



Sky Air Advance-series Air Conditioning Technical Data RZA-D



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RZA-D

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1 Features

1 - 1 RZA-D

- › Compact (870mm high) and lightweight single fan design makes the unit unobtrusive, saves space and is easy to install
- › Market-leading serviceability and handling, thanks to wide access area, 7-segment display and additional handle
- › Choosing for an R-32 product, reduces the environmental impact with 68% compared to R-410A, leads directly to lower energy consumption thanks to its high energy efficiency and has a lower refrigerant charge
- › Replace existing systems with R-32 technology without needing to replace the piping
- › Guarantees operation in heating mode down to -20°C
- › Refrigerant cooled PCB guarantees reliable cooling, as it is not influenced by ambient temperature.
- › Maximum piping length up to 100m
- › Maximum installation height difference up to 30m
- › Outdoor units for pair, twin, triple, double twin application

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Guaranteed operation down to -20°C



Swing compressor



Swing compressor



Replacement technology



Auto cooling-heating changeover



Night quiet mode



Twin/triple/double twin application



Low sound enclosure (optional)

2 Specifications

2 - 1 Specifications

Technical Specifications					RZA200D	RZA250D		
Casing	Colour				Ivory white			
	Material				Painted galvanized steel plate			
Dimensions	Unit	Height	mm		870			
		Width	mm		1,100			
		Depth	mm		460			
	Packed unit	Height	mm		1,050			
		Width	mm		1,205			
		Depth	mm		569			
Weight	Unit	kg		117				
	Packed unit	kg		127				
Packing	Weight	kg		10				
Heat exchanger	Fin	Type	WF fin					
		Treatment	Anti-corrosion treatment (PE)					
Fan	Type				Propeller			
	Discharge direction				Horizontal			
	Quantity				1			
	Air flow rate	Cooling	Nom.	m³/min	101	119		
		Heating	Nom.	m³/min	126	142		
			Partial	m³/min	52 (1)			
Fan motor	Quantity				1			
	Model				Brushless DC motor			
	Output				600			
	Drive				Direct drive			
Compressor	Quantity				1			
	Type				Hermetically sealed scroll compressor			
Operation range	Cooling	Ambient	Min.	°CDB	-20			
			Max.	°CDB	46			
	Heating	Ambient	Min.	°CWB	-20			
			Max.	°CWB	15			
Sound power level	Cooling			73	76			
	Heating			76 (1)	79 (1)			
Sound pressure level	Cooling	Nom.	dBA	53	57			
	Heating	Nom.	dBA	60	63			
Refrigerant	Type				R-32			
	Charge				5			
	Control				Expansion valve (electronic type)			
Refrigerant	GWP				675			
	Circuits	Quantity			1			
Refrigerant oil	Type				FW68DE			
	Charged volume				3			
Piping connections	Liquid	Quantity		1				
		Type		Braze connection				
		OD		9.52				
	Gas	Quantity		1				
		Type		Braze connection				
		OD		22.2				
	Drain	Quantity		8				
		Type		Hole				
		OD		26				
	Piping length	OU - IU	Min.	m	5			
			Max.	m	100			
		System	Chargeless	m	30			
	Additional refrigerant charge				kg/m		See installation manual	
	Heat insulation				Both liquid and gas pipes			
Defrost method				Reversed cycle				
Defrost control				Sensor for outdoor heat exchanger temperature				
Capacity control	Method				Inverter controlled			
PED	Category				Category II			
	Most critical part	Name		Accumulator				
	Ps*V	Bar*l		172.3				
Safety devices	Item	01			High pressure switch			
		02			Low pressure switch			
		03			Fan motor driver overload protector			
		04			Overcurrent relay			
		05			Inverter overload protector			
		06			PC board fuse			

Standard accessories: Installation manual;Quantity: 1;

Standard accessories: General safety precautions;Quantity: 1;

Standard accessories: Tie-wraps;Quantity: 2;

Standard accessories: Peel off F-gas label;Quantity: 1;

Standard accessories: Connection pipes;Quantity: 6;

2 Specifications

2 - 1 Specifications

Electrical Specifications		RZA200D	RZA250D
Power supply	Name		Y1
	Phase		3~
	Frequency	Hz	50
	Voltage	V	380-415
	Voltage range	V	342 457
Current	Zmax	List	No requirements
	Minimum Ssc value	kVa	2,169
Wiring connections	For power supply	Remark	See installation manual outdoor unit
	For connection with indoor	Remark	See installation manual outdoor unit
Power supply intake			See installation manual outdoor unit
Current - 50Hz	Maximum fuse amps (MFA)	A	20

(1)According to ENER Lot 21

Technical specifications					FDA200A + RZA200D		FDA250A + RZA250D	
Cooling capacity	Nom.		kW	19.0 (1)		22.0 (1)		
Heating capacity	Nom.		kW	22.4 (2)		24.0 (2)		
Space cooling	Capacity	Pdesign	kW	19.0		22.0		
	SEER			6.26		5.38		
	ηs,c		%	247		212		
	Annual energy consumption		kWh/a	1,821		2,455		
Space heating (Average climate)	Capacity	Pdesign	kW	11.2		12.1		
	SCOP/A			3.59		3.55		
	SCOPnet/A			3.59		3.55		
	ηs,h		%	141		139		
	Annual energy consumption		kWh/a	4,368		4,765		
	Required back up heating cap at design conditions		kW	0.00				
	Space cooling	A Condition	Pdc	kW	19.0		22.0	
(35°C - 27/19)		EERd		2.69		2.51		
		Power input	kW	7.06		8.76		
B Condition		Pdc	kW	14.1		16.2		
(30°C - 27/19)		EERd		5.28		4.46		
		Power input	kW	2.66		3.63		
C Condition		Pdc	kW	8.93		10.4		
(25°C - 27/19)		EERd		8.89		7.22		
		Power input	kW	1.00		1.44		
D Condition		Pdc	kW	4.66		4.60		
(20°C - 27/19)		EERd		8.51		6.92		
		Power input	kW	0.55		0.67		
Space heating (Average climate)		TOL	Tol (temperature operating limit)	°C	-10			
			Pdh (declared heating cap)	kW	11.2		12.1	
			COPd (declared COP)		2.20		2.18	
			Power input	kW	5.08		5.55	
	TBivalent	Tbiv (bivalent temperature)	°C	-10				
		Pdh (declared heating cap)	kW	11.2		12.1		
		COPd (declared COP)		2.20		2.18		
		Power input	kW	5.08		5.55		
	A Condition (-7°C)	Pdh (declared heating cap)	kW	9.86		10.7		
		COPd (declared COP)		2.40		2.43		
		Power input	kW	4.11		4.41		
	B Condition (2°C)	Pdh (declared heating cap)	kW	6.05		6.52		
	Space heating (Average climate)	B Condition (2°C)	COPd (declared COP)		3.39			
			Power input	kW	1.78		1.92	
		C Condition (7°C)	Pdh (declared heating cap)	kW	3.92		4.19	
			COPd (declared COP)		5.04		4.84	
		Power input	kW	0.78		0.87		
D Condition (12°C)		Pdh (declared heating cap)	kW	3.75		3.82		
		COPd (declared COP)		5.28		5.05		
Power consumption in other than active mode	Crankcase heater mode	Cooling	PCK	kW	0.031			
		Heating	PCK	kW	0.031			
	Off mode	Cooling	POFF	kW	0.031			
		Heating	POFF	kW	0.040			
	Standby mode	Cooling	PSB	kW	0.031			
		Heating	PSB	kW	0.040			
	Thermo-stat-off mode	Cooling	PTO	kW	0.018			
		Heating	PTO	kW	0.052			
Indication if the heater is equipped with a supplementary heater (pair application)					No			
Supplementary heater (pair application)	Back-up capacity	Heating	elbu	kW	0.0			

2 Specifications

2 - 1 Specifications

Technical specifications		FDA200A + RZA200D	FDA250A + RZA250D
Cooling	Cdc (Degradation cooling)	0.25	
Heating	Cdh (Degradation heating)	0.25	
Cooling function included		Yes	
Heating function included		Yes	
Average climate included		Yes	
Cold season included		No	
Warm season included		No	

(1) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. |

(2) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m.

3 Electrical data

3 - 1 Electrical Data

RZA-D

Symbols

- MCA: Minimum Circuit Ampere [A]
TOCA: Total overcurrent amps [A]
MFA: Maximum Fuse Ampere [A]
MSC: Maximum current of the starting compressor [A]
RLA: Rated load amps [A]
OFM: Outdoor fan motor
IFM: Indoor fan motor
FLA: Full Load Ampere [A]
KW: Fan motor rated output [kW]

Notes

- The ·RLA· is based on the following conditions.
Cooling
Indoor temperature ·27.0°C DB / ·19.0°C WB
Outdoor temperature ·35.0°C DB
Heating
Indoor temperature ·20.0°C DB
Outdoor temperature ·7.0°C DB / ·6.0°C WB
- TOCA· is the total value of each overcurrent set.
- Voltage range
The units are suitable for use with electrical systems in which the voltage supplied to the unit terminals is not below or above the listed range limits.
- The maximum allowable voltage that is unbalanced between phases is ·2·%.
- MCA· is the maximum input current.
The capacity of the ·MFA· must be greater than that of the ·MCA·.
Select the ·MFA· according to the table.
- Select the wire size according to the MCA.
- MFA· is used to select the circuit breaker and the ground fault circuit interruptor.
Earth leakage circuit breaker

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RZA-D

		Power supply	Voltage range					Compressor		OFM		IFM
Indoor	Outdoor				MCA	TOCA	MFA	MSC	RLA	kW	FLA	FLA
FDA200A2VEB		3N~ 50Hz 380-415V	Minimum: ·342 V· Maximum: ·457 V·		19.9	—	20	—	14.0	0.6	1.3	4.0
FCAG50BVEB	x4				16.1	—	20	—	13.0	0.6	1.3	0.3 x4
FCAG60BVEB	x3				16.7	—	20	—	13.9	0.6	1.3	0.3 x3
FCAG71BVEB	x3				16.7	—	20	—	13.9	0.6	1.3	0.3 x3
FCAG100BVEB	x2				16.4	—	20	—	13.1	0.6	1.3	0.7 x2
FFA50A2VEB	x4				16.5	—	20	—	13.0	0.6	1.3	0.4 x4
FFA60A2VEB	x3				17.7	—	20	—	13.9	0.6	1.3	0.6 x3
FBA50A2VEB	x4				20.5	—	25	—	13.0	0.6	1.3	1.4 x4
FBA60A2VEB	x3				19.7	—	20	—	13.9	0.6	1.3	1.3 x3
FBA71A2VEB	x3				19.7	—	20	—	13.9	0.6	1.3	1.3 x3
FBA100A2VEB	x2				22	—	25	—	13.1	0.6	1.3	3.5 x2
FHA50AVEB98	x4				17.4	—	20	—	13.0	0.6	1.3	0.6 x4
FHA60AVEB98	x3				17.7	—	20	—	13.9	0.6	1.3	0.6 x3
FHA71AVEB98	x3				18.3	—	20	—	13.9	0.6	1.3	0.8 x3
FHA100AVEB8	x2				17.7	—	20	—	13.1	0.6	1.3	1.3 x2
FUA71AVEB	x3				18.6	—	20	—	13.9	0.6	1.3	0.9 x3
FUA100AVEB	x2				17.7	—	20	—	13.1	0.6	1.3	1.3 x2
FAA71BUV1B	x3				17.4	—	20	—	13.9	0.6	1.3	0.5 x3
FAA100BUV1B	x2				16.8	—	20	—	13.1	0.6	1.3	0.9x2
FVA71AMVEB	x3				18.3	—	20	—	13.9	0.6	1.3	0.8 x3
FVA100AMVEB	x2				18.1	—	20	—	13.1	0.6	1.3	1.5 x2
FDXM50F3V1B	x4				18.6	—	20	—	13.0	0.6	1.3	0.9 x4
FDXM60F3V1B	x3				18.6	—	20	—	13.9	0.6	1.3	0.9 x3
FNA50A2VEB	x4				17.0	—	20	—	13.0	0.6	1.3	0.5 x4
FNA60A2VEB	x3				17.7	—	20	—	13.9	0.6	1.3	0.6 x3
FDA250A2VEB		3N~ 50Hz 380-415V	Minimum: ·342 V· Maximum: ·457 V·		20.2	—	25	—	14.0	0.6	1.3	4.3
FCAG60BVEB	x4				17.2	—	20	—	14.0	0.6	1.3	0.3 x4
FCAG125BVEB	x2				18.2	—	20	—	13.6	0.6	1.3	1.3 x2
FFA60A2VEB	x4				18.4	—	20	—	14.0	0.6	1.3	0.6 x4
FBA60A2VEB	x4				21.1	—	25	—	14.0	0.6	1.3	1.3 x4
FBA125A2VEB	x2				22.7	—	25	—	13.6	0.6	1.3	3.6 x2
FHA60AVEB98	x4				18.4	—	20	—	14.0	0.6	1.3	0.6 x4
FHA125AVEB8	x2				18.6	—	20	—	13.6	0.6	1.3	1.5 x2
FUA125AVEB	x2				18.4	—	20	—	13.6	0.6	1.3	1.4 x2
FDA125A5VEB	x2				19.9	—	20	—	13.6	0.6	1.3	2.1 x2
FVA125AMVEB	x2				18.6	—	20	—	13.6	0.6	1.3	1.5 x2
FDXM60F3V1B	x4				19.7	—	20	—	14.0	0.6	1.3	0.9 x4
FNA60A2VEB	x4				18.4	—	20	—	14.0	0.6	1.3	0.6 x4

