capacity table database and an overview of all the tools we have to help you select the correct product:

- **Capacity table database:** lets you find back and export quickly the capacity information you are looking for based upon unit model, refrigerant temperature and connection ratio.
- You can access the capacity table viewer here:  
[https://my.daikin.eu/content/denv/en\\_US/home/applications/software-finder/capacity-table-viewer.html](https://my.daikin.eu/content/denv/en_US/home/applications/software-finder/capacity-table-viewer.html)



- An overview of **all software tools** that we offer can be found here:  
[https://my.daikin.eu/denv/en\\_US/home/applications/software-finder.html](https://my.daikin.eu/denv/en_US/home/applications/software-finder.html)



# 5 Capacity tables

## 5 - 2 Capacity Correction Factor

### RXYSCQ-TV1

#### MINI VRV

#### Integrated heating capacity coefficient

The heating capacity tables do not take into account the capacity reduction in case of frost accumulation or defrost operation.

The capacity values that take these factors into account, or in other words, the integrated heating capacity values, can be calculated as follows:

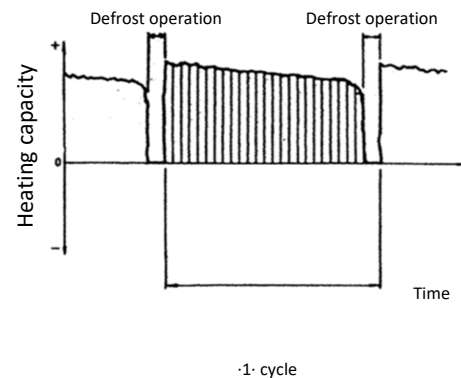
Formula

- A = Integrated heating capacity
- B = Capacity characteristics value
- C = Integrated correction factor for frost accumulation (see table)

$$A = B \cdot C$$

Inlet air temperature of heat exchanger

[°CDB/°CWB]	-7/-7.6	-5/-5.6	-3/-3.7	0/-0.7	3/2.2	5/4.1	7/6
RXYSCQ4TMV1B							
RXYSCQ5TMV1B							
RXYSCQ6TMV1B							
RXYSQ4T7V1B							
RXYSQ5T7V1B							
RXYSQ6T7V1B							
RXYSQ4T7Y1B							
RXYSQ5T7Y1B							
RXYSQ6T7Y1B							
RXYSQ6T7Y1B9							
RXYSQ4T8VB							
RXYSQ5T8VB	0,88	0,86	0,80	0,75	0,76	0,82	1,00
RXYSQ6T8VB							
RXYSQ4T8YB							
RXYSQ5T8YB							
RXYSQ6T8YB							
RXYSQ6T8Y1B9							
RXYSQ4T8VB9							
RXYSQ5T8VB9							
RXYSQ6T8VB9							
RXYSQ4T8YB9							
RXYSQ5T8YB9							
RXYSQ6T8YB9							
RXYSQ8TMY1B	0,95	0,93	0,88	0,84	0,85	0,90	1,00
RXYSQ10TMY1B	0,95	0,93	0,87	0,79	0,80	0,88	1,00
RXYSQ6TMYFK							
RXYSQ12TMY1B	0,95	0,92	0,87	0,75	0,76	0,85	1,00



#### Notes

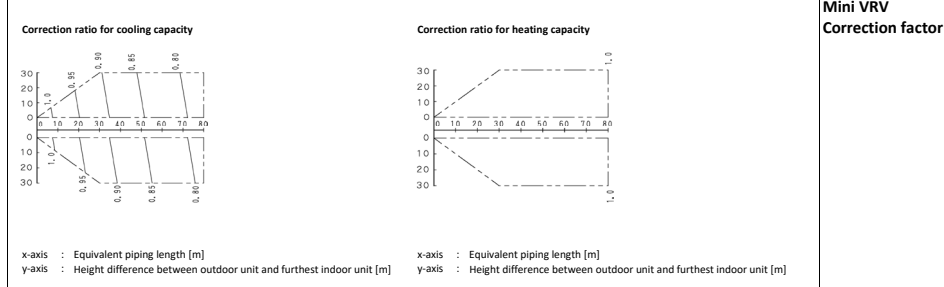
- (1) The figure shows the integrated heating capacity for a single cycle (from one defrost operation to the next).
- (2) When there is an accumulation of snow against the outdoor unit heat exchanger, there will always be a temporary reduction in capacity depending on the outdoor temperature (°C DB), relative humidity (RH) and the amount of frosting which occurs.

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# 5 Capacity tables

## 5 - 2 Capacity Correction Factor

### RXYSCQ4-5TV1



- Notes**
- These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
  - Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown in the above figures.
  - With this outdoor unit, the following control is used:
    - in case of cooling: constant evaporating pressure control
    - in case of heating: constant condensing pressure control
  - Method of calculating the capacity of the outdoor units.**  
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

**Indoor connection ratio ≤ 100%.**

$$\text{Maximum capacity of outdoor units} = \text{Capacity of outdoor units from capacity table at 100\% connection ratio.} \times \text{Correction ratio of piping to furthest indoor unit}$$

**Indoor connection ratio > 100%.**

$$\text{Maximum capacity of outdoor units} = \text{Capacity of outdoor units from capacity table at installed connection ratio.} \times \text{Correction ratio of piping to furthest indoor unit}$$

- When the overall equivalent piping length is 90 m or more, the diameter of the main gas pipes (outdoor unit - branch sections) must be increased.  
For the new diameters, see below.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
RXYSCQ4TMV1B	9,5	Not increased	15,9	19,1
RXYSCQ5TMV1B				

- Overall equivalent length

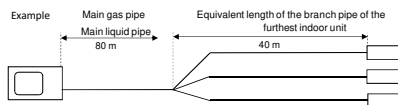
$$\text{Overall equivalent length} = \text{Equivalent length of the main pipe} \times \text{Correction factor} + \text{Equivalent length of the branch pipes}$$

Choose the correction factor from the following table.

When calculating the cooling capacity: gas pipe size

When calculating the heating capacity: liquid pipe size

	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5



**Overall equivalent length**

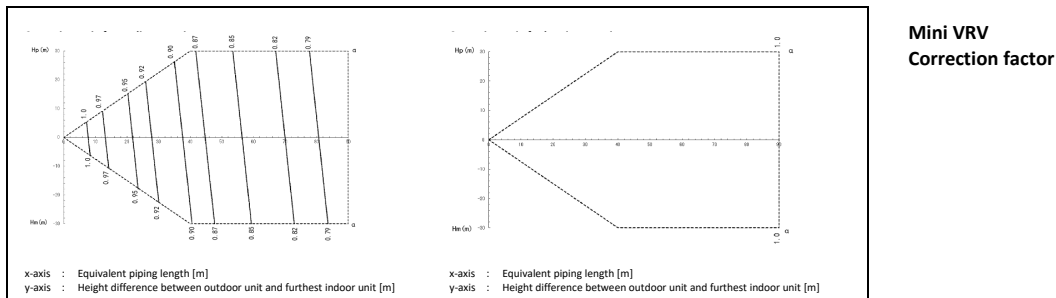
- Cooling mode =  $80 \text{ m} \times 0,5 + 40 \text{ m} = 80 \text{ m}$
- Heating mode =  $80 \text{ m} \times 0,5 + 40 \text{ m} = 80 \text{ m}$

**Capacity correction ratio (height difference = 0)**

- Cooling mode = 0,78
- Heating mode = 1,0

**3D094660D**

### RXYSCQ6TV1



- Notes**
- These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
  - Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown in the above figures.
  - With this outdoor unit, the following control is used:
    - in case of cooling: constant evaporating pressure control
    - in case of heating: constant condensing pressure control
  - Method of calculating the capacity of the outdoor units.**  
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

**Indoor connection ratio ≤ 100%.**

$$\text{Maximum capacity of outdoor units} = \text{Capacity of outdoor units from capacity table at 100\% connection ratio.} \times \text{Correction ratio of piping to furthest indoor unit}$$

**Indoor connection ratio > 100%.**

$$\text{Maximum capacity of outdoor units} = \text{Capacity of outdoor units from capacity table at installed connection ratio.} \times \text{Correction ratio of piping to furthest indoor unit}$$

- When the overall equivalent piping length is 90 m or more, the diameter of the main gas pipes (outdoor unit - branch sections) must be increased.  
For the new diameters, see below.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
RXYSCQ6TMV1B	9,5	Not increased	19,1	22,2

- Overall equivalent length

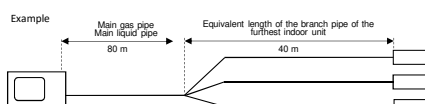
$$\text{Overall equivalent length} = \text{Equivalent length of the main pipe} \times \text{Correction factor} + \text{Equivalent length of the branch pipes}$$

Choose the correction factor from the following table.

