

Air Conditioning
Technical Data

RZA-D



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RZA-D

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1 Features

Large Sky Air system for commercial applications in the most compact casing ever

- 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



Inverter



Auto cooling-
heating
changeover

2 Specifications

2-1 Capacity and Power input				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	
	A Condition (35°C - 27/19)	Pdc	kW	19.0		22.0	
		EERd		2.69		2.51	
		Power input	kW	7.06		8.76	
	B Condition (30°C - 27/19)	Pdc	kW	14.1		16.2	
		EERd		5.28		4.46	
		Power input	kW	2.66		3.63	
	C Condition (25°C - 27/19)	Pdc	kW	8.93		10.4	
		EERd		8.89		7.22	
		Power input	kW	1.00		1.44	
	D Condition (20°C - 27/19)	Pdc	kW	4.66		4.60	
		EERd		8.51		6.92	
		Power input	kW	0.55		0.67	
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			
	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	
		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 input	kW	0.71		0.76	
	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			

2 Specifications

2-1 Capacity and Power input					FDA200A/RZA200D	FDA250A/RZA250D
Power consumption in other than active mode	Off mode	Cooling	POFF	kW	0.031	
		Heating	POFF	kW	0.040	
	Standby mode	Cooling	PSB	kW	0.031	
		Heating	PSB	kW	0.040	
	Thermostat-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	

Notes

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

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

2-2 Technical Specifications					RZA200D		RZA250D	
Capacity control	Method				Inverter controlled			
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)			
Compressor	Quantity				1			
	Type				Hermetically sealed scroll compressor			
Fan	Type				Propeller			
	Discharge direction				Horizontal			
	Quantity				1			
	Air flow rate	Cooling	Nom.	m³/min	101		119	
		Heating	Nom.	m³/min	126		142	
Fan motor	Quantity				1			
	Model				Brushless DC motor			
	Output			W	600			
	Drive				Direct drive			
Sound power level	Cooling			dBA	73		76	
	Heating			dBA	76 (1)		79 (1)	
Sound pressure level	Cooling	Nom.		dBA	53		57	
	Heating	Nom.		dBA	60		63	
Operation range	Cooling	Ambient	Min.	°CDB	-20			
			Max.	°CDB	46			
	Heating	Ambient	Min.	°CWB	-20			
			Max.	°CWB	15			
Refrigerant	Type				R-32			
	Charge			kg	5			
				TCO _{2eq}	3.38			
	Control				Expansion valve (electronic type)			
	GWP				675			
	Circuits	Quantity			1			

2 Specifications

2-2 Technical Specifications					RZA200D		RZA250D	
Piping connections	Liquid	Quantity			1			
		Type			Braze connection			
		OD	mm		9,52			
	Gas	Quantity			1			
		Type			Braze connection			
		OD	mm		22.2			
	Drain	Quantity			8			
		Type			Hole			
		OD	mm		26			
	Piping length	OU - IU	Min.	m	5			
			Max.	m	100			
		System	Chargel ess	m	30			
Additional refrigerant charge			kg/m		See installation manual			
Heat insulation			Both liquid and gas pipes					
Refrigerant oil	Type				FW68DE			
	Charged volume			l		3		
Defrost method					Reversed cycle			
Defrost control					Sensor for outdoor heat exchanger temperature			
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;

2-3 Electrical Specifications			RZA200D	RZA250D
Power supply	Name		Y1	
	Phase		3~	
	Frequency	Hz	50	
	Voltage	V	380-415	
Current - 50Hz	Maximum fuse amps (MFA)	A	20	
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	

Notes

(1) According to ENER Lot 21

3 Electrical data

3 - 1 Electrical Data

RZA-D

Page	Content
0	Overview
1	RZA200/250D7*

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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3 Electrical data

