EEDEN25

VRV 5 heat recovery
Air Conditioning Technical Data
REYA-A9

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The sustainability champion

- Reduced CO2 equivalent thanks to the use of lower GWP R-32 refrigerant and lower refrigerant charge
- Single component refrigerant, easy to re-use and recycle
- Top sustainability over the entire lifecycle, thanks to market leading real-life seasonal efficiency
- "Free" heat through efficient 3-pipe heat recovery, transferring heat from areas needing cooling to areas requiring heat and vice versa
- Tackle any room application, thanks to Shîrudo technology
- Specially designed indoor units for R-32, ensuring low sound and maximum efficiency
- Simultaneous cooling and heating ensure optimal personal comfort for guests and tenants
- Continuous heating during defrost for multi models
- Maximum installation flexibility with piping lengths up to 165 metres and a total length of 1,000 metres
- Sound pressure down to 40 dB(A), thanks to 5 low sound steps
- ESP up to 78.4 Pa allows ducting
- 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

Variable Refrigerant Temperature

Variable refrigerant temperature

2 Specifications

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Technical Specifications				REYA8A9	REYA10A9	REYA12A9	REYA14A9	REYA16A9	REYA18A9	REYA20A9
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
Recommended combination 3				4 x FXMA50A5VEB	4 x FXMA63A5VEB	6 x FXMA50A5VEB	1 x FXMA50A5VEB + 5 x FXMA63A5VEB	4 x FXMA63A5VEB + 2 x FXMA80A5VEB	3 x FXMA50A5VEB + 5 x FXMA63A5VEB	8 x FXMA63A5VEB
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	kW/kW		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
SCOP recommended combination 3				4.15	4.40	4.56	4.33	4.32	4.39	4.14
SEER				7.35	7.14	7.21	7.73	7.10	7.09	6.63
SEER recommended combination 2				7.07	6.87	6.90	7.53	7.01	6.94	6.57
SEER recommended combination 3				7.49	7.15	7.41	7.78	7.15	7.11	6.64
ηs,c			%	290.8	282.6	285.3	306.1	281.0	280.6	262.2
ηs,c recommended combination 2			%	279.6	271.7	273.2	298.3	277.4	274.8	259.6
ηs,c recommended combination 3			%	296.5	283.1	293.4	308.1	283.1	281.3	262.5
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
ηs,h recommended combination 3			%	163.2	172.9	179.5	170.2	169.6	172.7	162.7
Space cooling	A Condition	EERd		3.25	3.26	3.24	3.26	3.23	2.73	2.57
	(35°C - 27/19)	Pdc	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
	B Condition	EERd		5.23	5.00	4.60	4.92	4.58	4.47	4.42
	(30°C - 27/19)	Pdc	kW	16.5	20.6	24.7	29.5	33.2	37.1	41.3
	C Condition	EERd		9.11	8.50	8.45	8.74	8.25	8.15	7.70
	(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	17.7	22.5	16.7	20.7	15.8
	(20°C - 27/19)	Pdc	kW	8.13	8.19	8.57	10.9	11.1	12.0	11.6
Space cooling recommended combination 2	A Condition	EERd		3.23		3.00	3.23	3.06	2.64	2.52
	(35°C - 27/19)	Pdc	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
	B Condition	EERd		5.09	4.83	4.54	4.85	4.64	4.43	4.41
	(30°C - 27/19)	Pdc	kW	16.5	20.6	24.7	29.5	33.2	37.1	41.3
	C Condition	EERd		8.55	8.06	7.94	8.38	8.11	7.87	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		14.6	14.1	16.9	21.7	16.5	20.0	16.6
	(20°C - 27/19)	Pdc	kW	7.84	7.97	8.20	10.6	10.8	11.6	11.9
Space cooling recommended combination 3	A Condition	EERd		3.22	3.27	3.23	3.30	3.04	2.66	2.50
	(35°C - 27/19)	Pdc	kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
	B Condition	EERd		5.31	4.91	4.69	4.93	4.64	4.49	4.41
	(30°C - 27/19)	Pdc	kW	16.5	20.6	24.7	29.5	33.2	37.1	41.3
	C Condition	EERd		9.41	8.59	8.82	8.84	8.50	8.22	7.71
	(25°C - 27/19)	Pdc	kW	10.6	13.3	15.9	18.9	21.3	23.9	26.5
	D Condition	EERd		15.7	15.1	18.5	22.4	16.7	20.9	16.4
	(20°C - 27/19)	Pdc	kW	8.19	8.13	8.50	10.9	10.7	11.9	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	Tol (temperature operating limit)	°C				-10			
	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	5.89
	(7°C)	Pdh (declared heating cap)	kW	4.76	5.54	6.36	7.13	8.03	9.66	10.7
	D Condition	COPd (declared COP)		7.04	7.92	9.14	6.68	6.04	6.85	7.70
	(12°C)	Pdh (declared heating cap)	kW	4.51	5.46	5.52	5.15	5.07	6.24	7.34

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Technical Specifications					REYA8A9	REYA10A9	REYA12A9	REYA14A9	REYA16A9	REYA18A9	REYA20A9
Space heating (Average climate) recommended combination 2	A Condition (-7°C)	COPd (declared COP)			3.00	2.62	2.83	2.95	2.89	2.62	2.54
		Pdh (declared heating cap)		kW	12.1	14.2	16.3	18.2	20.5	24.7	27.5
	B Condition (2°C)	COPd (declared COP)			3.80	4.24	4.26	3.89	3.96	4.07	3.79
		Pdh (declared heating cap)		kW	7.45	8.61	9.89	11.1	12.5	15.0	16.7
	C Condition (7°C)	COPd (declared COP)			5.35	5.79	6.39	6.45	6.41	6.19	5.98
		Pdh (declared heating cap)		kW	4.76	5.54	6.36	7.14	8.04	9.65	10.7
	D Condition (12°C)	COPd (declared COP)			7.04	7.91	9.39	6.94	6.47	8.15	7.81
		Pdh (declared heating cap)		kW	4.71	5.60	5.80	5.33	5.36	7.68	7.69
	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						
Space heating (Average climate) recommended combination 3	A Condition (-7°C)	COPd (declared COP)			3.05	2.68	2.85	2.96	2.88	2.73	2.60
		Pdh (declared heating cap)		kW	12.1	14.2	16.3	18.2	20.5	24.8	27.5
	B Condition (2°C)	COPd (declared COP)			3.86	4.32	4.24	3.89	3.95	4.25	3.88
Space heating (Average climate) recommended combination 3	B Condition (2°C)	Pdh (declared heating cap)		kW	7.39	8.62	9.89	11.1	12.5	15.0	16.7
	C Condition (7°C)	COPd (declared COP)			5.35	5.80	6.43		6.34	6.39	6.07
		Pdh (declared heating cap)		kW	4.75	5.55	6.36	7.15	8.03	9.66	10.7
	D Condition (12°C)	COPd (declared COP)			7.14	8.02	9.37	6.84	6.44	5.48	6.15
		Pdh (declared heating cap)		kW	4.65	5.56	5.67	5.29	5.32	5.80	5.91
	TBivalent	COPd (declared COP)			2.78	2.29	2.41	2.58	2.54	2.39	2.24
		Pdh (declared heating cap)		kW	13.7	16.0	18.4	20.6	23.2	28.0	31.1
		Tbiv (bivalent temperature)		°C	-10						
	TOL	COPd (declared COP)			2.78	2.29	2.41	2.58	2.54	2.39	2.24
		Pdh (declared heating cap)		kW	13.7	16.0	18.4	20.6	23.2	28.0	31.1
		Tol (temperature operating limit)		°C	-10						
Capacity range				HP	8	10	12	14	16	18	20
PED	Category				Category III						
	Most critical part	Name			Liquid receiver						
		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	250
	Max.				260	325	390	455	520	585	650
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		213		296		319	
	Packed unit			kg		224		309		332	
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	m^3/h	9,145	9,709	10,823	11,576	14,315	12,351	14,893
		Heating	Rated	m^3/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						
Fan 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)	78.7 (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)	58.1 (5)	61.4 (5)	63.0 (5)	67.0 (5)
	Heating			dBA	58.1 (5)	58.8 (5)	61.9 (5)	61.3 (5)	64.5 (5)	64.0 (5)	68.0 (5)

2 Specifications

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Technical Specifications					REYA8A9	REYA10A9	REYA12A9	REYA14A9	REYA16A9	REYA18A9	REYA20A9
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				
	Gas	Type			Braze connection						
		OD		mm	19.1		22.2				28.6
	HP/LP gas	Type			Braze connection						
		OD		mm	15.90		19.10				22.20
	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	0.001						
		Heating	PTO	kW	0.053			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: Connection pipes;Quantity: 1;

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

Electrical Specifications					REYA8A9	REYA10A9	REYA12A9	REYA14A9	REYA16A9	REYA18A9	REYA20A9
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)	Combination A	Cooling		-						
		Combination B	Cooling		-						
		Cooling		A	10.5 (7)	13.0 (7)	15.6 (7)	18.5 (7)	21.0 (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	Combination B	35°C ISO - Full load		-						
			46°C ISO - Full load		-						
Wiring connections - 50Hz	For power supply	Quantity			5G						
	For connection with indoor	Quantity			2						
		Remark			F1,F2						
Compressor	Crankcase heater			W	33						

(1)Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m; level difference: 0m |
(2)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 pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. |
(5)Refer to refrigerant pipe selection or installation manual |
(6)RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB |
(7)MSC means the maximum current during start up of the compressor. This unit uses only inverter compressors. Starting current is always ≤ max. running current. |
(8)MCA must be used to select the correct field wiring size. The MCA can be regarded as the maximum running current. |
(9)MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker). |
(10)Maximum allowable voltage range variation between phases is 2%. |
(11)Air Flow Rate (AFR) of multi outdoor systems is sum of AFR of the individual systems it consists of |
(12)Sound power level is an absolute value that a sound source generates. |
(13)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 wih Ssc ≥ minimum Ssc value |

2 Specifications

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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 (10~28HP) data is corresponding with the standard multi combination

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Technical specifications System				REYA10A9	REYA13A9	REYA16A9	REYA18A9	REYA20A9	REYA22A9	REYA24A9	REYA26A9	REYA28A9
System	Outdoor unit module 1			REMA5A9			REYA8A9		REYA10A9	REYA8A9	REYA12A9	
	Outdoor unit module 2			REMA5A9	REYA8A9		REYA10A9	REYA12A9		REYA16A9	REYA14A9	REYA16A9
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	6 x FXFA50A2VEB + 4 x FXFA63A2VEB	4 x FXFA50A2VEB + 4 x FXFA63A2VEB + 2 x FXFA80A2VEB	7 x FXFA50A2VEB + 5 x FXFA63A2VEB	6 x FXFA50A2VEB + 4 x FXFA63A2VEB + 2 x FXFA80A2VEB
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	6 x FXSA50A2VEB + 4 x FXSA63A2VEB	4 x FXSA50A2VEB + 4 x FXSA63A2VEB + 2 x FXSA80A2VEB	7 x FXSA50A2VEB + 5 x FXSA63A2VEB	6 x FXSA50A2VEB + 4 x FXSA63A2VEB + 2 x FXSA80A2VEB
Recommended combination 3				4 x FXMA63A5VEB	3 x FXMA50A5VEB + 3 x FXMA50A5VEB	4 x FXMA63A5VEB + 2 x FXMA80A5VEB	4 x FXMA50A5VEB + 4 x FXMA63A5VEB	10 x FXMA50A5VEB	6 x FXMA50A5VEB + 4 x FXMA63A5VEB	4 x FXMA50A5VEB + 4 x FXMA63A5VEB + 2 x FXMA80A5VEB	7 x FXMA50A5VEB + 5 x FXMA63A5VEB	6 x FXMA50A5VEB + 4 x FXMA63A5VEB + 2 x FXMA80A5VEB
Continuous heating				Yes								
Cooling capacity	Prated,c		kW	28.0 (1)	36.4 (1)	44.8 (1)	50.4 (1)	55.9 (1)	61.5 (1)	67.4 (1)	73.5 (1)	78.5 (1)
Heating capacity	Nom.	6°CWB	kW	28.0 (2)	36.4 (2)	44.8 (2)	50.4 (2)	55.9 (2)	61.5 (2)	67.4 (2)	73.5 (2)	78.5 (2)
	Prated,h		kW	28.0 (2)	36.4 (2)	44.8 (2)	50.4 (2)	55.9 (2)	61.5 (2)	67.4 (2)	73.5 (2)	78.5 (2)
	Max.	6°CWB	kW	32.0 (2)	41.0 (2)	50.0 (2)	56.5 (2)	62.5 (2)	69.0 (2)	75.0 (2)	82.5 (2)	87.5 (2)
COP at nom. capacity	kW/kW		KW/KW	3.66 (2)	3.76 (2)	3.72 (2)	3.61 (2)	3.60 (2)	3.46 (2)	3.62 (2)	3.52 (2)	3.49 (2)
SCOP				4.09	4.11	4.35	4.34	4.38	4.41	4.20	4.38	4.36
SCOP recommended combination 2				4.14	4.19	4.38	4.40	4.48	4.45	4.24	4.44	4.43
SCOP recommended combination 3				4.16	4.22	4.37	4.46	4.50	4.48	4.25	4.44	4.43
SEER				7.62	7.49	7.40	7.26	7.27	7.17	7.16	7.48	7.15
SEER recommended combination 2				7.30	7.15	6.93	6.95	6.94	6.88	7.01	7.23	6.96
SEER recommended combination 3				7.61	7.57	7.31	7.30	7.48	7.28	7.29	7.61	7.26
ηs,c			%	301.9	296.5	293.0	287.5	287.6	283.6	283.4	296.2	282.8
ηs,c recommended combination 2			%	289.0	282.9	274.2	275.2	274.8	272.1	277.3	286.4	275.6
ηs,c recommended combination 3			%	301.2	299.8	289.4	288.9	296.1	288.2	288.7	301.3	287.4
ηs,h			%	160.6	161.5	170.9	170.5	172.2	173.3	165.2	172.0	171.5
ηs,h recommended combination 2			%	162.5	164.8	172.2	173.2	176.4	175.1	166.6	174.4	174.3
ηs,h recommended combination 3			%	163.4	165.8	171.8	175.4	177.0	176.3	167.1	174.5	174.0
Space cooling	A Condition	EERd		3.81	3.46	3.25	3.26	3.24	3.25	3.24	3.25	3.23
	(35°C - 27/19)	Pdc	kW	28.0	36.4	44.8	50.4	55.9	61.5	67.4	73.5	78.5
	B Condition	EERd		7.73	6.08	5.41	5.18	4.89	4.78		4.77	4.59
	(30°C - 27/19)	Pdc	kW	20.6	26.8	33.0	37.1	41.2	45.3	49.7	54.2	57.8
	C Condition	EERd		8.99	9.04	9.11	8.76	8.70	8.47	8.52	8.61	8.33
	(25°C - 27/19)	Pdc	kW	13.5	18.0	21.2	23.9	26.5	29.1	31.9	34.8	37.2
	D Condition	EERd		11.5	13.9	15.0		16.4	16.2	16.0	20.1	17.1
	(20°C - 27/19)	Pdc	kW	14.1	15.5	15.9	16.3	16.7	16.8	19.2	19.5	19.7
Space cooling recommended combination 2	A Condition	EERd		3.67	3.36	3.14	3.23	3.09	3.10	3.11	3.12	3.03
	(35°C - 27/19)	Pdc	kW	28.0	36.4	44.8	50.4	55.9	61.5	67.4	73.5	78.5
	B Condition	EERd		7.32	5.78	5.00	4.94	4.75	4.67	4.78	4.71	4.60
	(30°C - 27/19)	Pdc	kW	20.6	26.8	33.0	37.1	41.2	45.3	49.7	54.2	57.8
	C Condition (25°C - 27/19)	EERd		8.54	8.53	8.36	8.27	8.17	8.00	8.25	8.17	8.04
Space cooling recommended combination 2	C Condition (25°C - 27/19)	Pdc	kW	13.3	17.8	21.2	23.9	26.5	29.1	31.9	34.8	37.2
	D Condition	EERd		11.1	13.3	14.3		15.7	15.4	15.6	19.3	16.7
	(20°C - 27/19)	Pdc	kW	13.7	15.0	15.5	15.8	16.0	16.2	18.6	18.8	19.0
Space cooling recommended combination 3	A Condition	EERd		3.71	3.41	3.18	3.25	3.27	3.25	3.13	3.27	3.12
	(35°C - 27/19)	Pdc	kW	28.0	36.4	44.8	50.4	55.9	61.5	67.4	73.5	78.5
	B Condition	EERd		7.71	6.12	5.24	5.08	5.04	4.79	4.94	4.82	4.66
	(30°C - 27/19)	Pdc	kW	20.6	26.8	33.0	37.1	41.2	45.3	49.7	54.1	57.8
	C Condition	EERd		8.99	9.22	9.04	8.94	9.03	8.71	8.77	8.83	8.64
	(25°C - 27/19)	Pdc	kW	13.5	18.1	21.2	23.9	26.5	29.1	31.9	34.8	37.2
	D Condition	EERd		11.6	14.2	15.2	15.4	16.9	16.6	16.2	20.5	17.5
	(20°C - 27/19)	Pdc	kW	14.1	15.5	16.0	16.3	16.7	16.6	18.9	19.4	19.3

2 Specifications

2 - 1 Specifications

Technical specifications System					REYA10A9	REYA13A9	REYA16A9	REYA18A9	REYA20A9	REYA22A9	REYA24A9	REYA26A9	REYA28A9
Space heating (Average climate)	TBivalent	COPd (declared COP)			2.69	2.74	2.87	2.51	2.55	2.33	2.62	2.48	2.46
		Pdh (declared heating cap)		kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0	41.6
		Tbiv (bivalent temperature)		°C	-10								
	TOL	Tol (temperature operating limit)		°C	-10								
	A Condition (-7°C)	COPd (declared COP)			3.00	3.03	3.18	2.87	2.95	2.76	2.94	2.89	2.85
		Pdh (declared heating cap)		kW	14.2	19.2	20.5	24.7	27.4	30.4	32.6	34.5	36.8
	B Condition (2°C)	COPd (declared COP)			4.37	4.02	4.17	4.20	4.09	4.19	3.89	3.99	4.03
		Pdh (declared heating cap)		kW	8.60	11.7	12.5	15.0	16.7	18.5	19.9	21.0	22.4
	C Condition (7°C)	COPd (declared COP)			4.70	5.11	5.45	5.60	5.90	6.02	5.82	6.32	6.26
		Pdh (declared heating cap)		kW	7.17	8.40	8.05	9.66	10.7	11.9	12.8	13.5	14.4
	D Condition (12°C)	COPd (declared COP)			5.57	6.47	6.93	7.49	8.06	8.49	6.47	7.76	7.33
		Pdh (declared heating cap)		kW	8.74	8.93	9.04	9.97	10.0	11.0	9.58	10.7	10.6
Space heating (Average climate) recommended combination 2	A Condition (-7°C)	COPd (declared COP)			3.02	3.05	3.18	2.86	2.96	2.73	2.93	2.89	2.86
		Pdh (declared heating cap)		kW	14.2	19.2	20.5	24.7	27.4	30.4	32.6	34.5	36.8
	B Condition (2°C)	COPd (declared COP)			4.43	4.12	4.18	4.27	4.21	4.25	3.90	4.06	4.09
		Pdh (declared heating cap)		kW	8.64	11.7	12.5	15.0	16.7	18.5	19.9	21.0	22.4
	C Condition (7°C)	COPd (declared COP)			4.76	5.24	5.57	5.78	6.07	6.10	5.97	6.42	6.40
		Pdh (declared heating cap)		kW	7.31	8.54	8.08	9.65	10.7	11.9	12.8	13.5	14.4
	D Condition (12°C)	COPd (declared COP)			5.62	6.58	6.97	7.59	8.30	8.60	6.72	8.03	7.72
		Pdh (declared heating cap)		kW	8.87	9.17	9.24	10.3	10.5	11.4	10.1	11.1	11.2
	TBivalent	COPd (declared COP)			2.70	2.26	2.38	2.27	2.34	2.26	2.17	2.24	2.20
		Pdh (declared heating cap)		kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0	41.6
		Tbiv (bivalent temperature)		°C	-10								
	TOL	COPd (declared COP)			2.70	2.26	2.38	2.27	2.34	2.26	2.17	2.24	2.20
		Pdh (declared heating cap)		kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0	41.6
		Tol (temperature operating limit)		°C	-10								
Space heating (Average climate) recommended combination 3	A Condition (-7°C)	COPd (declared COP)			3.03	3.07	3.17	2.91	2.99	2.77	2.95	2.91	2.87
		Pdh (declared heating cap)		kW	14.2	19.2	20.5	24.7	27.5	30.5	32.7	34.6	36.9
	B Condition (2°C)	COPd (declared COP)			4.48	4.14	4.19	4.35	4.22	4.28	3.92	4.05	4.08
		Pdh (declared heating cap)		kW	8.61	11.7	12.5	15.0	16.7	18.5	19.9	21.0	22.4
	C Condition (7°C)	COPd (declared COP)			4.76	5.25	5.52	5.77	6.07	6.12	5.93	6.43	6.38
		Pdh (declared heating cap)		kW	7.28	8.49	8.04	9.67	10.7	11.9	12.8	13.5	14.4
	D Condition (12°C)	COPd (declared COP)			5.62	6.64	6.94	7.69	8.32	8.65	6.75	7.95	7.68
		Pdh (declared heating cap)		kW	8.85	9.13	9.17	10.2	10.3	11.2	9.97	11.0	
	TBivalent	COPd (declared COP)			2.71	2.78	2.86	2.53	2.59	2.35	2.62	2.50	2.48
		Pdh (declared heating cap)		kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0	41.6
		Tbiv (bivalent temperature)		°C	-10								
	TOL	COPd (declared COP)			2.71	2.78	2.86	2.53	2.59	2.35	2.62	2.50	2.48
		Pdh (declared heating cap)		kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0	41.6
		Tol (temperature operating limit)		°C	-10								
Capacity range				HP	10	13	16	18	20	22	24	26	28
PED	Category				Category III								
Maximum number of connectable indoor units					64 (3)								
Indoor index connection	Min.				125	163	200	225	250	275	300	325	350
	Max.				325	423	520	585	650	715	780	845	910
Heat exchanger	Indoor side				Air								
	Outdoor side				Air								
	Air flow rate	Cooling	Rated	m^3/h	18,290 (11)			18,854 (11)	19,968 (11)	20,532 (11)	23,460 (11)	22,399 (11)	25,138 (11)
		Heating	Rated	m^3/h	18,290 (11)			18,854 (11)	19,968 (11)	20,532 (11)	23,460 (11)	23,947 (11)	25,138 (11)
Sound power level	Cooling	Nom.		dBA	81.3 (12)			81.6 (12)	83.9 (12)	84.0 (12)	84.8 (12)	84.0 (12)	86.2 (12)
	Heating	Nom.		dBA	82.4 (12)			83.1 (12)	84.8 (12)	85.2 (12)	87.1 (12)	86.1 (12)	88.1 (12)
Sound pressure level	Cooling	Nom.		dBA	59.3 (4)			60.2 (4)	62.1 (4)	62.6 (4)		62.7 (4)	64.1 (4)
	Heating			dBA	61.1 (4)			61.5 (4)	63.4 (4)	63.6 (4)	65.4 (4)	64.6 (4)	66.4 (4)
Refrigerant	Type				R-32								
	GWP				675.0								
Refrigerant oil	Type				FW68DE								
Piping connections	Liquid	Type			Braze connection								
		OD		mm	9.52	12.70						15.90	
	Gas	Type			Braze connection								
		OD		mm	19.1	22.2			28.6				
	HP/LP gas	Type			Braze connection								
		OD		mm	15.90	19.10			22.20				
	Total piping length	System	Actual	m	500 (5)					1,000 (5)			
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

Technical specifications System					REYA10A9	REYA13A9	REYA16A9	REYA18A9	REYA20A9	REYA22A9	REYA24A9	REYA26A9	REYA28A9
Power consumption in other than active mode	Crankcase heater mode	Cooling	PCK	kW	0.000								
		Heating	PCK	kW	0.106						0.111		
	Off mode	Cooling	POFF	kW	0.100						0.108		
		Heating	POFF	kW	0.106						0.111		
	Standby mode	Cooling	PSB	kW	0.100						0.108		
		Heating	PSB	kW	0.106						0.111		
	Thermo-stat-off mode	Cooling	PTO	kW	0.002								
		Heating	PTO	kW	0.106						0.121	0.111	0.121
Cooling	Cdc (Degradation cooling)				0.25								
Heating	Cdh (Degradation heating)				0.25								