When calculating the cooling capacity: gas pipe size

When calculating the heating capacity: liquid pipe size

	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5



**Overall equivalent length**

- Cooling mode =  $80 \text{ m} \times 0,5 + 40 \text{ m} = 80 \text{ m}$
- Heating mode =  $80 \text{ m} \times 0,5 + 40 \text{ m} = 80 \text{ m}$

**Capacity correction ratio (height difference = 0)**

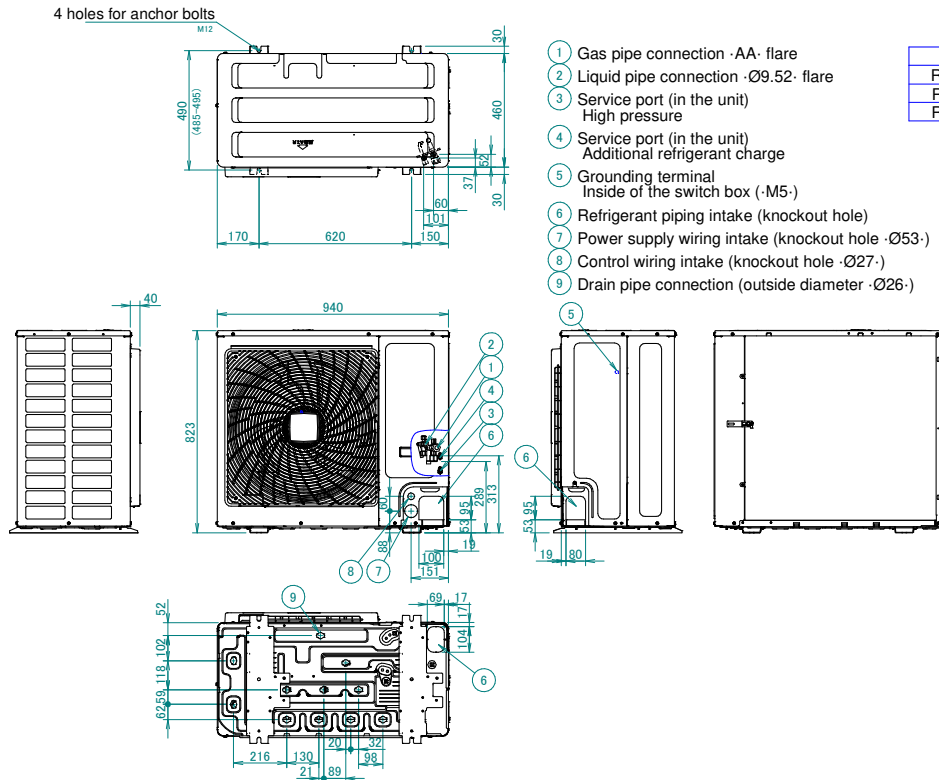
- Cooling mode = 0,79
- Heating mode = 1,0