3 - 1 Electrical Data

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Indoor		Outdoor	Power supply	Voltage range					Compressor		OFM		IFM
						MCA	TOCA	MFA	MSC	RLA	kW	FLA	FLA
FDA200A2VEB		RZA200D7Y1B	3N~ 50Hz 380-415V	Minimum: 342 V- Maximum: 457 V-		(15,9)*	—	20	—	14,0	0,6	1,3	4,0
FCAG50BVEB	x4	RZA200D7Y1B				16,1	—	20	—	13,0	0,6	1,3	0,3 x4
FCAG60BVEB	x3	RZA200D7Y1B				16,7	—	20	—	13,9	0,6	1,3	0,3 x3
FCAG71BVEB	x3	RZA200D7Y1B				16,7	—	20	—	13,9	0,6	1,3	0,3 x3
FCAG100BVEB	x2	RZA200D7Y1B				16,4	—	20	—	13,1	0,6	1,3	0,7 x2
FFA50A2VEB	x4	RZA200D7Y1B				16,5	—	20	—	13,0	0,6	1,3	0,4 x4
FFA60A2VEB	x3	RZA200D7Y1B				17,7	—	20	—	13,9	0,6	1,3	0,6 x3
FBA50A2VEB	x4	RZA200D7Y1B				(14,9)*	—	20	—	13,0	0,6	1,3	1,4 x4
FBA60A2VEB	x3	RZA200D7Y1B				(15,8)*	—	20	—	13,9	0,6	1,3	1,3 x3
FBA71A2VEB	x3	RZA200D7Y1B				(15,8)*	—	20	—	13,9	0,6	1,3	1,3 x3
FBA100A2VEB	x2	RZA200D7Y1B				(15,0)*	—	20	—	13,1	0,6	1,3	3,5 x2
FHA50AVEB	x4	RZA200D7Y1B				17,4	—	20	—	13,0	0,6	1,3	0,6 x4
FHA60AVEB	x3	RZA200D7Y1B				17,7	—	20	—	13,9	0,6	1,3	0,6 x3
FHA71AVEB	x3	RZA200D7Y1B				18,3	—	20	—	13,9	0,6	1,3	0,8 x3
FHA100AVEB	x2	RZA200D7Y1B				17,7	—	20	—	13,1	0,6	1,3	1,3 x2
FUA71AVEB	x3	RZA200D7Y1B				18,6	—	20	—	13,9	0,6	1,3	0,9 x3
FUA100AVEB	x2	RZA200D7Y1B				17,7	—	20	—	13,1	0,6	1,3	1,3 x2
FAA71AUEB	x3	RZA200D7Y1B				17,4	—	20	—	13,9	0,6	1,3	0,5 x3
FAA100AUEB	x2	RZA200D7Y1B				16,0	—	20	—	13,1	0,6	1,3	0,5 x2
FVA71AMVEB	x3	RZA200D7Y1B				18,3	—	20	—	13,9	0,6	1,3	0,8 x3
FVA100AMVEB	x2	RZA200D7Y1B				18,1	—	20	—	13,1	0,6	1,3	1,5 x2
FDXM50F3V1B	x4	RZA200D7Y1B				18,6	—	20	—	13,0	0,6	1,3	0,9 x4
FDXM60F3V1B	x3	RZA200D7Y1B				18,6	—	20	—	13,9	0,6	1,3	0,9 x3
FNA50A2VEB	x4	RZA200D7Y1B				17,0	—	20	—	13,0	0,6	1,3	0,5 x4
FNA60A2VEB	x3	RZA200D7Y1B				17,7	—	20	—	13,9	0,6	1,3	0,6 x3
FDA250A2VEB		RZA250D7Y1B	3N~ 50Hz 380-415V	Minimum: 342 V- Maximum: 457 V-		(15,9)*	—	20	—	14,0	0,6	1,3	4,3
FCAG60BVEB	x4	RZA250D7Y1B				17,2	—	20	—	14,0	0,6	1,3	0,3 x4
FCAG125BVEB	x2	RZA250D7Y1B				18,2	—	20	—	13,6	0,6	1,3	1,3 x2
FFA60A2VEB	x4	RZA250D7Y1B				18,4	—	20	—	14,0	0,6	1,3	0,6 x4
FBA60A2VEB	x4	RZA250D7Y1B				(15,9)*	—	20	—	14,0	0,6	1,3	1,3 x4
FBA125A2VEB	x2	RZA250D7Y1B				(15,5)*	—	20	—	13,6	0,6	1,3	3,6 x2
FHA60AVEB	x4	RZA250D7Y1B				18,4	—	20	—	14,0	0,6	1,3	0,6 x4
FHA125AVEB	x2	RZA250D7Y1B				18,6	—	20	—	13,6	0,6	1,3	1,5 x2
FUA125AVEB	x2	RZA250D7Y1B				18,4	—	20	—	13,6	0,6	1,3	1,4 x2
FDA125A5VEB	x2	RZA250D7Y1B				19,9	—	20	—	13,6	0,6	1,3	2,1 x2
FVA125AMVEB	x2	RZA250D7Y1B				18,6	—	20	—	13,6	0,6	1,3	1,5 x2
FDXM60F3V1B	x4	RZA250D7Y1B				19,7	—	20	—	14,0	0,6	1,3	0,9 x4
FNA60A2VEB	x4	RZA250D7Y1B				18,4	—	20	—	14,0	0,6	1,3	0,6 x4

* Use a separate power supply for the indoor unit. The value between brackets is the MCA of the outdoor unit. For the MCA of the indoor unit, see the installation manual of the indoor unit.