Electrical specifications System					REYA10A9	REYA13A9	REYA16A9	REYA18A9	REYA20A9	REYA22A9	REYA24A9	REYA26A9	REYA28A9
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)	Combination A	Cooling		-								
		Combination B	Cooling		-								
		Cooling		A	11.2 (6)	16.0 (6)	20.9 (6)	23.4 (6)	26.1 (6)	28.6 (6)	31.5 (6)	34.1 (6)	36.7 (6)
	Starting current (MSC) - remark				See note 9								
	Zmax	List			No requirements								
	Minimum Ssc value			kVA	5,196 (13)	5,387 (13)	5,577 (13)	6,599 (13)	6,945 (13)	7,967 (13)	8,158 (13)	8,833 (13)	9,526 (13)
	Minimum circuit amps (MCA)			A	30.0 (8)	31.1 (8)	32.2 (8)	38.1 (8)	40.1 (8)	46.0 (8)	47.1 (8)	51.0 (8)	55.0 (8)
	Maximum fuse amps (MFA)			A	40 (9)			50 (9)		63 (9)			
Power Performance	Power factor	Combination B	35°C ISO - Full load		-								
			46°C ISO - Full load		-								
Wiring connections - 50Hz	For power supply	Quantity			5G								
	For connection with indoor	Quantity			2								
		Remark			F1,F2								

Technical specifications Module					REMA5A9
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 part	Name			Liquid receiver
		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	213
	Packed unit			kg	224
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	m^3/h	9,145
		Heating	Rated	m^3/h	9,145
Fan	Quantity				1
	External static pressure	Max.		Pa	78
Fan motor	Quantity				1
	Type				DC Motor
	Output			W	550

2 Specifications

2 - 1 Specifications

Technical specifications Module				REMA5A9
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)
	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		tCO2Eq	6.08
Refrigerant oil	Type			FW68DE
Piping connections	Liquid	Type		Braze connection
		OD	mm	9.52
	Gas	Type		Braze connection
		OD	mm	19.1
	HP/LP gas	Type		Braze connection
		OD	mm	15.90
Defrost method				Reversed cycle
Capacity control	Method			Inverter controlled
Safety devices	Item	01		High pressure switch
		02		Fan driver overload protector
		03		Inverter overload protector

Electrical specifications Module					REMA5A9
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)	Combination A	Cooling		-
		Combination B	Cooling		-
		Cooling		A	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)
	Maximum fuse amps (MFA)			A	20 (9)
Power Performance	Power factor	Combination B	35°C ISO - Full load		-
			46°C ISO - Full load		-
Wiring connections - 50Hz	For power supply	Quantity			5G
	For connection with indoor	Quantity			2
		Remark			F1,F2
Compressor	Crankcase heater			W	33

(1)Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m; level difference: 0m |
(2)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 pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. |
(5)RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB |
(6)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 wih Ssc ≥ minimum Ssc value |
(7)MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker). |
(8)Maximum allowable voltage range variation between phases is 2%. |
(9)Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits. |
Air Flow Rate (AFR) of multi outdoor systems is sum of AFR of the individual systems it consists of |
Sound power level is an absolute value that a sound source generates. |
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. |
MCA must be used to select the correct field wiring size. The MCA can be regarded as the maximum running current. |
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 (10~28HP) data is corresponding with the standard multi combination

3 Options

3 - 1 Options

REYA-A9
REMA5A9

VRV5	R32 models
Heat recovery	
Option list	

Description		Option	REYA*A* 8	10	12	14	16	18	20	REMA*A* 5	Multi -2- unit
Low ambient option		EKBPH012TA	O	O	O	-	-	-	-	O	O (*1)
Bottom plate heater		EKBPH020TA	-	-	-	O	O	O	O	-	O (*1)
Demand adaptor kit	(*3)	DTA104A*	O	O	O	O (*2)	O (*2)	O (*2)	O (*2)	O	O
External control adapter	(*3)	DTA109A51*	O	O	O	O (*2)	O (*2)	O (*2)	O (*2)	O	O
Refnet header		KHRQ23M29H	O	O	O	O	O	O	O	O	O
		KHRQ23M64H	-	-	O	O	O	O	O	-	O
		KHRQ23M75H	-	-	-	-	-	-	-	-	O
Refnet joint		KHRQ23M20T	O	O	O	O	O	O	O	O	O
		KHRQ23M29T9	O	O	O	O	O	O	O	O	O
		KHRQ23M64T	-	-	O	O	O	O	O	-	O
		KHRQ23M75T	-	-	-	-	-	-	-	-	O
Refrigerant branch kit		BHFQ23P907A	-	-	-	-	-	-	-	-	O

*1 -1- option kits are required per unit.
*2 These options require mounting plate -EKSB26B1-.
*3 Because both adaptor PCBs have the same installation location, it is only possible to install either -DTA104A- or -DTA109A51-.

Remote controllers and centralised controllers with R32 safety system functionality

Nr.	Item		Sound pressure level of built-in alarm	Mode: Fully functional – Built-in alarm	Mode: Alarm only – Built-in alarm	Mode: Supervisor – Built-in alarm	Mode: Supervisor – External alarm connection
1	BRC1H52/82*		-65- dBA at -1- m	O	O	O	-
2	DCM601A51	(*4)	Not applicable	-	-	-	O (*6)
3	DCM601B51	(*5)	-65- dBA at -1- m	-	-	O	O (*6)

*4 From software version -1.28.00- onwards.
*5 From software version -1.32.00- onwards.
*6 via WAGO module

3D141187D

4 Combination table

4 - 1 Combination Table

REYA-A9
BS-A14AV1B9

Compatibility list

Compatibility list	Outdoor units		BS-A14AV1B (Ed.6)	BS-A14AV1B (Ed.6)	BS-A14AV1B9 (Ed.7)
Type	Master	Slave	BS-A14AV1B (Ed.6)	BS-A14AV1B9 (Ed.7)	BS-A14AV1B9 (Ed.7)
Single unit	RE(M/Y)A-A (Ed.6)	-	O*	X	X
	RE(M/Y)A-A9 (Ed.7)	-	O**(1)	O**(1)	O**(2)
Multi unit	RE(M/Y)A-A (Ed.6)	RE(M/Y)A-A (Ed.6)	O*	X	X
	RE(M/Y)A-A (Ed.6)	RE(M/Y)A-A9 (Ed.7)	O*	X	X
	RE(M/Y)A-A9 (Ed.7)	RE(M/Y)A-A (Ed.6)	O**(1)	O**(1)	O**(2)
	RE(M/Y)A-A9 (Ed.7)	RE(M/Y)A-A9 (Ed.7)	O**(1)	O**(1)	O**(2)

Notes

O: Allowed
O*: System certified according to ·Ed.6·
O**: System certified according to ·Ed.7·
X: Not allowed (error generated)

(1) In case ventilated enclosure is applied, the periodical air flow rate check is still required.
(2) In case ventilated enclosure is applied, the periodical air flow rate check can be avoided via special setting.

4D155291

REYA-A9
REMA-A9

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

REYA-A9
REMA-A9

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

REYA-A9
REMA-A9

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

4 Combination table

4 - 1 Combination Table

REYA-A9
REMA5A9

VRV5
Heat recovery
Multi-unit standard combinations table

		5HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP
	REMA5* (*1)	1							
Non-continuous heating	REYA8*		1						
	REYA10*			1					
	REYA12*				1				
	REYA14*					1			
	REYA16*						1		
	REYA18*							1	
	REYA20*								1
Continuous heating ·2· outdoor units	REYA10*	2							
	REYA13*	1	1						
	REYA16*		2						
	REYA18*		1	1					
	REYA20*		1		1				
	REYA22*			1	1				
	REYA24*		1				1		
	REYA26*				1	1			
	REYA28*				1		1		

Notes

1. The ·REMA5*· unit cannot be used as a standalone unit and may only be used in standard combinations.
2. Standard and free combinations have different piping restrictions.
3. Never combine more than ·2· units to create a multi-combination.

4D138289

5 Capacity tables

5 - 1 Integrated Heating Capacity Correction Factor

REYA-A9
REMA5A9

5

VRV5
Heat recovery
Integrated heating capacity coefficient

Inlet air temperature of heat exchanger

	[°CDB/°CWB]	-7/-7.6	-5/-5.6	-3/-3.7	0/-0.7	3/2.2	5/4.1	7/6
	Integrated correction factor for frost accumulation ·(C)·							
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
	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
For multi-unit installation	**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
	22HP	0,90	0,88	0,82	0,73	0,74	0,82	1,00
	24HP	0,90	0,88	0,82	0,74	0,74	0,82	1,00
	26HP	0,90	0,87	0,82	0,70	0,71	0,80	1,00
	28HP	0,90	0,87	0,82	0,70	0,70	0,80	1,00

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

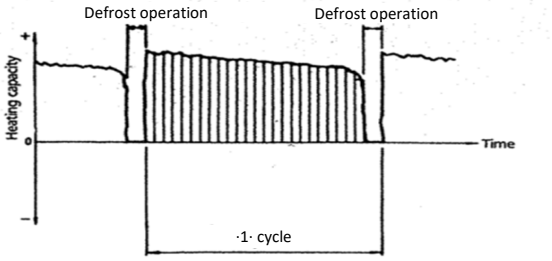
The capacity values that take these factors into account, or in other words, the integrated heating capacity values, can be calculated as follows:

Formula **A = B * C**

A= Integrated heating capacity

B= Capacity characteristics value

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



Notes

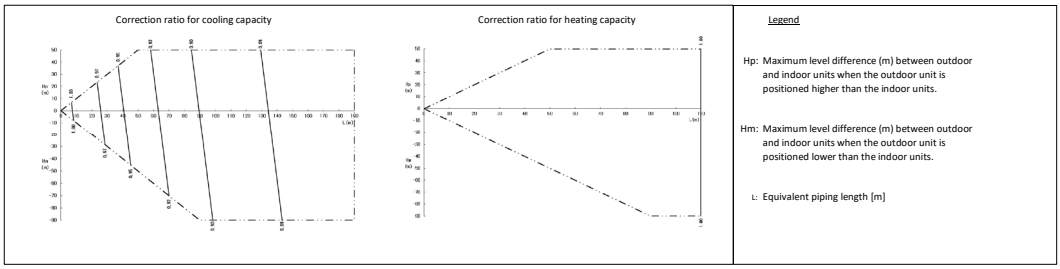
1. The figure shows the integrated heating capacity for a single cycle (from one defrost operation to the next).
2. When there is an accumulation of snow against the outdoor unit heat exchanger, there will always be a temporary reduction in capacity depending on the outdoor temperature (°C DB), relative humidity (RH) and the amount of frosting which occurs.
3. The multi-combination data ·VRV4· corresponds with the standard multi-combination of drawing ·4D138289·.

4D141185

5 Capacity tables

5 - 2 Capacity Correction Factor

REYA8A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
8HP	9,5	12,7

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

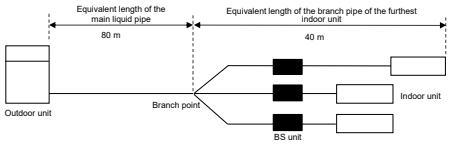
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
8HP	1	0,2

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·8HP·

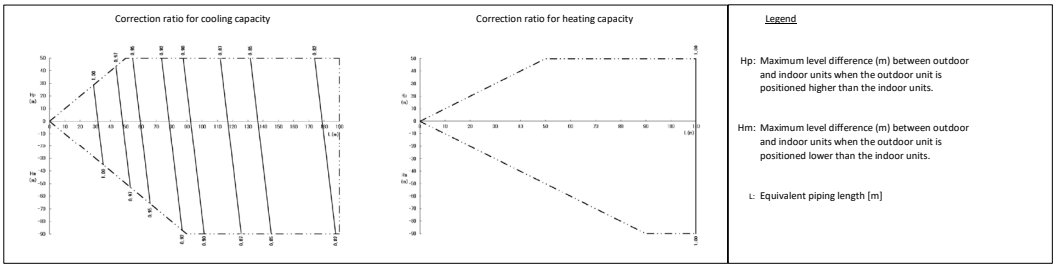


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,2 + 40 m = 56 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,91
- Heating mode = 1,00

4D141191A

REYA10A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
10HP	9,5	12,7

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

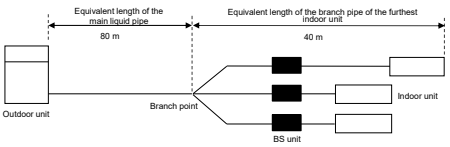
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
10HP	1	0,2

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. 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

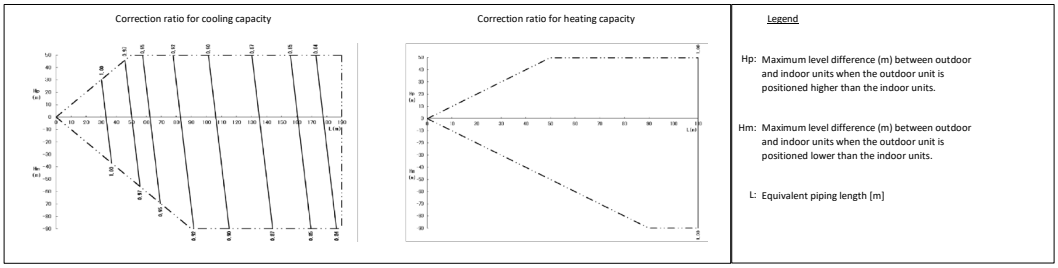
Capacity correction ratio (height difference = 0)
- Cooling mode = 0,92
- Heating mode = 1,00

4D141191A

5 Capacity tables

5 - 2 Capacity Correction Factor

REYA12A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
12HP	12,7	15,9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

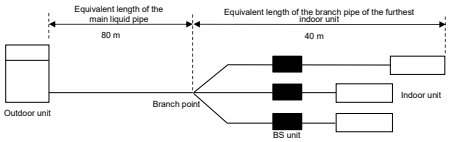
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
12HP	1	0,3

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·12HP·

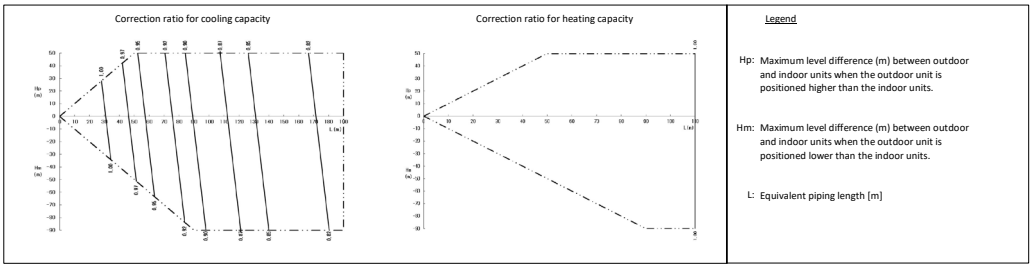


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

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

4D141191A

REYA13A9
REYA14A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
13+14HP	12,7	15,9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

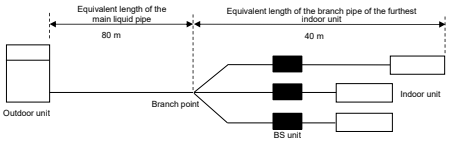
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
13+14HP	1	0,3

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. 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

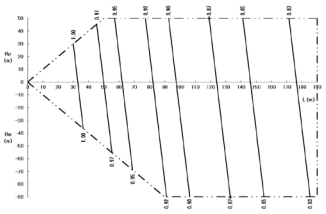
4D141191A

5 Capacity tables

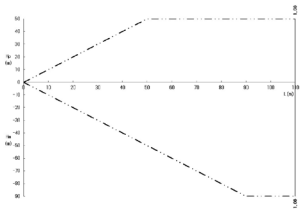
5 - 2 Capacity Correction Factor

REYA16A9

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 it 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
16HP	12,7	15,9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

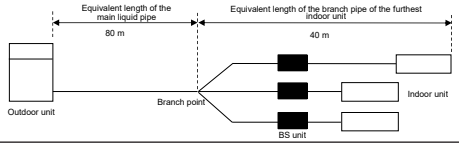
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
16HP	1	0,3

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·16HP·



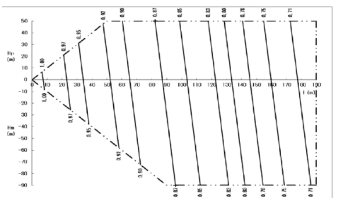
Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

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

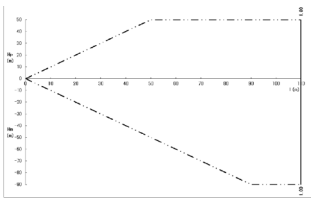
4D141191A

REYA18A9

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 it 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
18HP	12,7	15,9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

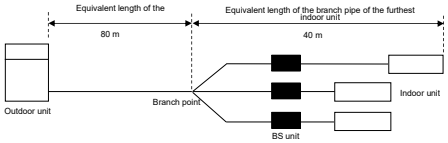
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
18HP	1	0,3

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·18HP·



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

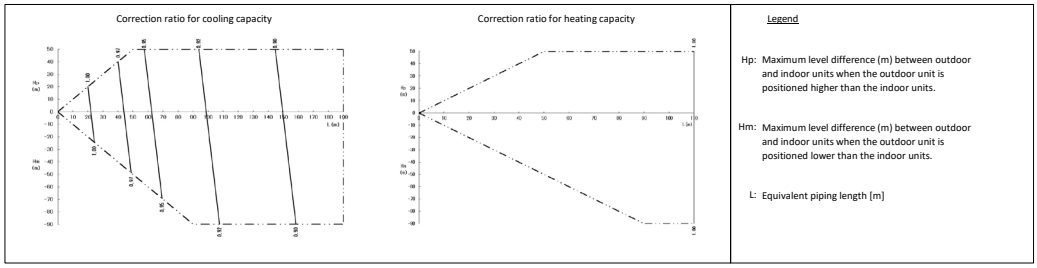
Capacity correction ratio (height difference = 0)
- Cooling mode = 0,88
- Heating mode = 1,00

4D141191A

5 Capacity tables

5 - 2 Capacity Correction Factor

REYA20A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
20HP	12,7	15,9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

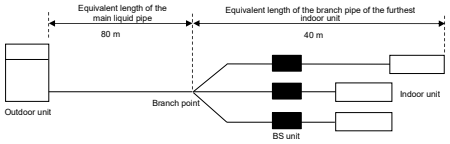
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
20HP	1	0,3

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·20HP·

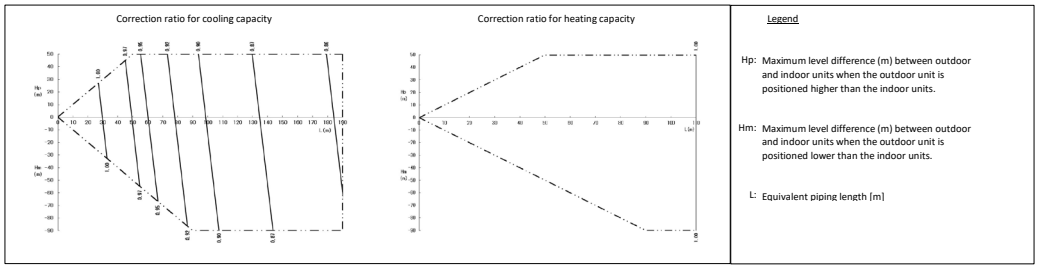


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,93
- Heating mode = 1,00

4D141191A

REYA22A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
22HP	12,7	15,9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

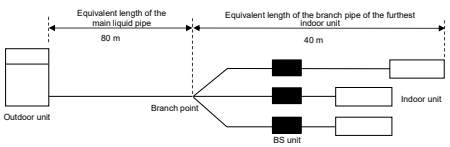
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
22HP	1	0,3

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·22HP·



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

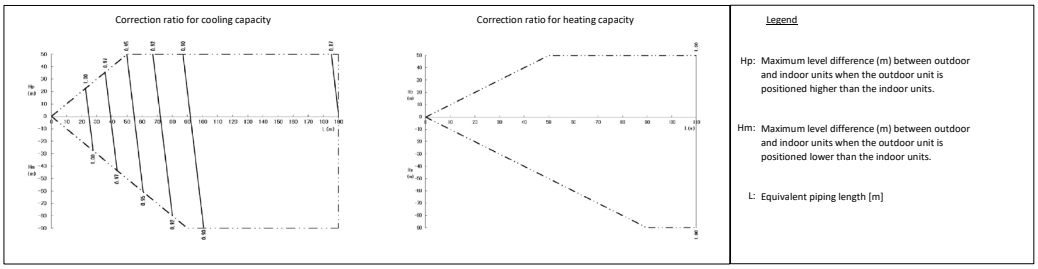
Capacity correction ratio (height difference = 0)
- Cooling mode = 0,92
- Heating mode = 1,00

4D141191A

5 Capacity tables

5 - 2 Capacity Correction Factor

REYA24A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
24HP	12,7	15,9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

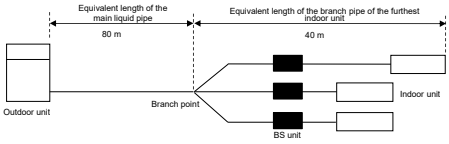
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
24HP	1	0,3

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·24HP·



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

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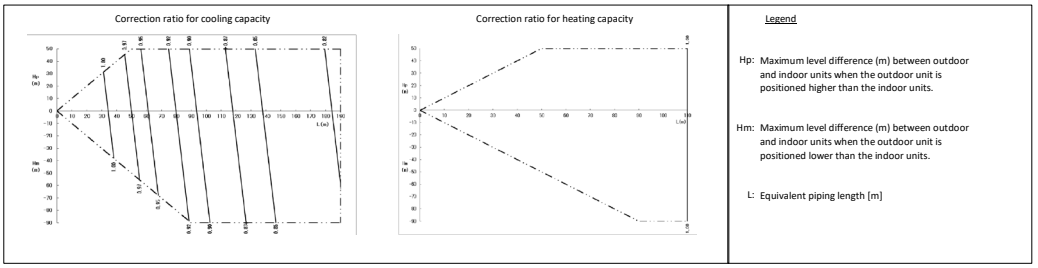
REYA26A9



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
26HP	15,9	19,1

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

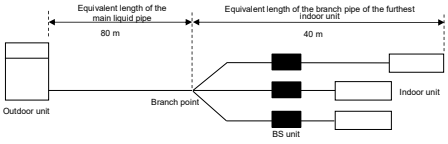
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
26HP	1	0,4

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·26HP·



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

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

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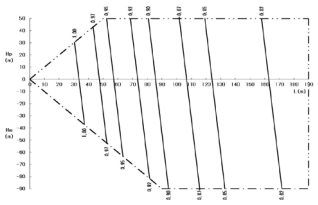
5 Capacity tables

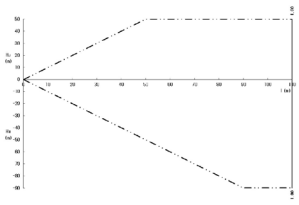
5 - 2 Capacity Correction Factor

REYA28A9

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 it 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. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
28HP	15,9	19,1

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

4. Overall equivalent length for calculating heating capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

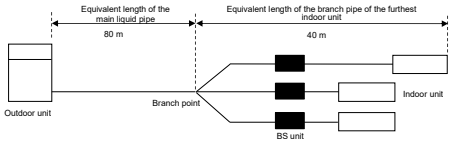
Choose the correction factor from the following table.

