



VRV IV S-series heat pump Air Conditioning Technical Data RXYSQ-TY1



RXYSQ8TMY1B
RXYSQ10TMY1B
RXYSQ12TMY1B

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RXYSQ-TY1

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1 Features

1 - 1 RXYSQ-TY1

Space saving solution without compromising on efficiency

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- › 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 curtains
- › Wide range of indoor units: either connect VRV or stylish indoor units such as Daikin Emura, Perfera ...
- › 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 the Daikin Cloud Service: 24/7 monitoring for maximum efficiency, extended lifetime and immediate service support thanks to failure prediction



Inverter

2 Specifications

2 - 1 Specifications

Technical Specifications					RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Recommended combination					4 x FXMQ50P7VEB	4 x FXMQ63P7VEB	6 x FXMQ50P7VEB
Recommended combination 2					4 x FXSQ50A2VEB	4 x FXSQ63A2VEB	6 x FXSQ50A2VEB
Cooling capacity	Prated,c			kW	22.4 (1)	28.0 (1)	33.5 (1)
Heating capacity	Nom.	6°CWB		kW	22.4 (2)	28.0 (2)	33.5 (2)
	Prated,h			kW	22.4 (2)	28.0 (2)	33.5 (2)
	Max.	6°CWB		kW	25.0 (2)	31.5 (2)	37.5 (2)
Power input - 50Hz	Heating	Nom.	6°CWB	kW	5.82 (2)	6.60 (2)	8.19 (2)
COP at nom. capacity	6°CWB			kW/kW	3.85	4.24	4.09
SCOP					4.2	4.1	4.3
SCOP recommended combination 2					4.2	4.1	4.3
SEER						6.3	6.5
SEER recommended combination 2					6.0		6.3
ηs,c				%	247.3	247.4	256.5
ηs,c recommended combination 2				%	237.8	250.0	248.6
ηs,h				%	165.8	162.4	169.6
ηs,h recommended combination 2				%	163.4	162.2	167.0
Space cooling	A Condition	EERd			2.6	2.8	2.7
	(35°C - 27/19)	Pdc		kW	22.4	28.0	33.5
	B Condition	EERd			4.2		4.3
	(30°C - 27/19)	Pdc		kW	16.5	20.6	24.7
	C Condition	EERd				7.7	7.9
	(25°C - 27/19)	Pdc		kW	10.6	13.3	15.9
	D Condition	EERd			13.7	12.2	13.6
	(20°C - 27/19)	Pdc		kW	6.4	7.1	7.3
	A Condition	EERd			2.3	2.8	2.5
	(35°C - 27/19)	Pdc		kW	22.4	28.0	33.5
Space cooling recom- mended combination 2	B Condition	EERd			4.2	4.4	4.2
	(30°C - 27/19)	Pdc		kW	16.5	20.6	24.7
	C Condition	EERd			7.5		7.7
	(25°C - 27/19)	Pdc		kW	10.6	13.3	15.9
	D Condition	EERd			13.4	12.4	13.5
	(20°C - 27/19)	Pdc		kW	6.4		7.3
	TBivalent	COPd (declared COP)			2.4		2.2
		Pdh (declared heating cap)		kW	14.9	19.6	23.5
		Tbiv (bivalent temperature)		°C		-10	
	TOL	COPd (declared COP)			2.4		2.2
Space heating (Average climate)	TOL	Pdh (declared heating cap)		kW	14.9	19.6	23.5
		Tol (temperature operating limit)		°C		-10	
Space heating (Average climate)	A Condition	COPd (declared COP)			2.6		2.4
	(-7°C)	Pdh (declared heating cap)		kW	13.2	17.4	20.8
	B Condition	COPd (declared COP)			4.0	4.1	4.3
	(2°C)	Pdh (declared heating cap)		kW	8.0	10.6	12.7
	C Condition	COPd (declared COP)				5.9	6.3
	(7°C)	Pdh (declared heating cap)		kW	5.0	6.8	8.1
	D Condition	COPd (declared COP)			7.8	6.3	6.7
	(12°C)	Pdh (declared heating cap)		kW	5.8	6.4	6.6
	A Condition	COPd (declared COP)			2.6	2.4	2.3
	(-7°C)	Pdh (declared heating cap)		kW	13.2	17.4	20.8
Space heating (Average climate) recommended combination 2	B Condition	COPd (declared COP)			4.0	4.1	4.2
	(2°C)	Pdh (declared heating cap)		kW	8.0	10.6	12.7
	C Condition	COPd (declared COP)			5.8	5.9	6.2
	(7°C)	Pdh (declared heating cap)		kW	5.2	6.8	8.1
	D Condition	COPd (declared COP)			7.7	6.3	6.6
	(12°C)	Pdh (declared heating cap)		kW	5.7	6.4	6.5
	TBivalent	COPd (declared COP)			2.3		2.2
		Pdh (declared heating cap)		kW	14.9	19.6	23.5
		Tbiv (bivalent temperature)		°C		-10.0	
Capacity range				HP	8	10	12
PED	Category					Category II	
	Most critical part	Name				Accumulator	
		Ps*V	Bar*l		202		279
Maximum number of connectable indoor units						64 (3)	
Indoor index connection	Min.				100.0	125.0	150.0
	Max.				260.0	325.0	390.0
Dimensions	Unit	Height	mm		1,430		1,615
		Width	mm			940	
		Depth	mm		320		460
	Packed unit	Height	mm		1,615		1,745
		Width	mm		1,030		1,015
		Depth	mm		420		575
Weight	Unit		kg		144	175	180
	Packed unit		kg		158	191	196

2 Specifications

2 - 1 Specifications

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Technical Specifications					RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Packing	Material					Carton	
Packing	Weight	kg			5.6	8.2	
Packing 2	Material					Wood	
Packing 2	Weight	kg			5.5	8.8	
Packing 3	Material					Plastic	
Packing 3	Weight	kg			0.3	0.4	
Casing	Colour					Daikin White	
Casing	Material					Painted galvanized steel plate	
Heat exchanger	Type					Cross fin coil	
Heat exchanger	Indoor side					Air	
Heat exchanger	Outdoor side					Air	
Heat exchanger	Air flow rate	Cooling	Rated	m ³ /h	8,400	10,920	
Heat exchanger		Heating	Rated	m ³ /h	8,400	10,920	
Fan	Quantity					2	
Fan motor	Quantity					2	
Fan motor	Type					DC motor	
Fan motor	Output			W		200	
Compressor	Quantity					1	
Compressor	Type					Hermetically sealed scroll compressor	
Compressor	Crankcase heater			W		33	
Operation range	Cooling	Min.		°CDB		-5.0	
Operation range		Max.		°CDB		52.0	
Operation range	Heating	Min.		°CWB		-20.0	
Operation range		Max.		°CWB		15.5	
Sound power level	Cooling	Nom.		dBA	73.0 (4)	74.0 (4)	76.0 (4)
Sound power level	Heating	Prated,h		dBA	73.0 (4)	74.0 (4)	76.0 (4)
Sound pressure level	Cooling	Nom.		dBA	55.0 (5)		57.0 (5)
Refrigerant	Type					R-410A	
Refrigerant	GWP					2,087.5	
Refrigerant	Charge			kg	5.5	7.0	8.0
Refrigerant	Charge			tCO ₂ Eq	11.5	14.6	16.7
Refrigerant oil	Type					Synthetic (ether) oil FVC68D	
Piping connections	Liquid	Type				Brazed connection	
Piping connections		OD		mm	9.52		12.7
Piping connections	Gas	Type				Brazed connection	
Piping connections		OD		mm	19.1	22.2	25.4
Piping connections	Total piping length	System	Actual	m		300 (6)	
Defrost method						Reversed cycle	
Capacity control	Method					Inverter controlled	
Indication if the heater is equipped with a supplementary heater						no	
Supplementary heater	Back-up capacity	Heating	elbu	kW		0.0	
Power consumption in other than active mode	Crankcase heater	Cooling	PCK	kW		0.000	
Power consumption in other than active mode		Heating	PCK	kW	0.040	0.046	
Power consumption in other than active mode	Off mode	Cooling	POFF	kW	0.035	0.046	
Power consumption in other than active mode		Heating	POFF	kW	0.040	0.046	
Power consumption in other than active mode	Standby mode	Cooling	PSB	kW	0.035	0.046	
Power consumption in other than active mode		Heating	PSB	kW	0.040	0.046	
Power consumption in other than active mode	Thermo-stat-off mode	Cooling	PTO	kW	0.015	0.013	
Power consumption in other than active mode		Heating	PTO	kW	0.055	0.059	
Cooling	Cdc (Degradation cooling)					0.25	
Heating	Cdh (Degradation heating)					0.25	
Safety devices	Item	01				High pressure switch	
Safety devices		02				Fan driver overload protector	
Safety devices		03				Inverter overload protector	
Safety devices		04				PC board fuse	

Standard accessories: Installation manual;Quantity: 1;

Standard accessories: Operation manual;Quantity: 1;

Standard accessories: Connection pipes;Quantity: 1;

