DAIKIN

Air Conditioning Technical Data

RXYSQ-TY1

> RXYSQ4T7Y1B
> RXYSQ5T7Y1B
> RXYSQ6T7Y1B
> RXYSQ8TMY1B
> RXYSQ10TMY1B
> RXYSQ12TMY1B

TABLE OF CONTENTS

RXYSQ-TY1

1 Features

Space saving solution without compromising on efficiency

- Space saving trunk design for flexible installation
- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units and Biddle air cutains
- Wide range of indoor units: either connect VRV or stylish indoor units such as Daikin Emura, Nexura ...
- Wide range of units (4 to 12HP) suitable for projects up to 200m² with space limitations
- 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
- VRV configurator software for the fastest and most accurate commissioning, configuration and customisation
- 3 steps in night quiet mode: step 1: 47dBA, step 2: 44 dBA, step 3: 41 dBA
- 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 our i-Net service: 24/7 monitoring for maximum efficiency, extended lifetime, immediate service support thanks to failure prediction and a clear understanding of operability and usage

Inverter

2 Specifications

2-1 Technical Specifications					RXYSQ4TY1	RXYSQ5TY1	RXYSQ6TY1	RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Capacity range				HP	4	5	6	8	10	12
Cooling capacity	Nom.	35°C AHRI		kW	-			22.4 (1)	28.0	33.5
				Btu/h	-			76,400	95,500	114,300
		35°CDB		kW	12.1 (1)	14.0 (1)	15.5 (1)	-		
		46°C AHRI		kW	-			17.0	20.0	24.0
				Btu/h	-			58,000	68,200	81,850.0
		48°C AHRI		kW	-			15.0	17.0	20.0
				Btu/h	-			51,150	58,000	68,200.0
		Eurovent		kW	-			22.4	28.0	33.5
				Btu/h	-			76,400.0	95,500	114,300.0
Heating capacity	Nom.	6°CWB		kW	12.1 (2)	14.0 (2)	15.5 (2)	22.4 (2)	28.0 (2)	33.5 (2)
	Max.	6°CWB		kW	14.2 (2)	16.0 (2)	18.0 (2)	25.0 (2)	31.5 (2)	37.5 (2)
Power input - 50Hz	Cooling	Nom.	35°C AHRI	kW	-			6.78	8.54	10.2
			35°CDB	kW	3.03 (1)	3.73 (1)	4.56 (1)	-		
			46°C AHRI	kW	-			5.80	7.02	8.60
			48°C AHRI	kW	-			5.34	6.80	7.97
			Eurovent	kW	-			6.12	8.24	10.2
	Heating	Nom.	6°CWB	kW	2.68 (2)	3.27 (2)	3.97 (2)	5.20 (2)	6.60 (2)	8.19 (2)
		Max.	6°CWB	kW	3.43 (2)	4.09 (2)	5.25 (2)	6.22 (2)	8.33 (2)	10.2 (2)
Capacity control	Method				Inverter controlled					
EER at nom. capacity	35°C AHRI			Btu/h	-			11.3	11.2	
				kW/kW	4.00 (1)	3.75 (1)	3.40 (1)	3.30 (1)	3.28 (1)	
	35°CDB			kW/kW	-					
	46°C AHRI			Btu/h	-			10.0	9.72	9.52
				kW/kW	-			2.93	2.85	2.79
	48°C AHRI			Btu/h	-			9.58	8.53	8.56
				kW/kW	-			2.81	2.50	2.51
	Eurovent			Btu/h	-				11.60	11.3
				kW/kW	-			3.66	3.40	3.30
ESEER - Automatic					7.89	7.49	6.73	6.72	6.41	6.18
ESEER - Standard					6.18	5.77	5.23	5.63	5.02	4.87
COP at nom. capacity	6°CWB			Btu/h	-			12.5	-	
				kW/kW	4.52 (2)	4.28 (2)	3.90 (2)	4.31 (2)	4.24 (2)	4.09 (2)
COP at max. capacity	6°CWB			kW/kW	4.14 (2)	3.91 (2)	3.43 (2)	4.02 (2)	3.78 (2)	3.66 (2)
Dimensions	Unit	Height		mm	1,345			1,430	1,615	
		Width		mm	900			940		
		Depth		mm	320				460	
	Packed unit	Height		mm	1,524			1,615	1,745	
		Width		mm	980			1,030	1,015	
		Depth		mm	420				575	
Maximum number of connectable indoor units					64 (3)					
Indoor index connection	Min.				50	62.5	70	100	125	150
	Nom.				-					
	Max.				130	162.5	182	260	325	390
Weight	Unit			kg	104			144	175	180
	Packed unit			kg	114			158	191	196
Packing	Material				Carton					
	Weight			kg	3.9			5.6	8.2	
Packing 2	Material				Wood					
	Weight			kg	5.6			5.5	8.8	
Packing 3	Material				Plastic					
	Weight			kg	0.5			0.3	0.4	
Casing	Colour				Daikin White					
	Material				Painted galvanized steel plate					

2 Specifications

2-1 Technical Specifications					RXYSQ4TY1	RXYSQ5TY1	RXYSQ6TY1	RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Heat exchanger	Type				Cross fin coil					
	Fin	Treatment			Anti-corrosion treatment					
Compressor	Quantity				1					
	Type				Hermetically sealed swing compressor			Hermetically sealed scroll compressor		
	Crankcase heater			W	-			33		
Fan	Quantity				2					
	Air flow rate	Cooling	Nom.	m³/min	106			140	182	
	External static pressure	Max.		Pa	-					
	Discharge direction				Horizontal					
	Type				Propeller fan					
Fan motor	Quantity				2					
	Output			W	70			200		
	Model				Brushless DC motor					
Sound power level	Cooling	Nom.		dBA	68 (4)	69 (4)	70 (4)	73 (4)	74 (4)	76 (4)
Sound pressure level	Cooling	Nom.		dBA	50 (5)	51 (5)		55 (5)		57 (5)
Operation range	Cooling	Min.~Max.		°CDB	-5~46			-5~52		
	Heating	Min.~Max.		°CWB	-20~15.5					
Refrigerant	Type				R-410A					
	GWP				2,087.5					
	Charge			TCO_2eq	7.5			9.4	14.6	16.7
				kg	3.6			5.5	7	8
Refrigerant oil	Type				Synthetic (ether) oil FVC50K			Synthetic (ether) oil FVC68D		
	Charged volume			l	1.4			2.6	3.2	3.4
Piping connections	Liquid	Type			Flare connection			Braze connection		
		OD		mm	9.52					12.7
	Gas	Type			Flare connection		Braze connection			
		OD		mm	15.9		19.1		22.2	25.4
	Total piping length	System	Actual	m	-					
	Level difference	OU - IU	Outdoor unit in highest position	m	-					
			Indoor unit in highest position	m	-					
	Heat insulation				Both liquid and gas pipes					
	Piping length	OU - IU	Max.	m	300					
Defrost method					Reversed cycle					
Safety devices	Item	01			High pressure switch					
		02			Fan driver overload protector					
		03			Inverter overload protector					
		04			PC board fuse					
PED	Category				Category I			Category II		
	Most critical part	Name			Compressor			Accumulator		
		Ps*V		Bar*l	167			202	279	

Standard Accessories : Installation manual;

Standard Accessories : Operation manual;

Standard Accessories : Connection pipes;

2-2 Electrical Specifications			RXYSQ4TY1	RXYSQ5TY1	RXYSQ6TY1	RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Power supply	Name		Y1					
	Phase		3N~					
	Frequency	Hz	50					
	Voltage	V	380-415					
Voltage range	Min.	%	-10					
	Max.	%	10					

2 Specifications

2-2 Electrical Specifications				RXYSQ4TY1	RXYSQ5TY1	RXYSQ6TY1	RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Current	Nominal running current (RLA) - 50Hz	Cooling	A	4.44 (6)	5.55 (6)	6.84 (6)	9.6 (6)	10.7 (6)	13.4 (6)
Current - 50Hz	Zmax	List		No requirements			-		
	Minimum Ssc value		kVa	-			910	564	615
	Minimum circuit amps (MCA)		A	14.1			18.5	22.0	24.0
	Maximum fuse amps (MFA)		A	16			25		32
	Total overcurrent amps (TOCA)		A	14.1 (7)			16.5 (7)	25.0 (7)	27.0 (7)
	Full load amps (FLA)	Total	A	0.6			1.4		
Wiring connections - 50Hz	For power supply	Quantity		5G					
	For connection with indoor	Quantity		2					
		Remark		F1,F2					
Power supply intake				Both indoor and outdoor unit					

Notes

(1) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. Eurovent 2015 tolerances are used.

(2) 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%).

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

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

(5) Sound values are measured in a semi-anechoic room.

(6) MSC means the maximum current during start up of the compressor. VRV IV uses only inverter compressors. Starting current is always ≤ max. running current.

(7) FLA: nominal running current fan

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

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

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

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

TOCA means the total value of each OC set.

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

Maximum allowable voltage range variation between phases is 2%.

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.

Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. Eurovent 2015 tolerances are used.

FLA means the nominal running current of the fan

In accordance with EN/IEC 61000-3-11, respectively 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 Zsys ≤ Zmax, respectively Ssc ≥ minimum Ssc value.

EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

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 ≤ 75A per phase

Ssc: Short-circuit power

Zsys: system impedance

3 Options

3 - 1 Options

RXYSCQ-TV1
RXYSQ-TV1
RXYSQ-TY1

Nr.	Item	RXYSCQ4~5TMV1B	RXYSQ4~6T7V1B	RXYSQ4~6T7Y1B	RXYSQ8~12TMY1B	RXYSQ6T7Y1B9
I.	Refnet header	KHRQ22M29H				
		-	-	-	KHRQ22M64H	-
II.	Refnet joint	KHRQ22M20T				
		-	-	-	KHRQ22M29T9	-
		-	-	-	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*				
4.	Demand PCB	DTA104A61/62*				
5.	Branch provider - 2 rooms	BPMKS967A2				-
6.	Branch provider - 3 rooms	BPMKS967A3				-

Notes
1. All options are kits
2. To mount option 1a, option 1b is required.
3. For RXYSQ4~6T7V1B
   To operate the cool/heat selector function, options 1a and 1c are both required.
4. For RXYSQ4~6T7Y1B
   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
RXYSQ-TV1
RXYSQ-TY1

Indoor unit combination pattern	VRV* DX box + indoor unit	RA DX box + indoor unit	Hydrobox unit	Air handling unit (AHU) (1)
VRV* DX box + indoor unit	O	X	X	O
RA DX box + indoor unit	X	O	X	X
Hydrobox unit (1)	X	X	X	X
Air handling unit (AHU)	O_1	X	X	O_1

O: Allowed
X: Not allowed

Notes
1. O_1
   - *Combination of AHU only + control box EKEQFA (not combined with VRV DX indoor units)*
     → X-control is possible (up to 3x [EKEXV+EKEQFA* boxes] can be connected to one outdoor unit (system)). No Variable Refrigerant Temperature control possible.
     → Y-control is possible (up to 3x [EKEXV+EKEQFA* boxes] can be connected to one outdoor unit (system)). No Variable Refrigerant Temperature control possible.
     → W-control is possible (up to 3x [EKEXV+EKEQFA* boxes] can be connected to one outdoor unit (system)). 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 [EKEXV + 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:
   → EKEXV + EKEQ(MA/FA) + AHU coil
   → Biddle air curtain
   → FXMQ_MF units

Information
- VKM units are considered to be regular VRV DX indoor units.

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RXYSCQ-TV1
RXYSQ-TV1
RXYSQ-TY1

Combination table	RXYSCQ4~5TMV1B	RXYSQ4~6T7V1B	RXYSQ4~6T7Y1B	RXYSQ8~12TMY1B
VRV* DX box + indoor unit	O	O	O	O
RA DX box + indoor unit	O	O	O	O
Hydrobox unit	X	X	X	X
Air handling unit (AHU) (2)	O	O	O	O

O: Allowed
X: Not allowed

Notes
1. (2) The following units are considered AHUs:
   → EKEXV + EKEQ(MA/FA) + AHU coil
   → Biddle air curtain
   → FXMQ_MF units

3D097983

4 Combination table

4 - 1 Combination Table

RYSCQ-TV1
RXYSQ-TV1_TY1

VRV4-S
Heat pump
RA/SA DX indoor unit
Compatibility list

Configuration			Indoor unit type
RA indoor unit	Wall-mounted	*Emura*	FTXG20L (W/S)
			FTXG25L (W/S)
			FTXG35L (W/S)
			FTXG50L (W/S)
		FTXS	FTXS20K
			FTXS25K
			FTXS35K
			FTXS42K
			FTXS50K
			FTXS60G
			FTXS71G
		CTXS	CTXS15K
			CTXS35K
	Floor-standing Ceiling-mounted	*Flex*	FLXS25B
			FLXS35B
			FLXS50B
			FLXS60B
	Floor-standing	*FVXS*	FVXS25F
			FVXS35F
			FVXS50F
		Nexura	FVXG25K
			FVXG35K
			FVXG50K
		FNQ	FNQ25A
			FNQ35A
			FNQ50A
			FNQ60A
	Duct	*FDXS*	FDXS25F
			FDXS30F
			FDXS50F9
			FDXS60F

Configuration			Indoor unit type
SA indoor unit	Cassette	*Fully Flat 2x2*	FFQ25C
			FFQ35C
			FFQ50C
			FFQ60C
		Roundflow 3x3	FCQG35F
			FCQG50F
			FCQG60F
			FCQG71F
	Ceiling-suspended		FHQ35C
			FHQ50C
			FHQ60C
			FHQ71C
	Duct		FBQ35D
			FBQ50D
			FBQ60D
			FBQ71D

Remark
1. 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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RXYSQ-TV1/TY1

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 syste m ≤ 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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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.
  → webtools.daikin.eu
- E-data app: gives a complete overview of the Daikin products available in your country, with all engineering data and commercial info in your own language. Download the app now!
  → https://itunes.apple.com/us/app/daikin-e-data/id565955746?mt=8
- Selection software: allows you to do load calculations, equipment selections and energy simulations for our VRV, Daikin Altherma, refrigeration and applied systems products.
  → my.daikin.eu

5 Capacity tables

5 - 2 Integrated Heating Capacity Correction Factor

RXYSCQ-TV1
RXYSQ-TV1
RXYSQ-TY1

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:

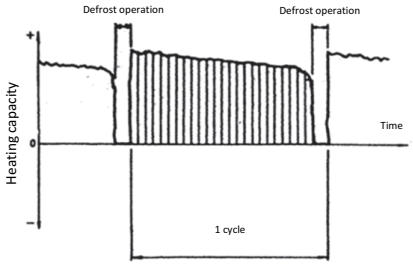
Formula

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

A = B * 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 RXYSQ4T7V1B RXYSQ5T7V1B RXYSQ6T7V1B RXYSQ4T7Y1B RXYSQ5T7Y1B RXYSQ6T7Y1B RXYSQ6T7Y1B9	0,88	0,86	0,80	0,75	0,76	0,82	1,00
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
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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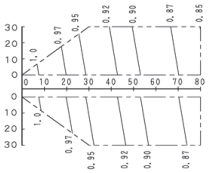
5 Capacity tables

5 - 3 Capacity Correction Factor

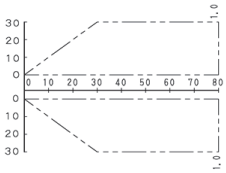
RXYSQ-TV1
RXYSQ4-6TY1

Correction ratio for cooling capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Correction ratio for heating capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Notes

1. 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 it the above figures.