Model	Correction factor for heating capacity	
	Standard liquid size	Increased liquid size
28HP	1	0,4

5. Overall equivalent length for calculating cooling capacity

Overall equivalent length	=	Equivalent length of the main pipe	X	0,5	+	Equivalent length of the branch pipes

6. Example ·28HP·



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,91
- Heating mode = 1,00

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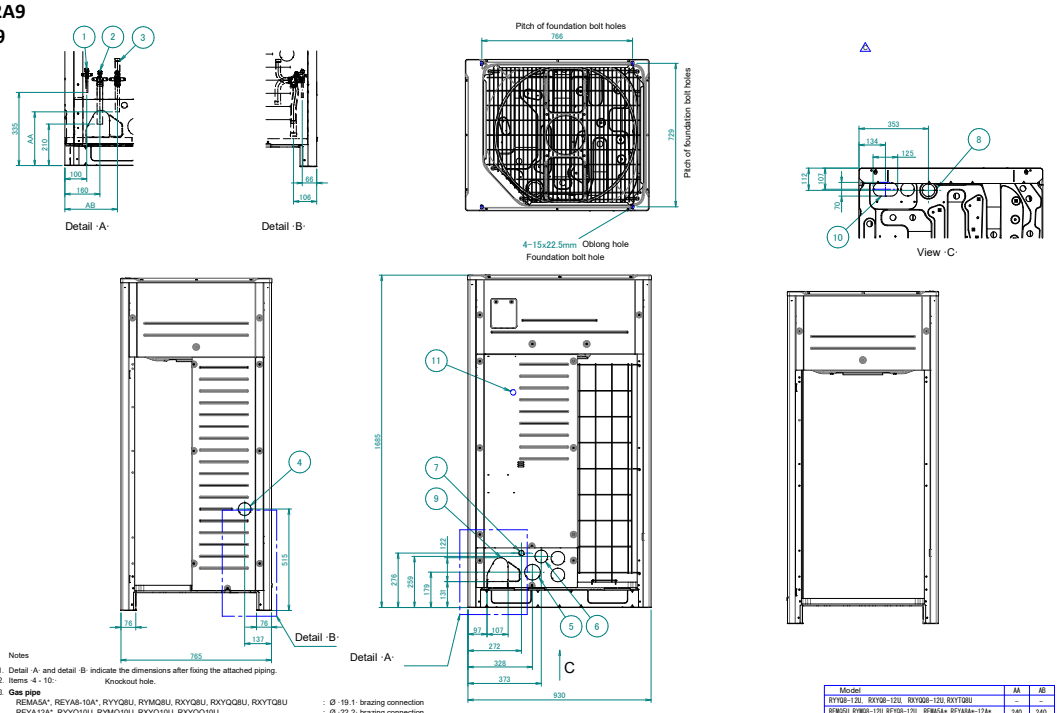
6 Dimensional drawings

6 - 1 Dimensional Drawings

REYA8-12A9
REMA5A9



Notes

1. Detail ·A· and detail ·B· indicate the dimensions after fixing the attached piping.
2. Items ·4 - 10·: Knockout hole.
3. **Gas pipe**
   - REMA5A*, REYA8-10A*, RYYQ8U, RYMQ8U, RXYQ8U, RXYQQ8U, RXYTQ8U : Ø ·19.1· brazing connection
   - REYA12A*, RYYQ10U, RYMQ10U, RXYQ10U, RXYQQ10U : Ø ·22.2· brazing connection
   - REMQ5U, REYQ8-12U, : Ø ·25.4· brazing connection
   - RYYQ12U, RYMQ12U, RXYQ12U, RXYQQ12U : Ø ·28.6· brazing connection

   Liquid pipe
   - REMA5A*, REYA8-10A*, RYYQ8-10U, RYMQ8-10U, RXYQ8-10U, RXYQQ8-10U, REMQ5U, REYQ8-12U, RXYTQ8U : Ø ·9.5· brazing connection
   - REYA12A*, RYYQ12U, RYMQ12U, RXYQ12U, RXYQQ12U : Ø ·12.7· brazing connection

   Equalising pipe
   - RYMQ8-10U : Ø ·19.1· brazing connection
   - RYMQ12U : Ø ·22.2· brazing connection

   High pressure/low pressure gas pipe
   - REMA5A*, REYA8-10A* : Ø ·15.9· brazing connection
   - REYA12A*, REMQ5U, REYQ8-12U : Ø ·19.1· brazing connection

Model	AA	AB
RYYQ8-12U, RXYQ8-12U, RXYQQ8-12U, RXYTQ8U	–	–
REMQ5U, RYMQ8-12U, REYQ8-12U, REMA5A*, REYA8A*-12A*	240	240

No.	Part name	Remark
1	Liquid pipe connection port	See note ·3·.
2	Gas pipe connection port	See note ·3·.
3	Equalising pipe connection port High pressure/low pressure gas pipe	See note ·3·.
4	Power cord routing hole (side)	∅65
5	Power cord routing hole (front)	∅80
6	Power cord routing hole (front)	∅65
7	Power cord routing hole (front)	∅27
8	Power cord routing hole (bottom)	∅65
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	
11	Grounding terminal	Inside of the switch box (·M8·)

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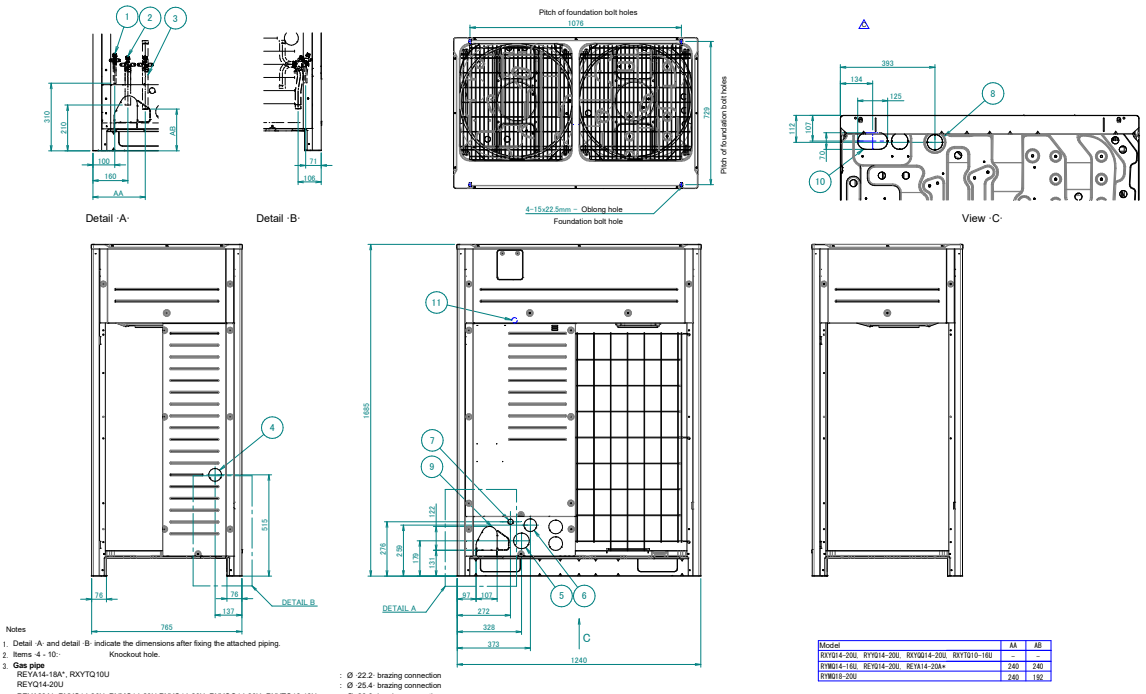
REYA14-20A9



Notes

1. Detail ·A· and detail ·B· indicate the dimensions after fixing the attached piping.
2. Items ·4 - 10·: Knockout hole.
3. **Gas pipe**
   - REYA14-18A*, RXYTQ10U : Ø ·22.2· brazing connection
   - REYQ14-20U : Ø ·25.4· brazing connection
   - REYA20A*, RYYQ14-20U, RYMQ14-20U RXYQ14-20U, RXYQQ14-20U, RXYTQ12-16U : Ø ·28.6· brazing connection

   Liquid pipe
   - RXYTQ10U : Ø ·9.5· brazing connection
   - REYA14-20A*, RYYQ14-16U, RYMQ14-16U, RXYQ14-16U, RXYQQ14-16U, REYQ14-20U, RXYTQ12-16U : Ø ·12.7· brazing connection
   - RYYQ18-20U, RYMQ18-20U, RXYQ18-20U, RXYQQ18-20U : Ø ·15.9· brazing connection

   Equalising pipe
   - RYMQ14-16U : Ø ·22.2· brazing connection
   - RYMQ18-20U : Ø ·28.6· brazing connection

   High pressure/low pressure gas pipe
   - REYA14-18A*, REYQ14-20U : Ø ·19.1· brazing connection
   - REYA20A* : Ø ·22.2· brazing connection

Model	AA	AB
RXYQ14-20U, RYYQ14-20U, RXYQQ14-20U, RXYTQ10-16U	–	–
RYMQ14-16U, REYQ14-20U, REYA14-20A*	240	240
RYMQ18-20U	240	192

No.	Part name	Remark
1	Liquid pipe connection port	See note ·3·.
2	Gas pipe connection port	See note ·3·.
3	Equalising pipe connection port High pressure/low pressure gas pipe	See note ·3·.
4	Power cord routing hole (side)	∅65
5	Power cord routing hole (front)	∅80
6	Power cord routing hole (front)	∅65
7	Power cord routing hole (front)	∅27
8	Power cord routing hole (bottom)	∅65
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	
11	Grounding terminal	Inside of the switch box (·M8·)

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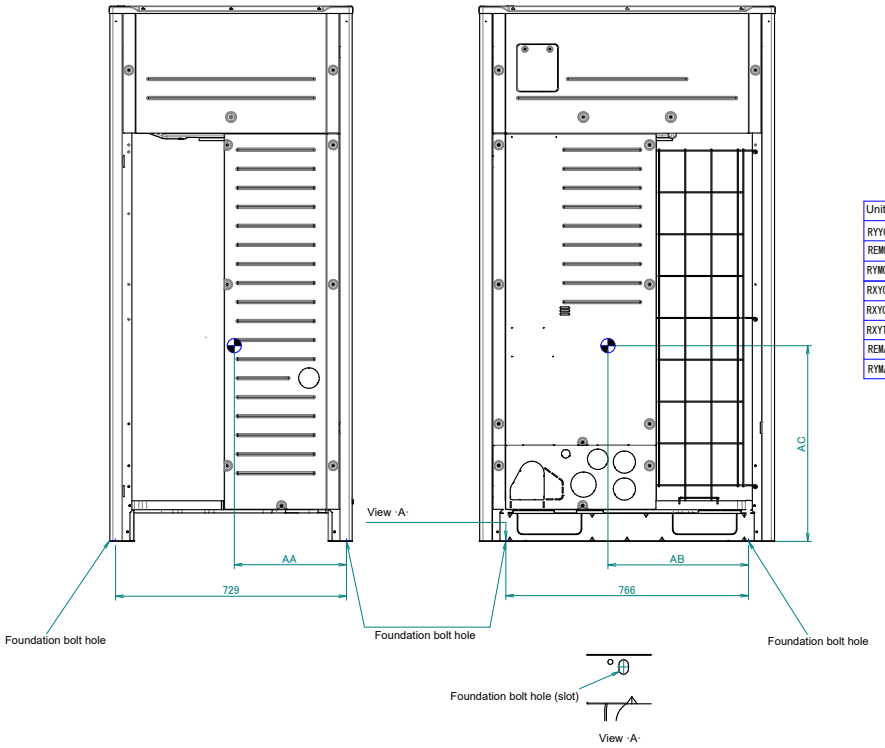
7 Centre of gravity

7 - 1 Centre of Gravity

REYA8-12A9
REMA5A9



Unit	AA	AB	AC
RYYQ8-12U REMQ5U / REYQ8-12U	328	366	565
RYMQ8-12U	354	443	565
RXYQ8-12U RXYQQ8-12U RXYTQ8U	339	448	565
REMA5A* /REYA8-12A*	353	426	690
RYMA5A / RXYA8-12A	353	426	690

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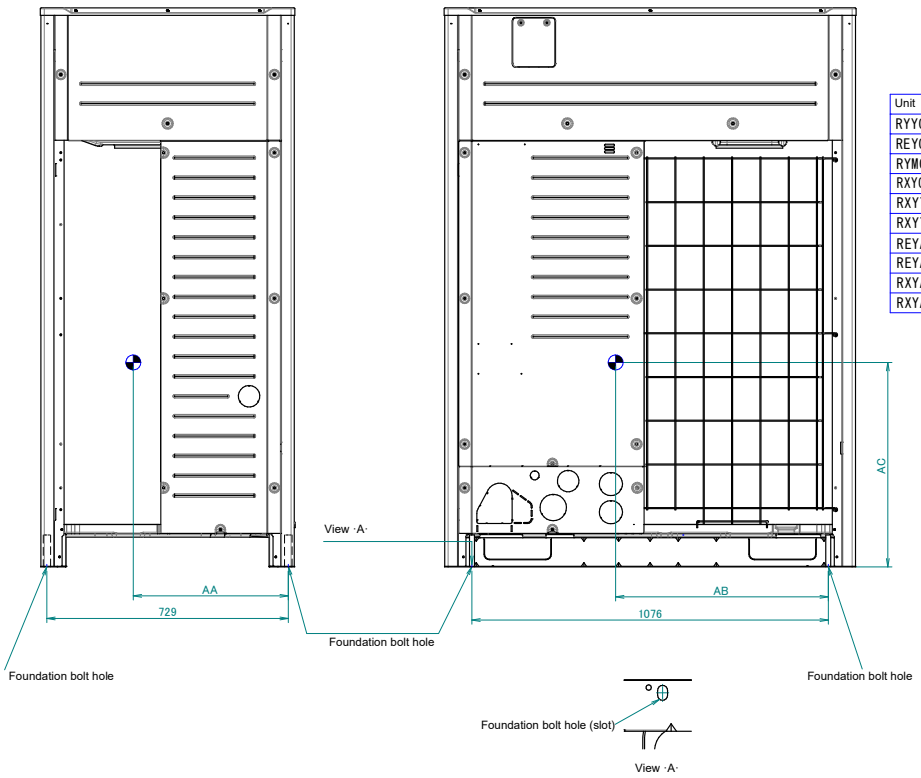
REYA14-20A9



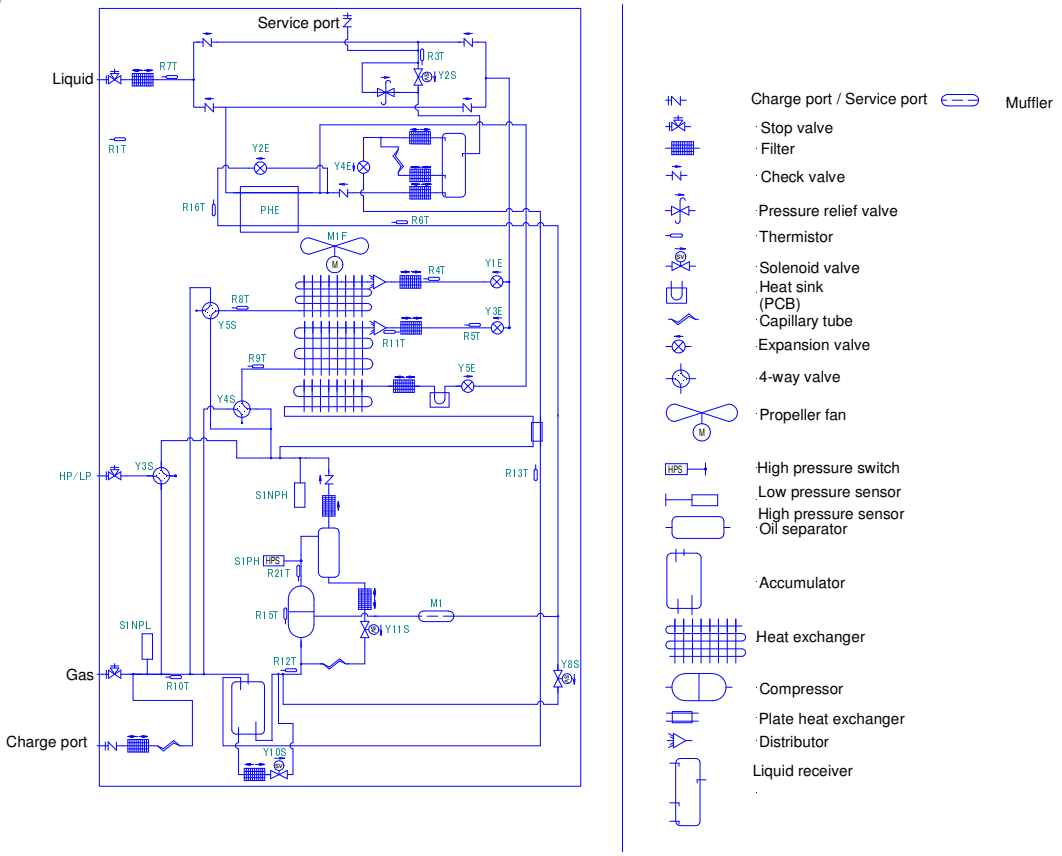
Unit	AA	AB	AC
RYYQ14-20U	334	470	610
REYQ14-20U	334	470	610
RYMQ14-20U	360	569	610
RXYQ(Q)14-20U	345	575	610
RXYTQ10-12U	350	610	810
RXYTQ14-16U	351	565	610
REYA14-16A*	339	596	758
REYA18-20A*	350	587	752
RXYA14-16A	339	596	758
RXYA18-20A	350	587	752

3D119704C

8 Piping diagrams

8 - 1 Piping Diagrams

REYA8-12A9
REMA5A9



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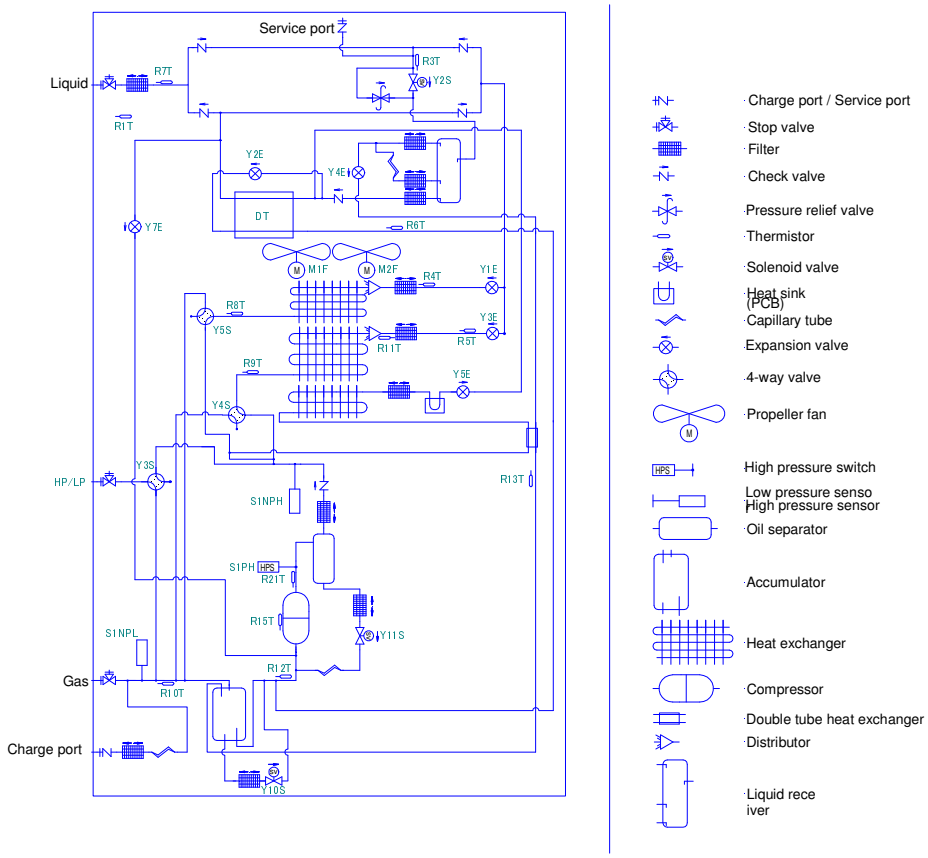
REYA14-20A9



3D138284

9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

REYA8-12A9 / REMA5A9

NOTES to go through before starting the unit

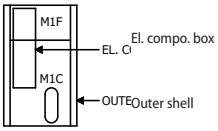
1. Symbols:

X1M : Main terminal
: Earth wiring
: Field wire
: Field cable
: Screened conductor
(1) : Several wiring possibilities

: Option
: Wiring depending on model
: Not mounted in switch box
: PCB

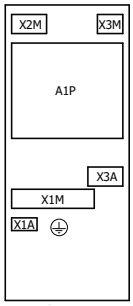
2. Refer to the installation or service manual on how to use BS1 ~ BS3 push buttons and DS1 ~ DS2 DIP switches.
3. Do not operate the unit by short-circuiting protection device S1PH.
4. Refer to the installation manual for indoor-outdoor transmission F1-F2 and outdoor-multi transmission Q1-Q2 wiring.
5. When using the central control system, connect outdoor-outdoor transmission F1-F2.
6. The capacity of the contact is 220~240V AC - 0,5A (Rush current needs 3A or less).
7. Use dry contact for micro-current (10mA or less, 15V DC).
8. When using the optional adapter, refer to the installation manual of the optional adapter.

LAYOUT OF M1C, M1F, M2F



TERMINAL OF M1C

POSITION IN SWITCH BOX



LEGEND

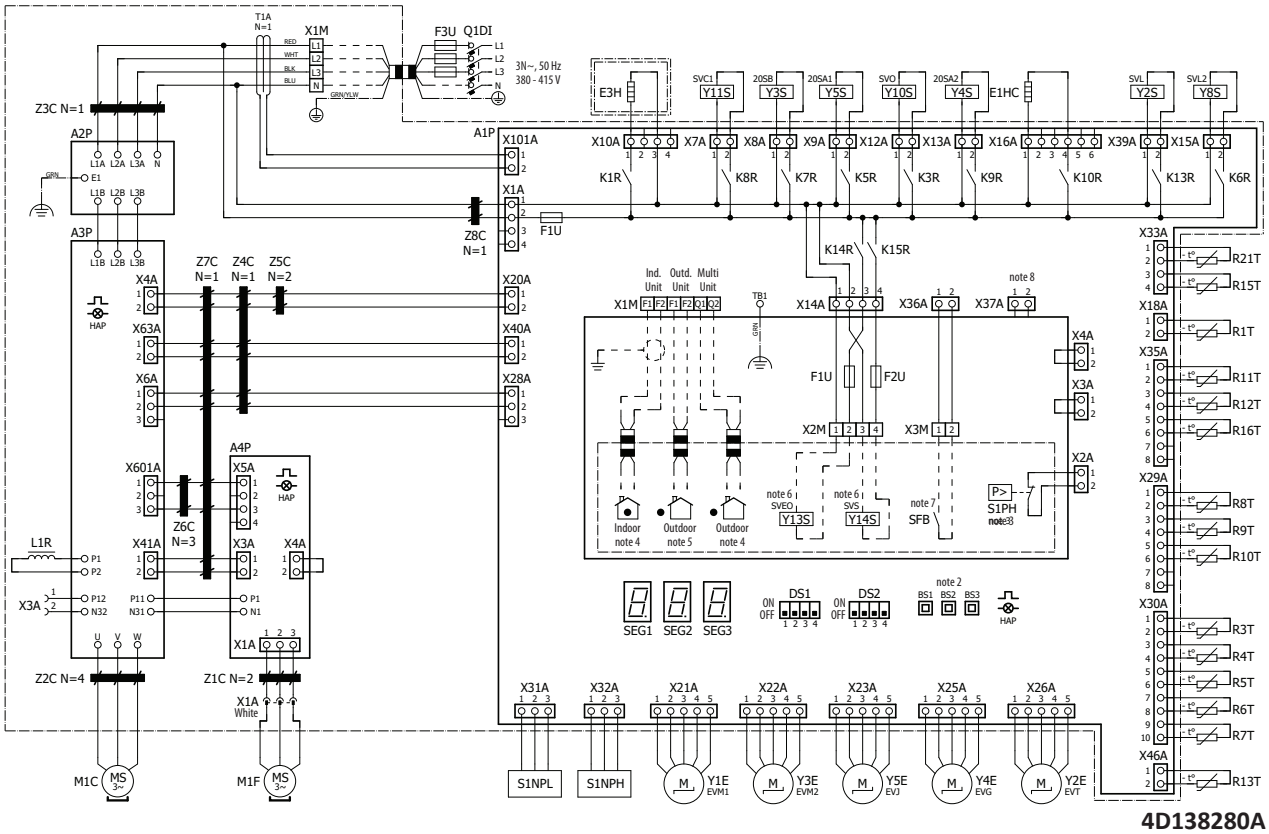
Part n°		Description
A1P		Printed circuit board (main)
A2P		Printed circuit board (noise filter)
A3P		Printed circuit board (inverter)
A4P		Printed circuit board (fan)
BS* (A1P)		Push button switch
DS* (A1P)		Dipswitch
E1HC		Crank case heater
E3H	*	Bottom plate heater
F1U (A1P)		Fuse T 10 A 250 V
F1U, F2U		Fuse T 1 A 250 V
F3U	#	Field fuse
HAP (A1P)		Running LED (service monitor-green)
K*R (A*P)		Relay on PCB
L1R		Reactor
M1C		Motor (compressor)
M1F		Motor (fan)
Q1DI	#	Earth leakage circuit breaker
R1T		Thermistor (Air)
R3T		Thermistor (Liquid main)
R4T		Thermistor (Heat exch. liquid upper)
R5T		Thermistor (Heat exch. liquid lower)
R6T		Thermistor (Subcool heat exch. gas)
R7T		Thermistor (Subcool heat exch. liquid)
R8T		Thermistor (Heat exch. gas upper)
R9T		Thermistor (Heat exch. gas lower)
R10T		Thermistor (Suction)
R11T		Thermistor (Heat exch. de-icer)
R12T		Thermistor (Suction compressor)

Part n°		Description
R13T		Thermistor (Receiver gas)
R15T		Thermistor (M1C body)
R16T		Thermistor (Gas injection)
R21T		Thermistor (M1C discharge pipe)
S1NPH		High pressure sensor
S1NPL		Low pressure sensor
S1PH		High pressure switch
SEG* (A1P)		7-segment display
SFB	#	Mechanical ventilation error input
T1A		Current sensor
X*A		Connector
X*M		Terminal strip
Y1E		Electronic exp. valve (Heat exch. upper)
Y2E		Electronic exp. valve (Subc. heat exch.)
Y3E		Electronic exp. valve (Heat exch. lower)
Y4E		Electronic exp. valve (Receiver gas)
Y5E		Electronic exp. valve (Inverter cooling)
Y2S		Solenoïd valve (Liquid pipe)
Y3S		Solenoïd valve (HP/LP gas pipe)
Y4S		Solenoïd valve (Heat exchanger lower)
Y5S		Solenoïd valve (Heat exchanger upper)
Y8S		Solenoïd valve (Gas injection)
Y10S		Solenoïd valve (Accu oil return)
Y11S		Solenoïd valve (M1C oil return)
Y13S	#	Error operation output (SVEO)
Y14S	#	Leak sensor output (SVS)
Z*C		Noise filter (ferrite core)

* : optional #: field supply

4D138280A

REYA8-12A9
REMA5A9



4D138280A

9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

REYA14-20A9

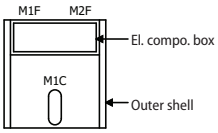
NOTES to go through before starting the unit

1. Symbols:

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

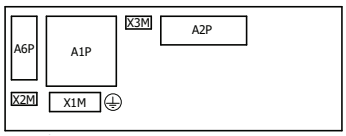
2. Refer to the installation or service manual on how to use BS1 ~ BS3 push buttons and DS1 ~ DS2 DIP switches.
3. Do not operate the unit by short-circuiting protection device S1PH.
4. Refer to the installation manual for indoor-outdoor transmission F1-F2 and outdoor-multi transmission Q1-Q2 wiring.
5. When using the central control system, connect outdoor-outdoor transmission F1-F2.
6. The capacity of the contact is 220~240V AC - 0,5A (Rush current needs 3A or less).
7. Use dry contact for micro-current (10mA or less, 15V DC).
8. When using the optional adapter, refer to the installation manual of the optional adapter.

