

VRV 5 heat pump Air Conditioning Technical Data RXYA-A



RXYA8A7Y1B
RXYA10A7Y1B
RXYA12A7Y1B
RXYA14A7Y1B
RXYA16A7Y1B
RXYA18A7Y1B
RXYA20A7Y1B
RXYA10A7Y1B.
RXYA13A7Y1B
RXYA16A7Y1B.
RXYA18A7Y1B.
RXYA20A7Y1B.
RYMA5A7Y1B

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14 Appropriate Indoors

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1 Features

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The sustainability champion

- › Reduced CO2 equivalent thanks to the use of lower GWP R-32 refrigerant and lower refrigerant charge
- › Top sustainability over the entire lifecycle, thanks to market leading real-life seasonal efficiency
- › Tackle small room applications without any additional measures, thanks to Shirudo technology
- › Specially designed indoor units for R-32, ensuring low sound and maximum efficiency
- › Provides highly efficient heating or cooling
- › Incorporates VRV standards & technologies: Variable Refrigerant Temperature, continuous heating, VRV configurator, 7 segment display and full inverter compressors, 4-side heat exchanger, refrigerant cooled PCB, new DC fan motor

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2 Specifications

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Technical Specifications				RXYA8A	RXYA10A	RXYA12A	RXYA14A	RXYA16A	RXYA18A	RXYA20A
Recommended combination				4 x FXFA50A2VEB	4 x FXFA63A2VEB	6 x FXFA50A2VEB	1 x FXFA50A2VEB + 5 x FXFA63A2VEB	4 x FXFA63A2VEB + 2 x FXFA80A2VEB	3 x FXFA50A2VEB + 5 x FXFA63A2VEB	8 x FXFA63A2VEB
Recommended combination 2				4 x FXSA50A2VEB	4 x FXSA63A2VEB	6 x FXSA50A2VEB	1 x FXSA50A2VEB + 5 x FXSA63A2VEB	4 x FXSA63A2VEB + 2 x FXSA80A2VEB	3 x FXSA50A2VEB + 5 x FXSA63A2VEB	8 x FXSA63A2VEB
Cooling capacity	Prated,c		kW	22.4 (1)	28.0 (1)	33.5 (1)	40.0 (1)	45.0 (1)	50.4 (1)	56.0 (1)
Heating capacity	Nom.	6°CWB	kW	22.4 (2)	28.0 (2)	33.5 (2)	40.0 (2)	45.0 (2)	50.4 (2)	56.0 (2)
	Prated,h		kW	22.4 (2)	28.0 (2)	33.5 (2)	40.0 (2)	45.0 (2)	50.4 (2)	56.0 (2)
	Max.	6°CWB	kW	25.0 (2)	31.5 (2)	37.5 (2)	45.0 (2)	50.0 (2)	56.5 (2)	63.0 (2)
COP at nom. capacity	6°CWB		kW/kW	3.83 (2)	3.45 (2)	3.46 (2)	3.57 (2)	3.52 (2)	3.66 (2)	3.37 (2)
SCOP				4.11	4.33	4.49	4.28	4.26	4.39	4.14
SCOP recommended combination 2				4.10	4.34	4.56		4.33		4.11
SEER				7.26	7.06	7.04	7.63	6.99	6.87	6.52
SEER recommended combination 2				6.97	6.85	6.62	7.40	6.88	6.74	6.42
ηs,c				287.3	279.3	278.7	302.2	276.6	271.6	257.6
ηs,c recommended combination 2				275.9	270.9	261.9	292.9	272.0	266.7	254.0
ηs,h				161.5	170.2	176.4	168.3	167.5	172.5	162.7
ηs,h recommended combination 2				161.1	170.4	179.5		170.2		161.4
Space cooling	A Condition	EERd		3.09	3.06	3.05	3.11	2.97	2.52	2.36
	(35°C - 27/19)	Pdc	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
	B Condition	EERd		5.13	4.95	4.49	4.84	4.65	5.01	4.65
	(30°C - 27/19)	Pdc	kW	16.5	20.6	24.7	29.5	33.2	37.1	41.3
	C Condition	EERd		9.12	8.51	8.34	8.74	8.15	7.92	7.20
	(25°C - 27/19)	Pdc	kW	10.6	13.3	15.9	18.9	21.3	23.9	26.5
	D Condition	EERd		15.3	14.8	17.5	22.5	16.5	14.8	16.1
	(20°C - 27/19)	Pdc	kW	8.13	8.19	8.57	10.93	11.10	11.19	11.79
Space cooling recom- mended combination 2	A Condition	EERd		3.02	2.93	2.89	3.02	2.88	2.44	2.28
	(35°C - 27/19)	Pdc	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
	B Condition	EERd		4.99	4.82	4.32	4.78	4.60	4.41	
	(30°C - 27/19)	Pdc	kW	16.5	20.6	24.8	29.5	33.2	37.1	41.3
	C Condition	EERd		8.58	8.23	7.64	8.33	7.98	7.83	7.41
	(25°C - 27/19)	Pdc	kW	10.6	13.3	15.9	18.9	21.3	23.9	26.5
	D Condition	EERd		14.58	14.40	16.23	21.53	16.23	18.25	15.94
	(20°C - 27/19)	Pdc	kW	7.82	7.97	8.20	10.6	10.8	10.9	11.8
Space heating (Average climate)	TBivalent	COPd (declared COP)		2.80	2.28	2.38	2.57	2.53	2.36	2.23
		Pdh (declared heating cap)	kW	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tbiv (bivalent temperature)	°C				-10			
	TOL	COPd (declared COP)		2.80	2.28	2.38	2.57	2.53	2.36	2.23
		Pdh (declared heating cap)	kW	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tol (temperature operating limit)	°C				-10			
Space heating (Average climate)	A Condition	COPd (declared COP)		3.06	2.67	2.84	2.94	2.87	2.70	2.60
	(-7°C)	Pdh (declared heating cap)	kW	12.1	14.2	16.3	18.2	20.5	24.7	27.4
	B Condition	COPd (declared COP)		3.81	4.23	4.15	3.86	3.93	4.19	3.84
	(2°C)	Pdh (declared heating cap)	kW	7.38	8.62	9.89	11.1	12.5	15.0	16.7
	C Condition	COPd (declared COP)		5.27	5.70	6.32	6.31	6.21	6.22	5.92
	(7°C)	Pdh (declared heating cap)	kW	4.76	5.54	6.36	7.14	8.03	9.66	10.7
	D Condition	COPd (declared COP)		7.04	7.92	9.14	6.68	6.04	6.85	7.53
	(12°C)	Pdh (declared heating cap)	kW	4.51	5.46	5.52	5.15	5.07	6.24	7.16
	A Condition	COPd (declared COP)		3.00	2.62	2.83	2.95	2.89	2.62	2.54
	(-7°C)	Pdh (declared heating cap)	kW	12.1	14.2	16.3	18.2	20.5	24.7	27.5
Space heating (Average climate) recommended combination 2	B Condition	COPd (declared COP)		3.80	4.24	4.26	3.89	3.96	4.07	3.79
	(2°C)	Pdh (declared heating cap)	kW	7.45	8.61	9.89	11.1	12.5	15.0	16.7
	C Condition	COPd (declared COP)		5.35	5.79	6.39	6.45	6.41	6.19	5.98
	(7°C)	Pdh (declared heating cap)	kW	4.76	5.54	6.36	7.14	8.04	9.65	10.7
	D Condition	COPd (declared COP)		7.04	7.91	9.39	6.94	6.47	8.15	7.81
	(12°C)	Pdh (declared heating cap)	kW	4.71	5.60	5.80	5.33	5.36	7.68	7.62
	TBivalent	COPd (declared COP)		2.73	2.32	2.38	2.58	2.54	2.28	2.18
		Pdh (declared heating cap)	kW	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tbiv (bivalent temperature)	°C				-10			
	TOL	COPd (declared COP)		2.73	2.32	2.38	2.58	2.54	2.28	2.18
		Pdh (declared heating cap)	kW	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tol (temperature operating limit)	°C				-10			
	Capacity range	HP		8	10	12	14	16	18	20
	PED	Category								
		Most critical part	Name							
		Ps*V	Bar*l		508		612		764	
Maximum number of connectable indoor units							64 (3)			
Indoor index connection				Min.	100	125	150	175	200	225
				Max.	260	325	390	455	520	585
										650

2 Specifications

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Technical Specifications					RXYA8A	RXYA10A	RXYA12A	RXYA14A	RXYA16A	RXYA18A	RXYA20A					
Dimensions	Unit	Height	mm		1,685											
		Width	mm		930			1,240								
		Depth	mm		765											
	Packed unit	Height	mm		1,820											
		Width	mm		995			1,305								
		Depth	mm		860											
Weight	Unit			kg	214			297		320						
Weight	Packed unit			kg	225			310		333						
Packing	Material				Carton											
	Weight		kg		1.5			1.8								
Packing 2	Material				Wood											
	Weight		kg		8.9			11.0								
Packing 3	Material				Plastic											
	Weight		kg		0.6			0.7								
Casing	Colour				Daikin White											
	Material				Painted galvanized steel plate											
Heat exchanger	Type				Cross fin coil											
	Indoor side				Air											
	Outdoor side				Air											
	Air flow rate	Cooling	Rated	m³/h	9,145	9,709	10,823	11,576	14,315	12,351	14,893					
		Heating	Rated	m³/h	9,145	9,709	10,823	13,124	14,315	12,351	14,893					
Fan	Quantity				1			2								
	External static pressure	Max.	Pa		78											
Fan motor	Quantity				1			2								
	Type				DC motor											
	Output		W		550			750								
Compressor	Quantity				1											
	Type				Hermetically sealed scroll compressor											
	Crankcase heater		W		33											
Operation range	Cooling	Min.	°CDB		-5											
		Max.	°CDB		46											
	Heating	Min.	°CWB		-20											
		Max.	°CWB		16											
Sound power level	Cooling	Nom.	dBA		78.3 (4)	78.8 (4)	82.5 (4)	79.5 (4)	83.7 (4)	83.4 (4)	87.9 (4)					
	Heating	Nom.	dBA		79.4 (4)	80.7 (4)	83.3 (4)	82.9 (4)	86.3 (4)	85.1 (4)	89.6 (4)					
Sound pressure level	Cooling	Nom.	dBA		56.3 (5)	58.0 (5)	60.8 (5)	59.0 (5)	61.6 (5)	63.0 (5)	67.0 (5)					
	Heating	Nom.	dBA		58.1 (5)	58.8 (5)	61.9 (5)	61.3 (5)	64.5 (5)	64.0 (5)	68.0 (5)					
Refrigerant	Type				R-32											
	GWP				675.0											
	Charge		kg		9.00			10.6								
	Charge		tCO2Eq		6.08			7.16								
Refrigerant oil	Type				FW68DE											
Piping connections	Liquid	Type			Braze connection											
		OD	mm		9.52			12.70								
Piping connections	Gas	Type			Braze connection											
		OD	mm		19.1			22.2		28.6						
	Total piping length	System	Actual	m	1,000 (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 mode	Cooling	PCK	kW	0.000											
		Heating	PCK	kW	0.053			0.058								
	Off mode	Cooling	POFF	kW	0.050			0.058								
		Heating	POFF	kW	0.053			0.058								
	Standby mode	Cooling	PSB	kW	0.050			0.058								
		Heating	PSB	kW	0.053			0.058								
	Thermo-stat-off mode	Cooling	PTO	kW	0.053			0.001		0.058						
		Heating	PTO	kW	0.053			0.001		0.058						
Cooling	Cdc (Degradation cooling)		0.25													
Heating	Cdh (Degradation heating)		0.25													
Safety devices	Item	01	High pressure switch													
		02	Fan driver overload protector													
		03	Inverter overload protector													

Standard accessories: Installation and operation manual;Quantity: 1;

Standard accessories: Connection pipes;Quantity: 1;

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Electrical Specifications				RXYA8A	RXYA10A	RXYA12A	RXYA14A	RXYA16A	RXYA18A	RXYA20A	
Power supply	Name			Y1							
	Phase			3N~							
	Frequency Hz			50							
	Voltage V			380-415							
Power supply intake				Both indoor and outdoor unit							
Voltage range	Min. %			-10							
	Max. %			10							
Current - 50Hz	Nominal running current (RLA)	Combina- tion A	Cooling	-							
		Combina- tion B	Cooling	-							
		Cooling	A	10.5 (7)	13.4 (7)	15.7 (7)	18.8 (7)	21.4 (7)	27.8 (7)	32.8 (7)	
	Starting current (MSC) - remark			See note 9							
	Zmax	List			No requirements						
	Minimum Ssc value kVa			2,789 (8)	3,810 (8)	4,157 (8)	4,676 (8)	5,369 (8)	6,062 (8)	7,274 (8)	
	Minimum circuit amps (MCA) A			16.1 (9)	22.0 (9)	24.0 (9)	27.0 (9)	31.0 (9)	35.0 (9)	42.0 (9)	
	Maximum fuse amps (MFA) A			20 (10)	25 (10)	32 (10)		40 (10)		50 (10)	
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 connec- tion 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)Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m; level difference: 0m |

(3)The actual number of units depends on the connection ratio (CR) and the restrictions for the system. |

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

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

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

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

(8)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 |

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

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

(11)Air Flow Rate (AFR) of multi outdoor systems is sum of AFR of the individual systems it consists of |

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

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

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

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

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

Ssc: Short-circuit power |

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

Multi combination (10~20HP) data is corresponding with the standard multi combination

Technical specifications System				RXYA10A	RXYA13A	RXYA16A	RXYA18A	RXYA20A
System	Outdoor unit module 1			RYMA5A		RXYA8A		
	Outdoor unit module 2			RYMA5A	RXYA8A		RXYA10A	RXYA12A
Recommended combination				4 x FXFA63A2VEB	3 x FXFA50A2VEB + 3 x FXFA63A2VEB	4 x FXFA63A2VEB + 2 x FXFA80A2VEB	4 x FXFA50A2VEB + 4 x FXFA63A2VEB	10 x FXFA50A2VEB
Recommended combination 2				4 x FXSA63A2VEB	3 x FXSA50A2VEB + 3 x FXSA63A2VEB	4 x FXSA63A2VEB + 2 x FXSA80A2VEB	4 x FXSA50A2VEB + 4 x FXSA63A2VEB	10 x FXSA50A2VEB
Continuous heating				Yes				
Cooling capacity	Prated,c		kW	28.0 (1)	36.4 (1)	44.8 (1)	50.4 (1)	55.9 (1)
Heating capacity	Nom.	6°CWB	kW	28.0 (2)	36.4 (2)	44.8 (2)	50.4 (2)	55.9 (2)
	Prated,h		kW	28.0 (2)	36.4 (2)	44.8 (2)	50.4 (2)	55.9 (2)
	Max.	6°CWB	kW	32.0 (2)	41.0 (2)	50.0 (2)	56.5 (2)	62.5 (2)
COP at nom. capacity	6°CWB		kW/kW	3.66 (2)	3.76 (2)	3.72 (2)	3.61 (2)	3.60 (2)
SCOP				4.09	4.11	4.35	4.34	4.38
SCOP recommended combination 2				4.13	4.19	4.38	4.40	4.48
SEER				7.55	7.42	7.12	7.18	7.16
SEER recommended combination 2				7.23	7.08	6.87	6.85	6.86
ηs,c			%	299.1	293.8	281.9	284.1	283.2
ηs,c recommended combination 2			%	286.1	280.1	271.8	270.9	271.2
ηs,h			%	160.6	161.5	170.9	170.5	172.2
ηs,h recommended combination 2			%	162.2	164.8	172.2	173.0	176.2
Space cooling	A Condition	EERd		3.68	3.39	3.17	3.19	3.12
	(35°C - 27/19)	Pdc	kW	28.0	36.4	44.8	50.4	55.9
	B Condition	EERd		7.57	5.94	5.18		4.88
	(30°C - 27/19)	Pdc	kW	20.6	26.8	33.0	37.1	41.2
	C Condition	EERd		8.99	9.04	8.63	8.59	8.53
	(25°C - 27/19)	Pdc	kW	13.5	18.0	21.2	23.9	26.5
	D Condition	EERd		11.5	13.9	14.8	14.9	16.3
	(20°C - 27/19)	Pdc	kW	14.10	15.50	15.90	16.30	16.70

2 Specifications

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Technical specifications System					RXYA10A		RXYA13A		RXYA16A		RXYA18A		RXYA20A	
Space cooling recom- mended combination 2	A Condition (35°C - 27/19)	EERd			3.53		3.27		3.05		3.17		3.02	
		Pdc		kW	28.0		36.4		44.8		50.4		55.9	
	B Condition (30°C - 27/19)	EERd			7.14		5.65		4.97		4.91		4.68	
		Pdc		kW	20.6		26.8		33.0		37.1		41.2	
	C Condition (25°C - 27/19)	EERd			8.53			8.32		8.11		8.09		
		Pdc		kW	13.4		17.8		21.2		23.9		26.5	
D Condition (20°C - 27/19)	EERd			11.19		13.26		14.20		14.04		15.50		
	Pdc		kW	13.8		15.0		15.5		15.8		16.0		
Space heating (Average climate)	TBivalent	COPd (declared COP)			2.69		2.74		2.87		2.51		2.55	
		Pdh (declared heating cap)		kW	16.0		21.7		23.2		27.9		31.0	
Space heating (Average climate)	TBivalent	Tbiv (bivalent temperature)		°C	-10									
		TOL	COPd (declared COP)			2.69		2.74		2.87		2.51		2.55
		Pdh (declared heating cap)		kW	16.0		21.7		23.2		27.9		31.0	
		Tol (temperature operating limit)		°C	-10									
	A Condition (-7°C)	COPd (declared COP)			3.00		3.03		3.18		2.87		2.95	
		Pdh (declared heating cap)		kW	14.2		19.2		20.5		24.7		27.4	
	B Condition (2°C)	COPd (declared COP)			4.37		4.02		4.17		4.20		4.09	
		Pdh (declared heating cap)		kW	8.60		11.7		12.5		15.0		16.7	
	C Condition (7°C)	COPd (declared COP)			4.70		5.11		5.45		5.60		5.90	
		Pdh (declared heating cap)		kW	7.17		8.40		8.05		9.66		10.7	
	D Condition (12°C)	COPd (declared COP)			5.57		6.47		6.93		7.49		8.06	
		Pdh (declared heating cap)		kW	8.74		8.93		9.04		9.97		10.0	
	A Condition (-7°C)	COPd (declared COP)			3.02		3.05		3.18		2.86		2.96	
		Pdh (declared heating cap)		kW	14.2		19.2		20.5		24.7		27.4	
	B Condition (2°C)	COPd (declared COP)			4.42		4.12		4.18		4.27		4.21	
		Pdh (declared heating cap)		kW	8.64		11.7		12.5		15.0		16.7	
	C Condition (7°C)	COPd (declared COP)			4.76		5.24		5.57		5.78		6.07	
		Pdh (declared heating cap)		kW	7.31		8.54		8.08		9.65		10.7	
	D Condition (12°C)	COPd (declared COP)			5.62		6.58		6.97		7.59		8.30	
		Pdh (declared heating cap)		kW	8.87		9.17		9.24		10.3		10.5	
	TBivalent	COPd (declared COP)			2.70		2.75		2.87		2.27		2.34	
		Pdh (declared heating cap)		kW	16.0		21.7		23.2		27.9		31.0	
		Tbiv (bivalent temperature)		°C	-10									
		TOL	COPd (declared COP)			2.70		2.75		2.87		2.27		2.34
		Pdh (declared heating cap)		kW	16.0		21.7		23.2		27.9		31.0	
		Tol (temperature operating limit)		°C	-10									
Capacity range				HP	10		13		16		18		20	
PED		Category			Category III									
Maximum number of connectable indoor units					64 (3)									
Indoor index connection	Min.				125		163		200		225		250	
	Max.				325		423		520		585		650	
Heat exchanger	Indoor side		Air											
	Outdoor side		Air											
	Air flow rate	Cooling	Rated	m³/h	18,290 (11)					18,854 (11)		19,968 (11)		
		Heating	Rated	m³/h	18,290 (11)					18,854 (11)		19,968 (11)		
Sound power level	Cooling	Nom.			81.3 (4)					81.6 (4)		83.9 (4)		
	Heating	Nom.			82.4 (4)					83.1 (4)		84.8 (4)		
Sound pressure level	Cooling	Nom.			59.3 (5)					60.2 (5)		62.1 (5)		
	Heating				61.1 (5)					61.5 (5)		63.4 (5)		
Refrigerant	Type	R-32												
	GWP	675.0												
Refrigerant oil	Type	FW68DE												
Piping connections	Liquid	Type	Brazed connection											
		OD	mm	9.50	12.70									
	Gas	Type	Brazed connection											
		OD	mm	19.1	22.2		28.6							
	Equalizing	Type	Brazed connection											
		OD	mm	19.1										
Total piping length	System	Actual	m	500 (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									

2 Specifications

2 - 1 Specifications

2

Technical specifications System					RXYA10A	RXYA13A	RXYA16A	RXYA18A	RXYA20A
Power consumption in other than active mode	Crankcase heater mode	Cooling	PCK	kW			0.000		
		Heating	PCK	kW			0.106		
	Off mode	Cooling	POFF	kW			0.100		
		Heating	POFF	kW			0.106		
	Standby mode	Cooling	PSB	kW			0.100		
		Heating	PSB	kW			0.106		
	Thermo-stat-off mode	Cooling	PTO	kW			0.002		
		Heating	PTO	kW			0.106		
Cooling	Cdc (Degradation cooling)						0.25		
Heating	Cdh (Degradation heating)						0.25		

Electrical specifications System				RXYA10A	RXYA13A	RXYA16A	RXYA18A	RXYA20A	
Power supply	Name			Y1					
	Phase			3N~					
	Frequency Hz			50					
	Voltage V			380-415					
Power supply intake				Both indoor and outdoor unit					
Voltage range	Min. %			-10					
	Max. %			10					
Current - 50Hz	Nominal running current (RLA)	Combina-tion A	Cooling	-					
		Combina-tion B	Cooling	-					
		Cooling	A	11.2 (7)	16.1 (7)	21 (7)	23.9 (7)	26.2 (7)	
	Starting current (MSC) - remark			See note 9					
	Zmax	List			No requirements				
	Minimum Ssc value kVa			5,196 (8)	5,387 (8)	5,577 (8)	6,599 (8)	6,945 (8)	
	Minimum circuit amps (MCA) A			30.0 (9)	31.1 (9)	32.2 (9)	38.1 (9)	40.1 (9)	
	Maximum fuse amps (MFA) A			40 (10)			50 (10)		
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 connec-tion with indoor	Quantity			2				
		Remark			F1,F2				

Technical specifications Module					RYMA5A	
Cooling capacity	Prated,c		kW		14.0 (1)	
Heating capacity	Max.	6°CWB		kW		16.0 (2)
Capacity range				HP		5
PED	Category				Category III	
	Most critical	Name				Liquid receiver
	part	Ps*V		Bar*l		508
Maximum number of connectable indoor units					64 (3)	
Indoor index connection	Min.				63	
	Max.				163	
Dimensions	Unit	Height	mm		1,685	
		Width	mm		930	
		Depth	mm		765	
	Packed unit	Height	mm		1,820	
		Width	mm		995	
		Depth	mm		860	
Weight	Unit	kg		214		
	Packed unit	kg		225		
Packing	Material				Carton	
	Weight		kg		1.5	
Packing 2	Material				Wood	
	Weight		kg		8.9	
Packing 3	Material				Plastic	
	Weight		kg		0.6	
Casing	Colour				Daikin White	
	Material				Painted galvanized steel plate	
Heat exchanger	Type				Cross fin coil	
	Indoor side				Air	
	Outdoor side				Air	
	Air flow rate	Cooling	Rated	m³/h	9,145	
		Heating	Rated	m³/h	9,145	

2 Specifications

2 - 1 Specifications

Technical specifications Module				RYMA5A
Fan	Quantity			1
	External static pressure	Max.	Pa	78
Fan motor	Quantity			1
	Type			DC motor
Compressor	Output		W	550
	Quantity			1
Compressor	Type			Hermetically sealed scroll compressor
	Crankcase heater		W	33
Operation range	Cooling	Min.	°CDB	-5
		Max.	°CDB	46
	Heating	Min.	°CWB	-20
		Max.	°CWB	16
Sound power level	Cooling	Nom.	dBA	78.3 (4)
	Heating	Nom.	dBA	79.4 (4)
Sound pressure level	Cooling	Nom.	dBA	56.3 (5)
	Heating		dBA	58.1 (5)
Refrigerant	Type			R-32
	GWP			675.0
	Charge		kg	9.00
	Charge		tCO ₂ Eq	6.08
Refrigerant oil	Type			FW68DE
Piping connections	Liquid	Type		Braze connection
		OD	mm	9.52
	Gas	Type		Braze connection
		OD	mm	19.1
Defrost method				Reversed cycle
Capacity control	Method			Inverter controlled

Electrical specifications Module				RYMA5A
Power supply	Name			Y1
	Phase			3N~
	Frequency		Hz	50
	Voltage		V	380-415
Power supply intake				Both indoor and outdoor unit
Voltage range	Min.		%	-10
	Max.		%	10
Current - 50Hz	Nominal running current (RLA)	Combina- tion A	Cooling	-
		Combina- tion B	Cooling	-
			Cooling	5.6 (6)
	Starting current (MSC) - remark			See note 9
	Zmax	List		No requirements
	Minimum Ssc value		kVa	2,598 (7)
	Minimum circuit amps (MCA)		A	15.0 (8)
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
		Quantity		2
	For connection with indoor	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)Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m; level difference: 0m |

(3)The actual number of units depends on the connection ratio (CR) and the restrictions for the system. |

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

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

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

(7)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 |

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

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

Air Flow Rate (AFR) of multi outdoor systems is sum of AFR of the individual systems it consists of |

Refer to refrigerant pipe selection or installation manual |

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

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

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

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

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

Ssc: Short-circuit power |

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

Multi combination (10~20HP) data is corresponding with the standard multi combination

3 Options

3 - 1 Options

3

RXYA-A
RYMA-A

VRV5	R32 models
Heat Pump	
Option list	

[illegible]

4D149888A

RXYA-A
RYMA-A

- *1 -1- option kits are required per unit.
 2 Because both adaptor PCBs have the same installation location, it is only possible to install either -DTA104A61/62- or -DTA109A51*.
 3 These options require mounting plate -KESB26B2.
 4 To mount option -KRC19-26, option -KJB111A* is required.
 *5 Connection only to the master unit
 *6 -8a- is branch piping for imperial pipe sizes, -8b- for metric pipe sizes.
 *7 -9a- is branch piping for imperial pipe sizes, -9b- for metric pipe sizes.