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4 Options

4 - 1 Options

RZA-D

Available options for ·RZA200/250D7Y1B· models

		Option kit	
		RZA200D7Y1B	RZA250D7Y1B
Refrigerant branch piping	Twin	KHRQ(M)22M20TA	
	Triple	KHRQ(M)250H7	
	Double twin	KHRQ(M)22M20TA (3x)	
Demand adaptor kit		KRP58M51	
Mounting plate		EKMKSA3	
Bottom plate heater		EKBPH250D7	

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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	FCAG35BVEB	FCAG50BVEB	FCAG60BVEB	FCAG71BVEB	FCAG100BVEB	FCAG125BVEB	FCAG140BVEB	FFA25A2VEB9	FFA35A2VEB9	FFA50A2VEB9	FFA60A2VEB9	FBA35A2VEB9	FBA50A2VEB9	FBA60A2VEB9	FBA71A2VEB9	FBA100A2VEB	FBA125A2VEB	FBA140A2VEB	FHA35AVEB9	FHA50AVEB9	FHA60AVEB9	FHA71AVEB9	FHA100AVEB	FHA125AVEB	FHA140AVEB	FUA71AVEB	FUA100AVEB	FUA125AVEB	FAA71AUVEB	FAA100AUVEB	FDA125A5VEB
RZA200D7Y1B	P							4	3	3	2				4	3	4	4	3	3	3	2			4	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	FDXM25F3V1B9	FDXM35F3V1B9	FDXM50F3V1B9	FDXM60F3V1B9	FNA25A2VEB9	FNA35A2VEB9	FNA50A2VEB9	FNA60A2VEB9
RZA200D7Y1B	3	2				4	3				4	3
RZA250D7Y1B			2					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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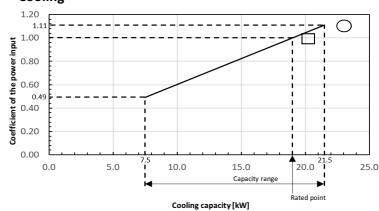
6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

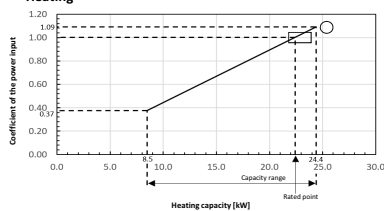
RZA-D

6

Cooling



Heating



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)
 PI: Coefficient of the power input
 PI: Power input (kW)
 compressor + indoor and outdoor fan motors

Cooling

Indoor	Outdoor temperature (°C DB)											
	25			30			35			40		
°C WB	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
(kW)	(kW)	(kW)	(kW)	(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	22.9	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

Heating

Indoor	Outdoor temperature (°C WB)											
	-15			-11			-8			-6		
°C DB	TC	CPI	TC	TC	CPI	TC	TC	CPI	TC	TC	CPI	TC
(kW)	(kW)	(kW)	(kW)	(kW)	(kW)	(kW)	(kW)	(kW)	(kW)	(kW)	(kW)	(kW)
16	12.5	0.90	14.1	0.95	15.3	0.97	16.0	0.99	17.9	1.05	24.7	1.06
18	12.5	0.92	14.1	0.96	15.2	0.99	15.9	1.01	17.8	1.06	24.6	1.07
20	12.4	0.93	14.0	0.98	15.1	1.01	15.8	1.02	17.7	1.08	24.4	1.09
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
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

Notes

- The ratings shown are net capacities which include a deduction 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* = SHC for other dry-bulb temperatures = SHC + SHC*
SHC* = SHC correction for other dry-bulb temperatures
= 0.02 x AFR (m³/min) x (1-BF) x (DB* - 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.

Pair		FDA200A										
AFR		64										
(BF)		(0.3)										
Twin		FCAG100Bx2 FBA100Ax2 FHA100Ax2 FVA100Ax2 FUA100Ax2 FAA100Ax2										
AFR		22.8x2 29.0x2 28.0x2 28.0x2 31.0x2 36.0x2										
(BF)		(0.17x2) (0.03x2) (0.09x2) (0.20x2) (0.20x2) (0.10x2)										
Triple		FCAG50Bx3 FCAG71Bx3 FBA50Ax3 FBA71Ax3 FHA50Ax3 FHA71Ax3										
AFR		13.6x3 15.3x3 18.0x3 18.0x3 19.5x3 20.5x3										
(BF)		(0.20x3) (0.14x3) (0.15x3) (0.13x3) (0.20x3) (0.13x3)										
Triple		FBA50Ax3 FDXM50Fkx3 FNA50Ax3 FVA71Ax3 FUA71Ax3 FAA71Ax3										
AFR		14.5x3 16.0x3 16.0x3 18.0x3 23.0x3 18.0x3										
(BF)		(0.11x3) (0.12x3) (0.12x3) (0.16x3) (0.24x3) (0.16x3)										
Double twin		FCAG50Bx4 FBA50Ax4 FHA50Ax4 FFA50Ax4 FDXM50Fkx4 FNA50Ax4										
AFR		12.6x4 15.0x4 15.0x4 12.0x4 15.8x4 16.0x4										
(BF)		(0.22x4) (0.13x4) (0.18x4) (0.16x4) (0.11x4) (0.11x4)										