LAYOUT OF M1C, M1F, M2F

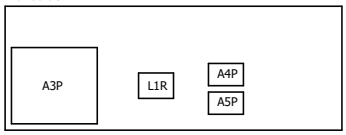


TERMINAL OF M1C

POSITION IN SWITCH BOX



Front side



Back side

LEGEND

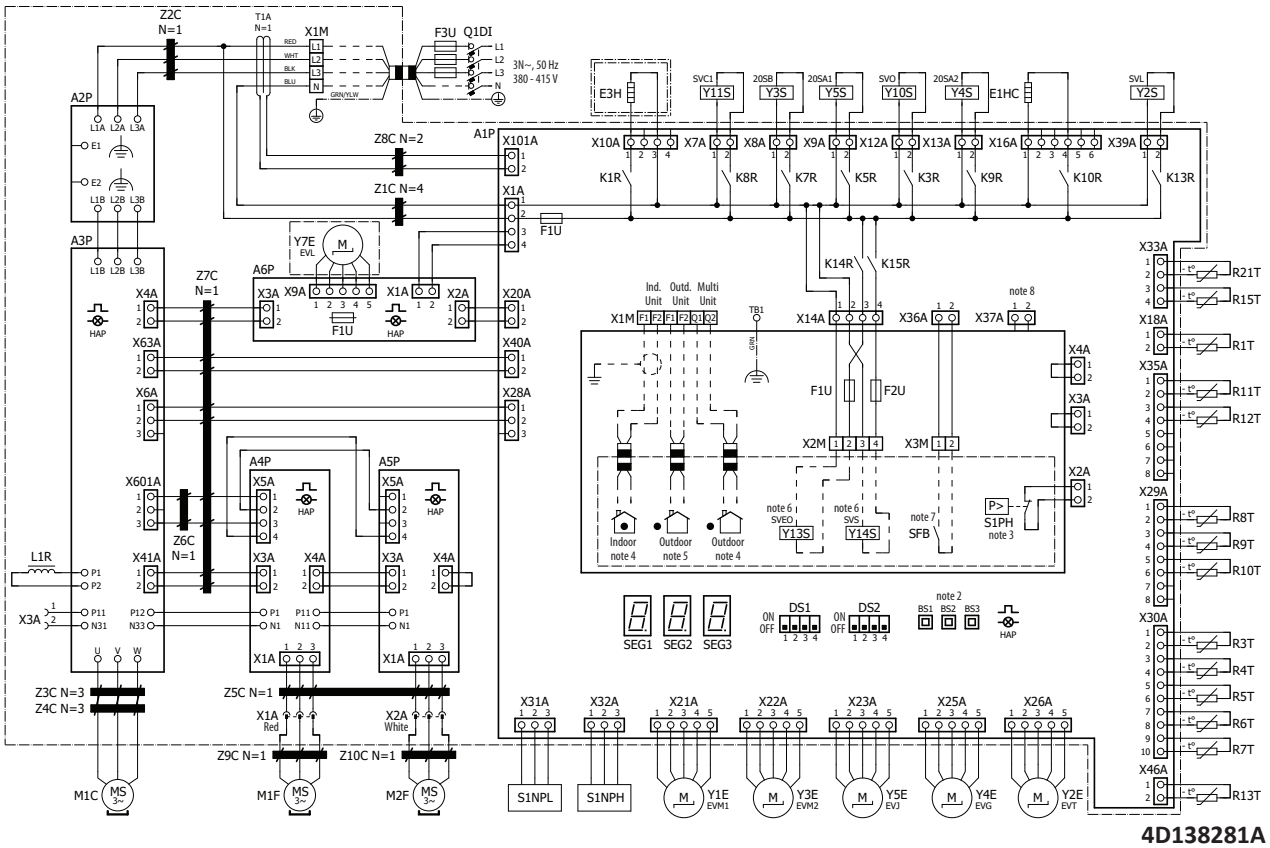
Part n°		Description
A1P		Printed circuit board (main)
A2P		Printed circuit board (noise filter)
A3P		Printed circuit board (inverter)
A4P, A5P		Printed circuit board (fan)
A6P		Printed circuit board (sub)
BS* (A1P)		Push button switch
DS* (A1P)		Dipswitch
E1HC		Crank case heater
E3H	*	Bottom plate heater
F1U (A1P)		Fuse T 10 A 250 V
F1U (A6P)		Fuse 3.15 A 250 V
F3U	#	Field fuse
HAP (A1P)		Running LED (service monitor-green)
K*R (A*P)		Relay on PCB
L1R		Reactor
M1C		Motor (compressor)
M1F, M2F		Motor (fan)
Q1DI	#	Earth leakage circuit breaker
R1T		Thermistor (Air)
R3T		Thermistor (Liquid main)
R4T		Thermistor (Heat exch. liquid upper)
R5T		Thermistor (Heat exch. liquid lower)
R6T		Thermistor (Subcool heat exch. gas)
R7T		Thermistor (Subcool heat exch. liquid)
R8T		Thermistor (Heat exch. gas upper)
R9T		Thermistor (Heat exch. gas lower)
R10T		Thermistor (Suction)
R11T		Thermistor (Heat exch. de-icer)
R12T		Thermistor (Suction compressor)

Part n°		Description
R13T		Thermistor (Receiver gas)
R15T		Thermistor (M1C body)
R21T		Thermistor (M1C discharge pipe)
S1NPH		High pressure sensor
S1NPL		Low pressure sensor
S1PH		High pressure switch
SEG* (A1P)		7-segment display
SFB	#	Mechanical ventilation error input
T1A		Current sensor
X*A		Connector
X*M		Terminal strip
Y1E		Electronic exp. valve (Heat exch. upper)
Y2E		Electronic exp. valve (Subc. heat exch.)
Y3E		Electronic exp. valve (Heat exch. lower)
Y4E		Electronic exp. valve (Receiver gas)
Y5E		Electronic exp. valve (Inverter cooling)
Y7E		Electronic exp. valve (Liquid injection)
Y2S		Solenoïd valve (Liquid pipe)
Y3S		Solenoïd valve (HP/LP gas pipe)
Y4S		Solenoïd valve (Heat exchanger lower)
Y5S		Solenoïd valve (Heat exchanger upper)
Y10S		Solenoïd valve (Accu oil return)
Y11S		Solenoïd valve (M1C oil return)
Y13S	#	Error operation output (SVEO)
Y14S	#	Leak sensor output (SVS)
Z*C		Noise filter (ferrite core)

* : optional #: field supply

4D138281A

REYA14-20A9



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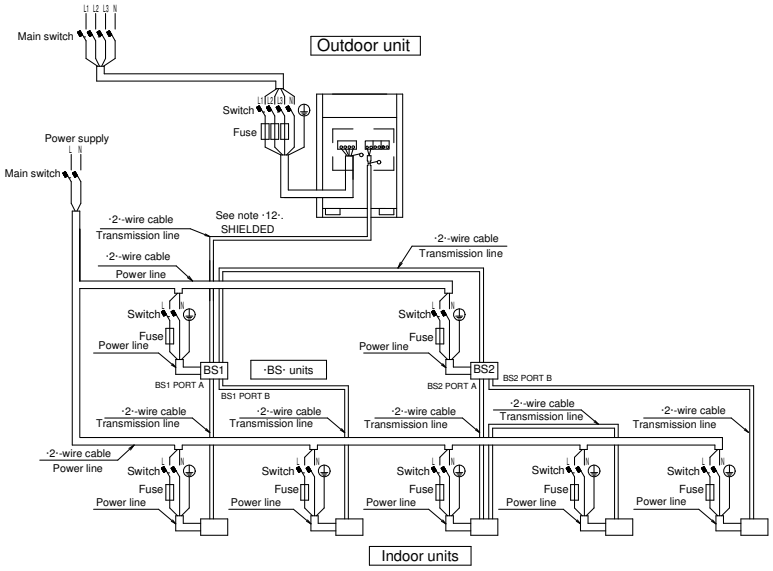
10 External connection diagrams

10 - 1 External Connection Diagrams

REYA-A9
REMA5A9

VRV5
Heat recovery

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 equipement.
9. Install a main to switch to (if necessary) immediately interrupt all the system's power sources.
10. If there exists the possibility of reversed phase, loose phase or momentary blackout, or if the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
    Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.
12. See outdoor unit manual for shielding the ·F1F2· wire

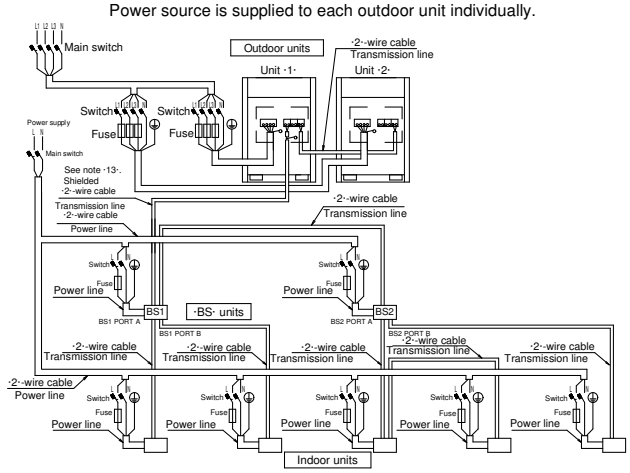
3D138298

REYA-A9
REMA5A9

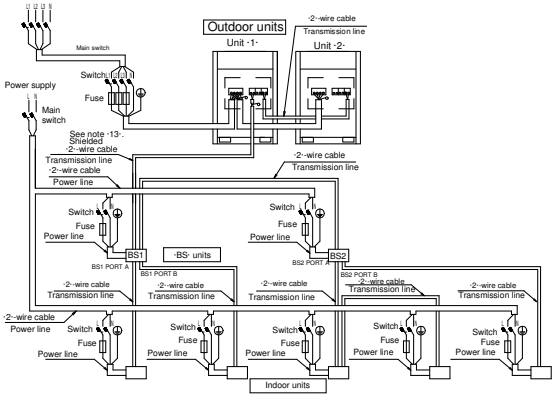
VRV5 Heat recovery

External connection diagram

Power source is supplied to each outdoor unit individually.



Power source is connected in series between the units.



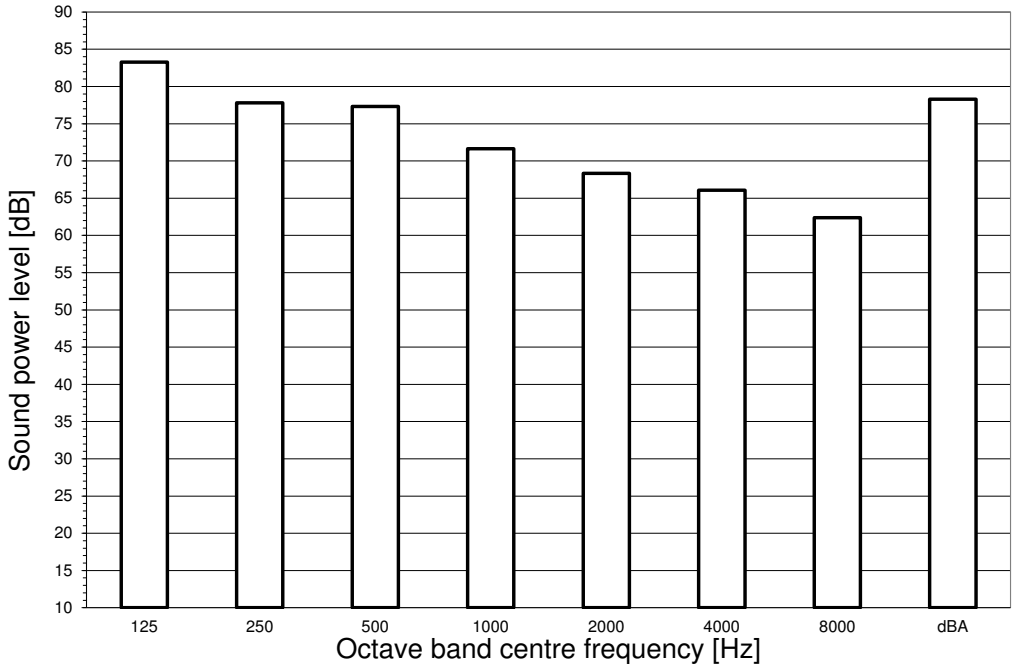
1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised 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 equipement.
9. Install a main to switch to (if necessary) immediately interrupt all the system's power sources.
10. If there exists the possibility of reversed phase, loose phase or momentary blackout, or if the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
    Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.
12. 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

3D141220

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

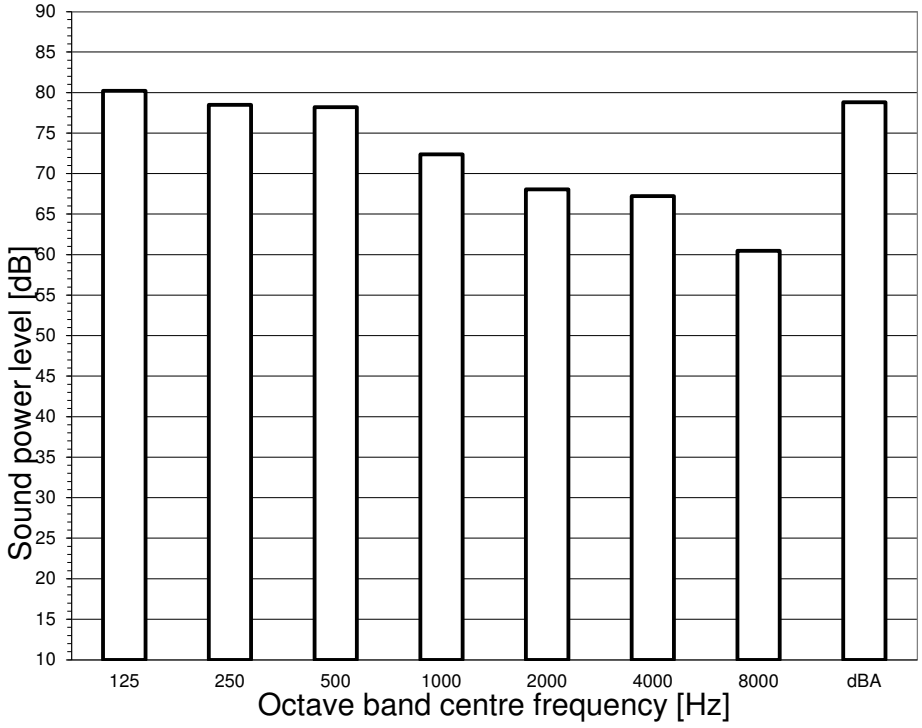
REYA8A9
REMA5A9



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

3D138299

REYA10A9



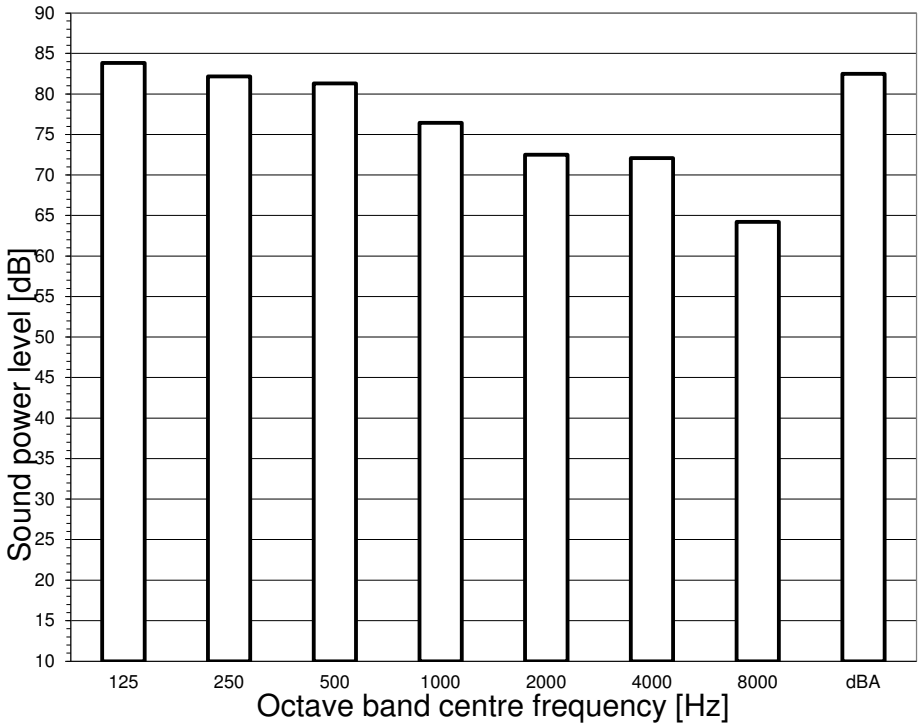
Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141170

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

REYA12A9

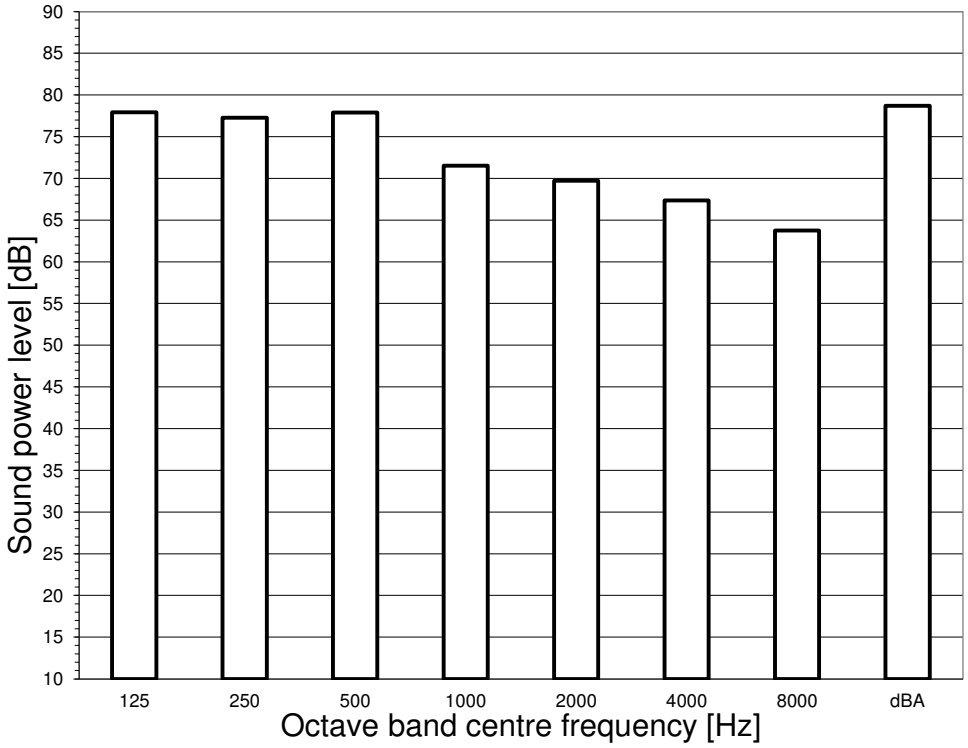


Notes

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

3D141171

REYA14A9



Notes

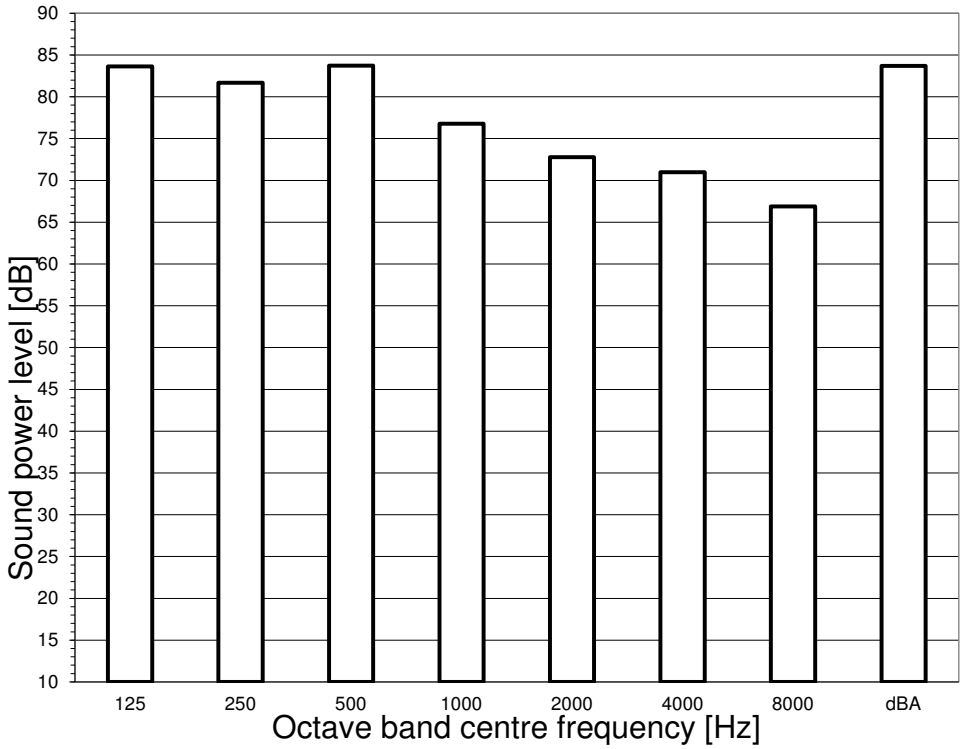
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141172