Electrical Specifications					RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Power supply	Name					Y1	
Power supply	Phase					3N~	
Power supply	Frequency			Hz		50	
Power supply	Voltage			V		380-415	
Power supply intake						Both indoor and outdoor unit	
Voltage range	Min.			%		-10	
Voltage range	Max.			%		10	

2 Specifications

2 - 1 Specifications

Electrical Specifications				RXYSQ8TY1	RXYSQ10TY1	RXYSQ12TY1
Current - 50Hz	Nominal running current (RLA)	Combina- tion A	Cooling	-		
		Combina- tion B	Cooling	-		
		Cooling	A	10 (10)	11 (10)	13 (10)
	Starting current (MSC) - remark	See note 11				
	Zmax List	No requirements				
	Minimum Ssc value	kVa		910 (12)	564 (12)	615 (12)
	Minimum circuit amps (MCA)	A		18.5 (13)	22.0 (13)	24.0 (13)
	Maximum fuse amps (MFA)	A		25 (14)		32 (14)
	Total overcurrent amps (TOCA)	A		16.5 (15)	25.0 (15)	27.0 (15)
	Full load amps (FLA)	A		1.4 (16)		
Power Performance	Power factor	Combina- tion B	35°C ISO - Full load 46°C ISO - Full load	-		
				-		
Wiring connections - 50Hz	For power supply	Quantity		5G		
	For connection with indoor	Quantity		2		
		Remark		F1,F2		
Compressor	Crankcase heater	W		33		

- (1)Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m; level difference: 0m | .
(2)Cooling: T1: indoor temp. 26,7°CDB, 19,4°CWB, outdoor temp. 35°CDB, AHRI 1230:2010, power input indoor units (duct type) included |
(3)Cooling: T3: indoor temp. 29,0°CDB, 19,0°CWB, outdoor temp. 46°CDB, ISO15042:2011, power input indoor units (duct type) included |
(4)Cooling: T2: indoor temp. 26,6°CDB, 19,4°CWB, outdoor temp. 48°CDB, AHRI 1230:2010, power input indoor units (duct type) included |
(5)Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m; level difference: 0m |
(6)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%). |
(7)Sound power level is an absolute value that a sound source generates. |
(8)Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. |
(9)Refer to refrigerant pipe selection or installation manual |
(10)RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB |
(11)MSC means the maximum current during start up of the compressor. This unit uses only inverter compressors. Starting current is always ≤ max. running current. |
(12)In accordance with EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Ssc ≥ minimum Ssc value |
(13)MCA must be used to select the correct field wiring size. The MCA can be regarded as the maximum running current. |
(14)MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker). |
(15)TOCA means the total value of each OC set. |
(16)FLA means the nominal running current of the fan |
(17)Maximum allowable voltage range variation between phases is 2%. |
(18)Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits. |
(19)The automatic ESEER value corresponds with normal VRV IV-S heat pump operation, including the advanced energy saving functionality (variable refrigerant temperature control). |
(20)The standard ESEER value corresponds with normal VRV IV-S heat pump operation, not taking into account the advanced energy saving functionality. |
(21)Sound values are measured in a semi-anechoic room. |
(22)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 |
(23)Ssc: Short-circuit power |
(24)For detailed contents of standard accessories, see installation/operation manual

3 Options

3 - 1 Options

RXYSQ-TY1

VRV4-S Heat pump Option list

Nr.	Item	RXYSCQ4~6TMV1B	RXYSQ4~6T7V1B RXYSQ4~6T8VB(9)	RXYSQ4~6T7Y1B RXYSQ4~6T8YB(9)	RXYSQ8~12TMY1B	RXYSQ6T7Y1B9 RXYSQ6T8Y1B9	RXYSQ6TMYFK
I.	Refnet header	-	-	-	KHRQ22M64H	-	KHRQ22M64H
II.	Refnet joint	-	-	-	KHRQ22M29T9	-	KHRQ22M29T9
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	-	-	-	-	-	-
4.	Demand PCB	-	-	-	-	-	-
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·
For ·RXYSQ4~6T8VB·
To operate the cool/heat selector function, options ·1a· and ·1c· are both required.
4. For ·RXYSQ4~6T7Y1B·
For ·RXYSQ4~6T8YB·
To operate the cool/heat selector function, options ·1a· and ·1d· are both required.

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4 Combination table

4 - 1 Combination Table

RXYSQ-TY1

VRV4-S

Heat pump

Indoor unit combination restrictions

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

O: Allowed

X: Not allowed

Notes

1. O₁

- Combination of ·AHU· only + control box ·EKEQFA· (not combined with ·VRV DX· indoor units)

→ ·X·-control is possible [·EKEQV+EKEQFA*· boxes]. No Variable Refrigerant Temperature control possible.

→ ·Y·-control is possible [·EKEQV+EKEQFA*· boxes]. No Variable Refrigerant Temperature control possible.

→ ·W·-control is possible [·EKEQV+EKEQFA*· boxes]. No Variable Refrigerant Temperature control possible.

- Combination of ·AHU· only + control box ·EKEQMA· (not combined with ·VRV DX· indoor units)

→ Z-control is possible (the allowed number of [·EKEQV + 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:

→ ·EKEQV + EKEQ(MA/FA) + AHU· coil

→ ·Biddle· air curtain

→ ·FXMQ_MF· units

Information

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

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RXYSQ-TY1

VRV4-S

Heat pump

Indoor unit combination restrictions

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

O: Allowed

X: Not allowed

Notes

(2) The following units are considered AHUs:

→ ·EKEQV + EKEQ(MA/FA) + AHU· coil

→ ·Biddle· air curtain

→ ·FXMQ_MF· units

3D097983A

4 Combination table

4 - 1 Combination Table

RXYSQ-TY1

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

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

- 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.
- In case the system contains these indoor units and the total connection ratio (·CR·) > ·100·%: special restrictions apply.
 - 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.
 - When the connection ratio (·CR1·) of the sum of all ·FXZQ15A· and/or ·FXAQ15A· units in the system ≤ ·70·%, and NOT ALL other ·VRV DX· indoor units have an individual capacity class > ·50·: the restrictions below apply.
 - ° 100% < CR ≤ 105% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·70·%.
 - ° 105% < CR ≤ 110% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·60·%.
 - ° 110% < CR ≤ 115% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·40·%.
 - ° 115% < CR ≤ 120% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·25·%.
 - ° 120% < CR ≤ 125% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·10·%.
 - ° 125% < CR ≤ 130% -> ·FXZQ15A· and ·FXAQ15A· cannot be used.

Remark

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

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RXYSQ-TY1

RXYSQ-TY9

RXYSQ-TV9

RXYSQ-TV1

VRV4-S

Heat pump

·RA/SA DX· indoor unit

Compatibility list

Configuration		Indoor unit type	
·RA· indoor unit	Wall-mounted	<i>Emura</i>	FTXJ20A
			FTXJ25A
			FTXJ35A
			FTXJ42A
			FTXJ50A
		<i>FTXM</i>	FTXM20N
			FTXM20R
			FTXM25N
			FTXM25R
			FTXM35N
			FTXM35R
	Floor-standing	<i>Flex</i>	FLXS25B
			FLXS35B
			FLXS50B
			FLXS60B
		<i>FVXM</i>	FVXM25F
			FVXM35F
			FVXM50F
			CVXM20A
			FVXM25A
			FVXM35A
·SA· indoor unit	Cassette	Fully Flat 2x2	FFA25A
			FFA35A
			FFA50A
			FFA60A
			FFA71A
		Roundflow 3x3	FCAG35A
			FCAG50A
			FCAG60A
			FCAG71A
			FCAG71A
	Ceiling-suspended	<i>CTXM</i>	CTXM15N
			CTXM15R
		<i>Stylish</i>	FTXA20
			FTXA25
			FTXA35
			FTXA42
			FTXA50
	Duct	<i>FDXM</i>	FDXM25F
			FDXM35F
			FDXM50F
			FDXM60F
		<i>Nexura</i>	FVXG25K
			FVXG35K
			FVXG50K
			FVXG50K
			FVXG50K
			FVXG50K

Remark

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

3D097777J

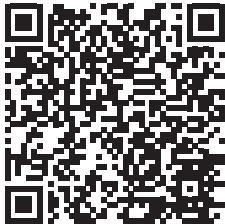
5 Capacity tables

5 - 1 Capacity Table Legend

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

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

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



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



5 Capacity tables

5 - 2 Capacity Correction Factor

RXYSQ-TY1

MINI VRV

Integrated heating capacity coefficient

The heating capacity tables do not take into account the capacity reduction in case of frost accumulation or defrost operation. The capacity values that take these factors into account, or in other words, the integrated heating capacity values, can be calculated as follows:

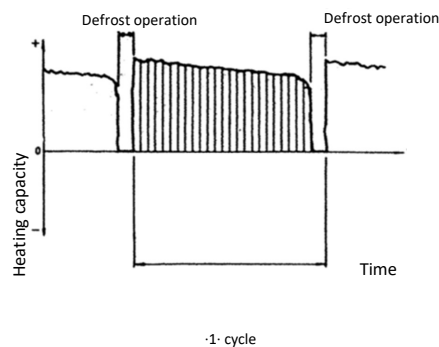
Formula

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

$$A = B \cdot C$$

Inlet air temperature of heat exchanger

[°CDB/°CWB]	-7/-7.6	-5/-5.6	-3/-3.7	0/-0.7	3/2.2	5/4.1	7/6
RXYSQ4TMV1B							
RXYSQ5TMV1B							
RXYSQ6TMV1B							
RXYSQ4T7V1B							
RXYSQ5T7V1B							
RXYSQ6T7V1B							
RXYSQ4T7Y1B							
RXYSQ5T7Y1B							
RXYSQ6T7Y1B							
RXYSQ6T7Y1B9							
RXYSQ4T8VB							
RXYSQ5T8VB	0,88	0,86	0,80	0,75	0,76	0,82	1,00
RXYSQ6T8VB							
RXYSQ4T8YB							
RXYSQ5T8YB							
RXYSQ6T8YB							
RXYSQ6T8Y1B9							
RXYSQ4T8VB9							
RXYSQ5T8VB9							
RXYSQ6T8VB9							
RXYSQ4T8YB9							
RXYSQ5T8YB9							
RXYSQ6T8YB9							
RXYSQ8TMY1B	0,95	0,93	0,88	0,84	0,85	0,90	1,00
RXYSQ10TMY1B	0,95	0,93	0,87	0,79	0,80	0,88	1,00
RXYSQ6TMYFK	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

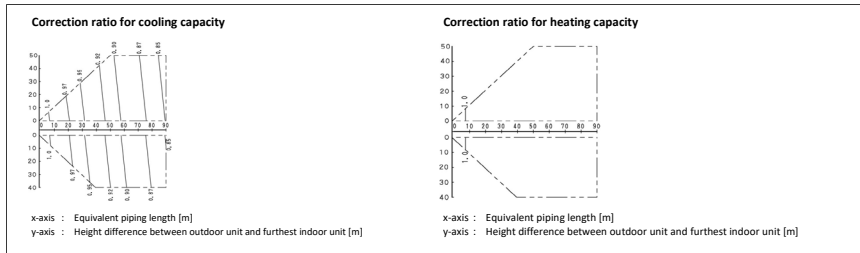
- (1) The figure shows the integrated heating capacity for a single cycle (from one defrost operation to the next).
- (2) When there is an accumulation of snow against the outdoor unit heat exchanger, there will always be a temporary reduction in capacity depending on the outdoor temperature (°C DB),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

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5 Capacity tables

5 - 2 Capacity Correction Factor

RXYSQ8TY1



Notes

- These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown in the above figures.
- With this outdoor unit, the following control is used:- in case of cooling: constant evaporating pressure control- in case of heating: constant condensing pressure control

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%.

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

Indoor connection ratio > 100%.

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

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

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
RXYSQ8TY1B	9,5	12,7	19,1	22,2

5. Overall equivalent length

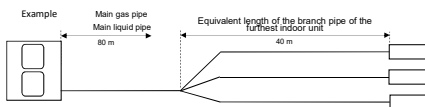
$$\text{Overall equivalent length} = \text{Equivalent length of the main pipe} \times \text{Correction factor} + \text{Equivalent length of the branch pipes}$$

Choose the correction factor from the following table.

When calculating the cooling capacity: gas pipe size

When calculating the heating capacity: liquid pipe size

	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,3



Overall equivalent length

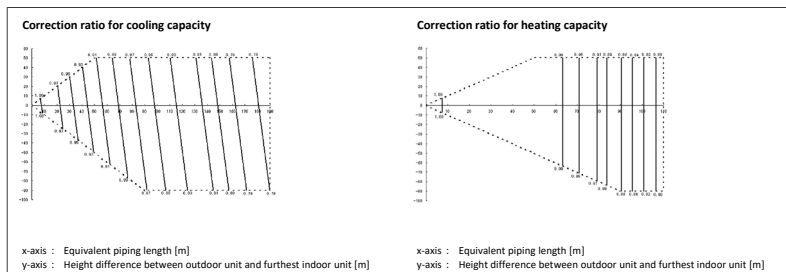
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)

- Cooling mode = 0,87
- Heating mode = 1,00

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RXYSQ10TY1



Notes

- These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown in the above figures.
- With this outdoor unit, the following control is used:- in case of cooling: constant evaporating pressure control- in case of heating: constant condensing pressure control

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%.

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

Indoor connection ratio > 100%.

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

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

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
RXYSQ10TY1B	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

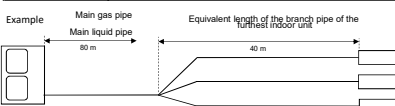
$$\text{Overall equivalent length} = \text{Equivalent length of the main pipe} \times \text{Correction factor} + \text{Equivalent length of the branch pipes}$$

Choose the correction factor from the following table.

When calculating the cooling capacity: gas pipe size

When calculating the heating capacity: liquid pipe size

	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,2



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

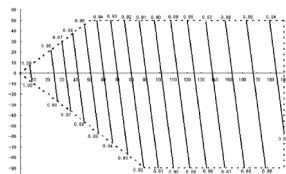
3D094660D

5 Capacity tables

5 - 2 Capacity Correction Factor

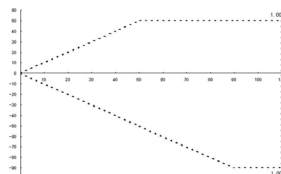
RXYSQ12TY1

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

- These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown in the above figures.
- With this outdoor unit, the following control is used:- in case of cooling: constant evaporating pressure control- in case of heating: constant condensing pressure control

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

- 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

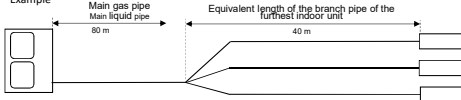
Choose the correction factor from the following table.

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 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)

- Cooling mode = 0,92
- Heating mode = 1,00

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6 - 1 Dimensional Drawings

[illegible]

3D098108

Technical drawings of the RXYSQ10TMY1B indoor unit, showing dimensions and component labels.

Dimensions:

- Top View: 940 (width), 1615 (height)
- Side View: 460 (height), 620 (width)
- Front View: 170 (width), 620 (width)
- Bottom View: 170 (width), 620 (width)

Component Labels:

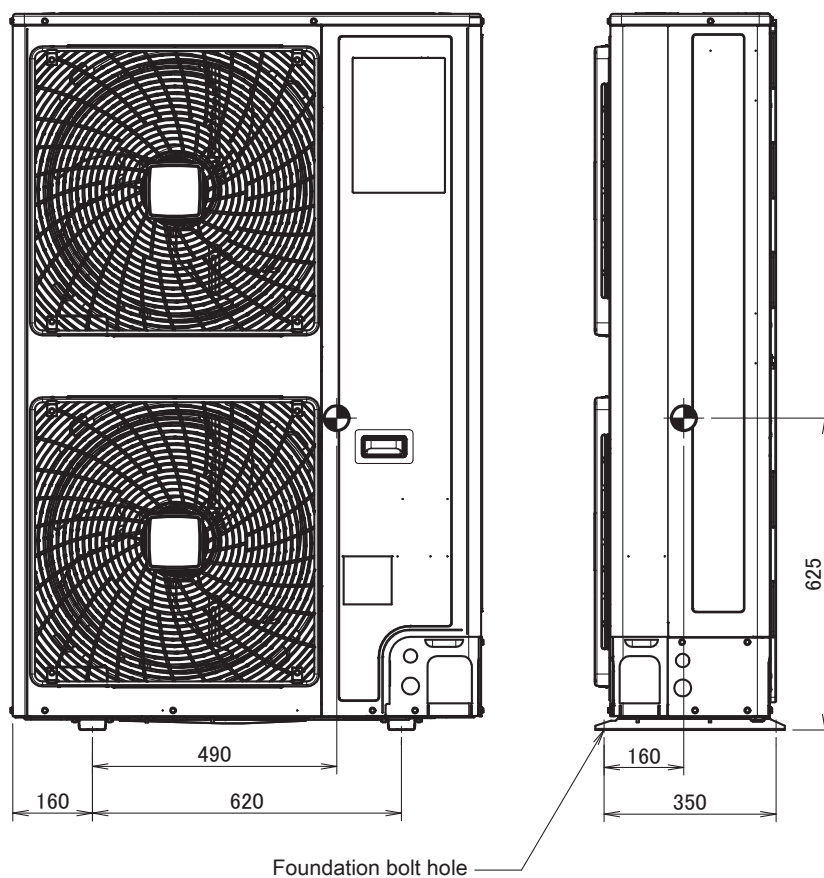
- 1: Service port (in the unit) Additional refrigerant charge
- 2: Service port (in the unit) High pressure
- 3: Grounding terminal Inside of the switch box (M8)
- 4: Refrigerant piping intake (knockout hole)
- 5: Control wiring intake (knockout hole Ø27)
- 6: Power supply wiring intake (knockout hole Ø27)
- 7: Drain pipe connection (outside diameter Ø26)