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

Pair		FDA200A										
Cooling		2.05										
Heating		6.93										
Twin		FCAG100Bx2 FBA100Ax2 FHA100Ax2 FVA100Ax2 FUA100Ax2 FAA100Ax2										
Cooling		5.97 7.51 5.95 5.82 5.93 7.11										
Heating		6.52 6.49 6.63 6.74 6.19 7.77										
Triple		FCAG50Bx3 FCAG71Bx3 FBA50Ax3 FBA71Ax3 FHA50Ax3 FHA71Ax3										
Cooling		5.58 7.29 7.45 5.35 5.97 5.30										
Heating		7.15 6.37 6.43 6.57 7.13 6.41										
Triple		FBA50Ax3 FDXM50Fkx3 FNA50Ax3 FVA71Ax3 FUA71Ax3 FAA71Ax3										
Cooling		5.08 5.20 5.22 5.31 5.33 6.25										
Heating		7.69 6.83 6.73 7.10 6.05 6.73										
Double twin		FCAG50Bx4 FBA50Ax4 FHA50Ax4 FFA50Ax4 FDXM50Fkx4 FNA50Ax4										
Cooling		5.96 6.15 5.95 6.59 4.76 4.79										
Heating		6.40 6.20 6.34 7.54 5.94 5.83										

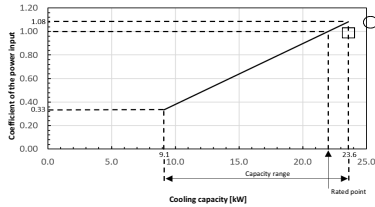
3D125190

6 Capacity tables

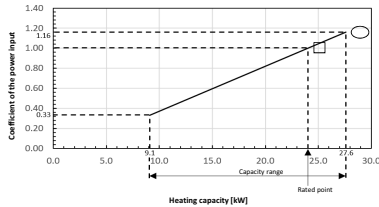
6 - 1 Cooling/Heating Capacity Tables

RZA-D

Cooling



Heating



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

Cooling

Indoor	Outdoor temperature [°C DB]											
	25			30			35			40		
°C WB	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
16	23.7	20.9	0.88	22.9	20.1	0.88	22.1	19.4	1.07	21.2	18.9	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	23.8	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

Heating

Indoor	Outdoor temperature [°C WB]											
	-15			-11			-8			-6		
°C DB	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
16	14.0	0.89	15.6	0.95	16.8	0.99	17.6	1.01	19.3	1.06	20.1	1.07
18	13.9	0.93	15.5	0.99	16.6	1.02	17.4	1.05	19.3	1.10	20.1	1.12
20	13.7	0.98	15.4	1.02	16.5	1.06	17.3	1.09	19.1	1.15	20.0	1.23
22	13.6	1.01	15.1	1.07	16.3	1.10	17.0	1.13	18.9	1.20	20.0	1.21
24	13.4	1.05	15.0	1.10	16.2	1.15	16.9	1.17	18.7	1.23	20.0	1.28

- Notes
- The ratings shown are net capacities which include a deduction 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 × AFR (m³/min) × (1-BF) × (DB* - 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.

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

Pair		FDA250A					
AFR		69					
(BF)		(0.25)					
Twin		FCAG125Bv2	FBA125Av2	FHA125Av2	FVA125Av2	FUA125Av2	FDA125Av2
AFR		26.0v2	34.0v2	31.0v2	28.0v2	32.5v2	39.0v2
(BF)		(0.21v2)	(0.06v2)	(0.14v2)	(0.16v2)	(0.19v2)	(0.16v2)
Double Twin		FCAG60Bv4	FBA60Av4	FHA60Av4	FVA60Av4	FUA60Av4	FDA60Av4
AFR		13.0v4	18.0v4	15.5v4	14.5v4	16.0v4	16.0v4
(BF)		(0.20v4)	(0.15v4)	(0.20v4)	(0.11v4)	(0.12v4)	(0.12v4)

Pair		FDA250A					
Cooling		8.76					
Heating		7.69					
Twin		FCAG125Bv2	FBA125Av2	FHA125Av2	FVA125Av2	FUA125Av2	FDA125Av2
Cooling		7.75	8.07	7.60	8.10	8.09	7.44
Heating		7.56	7.52	7.41	7.52	6.90	6.94
Double twin		FCAG60Bv4	FBA60Av4	FHA60Av4	FFA60Av4	FDXMS60Pv4	FNA60Av4
Cooling		7.24	9.92	6.93	8.44	5.93	6.02
Heating		7.14	6.43	7.33	7.53	6.83	6.75