**3D094660D**

# 6 Dimensional drawings

## 6 - 1 Dimensional Drawings

### RXYSCQ-TV1

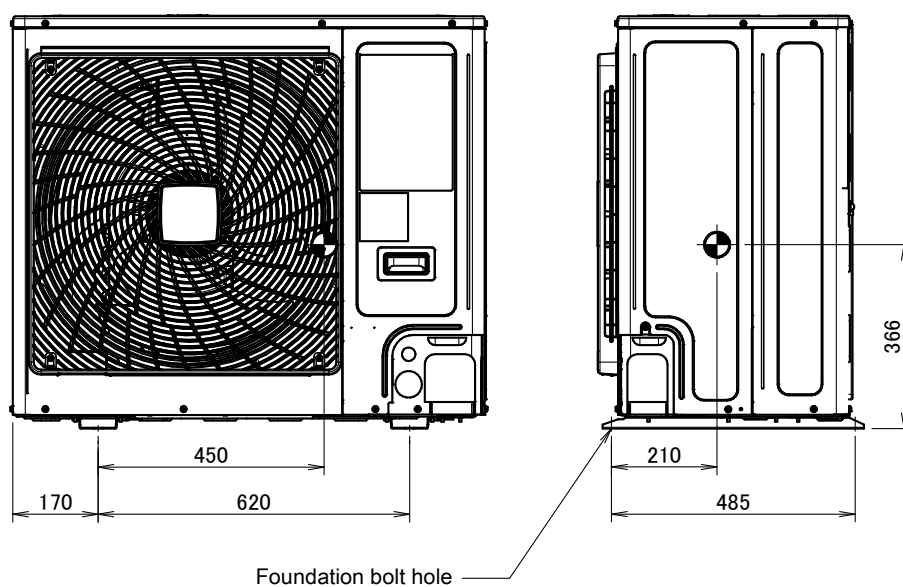


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## 7 Centre of gravity

7 - 1 Centre of Gravity

### RXYSCQ-TV1



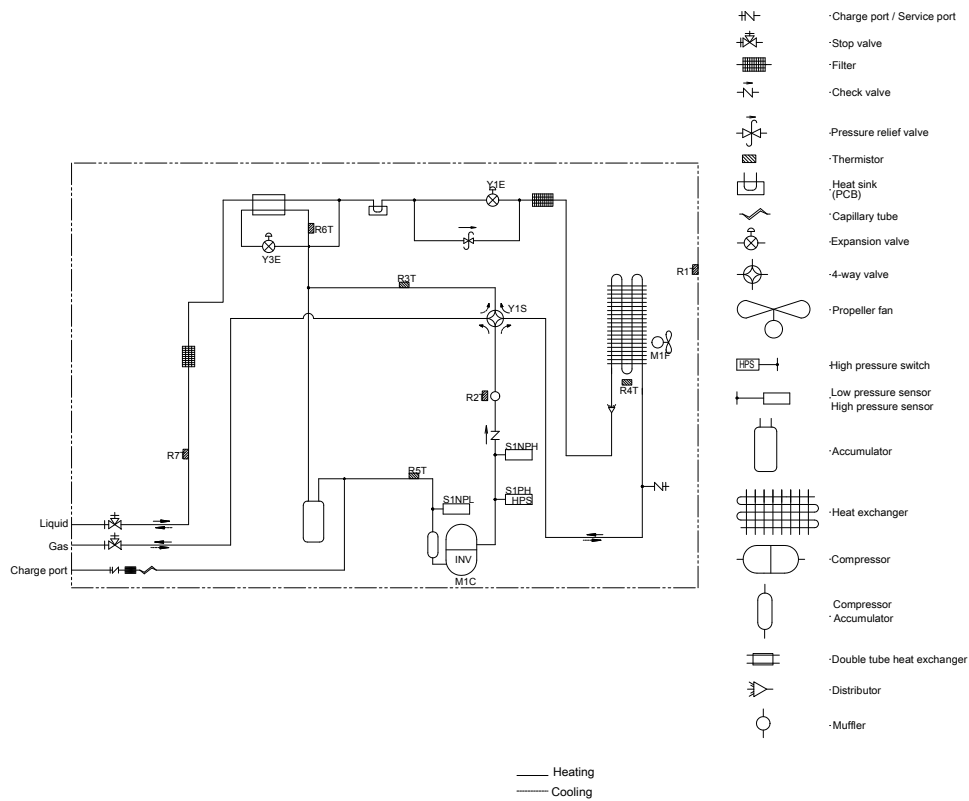
4D098083



# 8 Piping diagrams

## 8 - 1 Piping Diagrams

RXYSCQ-TV1



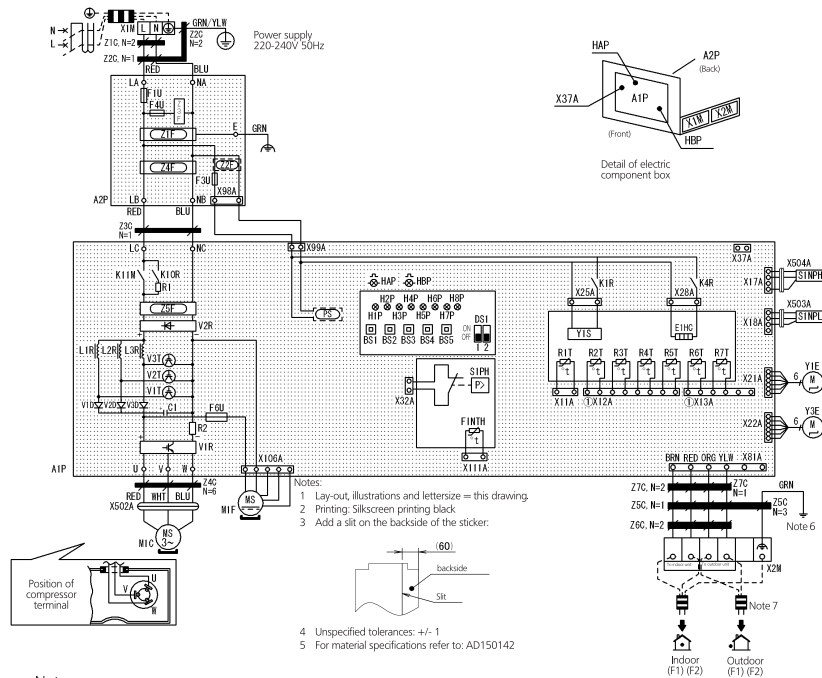
3D097886A

# 9 Wiring diagrams

## 9 - 1 Wiring Diagrams - Single Phase

### RXYSCQ-TV1

E1HC	: Crankcase heater
A1P	: Printed circuit board (Main)
A2P	: Printed circuit board (Sub)
BS1-BS5	: Push button switch
C1	: Capacitor
DS1	: Dip switch
F1U	: Fuse
F3U	: Fuse (T 6.3A / 250V)
F4U	: Fuse (T 6.3A / 250V)
F6U	: Fuse (T 5A / 250V)
H1P-H8P	: Pilot lamp (service monitor-orange)
	[H2P] Prepare, Test ----- Flickering
	Malfunction Detection -- Light up
HAP	: Pilotlamp (service monitor - green)
HBP	: Pilotlamp (service monitor - green)
K11M	: Magnetic contactor
K1R	: Magnetic relay (Y1S)
K4R	: Magnetic relay (E1HC)
K10R	: Magnetic relay
M1C	: Motor (compressor)
M1F	: Motor (fan)
PS	: Switching power supply
R1	: Resistor
R2	: Resistor
R1T	: Thermistor (Air)
R2T	: Thermistor (Discharge)
R3T	: Thermistor (Suction 1)
R4T	: Thermistor (Heat exchanger)
R5T	: Thermistor (Suction 2)
R6T	: Thermistor (Subcooling HEx)
R7T	: Thermistor (Liquid pipe)
R1NTH	: Thermistor (Fin)
S1NPH	: Pressure sensor (high)
S1NPL	: Pressure sensor (low)
S1PH	: High pressure switch
V1R	: IGBT power module
V2R	: Diode module
V1T-V3T	: IGBT
V1D-V3D	: Diode
L1R-L3R	: Reactor
X1M	: Terminal strip
X2M	: Terminal strip
Y1E	: Electronic expansion valve
Y3E	: Electronic expansion valve
Y1S	: Solenoid valve (4 way valve)
Z1C-Z7C	: Noise filter (ferrite core)
Z1F-Z5F	: Noise filter
X37A	: Connector



#### Notes:

1. This wiring diagram only applies to the outdoor unit.
2. Field wiring: Terminal block, Connector, Movable connector, Fixed connector, Terminal, Protective earth (screw), Noiseless earth.
3. Refer to the installation manual on how to use BS1 - BS5 and DS1, DS2 switch.
4. When operating, do not short circuit for protection device. (S1PH)
5. Colours: BLK: Black, RED: Red, BLU: Blue, WHT: White, GRN: Green, BRN: Brown, YLW: Yellow
6. Refer to the installation manual for connection wiring to indoor-outdoor transmission F1 - F2.
7. When using the central control system, connect outdoor-outdoor transmission F1-F2.

2D0943433E

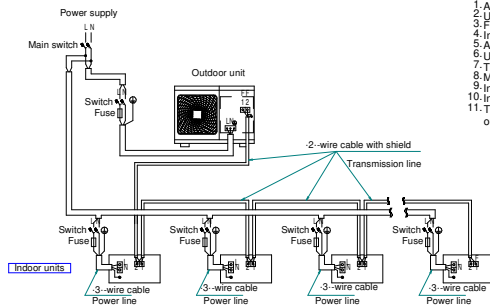
# 10 External connection diagrams

## 10 - 1 External Connection Diagrams

### RXYSCQ-TV1

#### External connection diagram

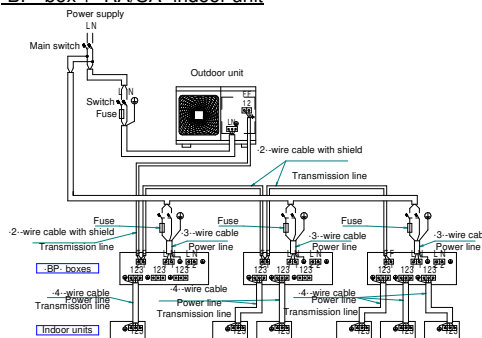
##### ·VRV· indoor unit



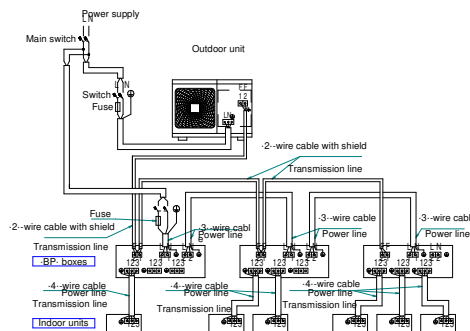
#### Notes

1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only.
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised electrician.
6. Unit has to be grounded in compliance with the applicable legislation.
7. The wiring shown is a general points-of-connection guide and is not intended to include all details for a specific installation.
8. Make sure to install the switch and the fuse to the power line of each equipment.
9. Install a main switch to (if necessary) immediately interrupt all the system's power sources.
10. Install an earth leakage circuit breaker.
11. To ensure proper earthing, connect the shields of the incoming and outgoing transmission wiring of each indoor unit (or each ·BP· box, depending on the system layout) to each other.

##### ·BP· box + ·RA/SA· indoor unit



Power source is supplied to each ·BP· box individually.