Remote controllers and centralised controllers with R32 safety system functionality

Nr.	Item	Sound pressure level of built-in alarm	Mode			
			Fully functional	Alarm only	Supervisor	
			Built-in alarm	Built-in alarm	Built-in alarm	External alarm connection
1	BRC1H52/82*	-65- dBA at -1- m	O	O	O	-
2	DCM601A51 (*8)	NA	-	-	-	O (*10)
3	DCM601B51 (*9)	-65- dBA at -1- m	-	-	O	O (*10)

- *8 From software version ·1.28.00· onwards.
*9 From software version ·1.32.00· onwards.
*10 via WAGO module

4D149888A

4 Combination table

4 - 1 Combination Table

RXYA-A
RYMA5A

VRV5

Heat pump

Multi-unit standard combinations table

		5HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP
Non-continuous heating	RYMA5* (*1)	1							
	RXYA8*		1						
	RXYA10*			1					
	RXYA12*				1				
	RXYA14*					1			
	RXYA16*						1		
	RXYA18*							1	
	RXYA20*								1
Continuous heating ·2· outdoor units	RXYA10*	2							
	RXYA13*	1	1						
	RXYA16*		2						
	RXYA18*		1	1					
	RXYA20*		1		1				

Notes

1. The ·RYMA5*· unit cannot be used as a standalone unit and may only be used in standard combinations.
2. Never combine more than ·2· units to create a multi-combination.
3. The total capacity of the system must never exceed ·20 HP·.

4D149887

RXYA-A
RYMA-A

Unit combination restrictions: ·VRV5· outdoor units (all models) + ·10 / 15·-class indoor units

Indoor unit in the system	
FXDA10A	FXZA15A and/or FXAA15A
Yes	Yes

1. In case the system contains the indoor unit situation as shown in the table above, and the total connection ratio (·CR·) ≤ ·85·%: no special restrictions.
Follow the restrictions that apply to regular ·VRV DX· indoor units.
2. In case the system contains the indoor unit situation as shown in the table above, and the total connection ratio (·CR·) > ·85·%: special restrictions apply.
 - A. When the connection ratio (·CR1·) of the sum of all ·FXDA10A· units in the system ≤ ·65·%, 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 ·FXDA10A· units in the system ≤ ·65·%, and NOT ALL other ·VRV DX· indoor units have an individual capacity class > ·50·: the restrictions below apply.
 - ° 85% < CR ≤ 95% -> ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·65·%.
 - ° 95% < CR ≤ 100% -> ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·55·%.
 - ° 100% < CR ≤ 105% -> ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·40·%.
 - ° 105% < CR ≤ 130% -> ·FXDA10A· cannot be used

Remark

Only the ·10 / 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.

4D141206A

4 Combination table

4 - 1 Combination Table

RXYA-A
RYMA-A

4

Unit combination restrictions: ·VRV5· outdoor units (all models) + ·10 / 15·-class indoor units

Indoor unit in the system	
FXDA10A	FXZA15A and/or FXAA15A
Yes	No

1. In case the system contains the indoor unit situation as shown in the table above, and the total connection ratio (·CR·) ≤ ·85·%: no special restrictions. Follow the restrictions that apply to regular ·VRV DX· indoor units.
2. In case the system contains the indoor unit situation as shown in the table above, and the total connection ratio (·CR·) > ·85·%: special restrictions apply.
 - A. When the connection ratio (·CR1·) of the sum of all ·FXDA10A· units in the system ≤ ·65·%, 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 ·FXDA10A· units in the system ≤ ·65·%, and NOT ALL other ·VRV DX· indoor units have an individual capacity class > ·50·: the restrictions below apply.
 - * 85% < CR ≤ 95% → ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·65·%.
 - * 95% < CR ≤ 100% → ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·55·%.
 - * 100% < CR ≤ 105% → ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·40·%.
 - * 105% < CR ≤ 110% → ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·30·%.
 - * 110% < CR ≤ 115% → ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·20·%.
 - * 115% < CR ≤ 120% → ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·10·%.
 - * 120% < CR ≤ 125% → ·CR1· of the sum of all ·FXDA10A· indoor units in the system must be ≤ ·5·%.
 - * 125% < CR ≤ 130% → ·FXDA10A· cannot be used

Remark

Only the ·10 / 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.

4D141206A

RXYA-A
RYMA-A

Unit combination restrictions: ·VRV5· outdoor units (all models) + ·10 / 15·-class indoor units

Indoor unit in the system	
FXDA10A	FXZA15A and/or FXAA15A
No	Yes

1. In case the system contains the indoor units situation which as shown in the table above, 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 the indoor units situation which as shown in the table above, and the total connection ratio (·CR·) > ·100·%: special restrictions apply.
 - A. When the connection ratio (·CR1·) of the sum of all ·FXZA15A· and/or ·FXAA15A· 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 ·FXZA15A· and/or ·FXAA15A· 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 ·FXZA15A· and/or ·FXAA15A· indoor units in the system must be ≤ ·70·%.
 - * 105% < CR ≤ 110% → ·CR1· of the sum of all ·FXZA15A· and/or ·FXAA15A· indoor units in the system must be ≤ ·60·%.
 - * 110% < CR ≤ 115% → ·CR1· of the sum of all ·FXZA15A· and/or ·FXAA15A· indoor units in the system must be ≤ ·40·%.
 - * 115% < CR ≤ 120% → ·CR1· of the sum of all ·FXZA15A· and/or ·FXAA15A· indoor units in the system must be ≤ ·25·%.
 - * 120% < CR ≤ 125% → ·CR1· of the sum of all ·FXZA15A· and/or ·FXAA15A· indoor units in the system must be ≤ ·10·%.
 - * 125% < CR ≤ 130% → ·FXZA15A· and ·FXAA15A· cannot be used.

Remark

Only the ·10 / 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.

4D141206A

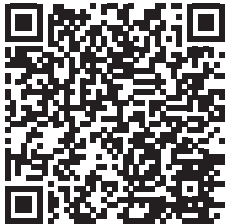
5 Capacity tables

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 Integrated Heating Capacity Correction Factor

RXYA-A
RYMA5A

5

VRV5

Heat pump

Integrated heating capacity coefficient

Inlet air temperature of heat exchanger		Integrated correction factor for frost accumulation (C)						
[°CDB/°CWB]		-7/-7.6	-5/-5.6	-3/-3.7	0/-0.7	3/2.2	5/4.1	7/6
For single unit installation	8HP	0,90	0,88	0,83	0,80	0,81	0,85	1,00
	10HP	0,90	0,88	0,82	0,75	0,76	0,83	1,00
	12HP	0,90	0,87	0,82	0,71	0,72	0,81	1,00
	14HP	0,90	0,87	0,81	0,68	0,69	0,80	1,00
	16HP	0,90	0,87	0,81	0,68	0,68	0,79	1,00
For multi-unit installation	18HP	0,90	0,88	0,83	0,80	0,81	0,85	1,00
	20HP	0,90	0,88	0,83	0,80	0,81	0,85	1,00
	10HP	0,90	0,88	0,83	0,80	0,81	0,85	1,00
	13HP	0,90	0,88	0,83	0,80	0,81	0,85	1,00
	16HP	0,90	0,88	0,83	0,80	0,81	0,85	1,00
	18HP	0,90	0,88	0,83	0,77	0,78	0,84	1,00
	20HP	0,90	0,88	0,83	0,75	0,76	0,83	1,00

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:

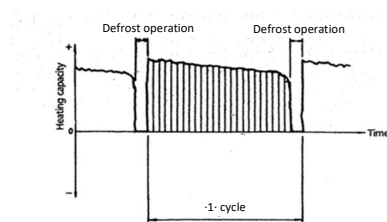
Formula

$$A = B \cdot C$$

A= Integrated heating capacity

B= Capacity characteristics value

C= Integrated correction factor for frost accumulation (see table)



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.
3. The multi-combination data -VRV5- corresponds with the standard multi-combination of drawing -4D149887-.

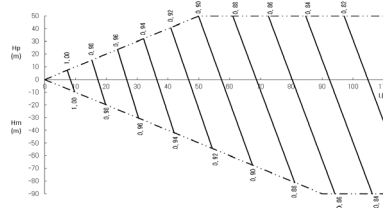
4D149885

5 Capacity tables

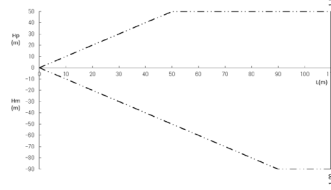
5 - 3 Capacity Correction Factor

RXYA8A

Correction ratio for cooling capacity



Correction ratio for heating capacity



Legend

Hp: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned higher than the indoor units.

Hm: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned lower than the indoor units.

L: Equivalent piping length [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 in the above figures.

2. 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

3. If the equivalent piping length is > 90 m, size up the main liquid and gas piping.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
8HP	9,5	12,7	19,1	22,2

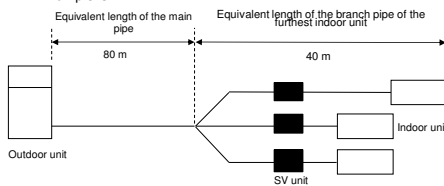
4. Overall equivalent length

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.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
8HP	1	0,5	1	0,2

5. Example -8HP-



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

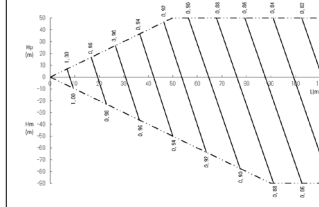
Capacity correction ratio (height difference = 0)

- Cooling mode = 0,86
- Heating mode = 1,00

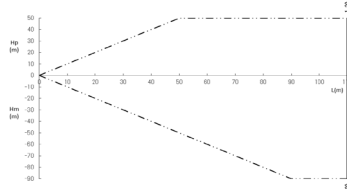
4D150023

RXYA10A

Correction ratio for cooling capacity



Correction ratio for heating capacity



Legend

Hp: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned higher than the indoor units.

Hm: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned lower than the indoor units.

L: Equivalent piping length [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 in the above figures.

2. 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

3. If the equivalent piping length is > 90 m, size up the main liquid and gas piping.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
10HP	9,5	12,7	19,1	22,2

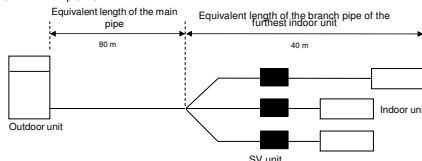
4. Overall equivalent length

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.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
10HP	1	0,5	1	0,2

5. Example -10HP-



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)

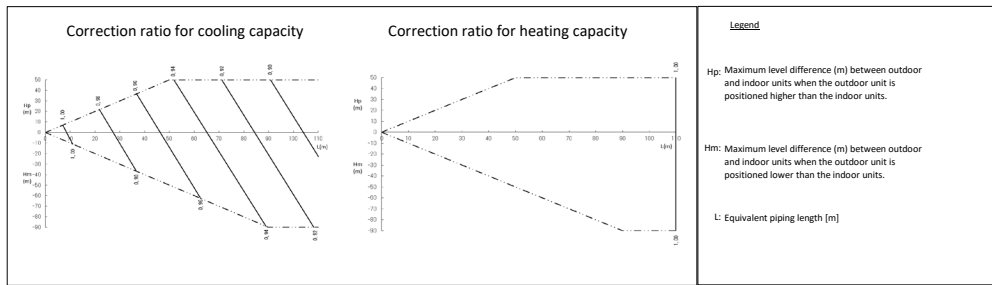
- Cooling mode = 0,87
- Heating mode = 1,00

4D150023

5 Capacity tables

5 - 3 Capacity Correction Factor

RXYA12A



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.

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%.

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

- If the equivalent piping length is >90- m, size up the main liquid and gas piping.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
12HP	12,7	15,9	22,2	28,6

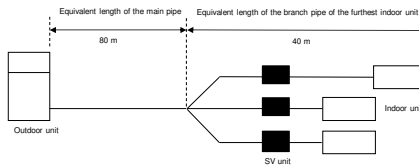
- Overall equivalent length

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

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
12HP	1	0,5	1	0,3

- Example -12HP-



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

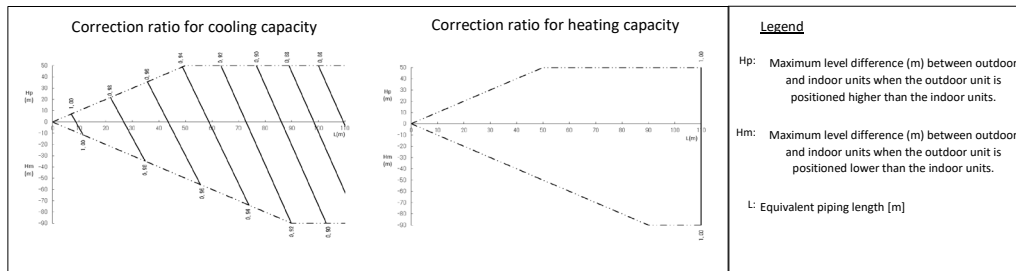
Capacity correction ratio (height difference = 0)

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

4D150023

RXYA13A

RXYA14A



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.

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%.

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

- If the equivalent piping length is >90- m, size up the main liquid and gas piping.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
13+14HP	12,7	15,9	22,2	28,6

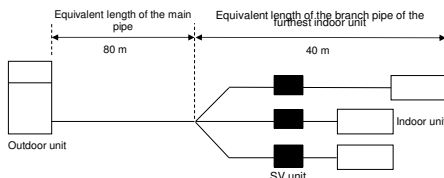
- Overall equivalent length

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

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
13+14HP	1	0,5	1	0,3

- Example -14HP-



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)

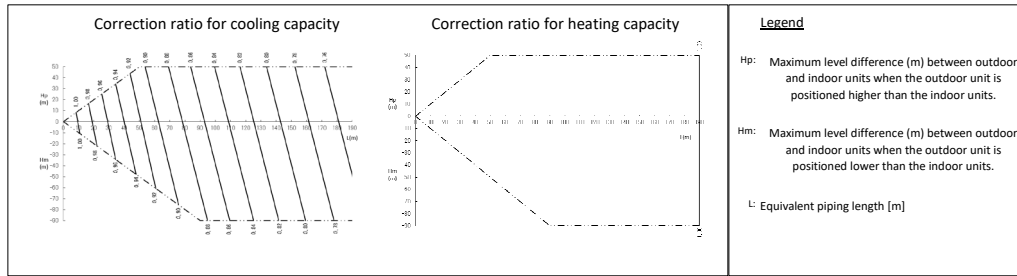
- Cooling mode = 0,91
- Heating mode = 1,00

4D150023

5 Capacity tables

5 - 3 Capacity Correction Factor

RXYA16A



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.

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%.

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

- If the equivalent piping is > 90-m, size up the main liquid piping.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
16HP	12,7	15,9	28,6	-

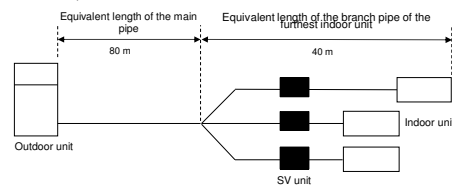
- Overall equivalent length

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

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
16HP	1	-	1	0,3

- Example -16HP-



Overall equivalent length

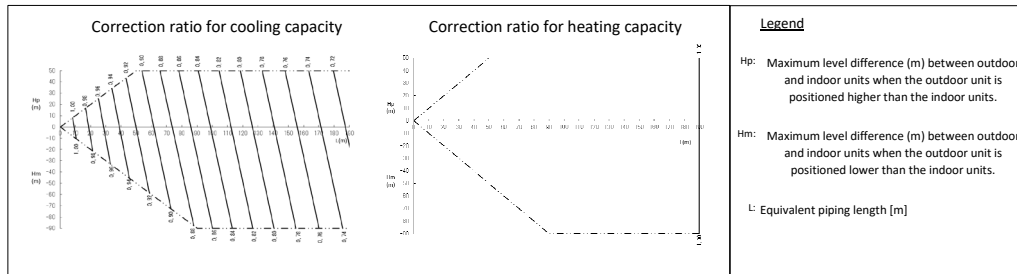
- Cooling mode = 80 m x 1 + 40 m = 120 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)

- Cooling mode = 0,83
- Heating mode = 1,00

4D150023

RXYA18A



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.

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%.

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

- If the equivalent piping is > 90-m, size up the main liquid piping.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
18HP	12,7	15,9	28,6	-

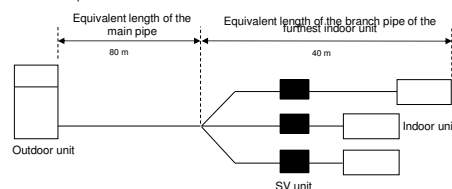
- Overall equivalent length

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

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
18HP	1	-	1	0,3

- Example -18HP-



Overall equivalent length

- Cooling mode = 80 m x 1 + 40 m = 120 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)

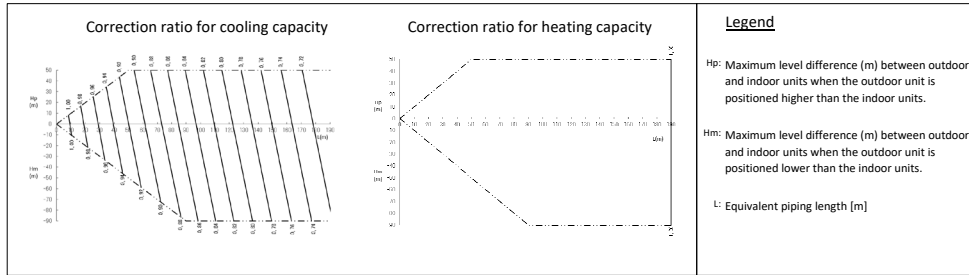
- Cooling mode = 0,81
- Heating mode = 1,00

4D150023

5 Capacity tables

5 - 3 Capacity Correction Factor

RXYA20A



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.

2. 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

- If the equivalent piping is > 90-m, size up the main liquid piping.

Model	Standard liquid side Ø	Increased liquid side Ø	Standard gas side Ø	Increased gas side Ø
20HP	12,7	15,9	28,6	-

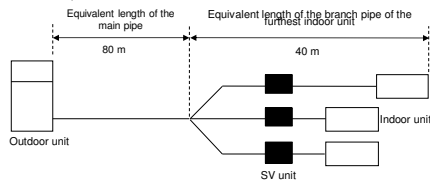
- Overall equivalent length

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.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
20HP	1	-	1	0,3

- Example - 20HP:



Overall equivalent length

- Cooling mode = 80 m x 1 + 40 m = 120 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)

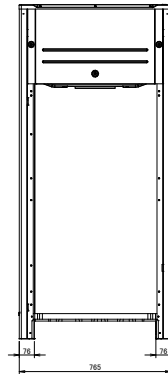
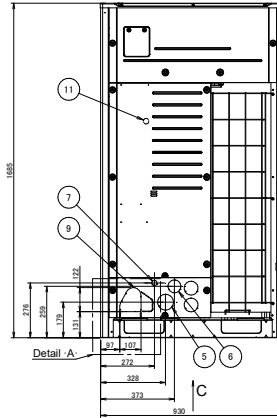
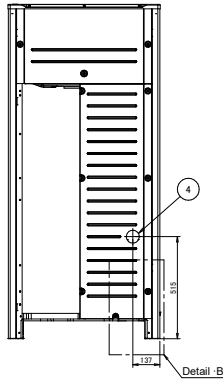
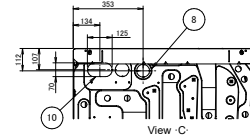
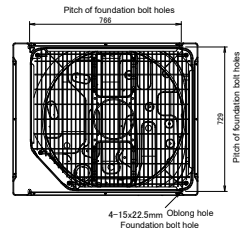
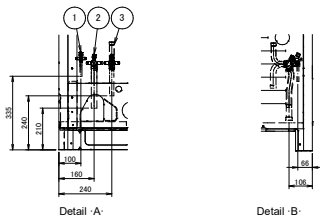
- Cooling mode = 0,80
- Heating mode = 1,00

4D150023

6 Dimensional drawings

6 - 1 Dimensional Drawings

RXYA8-12A
RYMA-A



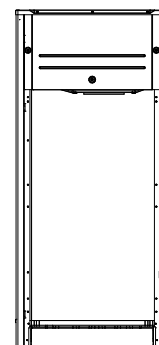
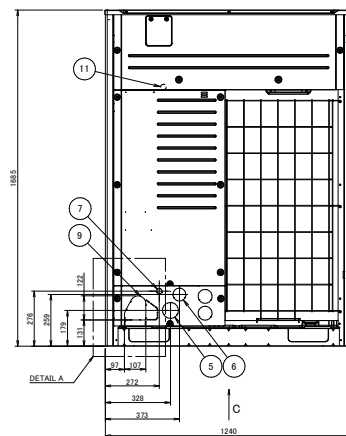
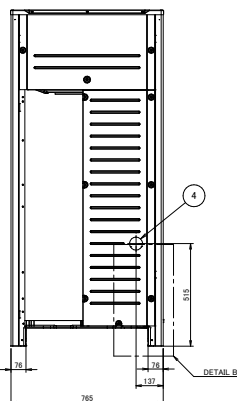
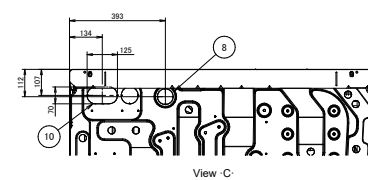
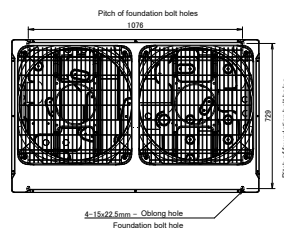
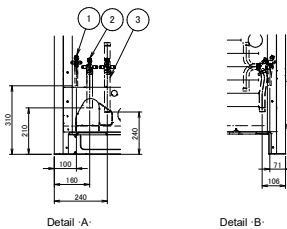
Notes