3D125191

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

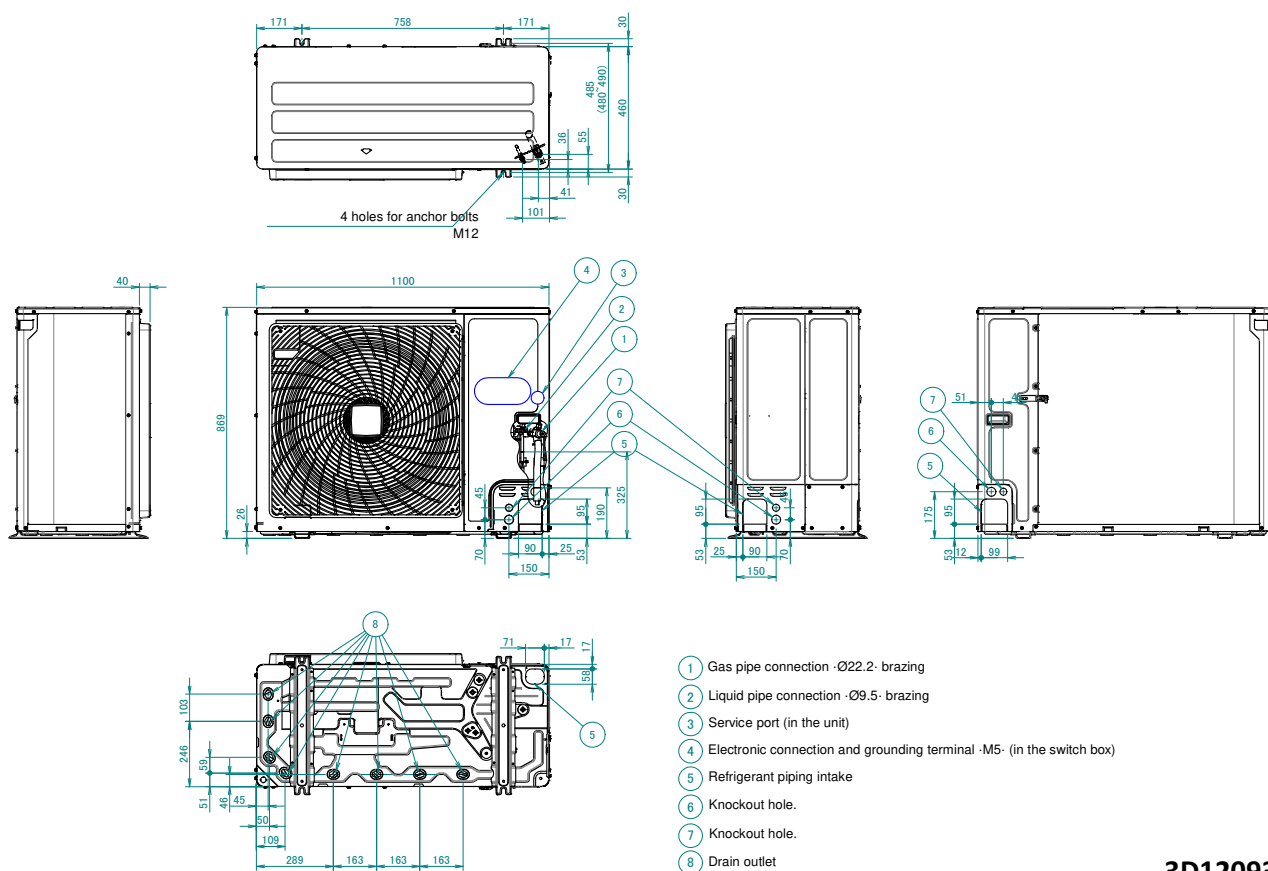
- The ratings shown are peak capacities which include a deduction for indoor fan motor heat.
- The capacities are based on the following conditions:
Outdoor air: ·85% RH·
However, the outdoor ambient condition of the rated capacity during heating operation is ·7°C DB/6°C WB·.
Corresponding refrigerant 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.