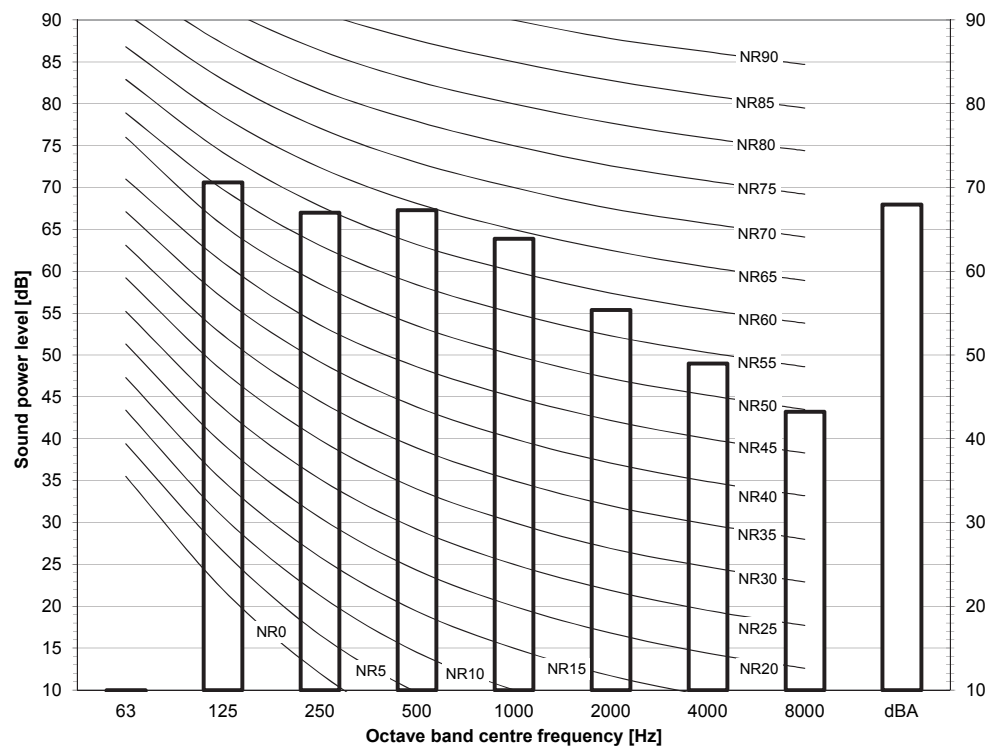
Power source is connected in series between the units.

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# 11 Sound data

## 11 - 1 Sound Power Spectrum

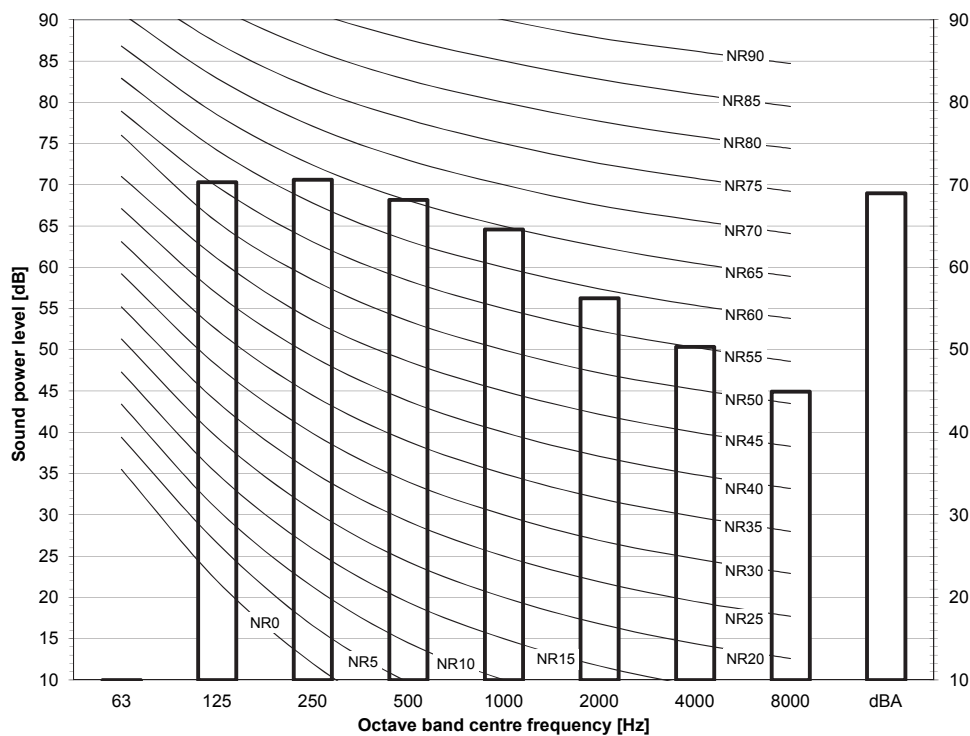
RXYSCQ4TV1



Notes  
 - dBA = A-weighted sound power level (A scale according to IEC).  
 - Reference acoustic intensity  $0\text{dB} = 10\text{E-}6\mu\text{W/m}^2$   
 - Measured according to ISO 3744

3D098238

RXYSCQ5TV1



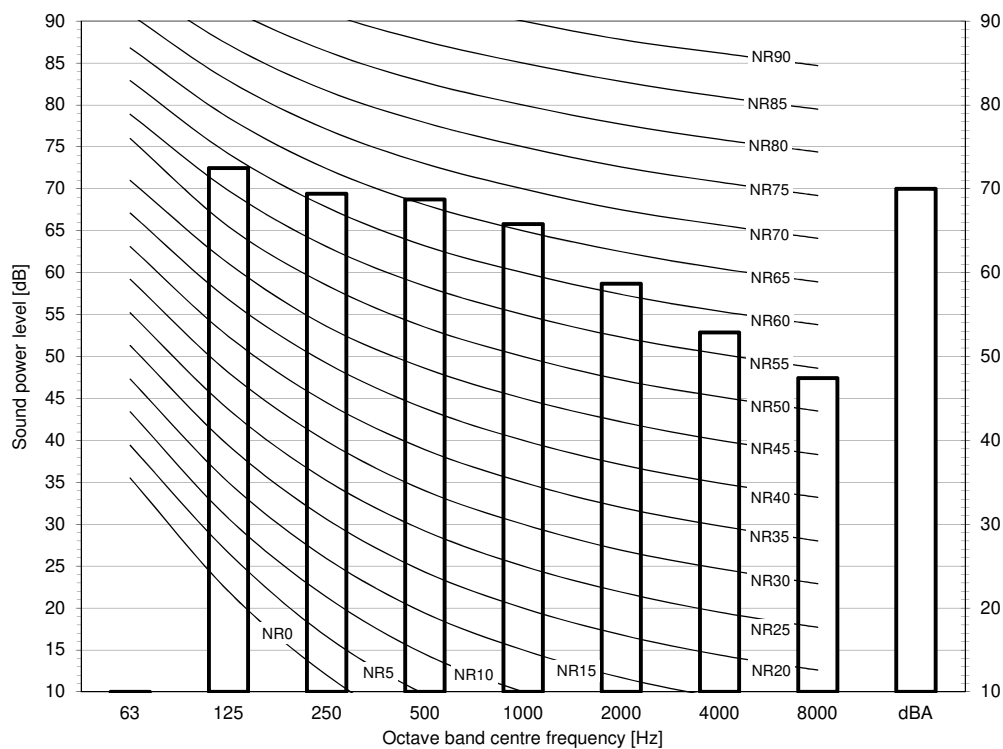
Notes  
 - dBA = A-weighted sound power level (A scale according to IEC).  
 - Reference acoustic intensity  $0\text{dB} = 10\text{E-}6\mu\text{W/m}^2$   
 - Measured according to ISO 3744