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

REYA16A9

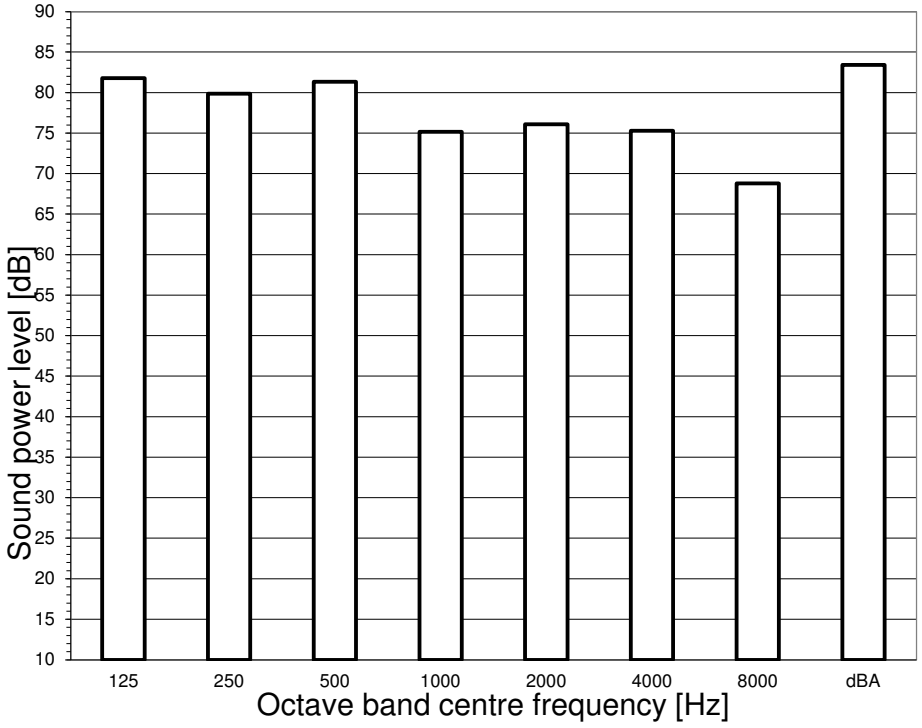


Notes

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

3D141173

REYA18A9



Notes

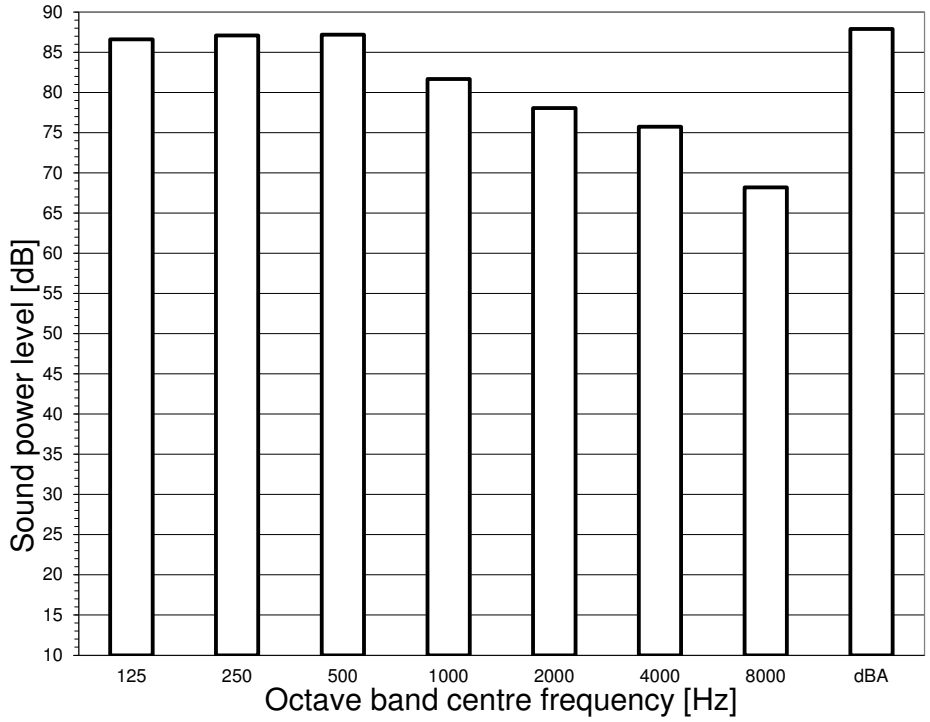
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141174

11 Sound data

11 - 1 Sound Power Spectrum - Cooling

REYA20A9



Notes

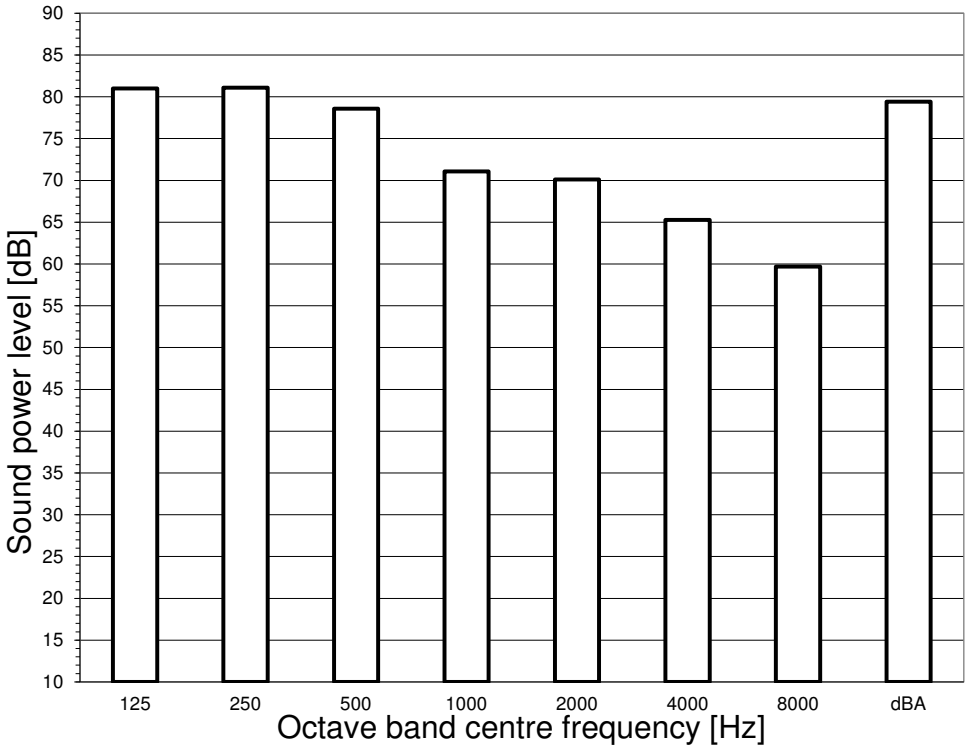
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141175

11 Sound data

11 - 2 Sound Power Spectrum - Heating

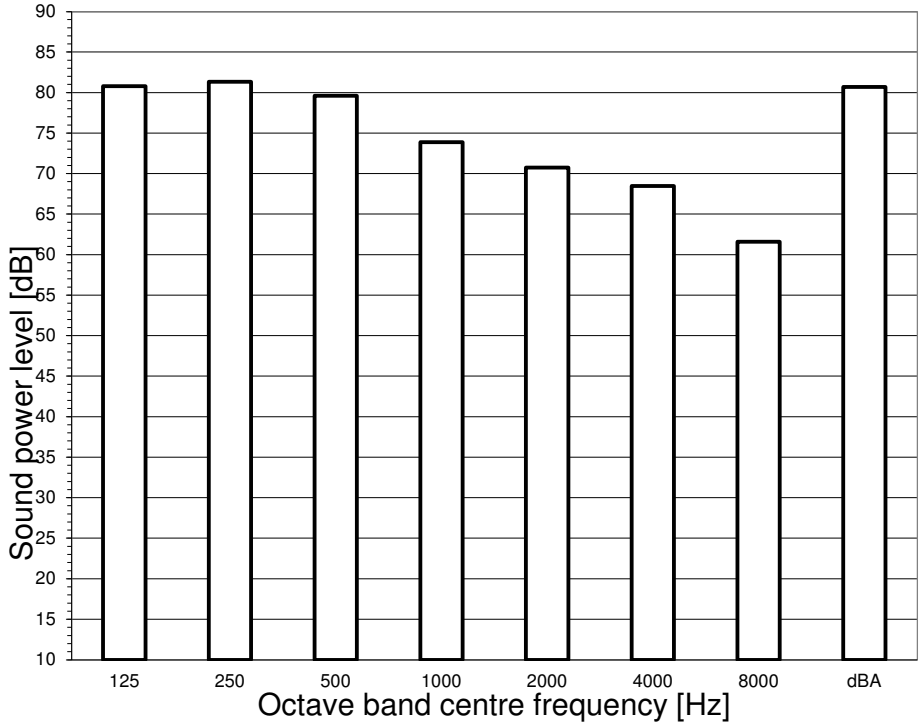
REYA8A9
REMA5A9



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

3D138299

REYA10A9



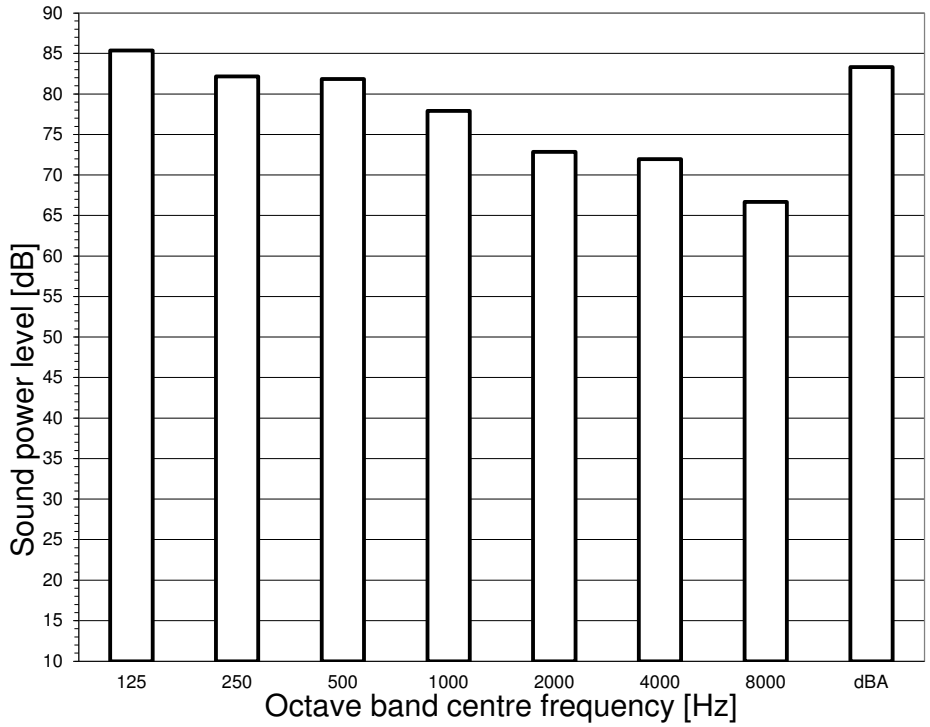
Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141170

11 Sound data

11 - 2 Sound Power Spectrum - Heating

REYA12A9

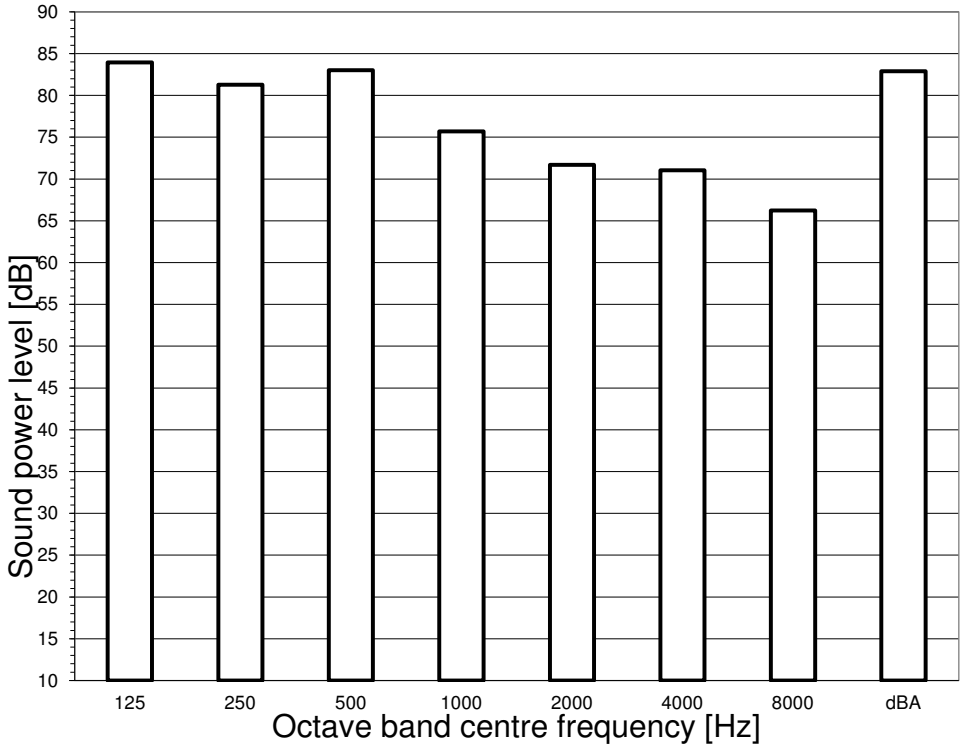


Notes

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

3D141171

REYA14A9



Notes

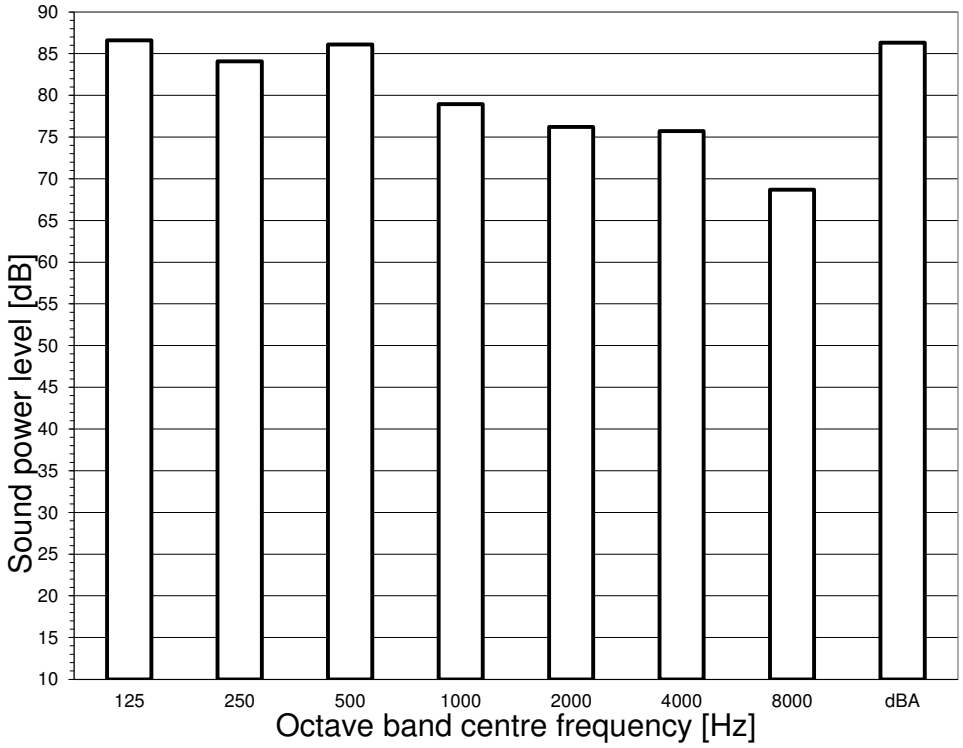
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141172

11 Sound data

11 - 2 Sound Power Spectrum - Heating

REYA16A9

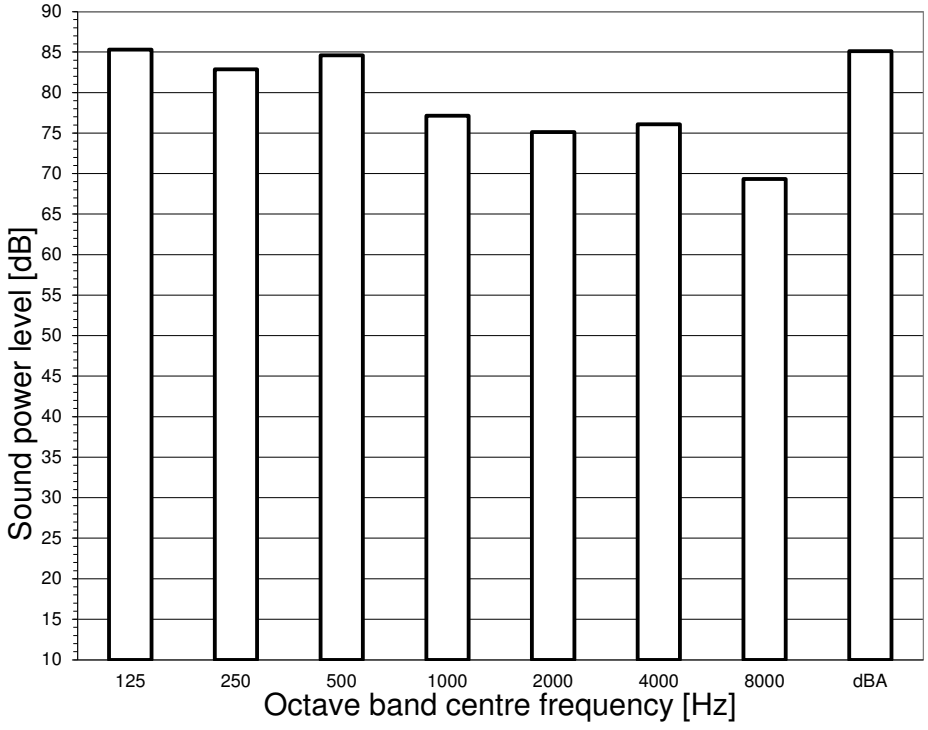


Notes

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

3D141173

REYA18A9



Notes

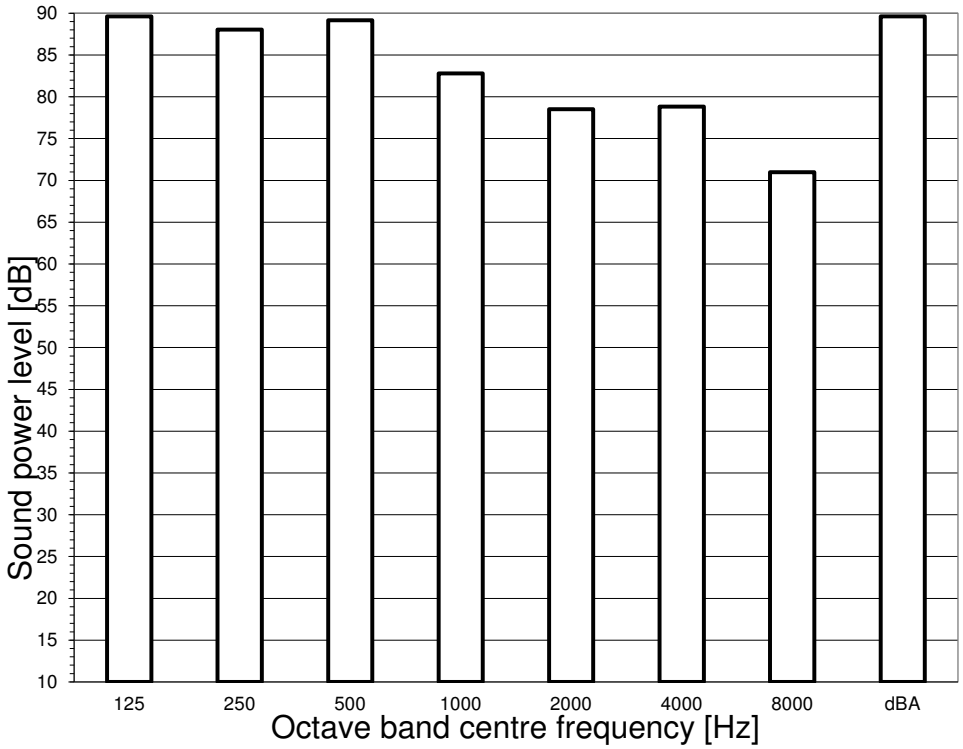
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141174

11 Sound data

11 - 2 Sound Power Spectrum - Heating

REYA20A9



Notes

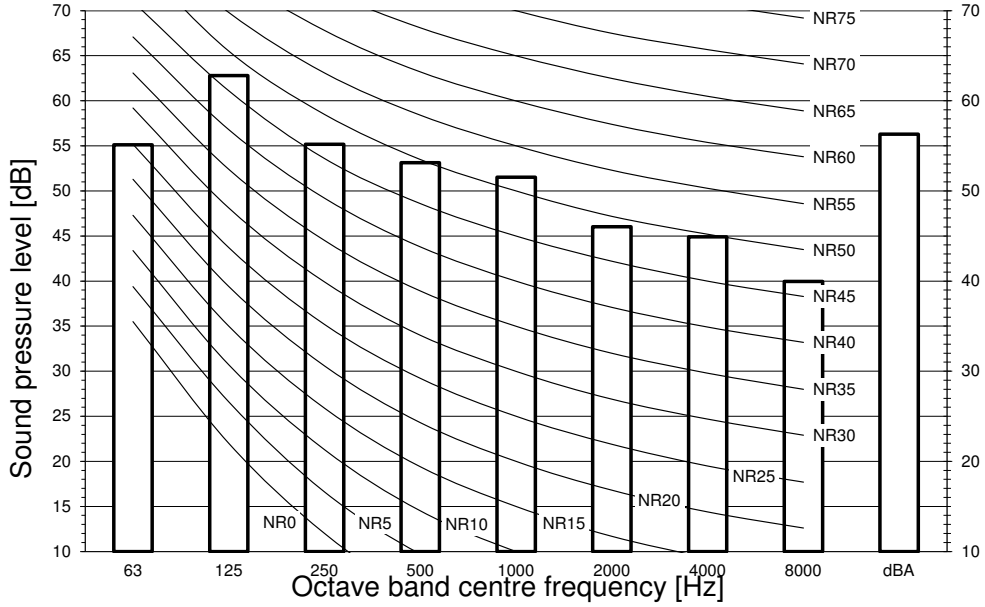
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10^ -12 W·
- Measured according to ISO 3744