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7 Centre of gravity

7 - 1 Centre of Gravity

RXYSQ8TY1

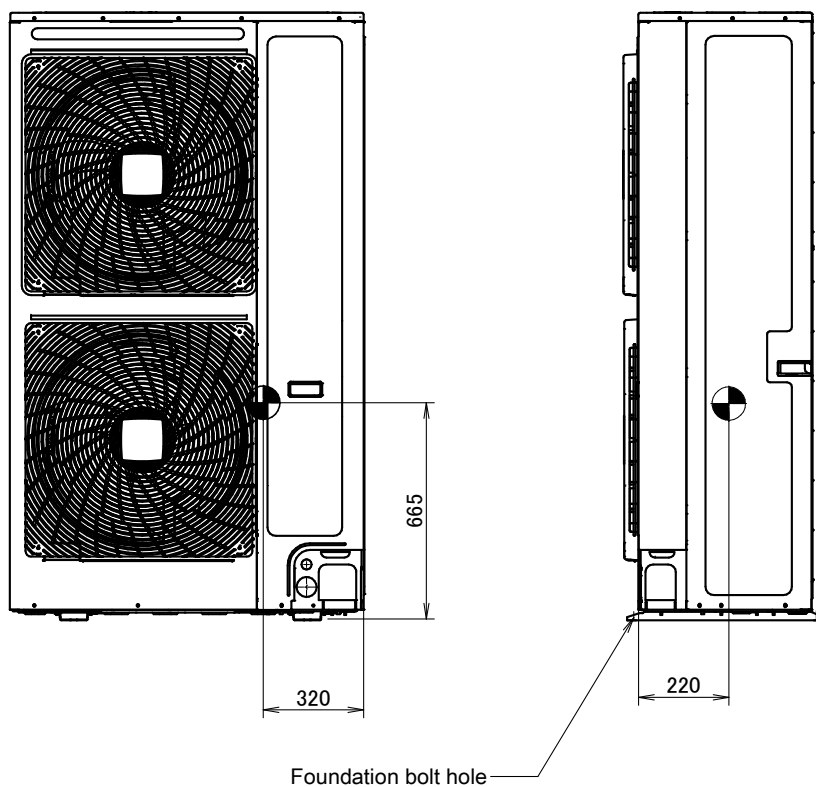


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7 Centre of gravity

7 - 1 Centre of Gravity

RXYSQ10-12TY1



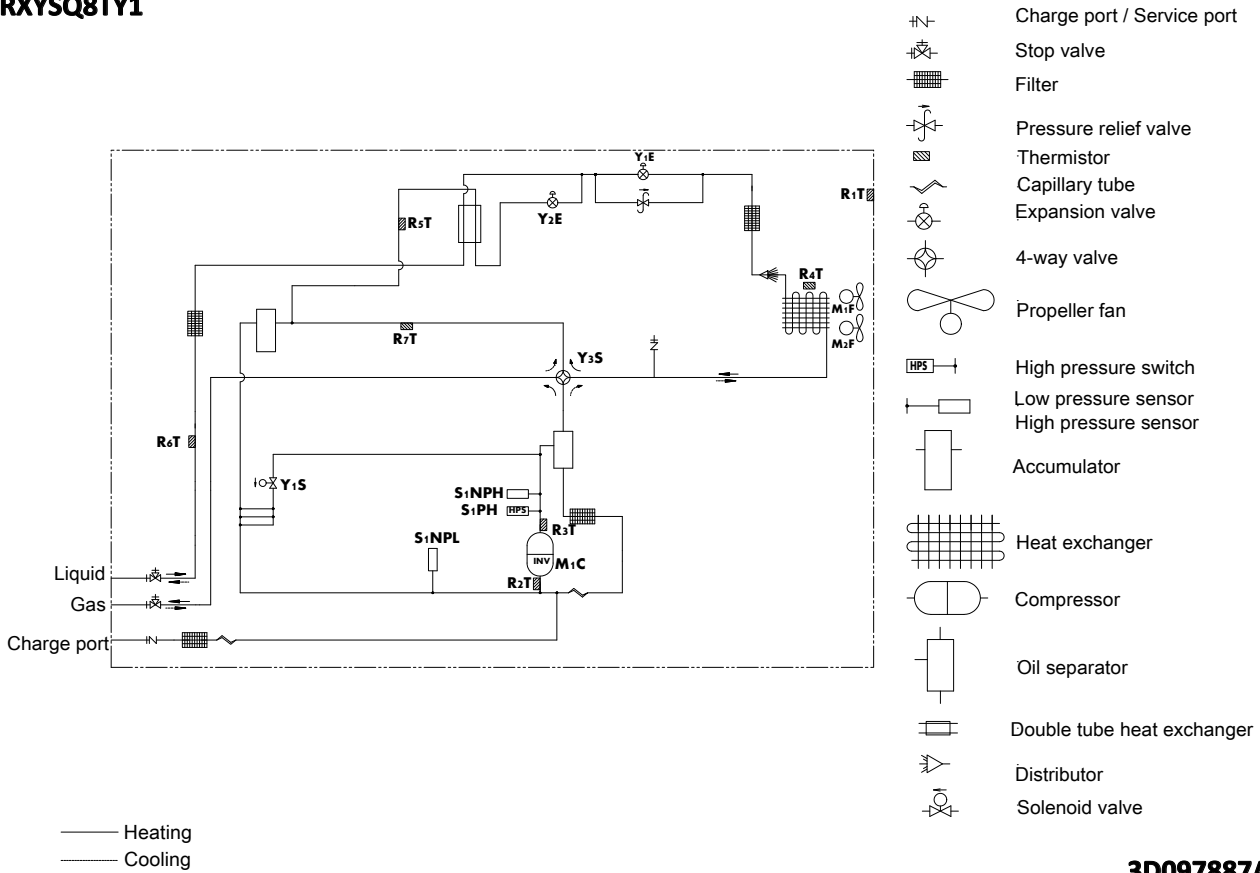
4D098085

8 Piping diagrams

8 - 1 Piping Diagrams

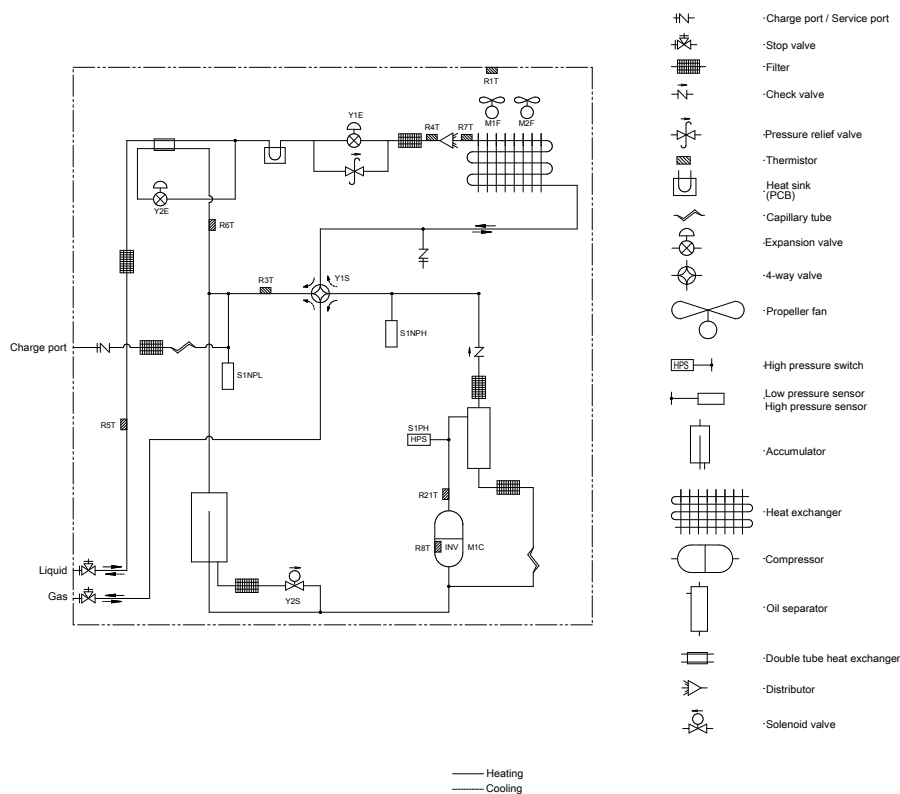
8

RXYSQ8TY1



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RXYSQ10-12TY1



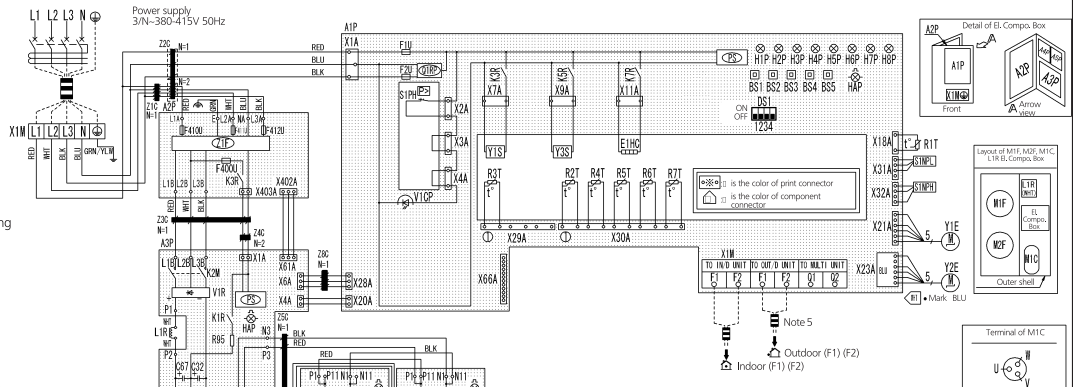
3D097888

9 Wiring diagrams

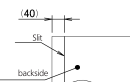
9 - 1 Wiring Diagrams - Three Phase

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)
- B51-B55 : Push button switch (Mode, set, return, test, reset)
- C32, C67 : Capacitor
- DS1 : Dip switch
- E1HC : Crankcase heater
- F101U : Fuse (SA, 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
- K1P : Pilotlamp (service monitor - green)
- K2M : Magnetic relay (A3P)
- K3R : Magnetic contactor (M1C) (A3P)
- K3R : Magnetic relay (A2P)
- K3R : Magnetic relay (Y15)
- K5R : Magnetic relay (Y35)
- 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. Lay-out, illustrations and letter size = 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