2. 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

3. 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%.

   Maximum capacity of outdoor units = Capacity of outdoor units from capacity table at 100% connection ratio. x Correction ratio of piping to furthest indoor unit

   Indoor connection ratio > 100%.

   Maximum capacity of outdoor units = Capacity of outdoor units from capacity table at installed connection ratio. x Correction ratio of piping to furthest indoor unit

4. 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
4HP / 5HP	9,5	Not increased	15,9	19,1
6 HP	9,5	Not increased	19,1	22,2

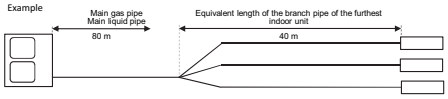
5. Overall equivalent length

   Overall equivalent length = Equivalent length of the main pipe x Correction factor + 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

Example



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,5 + 40 m = 80 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,86
- Heating mode = 1,00

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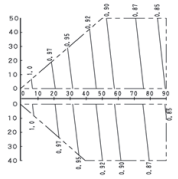
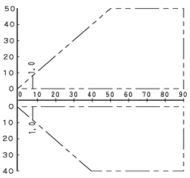
RXYSQ8TY1

Correction ratio for cooling capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Correction ratio for heating capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Notes

1. 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 it the above figures.

2. 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

3. 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%.

   Maximum capacity of outdoor units = Capacity of outdoor units from capacity table at 100% connection ratio. x Correction ratio of piping to furthest indoor unit

   Indoor connection ratio > 100%.

   Maximum capacity of outdoor units = Capacity of outdoor units from capacity table at installed connection ratio. x Correction ratio of piping to furthest indoor unit

4. 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
RXYSQ8TMY1B	9,5	12,7	19,1	22,2

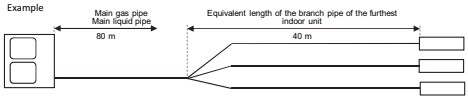
5. Overall equivalent length

   Overall equivalent length = Equivalent length of the main pipe x Correction factor + 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	0,3

Example



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,87
- Heating mode = 1,00

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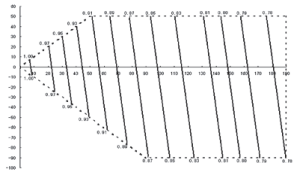
5 Capacity tables

5 - 3 Capacity Correction Factor

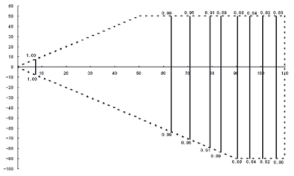
RXYSQ10TY1

Correction ratio for cooling capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Correction ratio for heating capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Notes

1. 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 it the above figures.

2. 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

3. 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%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	x	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	x	Correction ratio of piping to furthest indoor unit

4. 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
RXYSQ8TMY1B	9,5	12,7	22,2	25.4 *

* If not available on-site, do not increase the piping diameter.
If not increased, do not apply a correction factor to the equivalent piping length (see note 5).

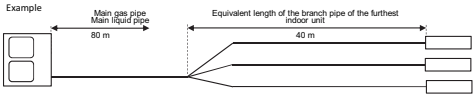
5. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	x	Correction factor	+	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	0,2

Example



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,2 + 40 m = 56 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,87
- Heating mode = 0,99

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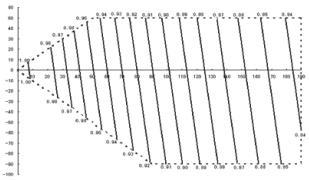
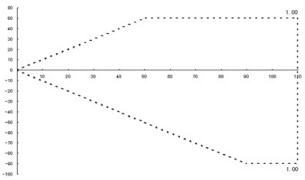
RXYSQ12TY1

Correction ratio for cooling capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Correction ratio for heating capacity



x-axis : Equivalent piping length [m]
y-axis : Height difference between outdoor unit and furthest indoor unit [m]

Notes

1. 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 it the above figures.

2. 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

3. 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%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	x	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	x	Correction ratio of piping to furthest indoor unit

4. 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
RXYSQ8TMY1B	12,7	15,9	25,4	28,6

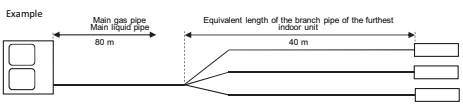
5. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	x	Correction factor	+	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	0,3

Example



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,2 + 40 m = 64 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,92
- Heating mode = 1,00

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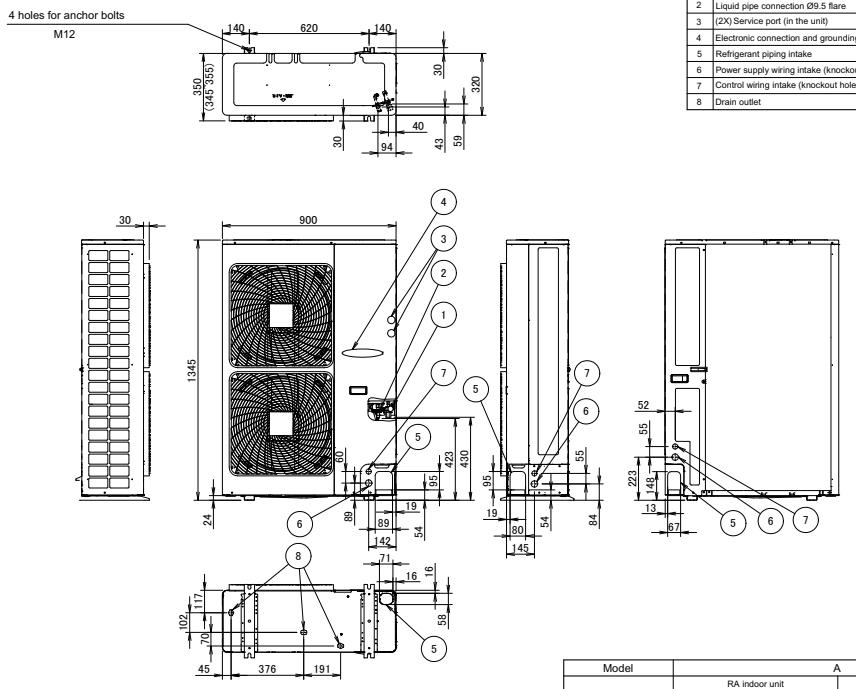
6 Dimensional drawings

6 - 1 Dimensional Drawings

RXYSQ4-6TV1
RXYSQ4-6TY1



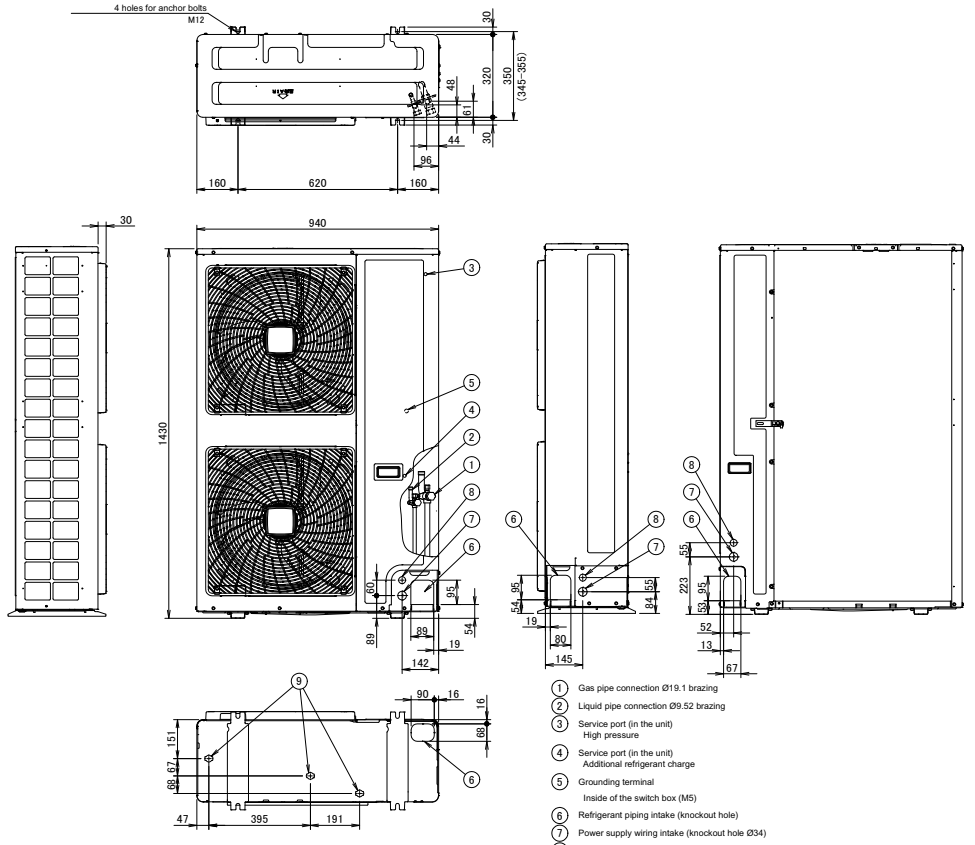
1	Gas pipe connection A
2	Liquid pipe connection Ø9.5 flare
3	(2X) Service port (in the unit)
4	Electronic connection and grounding terminal M5 (in the switch box)
5	Refrigerant piping intake
6	Power supply wiring intake (knockout hole Ø34)
7	Control wiring intake (knockout hole Ø27)
8	Drain outlet

Model	A
RMXS112E8V1B	Ø19.1 brazed connection
RMXS140E8V1B	Ø19.1 brazed connection
RMXS160E8V1B	Ø19.1 brazed connection
RXYSQ4PA7V1B	Ø15.9 flared connection
RXYSQ5PA7V1B	Ø15.9 flared connection
RXYSQ6PA7V1B	Ø19.1 brazed connection
ERX100A9V1B	Ø15.9 flared connection
ERX125A9V1B	Ø15.9 flared connection
ERX140A9V1B	Ø19.1 brazed connection
GCA100BD4	Ø15.9 flared connection
GCA125BD4	Ø15.9 flared connection
GCA140BD4	Ø19.1 brazed connection
RXYSQ4PA7Y1B	Ø15.9 flared connection
RXYSQ5PA7Y1B	Ø15.9 flared connection
RXYSQ6PA7Y1B	Ø19.1 brazed connection

Model	A	
	RA indoor unit	VRV indoor unit
RXYSQ4(P8/T7)V1B	Ø19.1 brazed connection	Ø15.9 flared connection
RXYSQ5(P8/T7)V1B	Ø19.1 brazed connection	Ø15.9 flared connection
RXYSQ6(P8/T7)V1B	Ø19.1 brazed connection	
RXYSQ4(P8/T7)Y1B	Ø19.1 brazed connection	Ø15.9 flared connection
RXYSQ5(P8/T7)Y1B	Ø19.1 brazed connection	Ø15.9 flared connection
RXYSQ6(P8/T7)Y1B	Ø19.1 brazed connection	

3TW30374-1D

RXYSQ8TY1



1. Gas pipe connection Ø19.1 brazing
2. Liquid pipe connection Ø9.52 brazing
3. Service port (in the unit)
   High pressure
4. Service port (in the unit)
   Additional refrigerant charge
5. Grounding terminal
   Inside of the switch box (M5)
6. Refrigerant piping intake (knockout hole)
7. Power supply wiring intake (knockout hole Ø34)
8. Control wiring intake (knockout hole Ø27)
9. Drain pipe connection (outside diameter Ø26)

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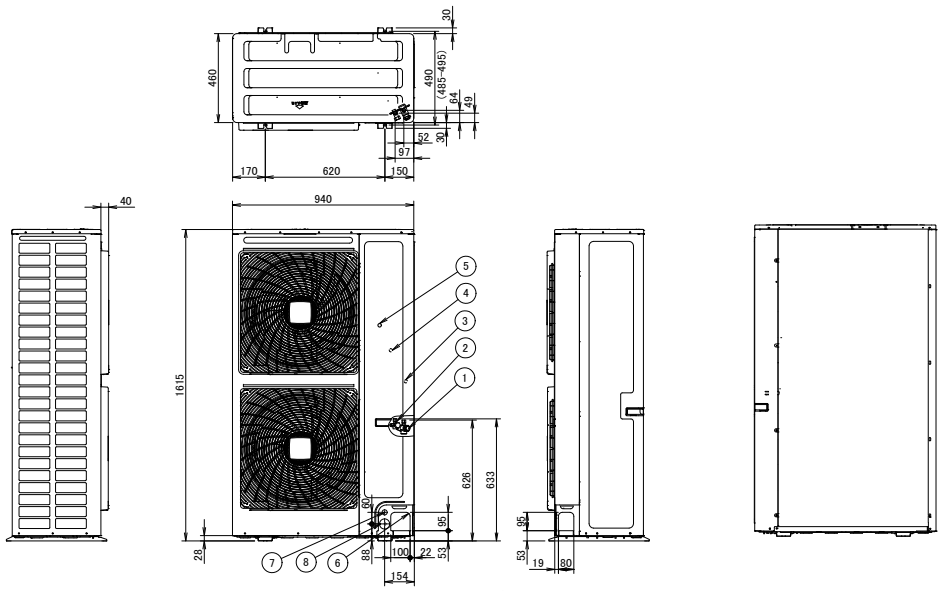
6 Dimensional drawings

6 - 1 Dimensional Drawings

RXYSQ10-12TY1



1. RXYSQ10TMY1B: Gas pipe connection Ø22.2 brazing
   RXYSQ12TMY1B: Gas pipe connection Ø25.4 brazing
2. RXYSQ10TMY1B: Liquid pipe connection Ø9.52 brazing
   RXYSQ12TMY1B: Liquid pipe connection Ø12.7 brazing
3. Service port (in the unit)
   Additional refrigerant charge
4. Service port (in the unit)
   High pressure
5. Grounding terminal
   Inside of the switch box (M8)
6. Refrigerant piping intake (knockout hole)
7. Control wiring intake (knockout hole Ø27)
8. Power supply wiring intake (knockout hole Ø53)
9. Drain pipe connection (outside diameter Ø26)