3D141175

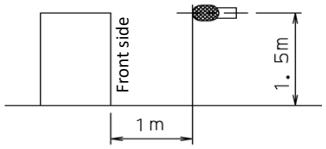
11 Sound data

11 - 3 Sound Pressure Spectrum - Cooling

REYA8A9
REMA5A9

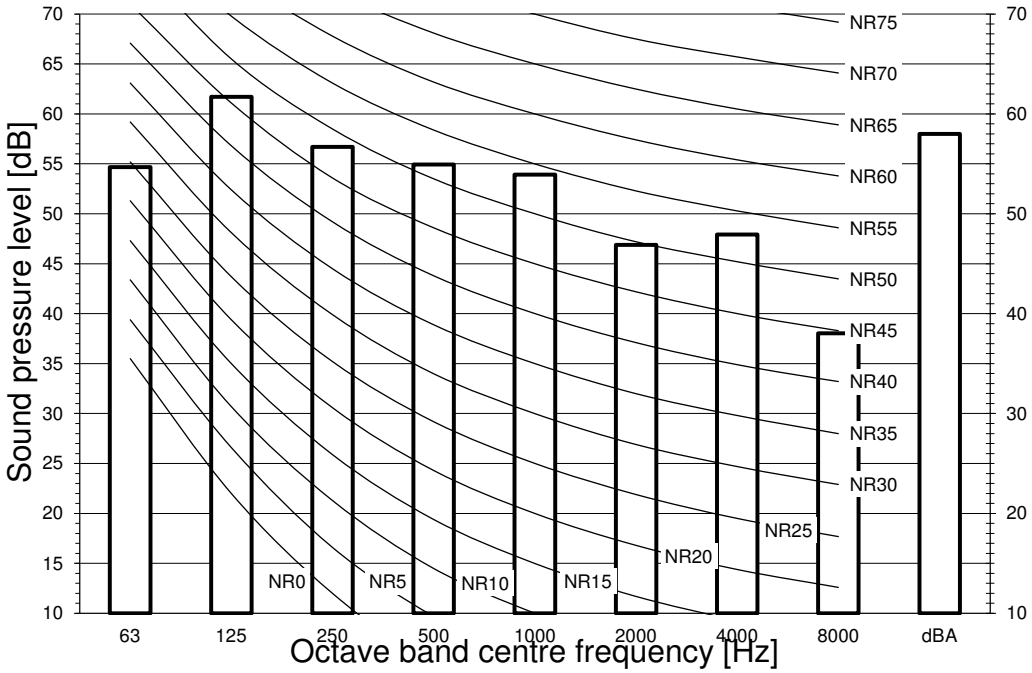


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

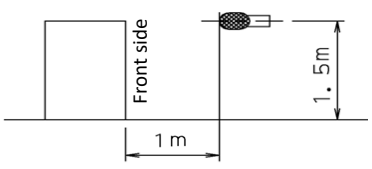


3D138299

REYA10A9



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



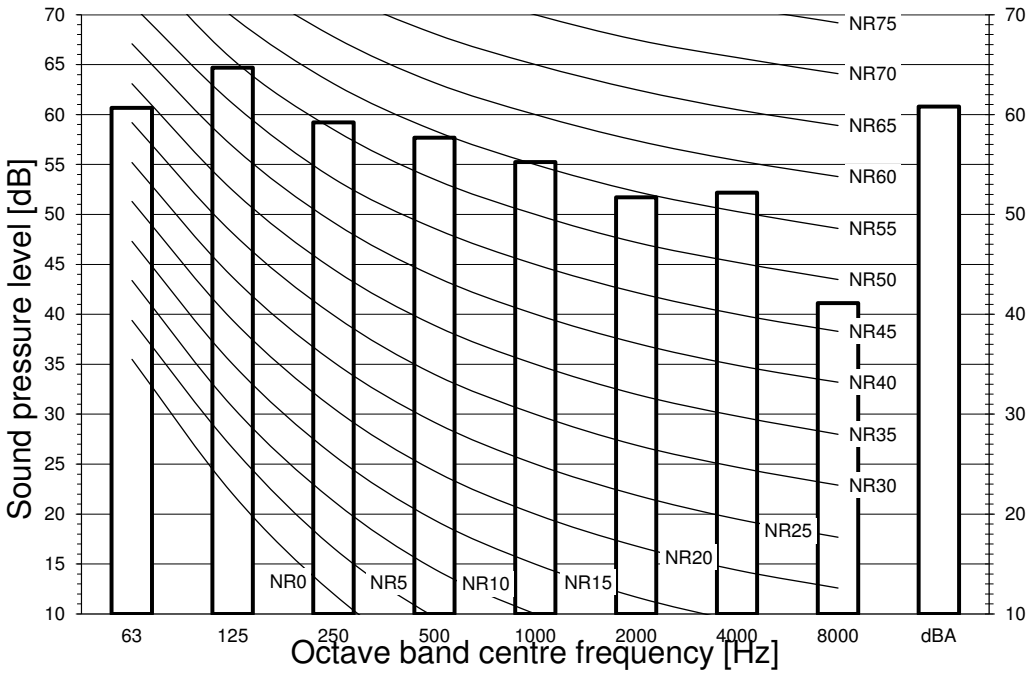
3D141170

11 Sound data

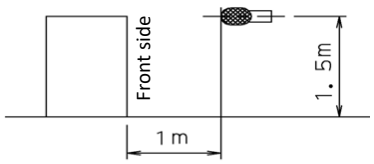
11 - 3 Sound Pressure Spectrum - Cooling