1. Detail A and detail B indicate the dimensions after fixing the attached piping.
2. Items 4 - 10: Knockout hole.
- 3. Gas pipe**
- RYMASA, RXYA8-10A : Ø 19.1: brazing connection
RXYA12A : Ø 22.2: brazing connection
- Liquid pipe**
- RYMASA, RXYA8-10A : Ø 9.5: brazing connection
RXYA12A : Ø 12.7: brazing connection
- Equalising pipe**
- RYMASA, RXYA8-12A : Ø 19.1: brazing connection

No.	Part name	Remark
1	Liquid pipe connection port	See note -3-
2	Equalising pipe connection port	See note -3-
3	Gas pipe connection port	See note -3-
4	Power cord routing hole (side)	065
5	Power cord routing hole (front)	060
6	Power cord routing hole (front)	065
7	Power cord routing hole (front)	027
8	Power cord routing hole (bottom)	065
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	
11	Grounding terminal	Inside of the switch box (M8)

2D152667

RXYA14-20A



Notes

- Notes
1. Detail 'A' and detail 'B' indicate the dimensions after fixing the attached piping.
 2. Items 4 - 10: Knockout hole.
 3. **Gas pipe**
RXYA14A : Ø 22.2: brazing connection
RXYA16-20A : Ø 28.6: brazing connection
 - Liquid pipe**
RXYA14-20A : Ø 12.7: brazing connection

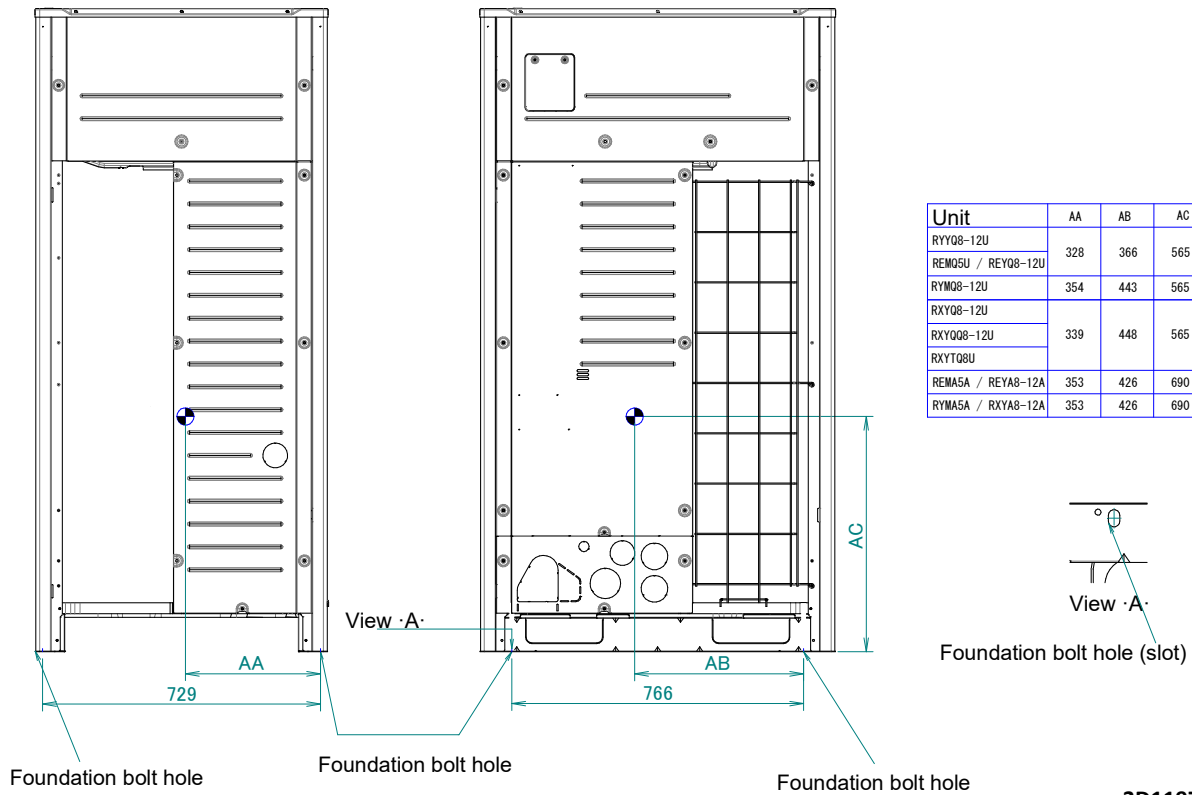
No.	Part name	Remark
1	Liquid pipe connection port	See note 3.
2	Equalising pipe connection port	Not required
3	Gas pipe connection port	See note 3.
4	Power cord routing hole (side)	265
5	Power cord routing hole (front)	265
6	Power cord routing hole (front)	265
7	Power cord routing hole (front)	227
8	Power cord routing hole (bottom)	265
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	
11	Opening for handle	Inside of the switch box (MB-1)

2D152666

7 Centre of gravity

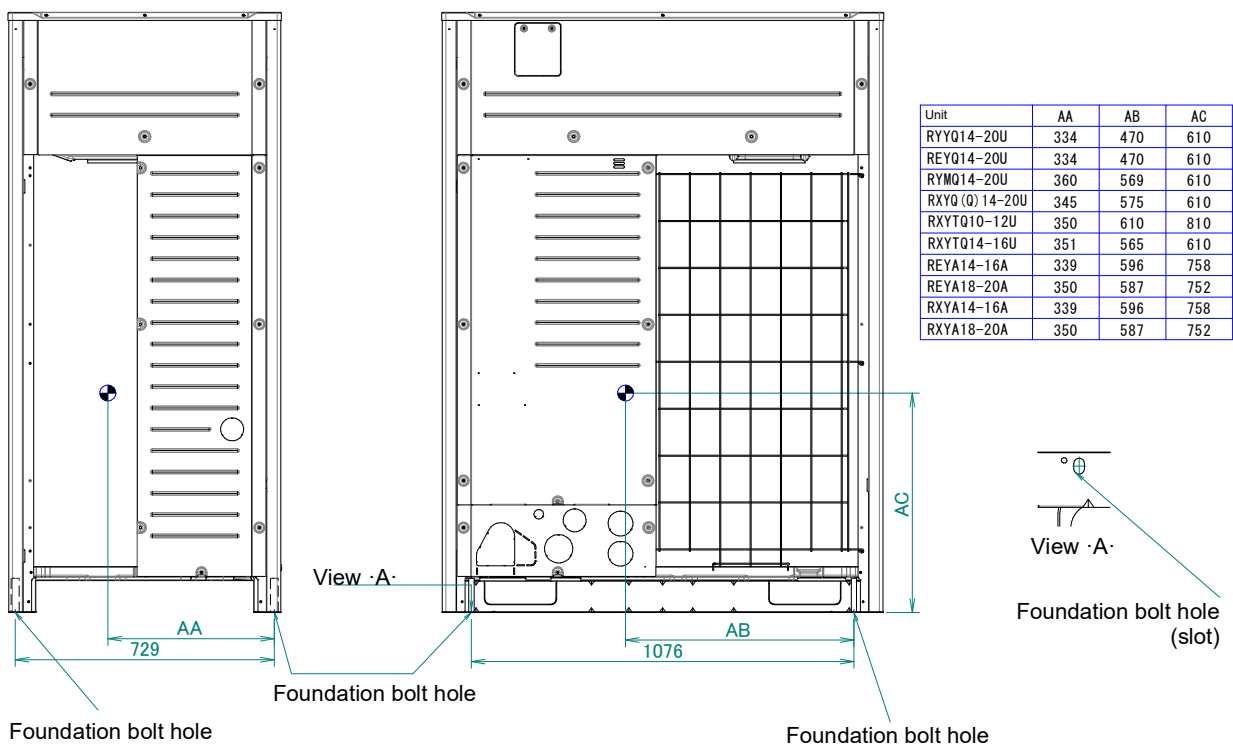
7 - 1 Centre of Gravity

RXYA8-12A
RYMA5-A



3D119703B

RXYA14-20A



3D119704B

8 - 1 Piping Diagrams

- | | |
|--|----------------------------|
| | Charge port / Service port |
| | Stop valve |
| | Filter |
| | Check valve |
| | Pressure relief valve |
| | Thermistor |
| | Solenoid valve |
| | Heat sink (PCB) |
| | Capillary tube |
| | Expansion valve |
| | 4-way valve |
| | Propeller fan |
| | High pressure switch |
| | Low pressure sensor |
| | High pressure sensor |
| | Oil separator |
| | Accumulator |
| | Heat exchanger |
| | Compressor |
| | Plate heat exchanger |
| | Distributor |
| | Liquid receiver |

- | | |
|--|------------------------------|
| | . Charge port / Service port |
| | . Stop valve |
| | . Filter |
| | . Check valve |
| | . Pressure relief valve |
| | . Thermistor |
| | . Solenoid valve |
| | . Heat sink (PCB) |
| | . Capillary tube |
| | . Expansion valve |
| | . 4-way valve |
| | . Propeller fan |
| | . High pressure switch |
| | . Low pressure sensor |
| | . High pressure sensor |
| | . Oil separator |
| | . Accumulator |
| | . Heat exchanger |
| | . Compressor |
| | . Double tube heat exchanger |
| | . Distributor |
| | . Liquid receiver |

9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

RYMA5A / RXYA8-12A

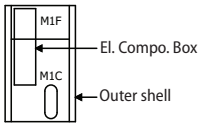
NOTES to go through before starting the unit

1. Symbols:

X1M	: Main terminal		: Option
	: Earth wiring		: Wiring depending on model
	: Field wire		: Not mounted in switch box
	: Field cable		: PCB
	: Screened conductor		
①	: Several wiring possibilities		

- Refer to the installation or service manual on how to use BS1 ~ BS3 push buttons and DS1 ~ DS2 DIP switches.
- Do not operate the unit by short-circuiting protection device(s) S*PH.
- Refer to the installation manual for indoor-outdoor transmission F1-F2 and outdoor-multi transmission Q1-Q2 wiring.
- When using the central control system, connect outdoor-outdoor transmission F1-F2.
- The capacity of the contact is 220~240V AC - 0.5A (Rush current needs 3A or less).
- Use dry contact for micro-current (10mA or less, 15V DC).
- When using the optional adapter, refer to the installation manual of the optional adapter.

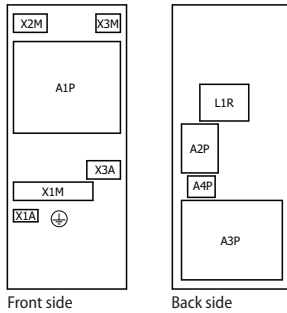
LAYOUT OF M1C, M1F



TERMINAL OF M1C



POSITION IN SWITCH BOX



LEGEND

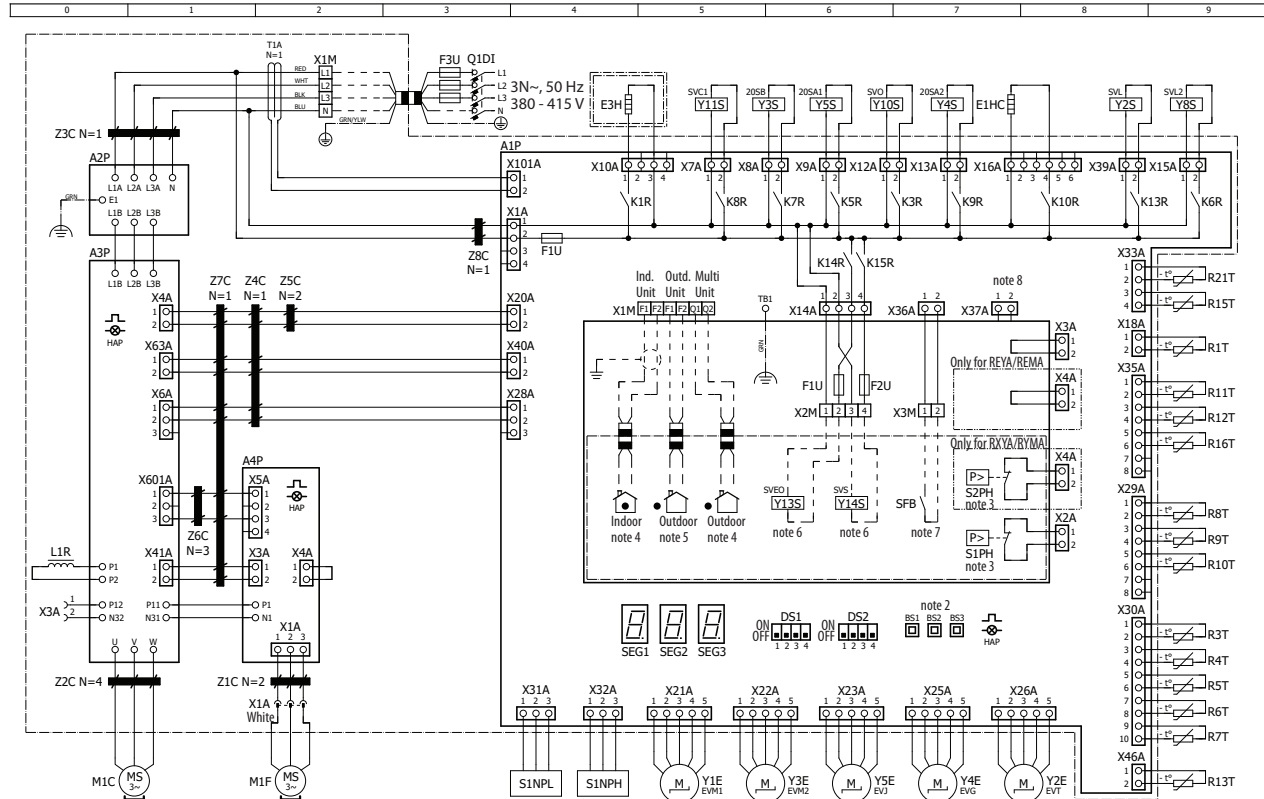
Part n°	Description	Part n°	Description
A1P	Printed circuit board (main)	R13T	Thermistor (Receiver gas)
A2P	Printed circuit board (noise filter)	R15T	Thermistor (M1C body)
A3P	Printed circuit board (inverter)	R16T	Thermistor (Gas injection)
A4P	Printed circuit board (fan)	R21T	Thermistor (M1C discharge pipe)
BS* (A1P)	Push button switch	S1NPH	High pressure sensor
DS* (A1P)	Dipswitch	S1NPL	Low pressure sensor
E1HC	Crank case heater	S*PH	High pressure switch
E3H	* Bottom plate heater	SEG* (A1P)	7-segment display
F1U (A1P)	Fuse T 10 A 250 V	SFB	# Mechanical ventilation error input
F1U, F2U	Fuse T 1 A 250 V	T1A	Current sensor
F3U	# Field fuse	X*A	Connector
HAP (A1P)	Running LED (service monitor-green)	X*M	Terminal strip
K*R (A*P)	Relay on PCB	Y1E	Electronic exp. valve (Heat exch. upper)
L1R	Reactor	Y2E	Electronic exp. valve (Subc. heat exch.)
M1C	Motor (compressor)	Y3E	Electronic exp. valve (Heat exch. lower)
M1F	Motor (fan)	Y4E	Electronic exp. valve (Receiver gas)
Q1DI	# Earth leakage circuit breaker	Y5E	Electronic exp. valve (Inverter cooling)
R1T	Thermistor (Air)	Y2S	Solenoid valve (Liquid pipe)
R3T	Thermistor (Liquid main)	Y3S	Solenoid valve (HP/LP gas pipe)
R4T	Thermistor (Heat exch. liquid upper)	Y4S	Solenoid valve (Heat exchanger lower)
R5T	Thermistor (Heat exch. liquid lower)	Y5S	Solenoid valve (Heat exchanger upper)
R6T	Thermistor (Subcool heat exch. gas)	Y8S	Solenoid valve (Gas injection)
R7T	Thermistor (Subcool heat exch. liquid)	Y10S	Solenoid valve (Accu oil return)
R8T	Thermistor (Heat exch. gas upper)	Y11S	Solenoid valve (M1C oil return)
R9T	Thermistor (Heat exch. gas lower)	Y13S	# Error operation output (SVEO)
R10T	Thermistor (Suction)	Y14S	# Leak sensor output (SVS)
R11T	Thermistor (Heat exch. de-icer)	Z°C	Noise filter (ferrite core)
R12T	Thermistor (Suction compressor)		

*: optional

#: field supply

4D148982

RYMA5A RXYA8-12A



4D148982

9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

RXYA14-20A

NOTES to go through before starting the unit

1. Symbols:

X1M	: Main terminal		: Option
	: Earth wiring		: Wiring depending on model
	: Field wire		: Not mounted in switch box
	: Field cable		: PCB
	: Screened conductor		
①	: Several wiring possibilities		

- Refer to the installation or service manual on how to use BS1 ~ BS3 push buttons and DS1 ~ DS2 DIP switches.
- Do not operate the unit by short-circuiting protection device(s) S1PH and S2PH.
- Refer to the installation manual for indoor-outdoor transmission F1-F2 and outdoor-multi transmission Q1-Q2 wiring.
- When using the central control system, connect outdoor-outdoor transmission F1-F2.
- The capacity of the contact is 220~240V AC - 0.5A (Rush current needs 3A or less).
- Use dry contact for micro-current (10mA or less, 15V DC).
- When using the optional adapter, refer to the installation manual of the optional adapter.

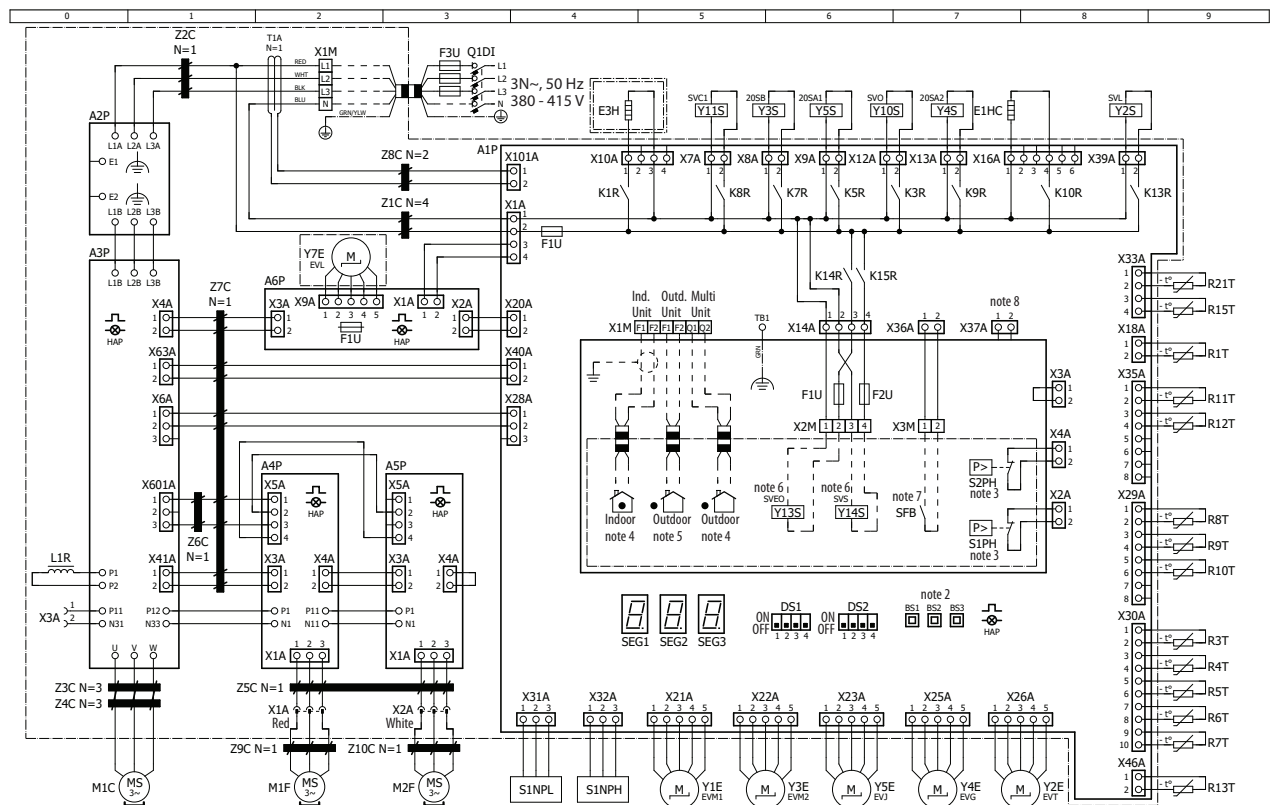
LEGEND

Part n°	Description	Part n°	Description
A1P	Printed circuit board (main)	R12T	Thermistor (Suction compressor)
A2P	Printed circuit board (noise filter)	R13T	Thermistor (Receiver gas)
A3P	Printed circuit board (inverter)	R15T	Thermistor (M1C body)
A4P, A5P	Printed circuit board (fan)	R21T	Thermistor (M1C discharge pipe)
A6P	Push button switch	S1NPH	High pressure sensor
BS* (A1P)	Push button switch	S1NPL	Low pressure sensor
DS* (A1P)	Dipswitch	S*PH	High pressure switch
E1HC	Crank case heater	SEG* (A1P)	7-segment display
E3H	* Bottom plate heater	SFB	# Mechanical ventilation error input
F1U (A1P)	Fuse T 10 A 250 V	T1A	Current sensor
F1U (A6P)	Fuse 3.15 A 250 V	X*A	Connector
F1U, F2U	Fuse T 1 A 250 V	X*M	Terminal strip
F3U	# Field fuse	HAP (A1P)	Running LED (service monitor-green)
HAP (A1P)	Running LED (service monitor-green)	Y1E	Electronic exp. valve (Heat exch. upper)
K*R (A*P)	Relay on PCB	Y2E	Electronic exp. valve (Subc. heat exch.)
L1R	Reactor	Y3E	Electronic exp. valve (Heat exch. lower)
M1C	Motor (compressor)	Y4E	Electronic exp. valve (Receiver gas)
M1F, M2F	Motor (fan)	Y5E	Electronic exp. valve (Inverter cooling)
Q1DI	# Earth leakage circuit breaker	Y2S	Solenoid valve (Liquid pipe)
R1T	Thermistor (Air)	Y3S	Solenoid valve (HP/LP gas pipe)
R3T	Thermistor (Liquid main)	Y4S	Solenoid valve (Heat exchanger lower)
R4T	Thermistor (Heat exch. liquid upper)	Y5S	Solenoid valve (Heat exchanger upper)
R5T	Thermistor (Heat exch. liquid lower)	Y10S	Solenoid valve (Accu oil return)
R6T	Thermistor (Subcool heat exch. gas)	Y11S	Solenoid valve (M1C oil return)
R7T	Thermistor (Subcool heat exch. liquid)	Y13S	# Error operation output (SVEO)
R8T	Thermistor (Heat exch. gas upper)	Y14S	# Leak sensor output (SVS)
R9T	Thermistor (Heat exch. gas lower)	Z°C	Noise filter (ferrite core)
R10T	Thermistor (Suction)		
R11T	Thermistor (Heat exch. de-icer)		

*: optional # : field supply

4D147772

RXYA14-20A



4D147772

10 External connection diagrams

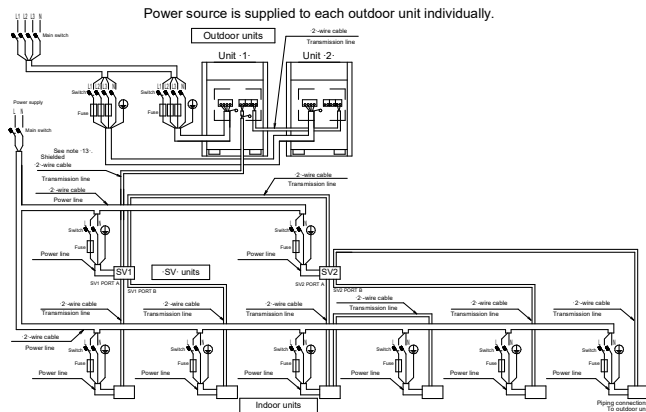
10 - 1 External Connection Diagrams

RXYA-A

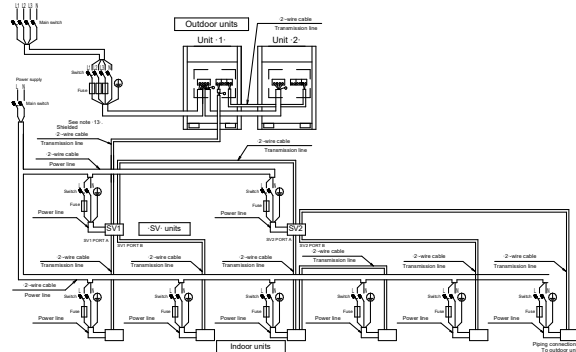
RYMA5A

VRV5 Heat pump
External connection diagram

10



Power source is connected in series between the units.