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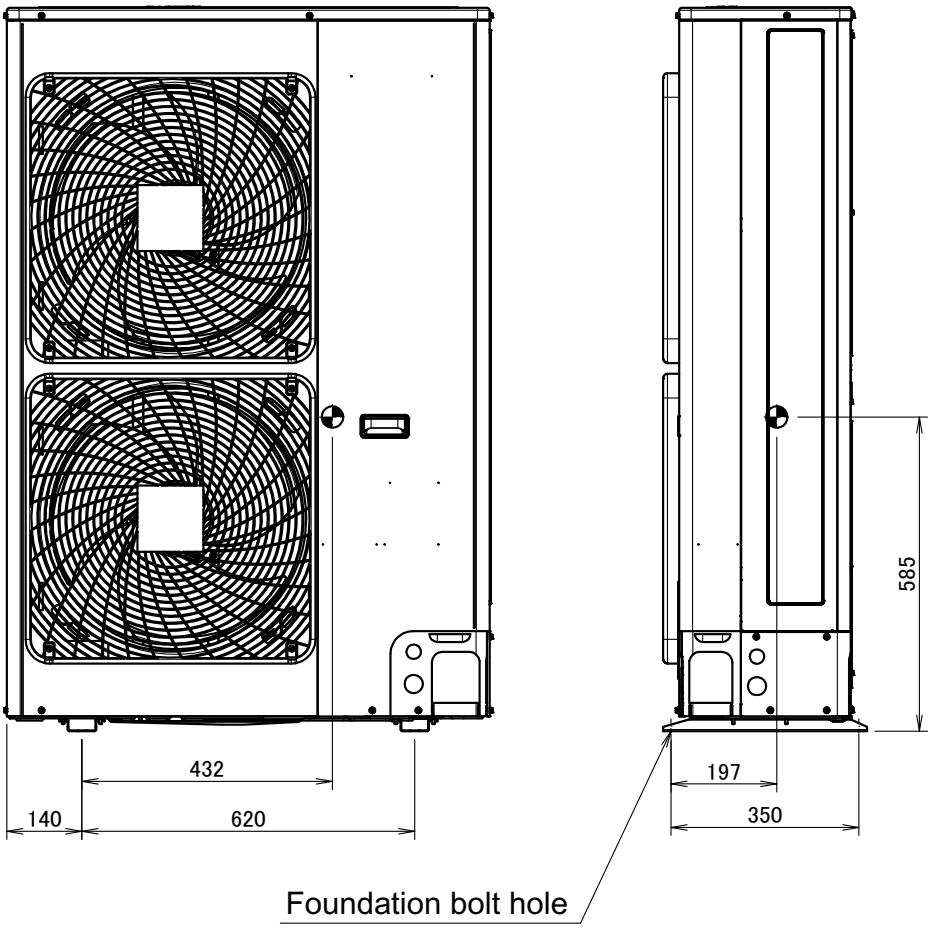
7 Centre of gravity

7 - 1 Centre of Gravity

RXYSQ4-6TY1



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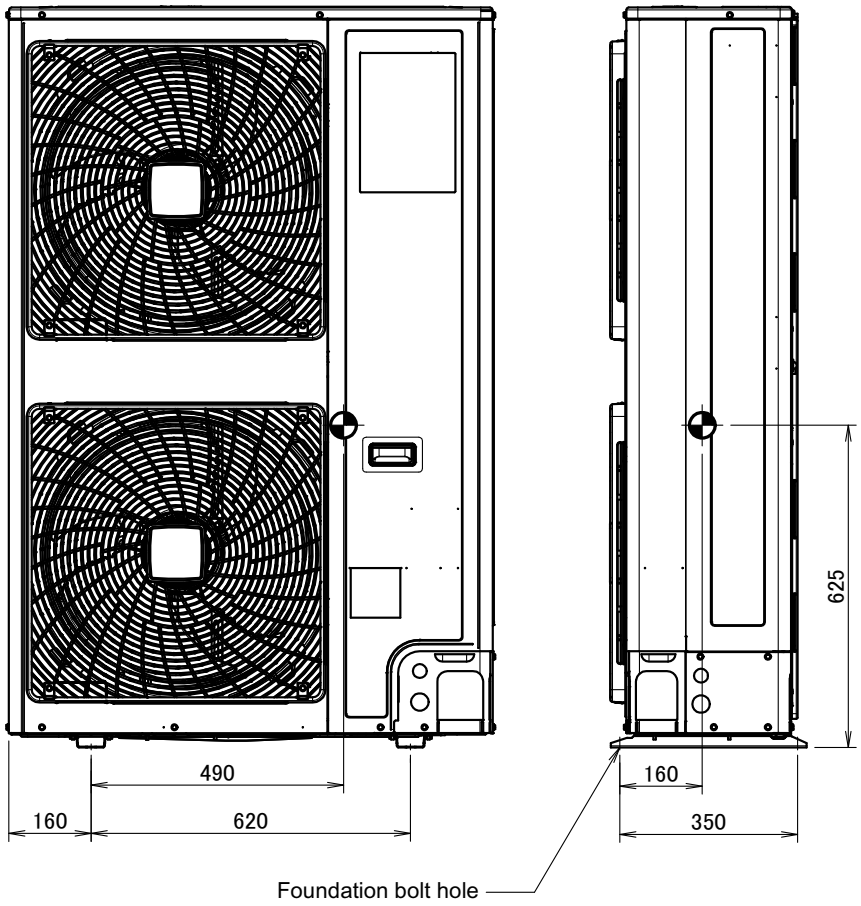
7 Centre of gravity

7 - 1 Centre of Gravity

RXYSQ8TY1



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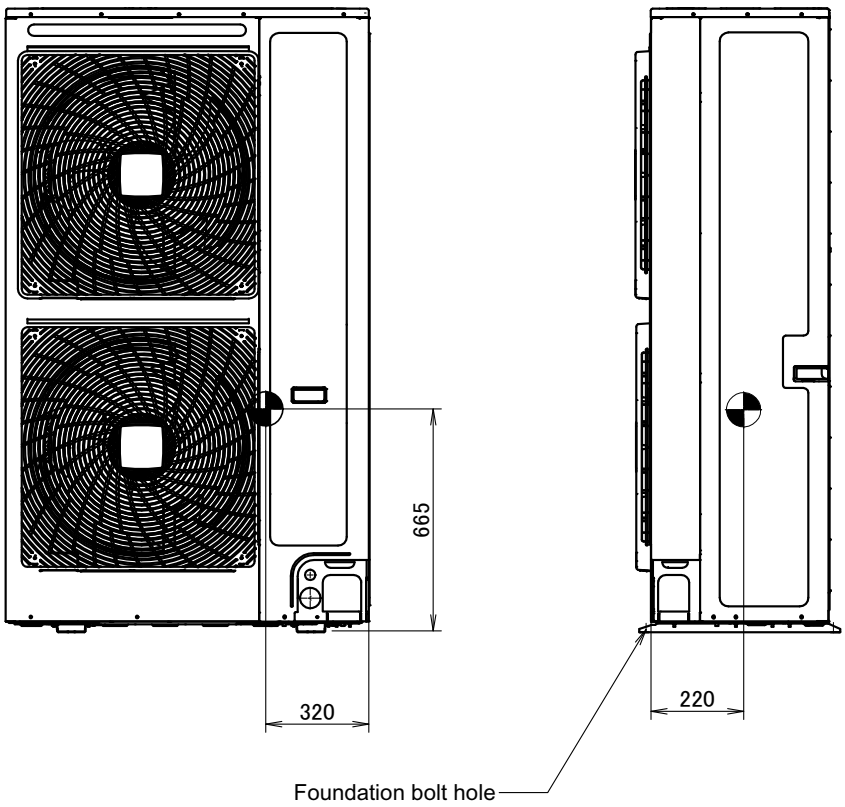
7 Centre of gravity

7 - 1 Centre of Gravity

RXYSQ10-12TY1



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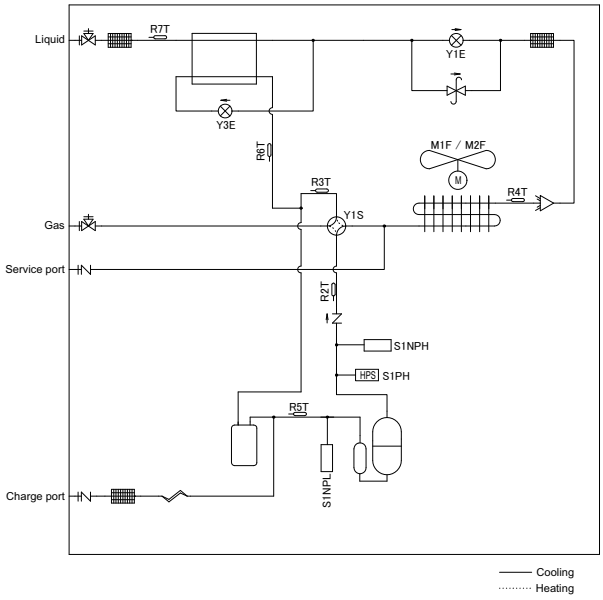
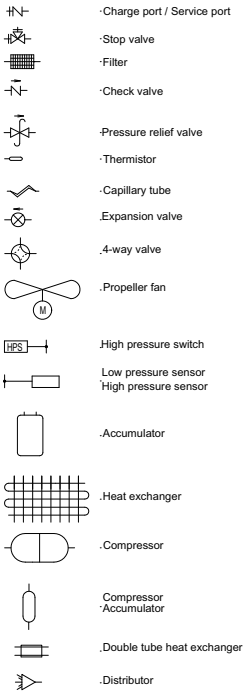
8 Piping diagrams

8 - 1 Piping Diagrams

RXYSQ4-6TY1





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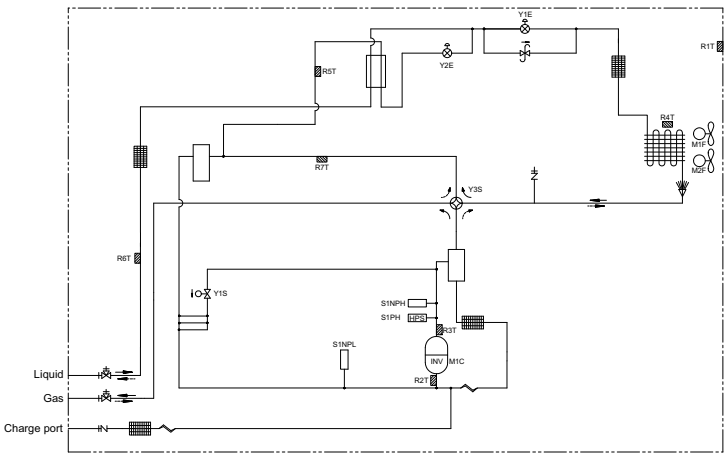
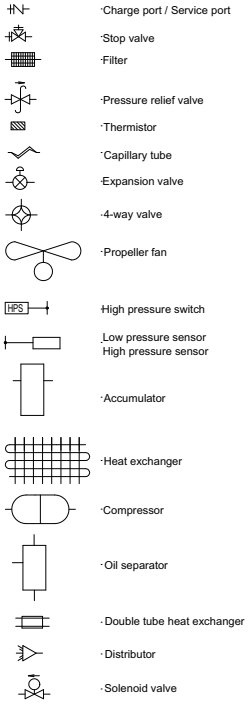
RXYSQ8TY1





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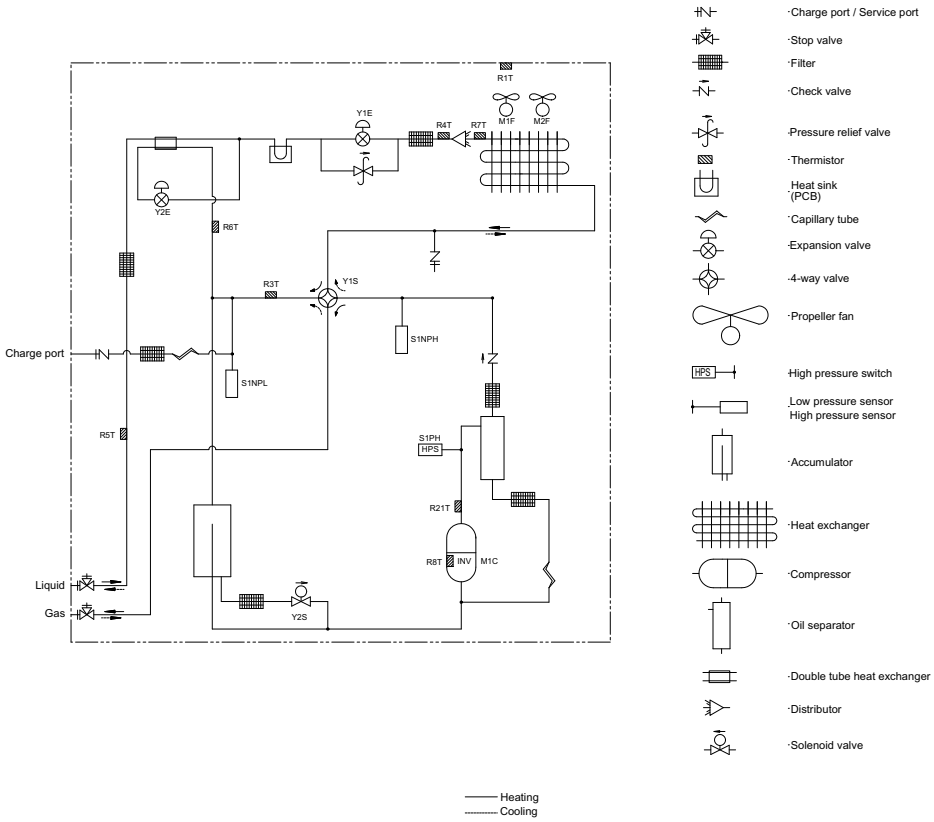
8 Piping diagrams

8 - 1 Piping Diagrams

RXYSQ10-12TY1



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9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

RXYSQ4-6TY1

NOTES TO GO THROUGH BEFORE STARTING THE UNIT

1: Symbols
X1M : Main terminal

— - — - : Earth wiring
15 : Wire number 15
- - - - - - - - - - : Field wire
: Field cable
→ **/12.2 : Connection ** continues on page 12 column 2
① : Several wiring possibilities

: Option

: Wiring depending on model

: Not mounted in switchbox

: PCB

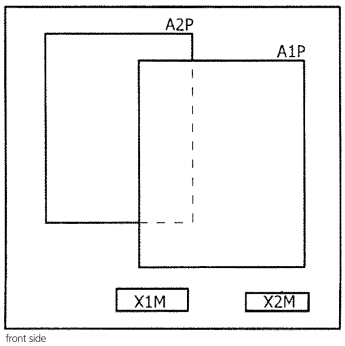
2: For X37A refer to the installation manual of the option.
3: Refer to the installation or service manual on how to use BS1-BS4 push buttons and DS1-1 - DS1-2 DIP switches.
4: Do not operate the unit by short-circuiting protection device S1PH.
5: Refer to the installation manual for indoor-outdoor transmissionn F1-F2 wiring.
6: When using the central control system, connect outdoor-outdoor transmission F1-F2.