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4 Options

4 - 1 Options

RZA-D

Available options for ·RZA200/250D7Y1B· models

Description	Combination	Material name	RZA200D7Y1B	RZA250D7Y1B
Refrigerant branch piping	Twin	KHRQ(M)22M20TA	1	1
	Triple	KHRQ(M)250H7	1	1
	Double twin	KHRQ(M)22M20TA	3x	3x
Demand adaptor kit		KRP58M51	1	1
Mounting plate		EKMKA3	1 (*1)	1 (*1)
Bottom plate heater		EKBPH250D	1	1

(*1) To mount KRP58M51, an additional mounting kit (EKMKA3) needs to be used (obligatory)

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5 Combination table

5 - 1 Combination Table

RZA-D

Combination table

Units	Duct	High Cassette	Thin cassette				2x2 cassette	Duct (medium ESP)				Ceiling-suspended				Ceiling-mounted - 4 way blow	Wall mounted type	Duct (high ESP)																				
Model name	FDA200A2VEB	FDA250A2VEB	FCAHG71HVEB	FCAHG100HVEB	FCAHG125HVEB	FCAHG140HVEB	FCAHG35BVEB	FCAHG50BVEB	FCAHG60BVEB	FCAHG71BVEB	FCAHG100BVEB	FCAHG125BVEB	FCAHG140BVEB	FFA25A2VEB9	FFA35A2VEB9	FFA50A2VEB9	FFA60A2VEB9	FBA35A2VEB9	FBA50A2VEB9	FBA60A2VEB9	FBA71A2VEB9	FBA100A2VEB	FBA125A2VEB	FBA140A2VEB	FHA35AVEB98	FHA50AVEB98	FHA60AVEB98	FHA71AVEB98	FHA100AVEB8	FHA125AVEB8	FHA140AVEB8	FUA71AVEB	FUA100AVEB	FUA125AVEB	FAA71BUV1B	FAA100BUV1B	FDA125A5VEB	
RZA200D7Y1B	P							4	3	3	2					4	3		4	3	3	2				4	3	3	2				3	2		3	2	
RZA250D7Y1B	P							4				2				4			4				2				4			2				2			2	

Units	Floor standing type				Slim duct				Concealed floor standing type			
Model name	FVA71AMVEB	FVA100AMVEB	FVA125AMVEB	FVA140AMVEB	FDX25F3V1B9	FDX35F3V1B9	FDX50F3V1B9	FDX60F3V1B9	FNA25A2VEB9	FNA35A2VEB9	FNA50A2VEB9	FNA60A2VEB9
RZA200D7Y1B	3	2					4	3			4	3
RZA250D7Y1B		2					4	4				4

Possible combinations P= Pair
2= Twin
3= Triple
4= Double twin

Notes

- Maximum capacity is limited based on outdoor unit capacity.
- When combining multiple indoor units, designate the unit whose remote controller is equipped with the most functions as the master unit.
- For the selection of the correct refnet kit, required to install a multi-combination, refer to the option list.

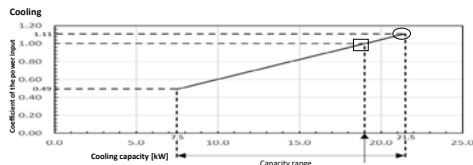
Twin : KHRQ(M)22M20TA
Triple : KHRQ(M)250H7
Double twin : KHRQ(M)22M20TA

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Capacity tables

6 - 1 Cooling/Heating Capacity Tables

RZA200D

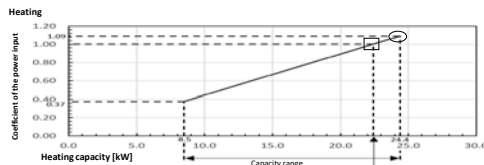


Cooling		Outdoor temperature [°C DB]											
		25			30			35			40		
Indoor		TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
[°C WB]	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]
16	21.6	18.2	0.91	20.8	17.5	1.00	20.1	16.7	1.10	19.4	16.2	1.19	-
18	22.6	18.1	0.91	21.8	17.5	1.01	21.0	16.9	1.11	20.3	16.2	1.20	-
19	23.1	18.1	0.92	22.3	17.5	1.01	21.5	16.8	1.11	20.7	16.2	1.21	-
20	23.6	18.1	0.92	22.8	17.5	1.02	22.0	16.7	1.11	21.2	16.1	1.21	-
22	24.6	17.9	0.93	23.8	17.3	1.02	22.5	16.7	1.12	22.1	16.0	1.22	-
24	25.6	17.6	0.93	24.7	17.0	1.03	23.8	16.4	1.13	23.0	15.8	1.23	-

Notes

- The ratings shown are net capacities which include a correction for indoor fan motor heat.
 - = Maximum at standard conditions
□ = Rated capacity and rated coefficient of the power input
The maximum capacity is not guaranteed except at standard conditions.
 - SHC: is based on indoor units -EWB & EDB.
-SHC: for other dry-bulb temperatures = SHC + SHC*.
SHC* = -SHC: correction for other dry-bulb temperatures
= $0.02 \times \text{AFR} (\text{m}^3/\text{min}) \times (1 - \text{BF}) \times (\text{DB}^* - \text{EDB})$
 - The capacities are based on the following conditions:
Outdoor air: 85% RH.
- However, the outdoor ambient condition of the rated capacity during heating operation is -7°C DB / 6°C WB.
Corresponding refrigerant piping length: 5.0 m
Level difference: 0 m
- CPI: is a percentage value compared to the rated value which is 1.00.
 - The error rate for this value is less than 5% and depends on the indoor unit type.
 - The heating performance takes into account the drop that occurs during defrost operation.
 - The air flow rate and bypass factor are mentioned in the table below.

Pair		FDA200A	
AFR	(BF)	64	(0.3)
Twin			
AFR	(BF)	FCAG100Bx2	FBA100Ax2
22.8x2	(0.17x2)	29.0x2	(0.09x2)
28.0x2	(0.20x2)	31.0x2	(0.20x2)
26.0x2	(0.10x2)	-	-
Triple			
AFR	(BF)	FCAG60Bx3	FBA60Ax3
13.6x3	(0.20x3)	15.3x3	(0.14x3)
18.0x3	(0.15x3)	19.5x3	(0.13x3)
20.3x3	(0.20x3)	20.3x3	(0.13x3)
Double twin			
AFR	(BF)	FCAG50Bx4	FBA50Ax4
12.6x4	(0.22x4)	15.0x4	(0.13x4)
15.0x4	(0.18x4)	15.0x4	(0.16x4)
15.8x4	(0.11x4)	16.0x4	(0.11x4)



Heating		Outdoor temperature [°C WB]											
		-15			-11			-8			-4		
Indoor		TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
[°C DB]	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]
16	12.5	0.92	14.1	0.95	15.3	0.97	16.0	0.99	17.9	1.05	24.7	1.06	26.9
18	12.5	0.92	14.1	0.95	15.2	0.99	15.9	1.01	17.8	1.06	24.6	1.07	26.8
20	12.4	0.93	14.0	0.98	15.1	1.01	15.8	1.02	17.7	1.09	24.4	1.09	26.6
22	12.2	0.95	13.9	0.99	15.0	1.02	15.7	1.05	17.5	1.10	24.2	1.11	26.4
24	12.1	0.96	13.7	1.01	14.8	1.05	15.6	1.07	17.4	1.11	24.1	1.12	26.2

Symbols

- AFR: Air flow rate [m³/min]
BF: Bypass factor
EWB: Entering wet-bulb temperature [°C WB]
EDB: Entering dry-bulb temperature [°C DB]
TC: Maximum total cooling/heating capacity [kW]
SHC: Sensible heat capacity [kW]
CPI: Coefficient of the power input

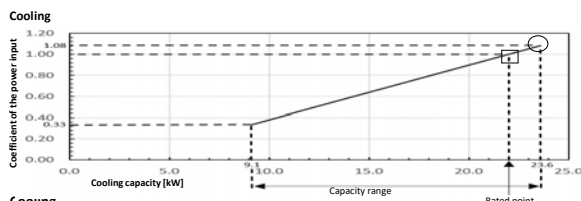
- PI: Power input [kW]
compressor + indoor and outdoor fan motors

9. The rated power input for each model is mentioned in the table below.

Pair		FDA200A	
Cooling	Heating	7.06	6.93
Twin			
Cooling	Heating	6.61	6.22
7.25	6.42	5.88	6.37
5.82	6.74	6.09	7.11
6.07	7.77	-	-
Triple			
Cooling	Heating	5.58	5.30
7.25	6.22	6.22	6.20
5.97	7.13	5.97	6.41
5.30	6.41	-	-
Double twin			
Cooling	Heating	7.99	7.03
5.20	6.83	5.22	6.73
5.81	6.73	5.81	6.73
6.25	6.73	-	-

3D125190D

RZA250D

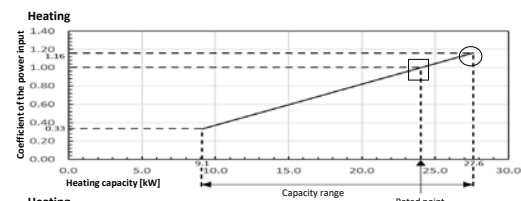


Cooling		Outdoor temperature [°C DB]											
		25			30			35			40		
Indoor		TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
[°C WB]	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]
16	23.7	20.8	0.88	22.9	20.1	0.98	22.1	19.4	1.07	21.2	18.8	1.17	-
18	24.8	20.7	0.89	23.9	20.0	0.99	23.1	19.4	1.08	22.2	18.7	1.17	-
19	25.3	20.8	0.89	24.5	20.0	0.99	23.6	19.4	1.08	22.7	18.8	1.18	-
20	25.9	20.7	0.90	25.0	19.9	0.99	24.1	19.3	1.09	23.2	18.7	1.18	-
22	27.0	20.4	0.90	26.1	19.7	1.00	25.1	19.1	1.09	24.2	18.5	1.19	-
24	28.1	20.2	0.91	27.1	19.6	1.01	26.2	18.9	1.10	25.2	18.1	1.20	-

Notes

- The ratings shown are net capacities which include a correction for indoor fan motor heat.
 - = Maximum at standard conditions
□ = Rated capacity and rated coefficient of the power input
The maximum capacity is not guaranteed except at standard conditions.
 - SHC: is based on indoor units -EWB & EDB.
-SHC: for other dry-bulb temperatures = SHC + SHC*.
SHC* = -SHC: correction for other dry-bulb temperatures
= $0.02 \times \text{AFR} (\text{m}^3/\text{min}) \times (1 - \text{BF}) \times (\text{DB}^* - \text{EDB})$
 - The capacities are based on the following conditions:
Outdoor air: 85% RH.
- However, the outdoor ambient condition of the rated capacity during heating operation is -7°C DB / 6°C WB.
Corresponding refrigerant piping length: 5.0 m
Level difference: 0 m
- CPI: is a percentage value compared to the rated value which is 1.00.
 - The error rate for this value is less than 5% and depends on the indoor unit type.
 - The heating performance takes into account the drop that occurs during defrost operation.
 - The air flow rate and bypass factor are mentioned in the table below.