3D125193

7 Dimensional drawings

7 - 1 Dimensional Drawings

RZA-D

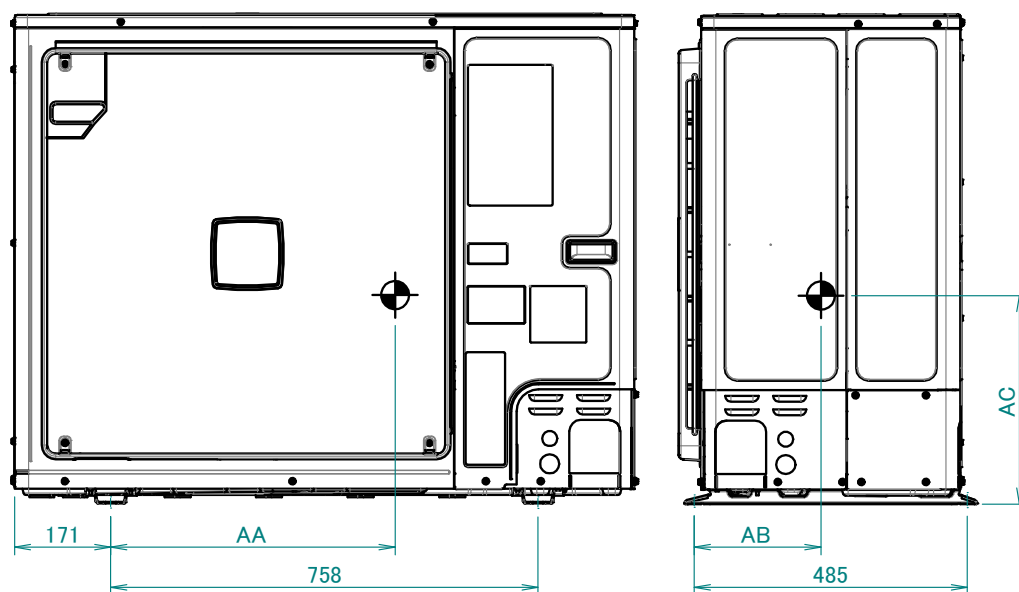


3D120937

8 Centre of gravity

8 - 1 Centre of Gravity

RZA-D

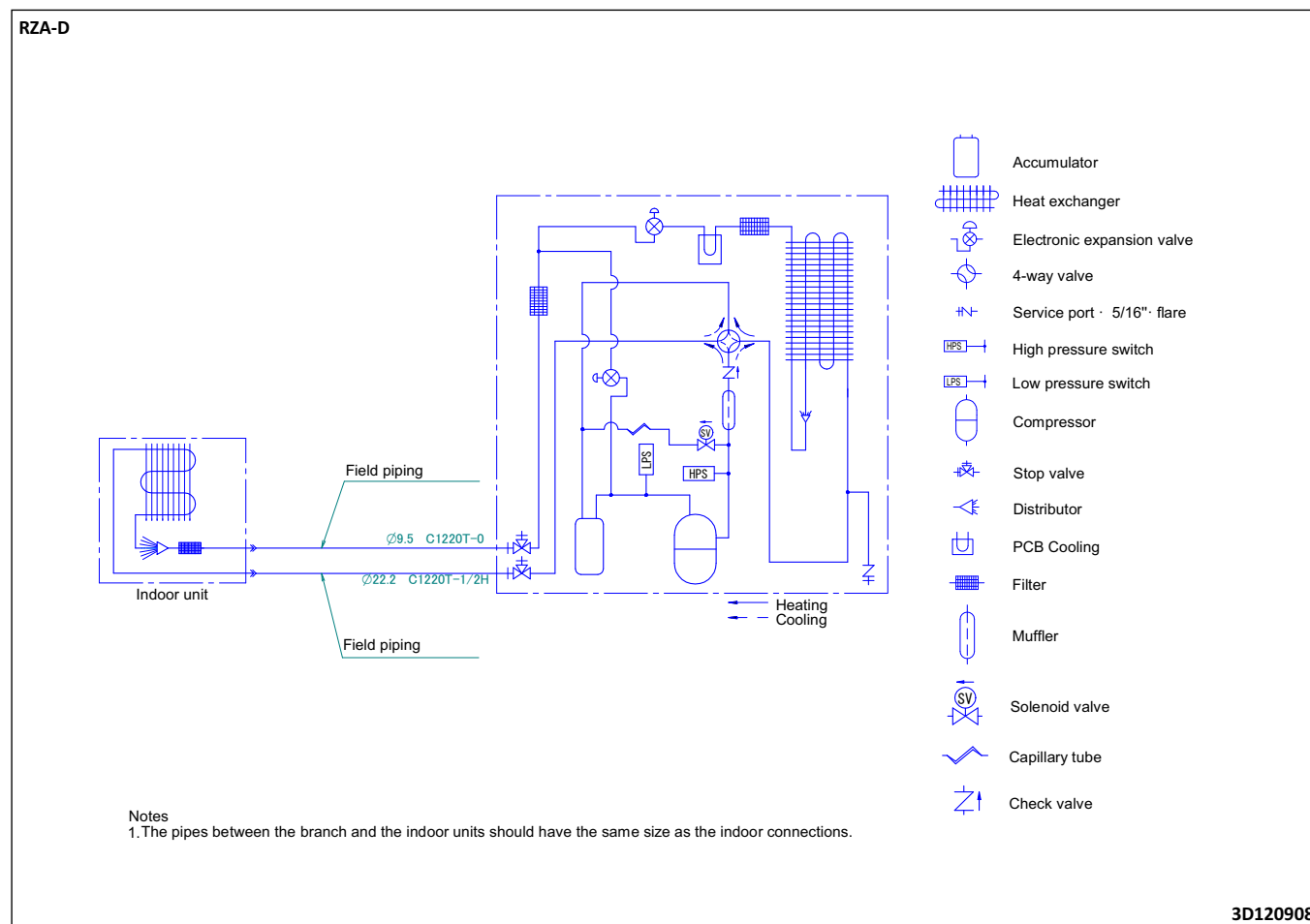


Model	AA	AB	AC