LEGEND

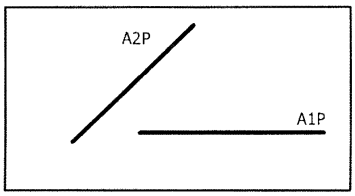
* : Optional
\# : Field supply

A1P		: Main PCB
A2P		: filter PCB
BS* (A1P)		: Push buttons (Mode, set, return, test, reset)
C* (A2P)		: Capacitor
DS1 (A1P)		: Dipswitch
F1U (A1P)		: Fuse T31,5A 500V
F2U (A1P)		: Fuse T31,5A 500V
F1U (A2P)		: Fuse T5A 250V
F3U (A2P)		: Fuse T6.3A 250V
F4U (A2P)		: Fuse T6.3A 250V
F5U (A1P)		: Fuse T6.3A 250V
HAP (A*P)		: running LED (Service monitor-green)
H*P (A1)		: LED (Service monitor-orange)
K11M (A2P)		: Magnetic contactor
K*R (A*P)		: Magnetic relay
L1R		: Reactor
M1C		: Motor (compressor)
M1F		: Fan motor (upper)
M2F		: Fan motor (lower)
PS (A2P)		: POWER SUPPLY
Q1DI	#	: Earth leakage circuit breaker
R* (A2P)		: Resistor
R1T		: Thermistor (Air)
R2T		: Thermistor (Discharge)
R3T		: Thermistor (Suction 1)
R4T		: Thermistor (Heat exchanger)
R5T		: Thermistor (Suction 2)
R6T		: Thermistor (subcool heat exchanger)
R7T		: Thermistor (Liquid)
R10T		: Thermistor (Fin)
S1NPH		: High pressure sensor
S1NPL		: Low pressure sensor
S1PH		: High pressure switch
S1S	*	: Air control switch
S2S	*	: Cool / heat switch
V1R (A2P)		: IGBT power module
V2R (A2P)		: Diode module
V3R (A2P)		: Diode module
X37A		: Connector (power supply for option PCB)
X*A		: PCB connector
X*M		: Terminal strip
X*Y		: Connector
Y1E		: Electronic expansion valve (Main)
Y3E		: Electronic expansion valve (Subcool)
Y1S		: Solenoid valve (4-way valve)
Z*C		: Noise filter (ferrite core)
Z*F		: Noise filter

POSITION IN SWITCHBOX



front side



Upper side

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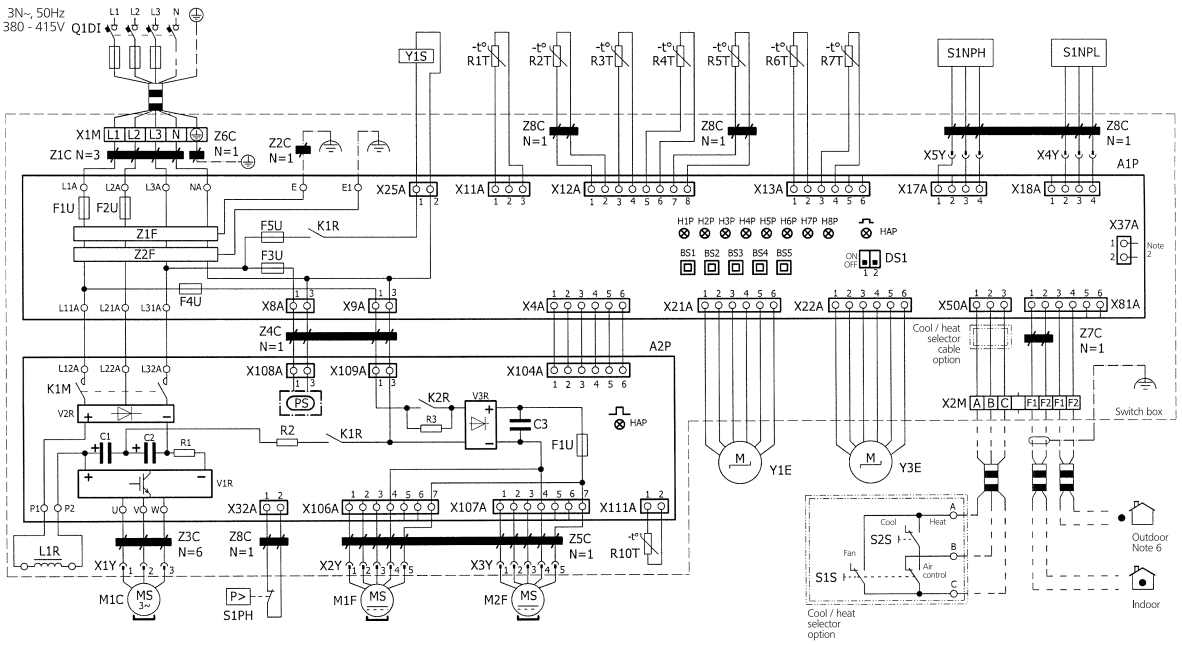
9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

RXYSQ4-6TY1



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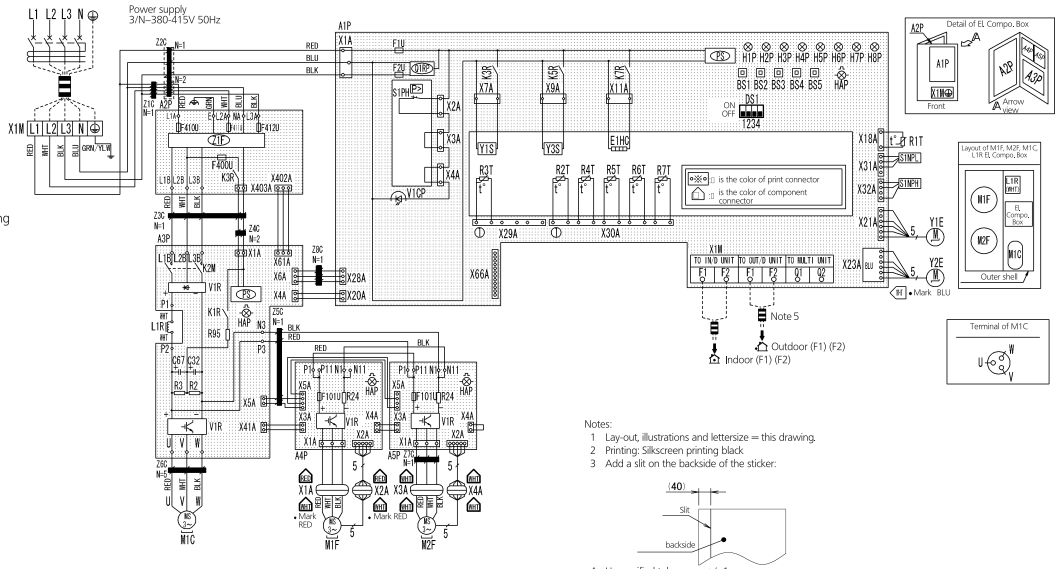
RXYSQ8TY1

A1P : Printed circuit board (Main)
A2P : Printed circuit board (Noise filter)
A3P : Printed circuit board (INV)
A4P : Printed circuit board (Fan 1)
A5P : Printed circuit board (Fan 2)
BS1~BS5 : Push button switch (Mode, set, return, test, reset)
C32, C67 : Capacitor
DS1 : Dip switch
E1HC : Crankcase heater
F101U : Fuse (5A, DC650V) (A4P) (A5P)
F1U, F2U : Fuse (T 3.15A / 250V) (A1P)
F400U : Fuse (T 6.3A / 250V) (A2P)
H1P~H8P : Pilot lamp (service monitor-orange) [H2P] Prepare, Test --------- Flickering Malfunction Detection -- Light up
HAP : Pilotlamp (service monitor - green)
K1R : Magnetic relay (A3P)
K2M : Magnetic contactor (M1C) (A3P)
K3R : Magnetic relay (A2P)
K3R : Magnetic relay (Y1S)
K5R : Magnetic relay (Y3S)
K7R : Magnetic relay (E1HC)
L1R : Reactor
M1C : Motor (compressor)
M1F, M2F : Motor (fan)
PS : Switching power supply (A1P) (A3P)
Q1RP : Reverse phase protector
R24 : Resistor (current sensor) (A4P) (A5P)
R2, R3 : Resistor
R95 : Resistor (current limiting)
R1T : Thermistor (Air)
R2T : Thermistor (Suction)
R3T : Thermistor (M1C Discharge)
R4T : Thermistor (heat exchanger deicer)
R5T : Thermistor (heat exchanger outlet)
R6T : Thermistor (Liquid pipe)
R7T : Thermistor (Accumulator)
S1NPH : Pressure sensor (High)
S1NPL : Pressure sensor (low)
S1PH : High pressure switch
V1CP : Safety devices input
V1R : IGBT Module (A4P) (A5P)
V1R : Diode bridge IGBT Module (A3P)
X1A, X2A : Connector (M1F)
X3A, X4A : Connector (M2F)
X1M : Terminal strip (Power supply)
X1M : Terminal strip (Control) (A1P)
Y1E : Electronic expansion valve (Main)
Y2E : Electronic expansion valve (Subcool)
Y1S : Solenoid valve (hot gas)
Y3S : Solenoid valve (4 way valve)
Z1C~8C : Noise filter (ferrite core)
Z1F : Noise filter (with surge absorber)



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

Notes:
1 Lay-out, illustrations and lettersize = this drawing.
2 Printing: Silkscreen printing black
3 Add a slit on the backside of the sticker:

4 Unspecified tolerances: +/- 1
5 For material specifications refer to: AD150142

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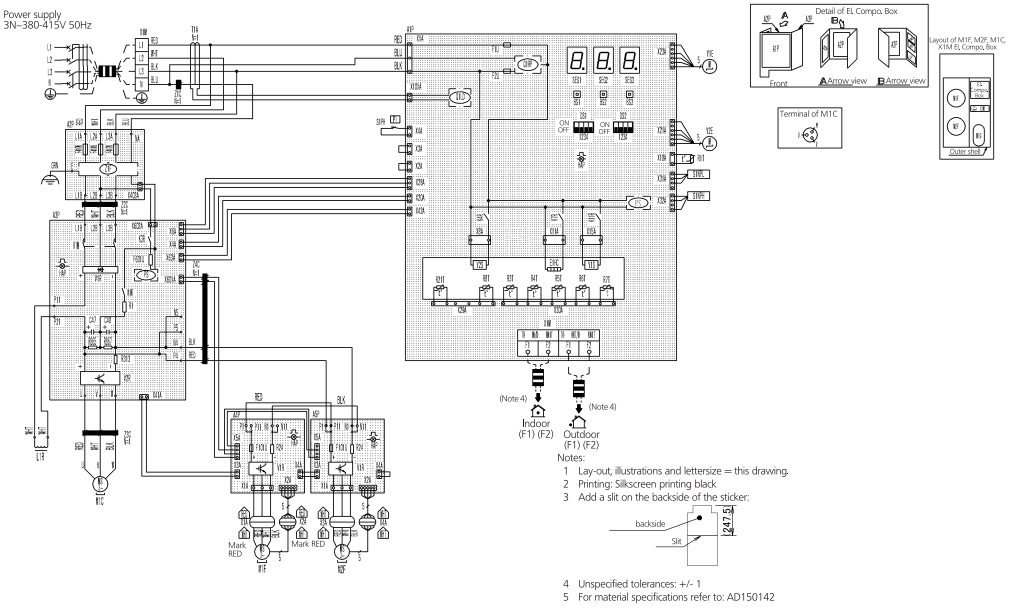
9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

RXYSQ10-12TY1

A1P	: Printed circuit board (Main)
A2P	: Printed circuit board (Noise filter)
A3P	: Printed circuit board (INV)
A4P	: Printed circuit board (Fan 1)
A5P	: Printed circuit board (Fan 2)
BS1~BS5	: Push button switch (Mode, Set, Return)
C47, C48	: Capacitor (A3P)
DS1, DS2	: Dip switch (A1P)
E1HC	: Crankcase heater
F1U, F2U	: Fuse (T 3.15A / 250V) (A1P)
F101U	: Fuse (A4P) (A5P)
F411U~F412U	: Fuse (A2P)
F601U	: Fuse (A3P)
HAP	: Pilotlamp (service monitor - green) (A1P) (A3P) (A4P) (A5P)
K1M	: Magnetic contactor (A3P)
K1R	: Magnetic relay (A3P)
K3R	: Magnetic relay (A3P)
K4R	: Magnetic relay (Y2S) (A1P)
K7R	: Magnetic relay (E1HC) (A1P)
K11R	: Magnetic relay (Y1S) (A1P)
L1R	: Reactor
M1C	: Motor (compressor)
M1F, M2F	: Motor (fan)
PS	: Switching power supply (A1P) (A3P)
Q1LD	: Leakage detection circuit (A1P)
Q1RP	: Phase reversal detect circuit (A1P)
R1T	: Thermistor (Air) (A1P)
R21T	: Thermistor (M1C Discharge)
R3T	: Thermistor (Accumulator)
R4T	: Thermistor (Heat exchanger liq. Pipe)
R5T	: Thermistor (Subcool liq. Pipe)
R6T	: Thermistor (Heat exchanger gas pipe)
R7T	: Thermistor (heat exchanger deicer)
R8T	: Thermistor (M1C body)
R1	: Resistor (current limiting) (A3P)
R24	: Resistor (current sensor) (A4P)
R313	: Resistor (current sensor) (A3P)
R865, R867	: Resistor (A3P)
S1NPH	: Pressure sensor (High)
S1NPL	: Pressure sensor (low)
S1PH	: High pressure switch
SEG1~SEG3	: 7-segment display (A1P)
T1A	: current sensor
V1R	: Power module (A3P) (A4P) (A5P)
V2R	: Power module (A3P)
X1A, X2A	: Connector (M1F)
X3A, X4A	: Connector (M2F)
X1M	: Terminal block (Power supply)
X1M	: Terminal block (Control) (A1P)
Y1E	: Electronic expansion valve (Main)
Y2E	: Electronic expansion valve (injection)
Y1S	: Solenoid valve (Main)
Y2S	: Solenoid valve (Accumulator oil return)
Z1C~Z4C	: Noise filter (ferrite core)
Z1F	: Noise filter (with surge absorber) (A2P)



Notes:
1 Lay-out, illustrations and lettersize = this drawing.
2 Printing: Silkscreen printing black
3 Add a slit on the backside of the sticker:

4 Unspecified tolerances: +/- 1
5 For material specifications refer to: AD150142

Notes:
1. This wiring diagram only applies to the outdoor unit.
2. ⋯■■⋯ :Field wiring ▭▭▭ :Terminal block, ▭ : Connector, —o—: Terminal, ⏚ :Protective earth (screw)
3. Refer to the installation manual, for connection wiring to indoor-outdoor transmission F1 - F2, outdoor-outdoor transmission F1 - F2.
4. How to use BS1-BS3 switch, refer to the installation manual.
5. When operating, do not short circuit for protection device. (S1PH)
6. Colours: BLK: Black, RED: Red, BLU: Blue, WHT: White, GRN: Green

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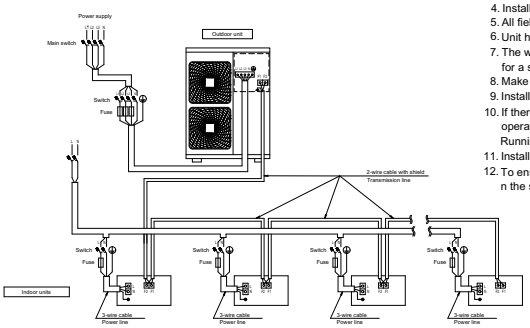
10 External connection diagrams

10 - 1 External Connection Diagrams

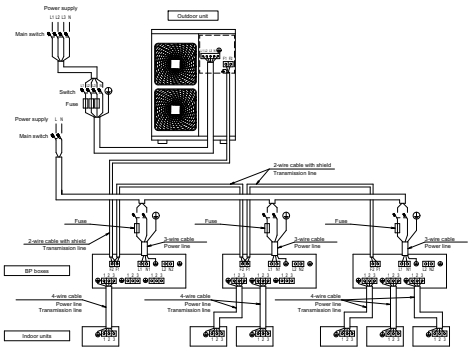
RXYSQ4~6TY1

External connection diagram

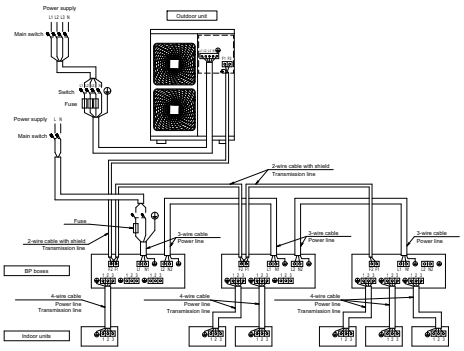
VRV indoor unit



BP box + RA/SA indoor unit



Power source is supplied to each BP box individually.