3D098239

# 11 Sound data

## 11 - 1 Sound Power Spectrum

RXYSCQ6TV1



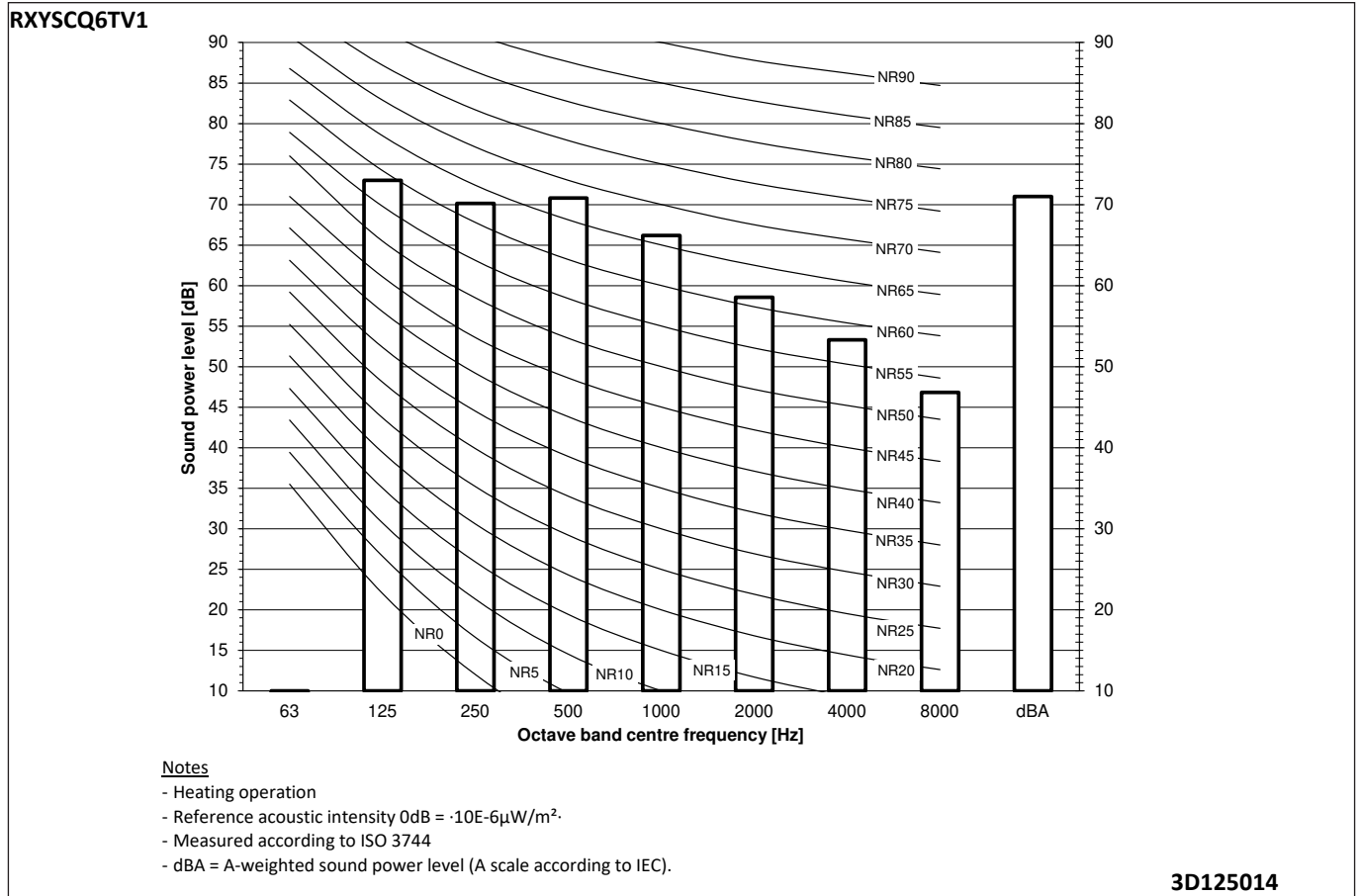
### Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity  $0\text{ dB} = 10^{-6} \text{ W/m}^2$ .
- Measured according to ISO 3744