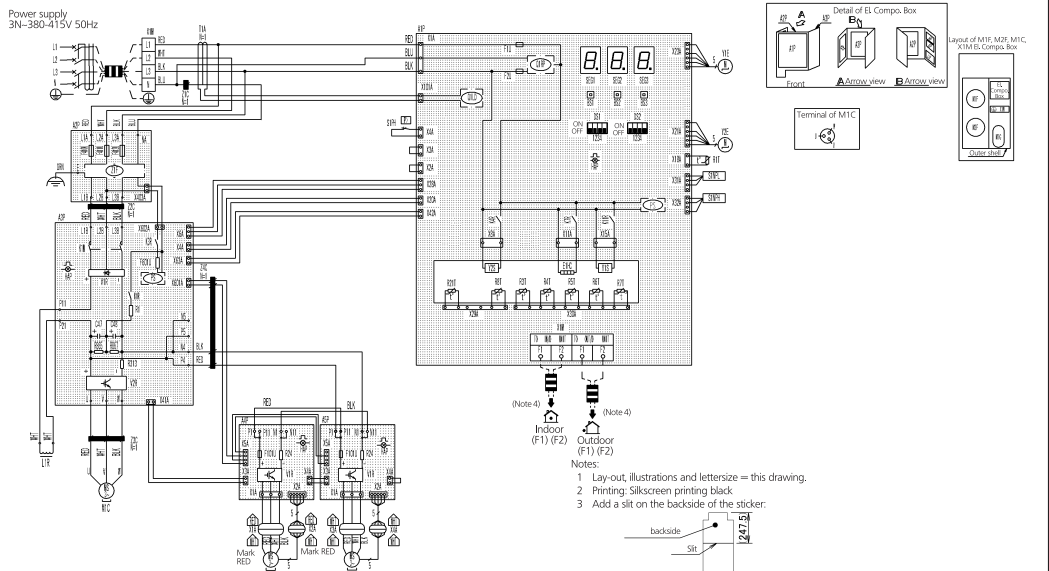
Notes:

1. This wiring diagram only applies to the outdoor unit.
2. Field wiring
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-B55 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

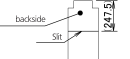
2D094434D

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)
- B51-B53 : 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)
- 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-24C : Noise filter (ferrite core)
- Z1F : Noise filter (with surge absorber) (A2P)



- Notes:
1. Lay-out, illustrations and letter size = 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
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-B53 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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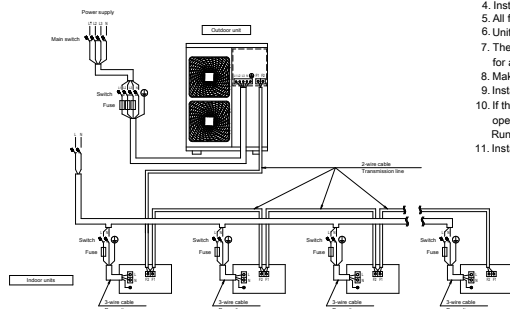
10 External connection diagrams

10 - 1 External Connection Diagrams

RXYSQ-12TY1

External connection diagram

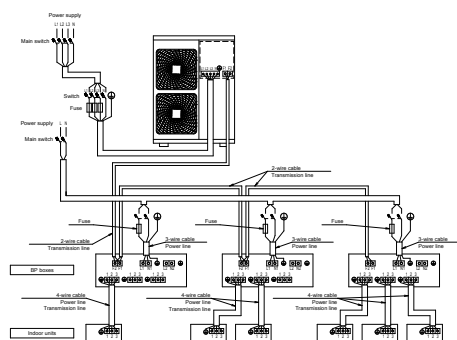
VRV indoor unit



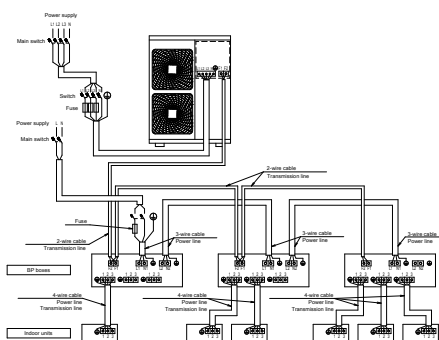
Notes

1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only.
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised electrician.
6. Unit has to be grounded in compliance with the applicable legislation.
7. The wiring shown is a general points-of-connection guide and is not intended to include all details for a specific installation.
8. Make sure to install the switch and the fuse to the power line of each equipment.
9. Install a main switch to (if necessary) immediately interrupt all the system's power sources.
10. 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.
11. Running the product in reversed phase may break the compressor and other parts.
12. Install an earth leakage circuit breaker.

BP box + RA/SA indoor unit



Power source is supplied to each BP box individually.



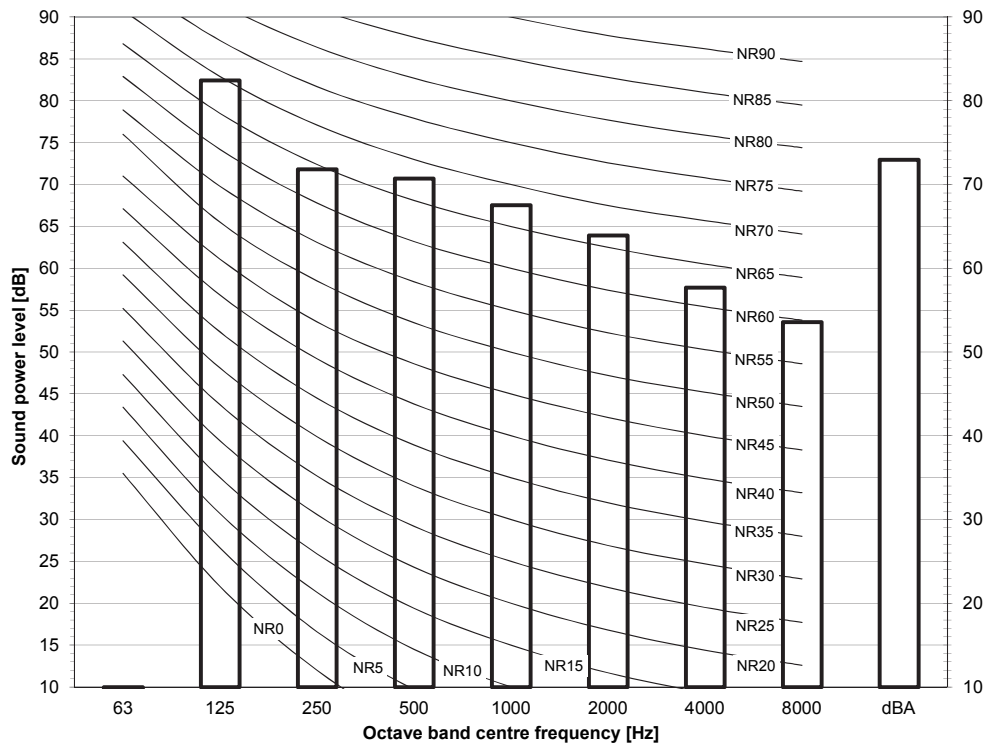
Power source is connected in series between the units.