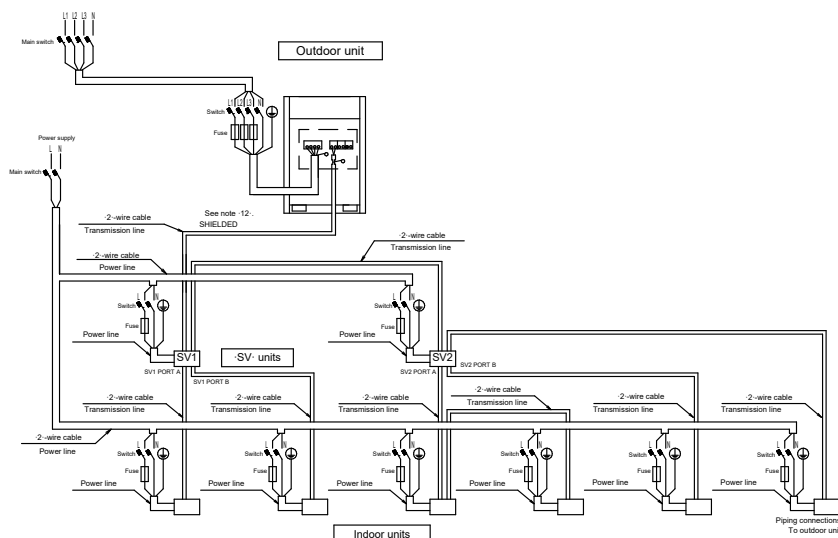


1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only.
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised 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.
- Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.
12. The capacity of UNIT1 must be larger than that of UNIT2 when the power source is connected in series between the units.
13. See outdoor unit manual for shielding the -F1F2- wire.

3D149883

RXYA-A

RYMA5A

VRV5 Heat pump
External connection diagram


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.
- Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.
12. See outdoor unit manual for shielding the -F1F2- wire.

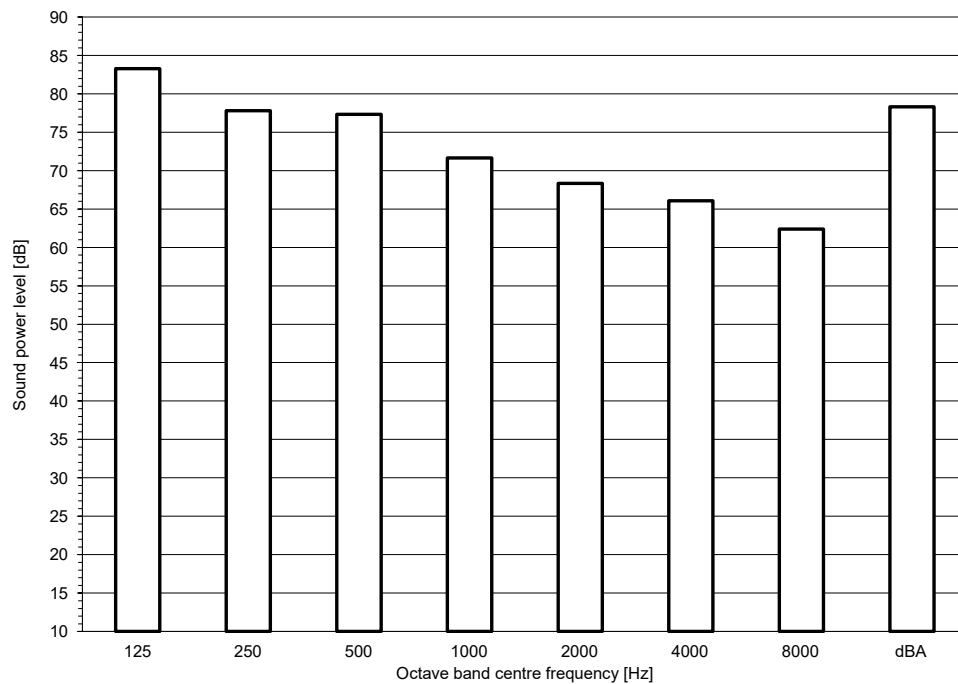
3D149884

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

RXYA8A
RYMA5A

Cooling
Sound power



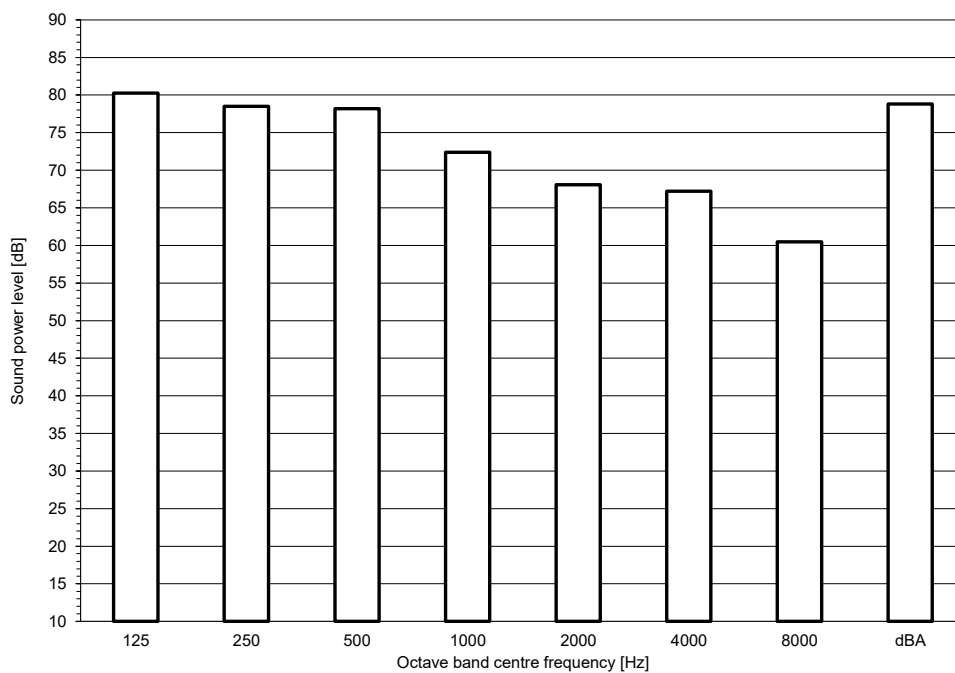
Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = -10^{-12} W.
- Measured according to ISO 3744

4D150004

RXYA10A

Cooling
Sound power



Notes

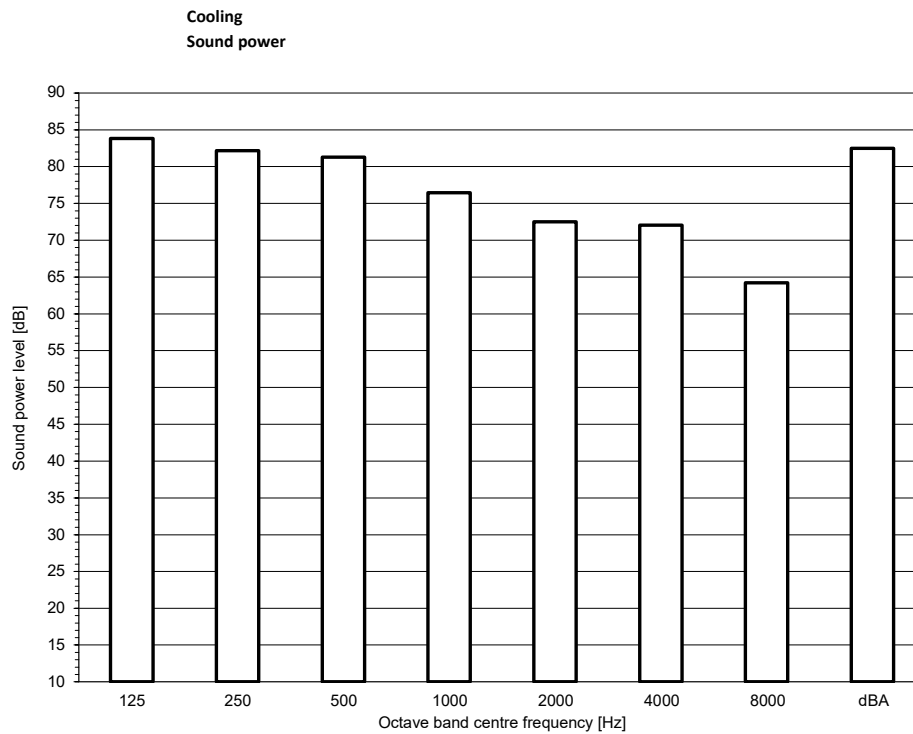
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = -10^{-12} W.
- Measured according to ISO 3744

4D150005

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

RXYA12A

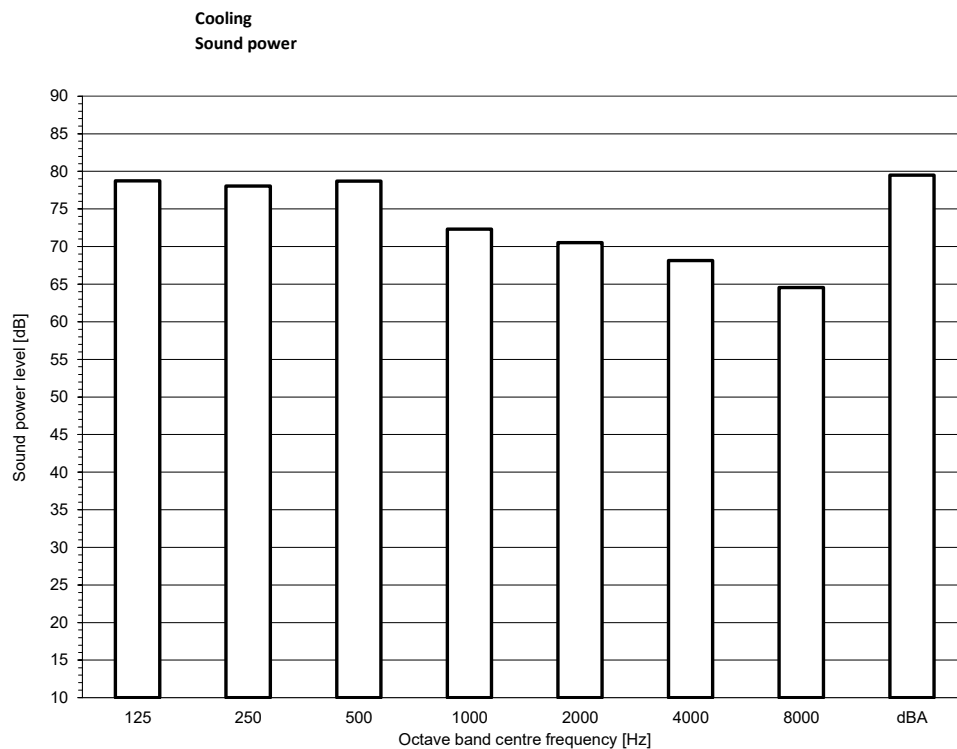


Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10^{-12} W.
- Measured according to ISO 3744

4D150006

RXYA14A



Notes

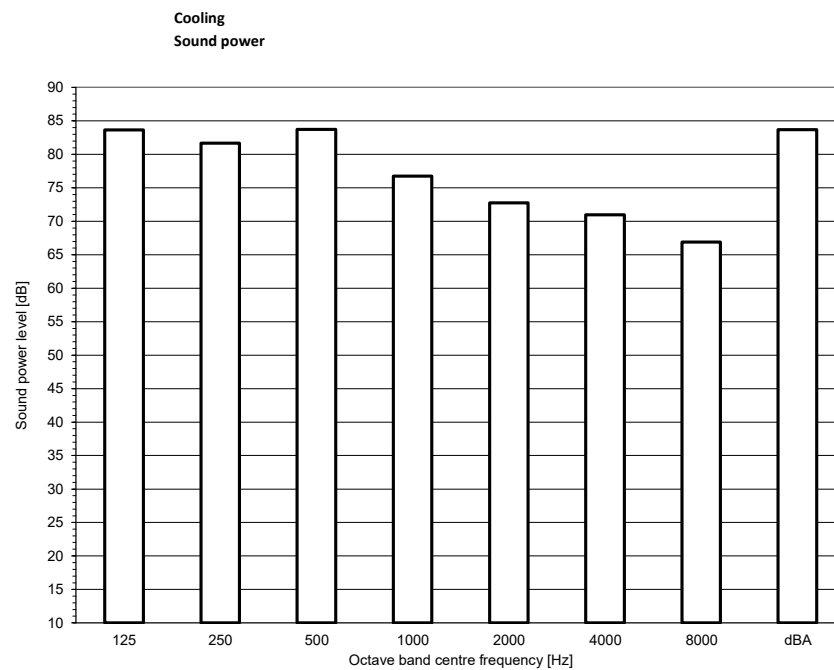
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10^{-12} W.
- Measured according to ISO 3744

4D150007

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

RXYA16A

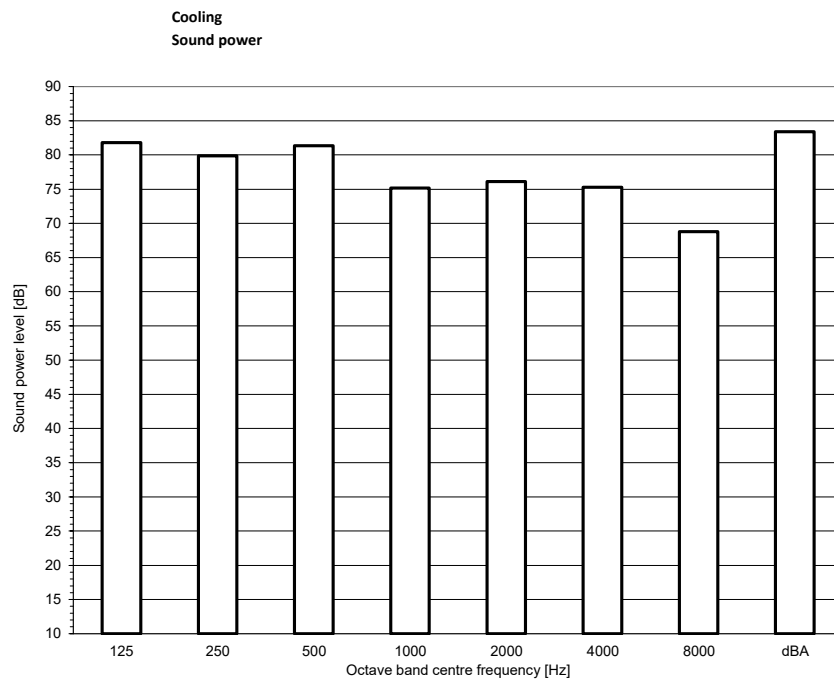


Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity $0\text{ dB} = 10^{-12}\text{ W}$.
- Measured according to ISO 3744

4D150008

RXYA18A



Notes

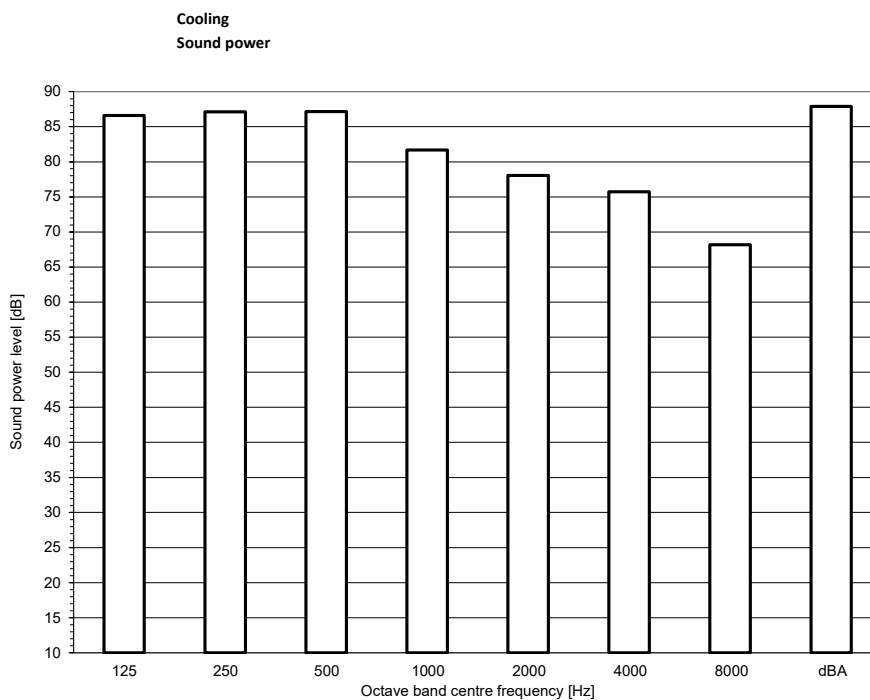
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity $0\text{ dB} = 10^{-12}\text{ W}$.
- Measured according to ISO 3744

4D150009

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

RXYA20A



Notes

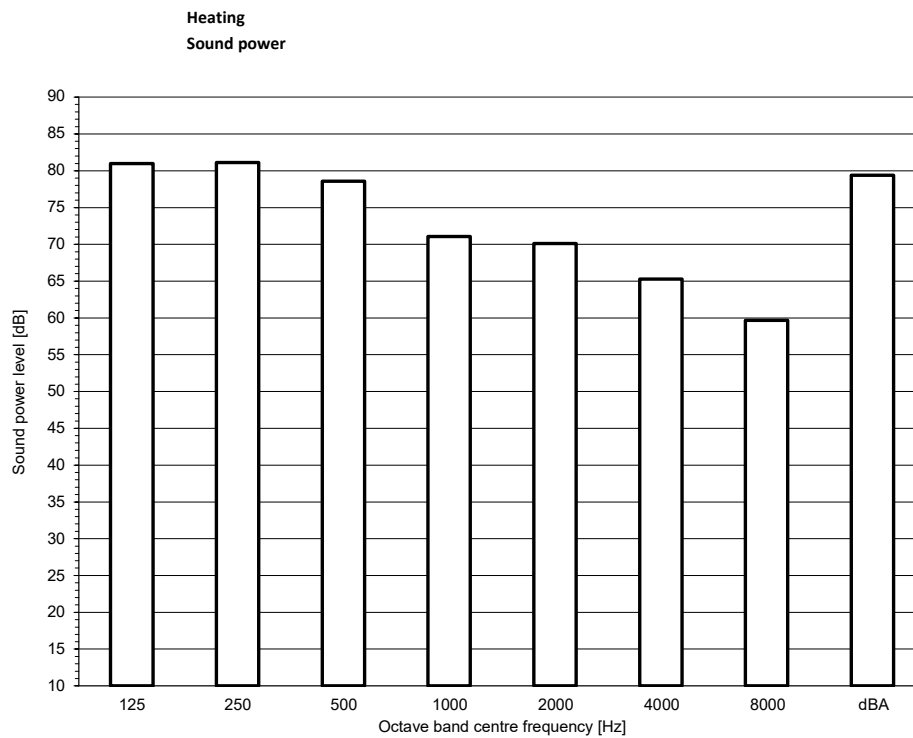
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity $0\text{dB} = 10^{-12} \text{ W}$.
- Measured according to ISO 3744

4D150010

11 Sound data

11 - 2 Sound Power Spectrum - Heating

RXYA8A
RYMA5A

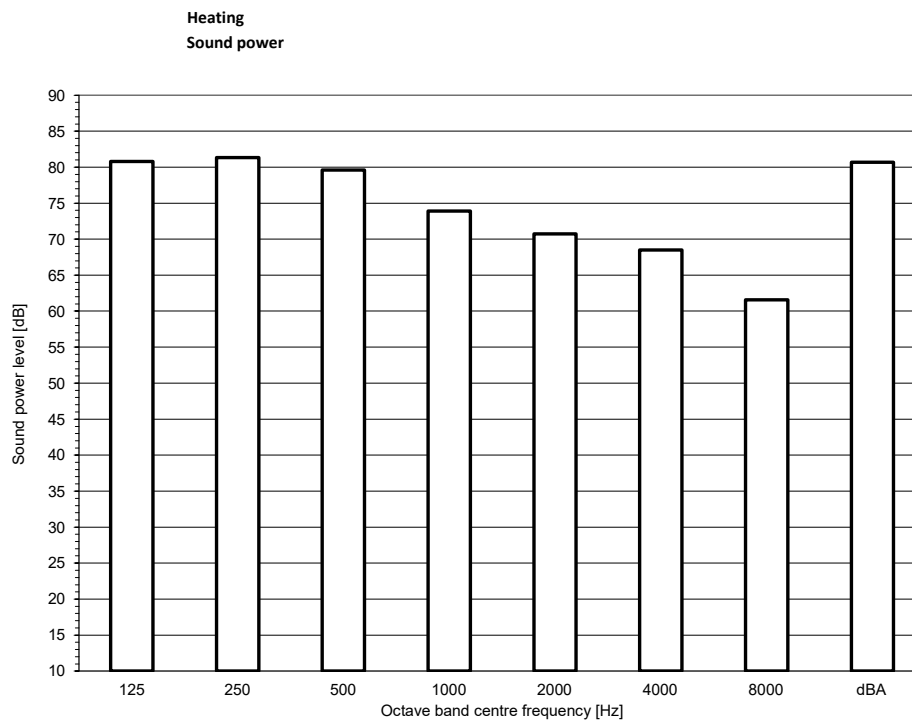


Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10^{-12} W·
- Measured according to ISO 3744

4D150004

RXYA10A



Notes

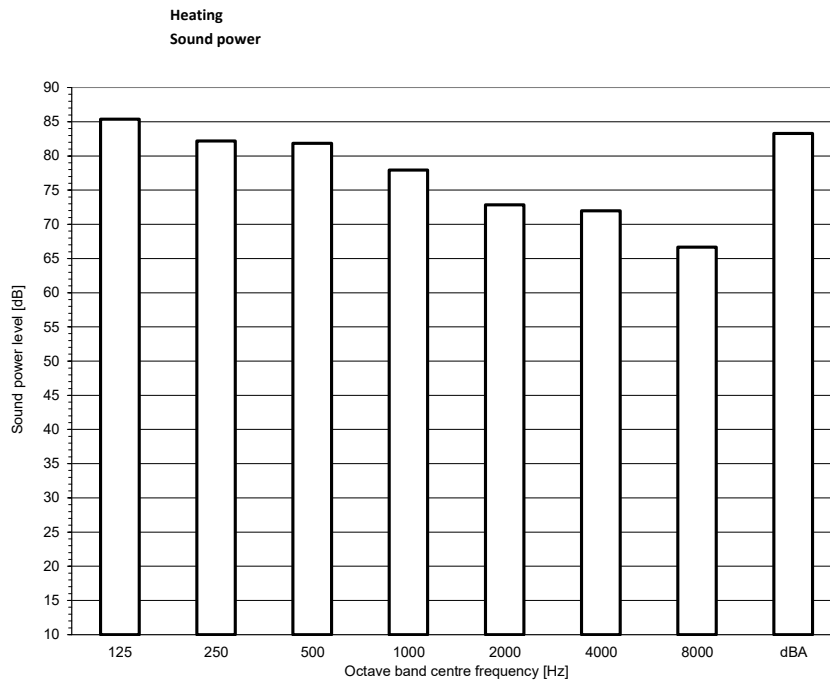
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10^{-12} W·
- Measured according to ISO 3744