3D124175

# 11 Sound data

## 11 - 2 Sound Power Spectrum - Heating

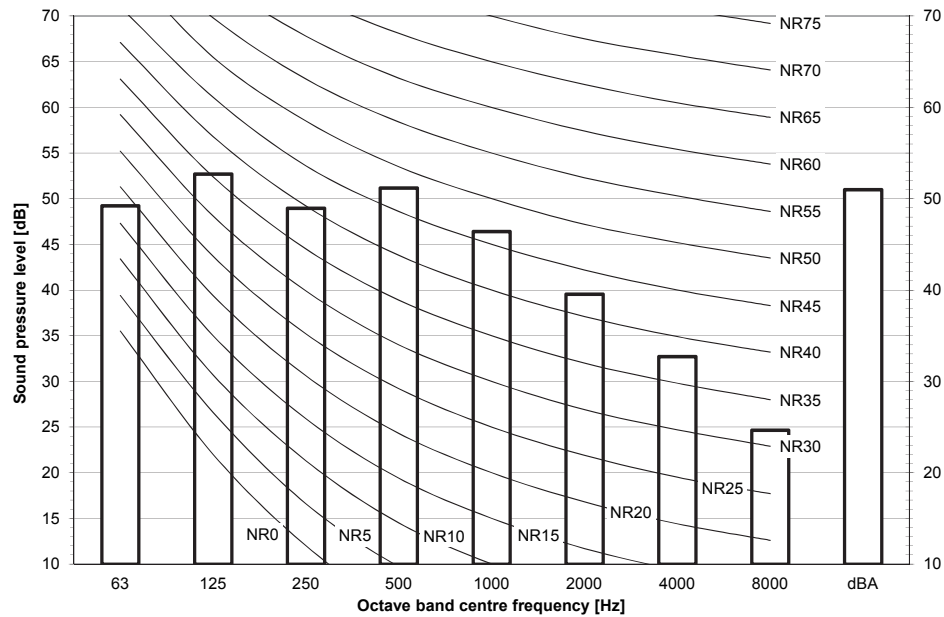


# 11 Sound data

## 11 - 3 Sound Pressure Spectrum

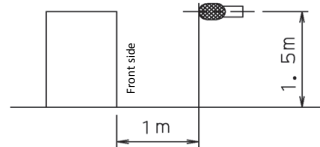
11

RXYSCQ4TV1



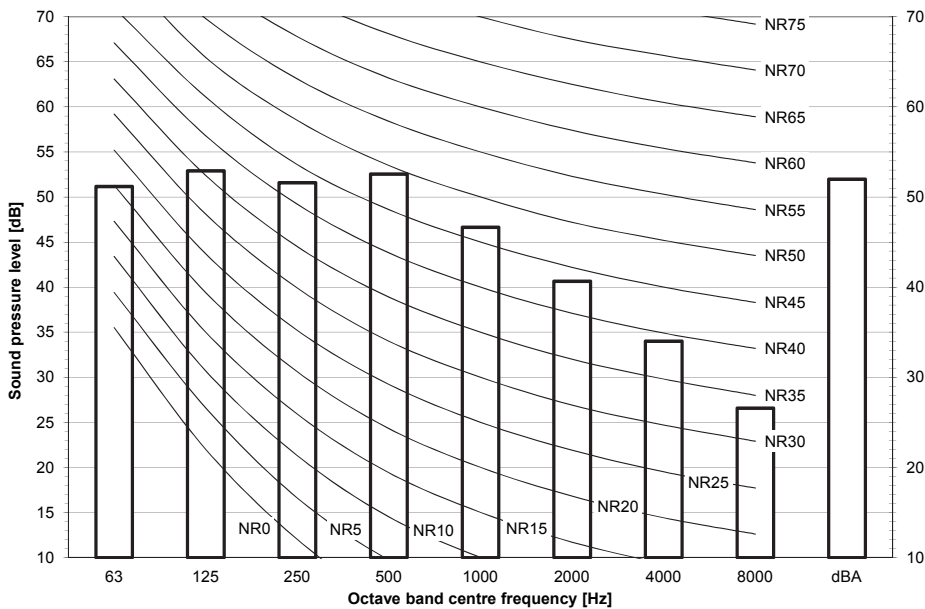
**Notes**

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20  $\mu$ Pa



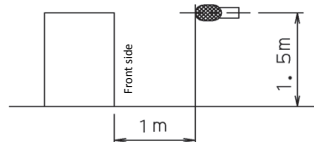
3D098243

RXYSCQ5TV1



**Notes**

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20  $\mu$ Pa



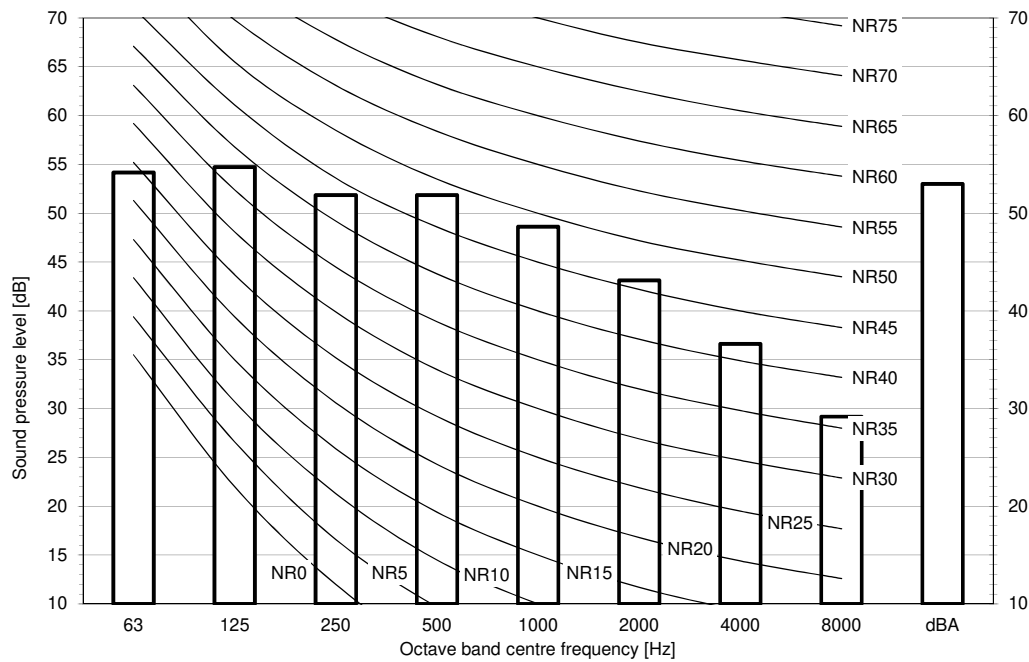
3D098244



# 11 Sound data

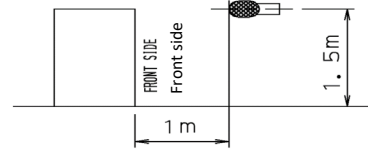
## 11 - 3 Sound Pressure Spectrum

RXYSCQ6TV1



### Notes

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20  $\mu$ Pa

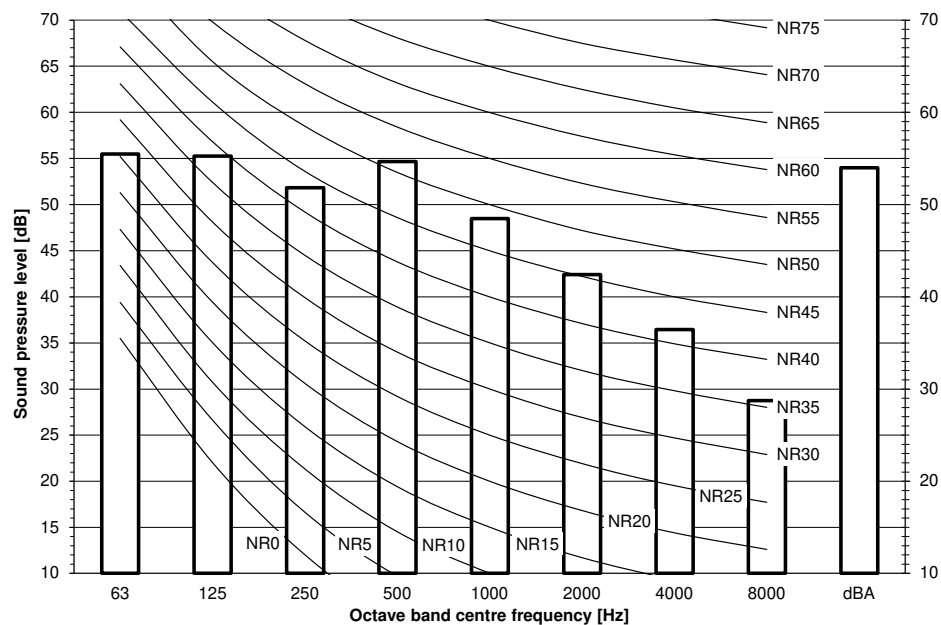


3D124177

# 11 Sound data

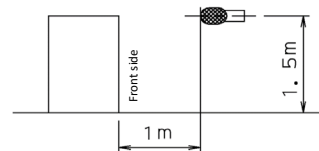
## 11 - 4 Sound Pressure Spectrum - Heating

RXYSCQ6TV1



### Notes

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Heating operation
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20  $\mu$ Pa



3D125015

# 12 Installation

## 12 - 1 Installation Method

### RXYSCQ-TV1

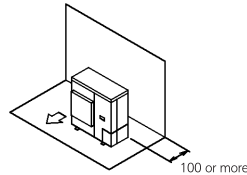
#### Required installation space

The unit of the values is mm.

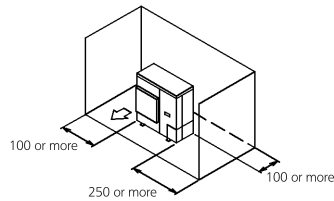
#### (A) When there are obstacles on suction sides.

##### • No obstacle above

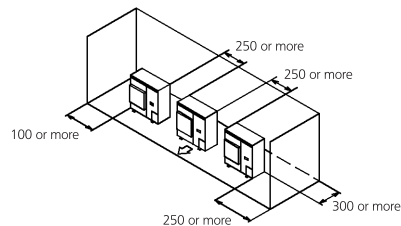
- ① Stand-alone installation
- Obstacle on the suction side only



- Obstacle on both sides

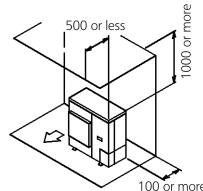


- ② Series installation (2 or more)
- Obstacle on both sides

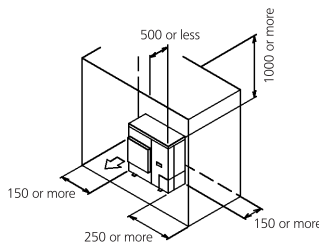


##### • Obstacle above, too.

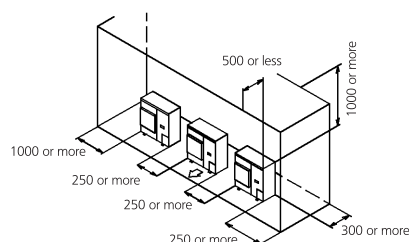
- ① Stand-alone installation
- Obstacle on the suction side, too



- Obstacle on the suction side and both sides



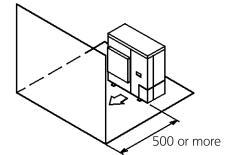
- ② Series installation (2 or more)
- Obstacle on the suction side and both sides



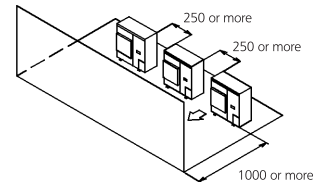
#### (B) When there are obstacles on discharge sides.