Power source is connected in series between the units.

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 equipement.
9. Install a main to switch to (if necessary) immediately interrupt all the system's power sources.
10. If there exists the possibility of reversed phase, loose phase or momentary blackout, or if the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
    Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.
12. To ensure proper earthing, connect the shields of the incoming and outgoing transmission wiring of each indoor unit (or each BP box, depending o n the system layout) to each other.

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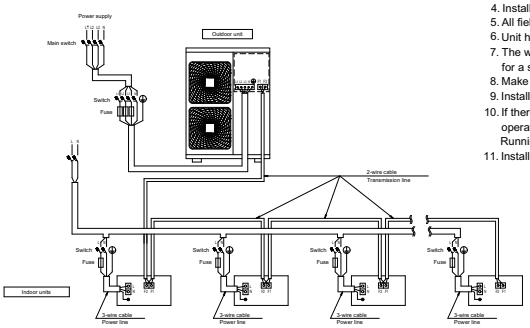
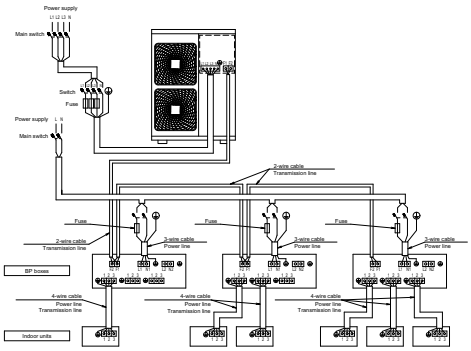
RXYSQ8~12TY1

External connection diagram

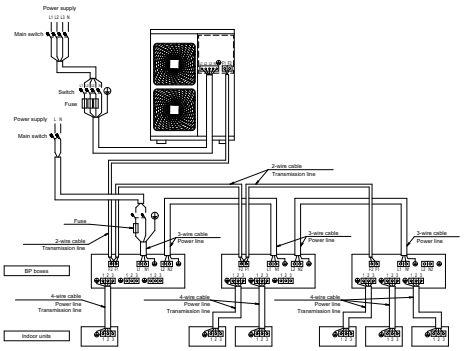
VRV indoor unit



BP box + RA/SA indoor unit



Power source is supplied to each BP box individually.



Power source is connected in series between the units.

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 equipement.
9. Install a main to switch to (if necessary) immediately interrupt all the system's power sources.
10. If there exists the possibility of reversed phase, loose phase or momentary blackout, or if the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
    Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.

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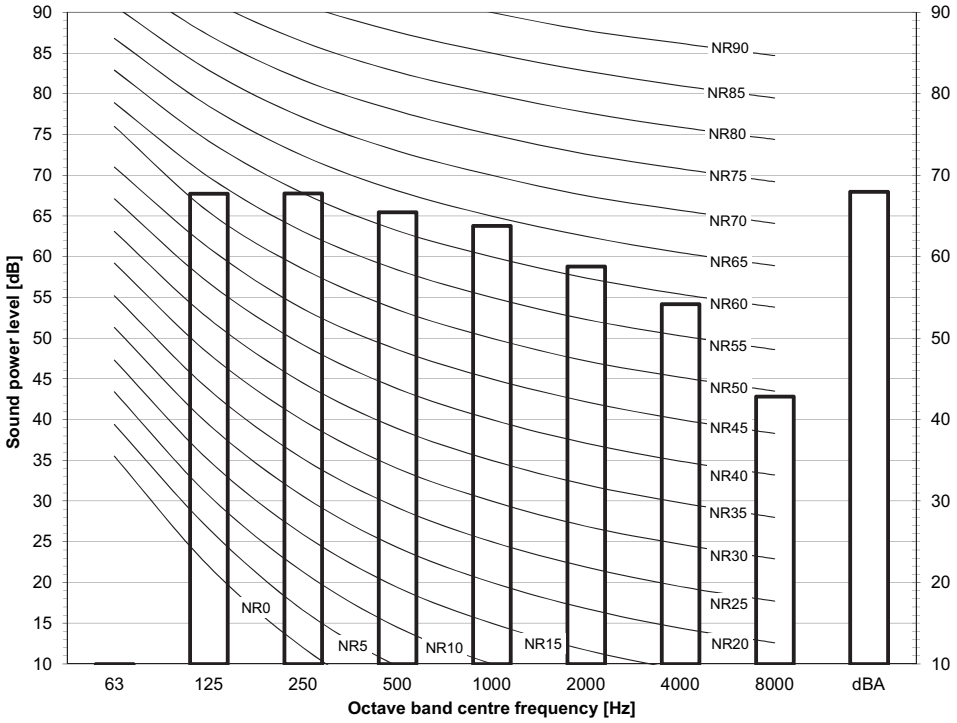
11 Sound data

11 - 1 Sound Power Spectrum

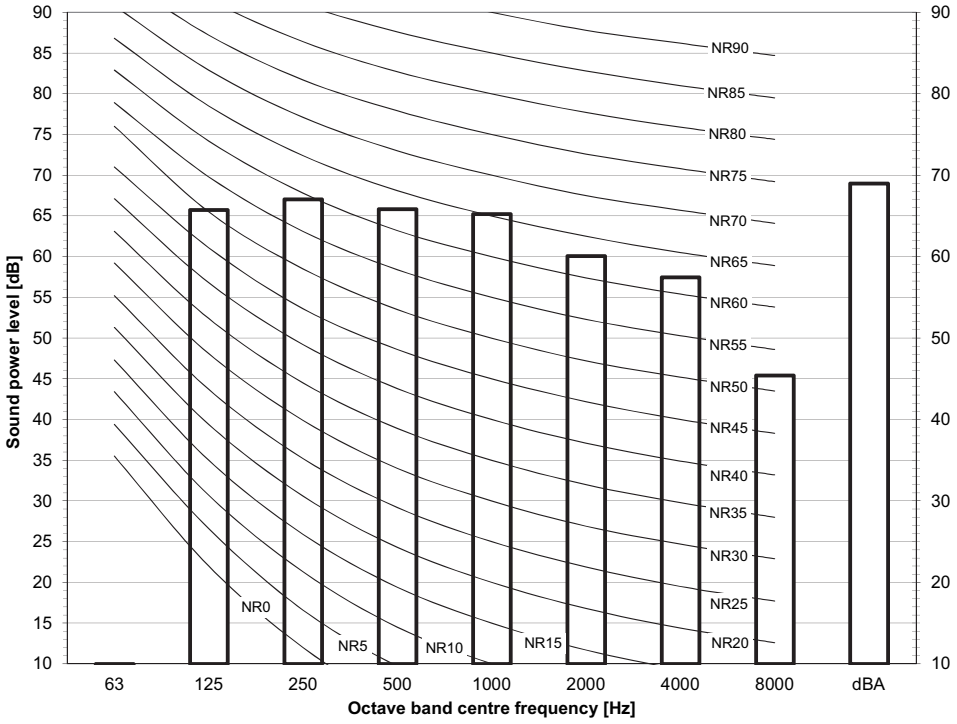
RXYSQ4TV1
RXYSQ4TY1



Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6µW/m²
- Measured according to ISO 3744

3D098212

RXYSQ5TV1
RXYSQ5TY1



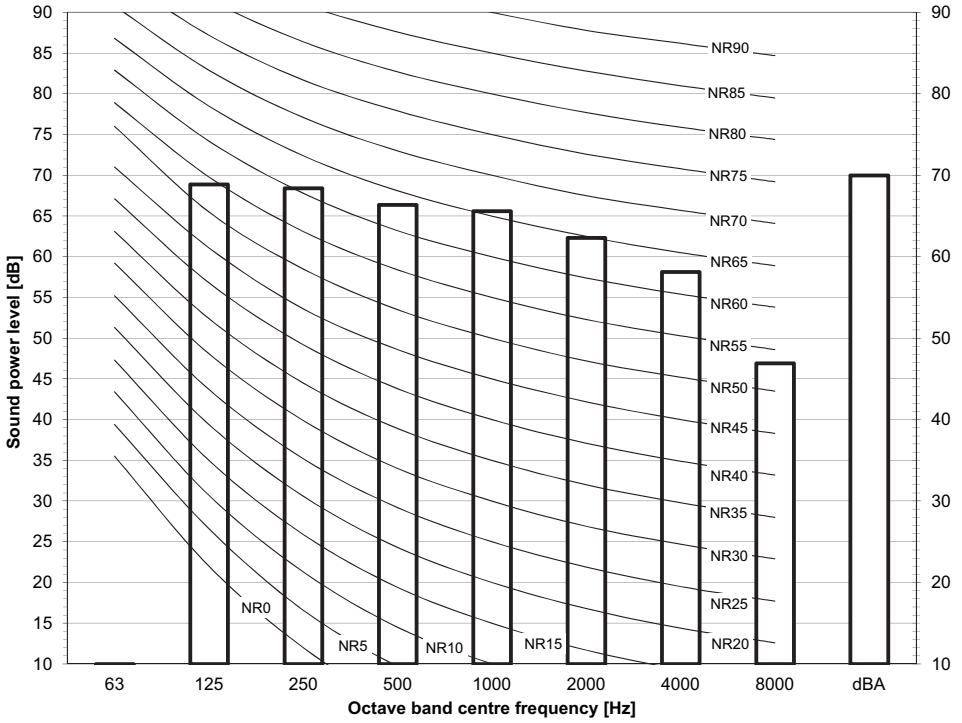
Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6µW/m²
- Measured according to ISO 3744

3D098213

11 Sound data

11 - 1 Sound Power Spectrum

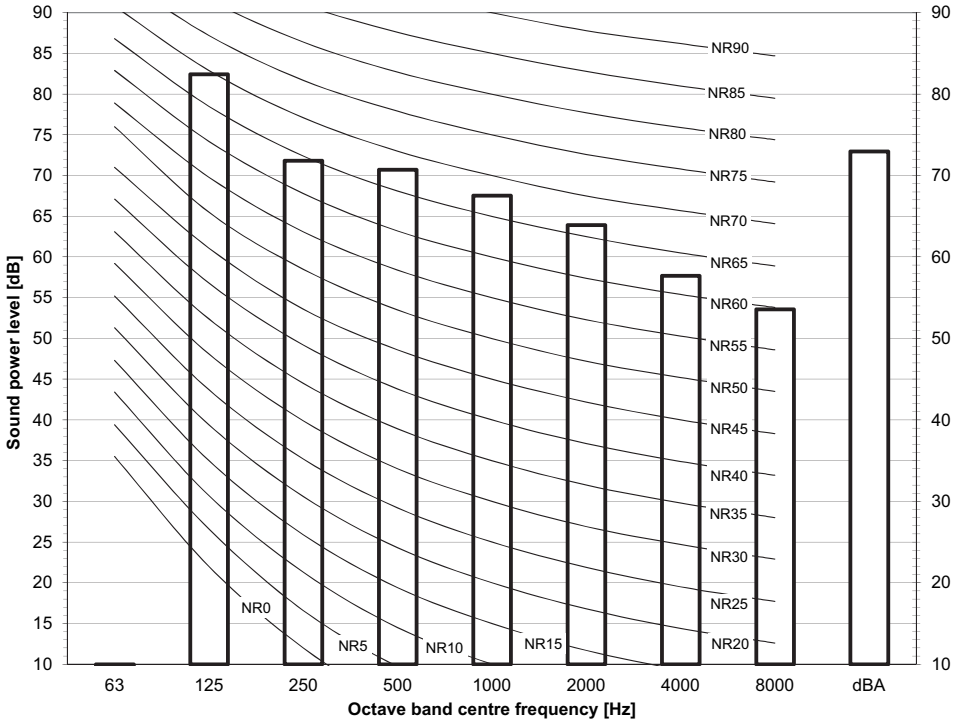
RXYSQ6TV1
RXYSQ6TY1



Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6µW/m²
- Measured according to ISO 3744

3D098214

RXYSQ8TY1



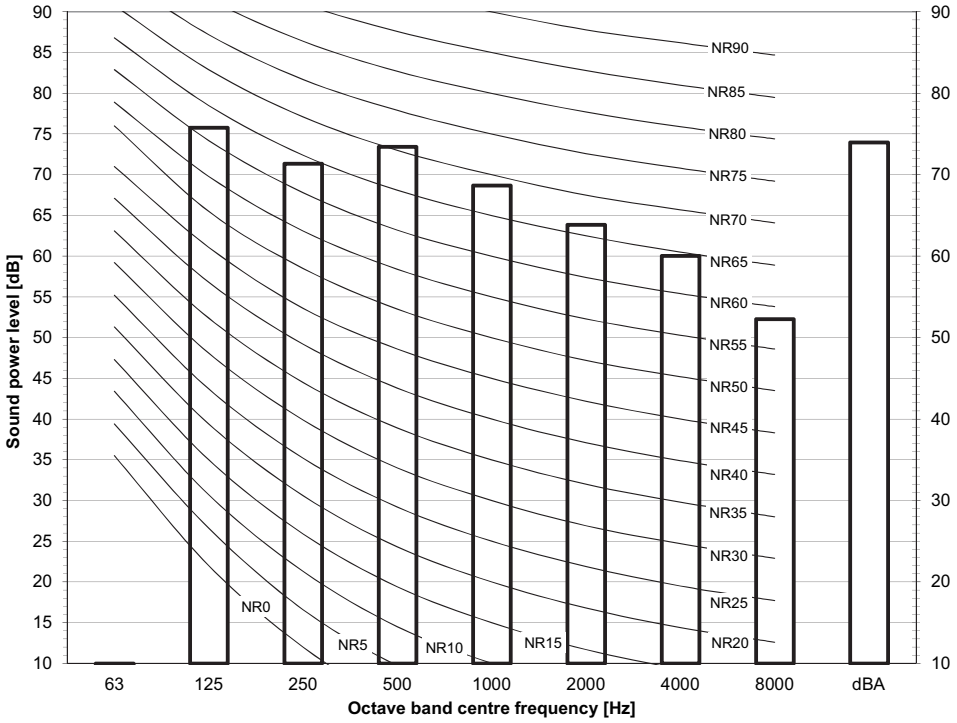
Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6µW/m²
- Measured according to ISO 3744