Pair		FDA250A	
AFR	(BF)	69	(0.25)
Twin			
AFR	(BF)	FCAG125Bx2	FBA125Ax2
26.0x2	(0.21x2)	34.0x2	(0.06x2)
31.0x2	(0.14x2)	32.5x2	(0.16x2)
39.0x2	(0.16x2)	-	-
Double twin			
AFR	(BF)	FCAG60Bx4	FBA60Ax4
13.6x4	(0.20x4)	18.0x4	(0.15x4)
19.5x4	(0.20x4)	14.5x4	(0.11x4)
16.0x4	(0.12x4)	16.0x4	(0.12x4)



Heating		Outdoor temperature [°C WB]											
		-15			-11			-8			-4		
Indoor		TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
[°C DB]	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]	[kW]	-	[kW]
16	14.0	0.89	15.6	0.95	16.8	0.99	17.6	1.01	19.5	1.06	28.1	1.07	30.5
18	13.9	0.93	15.5	0.99	16.6	1.02	17.4	1.05	19.3	1.10	27.8	1.12	30.2
20	13.7	0.98	15.4	1.02	16.5	1.06	17.3	1.09	19.1	1.15	27.6	1.16	30.0
22	13.6	1.01	15.1	1.07	16.3	1.10	17.0	1.13	18.9	1.20	27.4	1.21	29.7
24	13.4	1.05	15.0	1.10	16.2	1.15	16.9	1.17	18.7	1.23	27.1	1.26	29.5

Symbols

- AFR: Air flow rate [m³/min]
BF: Bypass factor
EWB: Entering wet-bulb temperature [°C WB]
EDB: Entering dry-bulb temperature [°C DB]
TC: Maximum total cooling/heating capacity [kW]
SHC: Sensible heat capacity [kW]
CPI: Coefficient of the power input
PI: Power input [kW]
compressor + indoor and outdoor fan motors

9. The rated power input for each model is mentioned in the table below.

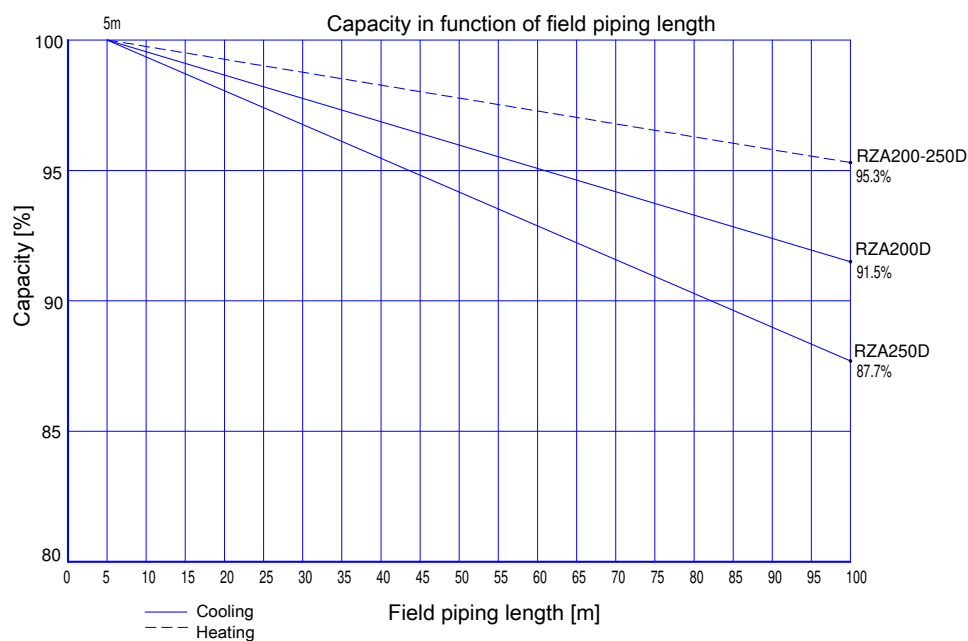
Pair		FDA250A	
Cooling	Heating	8.76	7.69
Twin			
Cooling	Heating	7.73	7.16
7.73	7.12	7.99	7.52
8.10	6.68	8.74	6.94
Double twin			
Cooling	Heating	7.24	6.43
6.92	6.84	7.23	7.09
8.89	6.83	5.93	6.75

3D125191B

6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

RZA-D



3D125192

6 Capacity tables

6 - 2 Maximum heating capacity tables

RZA-D

Heating

RZA200D7Y1B

Indoor	Outdoor temperature [°C WB]						
	-15	-11	-8	-6	-1	6	10
	TC	TC	TC	TC	TC	TC	TC
[°C DB]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
20	13,3	15,4	17,0	18,1	20,7	24,4	26,6

RZA250D7Y1B

Indoor	Outdoor temperature [°C WB]						
	-15	-11	-8	-6	-1	6	10
	TC	TC	TC	TC	TC	TC	TC
[°C DB]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
20	14,5	16,9	18,6	19,8	23,5	27,6	30,0

Symbols

TC: Maximum total heating capacity [kW]

Notes

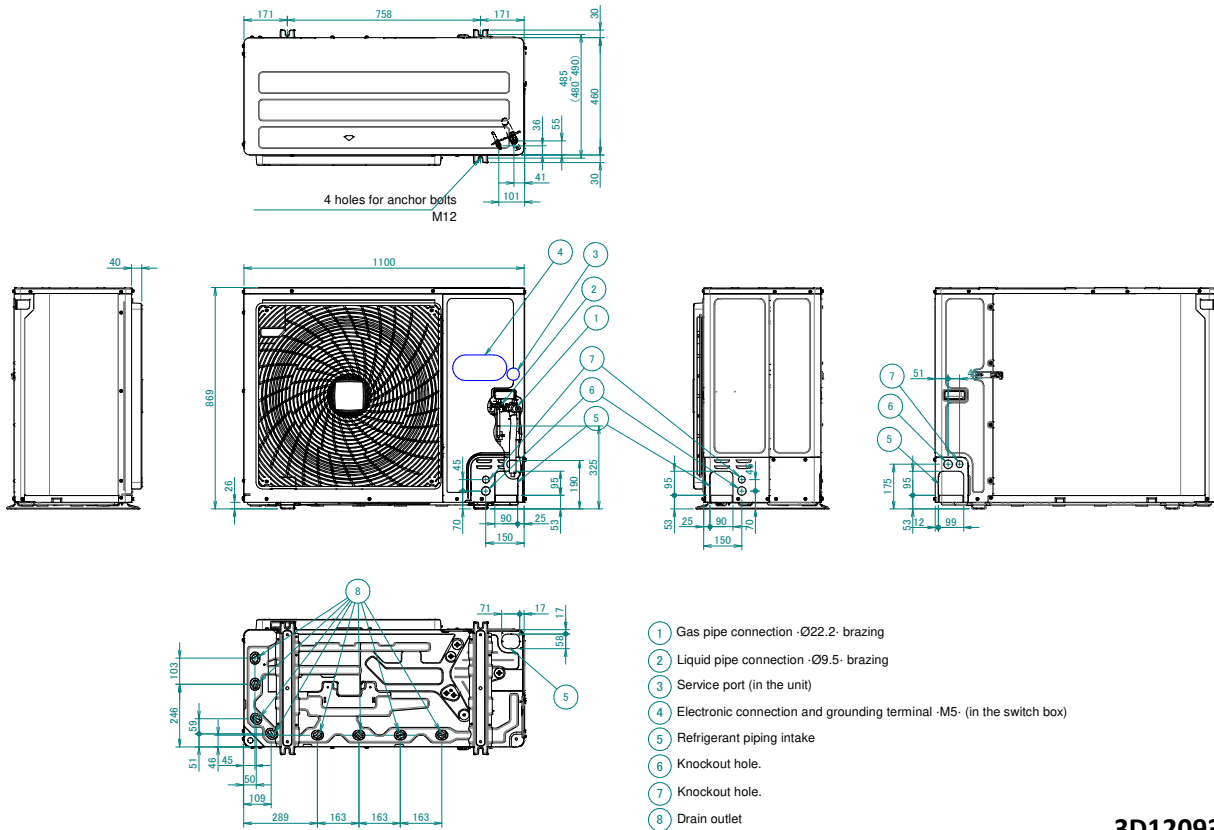
- The ratings shown are peak capacities which include a correction for indoor fan motor heat.
- The capacities are based on the following conditions:
Outdoor air: ·85% RH·
However, the outdoor ambient condition of the rated capacity during heating operation is ·7°C DB/6°C WB·.
Corresponding refrigerant piping length: ·5· m
Level difference: ·0·m
- The error rate for this value is less than ·5·% and depends on the indoor unit type.

3D125193A

7 Dimensional drawings

7 - 1 Dimensional Drawings

RZA-D

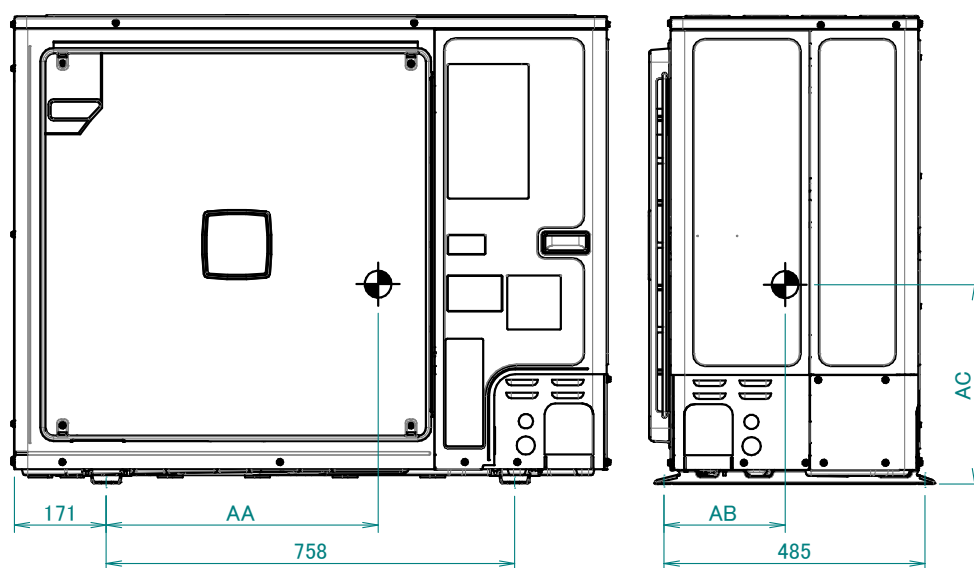


3D120937

8 Centre of gravity

8 - 1 Centre of Gravity

RZA-D



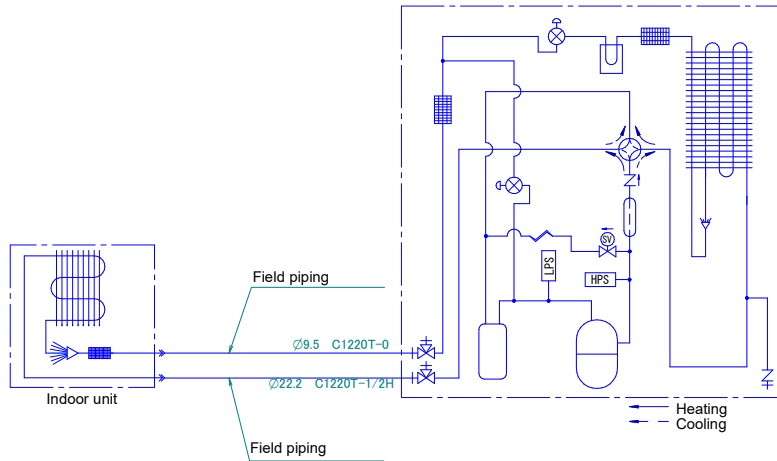
Model	AA	AB	AC
RZA200/250D	703.9	239.0	385.1