##### • No obstacle above

- ① Stand-alone installation

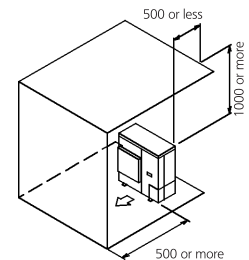


- ② Series installation (2 or more)

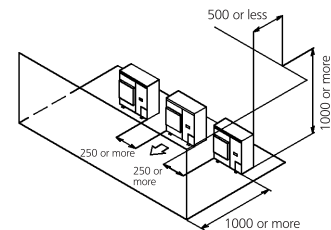


##### • Obstacle above, too

- ① Stand-alone installation



- ② Series installation (2 or more)



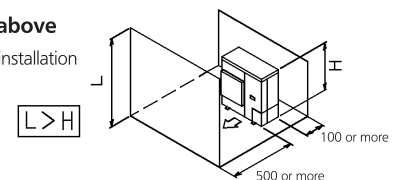
#### (C) When there are obstacles on both suction and discharge sides.:

##### Pattern 1

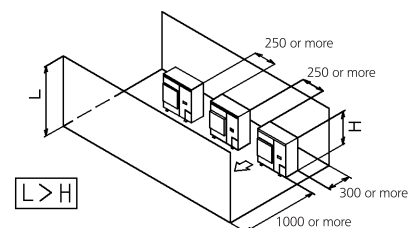
When the obstacles on the discharge side is higher than the unit.  
(There is no height limit for obstructions on the intake side.)

##### • No obstacle above

- ① Stand-alone installation



- ② Series installation (2 or more)



3D089310A

# 12 Installation

## 12 - 1 Installation Method

12

### RXYSCQ-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: $L \leq H$	

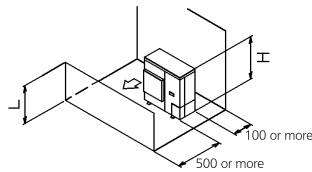
Close the bottom of the installation frame to prevent the discharged air from being bypassed. Only two units can be installed for this series.

#### 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

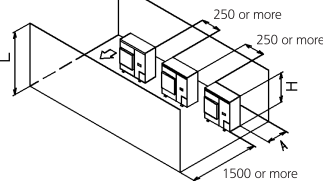
##### ① Stand-alone installation $L > H$



##### ② Series installation (2 or more)

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

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



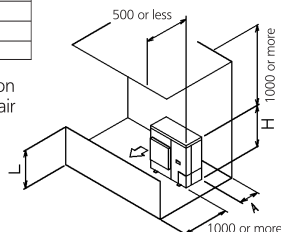
#### ● Obstacle above, too

##### 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.

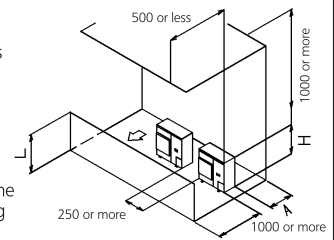
	L	A
$L \leq H$	$0 < L \leq 1/2 H$	250
	$1/2 H < L \leq H$	300
$H < L$	Set the stand as: $L \leq H$	

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

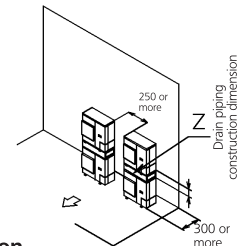
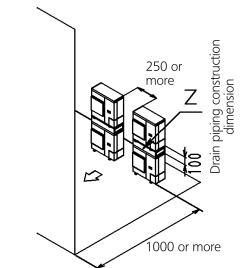
##### ① Obstacle on the discharge side.

Close the gap 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.



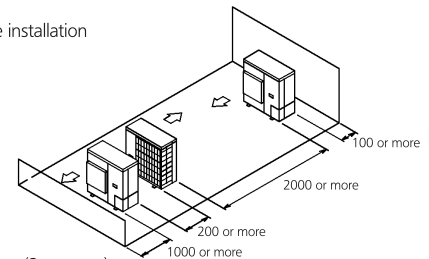
##### ② Obstacle on the suction side.

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.)

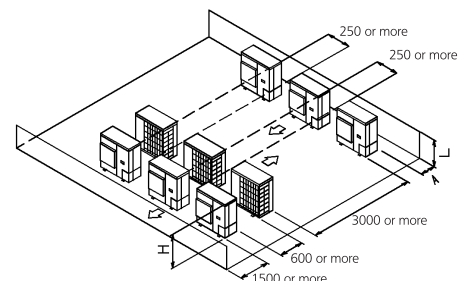
##### ① One row of stand-alone installation



##### 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	



3D089310A

# 12 Installation

## 12 - 2 Refrigerant Pipe Selection

### RXYSCQ-TV1

#### VRV4-S Heat pump Piping restrictions ·1/3·

For the reference drawing, see page ·2/3·.

		Maximum piping length		Maximum height difference		Total piping length
		Longest pipe (A+[B,D+E,H]) Actual / (Equivalent)	After first branch (B,D+E,H) Actual	Indoor-to-outdoor (H1) Outdoor above indoor / (indoor above outdoor)	Indoor-to-indoor (H2)	
Standard ·VRV DX· indoor units only	RXYSCQ4~6TMV1B	70/(90)m	40m	30/(30)m	15m	300m
	RXYSQ4~6T7(V/Y)1B	120/(150)m	40m	50/(40)m	15m	300m
	RXYSQ4~6T8(V/Y)B	100/(130)m	40m	50/(40)m	15m	300m
	RXYSQ8TMY1B	120/(150)m	40m	50/(40)m	15m	300m
	RXYSQ10~12TMY1B	35/(45)m	40m	30/(30)m	15m	140m
·RA· connection	RXYSCQ4~6TMV1B	65/(85)m	40m	30/(30)m	15m	140m
	RXYSQ4~6T7(V/Y)1B	80/(100)m	40m	30/(30)m	15m	140m
	RXYSQ4~6T8(V/Y)B	80/(100)m	40m	30/(30)m	15m	140m
	RXYSQ8TMY1B	50/(55)m (1)	-	40/(40)m	-	-
	RXYSQ10~12TMY1B	50/(55)m (1)	40m	40/(40)m	15m	300m
Air handling unit (·AHU·) connection	Pair	50/(55)m (1)	-	40/(40)m	-	-
	Multi (2)	50/(55)m (1)	40m	40/(40)m	15m	300m
Mix (3)		50/(55)m (1)	40m	40/(40)m	15m	300m

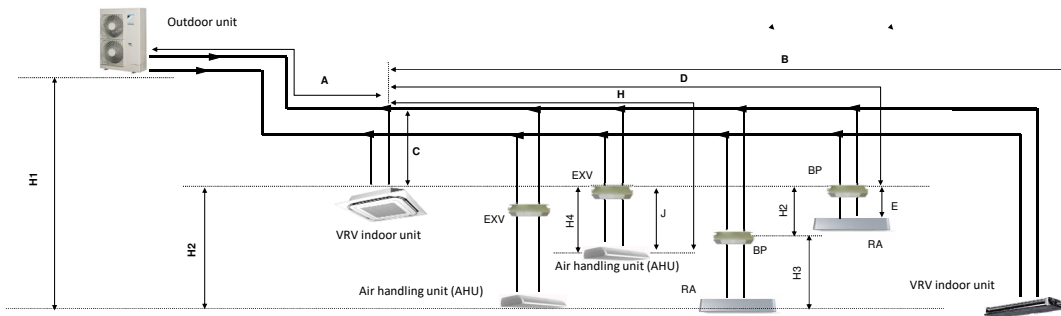
#### Notes

1. The allowable minimum length is ·5· m.
2. Multiple air handling units (·AHU·)(·EKEXV· + ·EKEQ· kits).
3. Mix of air handling units (·AHU·) and ·VRV DX· indoor units.