3D098240

11 Sound data

11 - 1 Sound Power Spectrum

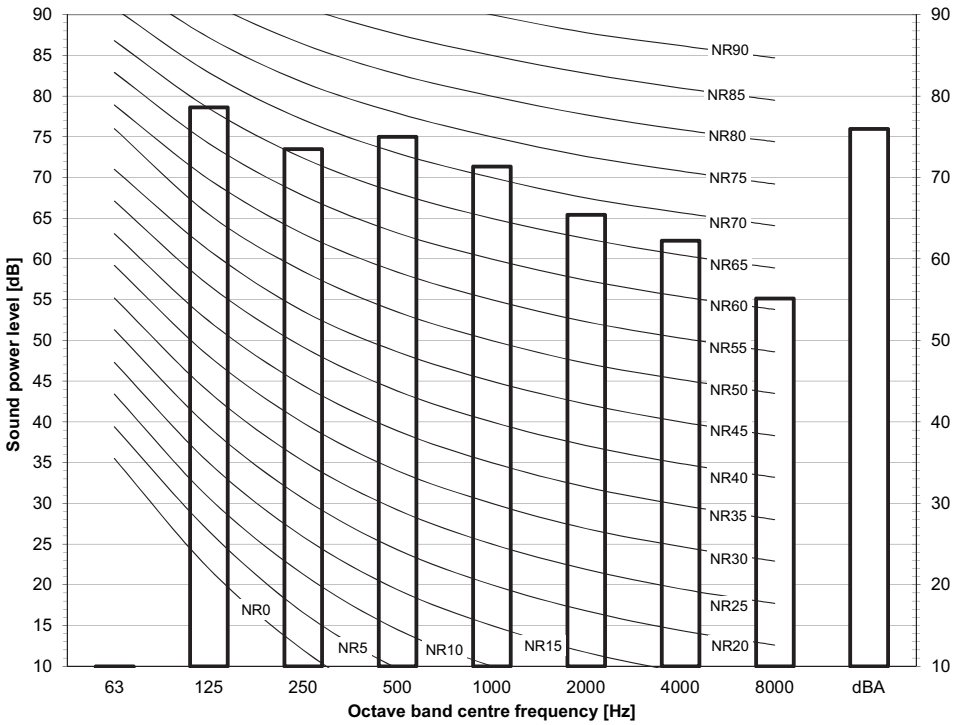
RXYSQ10TY1



Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6μW/m²
- Measured according to ISO 3744

3D098241

RXYSQ12TY1



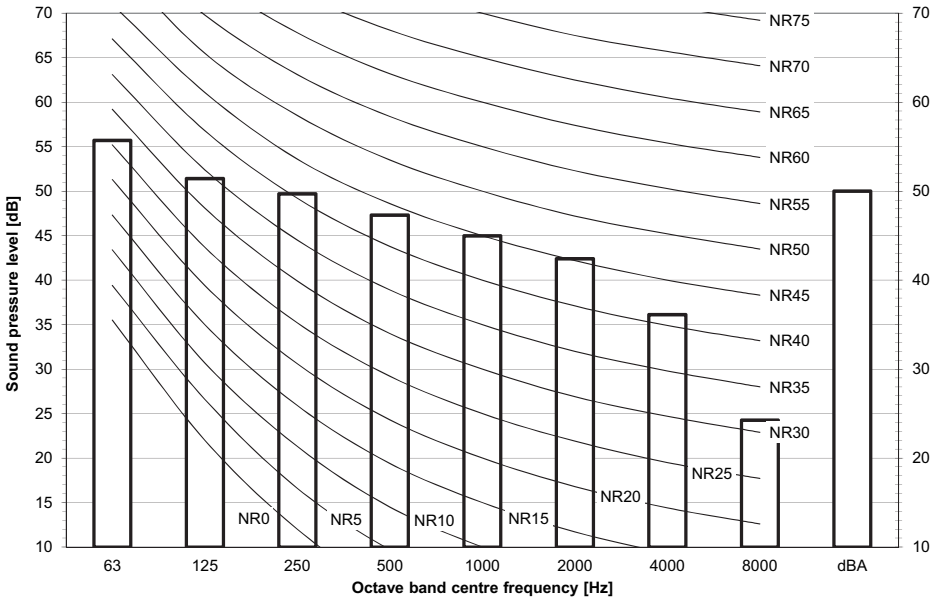
Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6μW/m²
- Measured according to ISO 3744

3D098242

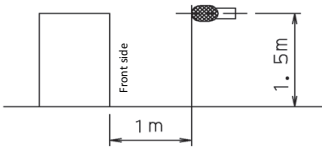
11 Sound data

11 - 2 Sound Pressure Spectrum

RXYSQ4TV1
RXYSQ4TY1

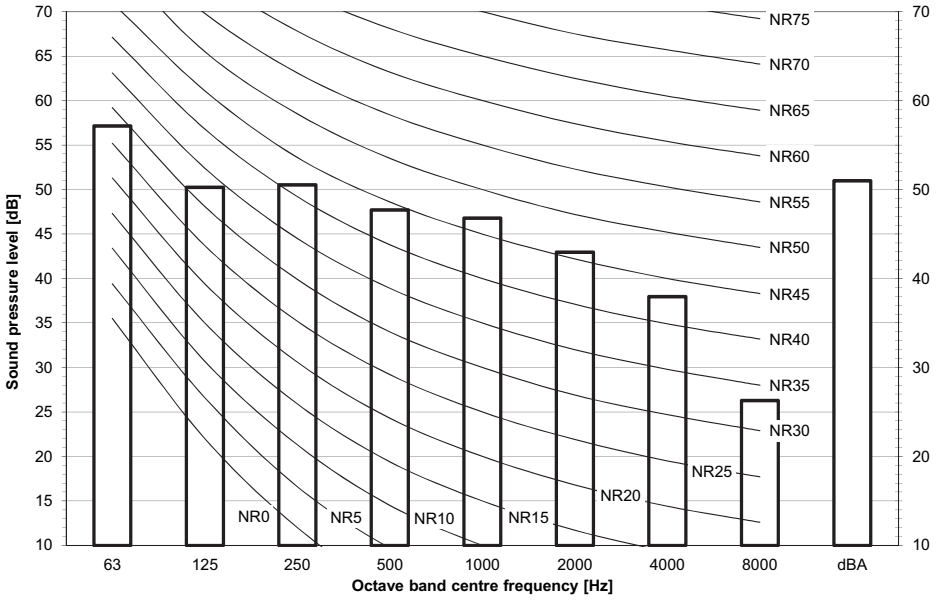


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

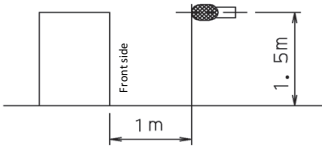


3D098215

RXYSQ5TV1
RXYSQ5TY1



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 µPa

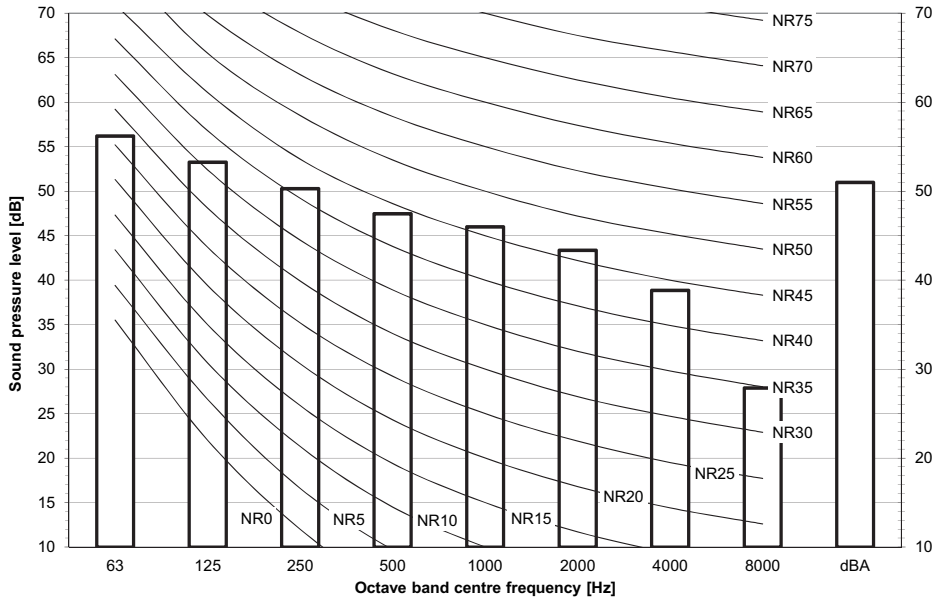


3D098216

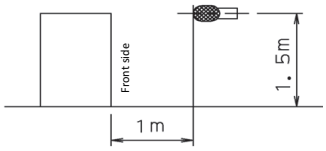
11 Sound data

11 - 2 Sound Pressure Spectrum

RXYSQ6TV1
RXYSQ6TY1

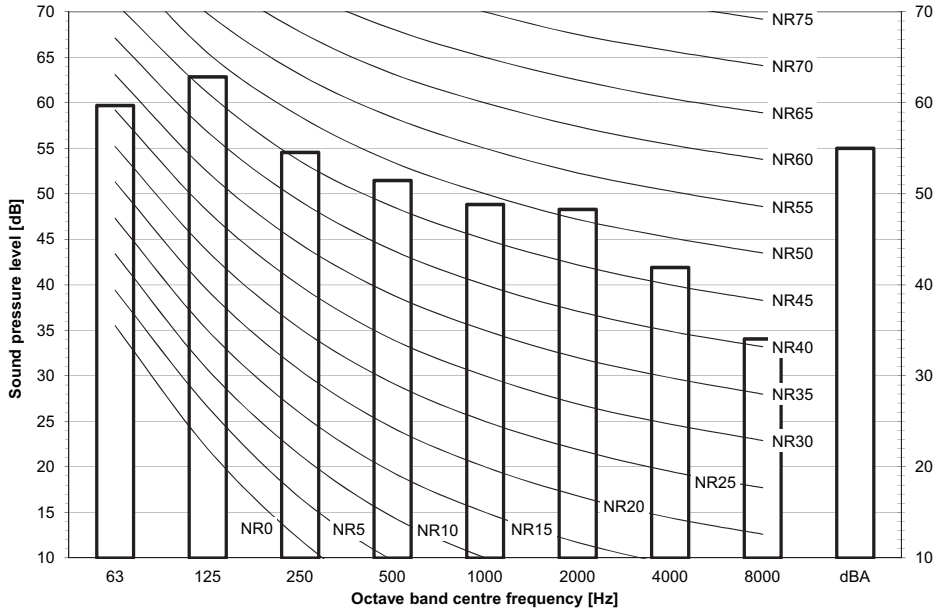


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

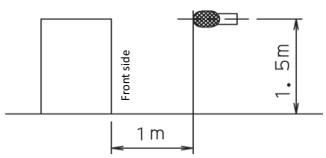


3D098217

RXYSQ8TY1



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 µPa

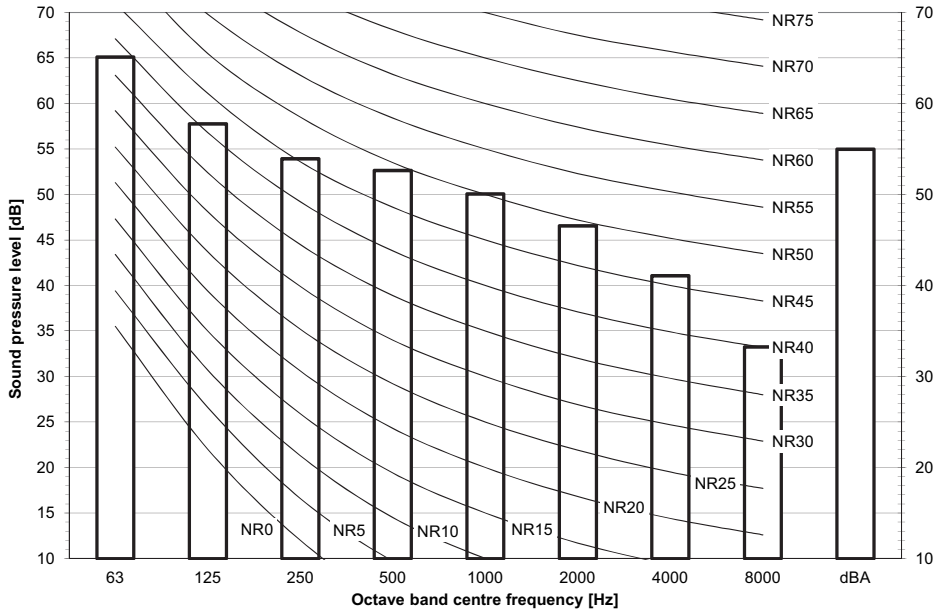


3D098245

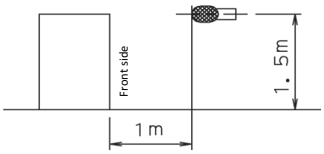
11 Sound data

11 - 2 Sound Pressure Spectrum

RXYSQ10TY1

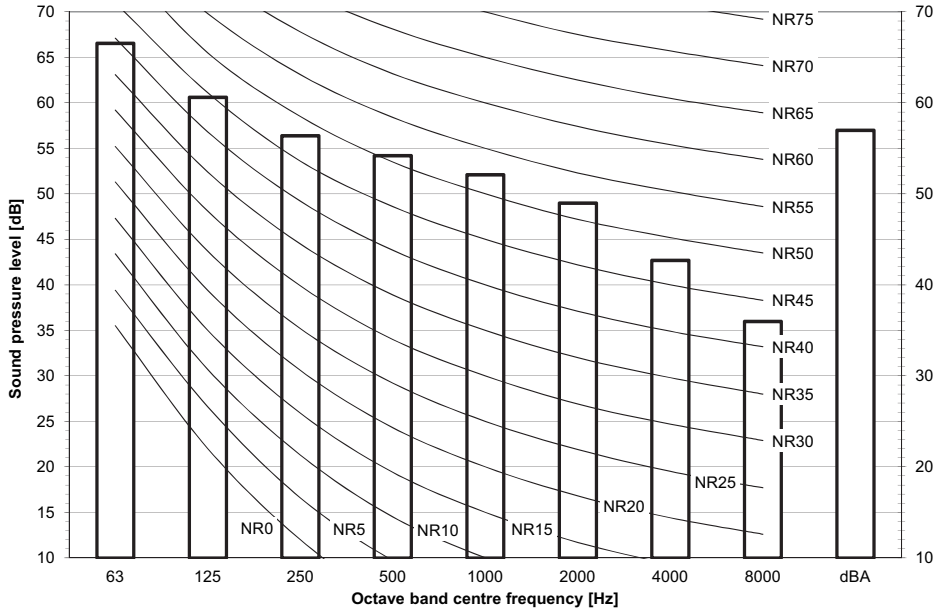


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

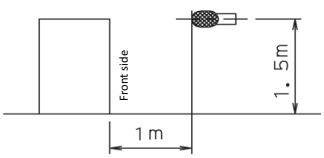


3D098246

RXYSQ12TY1



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 µPa



3D098247

12 Installation

12 - 1 Installation Method

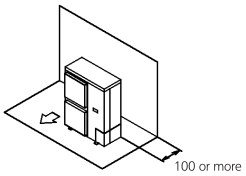
RXYSQ-TV1
RXYSQ4-6TY1
Required installation space

The unit of the values is mm.

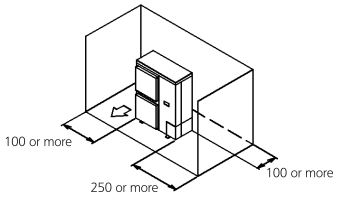
(A) When there are obstacles on suction sides.