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11 Sound data

11 - 1 Sound Power Spectrum

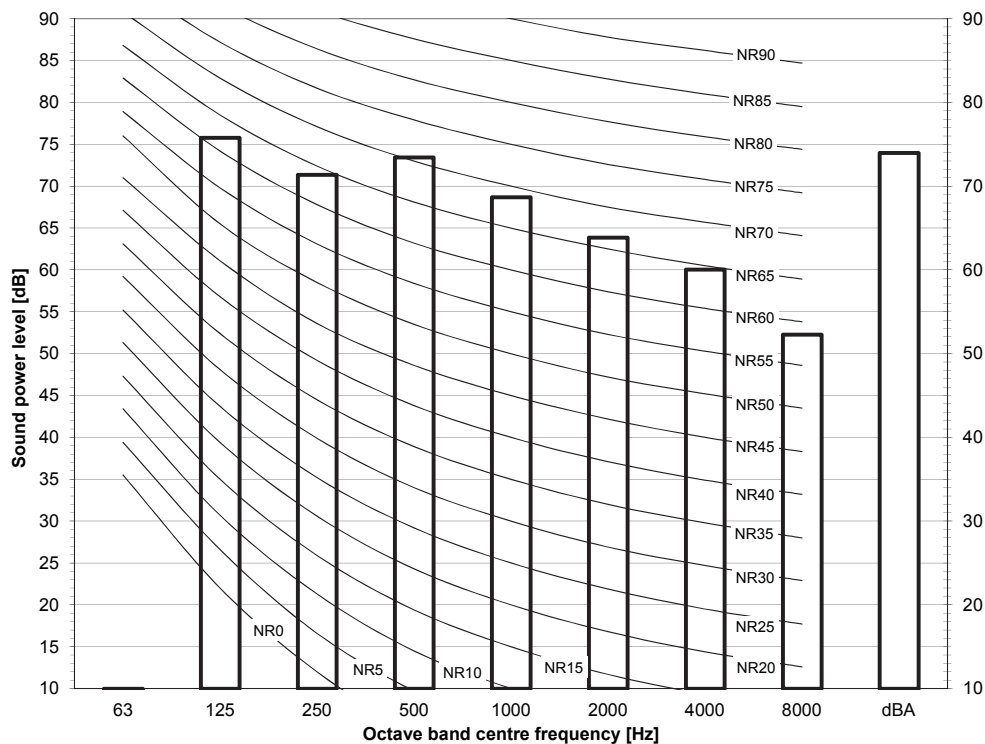
RXYSQ8TY1



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

3D098240

RXYSQ10TY1



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

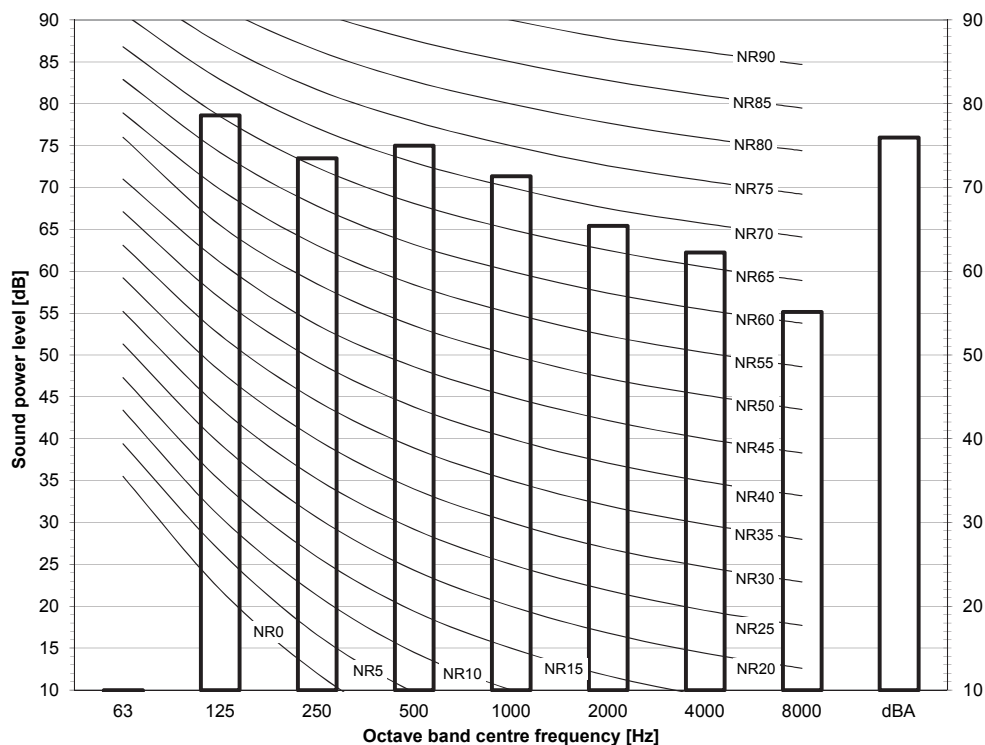
3D098241

11 Sound data

11 - 1 Sound Power Spectrum

11

RXYSQ12TY1



Notes

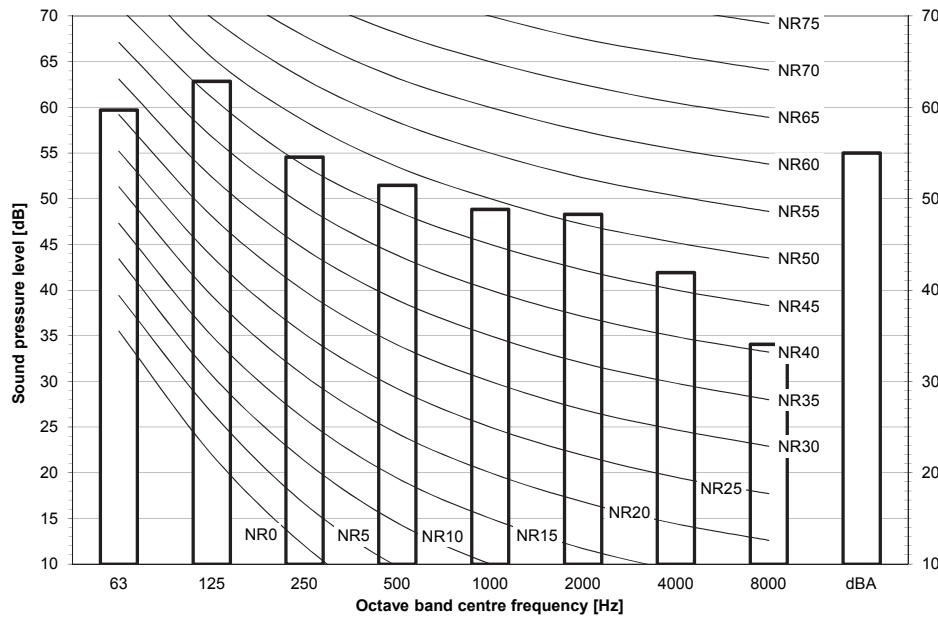
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6μW/m²
- Measured according to ISO 3744