4D120934A

9 Piping diagrams

9 - 1 Piping Diagrams

RZA-D



Notes

1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

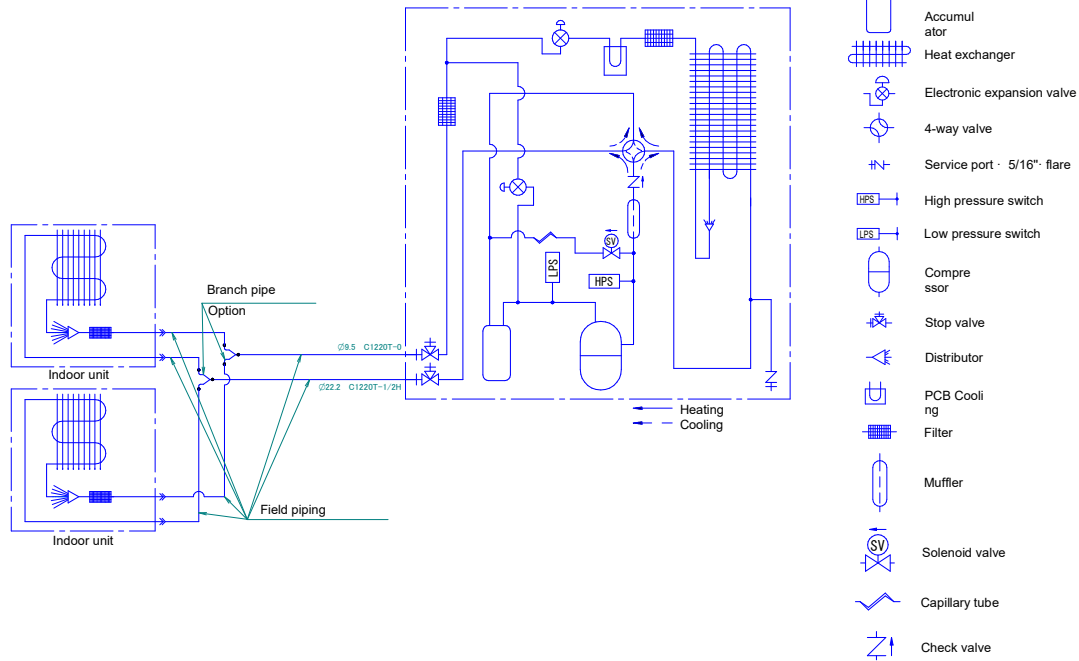
- Accumulator
- Heat exchanger
- Electronic expansion valve
- 4-way valve
- Service port · 5/16" flare
- High pressure switch
- Low pressure switch
- Compressor
- Stop valve
- Distributor
- PCB Cooling
- Filter
- Muffler
- Solenoid valve
- Capillary tube
- Check valve

3D120908

9 Piping diagrams

9 - 2 Piping Diagram Twin Application

RZA-D



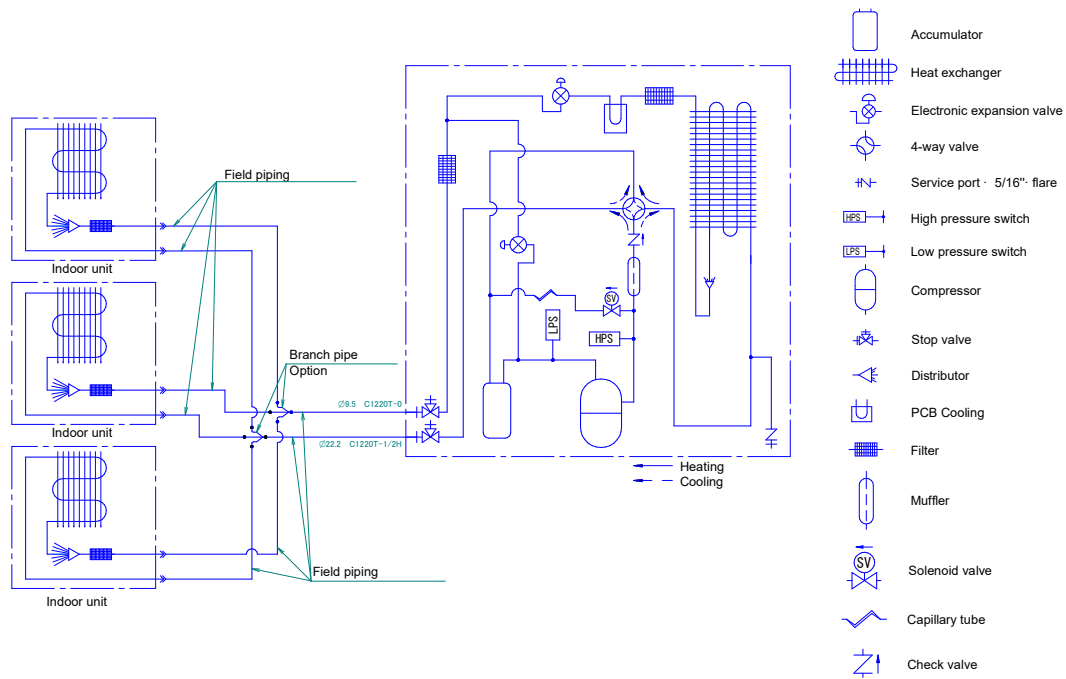
Notes
1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120916

9 Piping diagrams

9 - 3 Piping Diagram Triple Application

RZA-D



Notes
1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

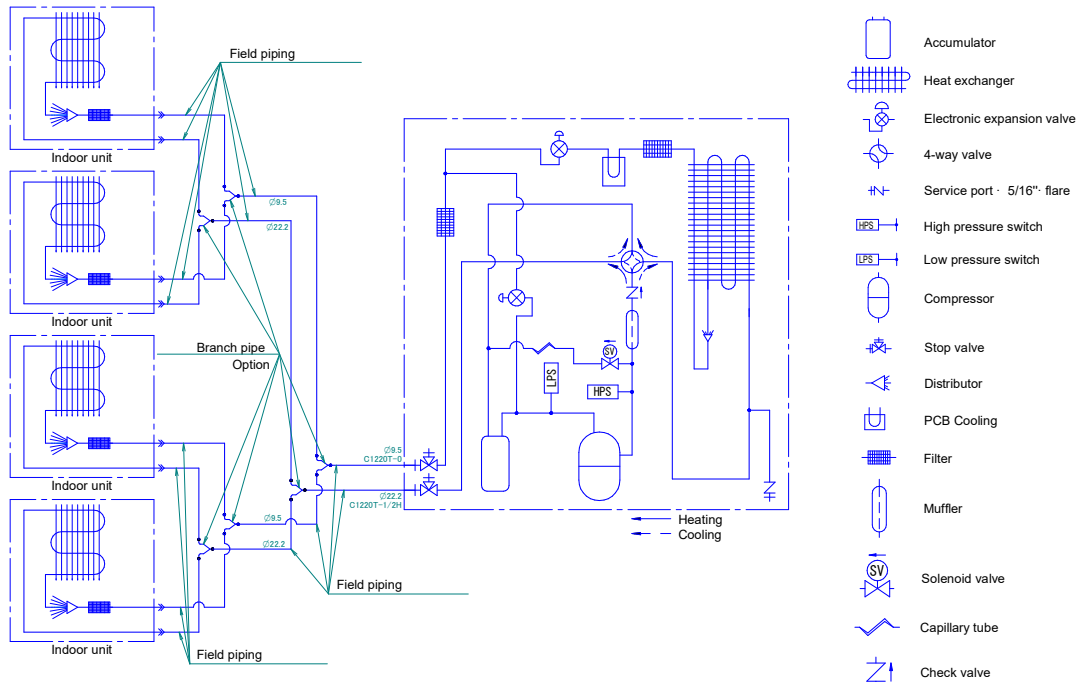
3D120917

9 Piping diagrams

9 - 4 Piping Diagram Double Twin Application

RZA-D

9



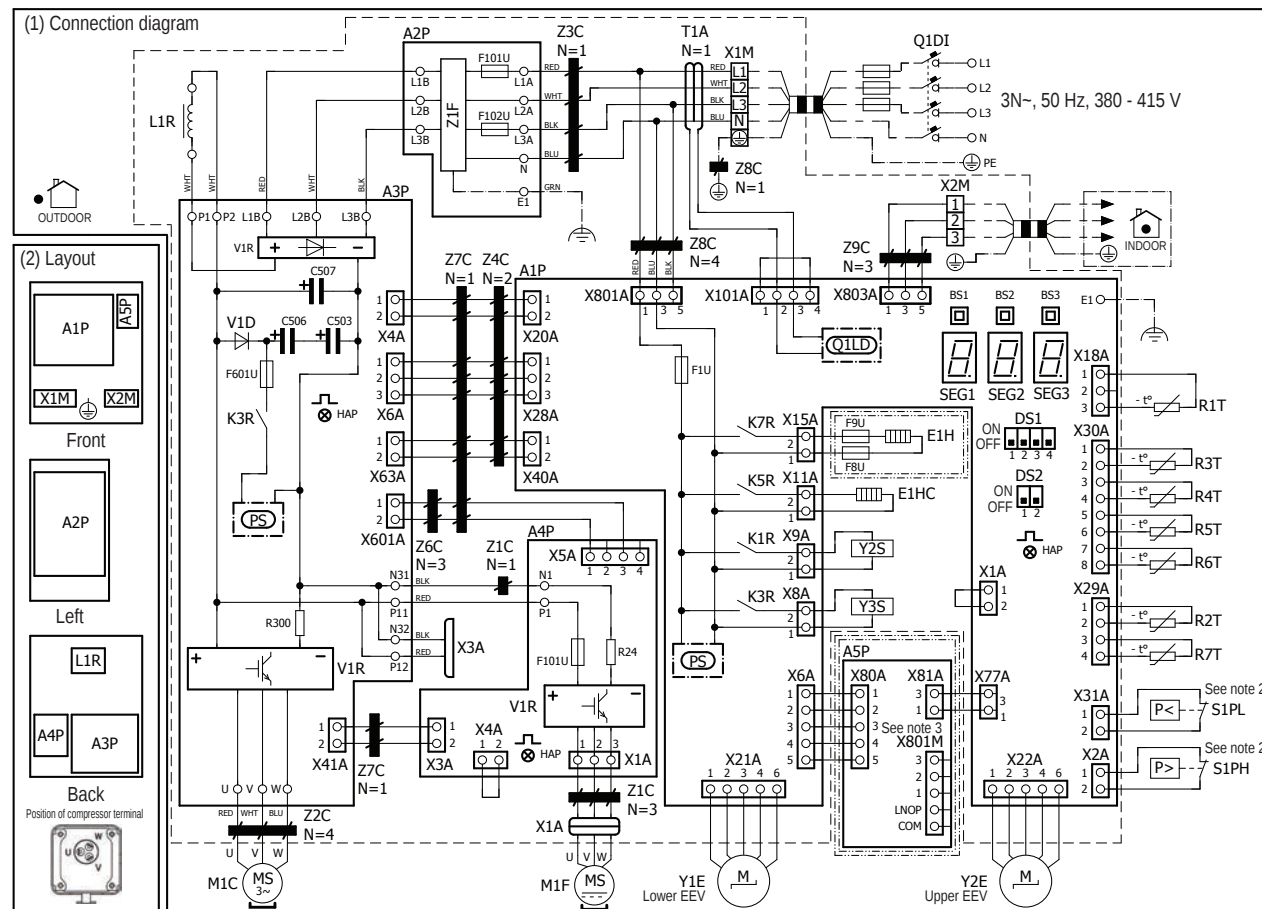
Notes

1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120918

10 - 1 Wiring Diagrams - Single Phase

(1) Connection diagram



(3) NOTES

-  : Connection
 X1M : Main terminal
 _____ : Earth wiring
 - - - - - : Field supply
 [- - - - -] : Option
-  : switch box
 : PCB
 : Wiring depending on model
 : Protective earth
 : Field wire

(4) 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)
A5P	* Printed circuit board (demand)
BS1-BS3 (A1P)	Push-button switch
C503, C506, C507 (A3P)	Capacitor
DS1, DS2 (A1P)	Dipswitch
E1H	* Bottomplate heater
E1HC	Crankcase heater
F1U (A1P)	Fuse (T 3,15 A 250 V)
F8U, F9U	* Fuse (F)
F101U (A4P)	Fuse
F101-102U (A2P)	Fuse
F601U (A3P)	Fuse
HAP (A1P,A3-4P)	LED (service monitor is green)
K1R (A1P)	Magnetic relay (Y2S)
K3R (A3P)	Magnetic relay
K3R (A1P)	Magnetic relay (Y3S)
K5R (A1P)	Magnetic relay (E1HC)
K7R (A1P)	Magnetic relay (E1H)
L1R	Reactor
M1C	Compressor motor
M1F	Fan motor
PS (A1P,A3P)	Switching power supply