● **No obstacle above**

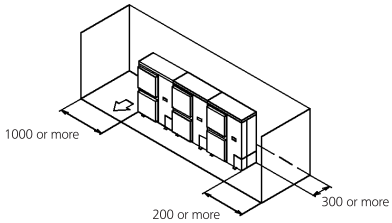
① Stand-alone installation
● Obstacle on the suction side only



● Obstacle on both sides

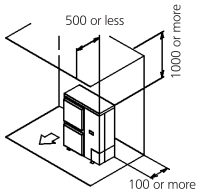


②Series installation (2 or more)
● Obstacle on both sides

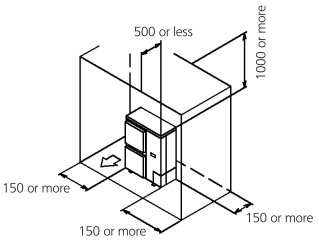


● **Obstacle above, too.**

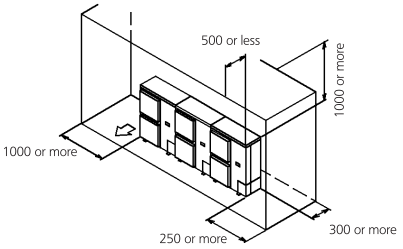
① Stand-alone installation
● Obstacle on the suction side, too



● Obstacle on the suction side and both sides



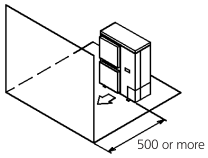
② Series installation (2 or more)
● Obstacle on the suction side and both sides



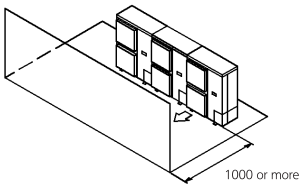
(B) When there are obstacles on discharge sides.

● **No obstacle above**

① Stand-alone installation

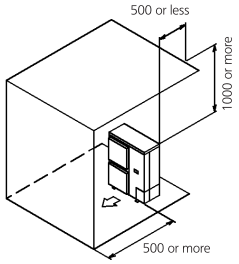


② Series installation (2 or more)

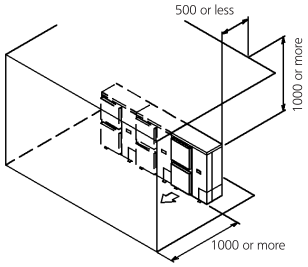


● **Obstacle above, too**

① Stand-alone installation



② Series installation (2 or more)



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

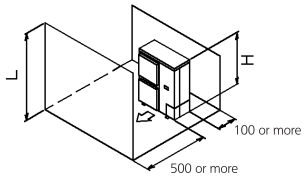
Pattern 1

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**

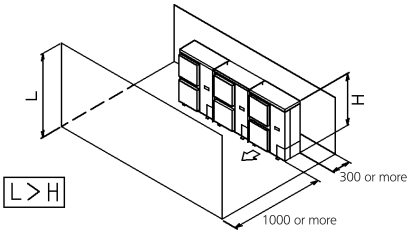
① Stand-alone installation

L>H



② Series installation (2 or more)

L>H



3D045696D

12 Installation

12 - 1 Installation Method

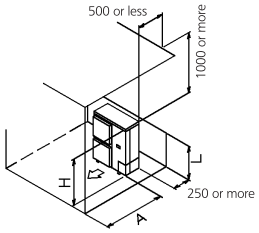
RXYSQ-TV1
RXYSQ4-6TY1

- **Obstacle above, too**

① Stand-alone installation

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

	L	A
L ≦ H	0 < L ≦ 1/2 H	750
	1/2 H < L ≦ H	1000
H < L	Set the stand as : L ≦ H	

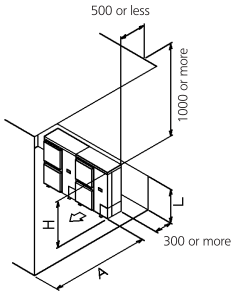


Close the bottom of the installation frame to prevent the discharged air from being bypassed.

② Series installation (2 or more)

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

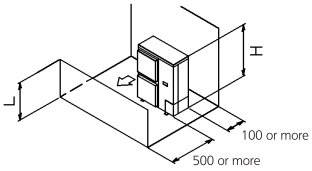
	L	A
L ≦ H	0 < L ≦ 1/2 H	1000
	1/2 H < L ≦ H	1250
H < L	Set the stand as : L ≦ H	



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.)



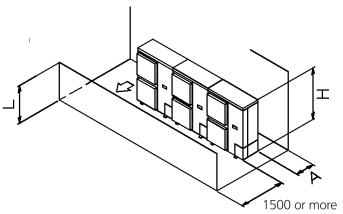
- **No obstacle above**

① Stand-alone installation
L ≦ H

② Series installation (2 or more)

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

L	A
0 < L ≦ 1/2 H	250
1/2 H < L ≦ H	300



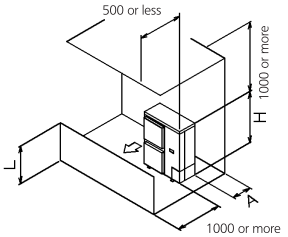
- **Obstacle above, too**

① Stand-alone installation

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

	L	A
L ≦ H	0 < L ≦ 1/2 H	100
	1/2 H < L ≦ H	200
H < L	Set the stand as : L ≦ H	

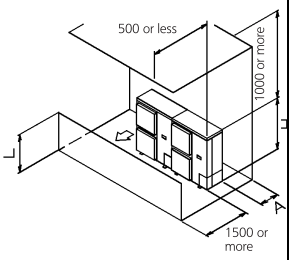
Close the bottom of the installation frame to prevent the discharged air from being bypassed.



② Series installation

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

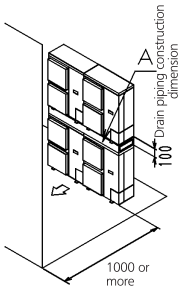
	L	A
L ≦ H	0 < L ≦ 1/2 H	250
	1/2 H < L ≦ H	300
H < L	Set the stand as : L ≦ H	



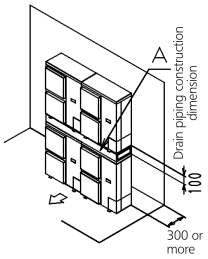
Close the bottom of the installation frame to prevent the discharged air from being bypassed.
Only two units can be installed for this series.

(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.

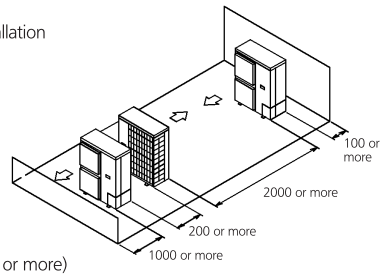


② Obstacle on the suction side.
Close the gap A (the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.
Do not stack more than two unit.



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

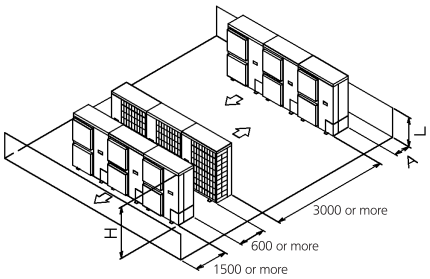
① One row of stand-alone installation



② Rows of series installation (2 or more)

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

	L	A
L ≦ H	0 < L ≦ 1/2 H	250
	1/2 H < L ≦ H	300
H < L	Can not be installed	



3D045696D

12 Installation

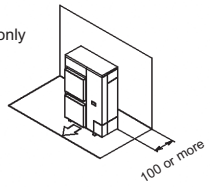
12 - 1 Installation Method

RXYSQ8TY1

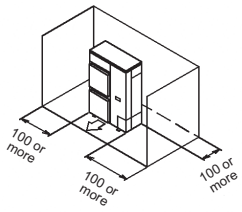
Required installation space

The unit of these values is mm.

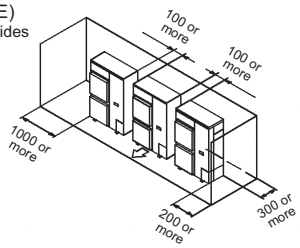
1. Where there is an obstacle on the suction side:
   (a) No obstacle above
      (1) Stand-alone installation
      • Obstacle on the suction side only



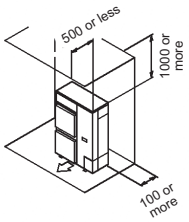
• Obstacle on both sides



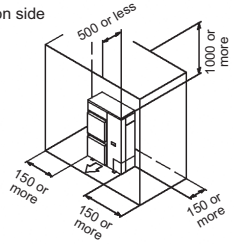
(2) Series installation
(2 or more) (NOTE)
• Obstacle on both sides



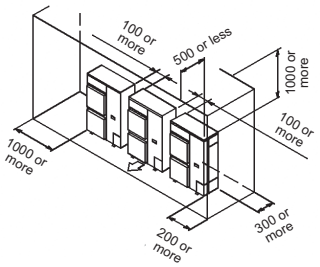
(b) Obstacle above, too
(1) Stand-alone installation
• Obstacle on the suction side, too



• Obstacle on the suction side and both sides



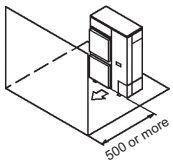
(2) Series installation
(2 or more) (NOTE)
• Obstacle on the suction side and both sides



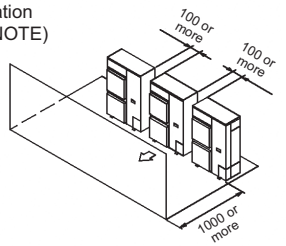
NOTE

When install the units in a line, have to leave the distance over 100 mm between the two units.

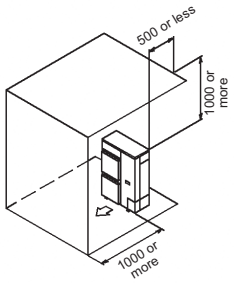
2. Where there is an obstacle on the discharge side:
   (a) No obstacle above
      (1) Stand-alone installation



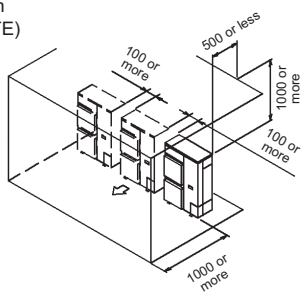
(2) Series installation
(2 or more) (NOTE)



(b) Obstacle above, too
(1) Stand-alone installation



(2) Series installation
(2 or more) (NOTE)

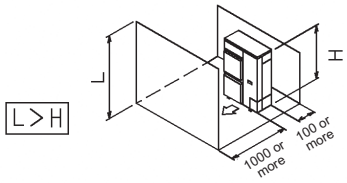


3. Where there are obstacles on both suction and discharge sides:

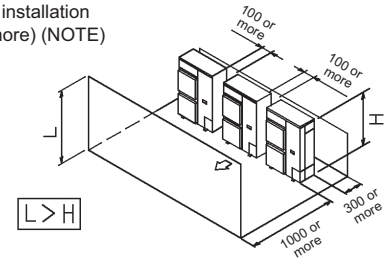
Pattern 1

Where the obstacle on the discharge side is higher than the unit:
(There is no height limit for obstructions on the intake side)

(a) No obstacle above
   (1) Stand-alone installation



(2) Series installation
(2 or more) (NOTE)



3D068442L

12 Installation

12 - 1 Installation Method

RXYSQ8TY1

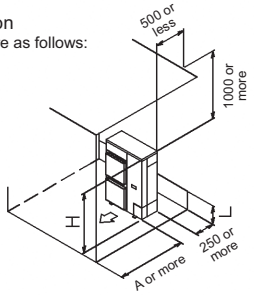
(b) Obstacle above, too

(1) Stand-alone installation

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	1000
	1/2 H < L ≤ H	1250
H < L	Set the stand as: L ≤ H.	

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



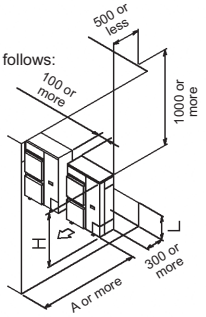
(2) Series installation (2 or more) (NOTE)

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	1000
	1/2 H < L ≤ H	1250
H < L	Set the stand as: L ≤ 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

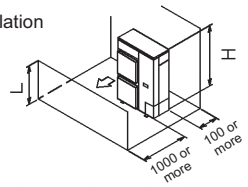
Where the obstacle on the discharge side is lower than the unit:

(There is no height limit for obstructions on the intake side)

(a) No obstacle above

(1) Stand-alone installation

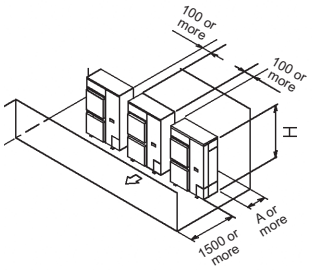
L ≤ H



(2) Series installation (2 or more) (NOTE)

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

L	A
0 < L ≤ 1/2 H	250
1/2 H < L ≤ H	300



(b) Obstacle above, too

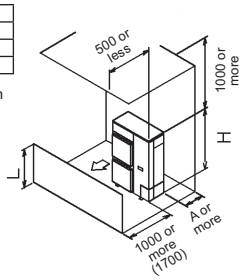
(1) Stand-alone installation

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	100
	1/2 H < L ≤ H	200
H < L	Set the stand as: L ≤ H.	

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

If the distance exceeds the figure in the ( ), then it's no need to set the stand.



(2) Series installation (NOTE)

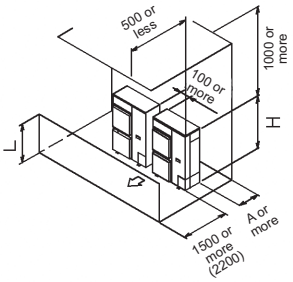
The relations between H, A and L are as follows:

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L ≤ H	300
H < L	Set the stand as: L ≤ 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.

If the distance exceeds the figure in the ( ), then it's no need to set the stand.



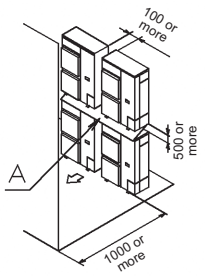
4. Double-decker installation

(a) Obstacle on the discharge side (NOTE). 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 units.

Set the board (field supply) as the detail A between two units to prevent the drainage from frozing.

Leave the enough space between the layer one and the board.

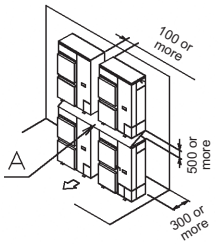


(b) Obstacle on the suction side (NOTE). Close the gap A (the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.

Do not stack more than two units.

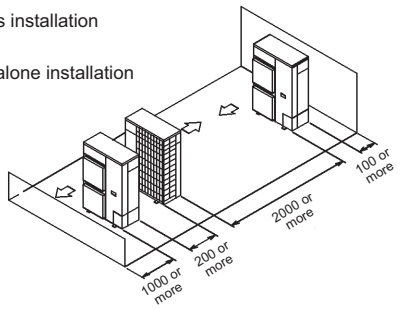
Set the board (field supply) as the detail A between two units to prevent the drainage from frozing.

Leave the enough space between the layer one and the board.



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

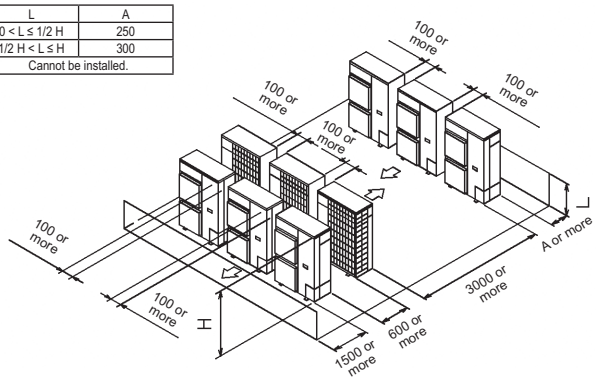
(a) One row of stand-alone installation



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

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L ≤ H	300
H < L	Cannot be installed.	