3D098242

11 Sound data

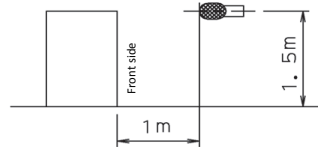
11 - 2 Sound Pressure Spectrum

RXYSQ8TY1



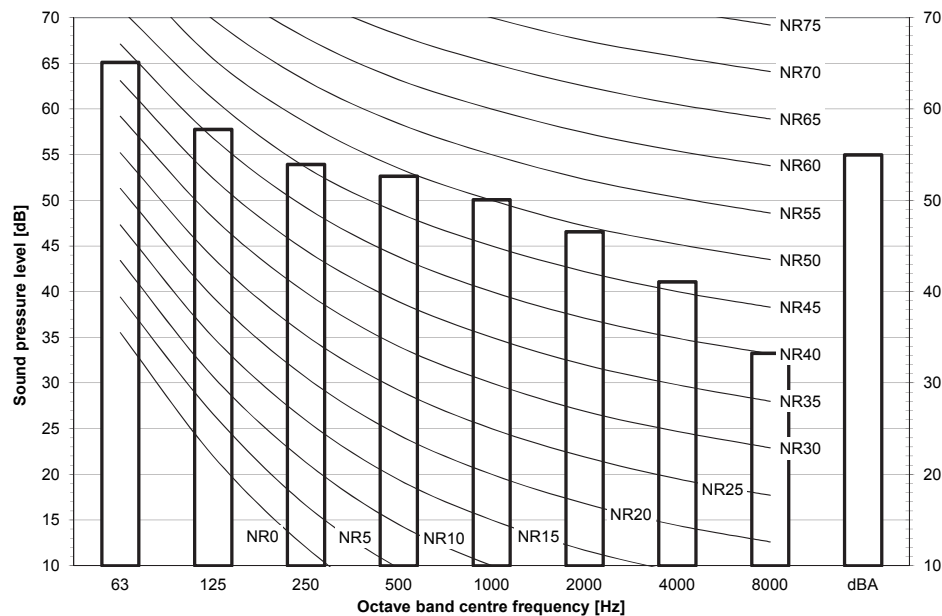
Notes

- 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 μ Pa



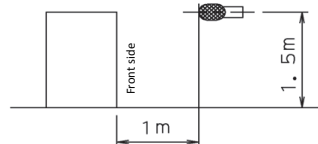
3D098245

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 μ Pa



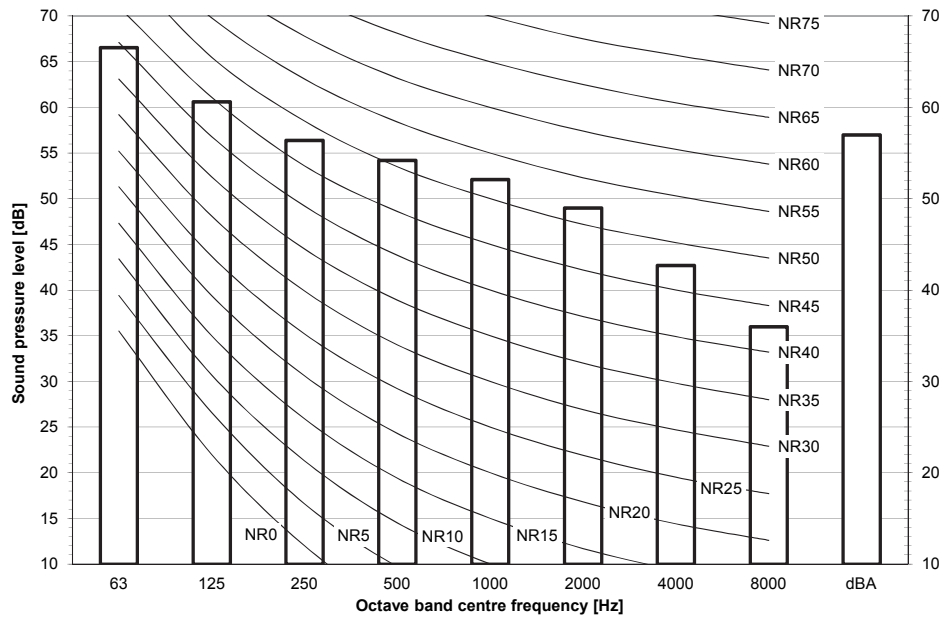
3D098246

11 Sound data

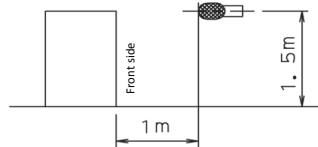
11 - 2 Sound Pressure Spectrum

11

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



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12 Installation

12 - 1 Installation Method

RXYSQ8TY1

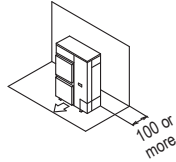
Required installation space

The unit of the values is mm.

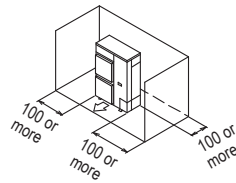
1. Where there is an obstacle on the suction side:

(a) No obstacle above

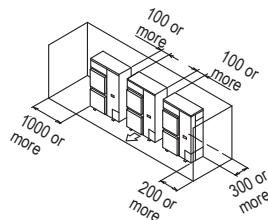
- (1) Stand-alone installation
- Obstacle on the suction side only



- Obstacle on both sides

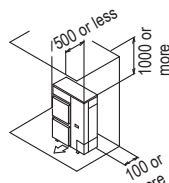


- (2) Series installation (2 or more) (note)
- Obstacle on both sides

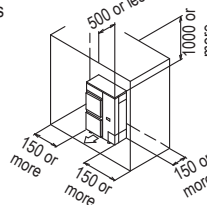


(b) Obstacle above, too

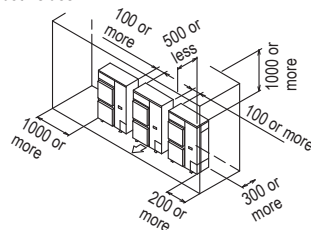
- (1) Stand-alone installation
- Obstacle on the suction side, too



- Obstacle on the suction side and both sides



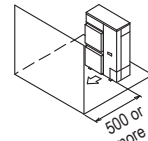
- (2) Series installation (2 or more) (note)
- Obstacle on the suction side and both sides



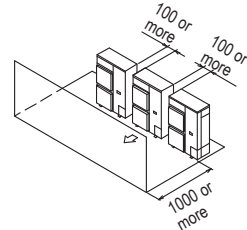
2. Where there is an obstacle on the discharge side:

(a) No obstacle above

- (1) Stand-alone installation

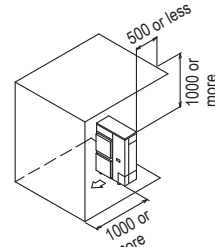


- (2) Series installation (2 or more) (note)

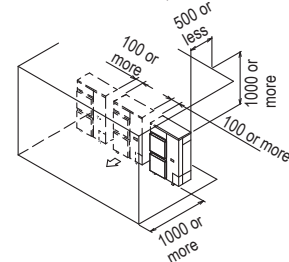


(b) Obstacle above, too

- (1) Stand-alone installation



- (2) Series installation (2 or more) (note)



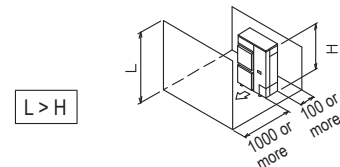
3. Where there are obstacles on both suction and discharge sides:

Pattern 1

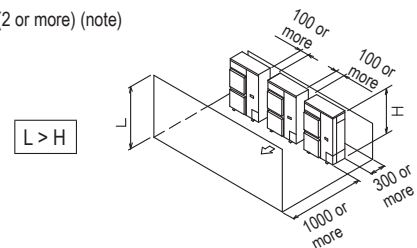
Where the obstacles on the discharge side is higher than the unit:
(There is no height limit for obstructions on the intake side.)

(a) No obstacle above

- (1) Stand-alone installation



- (2) Series installation (2 or more) (note)



3D068442W

12 Installation

12 - 1 Installation Method

RXYSQ10-12TY1

Required installation space

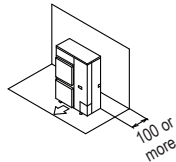
The unit of the values is mm.

1. Where there is an obstacle on the suction side:

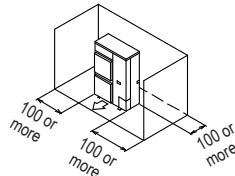
(a) No obstacle above

(1) Stand-alone installation

- Obstacle on the suction side only

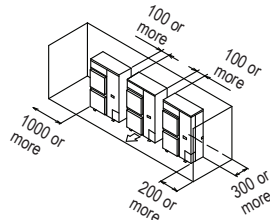


- Obstacle on both sides



(2) Series installation (2 or more) (note)

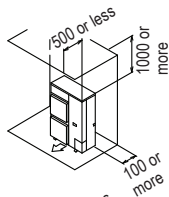
- Obstacle on both sides



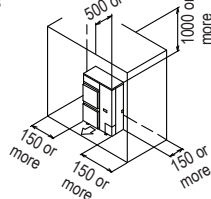
(b) Obstacle above, too

(1) Stand-alone installation

- Obstacle on the suction side, too

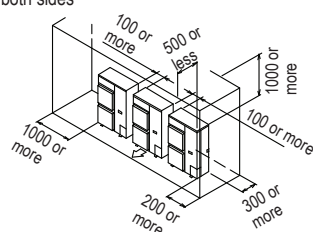


- Obstacle on the suction side and both sides



(2) Series installation (2 or more) (note)

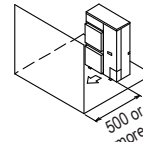
- Obstacle on the suction side and both sides



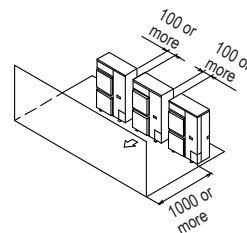
2. Where there is an obstacle on the discharge side:

(a) No obstacle above

(1) Stand-alone installation

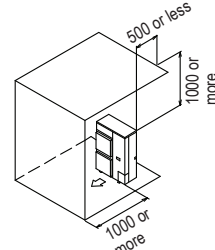


(2) Series installation (2 or more) (note)

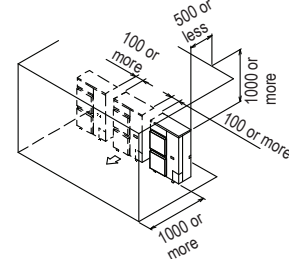


(b) Obstacle above, too

(1) Stand-alone installation



(2) Series installation (2 or more) (note)



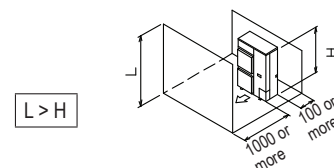
3. Where there are obstacles on both suction and discharge sides:

Pattern 1

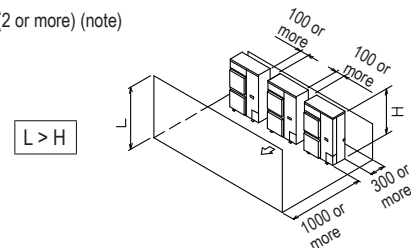
Where the obstacles on the discharge side is higher than the unit:
(There is no height limit for obstructions on the intake side.)