4D150005

11 Sound data

11 - 2 Sound Power Spectrum - Heating

RXYA12A

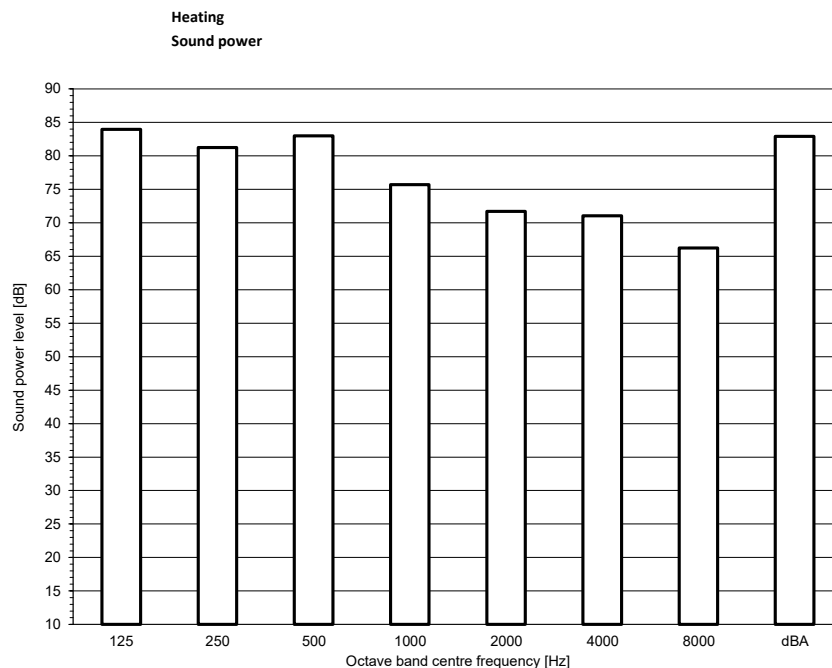


Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity $0\text{ dB} = 10^{-12} \text{ W}$.
- Measured according to ISO 3744

4D150006

RXYA14A



Notes

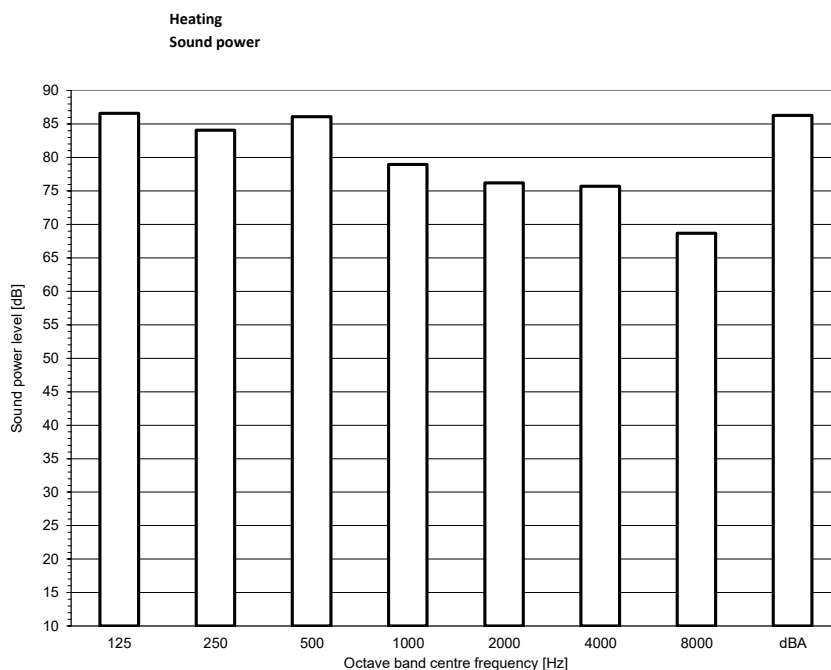
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity $0\text{ dB} = 10^{-12} \text{ W}$.
- Measured according to ISO 3744

4D150007

11 Sound data

11 - 2 Sound Power Spectrum - Heating

RXYA16A

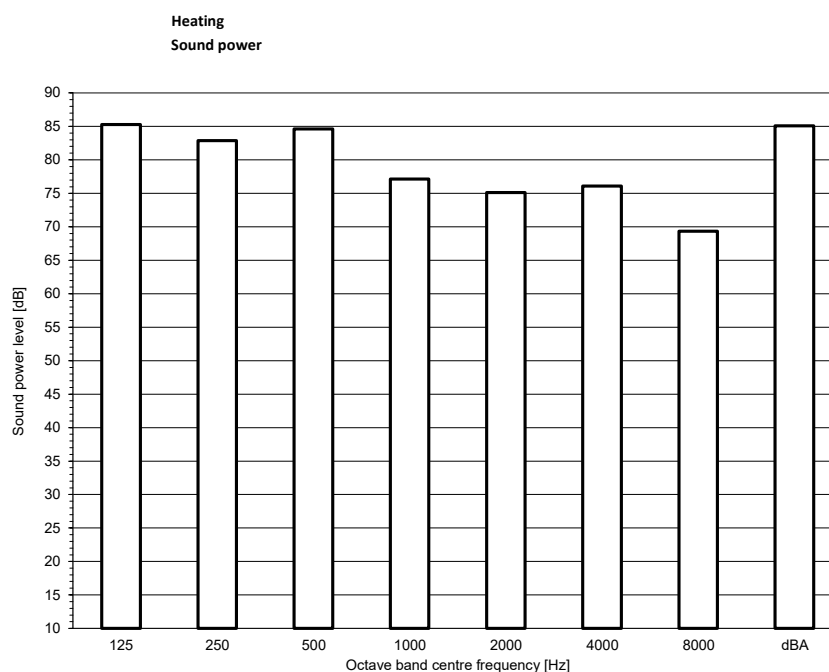


Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10^{-12} W·m⁻²
- Measured according to ISO 3744

4D150008

RXYA18A



Notes

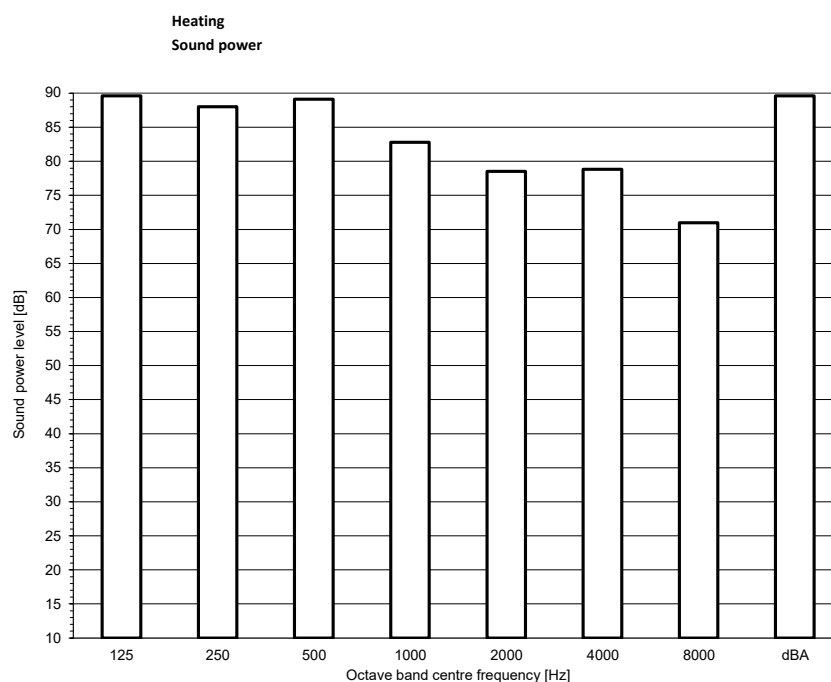
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10^{-12} W·m⁻²
- Measured according to ISO 3744

4D150009

11 Sound data

11 - 2 Sound Power Spectrum - Heating

RXYA20A



Notes

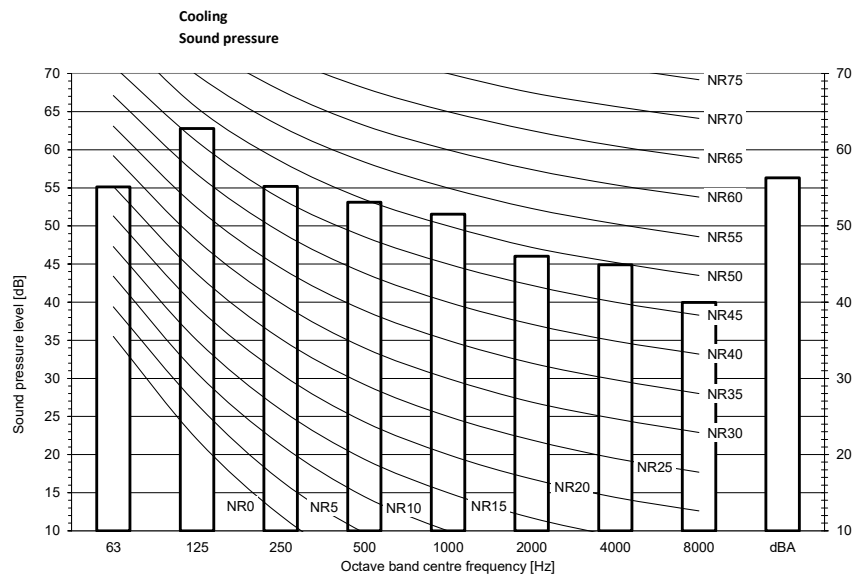
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity $O_{dB} = 10^{-12} \text{ W}$.
- Measured according to ISO 3744

4D150010

11 Sound data

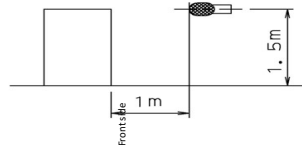
11 - 3 Sound Pressure Spectrum - Cooling

RXYA8A
RYMA5A



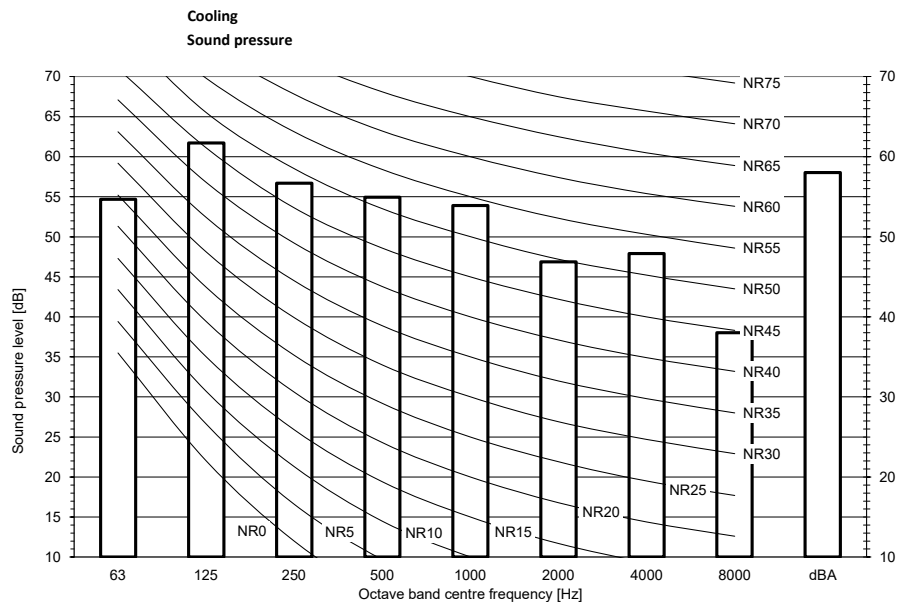
Notes

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



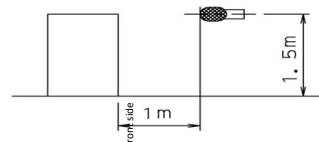
4D150004

RXYA10A



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

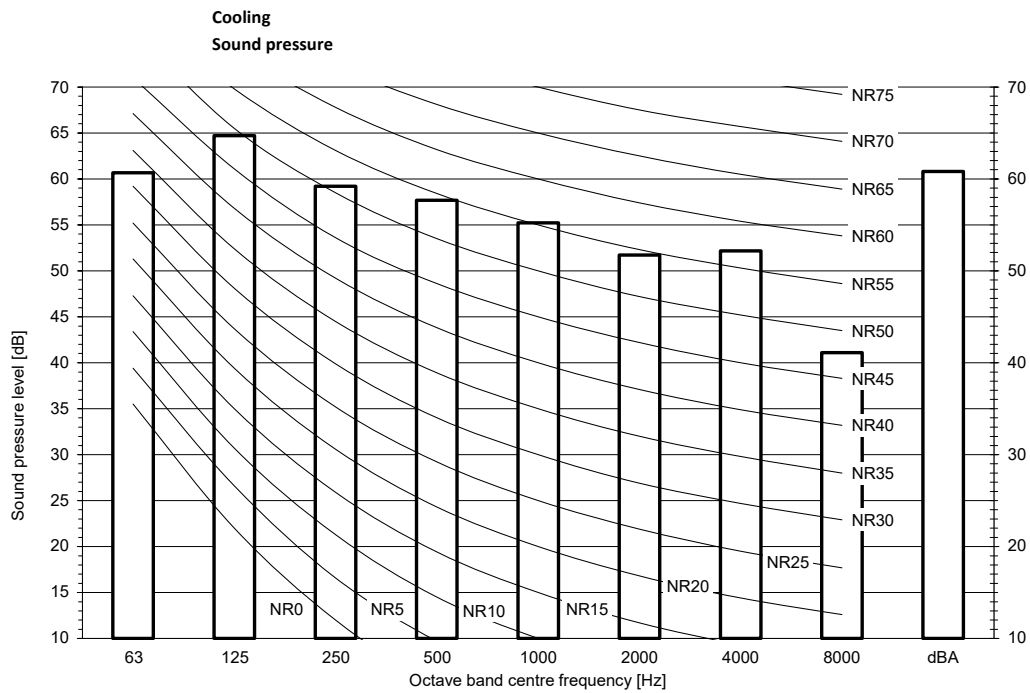


4D150005

11 Sound data

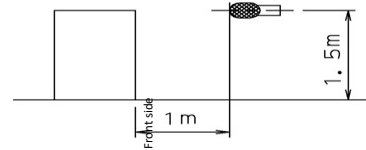
11 - 3 Sound Pressure Spectrum - Cooling

RXYA12A



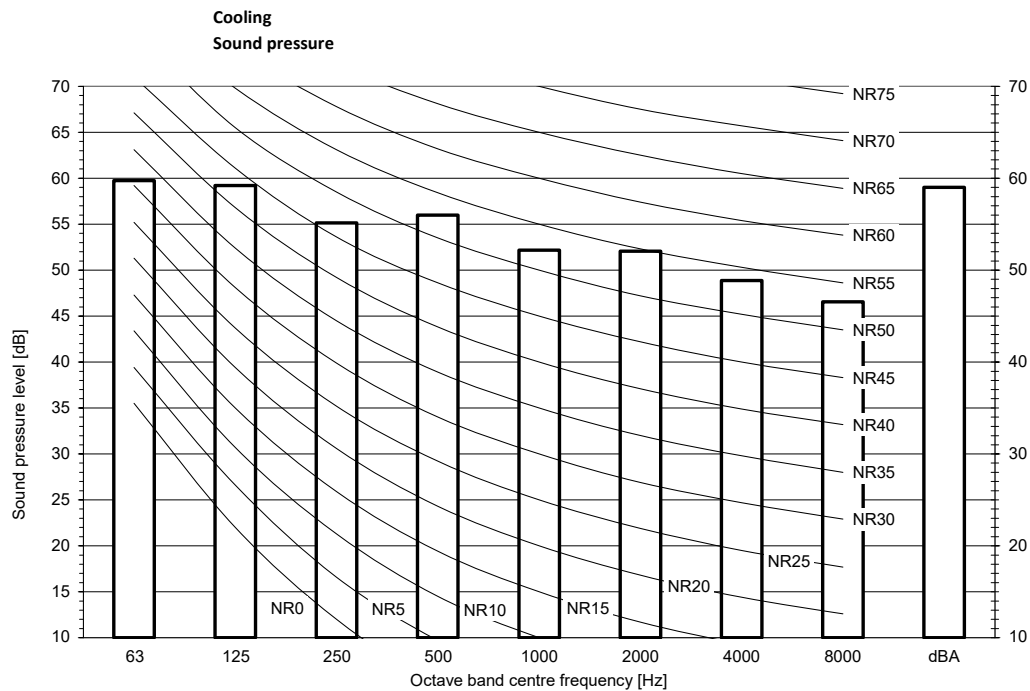
Notes

- 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



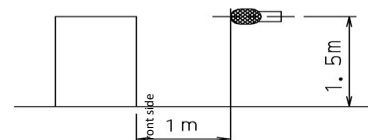
4D150006

RXYA14A



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

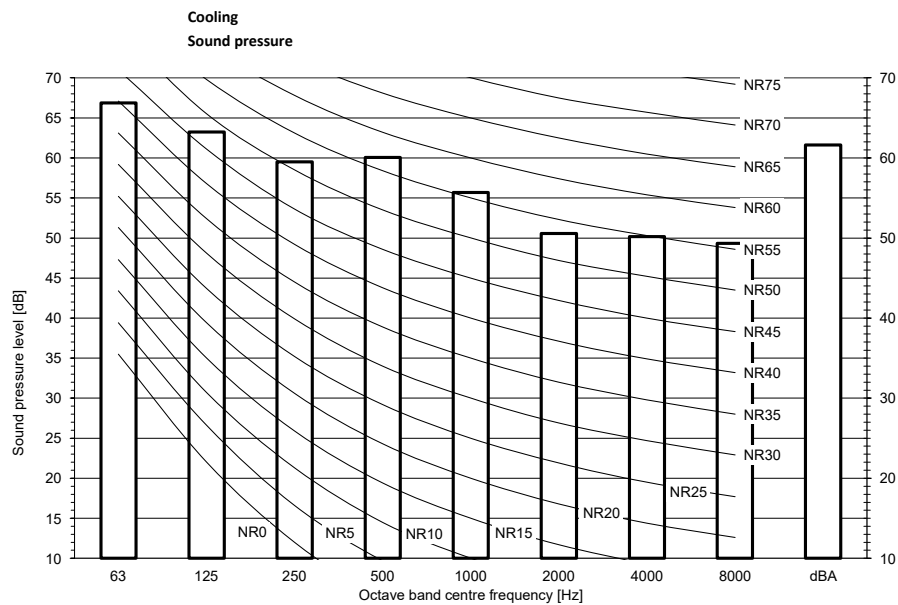


4D150007

11 Sound data

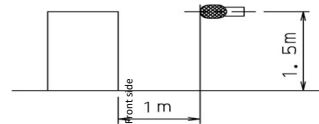
11 - 3 Sound Pressure Spectrum - Cooling

RXYA16A



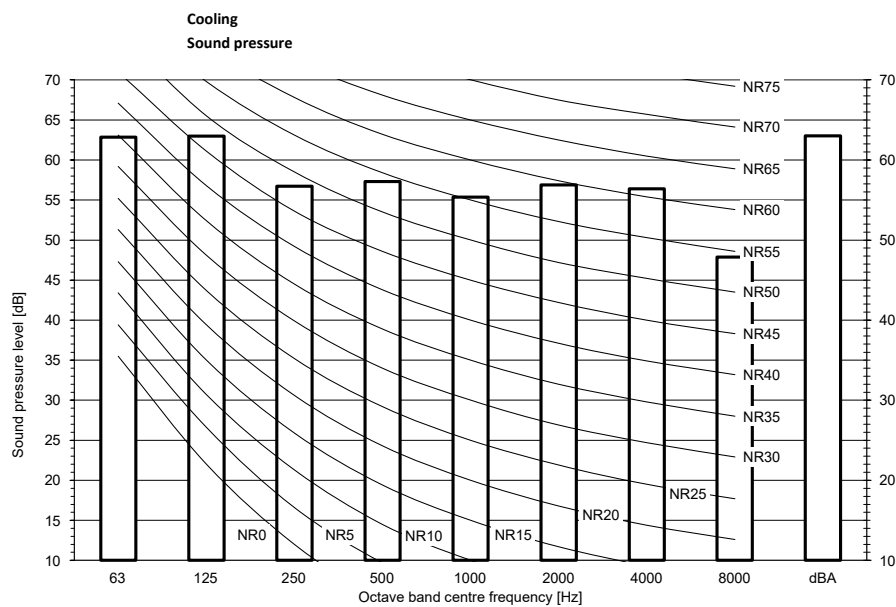
Notes

- 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



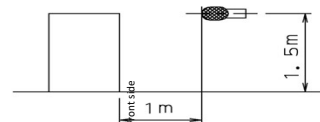
4D150008

RXYA18A



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

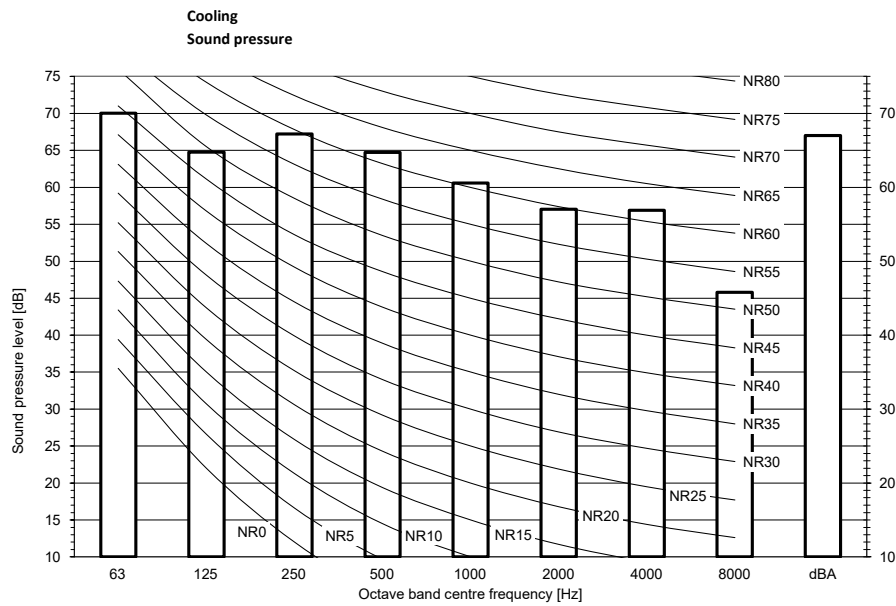


4D150009

11 Sound data

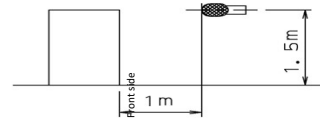
11 - 3 Sound Pressure Spectrum - Cooling

RXYA20A



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

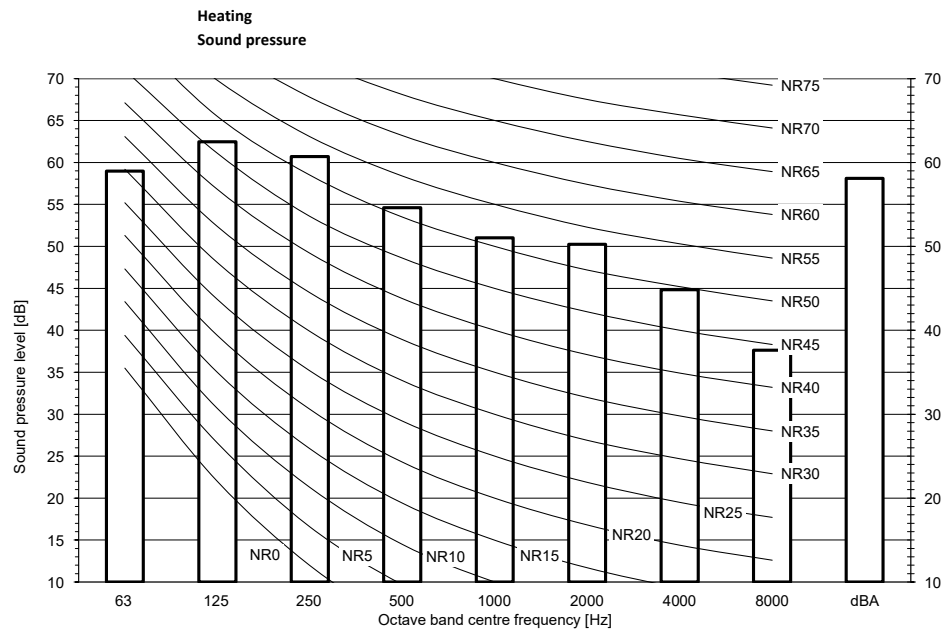


4D150010

11 Sound data

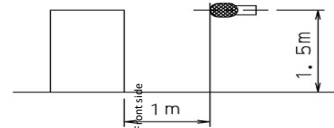
11 - 4 Sound Pressure Spectrum - Heating