Part n°	Description
Q1DI	Earth leakage circuit breaker
Q1LD (A1P)	Earth current detector
R1T	Thermistor (air)
R2T	Thermistor (discharge pipe)
R3T	Thermistor (suction pipe)
R4T	Thermistor (heat exchanger exit)
R5T	Thermistor (heat exchanger branch)
R6T	Thermistor (liquid pipe)
R7T	Thermistor (M1C body)
R24 (A4P)	Resistor (current sensor)
R300 (A3P)	Resistor (current sensor)
S1PH	High pressure switch
S1PL	Low pressure switch
SEG1~SEG3 (A1P)	7-segment display
T1A	current sensor
V1D (A3P)	Diode
V1R (A3P,A4P)	Diode module
X*A	Connector
X*M	Terminal block
Y1E	Electronic exp. valve (main)
Y2E	Electronic exp. valve (injection)
Y2S	Solenoid valve (4-way valve)
Y3S	Solenoid valve (pressure equal.)
Z*C	Noise filter (ferrite core)
Z1F (A2P)	Noise filter

* : optional

NOTES

1. Refer to the wiring diagram sticker (on the back of the front plate) for how to use the BS1-BS3 and DS1 switches.
2. When operating, do not short-circuit protection device(s) S1PH and S1PL.
3. Refer to the combination table and the option manual for how to connect the wiring to X801M.
4. Colours: BLK:black; RED:red; BLU:blue; WHT:white; GRN:green

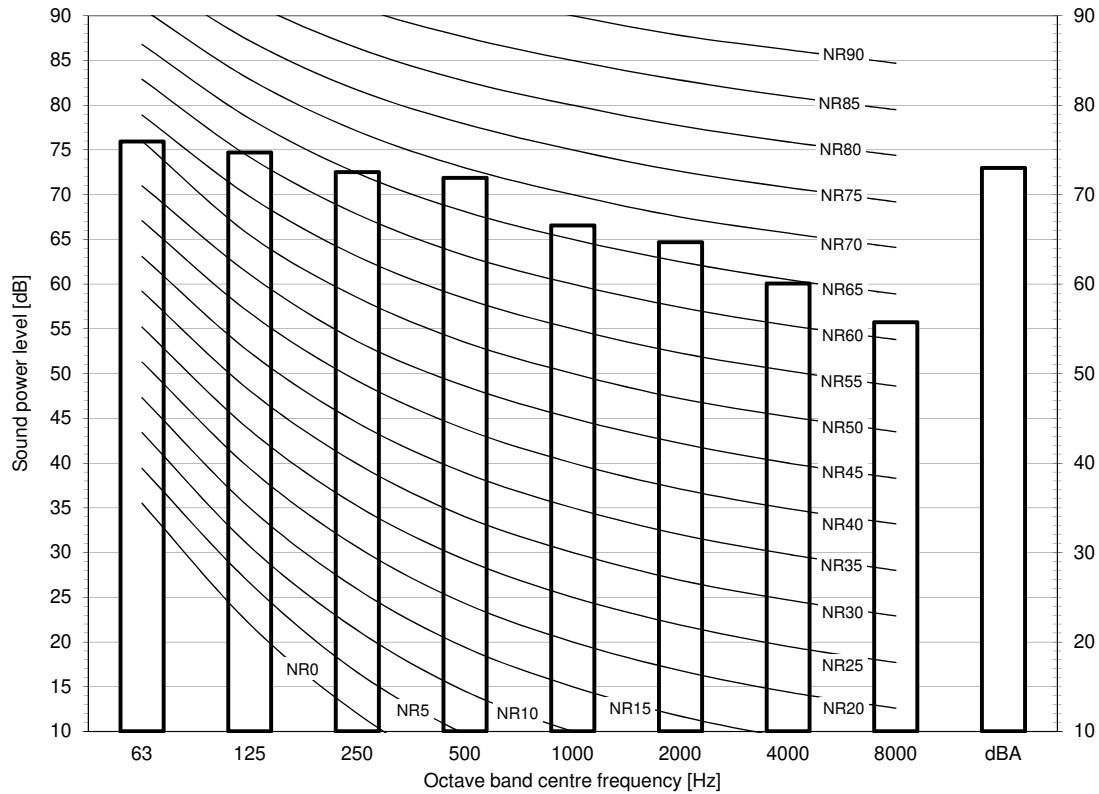
4D124870

11 Sound data

11 - 1 Sound Power Spectrum

11

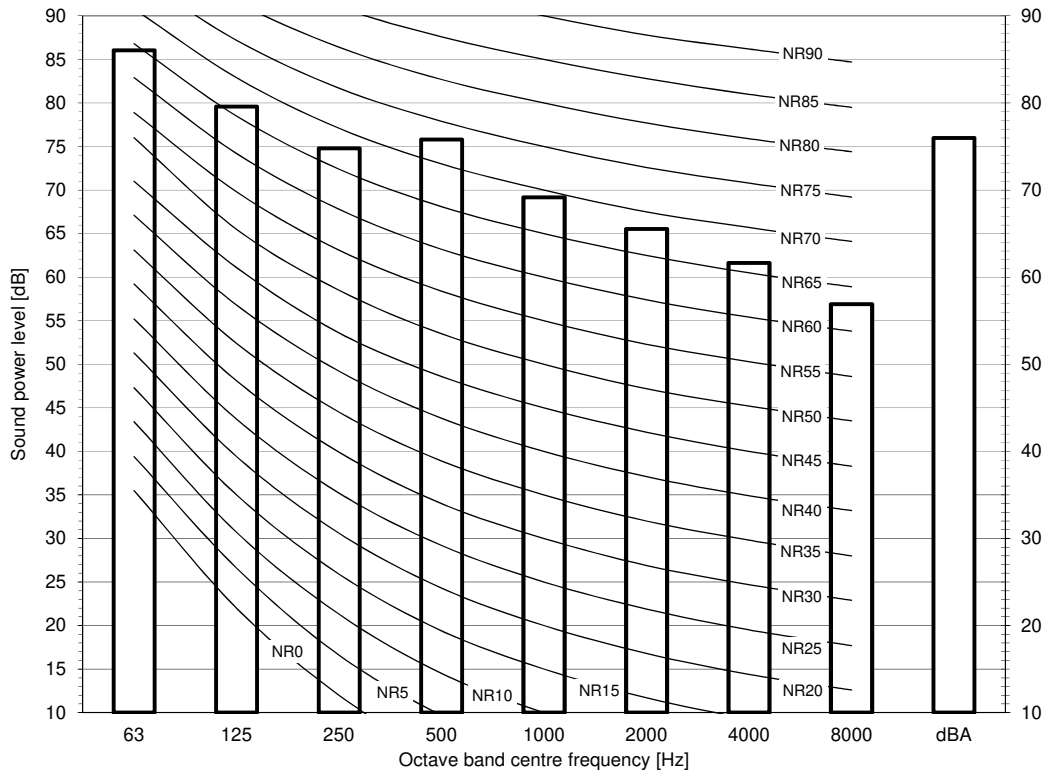
RZA200D



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

3D125173

RZA250D



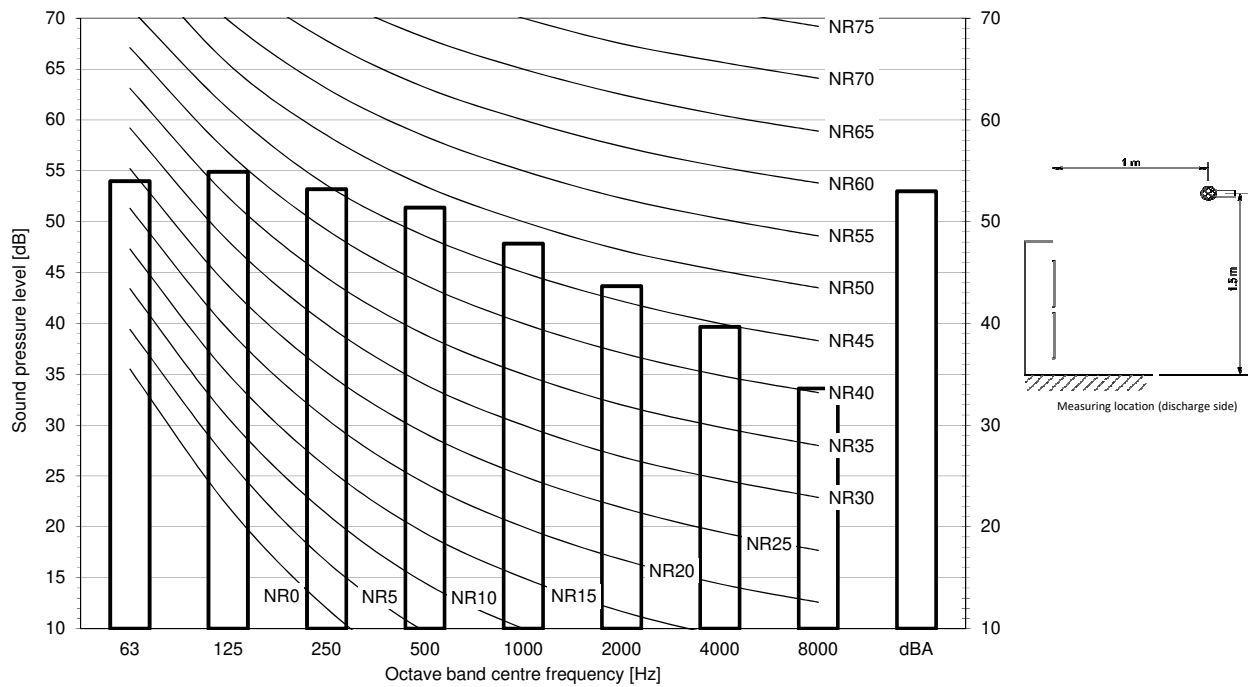
Notes
 - dBA = A-weighted sound power level (A scale according to IEC).
 - Reference acoustic intensity $OdB = 10E-6 \mu W/m^2$.
 - Measured according to ISO 3744