(a) No obstacle above

(1) Stand-alone installation



(2) Series installation (2 or more) (note)



3D083122S

12 Installation

12 - 1 Installation Method

12

RXYSQ10-12TY1

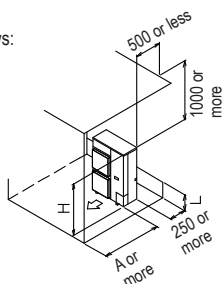
(b) Obstacle above, too

(1) Stand-alone installation

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

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

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



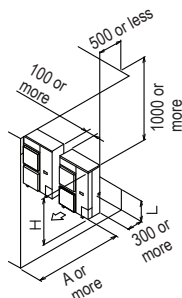
(2) Series installation (2 or more) (note)

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

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

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

Only two units can be installed for this series.



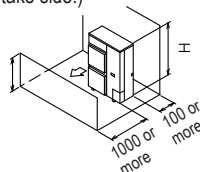
Pattern 2

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

(c) No obstacle above

(1) Stand-alone installation

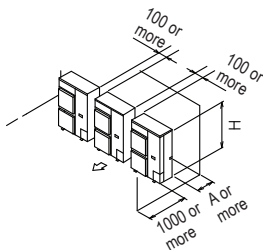
$L \leq H$



(2) Series installation (2 or more) (note)

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

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



(d) Obstacle above, too

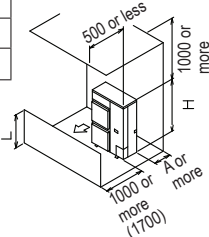
(1) Stand-alone installation

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

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

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

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



(2) Series installation (note)

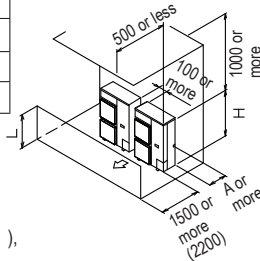
The relations between H, A and L are as follows.

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

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

Only two units can be installed for this series.

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



4. Double-decker installation

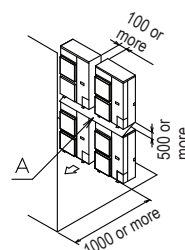
(a) Obstacle on the discharge side (note)

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 unit.

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

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



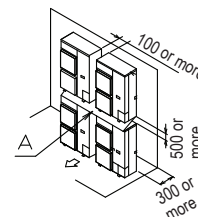
(b) Obstacle on the suctions side (note)

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

Do not stack more than two unit.

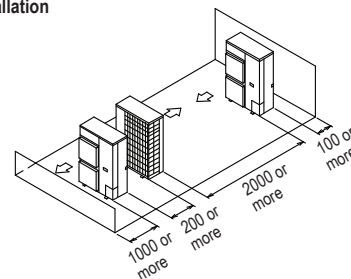
Set the board (field supply) as the detail A between two units to prevent the drainage from freezing.

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



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

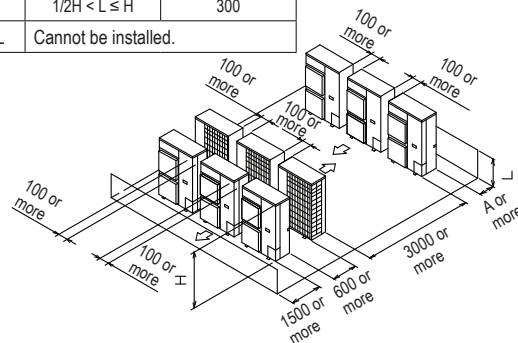
(a) One row of stand-alone installation



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

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

	L	A
$L \leq H$	$0 < L \leq 1/2H$	250
	$1/2H < L \leq H$	300
$H < L$	Cannot be installed.	



OUTDOOR UNIT FOR VRV SYSTEM

NOTES

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

3D083122S

12 Installation

12 - 2 Refrigerant Pipe Selection

RXYSQ-TY1
RXYSQ-TY9
RXYSQ-TV9
RXYSQ-TV1

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

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

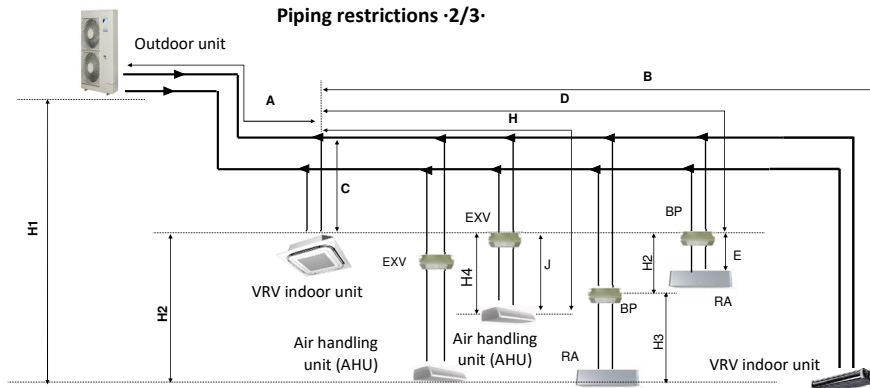
Notes

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

3D097984C

RXYSQ-TY1
RXYSQ-TY9
RXYSQ-TV9
RXYSQ-TV1

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



Notes

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

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

Notes

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

3D097984C

12 Installation

12 - 2 Refrigerant Pipe Selection

12

RXYSQ-TY1

RXYSQ-TY9

RXYSQ-TV9

RXYSQ-TV1

VRV4-S

Heat pump

Piping restrictions :3/3·

System pattern Allowed connection ratio (CR) Other combinations are not allowed.	Total		Allowed capacity		
	Capacity	Maximum allowed amount of connectable indoor units (·VRV, RA, AHU·) Excluding ·BP· units and including ·EXV· kits.	VRV DX indoor unit	·RA DX· indoor unit	Air handling unit (AHU)
·VRV DX· indoor units only	50~130%	Maximum ·64·	50~130%	-	-
·RA DX· indoor units only	80~130%	Maximum ·32· ⁽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

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

About ventilation applications

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

3D097984C

13 Operation range

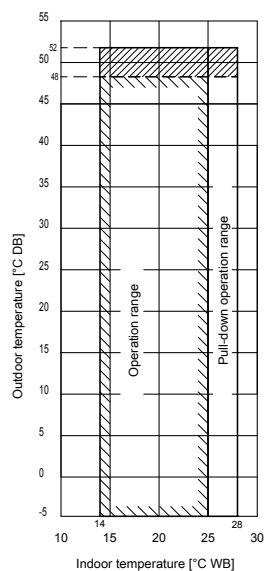
13 - 1 Operation Range

RXYSQ8-12TY1

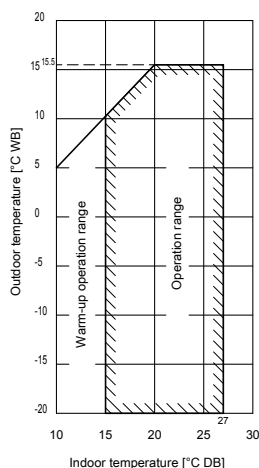
Notes

- These figures assume the following operation conditions
Indoor and outdoor units
Equivalent piping length: 5m
Level difference: 0m
- Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
- To reduce the freeze-up operation (indoor de-icing) frequency, it is recommended to install the outdoor unit in a location not exposed to wind.
- Operation range is valid in case direct expansion indoor units are used.
If other indoor units are used, refer to the documentation of the respective indoor units.
- Unit operation is possible, but no guaranteed capacity
- If the unit is selected to operate at ambient temperatures $< -5^{\circ}\text{C}$ for 5 days or more, with relative humidity levels $> 95\%$, it is recommended to apply a Daikin range specifically designed for such application.
For more information, contact your dealer.

Cooling



Heating



3D094665A

14 Appropriate Indoors

14 - 1 Appropriate Indoors

RXYSQ-TY1

RXYSQ-TY9

RXYSQ-TV9

RXYSQ-TV1

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

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

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

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

Covered by ·ENER LOT21·

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

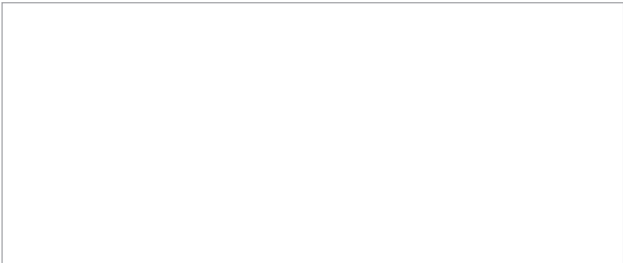
Outside the scope of ·ENER LOT21·

EKEXV50-63-80-100-125-140-200-250 + EKEQM / EKEQF
VKM50-80-100
CYVS100-150-200-250
CYVM100-150-200-250
CYVL100-150-200-250
EKVDX32-50-80-100 + VAMJ8

Covered by ·ENER LOT10·

FTXJ25-35-50
FTXA20-25-35-42-50
FTXM20N-25N-35N-42N-50N-60N-71N
FTXM20R-25R-35R-42R-50R-60R-71R
CTXM15N
CTXM15R
FLXS25-35-50-60
FVXM25F-35F-50F
FVXG25-35-50
FNA25-35-50-60
FDXM25-30-50-60
FFA25-35-50-60
FCAG35-50-60-71
FHA35-50-60-71
FBA35-50-60-71
CVXM20A
FVXM25A-35A-50A

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09/2023



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