RXYA8A
RYMA5A



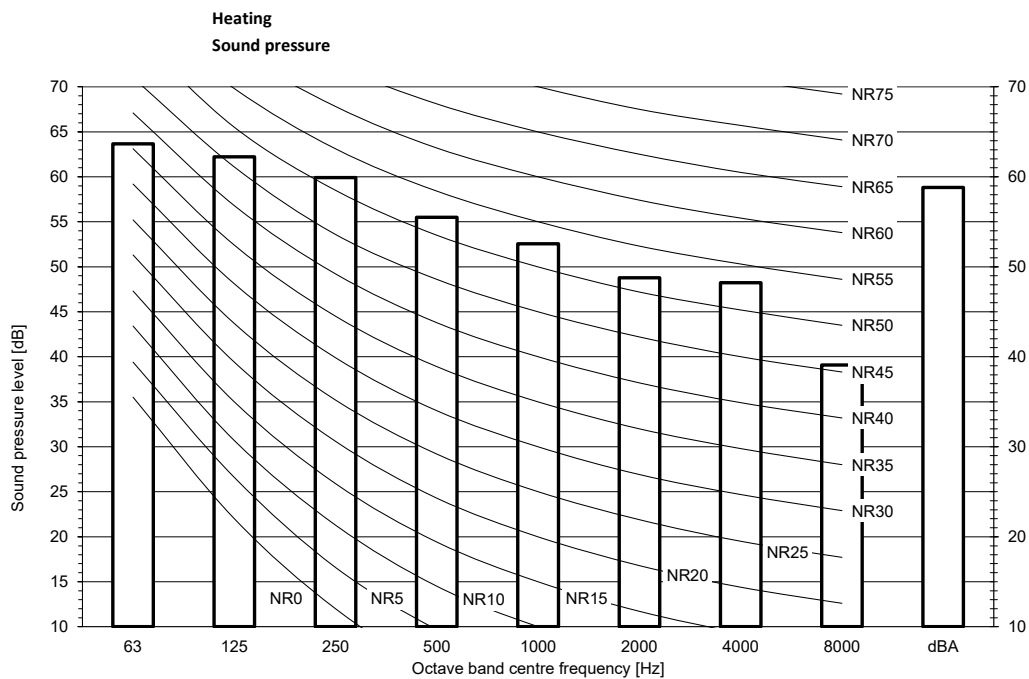
Notes

- 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



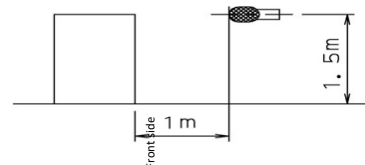
4D150004

RXYA10A



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

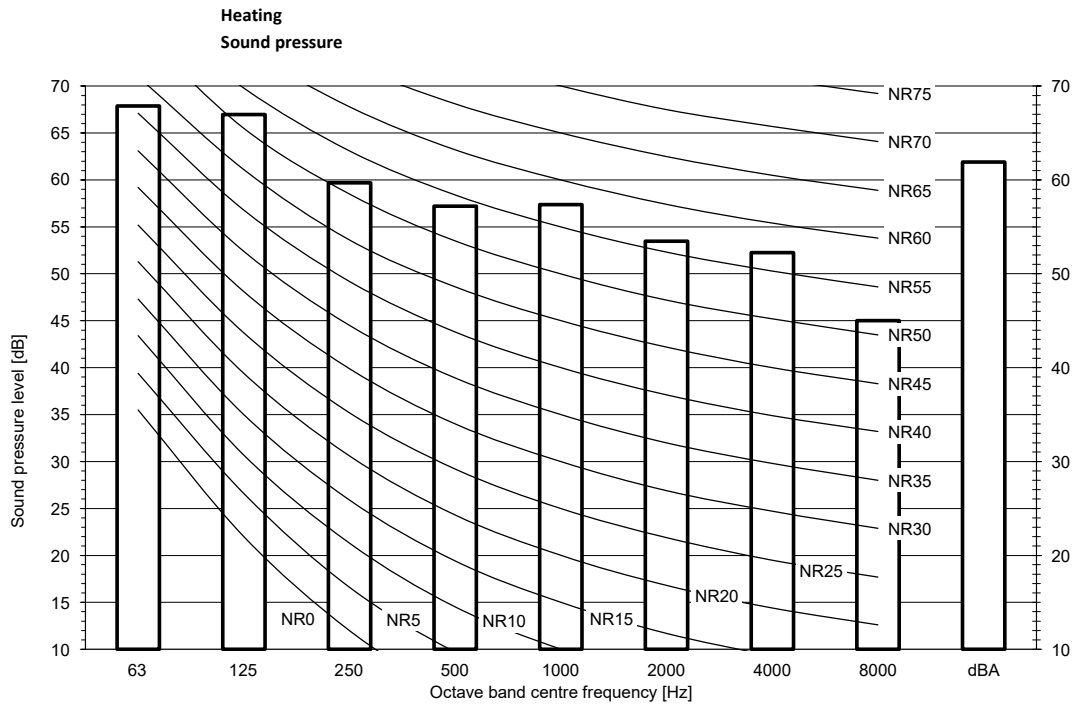


4D150005

11 Sound data

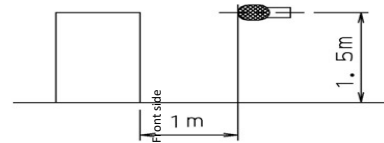
11 - 4 Sound Pressure Spectrum - Heating

RXYA12A



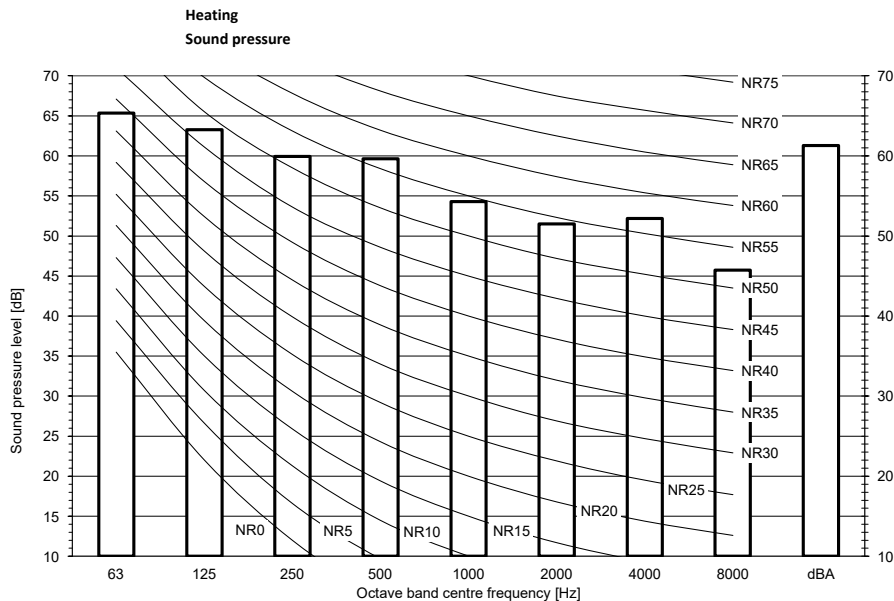
Notes

- 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



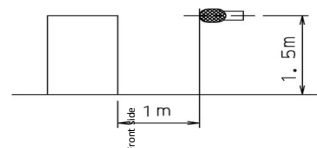
4D150006

RXYA14A



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

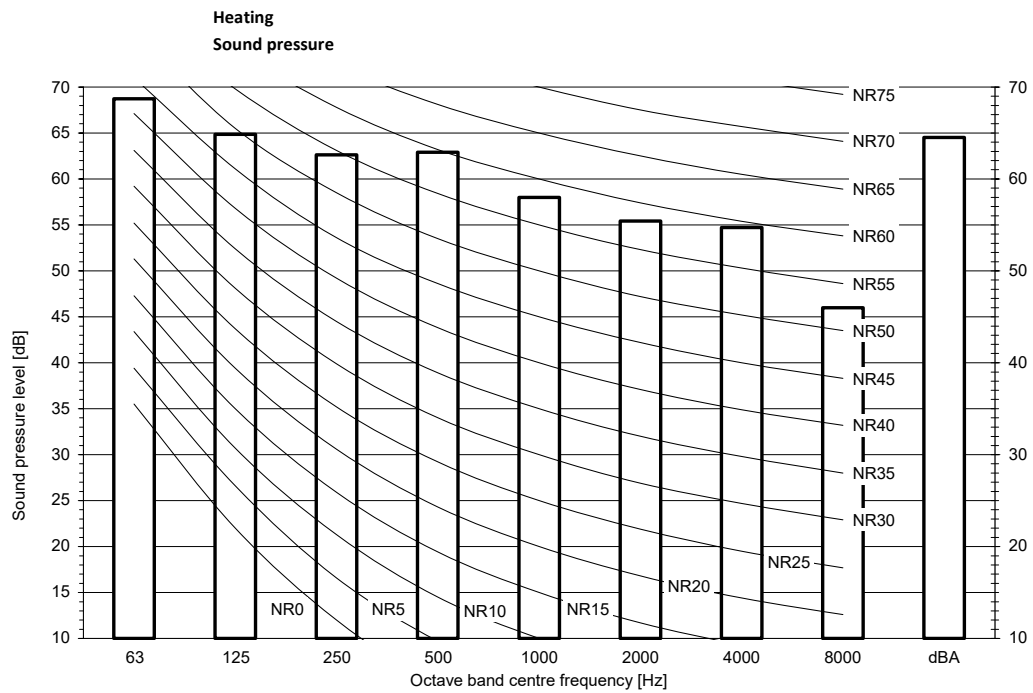


4D150007

11 Sound data

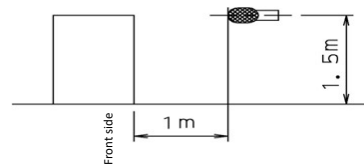
11 - 4 Sound Pressure Spectrum - Heating

RXYA16A



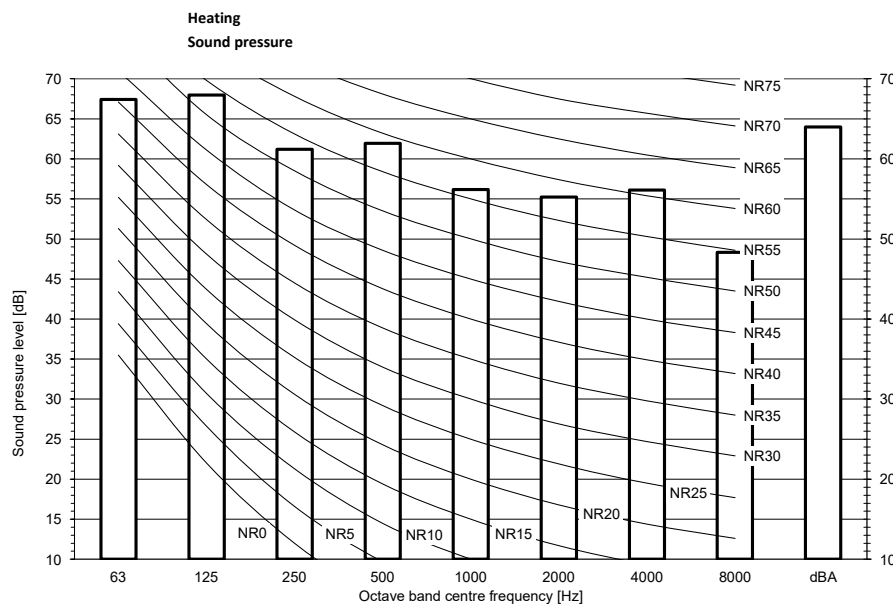
Notes

- 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



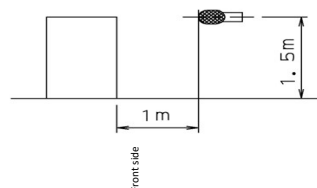
4D150008

RXYA18A



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

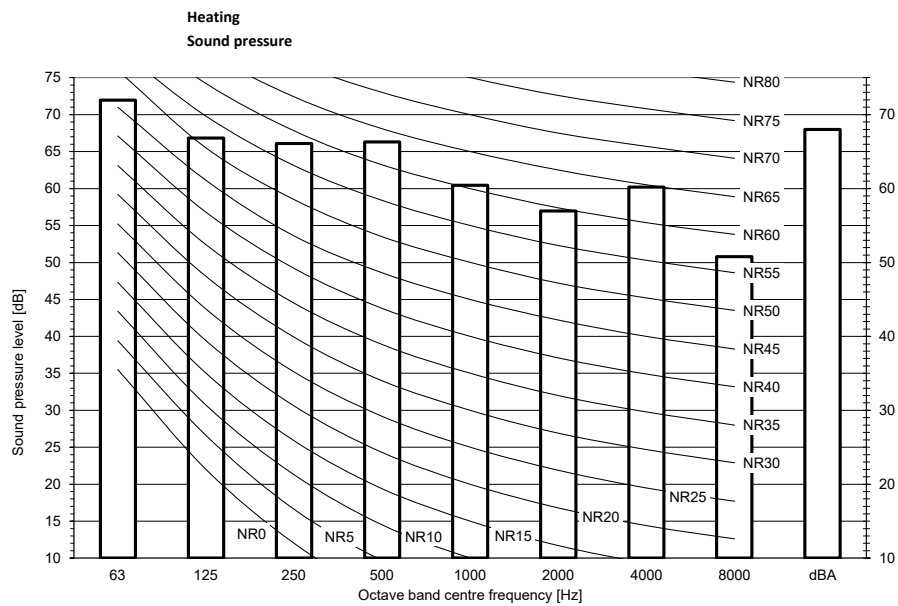


4D150009

11 Sound data

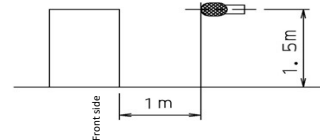
11 - 4 Sound Pressure Spectrum - Heating

RXYA20A



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



4D150010

11 Sound data

11 - 5 Sound level data Quiet mode

RXYA-A
RYMA5A

VRV-5 Heat pump
Low noise data (level ·1-5·)

	Capacity ratio
LN1	90%
LN2	75%
LN3	60%
LN4	45%
LN5	30%

5HP/ 8HP	Cooling		Heating	
	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]
LN1	75	53	76	55
LN2	72	50	73	52
LN3	69	47	70	49
LN4	66	44	67	46
LN5	63	41	64	43

10HP	Cooling		Heating	
	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]
LN1	76	55	78	56
LN2	73	52	75	53
LN3	70	49	72	50
LN4	67	46	69	47
LN5	64	43	66	44

12HP	Cooling		Heating	
	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]
LN1	79	58	80	58
LN2	76	55	77	55
LN3	73	52	74	52
LN4	70	49	71	49
LN5	67	46	68	46

14HP	Cooling		Heating	
	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]
LN1	76	54	81	58
LN2	73	51	78	55
LN3	70	48	75	52
LN4	67	45	72	49
LN5	64	42	69	46

16HP	Cooling		Heating	
	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]
LN1	81	58	84	62
LN2	78	55	82	59
LN3	75	52	80	56
LN4	72	49	77	53
LN5	69	46	74	50

4D150022

11 Sound data

11 - 5 Sound level data Quiet mode

RXYA-A
RYMA5A

11

18HP	Cooling		Heating	
	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]
LN1	81	60	83	61
LN2	78	57	81	58
LN3	76	54	78	55
LN4	74	51	75	52
LN5	71	48	72	49

20HP	Cooling		Heating	
	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]
LN1	85	64	87	65
LN2	82	61	84	62
LN3	80	58	81	59
LN4	77	55	79	56
LN5	74	52	77	53

LN1: Low noise level ·1·
LN2: Low noise level ·2·
LN3: Low noise level ·3·
LN4: Low noise level ·4·
LN5: Low noise level ·5·

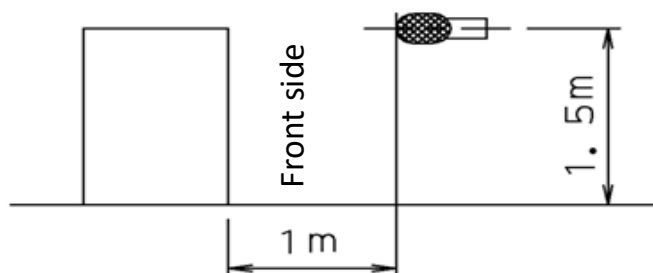
Notes

Sound power

dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10^{-12} W·
Measured according to ISO 3744

sound pressure

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



4D150022

11 Sound data

11 - 6 Sound power level at high ESP

RXYA-A
RYMA5A

VRV-5
High ESP

Heat pump

	Cooling	Heating
	Sound power [dBA]	Sound power [dBA]
5HP	81	84
8HP	81	84
10HP	81	84
12HP	81	84
14HP	83	85
16HP	87	89
18HP	87	89
20HP	88	90

Sound power is measured on a freestanding unit.
Actual sound is depending on the installation of the duct.

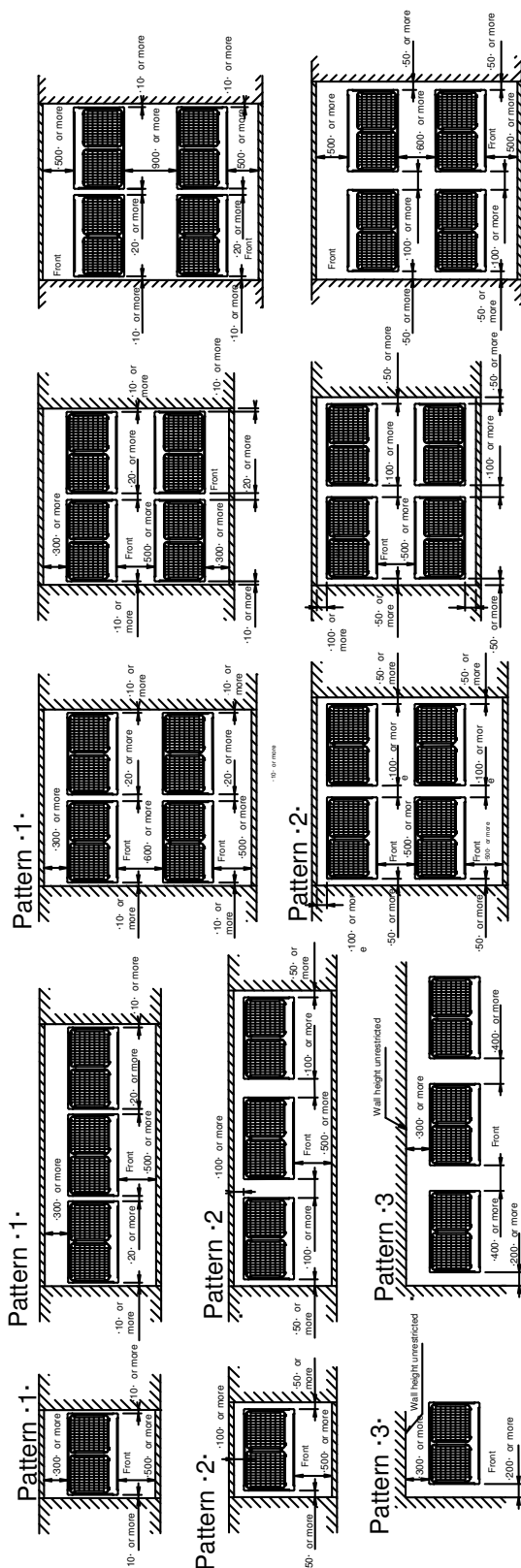
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12 Installation

12 - 1 Installation Method

RXYA-A
RYMA5A

For centralised group layout



Notes

1. Height of the walls in case of patterns · 1 · and · 2 ·:

Front: ·1500·mm

Suction side: ·500·mm

Side: height unrestricted

The installation space shown on this drawing is based on cooling operation at 35°C (outdoor temperature).

When the design outdoor ambient temperature exceeds 35°C or the load exceeds maximum ability of much generation load of heat in all outdoor unit, make sure the suction-side space is broader than the space shown on this drawing.

2. If the walls are higher than mentioned above, then additional service space is needed:

- suction side: service space + h1/2

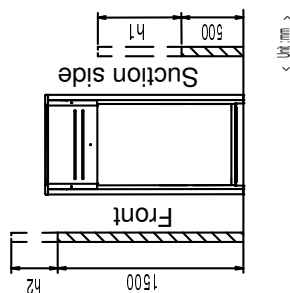
- front side: service space + h2/2

3. When installing the units, select the pattern that best fits the available space.

Always keep in mind to leave sufficient space for a person to pass between unit and wall and for the air to circulate freely.

Provide sufficient space at the front to connect refrigerant piping (comfortably).

4. If more units are to be installed than are catered for in the above patterns, your layout should take into account the possibility of short circuits.

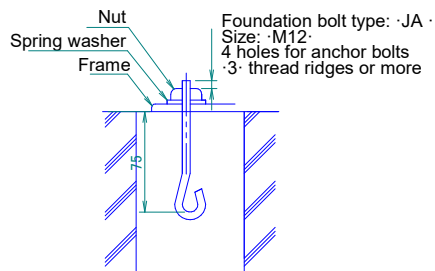
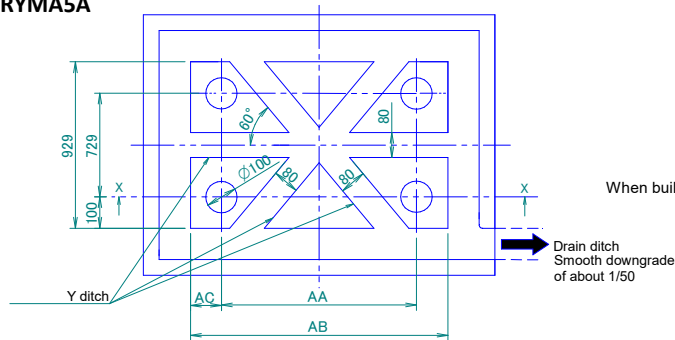


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12 Installation

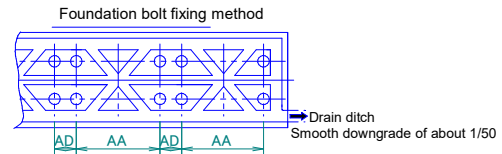
12 - 2 Fixation and Foundation of Units

RXYA-A
RYMA5A

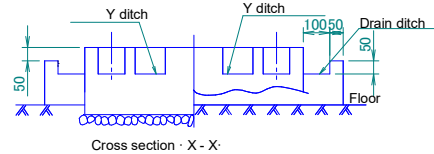


Notes

1. Provide a drain ditch around the foundation to drain water from the installation area.
2. The surface has to be finished with mortar. The corner edges have to be chamfered.
3. Build the foundation on a concrete floor or, if not possible, make sure the foundation surface has a rough finish.
4. Use a cement/sand/gravel ratio of 1/2/4 for the concrete, and a diameter of 10 mm for the reinforcement bars (approximately, 300mm intervals).
5. When installing the equipment on a roof, make sure to check the strength of the floor and take adequate water proofing measures.