NOTE

When install the units in a line, have to leave the distance over 100 mm between the two units.

3D068442L

12 Installation

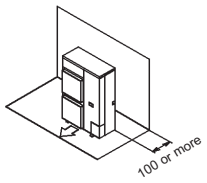
12 - 1 Installation Method

RXYSQ10-12TY1

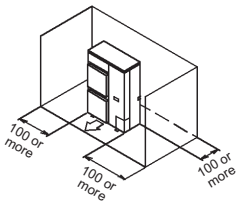
Required installation space

The unit of these values is mm.

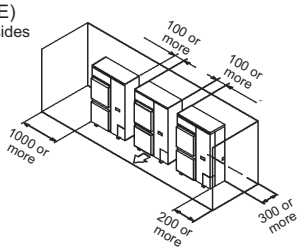
1. Where there is an obstacle on the suction side:
   (a) No obstacle above
   (1) Stand-alone installation
   • Obstacle on the suction side only



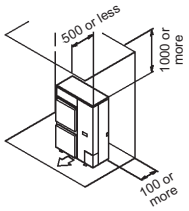
• Obstacle on both sides



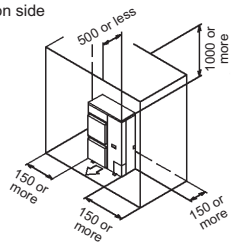
(2) Series installation
(2 or more) (NOTE)
• Obstacle on both sides



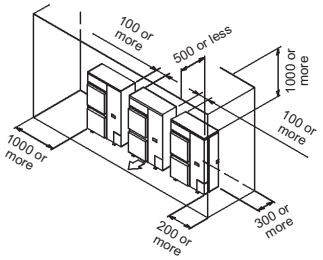
(b) Obstacle above, too
(1) Stand-alone installation
• Obstacle on the suction side, too



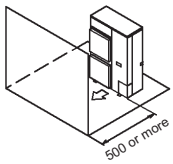
• Obstacle on the suction side and both sides



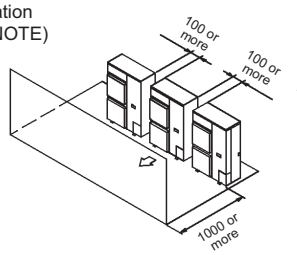
(2) Series installation
(2 or more) (NOTE)
• Obstacle on the suction side and both sides



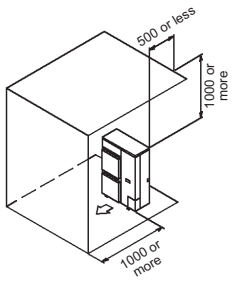
2. Where there is an obstacle on the discharge side:
   (a) No obstacle above
   (1) Stand-alone installation



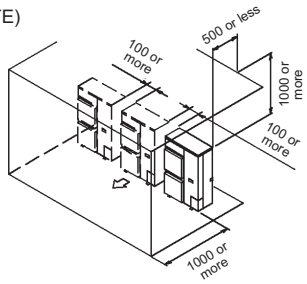
(2) Series installation
(2 or more) (NOTE)



(b) Obstacle above, too
(1) Stand-alone installation



(2) Series installation
(2 or more) (NOTE)

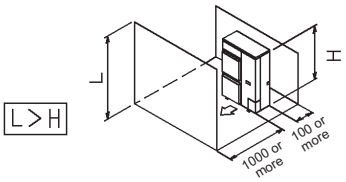


3. Where there are obstacles on both suction and discharge sides:

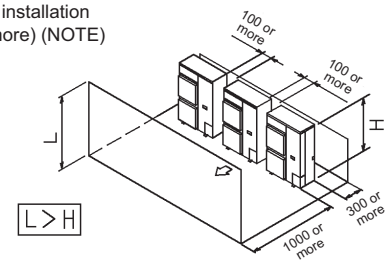
Pattern 1

Where the obstacle on the discharge side is higher than the unit:
(There is no height limit for obstructions on the intake side)

(a) No obstacle above
(1) Stand-alone installation



(2) Series installation
(2 or more) (NOTE)



NOTE

When install the units in a line, have to leave the distance over 100 mm between the two units.

3D083122F

12 Installation

12 - 1 Installation Method

RXYSQ10-12TY1

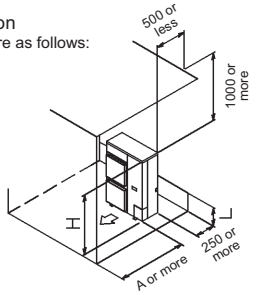
(b) Obstacle above, too

(1) Stand-alone installation

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	1000
	1/2 H < L ≤ H	1250
H < L	Set the stand as: L ≤ H.	

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



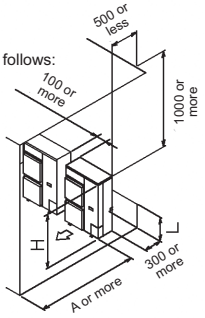
(2) Series installation (2 or more) (NOTE)

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	1000
	1/2 H < L ≤ H	1250
H < L	Set the stand as: L ≤ 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

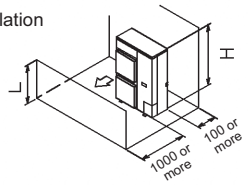
Where the obstacle on the discharge side is lower than the unit:

(There is no height limit for obstructions on the intake side)

(a) No obstacle above

(1) Stand-alone installation

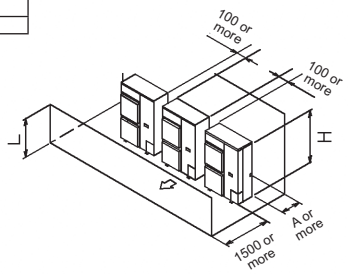
L ≤ H



(2) Series installation (2 or more) (NOTE)

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

L	A
0 < L ≤ 1/2 H	250
1/2 H < L ≤ H	300



(b) Obstacle above, too

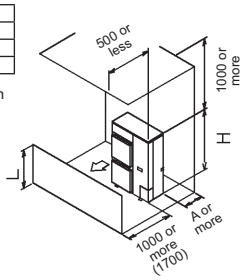
(1) Stand-alone installation

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	100
	1/2 H < L ≤ H	200
H < L	Set the stand as: L ≤ H.	

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

If the distance exceeds the figure in the ( ), then it's no need to set the stand.



(2) Series installation (NOTE)

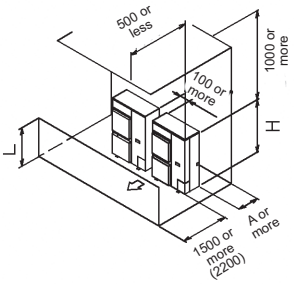
The relations between H, A and L are as follows:

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L ≤ H	300
H < L	Set the stand as: L ≤ 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.

If the distance exceeds the figure in the ( ), then it's no need to set the stand.



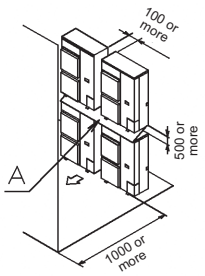
4. Double-decker installation

(a) Obstacle on the discharge side (NOTE). 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 units.

Set the board (field supply) as the detail A between two units to prevent the drainage from frozing.

Leave the enough space between the layer one and the board.

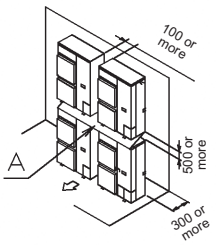


(b) Obstacle on the suction side (NOTE). Close the gap A (the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.

Do not stack more than two units.

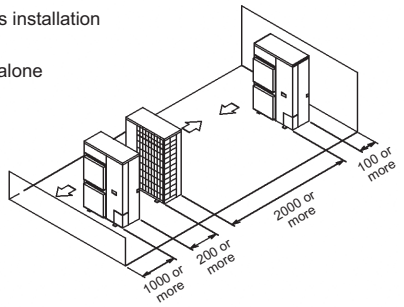
Set the board (field supply) as the detail A between two units to prevent the drainage from frozing.

Leave the enough space between the layer one and the board.



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

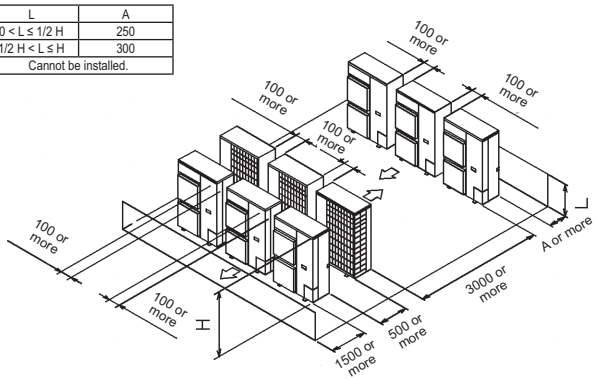
(a) One row of stand-alone installation



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

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

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L ≤ H	300
H < L	Cannot be installed.	



NOTE

When install the units in a line, have to leave the distance over 100 mm between the two units.

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12 Installation

12 - 2 Refrigerant Pipe Selection

RXYSCQ-TV1

RXYSQ-TV1

RXYSQ-TY1

For the reference drawing, see page ·2/3·.		Maximum piping length: Longest pipe (A+[B,D+E,H]) Actual / (Equivalent)	Maximum piping length: After first branch (B,D+E,H) Actual	Maximum height difference: Indoor-to-outdoor (H1) Outdoor above indoor / (indoor above outdoor)	Maximum height difference: Indoor-to-indoor (H2)	Total piping length
Standard ·VRV DX· indoor units only	RXYSCQ4~5TMV1B	70/(90)m	40m	30/(30)m	15m	300m
	RXYSQ4~6T7(V/Y)1B	120/(150)m	40m	50/(40)m	15m	300m
	RXYSQ8TMY1B	100/(130)m	40m	50/(40)m	15m	300m
	RXYSQ10~12TMY1B	120/(150)m	40m	50/(40)m	15m	300m
·RA· connection	RXYSCQ4~5TMV1B	35/(45)m	40m	30/(30)m	15m	140m
	RXYSQ4~6T7(V/Y)1B	65/(85)m	40m	30/(30)m	15m	140m
	RXYSQ8TMY1B	80/(100)m	40m	30/(30)m	15m	140m
	RXYSQ10~12TMY1B	80/(100)m	40m	30/(30)m	15m	140m
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

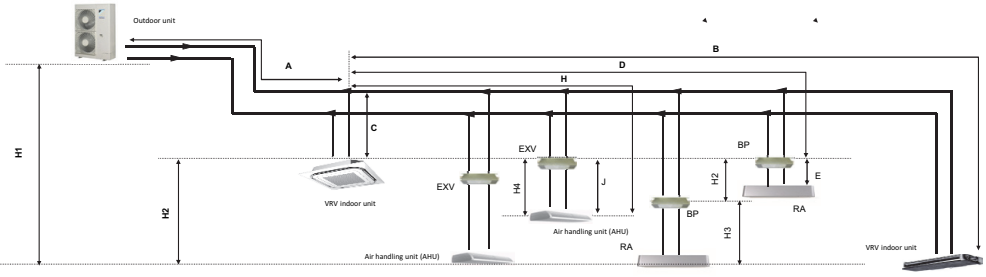
Notes
1. The allowable minimum length is ·5· m.
2. Multiple air handling units (·AHU·)(·EKEXV· + ·EKEQ· kits).
3. Mix of air handling units (·AHU·) and ·VRV DX· indoor units.

3D097984

RXYSCQ-TV1

RXYSQ-TV1

RXYSQ-TY1



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: ·BP· to ·RA· (E)	Allowed piping length: ·EXV· to ·AHU· (J)	Maximum height difference: ·BP· to ·RA· (H3)	Maximum height difference: ·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.

3D097984

12 Installation

12 - 2 Refrigerant Pipe Selection

RXYSCQ-TV1

RXYSQ-TV1

RXYSQ-TY1

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· (1)	-	80~130%	-
·VRV DX· indoor unit + ·AHU· Mix	50~110% (3)	Maximum ·64· (2)	50~110%	-	0~110%
·AHU· only Pair + multi (4)	90~110% (3)	Maximum ·64· (2)	-	-	90~110%

Notes

1. There is no restriction on the number of connectable ·BP· boxes.
2. ·EKEXV· kits are also considered indoor units.
3. Restrictions regarding the air handling unit capacity
4. 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

I. ·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.

II. ·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.

III. ·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.

IV. ·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.

V. 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.

3D097984

13 Operation range

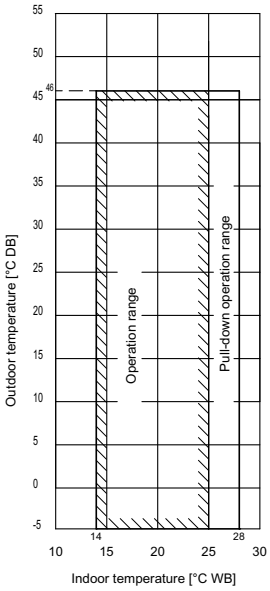
13 - 1 Operation Range

RXYSCQ-TV1
RXYSQ-TV1
RXYSQ4-6TY1

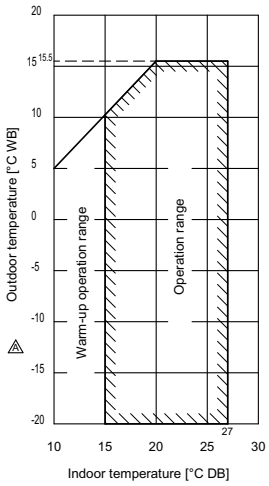
Notes

1. These figures assume the following operation conditions
   Indoor and outdoor units
   Equivalent piping length: 5m
   Level difference: 0m
2. Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
3. 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.
4. 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.
5. If the unit is selected to operate at ambient temperatures <-5°C for 5 days or more, with relative humidity levels >95%, it is recommended to apply a Daikin range specifically designed for such application.
   For more information, contact your dealer.

Cooling



Heating



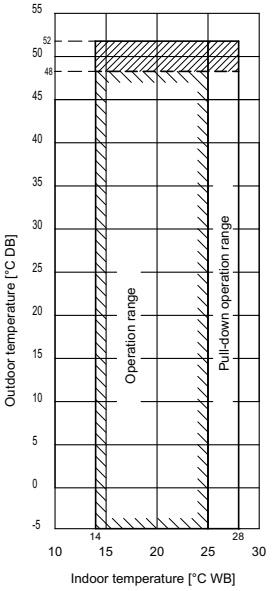
3D094664A

RXYSQ8-12TY1

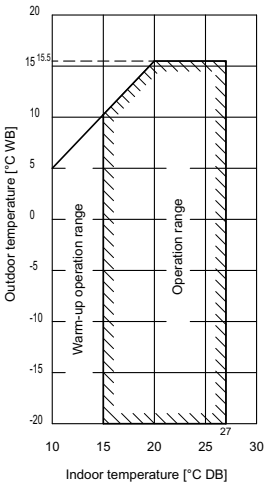
Notes

1. These figures assume the following operation conditions
   Indoor and outdoor units
   Equivalent piping length: 5m
   Level difference: 0m
2. Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
3. 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.
4. 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.
5. ////: Unit operation is possible, but no guaranteed capacity
6. If the unit is selected to operate at ambient temperatures <-5°C for 5 days or more, with relative humidity levels >95%, it is recommended to apply a Daikin range specifically designed for such application.
   For more information, contact your dealer.

Cooling



Heating



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