3D125179

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA200D

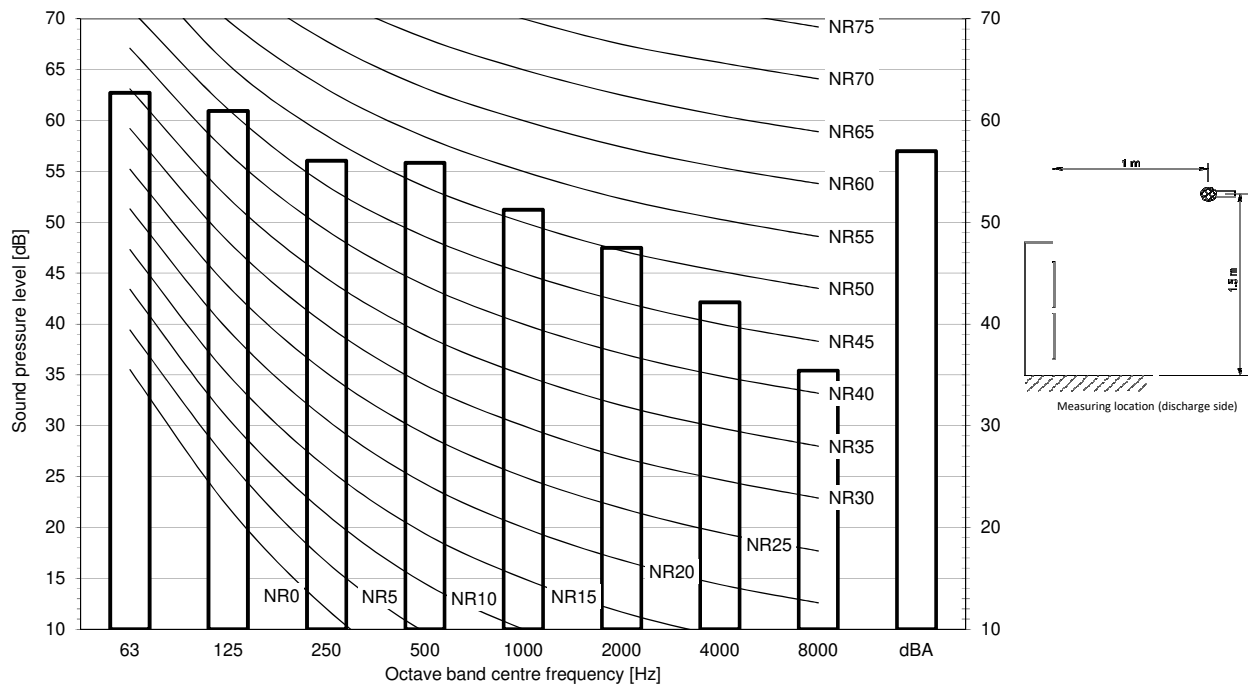


Notes

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

3D125171

RZA250D



Notes

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

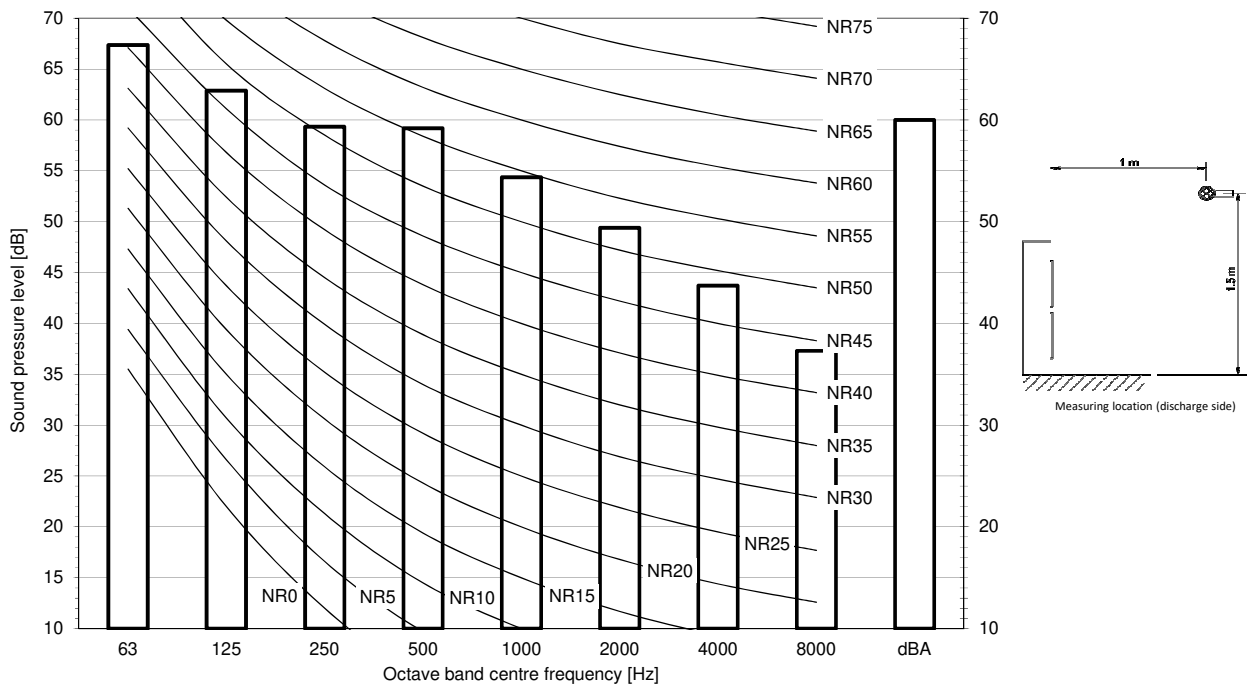
3D125177

11 Sound data

11 - 3 Sound Pressure Spectrum - Heating

11

RZA200D

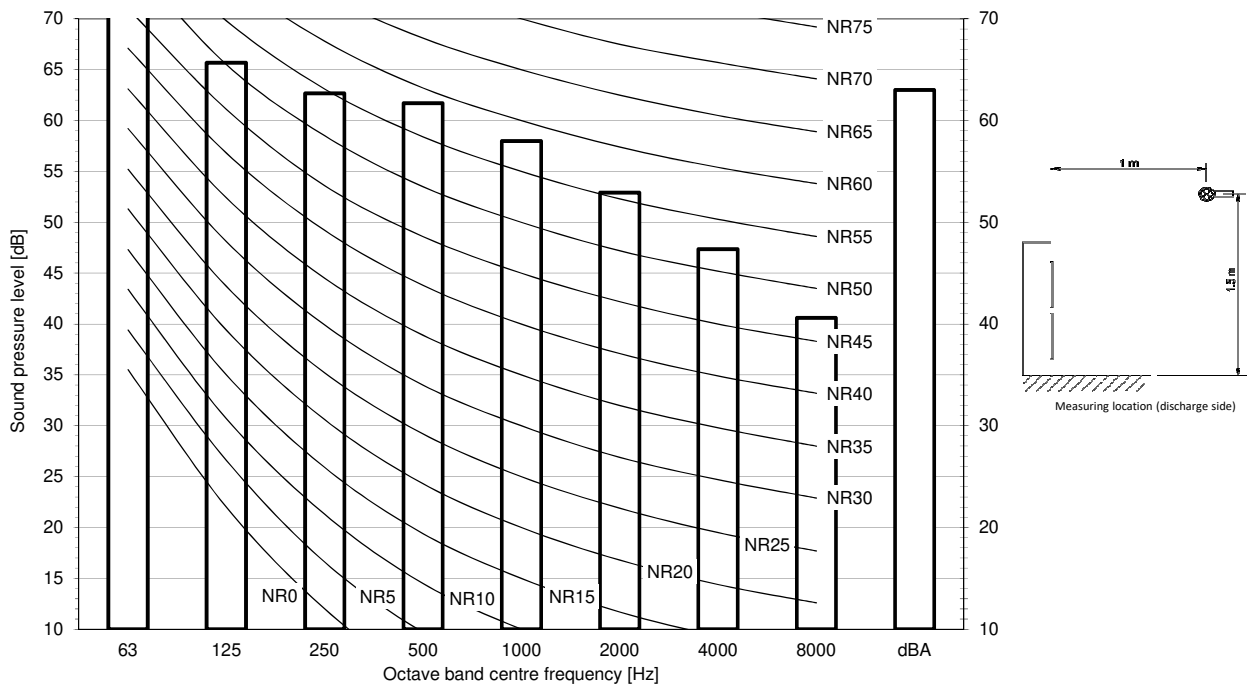


Notes

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

3D125172

RZA250D



Notes

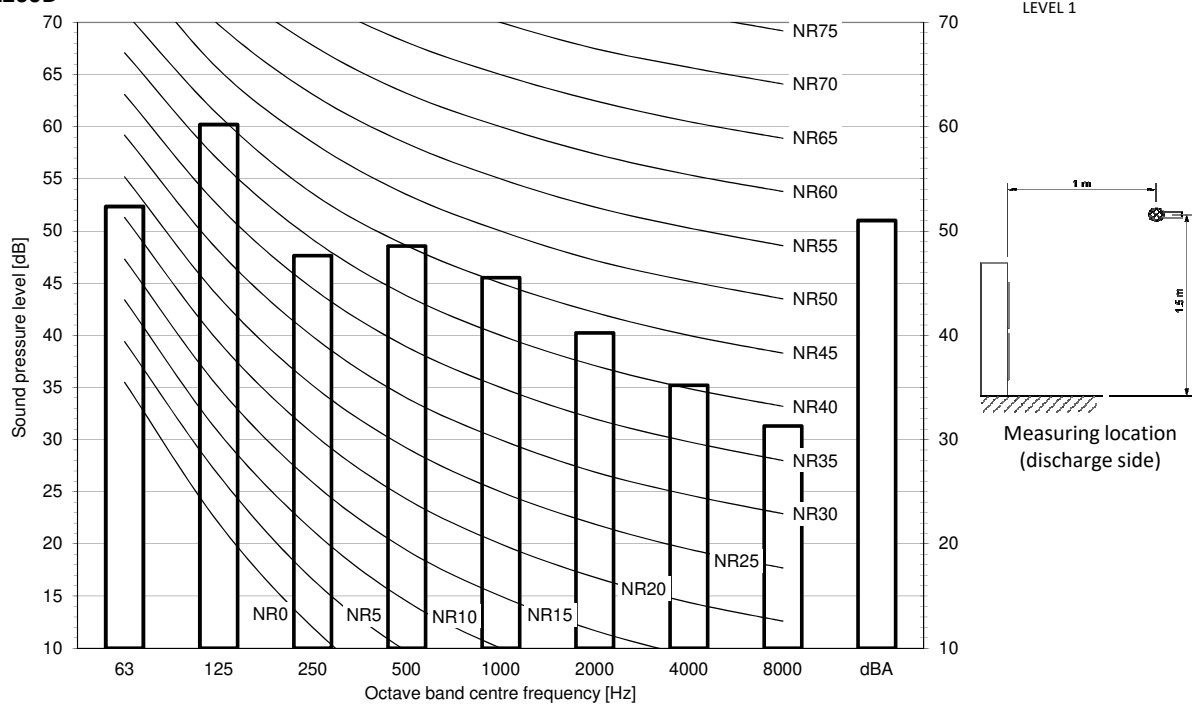
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 μ Pa