When building a foundation on the ground → When building a foundation on a concrete floor



For multi-unit installation

Model	AA	AB	AC	AD
RYYQ8-12U	766	992	113	185
RYMQ8-12U				
RXYQ8-12U				
RXYQ8-12U				
REMQ51/REYQ8-12U				
RXYTQ8U	1076	1076	113	185
REMA5A/REYA8-12A				
RYMA5A/RXYA8-12A				
RYYQ14-20U				
RYMQ14-20U				
RXYQ14-20U	1076	1076	113	185
RXYQ14-20U				
REYQ14-20U				
RXYTQ10-16U				
REYA14-20A				
RXYA14-20A				

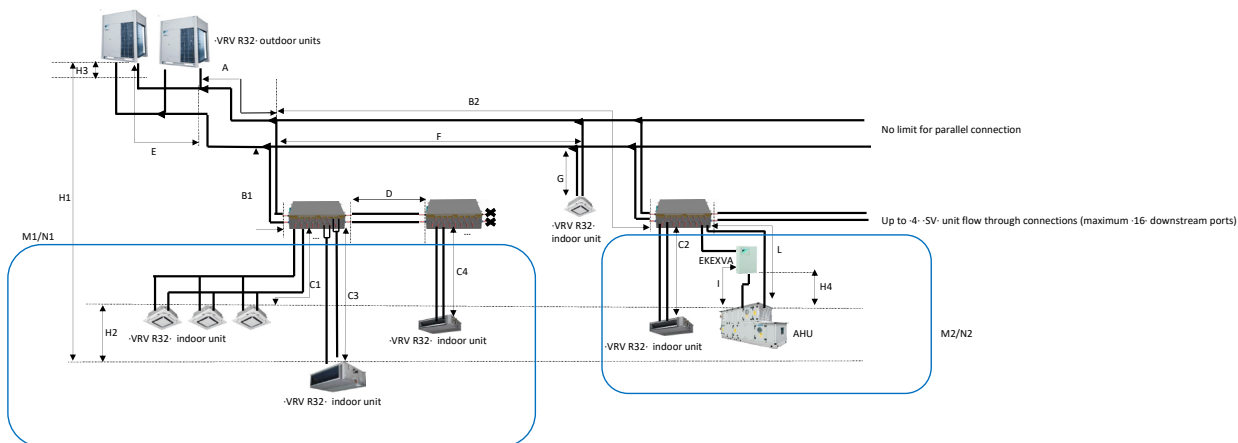
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12 Installation

12 - 3 Refrigerant Pipe Selection

12

RXYA-A
RYMA-A



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RXYA-A
RYMA-A

VRV5 Heat pump Piping restrictions

Capacity	Maximum indoor unit quantity	Total		Allowed capacity	
		Maximum total downstream capacity — flow through connection SV unit		Maximum downstream number of ports — flow through connection SV unit	
	(*)1	[M1], [M2]	[N1], [N2]	VRV DX indoor unit	Air handling unit (AHU)
VRV R32 DX indoor unit	50 ~ 130%	64	650	16	-
AHU only (Pair (EXEVA+EXEACV) ②) (*)3	65/75 ~ 130% (*)3/4	11 (*)3/4	550	16	65/75 ~ 130% (*)3/4
AHU only (Multi (EXEVA+EXEACV) ②) (*)3	65/75 ~ 130% (*)3/4	11 (*)3/4	550	16	65/75 ~ 130% (*)3/4
VRV R32 DX indoor unit + AHU only (EXEVA+EXEACV) (*)5	50 ~ 130% (*)5	55 (*)3/4	550	16	0 ~ 60% (*)5

Notes

- Excluding SV units and including EXEVA kits.
- For connection with AHU, EXEVA kits are also considered indoor units.
- Restrictions regarding the air handling unit capacity.
- 75%~130%: default situation
65%~75%: Allowed if certain AHU volume limitations are valid.
Refer to the datasheet of EXEACV for details.
- Pair AHU = system with 1 air handling unit connected to one outdoor unit system.
Multi AHU = mix of AHU units and VRV DX indoor units connected to one outdoor unit system.
- Number of AHUs that can be connected in case of pair or multi layout depends on the control type:
X-control is possible (up to 3 (EXEVA+EXEACV) boxes can be connected to one outdoor unit (system)).
Y-control is possible (up to 3 (EXEVA+EXEACV) boxes can be connected to one outdoor unit (system)).
W-control is possible (up to 3 (EXEVA+EXEACV) boxes can be connected to one outdoor unit (system)).
Z-control is possible (the allowed number of (EXEVA + EXEACV) boxes is determined by the connection ratio and the capacity of the outdoor unit).
- Maximum indoor unit quantity is based upon combination of one minimum AHU class in combination of multiple minimum DX indoor class.

Amount of units connectable to a SV unit

	SV1A	SV4A	SV6A	SV8A	Multi SV per branch	Multi SV when 2 branches are combined
VRV R32 DX indoor unit	Maximum 5 units Maximum 250 class	Maximum 20 units Maximum 400 class	Maximum 30 units Maximum 600 class	Maximum 40 units Maximum 800 class	Maximum 5 units Maximum 140 class	Maximum 5 units Maximum 250 class

Notes

- Excluding SV1A units.
In case the indoor unit capacity class exceeds 140, two branch ports need to be combined. Refer to the installation manual for more details.

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12 Installation

12 - 3 Refrigerant Pipe Selection

12

VRV5 Heat pump Piping restrictions

		Maximum piping length			Maximum height difference			Total piping length		
		Longest pipe from the outdoor unit or the last multi-outdoor piping branch	Longest pipe after first branch or multi SV unit	Longest pipe from the outdoor unit to the last multi outdoor piping branch	Indoor-to-outdoor	Indoor-to-indoor	Outdoor-to-outdoor			
					Outdoor unit higher than indoor unit / indoor unit higher than outdoor unit	Maximum (H2)	Maximum (H3)			
Actual / Equivalent Maximum (A+B1+C1, A+B2+C1, A+B1+C1, A+B1+D+C4, A+B1+D+C4+L4+D4+L4)		Actual Maximum (B1+C1, B1+C1, B1+C1, B1+C1+D+C4+L4+D4+L4)		Actual / Equivalent Maximum (E)		Maximum (H1)	Maximum (H2)	Maximum (H3)		
VRV R32 DR indoor units only		165/160 m (*)		40 m (*)		-	50/40 m (*)	30 m	-	1000 m
Multi outdoor unit combinations		135/160 m (*)		40 m (*)		10/13 m	50/40 m (*)	30m	5 m	500 m
AHU connection	Pair (*)	50/50 m (*)		40 m		10/13 m	40/40 m	-	5 m	150m (*)
	Multi (*)	165/160 m (*)		40 m		10/13 m	40/40 m	15 m	5 m	1000 m
	Mix (*)	165/160 m (*)		40 m		10/13 m	40/40 m	15 m	5 m	1000 m

Maximum piping length		Maximum height difference	
AHU connection	EXEVA to AHU (I)	EXEVA to AHU (H4)	
Pair (*)	5 m	5 m	
Multi (*)	5 m	5 m	
Mix (*)	5 m	5 m	

Notes

- If all conditions below are met, the limitation can be extended up to 90 m
 - The piping length between all indoor units and the nearest branch kit or SV unit is < 40 m
 - It is required to size up gas and liquid piping between the first branch kit or SV unit and the last branch kit or last SV unit
 - If the increased pipe size is larger than the pipe size of the main pipe, also increase the size of the main pipe.
 - The total piping length has to be within limitations.
 - When the piping size is increased, the piping length has to be counted as double.
- If all conditions below are met, the limitation can be extended up to 90 m
 - Indoor units are VRV R32 DR only.
 - If the outdoor units are positioned higher than the indoor units
 - Size up the liquid piping.
 - A dedicated setting on the outdoor unit is required.
 - If the outdoor units are positioned lower than the indoor units
 - Size up the liquid piping.
 - A dedicated setting on the outdoor unit is required.
- If the equivalent piping length is > 90 m, size up the main liquid and gas piping.
- Limit of 40 m between SV unit and indoor unit is depending on room size (R Safety system).
- Pair AHU = system with 1 air handling unit connected to one outdoor unit system
- Multiple air handling units (AHU) (EXEVA = EXEVA2V1 to 16)
- The allowable minimum length is 5 m.
- Mix of air handling units (EXEVA4EXEVA3V1) and VRV R32 DR indoor units.
- Up to 3 piping branches are possible in case of an AHU with an interface heat exchanger.

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12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

12

Requirements for R32 units

To comply with the requirements of enhanced tightness refrigerating systems of the IEC 60335-2-40:2022, this system is equipped with an alarm in the remote controller and shut-off valves in the ·SV· unit.

These safety measures are installation specific and can be determined using the requirements mentioned in the outdoor unit manual.

The ·SV· unit is prearranged for a ventilated enclosure as countermeasure.

Outdoor unit installation

The outdoor unit has to be installed outside. For indoor installation of the outdoor unit, additional measures can be necessary to comply with the applicable legislation.

Indoor unit installation

The total amount of refrigerant in the system shall be less than or equal to the maximum allowed total refrigerant amount.

The maximum allowed total refrigerant amount depends on the area of the rooms being served by the system and the rooms in the lowest underground floor.

Note: The total refrigerant charge amount in the system MUST always be lower than ·79.8· [kg].

Depending on the smallest room size in which the indoor unit is installed/conditioning and the total amount of refrigerant in the system, different safety measures can be applied.

Follow the flowchart. Details are described in the manual of the outdoor unit.

Use the graph or table ·1· to determine the required safety measures for the indoor unit.

Note: If the installation height is more than ·2.2· m, different boundaries for the applicable safety measures can apply.

To know which safety measure is required in case the installation height is more than ·2.2· m, refer to VRV Xpress (<https://vrvxpress.daikin.eu/>).

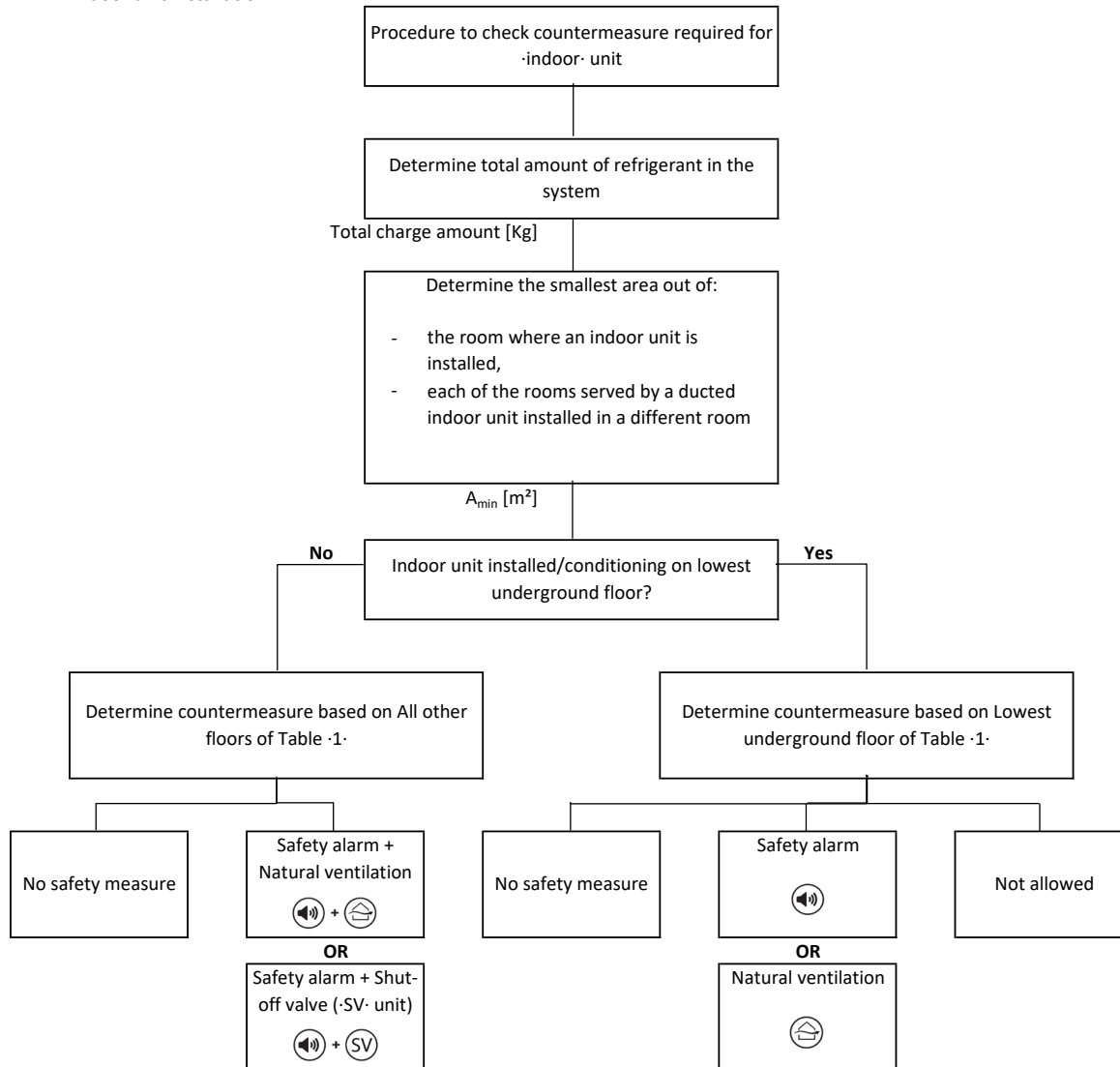
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12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

Indoor unit installation



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12 Installation

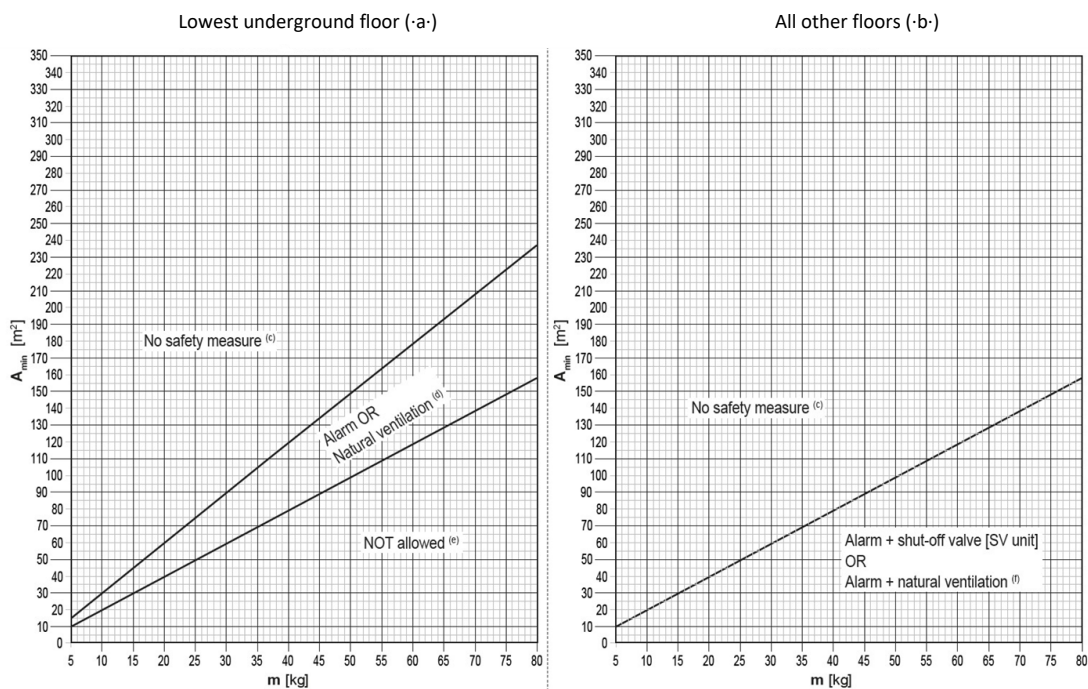
12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

12

Indoor unit installation

Table ·1·



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12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

Indoor unit installation

m [kg]	Amin [m ²]			m [kg]	Amin [m ²]		
	Lowest underground floor (-a-)		All other floors (-b-)		Lowest underground floor (-a-)		All other floors (-b-)
	No safety measure (-c-)	Safety alarm OR Natural ventilation (-d-)	No safety measure (-c-)		No safety measure (-c-)	Safety alarm OR Natural ventilation (-d-)	No safety measure (-c-)
5	15	10	10	43	128	85	85
6	18	12	12	44	131	87	87
7	21	14	14	45	134	89	89
8	24	16	16	46	137	91	91
9	27	18	18	47	140	93	93
10	30	20	20	48	143	95	95
11	33	22	22	49	146	97	97
12	36	24	24	50	149	99	99
13	39	26	26	51	152	101	101
14	42	28	28	52	154	103	103
15	45	30	30	53	157	105	105
16	48	32	32	54	160	107	107
17	51	34	34	55	163	109	109
18	54	36	36	56	166	111	111
19	57	38	38	57	169	113	113
20	60	40	40	58	172	115	115
21	63	42	42	59	175	117	117
22	66	44	44	60	178	119	119
23	69	46	46	61	181	121	121
24	72	48	48	62	184	123	123
25	75	50	50	63	187	125	125
26	77	52	52	64	190	127	127
27	80	54	54	65	193	129	129
28	83	56	56	66	196	131	131
29	86	58	58	67	199	133	133
30	89	60	60	68	202	135	135
31	92	62	62	69	205	137	137
32	95	64	64	70	208	139	139
33	98	66	66	71	211	141	141
34	101	68	68	72	214	143	143
35	104	70	70	73	217	145	145
36	107	72	72	74	220	147	147
37	110	74	74	75	223	149	149
38	113	76	76	76	226	151	151
39	116	77	77	77	229	153	153
40	119	79	79	78	231	154	154
41	122	81	81	79	234	156	156
42	125	83	83	80	237	158	158

4D149568A

12 Installation

12 - 4 Refrigerant Charge Information

12

RXYA-A
RYMA-A

Indoor unit installation

Safety measures include:

No safety measure

When the room area is sufficiently large, no safety measures are required.

Safety alarm

Do not use the safety alarm as the only safety measure in case the indoor unit is installed in an occupied space where people are restricted in their movement.

When the R32 sensor in the indoor unit detects a refrigerant leak, it will activate the alarm that will warn the user visually and audibly.

Each indoor unit must be connected with an R32 safety system compatible remote controller (e.g. ·BRC1H52/82*· or later type).

Each indoor unit must be connected to a separate remote controller. In case indoor units are operating under group control, it is possible to only use one remote controller per room.

In case the indoor unit is serving a different room than where it is installed, a remote controller is required in both the installed and the served room.

For buildings where sleeping facilities are offered (e.g. hotel), where persons are restricted in their movements (e.g. hospital), where an uncontrolled number of persons is present or buildings where people are not aware of the safety precautions:

It is mandatory to install one of the following devices at a location with 24-hour monitoring.

- a supervisor remote controller
- or a centralised controller, e.g. iTM with external alarm via WAGO module,
- iTM with built-in alarm, ...

The alarm should always be ·15· dB louder than the background noise of the room.

For details, see the manual of the ·outdoor· unit.

Natural ventilation

Natural ventilation is a safety measure where ventilation is made to a place where sufficient air is available to dilute the leaked refrigerant such as a large space.

Step ·1·

Determine total room area, which is the total area of the space that has natural ventilation and the space in which the indoor unit is installed.

Step ·2·

Use the graph or table to determine the total refrigerant charge limit in the system.

See table ·2·.

If the installation height is more than ·2.2· m, a higher total refrigerant charge limit of the system can apply.

To know the total refrigerant charge limit of the system in case the installation height is more than ·2.2· m, refer to the online tool (VRV Xpress).

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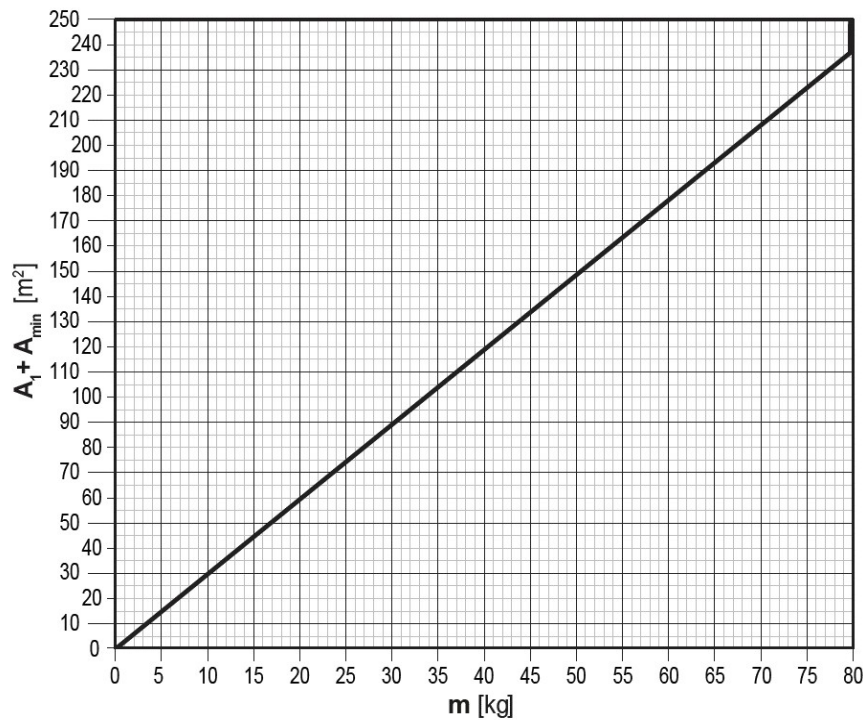
12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

Indoor unit installation

Table -2-



$A_1 + A_{min}$ [m²]	m [kg]
0	0
10	3.3
20	6.7
30	10.1
40	13.5
50	16.8
60	20.2
70	23.6
80	27.0
90	30.3
100	33.7
110	37.1
120	40.5
130	43.9
140	47.2
150	50.6
160	54.0
170	57.4
180	60.7
190	64.1
200	67.5
210	70.9
220	74.2
230	77.6
236	79.6
237	79.8
240	79.8
250	79.8

Step -3-

The total amount of refrigerant in the system shall be less than or equal to the maximum allowed total refrigerant amount.

If NOT, natural ventilation safety measure is not allowed.

Step -4-

The partition between two rooms on the same floor MUST meet one of the two requirements for natural ventilation.

For details, see the manual of the -outdoor- unit.

Shut-off valves

-SV- unit which has shut-off valves needs to be installed to reduce the amount of refrigerant leakage in to the room where the indoor unit is installed.

When the R32 sensor in the indoor unit detects a refrigerant leak, the corresponding shut-off valves in the -SV- unit close.

Follow the flowchart. Details are described in the manual of the outdoor unit.

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12 Installation

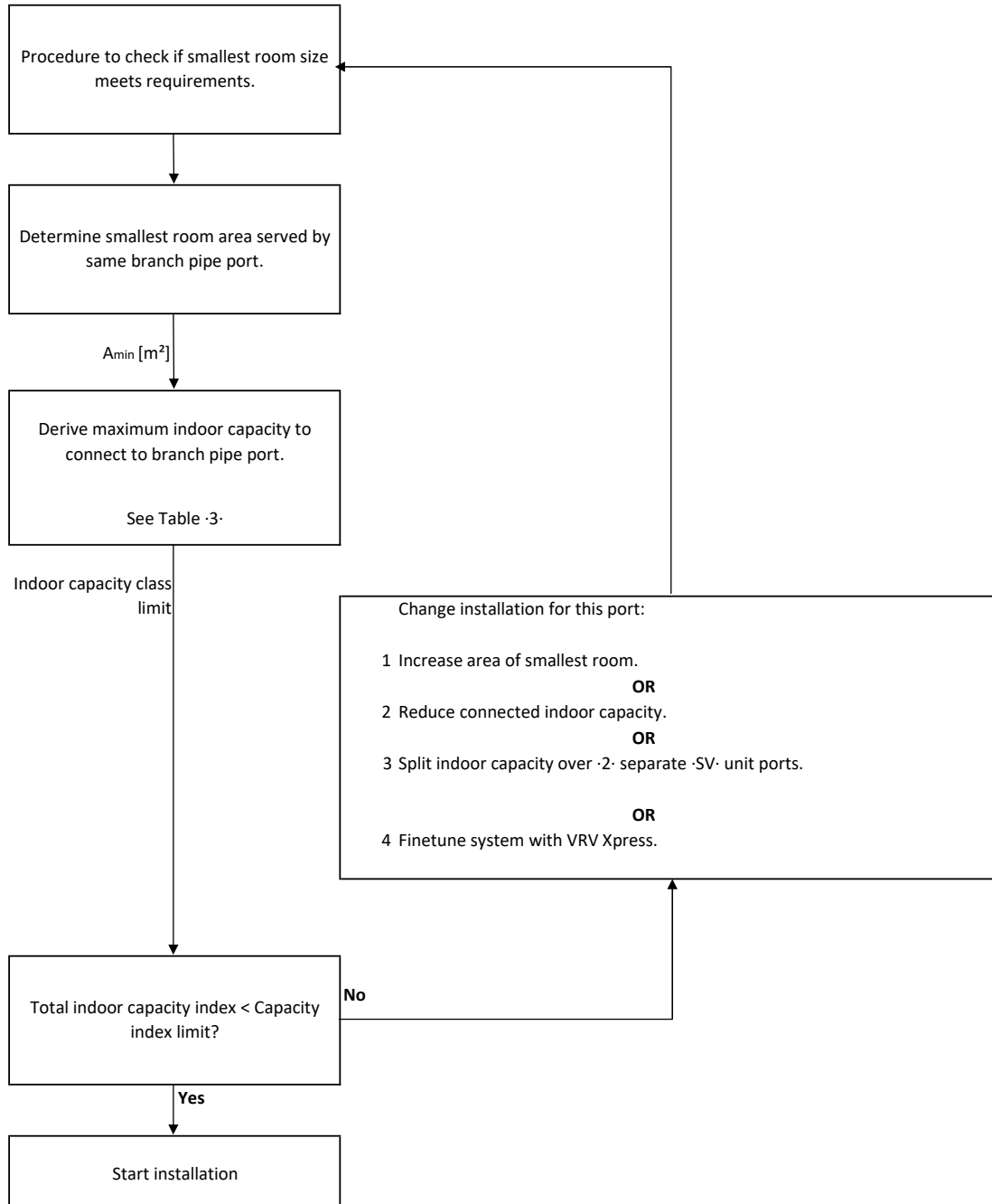
12 - 4 Refrigerant Charge Information

12

RXYA-A
RYMA-A

Indoor unit installation

Flowchart (for EACH ·SV· unit branch pipe port)



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12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

Indoor unit installation

Table ·3·

Area of installed/conditioned room [m ²]	Maximum total indoor unit capacity class		
	1 indoor unit per branch pipe port (·a·)	·2-5· units per branch pipe port	
		·40· m after first branch (·b·)	·90· m after first branch (·c·)
< 5	-	-	-
5	10	-	-
6	25	-	-
7	32	-	-
8	40	-	-
9	71	-	-
10	80	-	-
11	80	20	-
12	80	25	-
13	80	32	-
14	80	32	-
15	125	40	-
20	200	50	40
25	250	71	71
30	250	125	125
35	250	200	200
40	250	200	200
≥ 45	250	250	250

- (a) 1 indoor unit connected to a single branch pipe port.
- (b) ·2· to ·5· indoor units connected to a single branch pipe port, ·40· m after first refrigerant branch.
- (c) ·2· to ·5· indoor units connected to a single branch pipe port, ·90· m after first refrigerant branch.