RZA200/250D	703.9	239.0	385.1

4D120934A

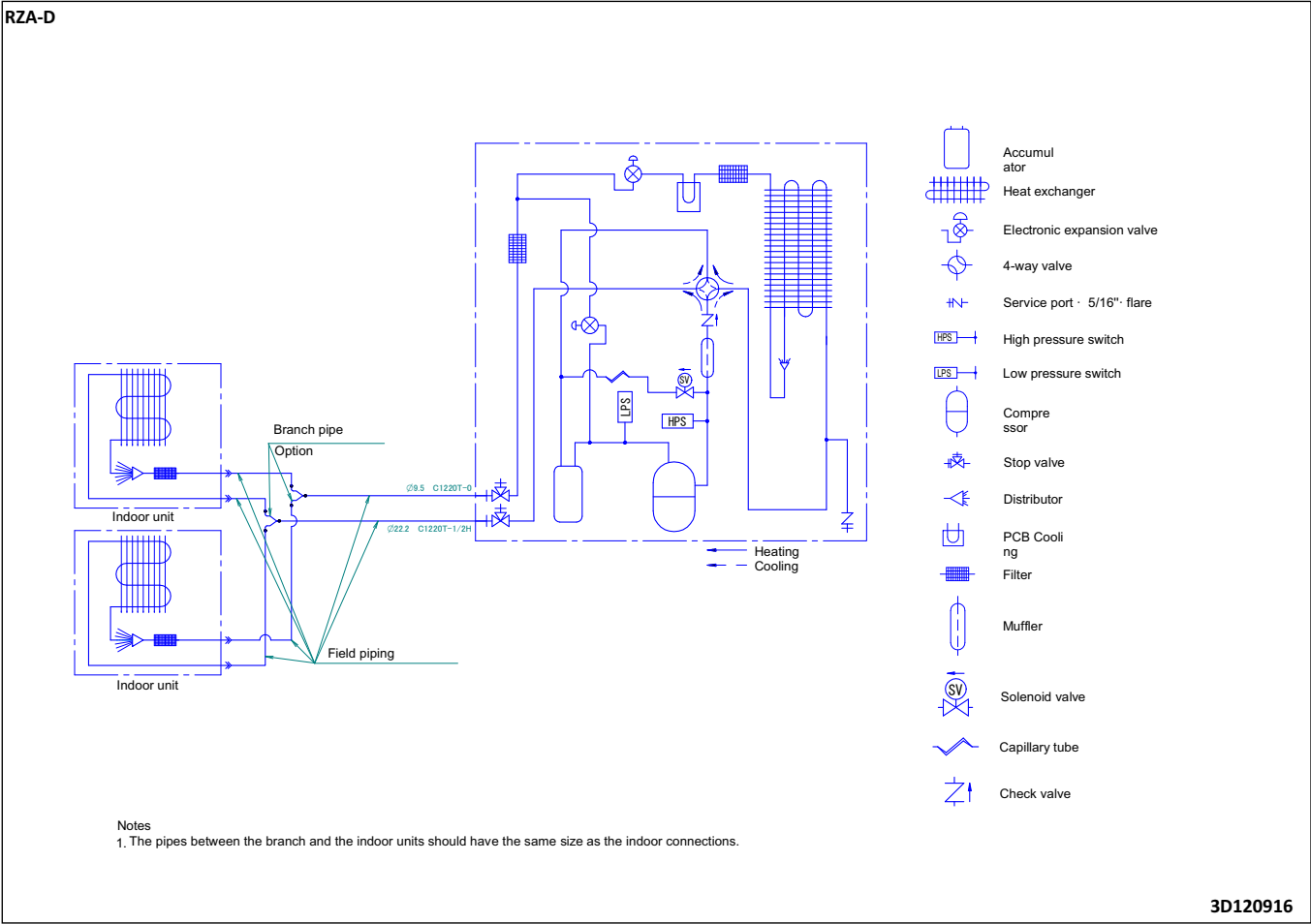
9 Piping diagrams

9 - 1 Piping Diagrams



9 Piping diagrams

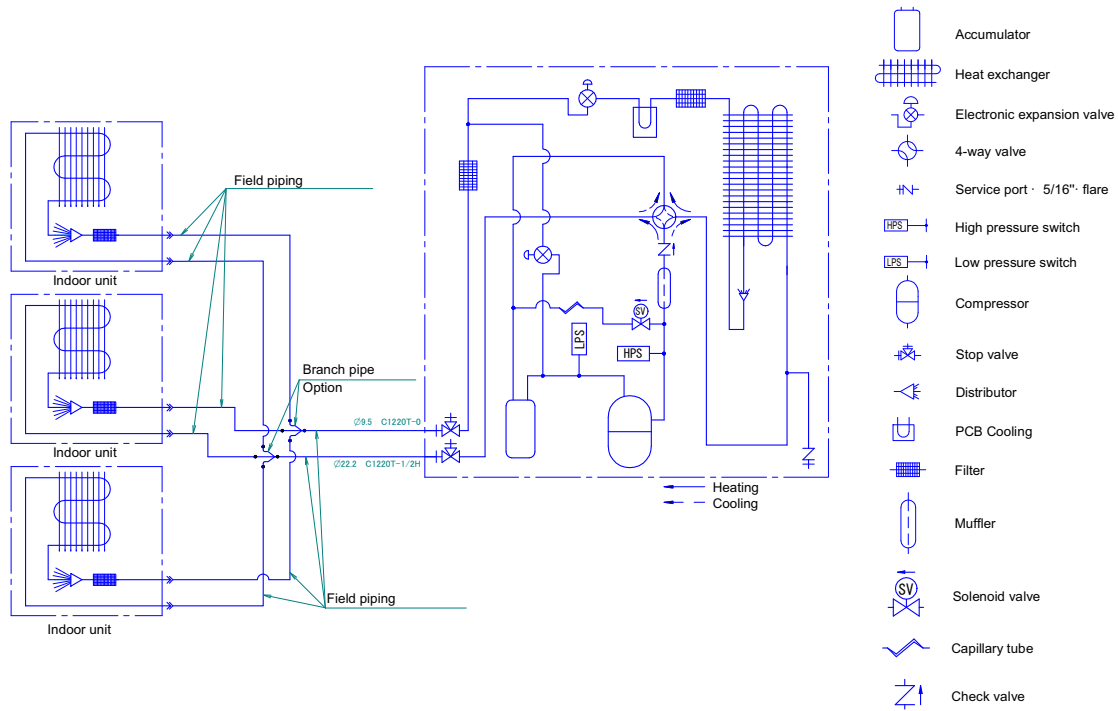
9 - 2 Piping Diagram Twin Application



9 Piping diagrams