3D125178

11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode Level 1

RZA200D

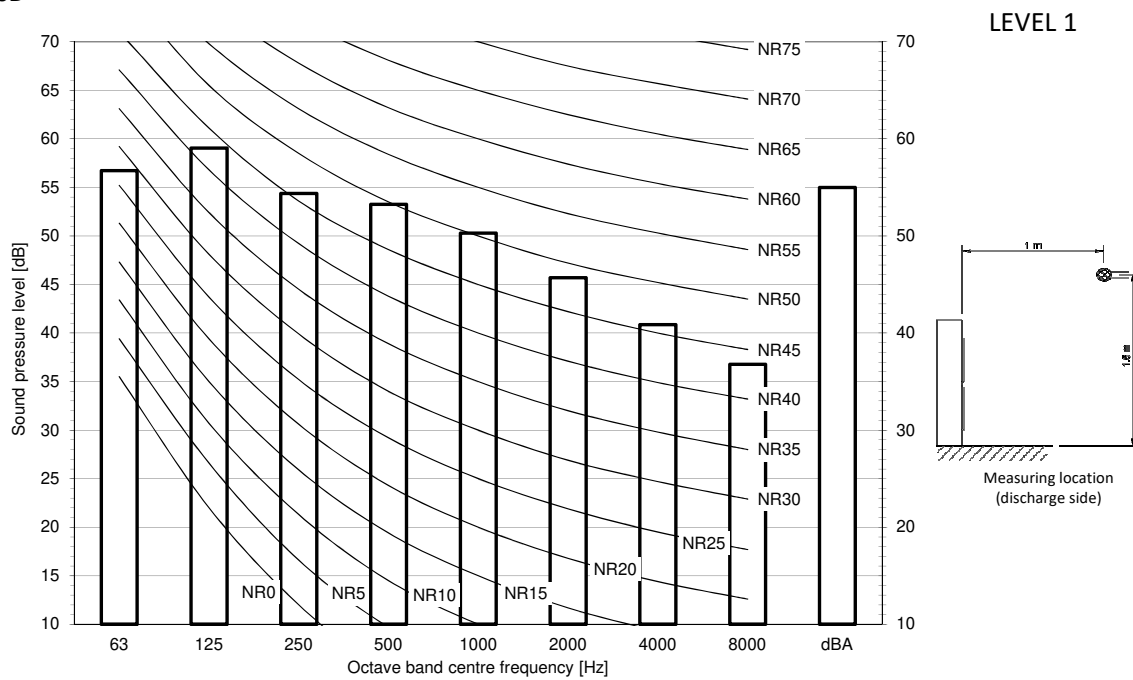


Notes

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

3D125168

RZA250D



Notes

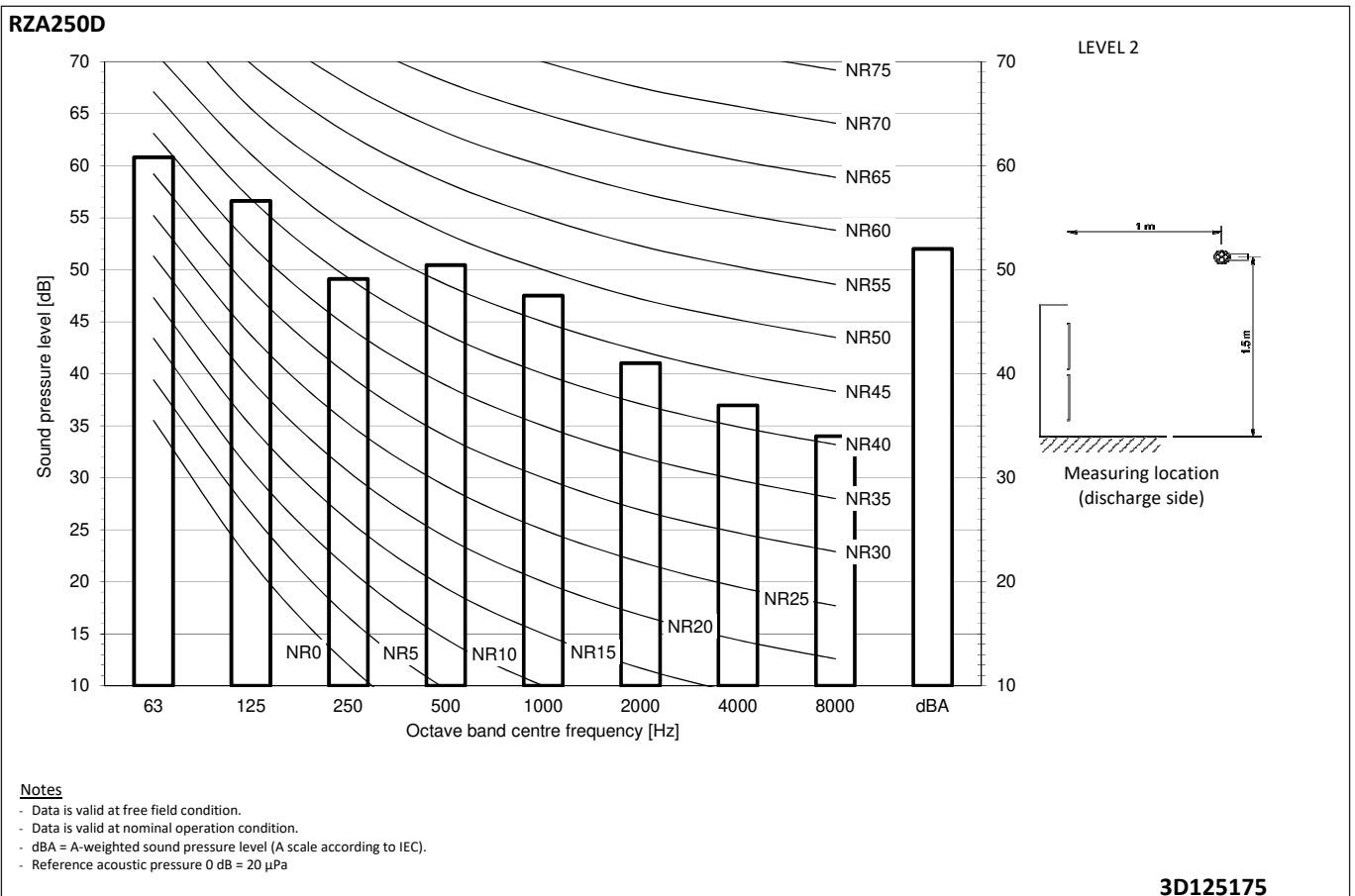
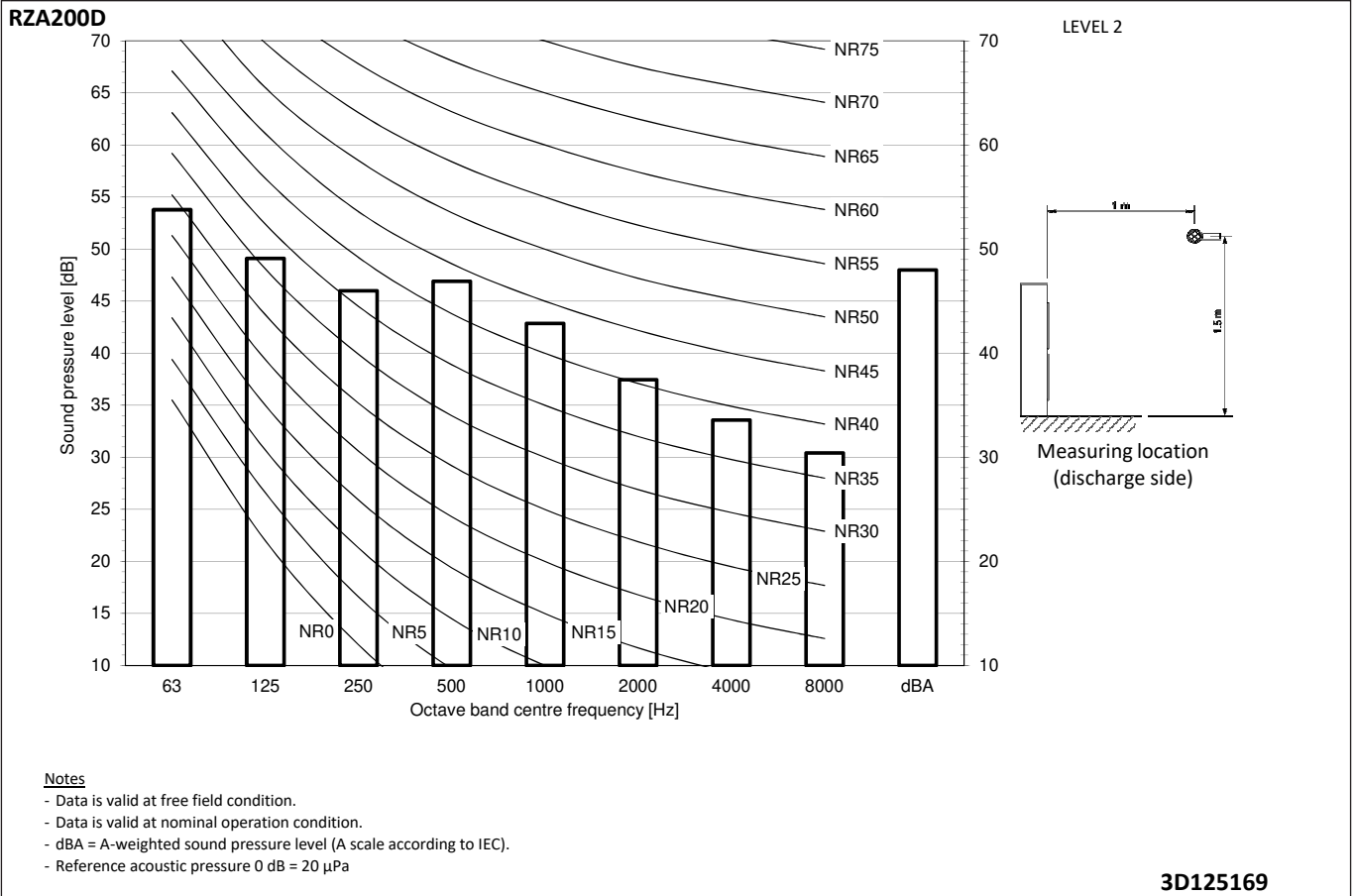
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 μ Pa

3D125174

11 Sound data

11 - 5 Sound Pressure Spectrum Quiet Mode Level 2

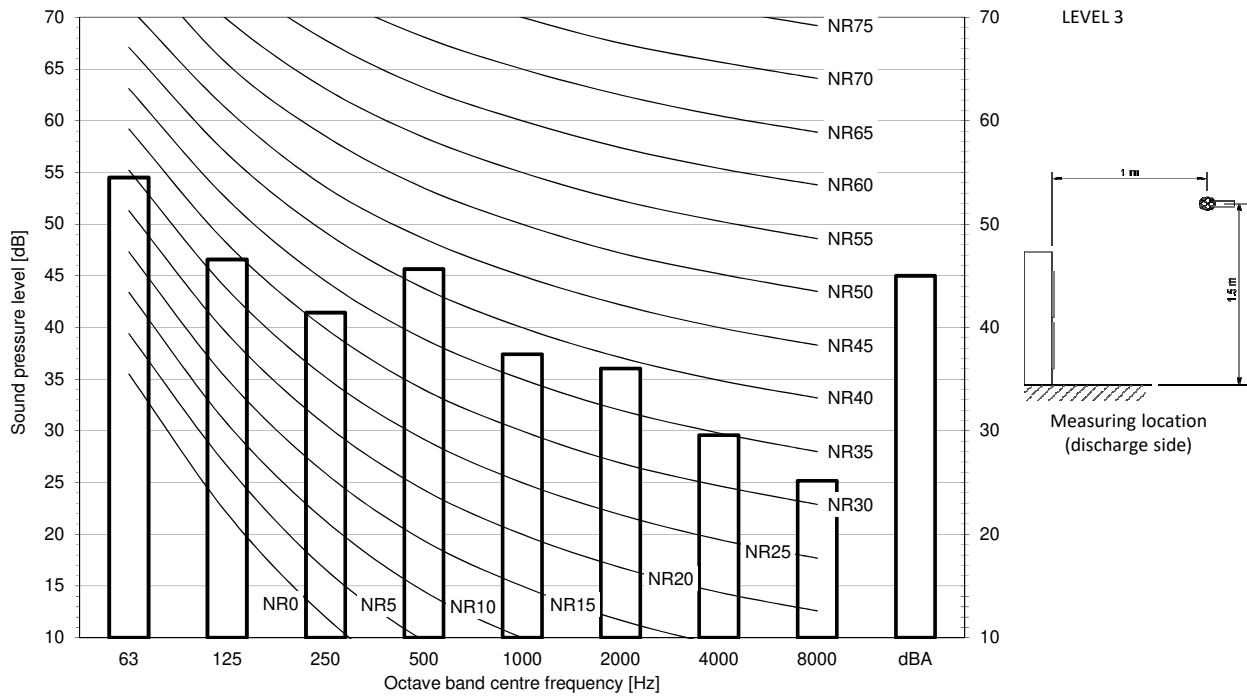
11



11 Sound data

11 - 6 Sound Pressure Spectrum Quiet Mode Level 3

RZA200D

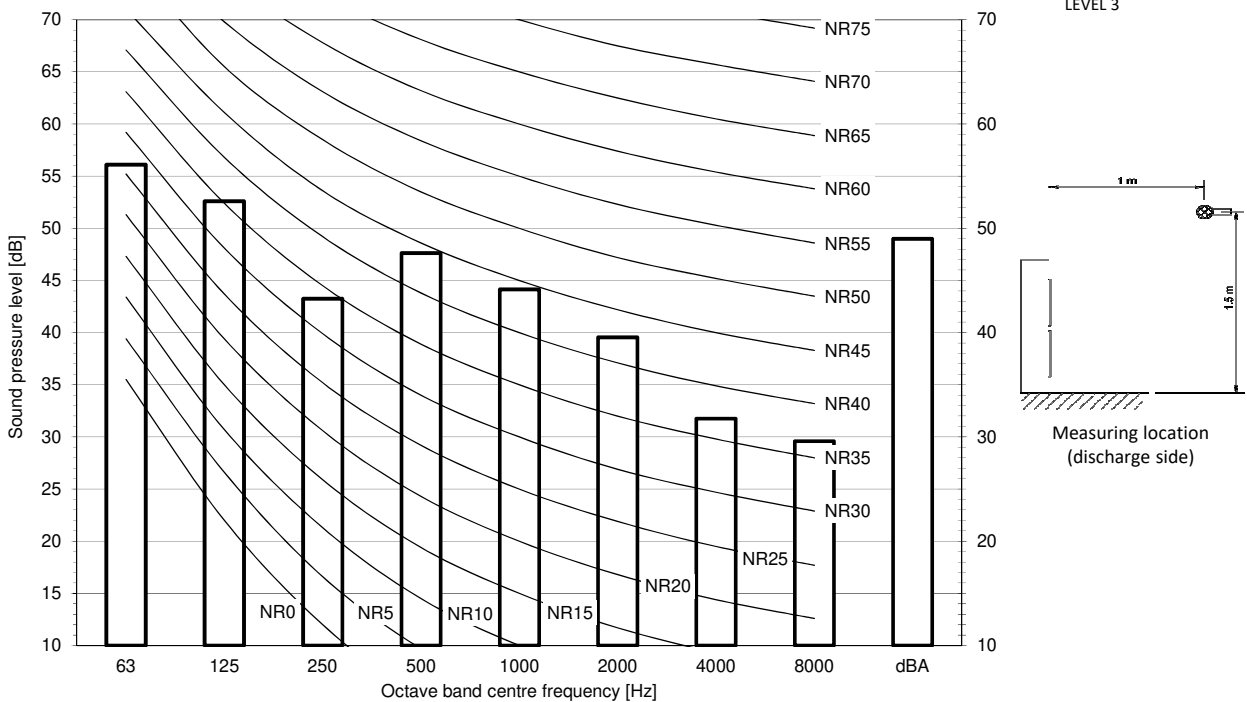


Notes

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

3D125170

RZA250D



Notes

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

3D125176

12 Installation

12 - 1 Installation Method

12

RZA-D

Single unit () | Single row of units ()