Note: In case the indoor unit capacity class allowed per branch pipe port exceeds ·140·, use ·SV1A· unit or combine two ports while using ·SV4~8A unit·.

Note: The values in Table ·3· are under the assumption of worst case indoor unit volume and ·40· m piping between indoor and ·SV· unit.

In VRV Xpress (<https://vrvxpress.daikin.eu/>) it is possible to add custom piping lengths and indoor units, which can lead to lower minimum room area requirements.

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12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

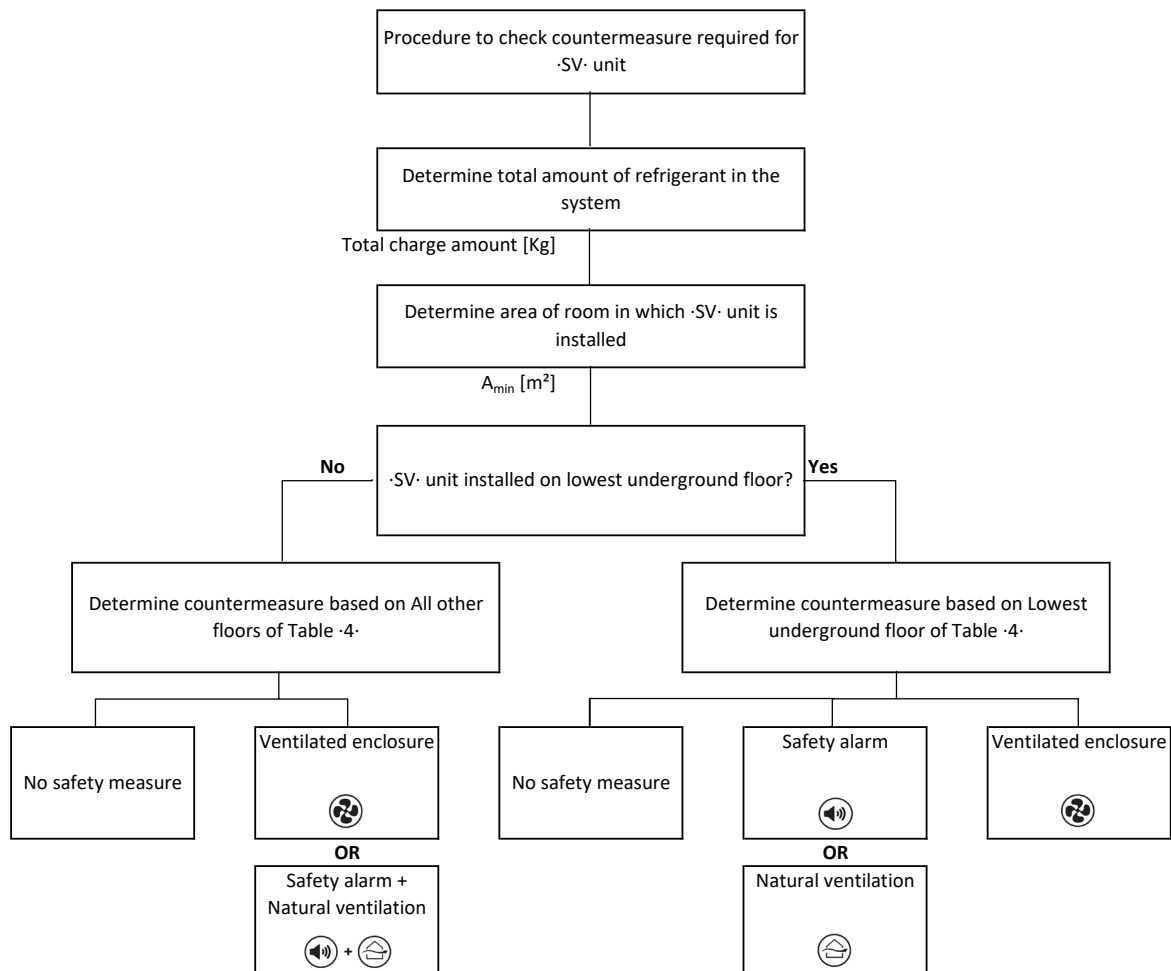
·SV· unit installation

Depending on the room size in which the ·SV· unit is installed and the total amount of refrigerant in the system, different safety measures can be applied.

Follow the flowchart. Details are described in the manual of ·SV· unit.

Note: If the installation height is more than ·2.2· m, different boundaries for the applicable safety measures can apply.

To know which safety measure is required in case the installation height is more than ·2.2· m, refer to VRV Xpress (<https://vrvxpress.daikin.eu/>).



* Do NOT use the external safety alarm if the ·SV· unit is installed in an occupied space where people are restricted in their movement.

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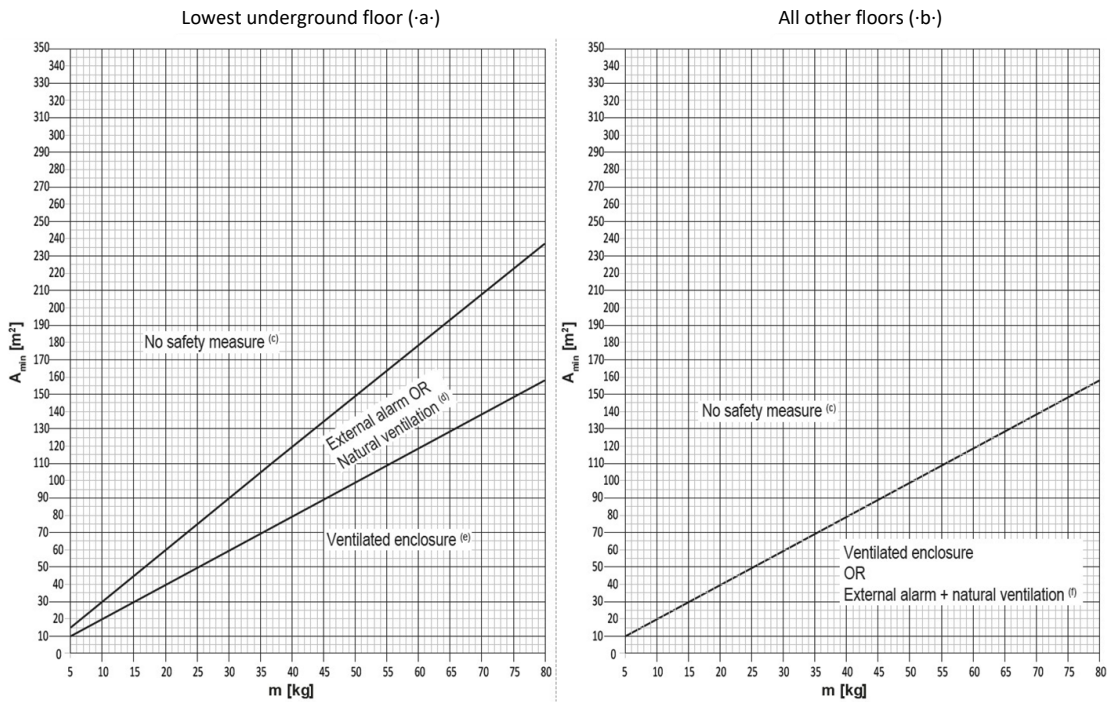
12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

•SV• unit installation

Table 4•



4D149568A

12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

•SV• unit installation

m [kg]	Amin [m ²]			m [kg]	Amin [m ²]		
	Lowest underground floor (-a-)		All other floors (-b-)		Lowest underground floor (-a-)		All other floors (-b-)
	No safety measure (-c-)	Safety alarm OR Natural ventilation (-d-)	No safety measure (-c-)		No safety measure (-c-)	Safety alarm OR Natural ventilation (-d-)	No safety measure (-c-)
5	15	10	10	43	128	85	85
6	18	12	12	44	131	87	87
7	21	14	14	45	134	89	89
8	24	16	16	46	137	91	91
9	27	18	18	47	140	93	93
10	30	20	20	48	143	95	95
11	33	22	22	49	146	97	97
12	36	24	24	50	149	99	99
13	39	26	26	51	152	101	101
14	42	28	28	52	154	103	103
15	45	30	30	53	157	105	105
16	48	32	32	54	160	107	107
17	51	34	34	55	163	109	109
18	54	36	36	56	166	111	111
19	57	38	38	57	169	113	113
20	60	40	40	58	172	115	115
21	63	42	42	59	175	117	117
22	66	44	44	60	178	119	119
23	69	46	46	61	181	121	121
24	72	48	48	62	184	123	123
25	75	50	50	63	187	125	125
26	77	52	52	64	190	127	127
27	80	54	54	65	193	129	129
28	83	56	56	66	196	131	131
29	86	58	58	67	199	133	133
30	89	60	60	68	202	135	135
31	92	62	62	69	205	137	137
32	95	64	64	70	208	139	139
33	98	66	66	71	211	141	141
34	101	68	68	72	214	143	143
35	104	70	70	73	217	145	145
36	107	72	72	74	220	147	147
37	110	74	74	75	223	149	149
38	113	76	76	76	226	151	151
39	116	77	77	77	229	153	153
40	119	79	79	78	231	154	154
41	122	81	81	79	234	156	156
42	125	83	83	80	237	158	158

4D149568A

12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

12

·SV· unit installation

Safety measures include:

No safety measure

When the room area is sufficiently large, no safety measures are required.

Safety alarm

An external alarm circuit (field supply) must be connected to the SVS output of the ·SV· unit.

When the R32 sensor in the ·SV· unit detects a refrigerant leak, the SVS output closes and activates the alarm. An error message is displayed on the remote controllers of the connected indoor units.

- This alarm system must warn audibly AND visibly (e.g. a loud buzzer AND a flashing light). The audible alarm must be ·15· dBA above the background sound level at all times.
- At least one alarm must be installed in the occupied space in which the ·SV· unit is installed.
- For the occupancy listed below, the alarm system must additionally warn at a supervised location with 24-hour monitoring. To warn at a supervised location, connect a supervisor remote controller (e.g. ·BRC1H52*·) to the system
 - with sleeping facilities.
 - where an uncontrolled number of people are present.
 - accessible for persons not familiar with the necessary safety precautions.
 - where people are restricted in their movement
- Do NOT use the external safety alarm as the only safety measure if the ·SV· unit is installed in an occupied space where people are restricted in their movement.

For details, see the manual of the ·SV· unit.

Natural ventilation

Natural ventilation is a safety measure where ventilation is made to a place where sufficient air is available to dilute the leaked refrigerant such as a large space.

Step ·1·

Determine total room area, which is the total area of the space that has natural ventilation and the space in which the indoor unit is installed.

Step ·2·

Use the graph or table to determine the total refrigerant charge limit in the system.

See table ·5·.

Note: If the installation height is more than ·2.2· m, different boundaries for the applicable safety measures can apply.

To know the total refrigerant charge limit of the system in case the installation height is more than ·2.2· m, refer to the online tool (VRV Xpress).

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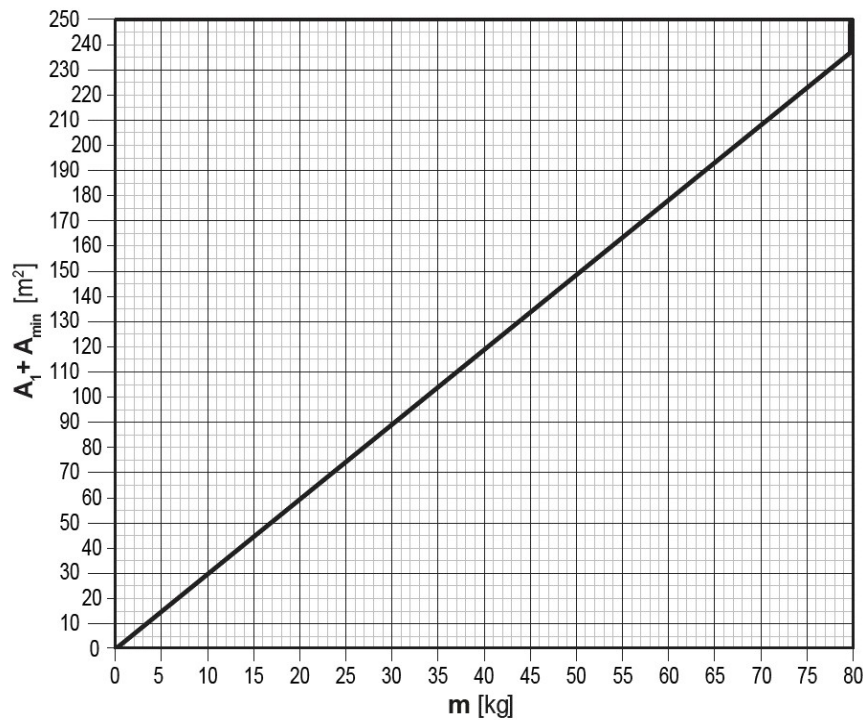
12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

·SV· unit installation

Table ·5·



$A_1 + A_2$ [m³]	m [kg]
0	0
10	3.3
20	6.7
30	10.1
40	13.5
50	16.8
60	20.2
70	23.6
80	27.0
90	30.3
100	33.7
110	37.1
120	40.5
130	43.9
140	47.2
150	50.6
160	54.0
170	57.4
180	60.7
190	64.1
200	67.5
210	70.9
220	74.2
230	77.6
236	79.6
237	79.8
240	79.8
250	79.8

Step ·3·

The total amount of refrigerant in the system shall be less than or equal to the maximum allowed total refrigerant amount.

If NOT, natural ventilation safety measure is not allowed.

Step ·4·

The partition between two rooms on the same floor MUST meet one of the two requirements for natural ventilation.

For details, see the manual of the ·SV· unit.

Ventilated enclosure

For the ventilated enclosure safety measure, ductwork and an extraction fan are installed.

When the R32 sensor in the ·SV· unit detects a refrigerant leak, it will activate the safety measures.

This includes:

- opening the damper of the unit to allow air to enter and evacuate the refrigerant leak.
- activating the fan output signal to trigger an extraction fan to operate.
- displaying an error message on the remote controllers of the connected indoor units.

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12 Installation

12 - 4 Refrigerant Charge Information

RXYA-A
RYMA-A

12

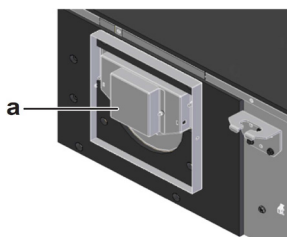
·SV· unit installation

The information in the table below must be taken into account in case a ventilated enclosure is used as a safety measure.

Ductwork	The evacuation ductwork MUST vent outside the building or to another room with minimum room area requirements. Refer to the installation and operation manual of ·SV· unit· for details. Avoid that dirt and small animals can enter the ductwork and lead to an obstruction. Example: install a non-return valve, grille, filter or other component in the evacuation duct.
Extraction fan	The extraction fan must have a CE marking and cannot act as an ignition source during normal operation. This requirement is met if the fan motor has an IP4X rating or better.
Replacement air	Make sure that sufficient air is available for the extraction of a refrigerant leak. The extraction airflow rate must be maintained for at least ·8· hours. This is achieved by providing a sufficiently large air volume around the ·SV· unit, or by providing sufficient replacement air around the ·SV· unit (e.g. natural openings or a dedicated opening in the false ceiling).
Maintenance	Maintain the evacuation channel to avoid dust and dirt from building up and obstructing the flow path.

A damper at the air inlet of the ·SV· unit enables a choice between 3 types of configurations (see below).

The damper opens when a refrigerant leak has been detected in the ·SV· unit. This creates an airflow path from the leaking ·SV· unit to the extraction fan.



a Damper

When a ventilated enclosure is required, the following requirements apply.

- Pressure inside the ·SV· unit has to be more than ·20· Pa below the ambient pressure.
- Minimum airflow rate

Model	Minimum airflow rate [m ³ /h]
SV1A	82
SV4A	82
SV6-8A	84

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12 Installation

12 - 4 Refrigerant Charge Information

12

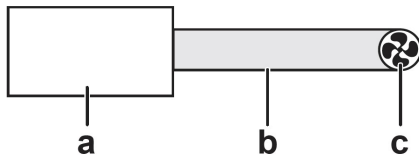
RXYA-A
RYMA-A

•SV• unit installation

External fan needs to be selected in order to meet these requirements. The available calculation method depends on the configuration.

Possible configurations

One •SV• unit – one extraction fan

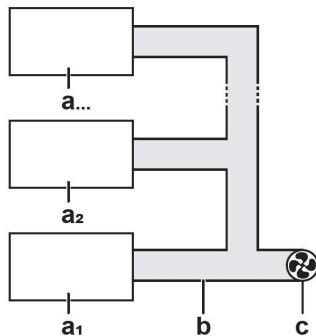


- a** SV unit
- b** Ductwork
- c** Extraction fan

Calculation method for selection of external fan

- Manual calculation: see •SV• unit manual for details
- VRV Xpress: see <https://vrvxpress.daikin.eu/>

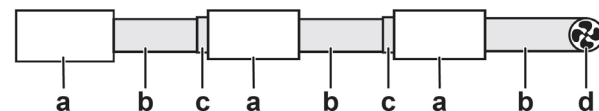
Multiple •SV• units in parallel – one extraction fan



- a_#** SV unit #
- b** Ductwork
- c** Extraction fan

- VRV Xpress: see <https://vrvxpress.daikin.eu/>

Multiple •SV• units in series – one extraction fan



- a** SV unit
- b** Ductwork
- c** EKBSDCK
- d** Extraction fan

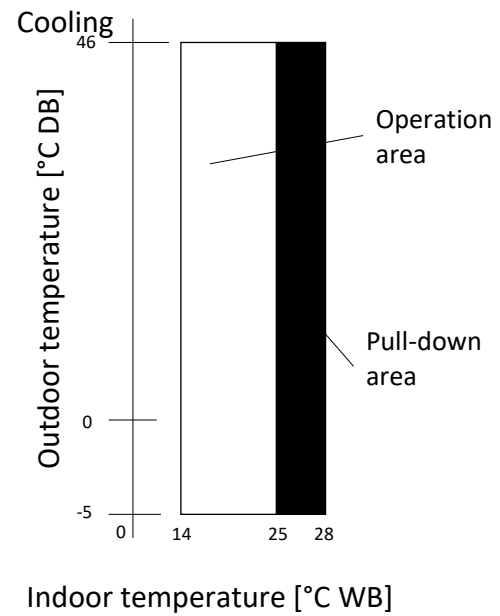
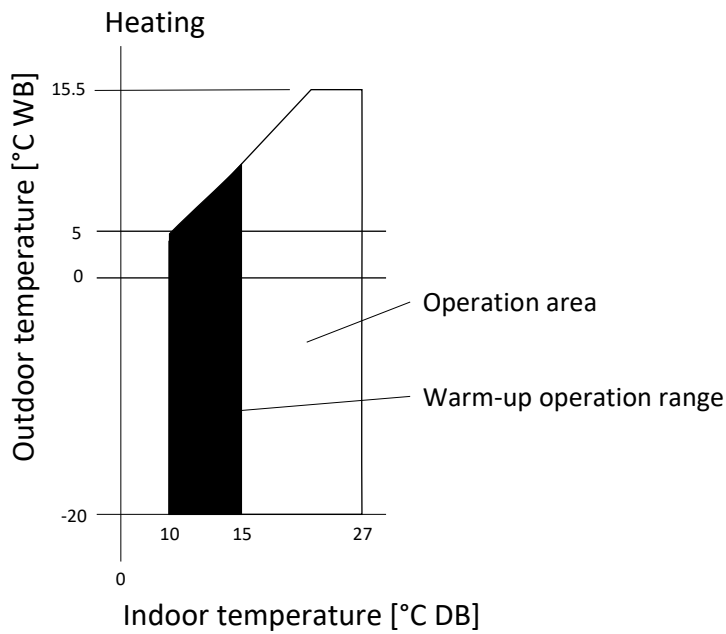
- VRV Xpress: see <https://vrvxpress.daikin.eu/>

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13 Operation range

13 - 1 Operation Range

RXYA-A
RYMA5A



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14 Appropriate Indoors

14 - 1 Appropriate Indoors

14

RXYA-A

RYMA-A

Recommended indoor units for ·RXYA*A* + RYMA*A*· outdoor units

.. HP	8	10	12	13	14	16	18	20
	4xFXSA50	4xFXSA63	6xFXSA50	3xFXSA50 3xFXSA63	1xFXSA50 5xFXSA63	4xFXSA63 2xFXSA80	3xFXSA50 5xFXSA63	8xFXSA63

For multi outdoor units ·>16HP·, the recommended amount of indoor units is the sum of the indoor units defined for a single outdoor unit.
For details about the allowed combinations, see the engineering databook.

Appropriate indoor units for ·RXYA*A* + RYMA*A*· outdoor units

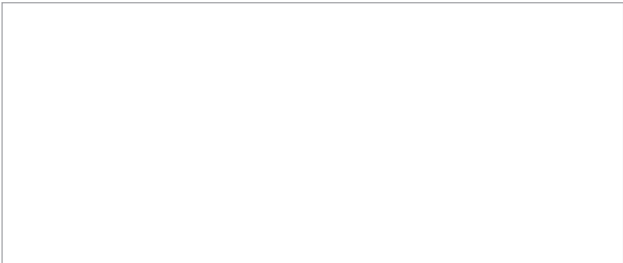
Covered by ·ENER LOT21·

FXFA20-25-32-40-50-63-80-100-125
FXZA15-20-25-32-40-50
FXSA15-20-25-32-40-50-63-80-100-125-140
FXDA10-15-20-25-32-40-50-63
FXAA15-20-25-32-40-50-63
FXMA50-63-80-100-125-200-250
FXHA32-50-63-100
FXUA50-71-100
FXKA20-25-32-40-50-63
FXNA20-25-32-40-50-63

Outside the scope of ·ENER LOT21·

EKVDX32-50-80-100
EKEXVA50-63-80-100-125-140-200-250-300-350-400-450-500 + EKEACBVE
CYAS100*80, CYAS150*80, CYAS200*100, CYAS250*140
CYAM100*80, CYAM150*80, CYAM200*100, CYAM250*140
CYAL100*125, CYAL150*200, CYAL200*250, CYAL250*250

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12/2024



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