11

REYA12A9

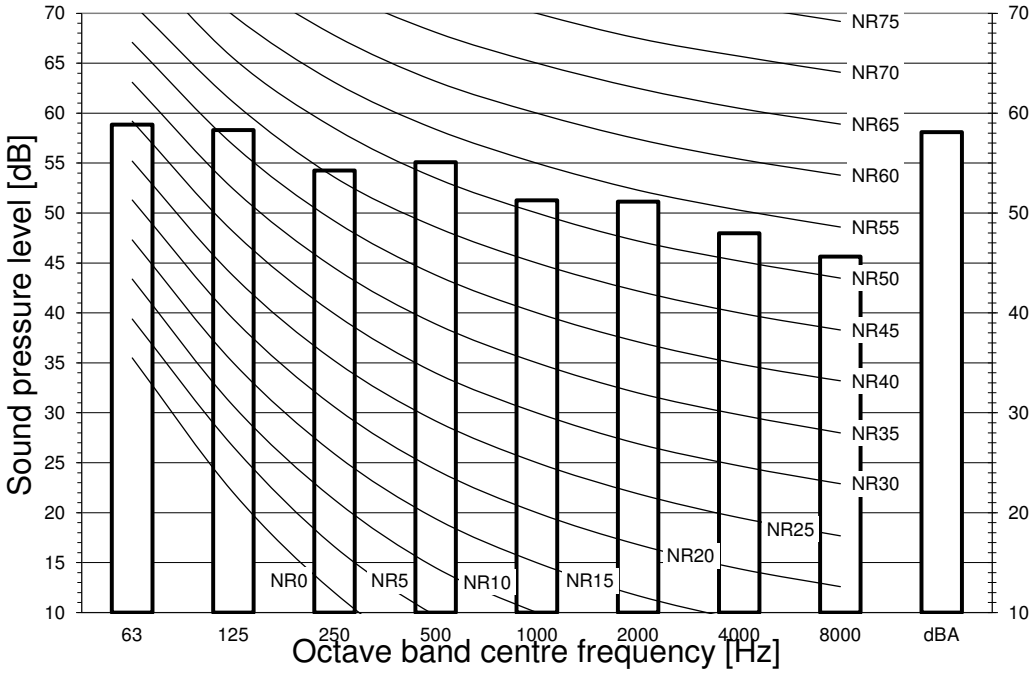


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

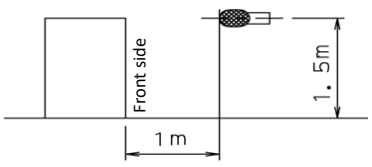


3D141171

REYA14A9



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

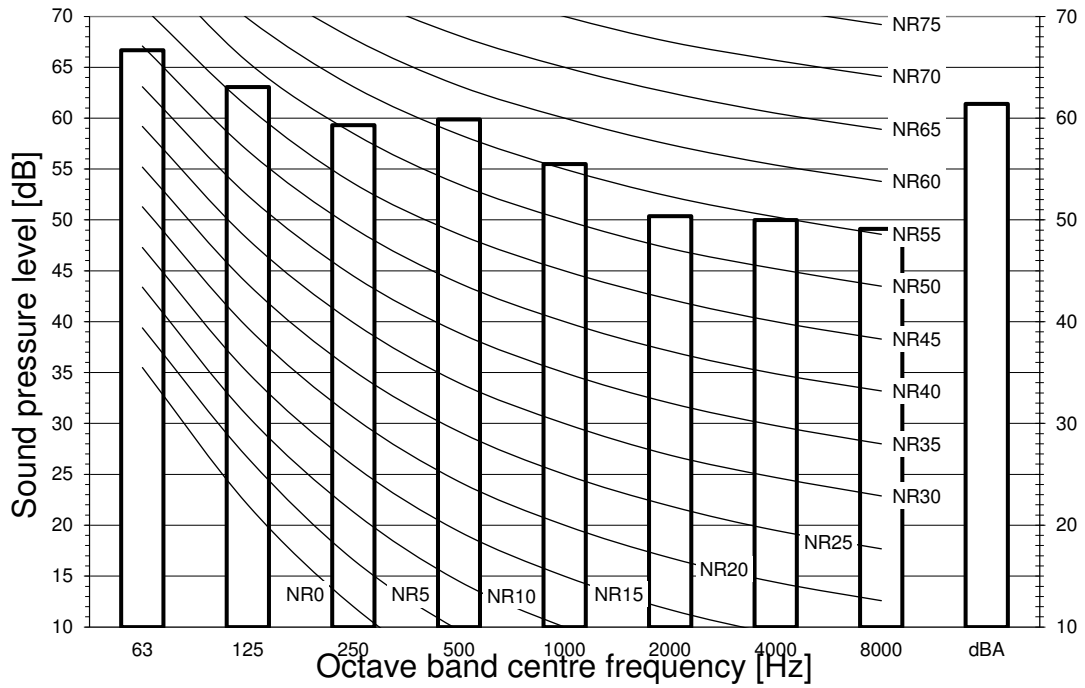


3D141172

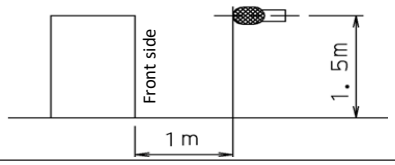
11 Sound data

11 - 3 Sound Pressure Spectrum - Cooling

REYA16A9

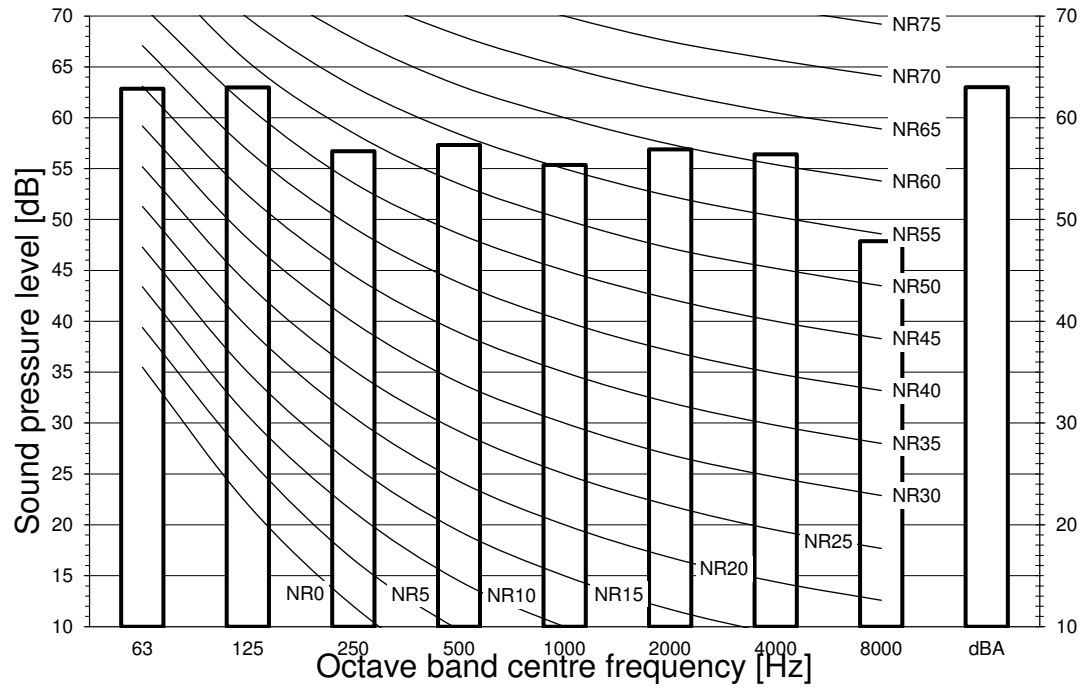


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

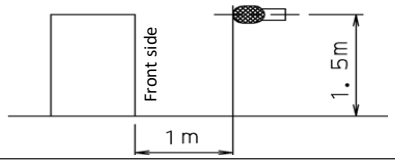


3D141173

REYA18A9



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

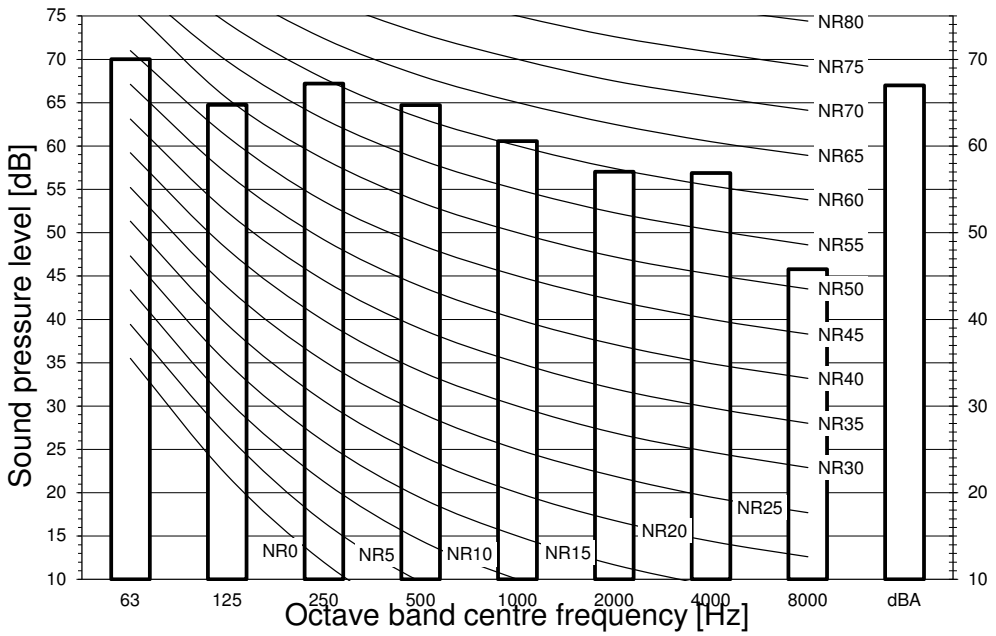


3D141174

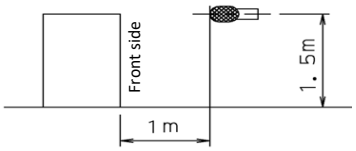
11 Sound data

11 - 3 Sound Pressure Spectrum - Cooling

REYA20A9



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

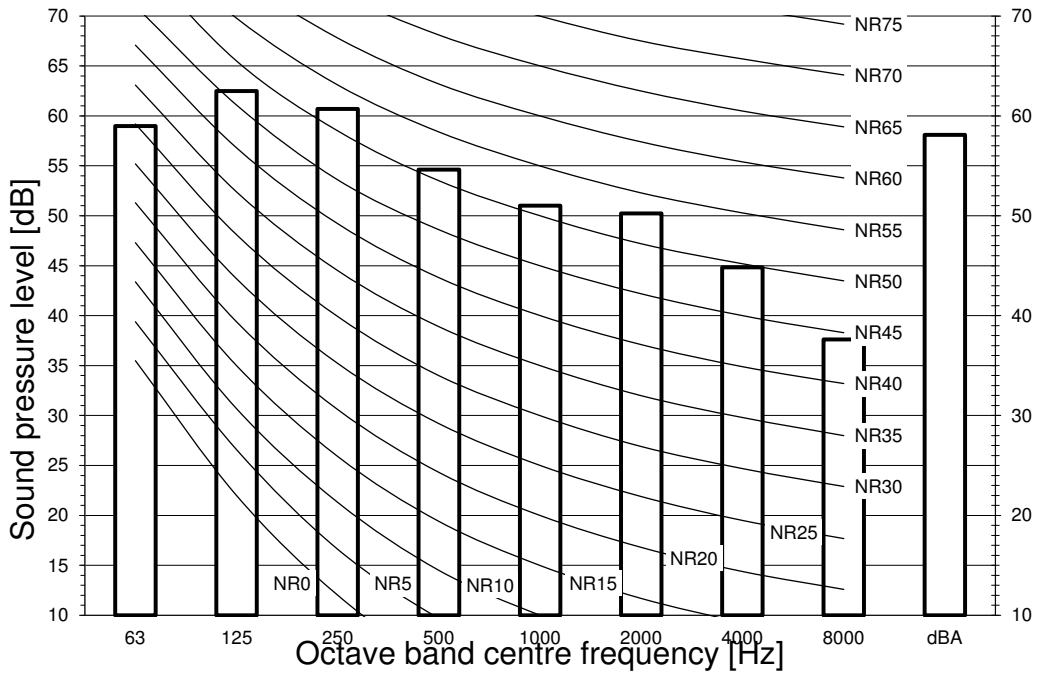


3D141175

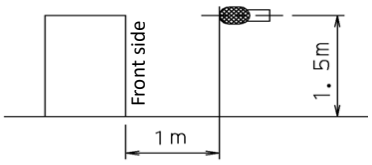
11 Sound data

11 - 4 Sound Pressure Spectrum - Heating

REMA5A9
REYA8A9

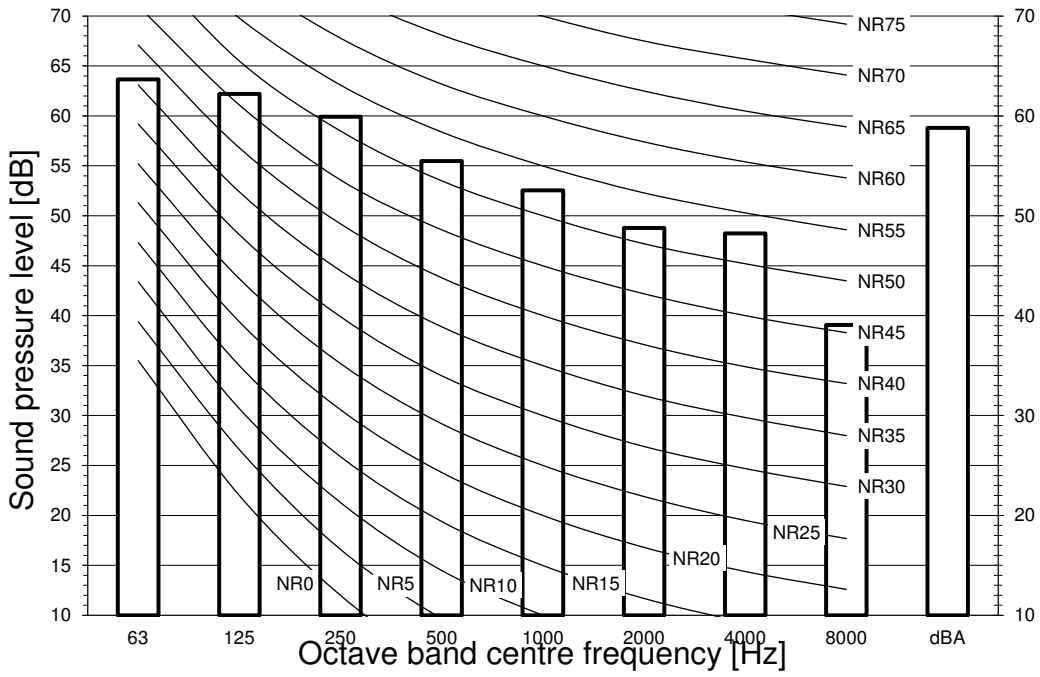


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

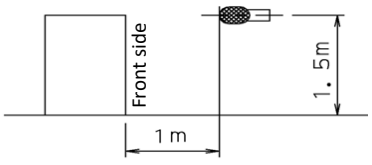


3D138299

REYA10A9



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

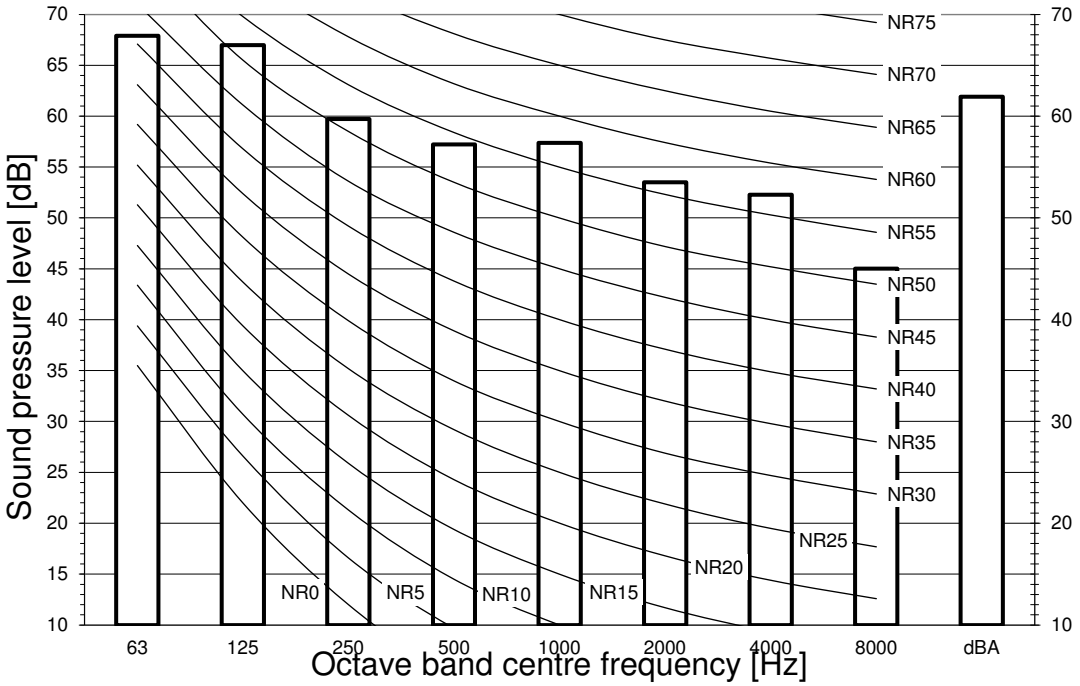


3D141170

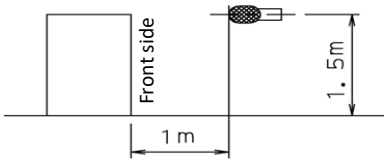
11 Sound data

11 - 4 Sound Pressure Spectrum - Heating

REYA12A9

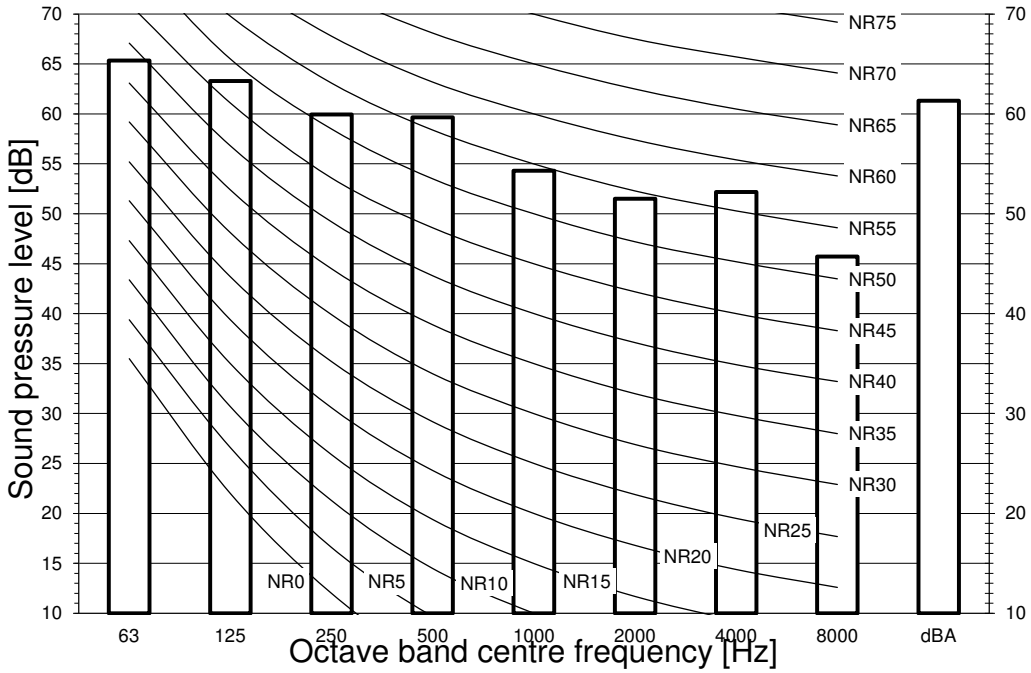


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

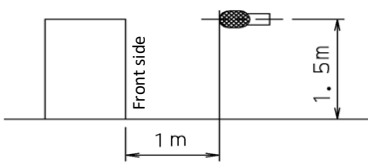


3D141171

REYA14A9



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

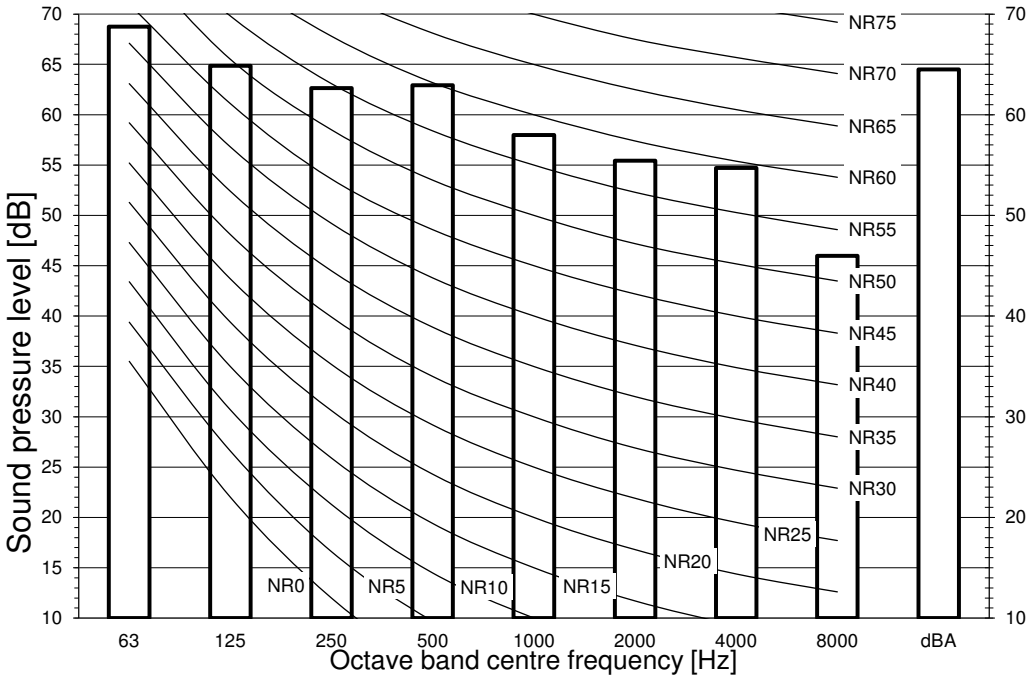


3D141172

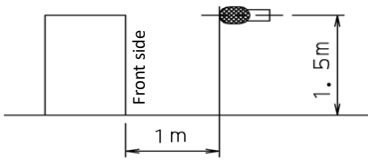
11 Sound data

11 - 4 Sound Pressure Spectrum - Heating

REYA16A9

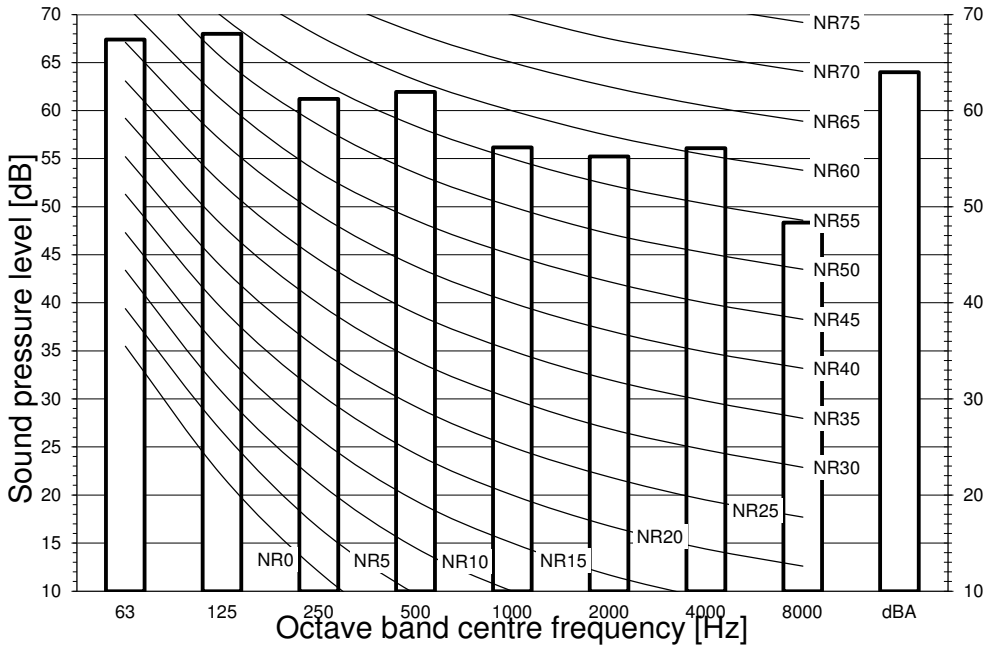


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

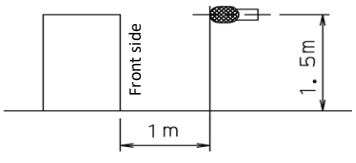


3D141173

REYA18A9



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

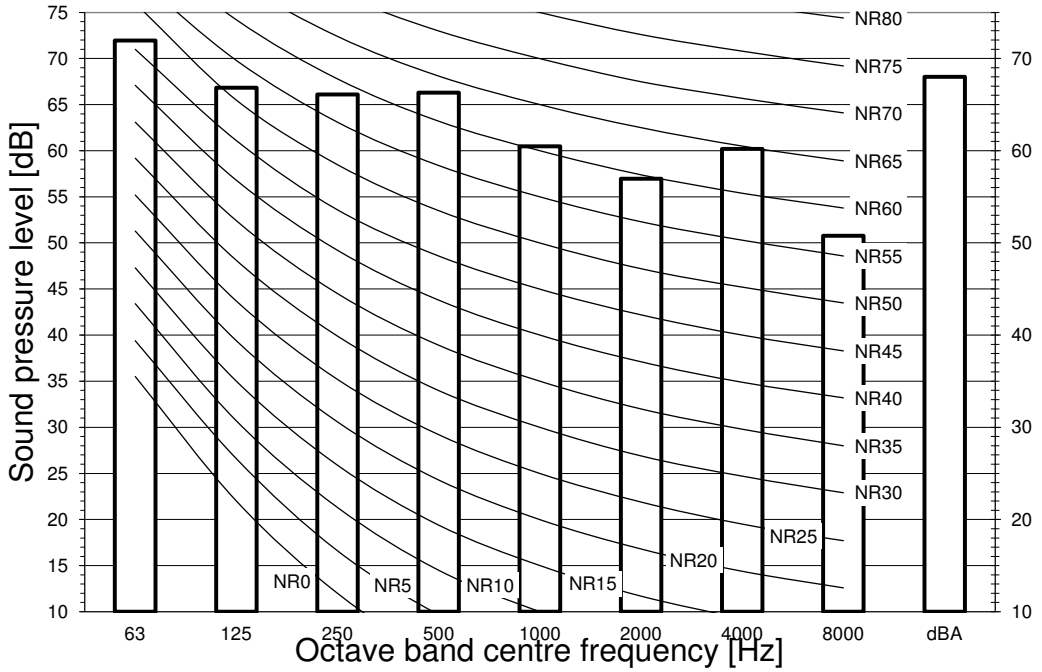


3D141174

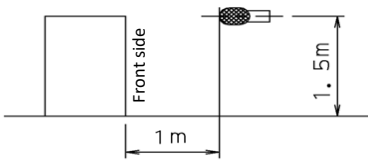
11 Sound data

11 - 4 Sound Pressure Spectrum - Heating

REYA20A9



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



3D141175

11 Sound data

11 - 5 Sound level data Quiet mode

REYA-A9
REMA5A9

VRV-5 **Heat recovery**
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	53	81	58
LN2	73	50	78	55
LN3	70	47	75	52
LN4	67	44	72	49
LN5	64	41	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

4D141207

11 Sound data

11 - 5 Sound level data Quiet mode

REYA-A9
REMA5A9

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·

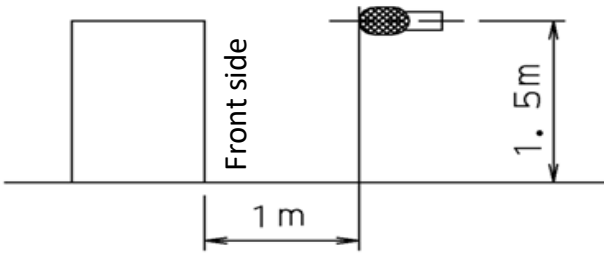
Notes

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 µPa



4D141207

11 Sound data

11 - 6 Sound power spectrum at high ESP

REYA-A9
REMA5A9

VRV-5 **Heat recovery**
High ESP

	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.

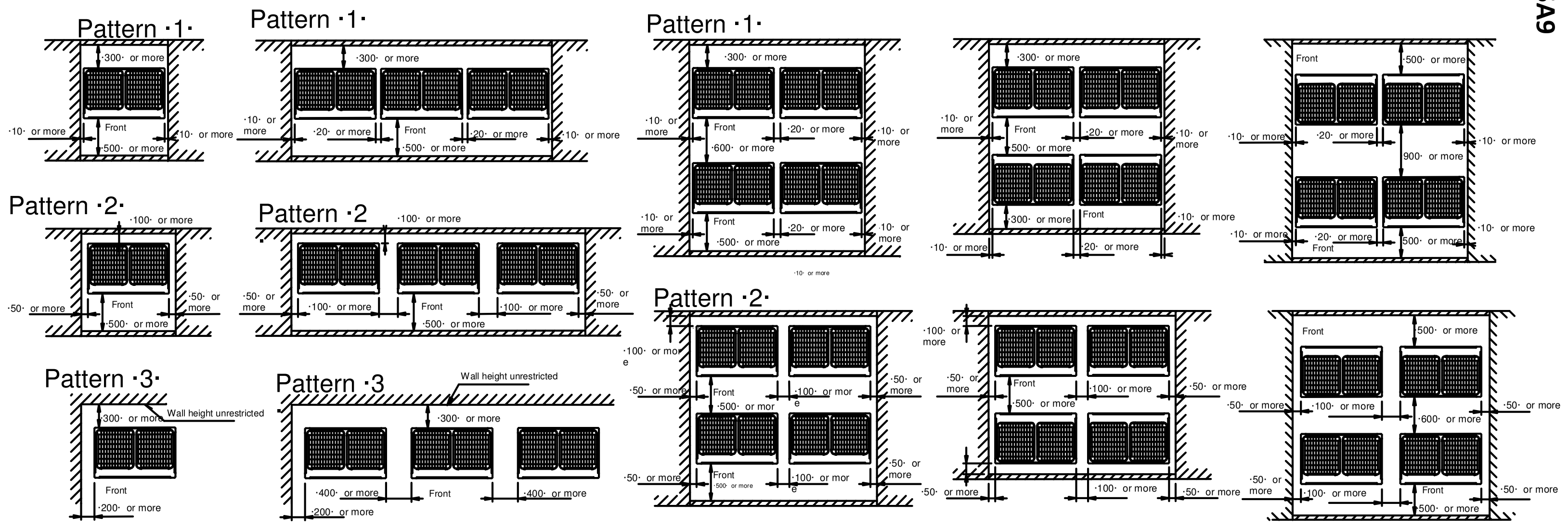
3D141183

12 Installation

12 - 1 Installation Method

REYA-A9
REMA5A9

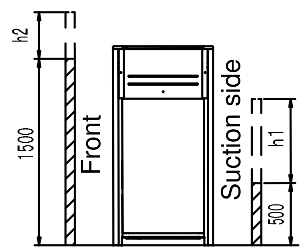
For single unit installation | For installation in rows | For centralised group layout



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 of the possibilit y of short circuits.

‹ Unit: mm ›



‹ Unit: mm ›

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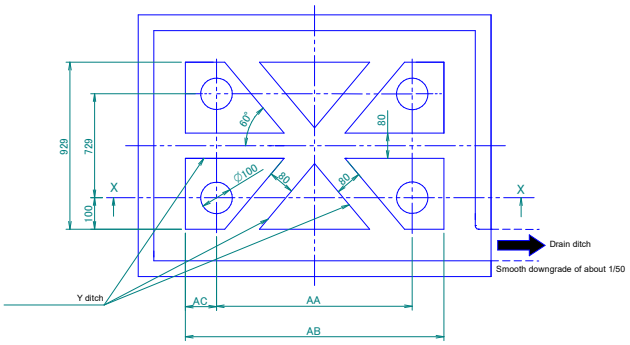
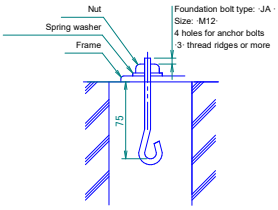
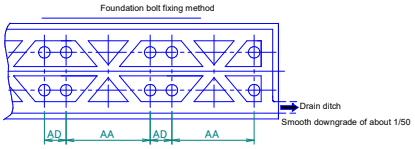
12 Installation

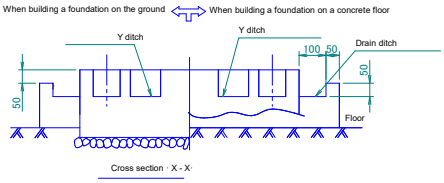
12 - 2 Fixation and Foundation of Units

REYA-A9
REMA-A9









For multi-unit installation

Model	AA	AB	AC	AD
RYYQ8~12U RYMQ8~12U RXYQ8~12U RXYQQ8~12U REMQ5T/REYQ8~12U RXYTQ8U REMA5A*/REYA8~12A* RYMA5A/RXYA8~12A	766	992	113	185
RYYQ14~20U RYMQ14~20U RXYQ14~20U RXYQQ14~20U REYQ14~20U RXYTQ10~16U REYA14~20A* RXYA14~20A	1076	1076		

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.

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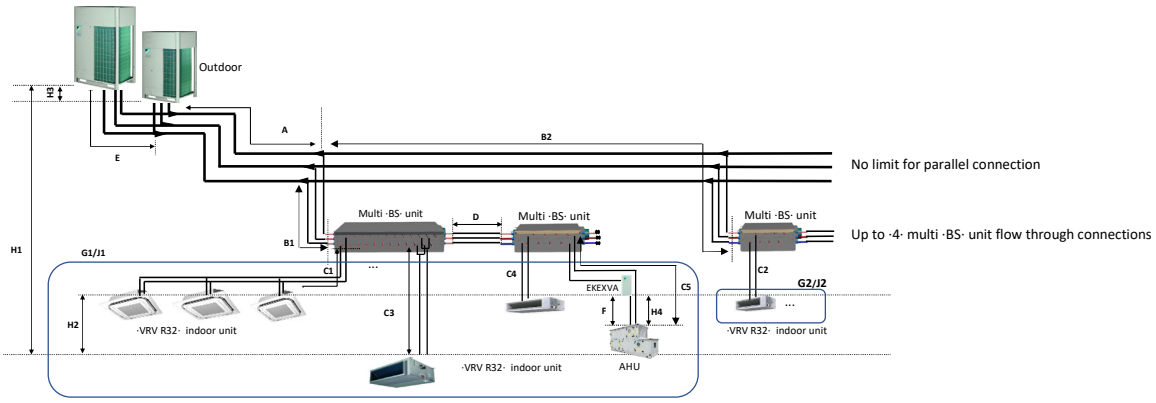
12 Installation

12 - 3 Refrigerant Pipe Selection

REYA-A9
REMA5A9



4D141190A

RAYA-A9
REMA5A9

VRV5
Heat recovery
Piping restrictions

	Total				Allowed capacity	
	Capacity	Maximum indoor unit quantity	Maximum total downstream capacity — flow through connection ·BS· unit	Maximum downstream number of ports – flow through connection ·BS· unit	VRV indoor unit	Air handling unit (AHU)
		(*1)	[G1]; [G2]	[J1]; [J2]		
·VRV R32· indoor units only	50 ~ 130%	64	750	16	50 ~ 130%	-
AHU only (·EKEXVA + EKEACBVE·) **Pair** (*5)	-	-	-	-	-	-
AHU only (·EKEXVA + EKEACBVE·) **Multi** (*5)(*7)	65/75(*3) ~ 110%(*4)	64(*6)(*8)	750	16	-	65/75(*3) ~ 110%(*4)
·VRV R32 DX· indoor unit + ·AHU(EKEXVA + EKEACBVE)· **Mix** (*5)(*7)	50 ~ 110%(*4)	64(*8)	750	16	50 ~ 110%	0 ~ 60%(*4)

VRV5
Heat recovery
Unit combination restrictions

Combination table	REYA5-28(*2)
·VRV R32 DX· indoor unit	O
·EKVDX· (Option of ·VAM - J8·)	O
·Cooling only· indoor unit	X
Hydrobox unit	X
AHU only (Pair (·EKEXVA + EKEACBVE·))	X
AHU only (Multi (·EKEXVA + EKEACBVE·))	O
·VRV R32 DX · indoor unit + AHU mix (·EKEXVA + EKEACBVE·)	O

O: Allowed
X: Not allowed

Notes

1. Excluding ·BS· units
2. Other combinations than mentioned in this combination table are prohibited.
   All units are to be connected to ·BS· units
3. ·75% ~ 110%·: default situation
   ·65% ~ 75%·: Allowed if stricter AHU volume limitations are valid.
   Refer to the databook of ·EKEACBVE· for details.
4. Restrictions regarding the air handling unit capacity
5. Pair AHU = system with 1 air handling unit connected to one outdoor unit system
   Multi AHU = system with multiple air handling units connected to one outdoor unit system
   Mixed AHU = mix of AHU units and ·VRV· indoor units connected to one outdoor system
6. ·Z,Z'·-control is possible (the allowed number of [·EKEXVA + EKEACBVE · boxes] is determined by the connection ratio and the capacity of the outdoor unit.
7. ·Z,Z'·-control is possible (·EKEACBVE· boxes are allowed).
8. ·EKEXVA· kits are also considered indoor units.

Amount of units connectable to a ·BS· unit

	BS4A (*9)	BS6A (*9)	BS8A (*9)	BS10A (*9)	BS12A (*9)	Multi ·BS· per branch (*9)	Multi ·BS· when 2 branches are combined (*9)
·VRV R32· indoor unit	Maximum ·20· units	Maximum ·30· units	Maximum ·40· units	Maximum ·50· units	Maximum ·60· units	Maximum ·5· units	Maximum ·5· units
Air handling unit (AHU)	Maximum ·400· class	Maximum ·600· class	Maximum ·750· class	Maximum ·750· class	Maximum ·750· class	Maximum ·140· class	Maximum ·250· class

Notes

9. When combining ·2· branches, the maximum piping length between the ·BS· unit and the indoor unit is ≤ 20m. If the length of this piping is > 20m, increase the size of the liquid pipe.

4D141190A

12 Installation

12 - 3 Refrigerant Pipe Selection

REYA-A9
REMA5A9

VRV5
Heat recovery
Piping restrictions

		Maximum piping length			Maximum height difference			Total piping length
		Longest pipe from the outdoor unit or the last multi-outdoor piping branch Actual / Equivalent Maximum: ·(A+B1+C1, A+B2+C2, A+B1+C3, A+B1+D+C4, A+B1+D+C5)·	Longest pipe after first branch or multi ·BS· unit Actual Maximum: ·(B1+C1,B2+C2,B1+C3,B1+D+C4, B1+D+C5)·	Longest pipe from the outdoor unit to the last multi-outdoor piping branch Actual / Equivalent Maximum: ·(E)·	Indoor-to-outdoor Outdoor unit higher than indoor unit / Indoor unit higher than outdoor unit Maximum: ·(H1)·	Indoor-to-indoor Maximum: ·(H2)·	Outdoor-to-outdoor Maximum: ·(H3)·	Piping length
Single outdoor units and standard multi-outdoor-unit combinations > ·20hp·	**·VRV DX R32· indoor unit**	165/190 m (*3)	40 m (*1)(*4)	10/13 m	50/40 m (*2)	15 m	5 m	1000 m
		120/165 m (*3)	40 m (*1)(*4)		50/40 m (*2)	30 m		
	AHU (*5)	165/190 m (*3)	40 m		50/40 m	15 m		
Standard multi-outdoor-unit combinations ·≤ 20hp· and free multi-outdoor-unit combinations	**·VRV DX R32· indoor unit**	135/160 m (*3)	40 m (*1)(*4)	10/13 m	50/40 m (*2)	15 m	5 m	500 m
	AHU (*5)		40 m		50/40 m			

	Maximum piping length	Maximum height difference
	EKEXVA --> AHU: (F)	EKEXVA --> AHU: (H4)
AHU (*5)	5 m	5 m

Notes

1. If all conditions below are met, the limitation can be extended up to 90 m
   - 1.1 The piping length between all indoor units and the multi ·BS· unit is ≤ ·40· m.
   - 1.2 It is required to size up the liquid piping between the first branch kit or multi ·BS· unit and the last branch kit or last multi ·BS· unit.
     It is not required to size up the liquid piping between the multi ·BS· unit and indoor units.
     It is required to size up the liquid piping which is downstream of the multi ·BS· unit, if the last branch kit is located downstream of the multi ·BS· unit.
     If the increased pipe size is larger than the pipe size of the main pipe, also increase the size of the main pipe.
   - 1.3 When the piping size is increased, the piping length has to be counted as double.
     The total piping length has to be within limitations.
   - 1.4 The piping length difference between the nearest indoor unit to the outdoor unit and the farthest indoor unit to the outdoor unit is ≤ ·40·m.
2. If all conditions below are met, the limitation can be extended up to 90 m
   - 2.1 If the outdoor units are positioned higher than the indoor units:
     - 2.1.1 Minimum connection ratio: ·80%·
     - 2.1.2 Size up the liquid piping
     - 2.1.3 Outdoor unit setting
       For more information, refer to the service manual.
   - 2.2 If the outdoor units are positioned lower than the indoor units:
     - 2.2.1 Size up the liquid piping
     - 2.2.2 Outdoor unit setting
       For more information, refer to the service manual.
3. If the equivalent piping is > ·90·m, size up the main liquid piping.
4. Limit of ·40· m piping length between multi ·BS· unit and indoor unit is depending upon room size (cfr. Safety system)
5. Possible combinations
   - Multi ·AHUs·
   - Mix of ·DX· units and ·AHUs·

4D141190A

12 Installation

12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

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 ·BS· unit.

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

The ·BS· 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/).