Suction side

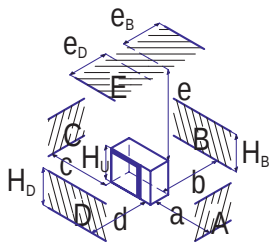
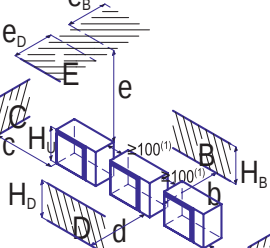
In the illustration below, the service space at the suction side is based on 35°C DB and cooling operation. Foresee more space in the following cases:

- When the suction side temperature regularly exceeds this temperature.
- When the heat load of the outdoor units is expected to regularly exceed the maximum operating capacity.

Discharge side

Take refrigerant piping work into account when positioning the units. If your lay out does not match with any of the layouts below, contact your dealer.

Single unit () | Single row of units ()

	A-E	Hb Hd Hu	(mm)						
			a	b	c	d	e	e _B	e _D
	B	-		≥ 100					
	A,B,C	-	≥ 100(1)	≥ 100	≥ 100				
	B,E	-		≥ 100			≥ 1000		≤ 500
	A,B,C,E	-	≥ 150(1)	≥ 150	≥ 150		≥ 1000		≤ 500
	D	-				≥ 500			
	D,E	-				≥ 500	≥ 1000	≤ 500	
	B,D	Hd>Hu		≥ 100		≥ 500			
		Hd≤Hu		≥ 100		≥ 500			
	B,D,E	Hb>Hu		≥ 250		≥ 750	≥ 1000	≤ 500	
		1/2Hu>Hb≤Hu		≥ 250		≥ 1000	≥ 1000	≤ 500	
		Hb>Hu				⊘			
		Hd≤1/2Hu		≥ 100		≥ 1000	≥ 1000		≤ 500
		1/2Hu<Hd≤Hu		≥ 200		≥ 1000	≥ 1000		≤ 500
	A,B,C	-	≥ 200(1)	≥ 300	≥ 1000				
	A,B,C,E	-	≥ 200(1)	≥ 300	≥ 1000		≥ 1000		≤ 500
	D	-				≥ 1000			
	D,E	-				≥ 1000	≥ 1000	≤ 500	
	B,D	Hd>Hu		≥ 300		≥ 1000			
		Hd≤1/2Hu		≥ 250		≥ 1500			
		1/2Hu<Hd≤Hu		≥ 300		≥ 1500			
	B,D,E	Hb>Hu		≥ 300		≥ 1000	≥ 1000	≤ 500	
		1/2Hu<Hb≤Hu		≥ 300		≥ 1250	≥ 1000	≤ 500	
		Hb>Hu				⊘			
		Hd≤1/2Hu		≥ 250		≥ 1500	≥ 1000		≤ 500
		1/2Hu<Hd≤Hu		≥ 300		≥ 1500	≥ 1000		≤ 500
		Hd>Hu				⊘			

- (1) For better serviceability, use a distance ≥ 250 mm
- A,B,C,D Obstacles (walls/baffle plates)
- E Obstacle (roof)
- a,b,c,d,e Minimum service space between the unit and obstacles A, B, C, D and E
- e_B Maximum distance between the unit and the edge of obstacle E, in the direction of obstacle B
- e_D Maximum distance between the unit and the edge of obstacle E, in the direction of obstacle D
- Hu Height of the unit
- Hb,Hd Height of obstacles B and D
- 1 Seal the bottom of the installation frame to prevent discharged air from flowing back to the suction side through the bottom of the unit.
 - 2 Maximum two units can be installed.
- ⊘ Not allowed

1D128513

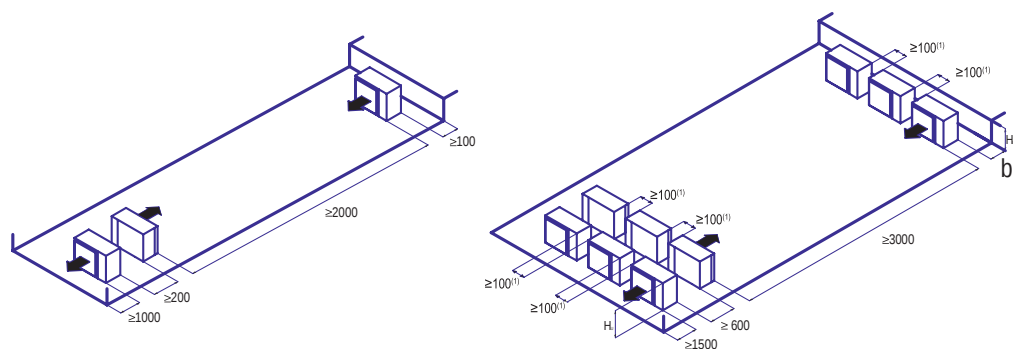
12 Installation

12 - 1 Installation Method

RZA-D

Multiple rows of units ()

Multiple rows of units ()



Hb Hu	b (mm)
$Hb \leq \frac{1}{2}Hu$	$b \geq 250$
$\frac{1}{2}Hu < Hb \leq Hu$	$b \geq 300$
$Hb > Hu$	⊘

(1) For better serviceability, use a distance ≥ 250 mm

⊘ Not allowed

1D128513

12 Installation

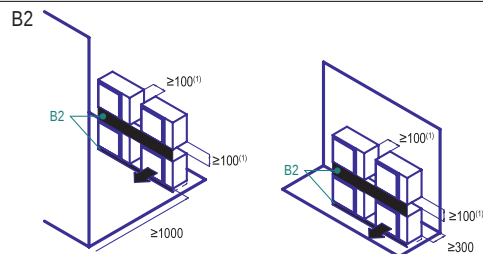
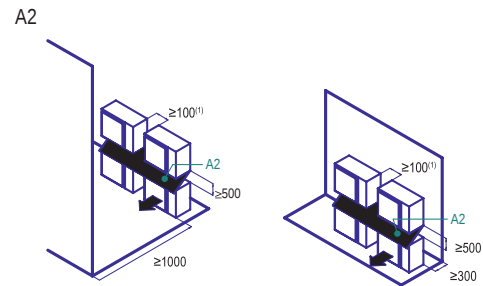
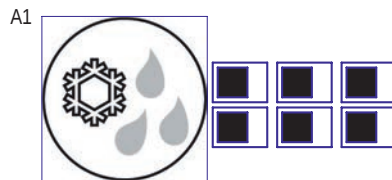
12 - 1 Installation Method

RZA-D

12

Stacked units (max.2 levels) (

Stacked units (max.2 levels) (



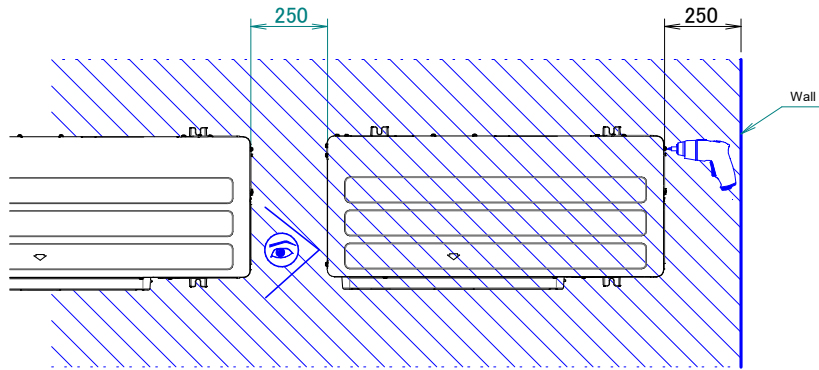
- (1) For better serviceability, use a distance ≥ 250 mm
- A1=>A2 (A1) If there is danger of drainage dripping and freezing between the upper and lower units...
- (A2) Then install a roof between the upper and lower units. Install the upper unit high enough above the lower unit to prevent ice buildup at the upper unit's bottom plate.
- B1=>B2 (B1) If there is no danger of drainage dripping and freezing between the upper and lower units...
- (B2) Then it is not required to install a roof, but seal the gap between the upper and lower units to prevent discharged air from flowing back to the suction side through the bottom of the unit.

1D128513

12 Installation

12 - 2 Service Space

RZA-D



- * For optimal serviceability, provide ≥ 250 ·mm of free space.
For more installation and service space guidelines, see drawing ·3D069554·.

3D120935

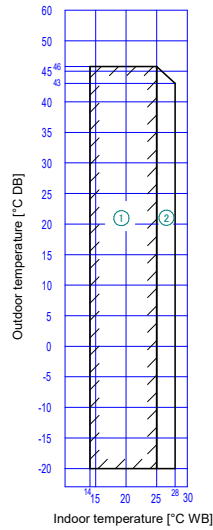
13 Operation range

13 - 1 Operation Range

RZA-D

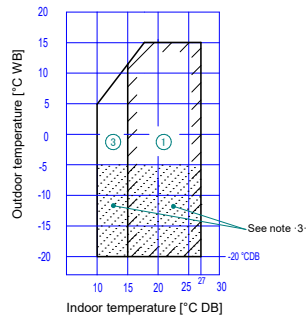
13

Cooling



- ① Operation range
- ② Pull-down operation range
- ③ Warm-up operation range

Heating



Notes

1. Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
2. To reduce the freeze-up operation (indoor de-icing) frequency, it is recommended to install the outdoor unit in a location not exposed to wind.
3. If the unit is selected to operate at ambient temperature < -5°C for 3 days or more, with relative humidity of 100%, it is required to install the optional bottom plate heater.

3D120938

14 Appropriate Indoors

14 - 1 Appropriate Indoors

RZA-D

14

ENER Lot 21 Recommended combinations

Sky Air	Duct (high ESP)		Thin cassette		Duct (medium ESP)	
Model	FDA200	FDA250	FCAG50	FCAG60	FBA50	FBA60
RZA200D7Y1B	P		4		4	
RZA250D7Y1B		P		4		4

Appropriate indoor units

Connectable to ·RZA200D7Y1B· and covered by ·ENER Lot 21·

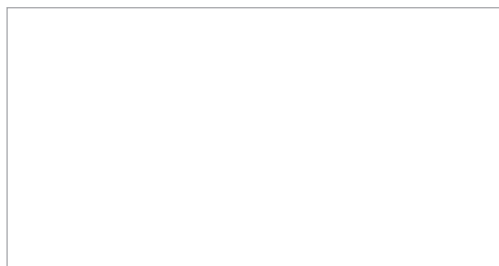
FDA200	FCAG50	FFA50	FBA50	FHA50	FUA71	FAA71	FVA71	FDXM50	FNA50
-	FCAG60	FFA60	FBA60	FHA60	FUA100	FAA100	FVA100	FDXM60	FNA60
-	FCAG71	-	FBA71	FHA71	-	-	-	-	-
-	FCAG100	-	FBA100	FHA100	-	-	-	-	-

Connectable to ·RZA250D7Y1B· and covered by ·ENER Lot 21·

FDA250	FCAG60	FFA60	FBA60	FHA60	FUA125	FDA125	FVA125	FDXM60	FNA60
-	FCAG125	-	FBA125	FHA125	-	-	-	-	-

3D120940

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