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### RXYSCQ-TV1

#### VRV4-S Heat pump Piping restrictions ·2/3·



#### Notes

1. Schematic indication  
Illustrations may differ from the actual appearance of the unit.
2. This is only to illustrate piping length limitations.  
Refer to combination table ·3D097983· for details about the allowed combinations.

		Allowed piping length		Maximum height difference	
		·BP· to ·RA· (E)	·EXV· to ·AHU· (J)	·BP· to ·RA· (H3)	·EXV· to ·AHU· (H4)
·RA· connection		2~15m	-	5m	-
Air handling unit (AHU) Connection	Pair	-	≤5m	-	5m
	Multi (1)	-	≤5m	-	5m
	Mix (2)	-	≤5m	-	5m

#### Notes

1. Multiple air handling units (·AHU·)(·EKEXV· + ·EKEQ· kits).
2. Mix of air handling units (·AHU·) and ·VRV DX· indoor units.

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# 12 Installation

## 12 - 2 Refrigerant Pipe Selection

12

### RXYSCQ-TV1

#### VRV4-S Heat pump Piping restrictions :3/3:

System pattern Allowed connection ratio (CR) Other combinations are not allowed.	Total		Allowed capacity		
	Capacity	Maximum allowed amount of connectable indoor units (·VRV, RA, AHU·) Excluding ·BP· units and including ·EXV· kits.	VRV DX indoor unit	·RA DX· indoor unit	Air handling unit (AHU)
·VRV DX· indoor units only	50~130%	Maximum ·64·	50~130%	-	-
·RA DX· indoor units only	80~130%	Maximum ·32· <sup>(1)</sup>	-	80~130%	-
·VRV DX· indoor unit + ·AHU· Mix	50~110% <sup>(3)</sup>	Maximum ·64· <sup>(2)</sup>	50~110%	-	0~110%
·AHU· only Pair + multi <sup>(4)</sup>	90~110% <sup>(3)</sup>	Maximum ·64· <sup>(2)</sup>	-	-	90~110%

#### Notes

- There is no restriction on the number of connectable ·BP· boxes.
- EKEXV· kits are also considered indoor units.
- Restrictions regarding the air handling unit capacity
- Pair AHU = system with 1 air handling unit connected to one outdoor unit  
Multi AHU = system with multiple air handling units connected to one outdoor unit

#### About ventilation applications

- FXMQ\_MF· units are considered air handling units, following air handling unit limitations.
  - Maximum connection ratio when combined with ·VRV DX· indoor units: ·CR ≤ 30·%.
  - Maximum connection ratio when only air handling units are connected: ·CR ≤ 100·%.
  - Minimum connection ratio when only ·FXMQ\_MF· units are connected: ·CR ≥ 50·%
For information on the operation range, refer to the documentation of the ·FXMQ\_MF· unit.
- Biddle· air curtains are considered air handling units, following air handling unit limitations:
For information on the operation range, refer to the documentation of the ·Biddle· unit.
- EKEXV + EKEQ· units combined with an air handling unit are considered air handling units, following air handling unit limitations.
For information on the operation range, refer to the documentation of the ·EKEXV-EKEQ· unit.
- VKM· units are considered to be regular ·VRV DX· indoor units.
For information on the operation range, refer to the documentation of the ·VKM· unit.
- Because there is no refrigerant connection with the outdoor unit (only communication F1/F2), ·VAM· units do not have connection limitations.  
However, since there is communication via F1/F2, count them as regular indoor unit when calculating the maximum allowed number of connectable indoor units.

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# 13 Operation range

## 13 - 1 Operation Range

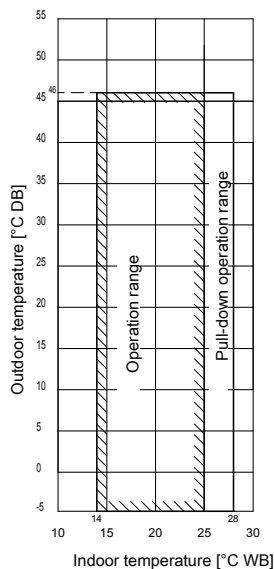
RXYSCQ-TV1  
RXYSQ-TV1  
RXYSQ4-6TY1

### Notes

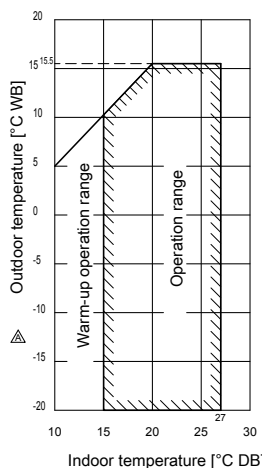
- These figures assume the following operation conditions  
Indoor and outdoor units  
Equivalent piping length: 5m  
Level difference: 0m
- Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
- To reduce the freeze-up operation (indoor de-icing) frequency, it is recommended to install the outdoor unit in a location not exposed to wind.
- Operation range is valid in case direct expansion indoor units are used.  
If other indoor units are used, refer to the documentation of the respective indoor units.
- If the unit is selected to operate at ambient temperatures  $< -5^{\circ}\text{C}$  for 5 days or more, with relative humidity levels  $> 95\%$ , it is recommended to apply a Daikin range specifically designed for such application.

### Cooling

For more information, contact your dealer.



### Heating



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# 14 Appropriate Indoors

## 14 - 1 Appropriate Indoors

RXYSQ-TY1

RXYSQ-TY9

RXYSQ-TV9

RXYSCQ-TV1

Recommended indoor units for ·RXYSQ\*T\* AND RXYSCQ\*T\*· outdoor units

-- HP	4	5	6	8	10	12
	3xFXSQ25 1xFXSQ32	4xFXSQ32	2xFXSQ32 2xFXSQ40	4xFXMQ50	4xFXMQ63	6xFXMQ50

For details about the allowed combinations, see the engineering databook.

Appropriate indoor units for ·RXYSQ\*T\* AND RXYSCQ\*T\*· outdoor units

Covered by ·ENER LOT21·

FXFQ20-25-32-40-50-63-80-100-125  
 FXZQ15-20-25-32-40-50  
 FXCQ20-25-32-40-50-63-80-125  
 FXKQ25-32-40-63  
 FXDQ15-20-25-32-40-50-63  
 FXSQ15-20-25-32-40-50-63-80-100-125-140  
 FXMQ50-63-80-100-125-200-250  
 FXAQ15-20-25-32-40-50-63  
 FXHQ32-63-100  
 FXUQ71-100  
 FXNQ20-25-32-40-50-63  
 FXLQ20-25-32-40-50-63

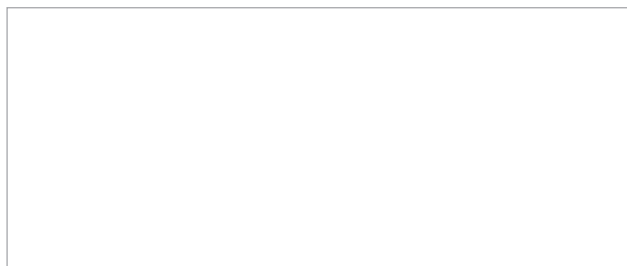
Outside the scope of ·ENER LOT21·

EKEXV50-63-80-100-125-140-200-250 + EKEQM / EKEQF  
 VKM50-80-100  
 CYV5100-150-200-250  
 CYVM100-150-200-250  
 CYVL100-150-200-250

Covered by ·ENER LOT10·

FTXJ25-35-50  
 FTXA20-25-35-42-50  
 FTXM20-25-35-42-50-60-71  
 CTXIM15  
 FLXS25-35-50-60  
 FVXM25-35-50  
 FVXG25-35-50  
 FNA25-35-50-60  
 FDXM25-30-50-60  
 FFA25-35-50-60  
 FCAG35-50-60-71  
 FHA35-50-60-71  
 FBA35-50-60-71  
 CVXM20A  
 FVXM-25A-35A-50A-60A

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