4D156231

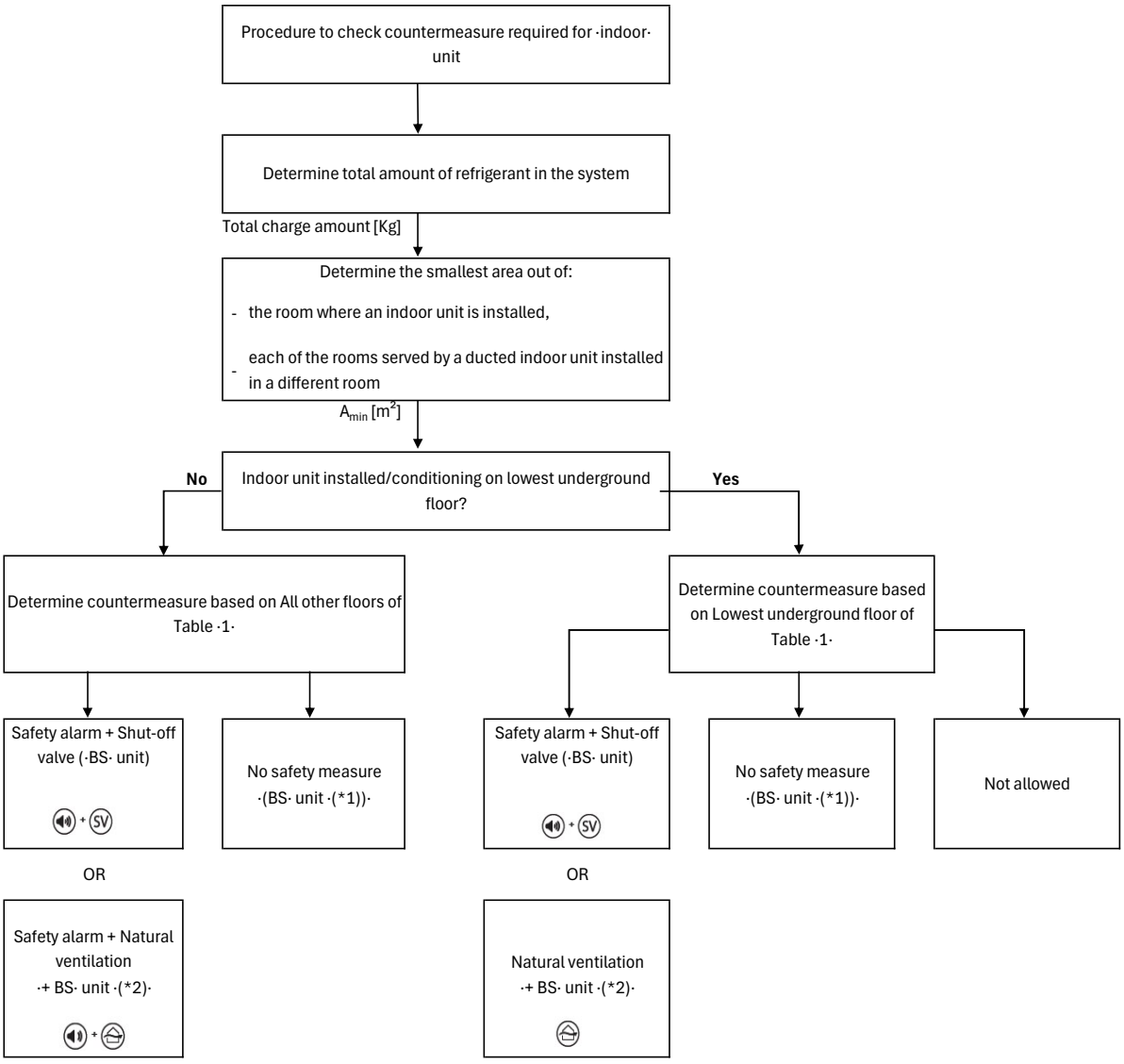
12 Installation

12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

Indoor unit installation

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



*1 ·BS· unit functions only as branch selector

*2 Use the rules for the natural ventilation instead of shut-off valves

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12 Installation

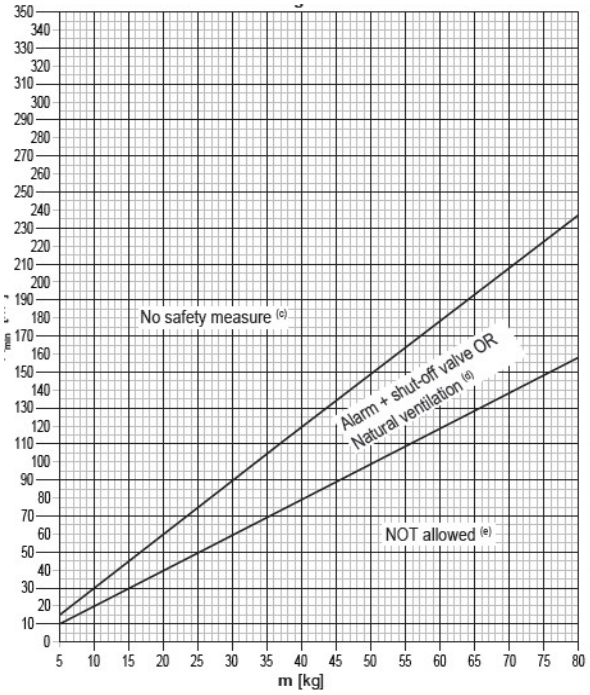
12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

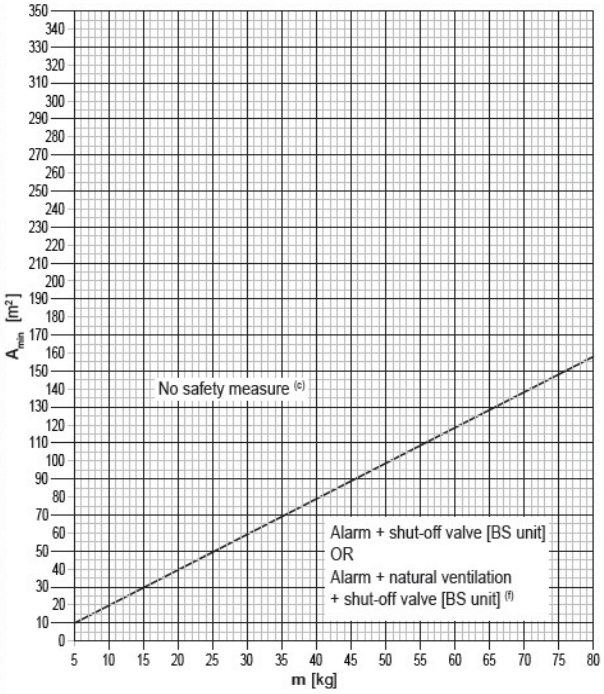
Indoor unit installation

Table ·1·

Lowest underground floor (·a·)



All other floors (·b·)



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12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

Indoor unit installation

m [kg]	A_{min} [m^2]			m [kg]	A_{min} [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

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12 Installation

12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

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

REYA-A9
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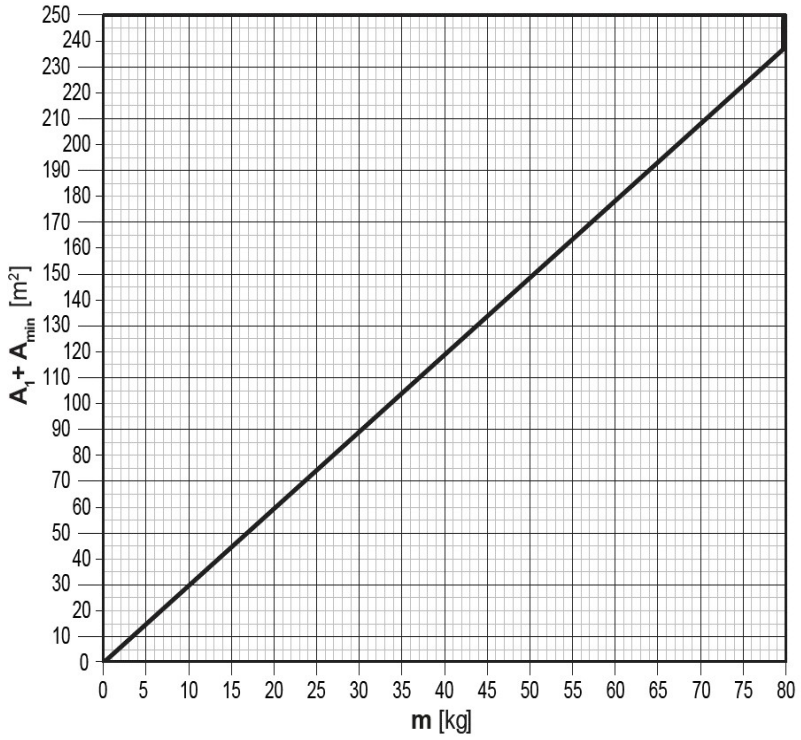
BS-A14AV1B9

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

·BS· 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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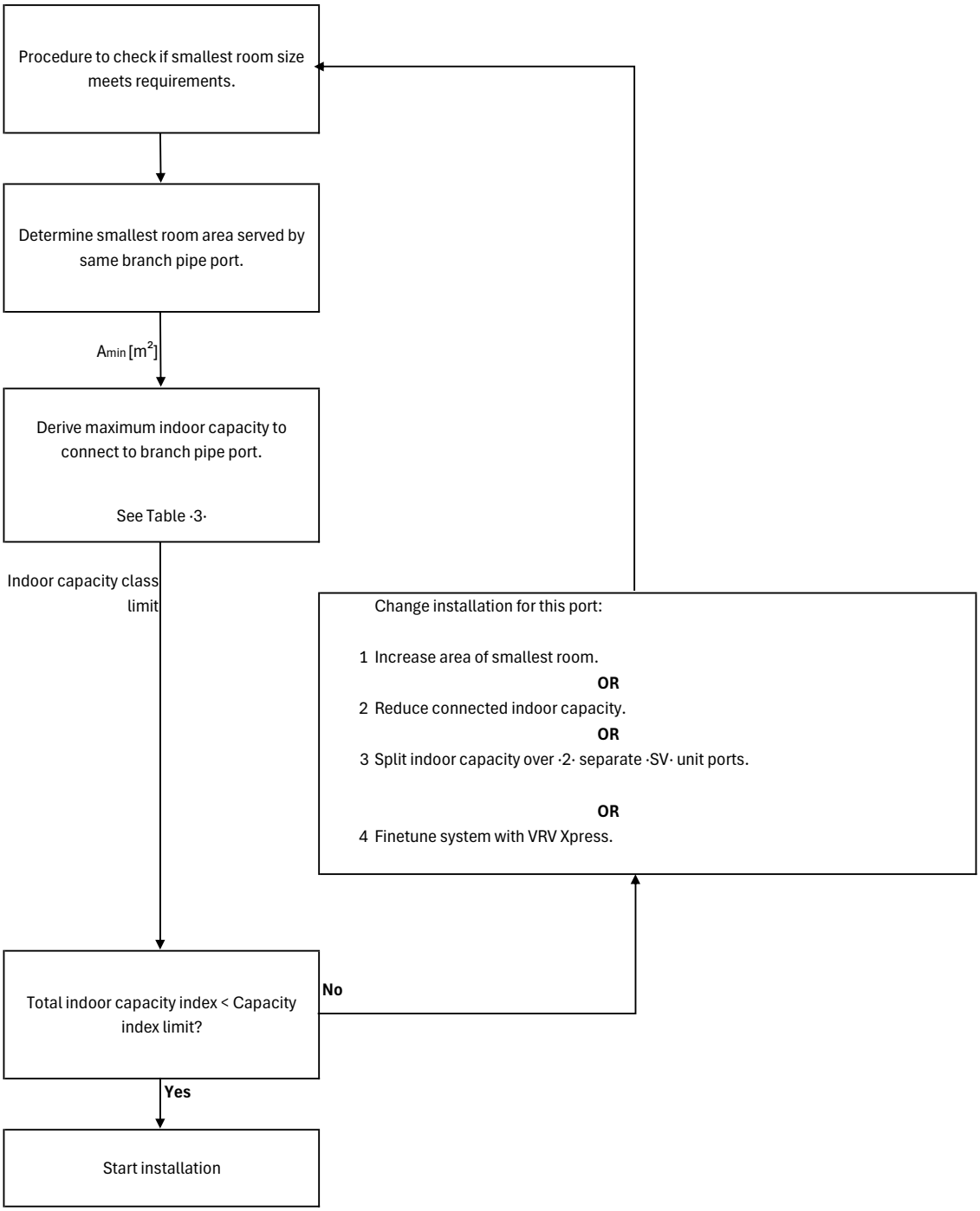
BS-A14AV1B9

Indoor unit installation

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



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12 Installation

12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

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,d·)	·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.

(d) In case the indoor unit capacity class exceeds ·140·, two branch ports need to be combined. Refer to the installation manual for more details.

Note: The values in Table ·3· are under the assumption of worst case indoor unit volume and ·40· m piping between indoor and ·BS· 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 - 4 Refrigerant Charge Information

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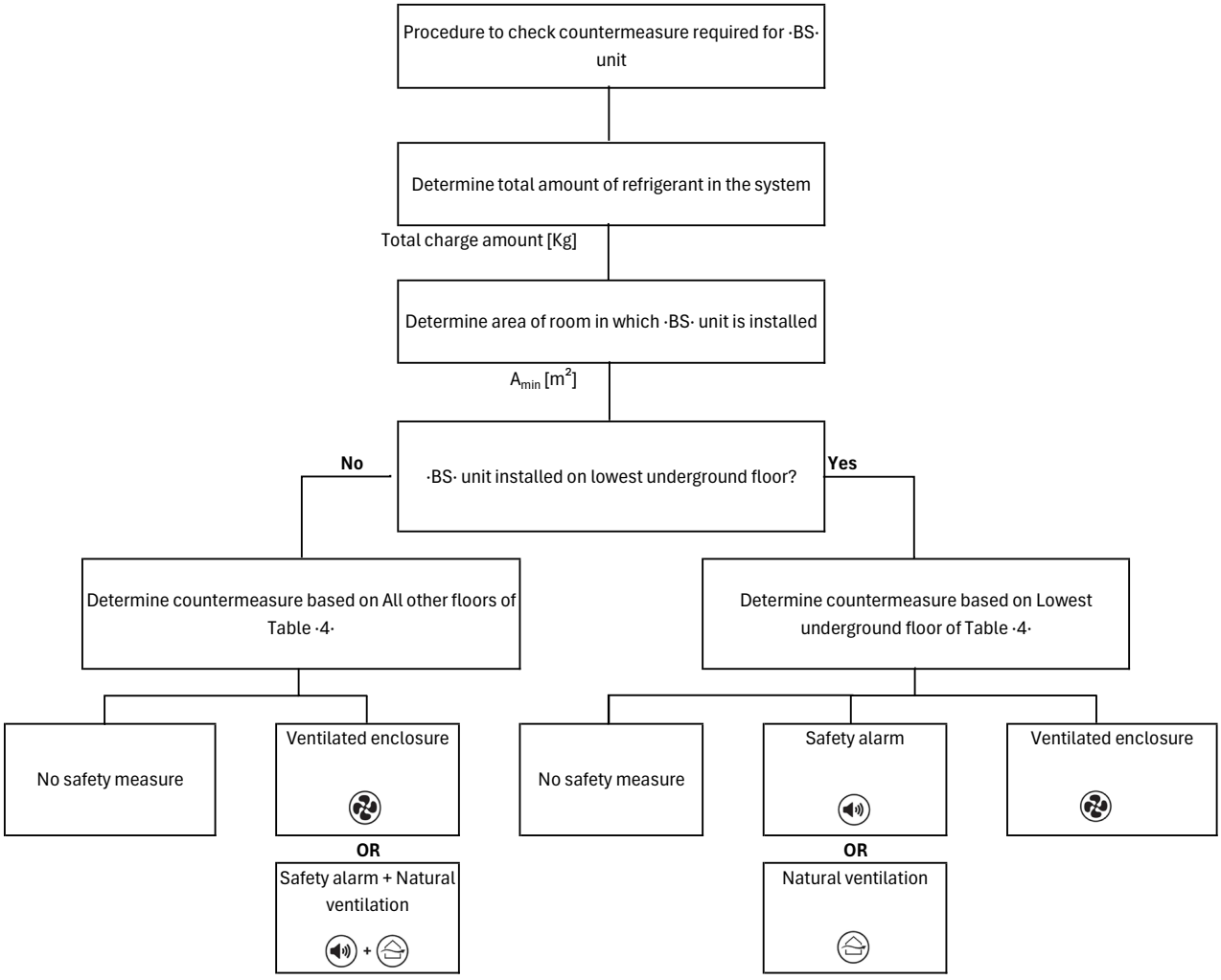
·BS· unit installation

Depending on the room size in which the ·BS· 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 ·BS· 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 ·BS· unit is installed in an occupied space where people are restricted in their movement.

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12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
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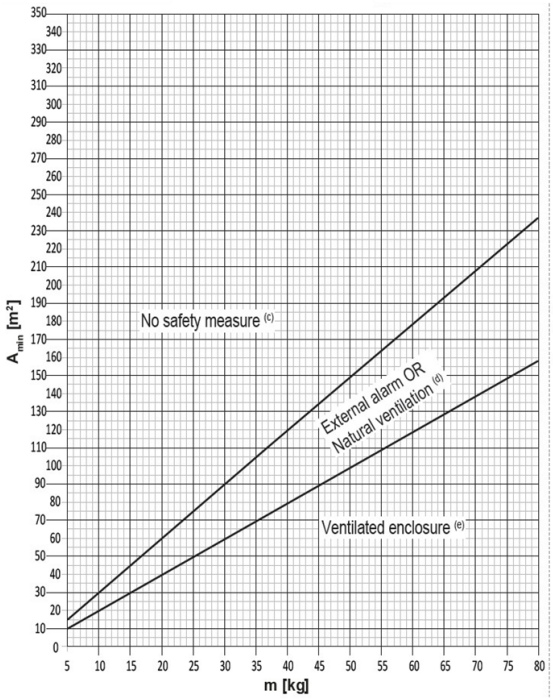
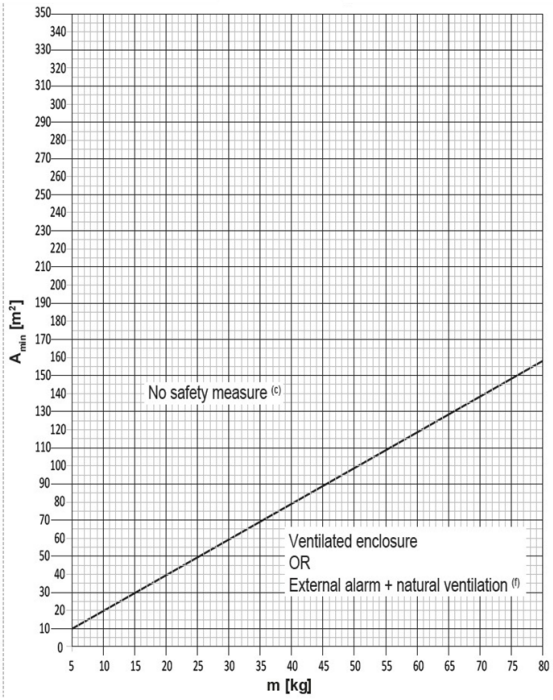
·BS· unit installation

Table ·4·

Lowest underground floor (·a·)



All other floors (·b·)



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12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

·BS· unit installation

m [kg]	A_{min} [m^2]			m [kg]	A_{min} [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

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12 Installation

12 - 4 Refrigerant Charge Information

REYA-A9
REMA-A9
BS-A14AV1B9

·BS· 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 ·BS· unit.

When the R32 sensor in the ·BS· 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 ·BS· 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 if the ·BS· unit is installed in an occupied space where people are restricted in their movement.

For details, see the manual of the ·BS· 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 - 4 Refrigerant Charge Information

REYA-A9
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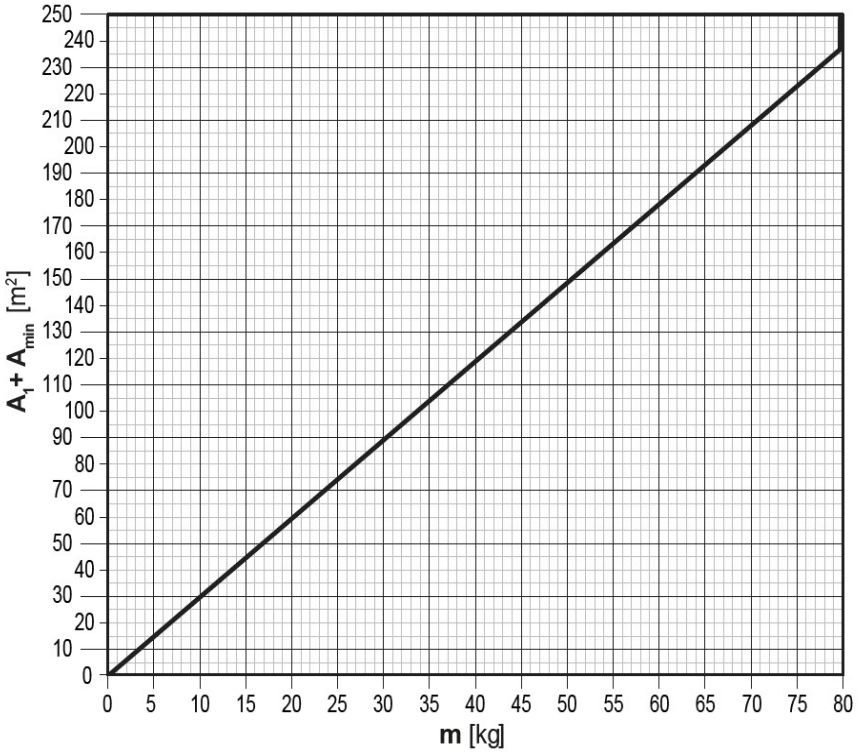
·BS· unit installation

Table ·5·



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 ·BS· unit.

Ventilated enclosure

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

When the R32 sensor in the ·BS· 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 - 4 Refrigerant Charge Information

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REMA-A9
BS-A14AV1B9

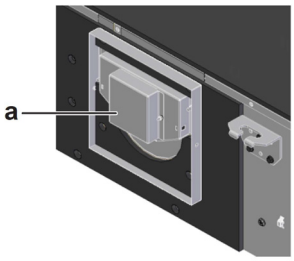
·BS· unit installation

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 ·BS 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 ·BS· unit, or by providing sufficient replacement air around the ·BS· 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 ·BS· unit enables a choice between 3 types of configurations (see below).

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



a Damper

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

- Pressure inside the ·BS· unit has to be more than ·20· Pa below the ambient pressure.

- Minimum airflow rate

Model	Minimum airflow rate [m^3/h]
BS4A	90
BS6-8A	87
BS10-12A	77

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

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12 Installation

12 - 4 Refrigerant Charge Information

REYA-A9
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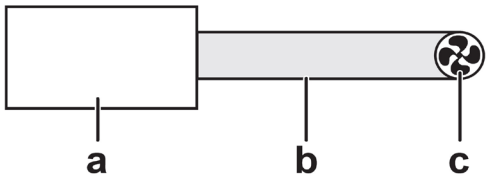
BS-A14AV1B9

·BS· unit installation

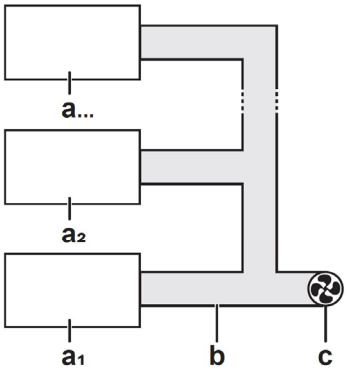
Possible configurations

One ·BS· unit – one extraction fan



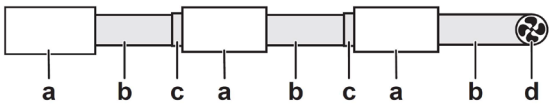
a BS unit
b Ductwork
c Extraction fan

Multiple ·BS· units in parallel – one extraction fan



a# BS unit #
b Ductwork
c Extraction fan

Multiple ·BS· units in series – one extraction fan



a BS unit
b Ductwork
c EKBSDCK
d Extraction fan

Calculation method for selection of external fan

- Manual calculation: see ·BS· unit manual for details
- VRV Xpress: see https://vrvxpress.daikin.eu/

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

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

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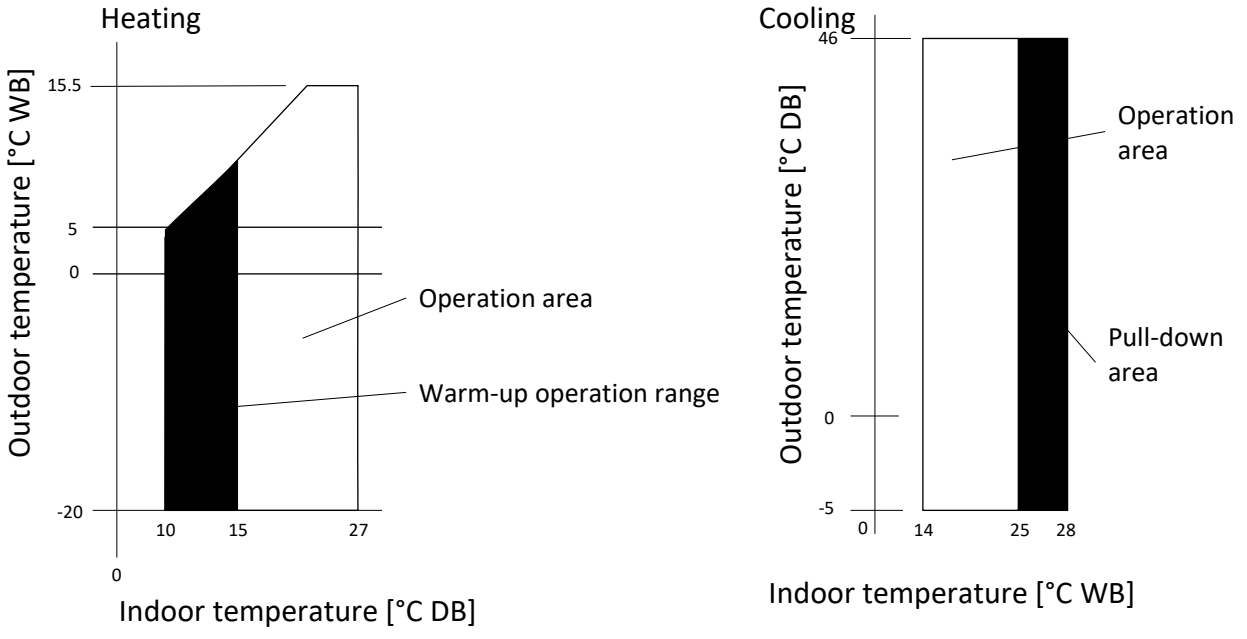
13 Operation range

13 - 1 Operation Range

REYA-A9
REMA5A9



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14 Appropriate Indoors

14 - 1 Appropriate Indoors

REYA-A9
REMA5A9

Recommended indoor units for ·REYA*A* + REMA5A*· 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 ·REYA*A* + REMA5A*· 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

4D138288D

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