9 - 3 Piping Diagram Triple Application

RZA-D



Notes

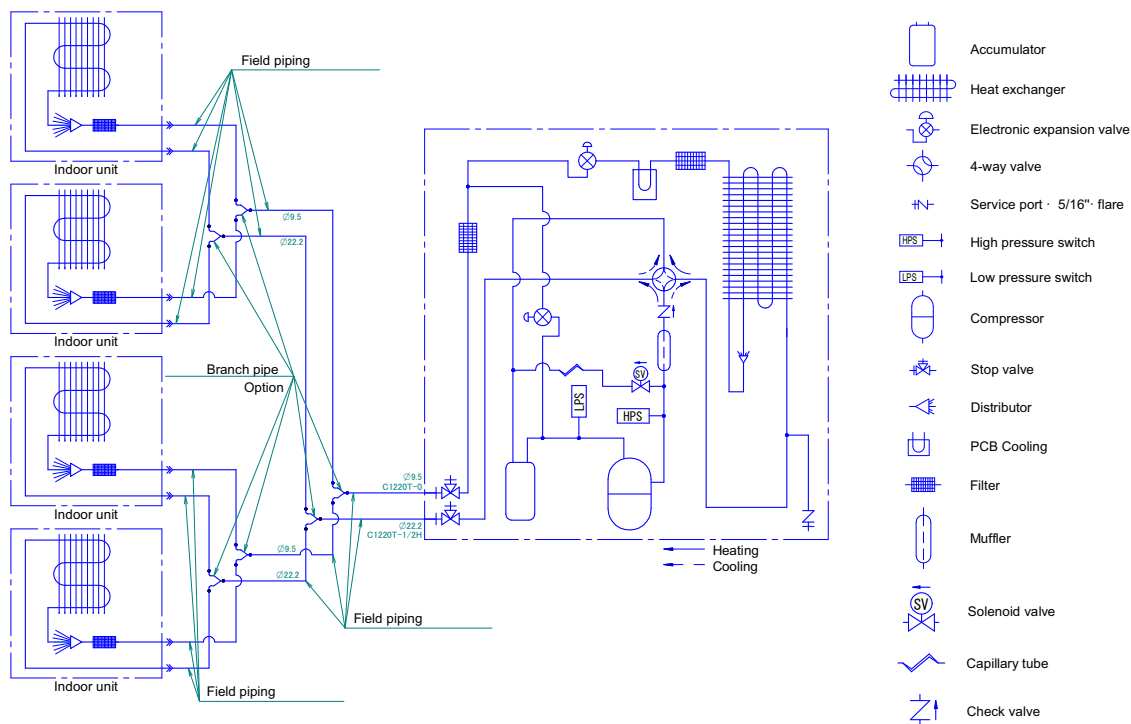
1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120917

9 Piping diagrams

9 - 4 Piping Diagram Double Twin Application

RZA-D



Notes

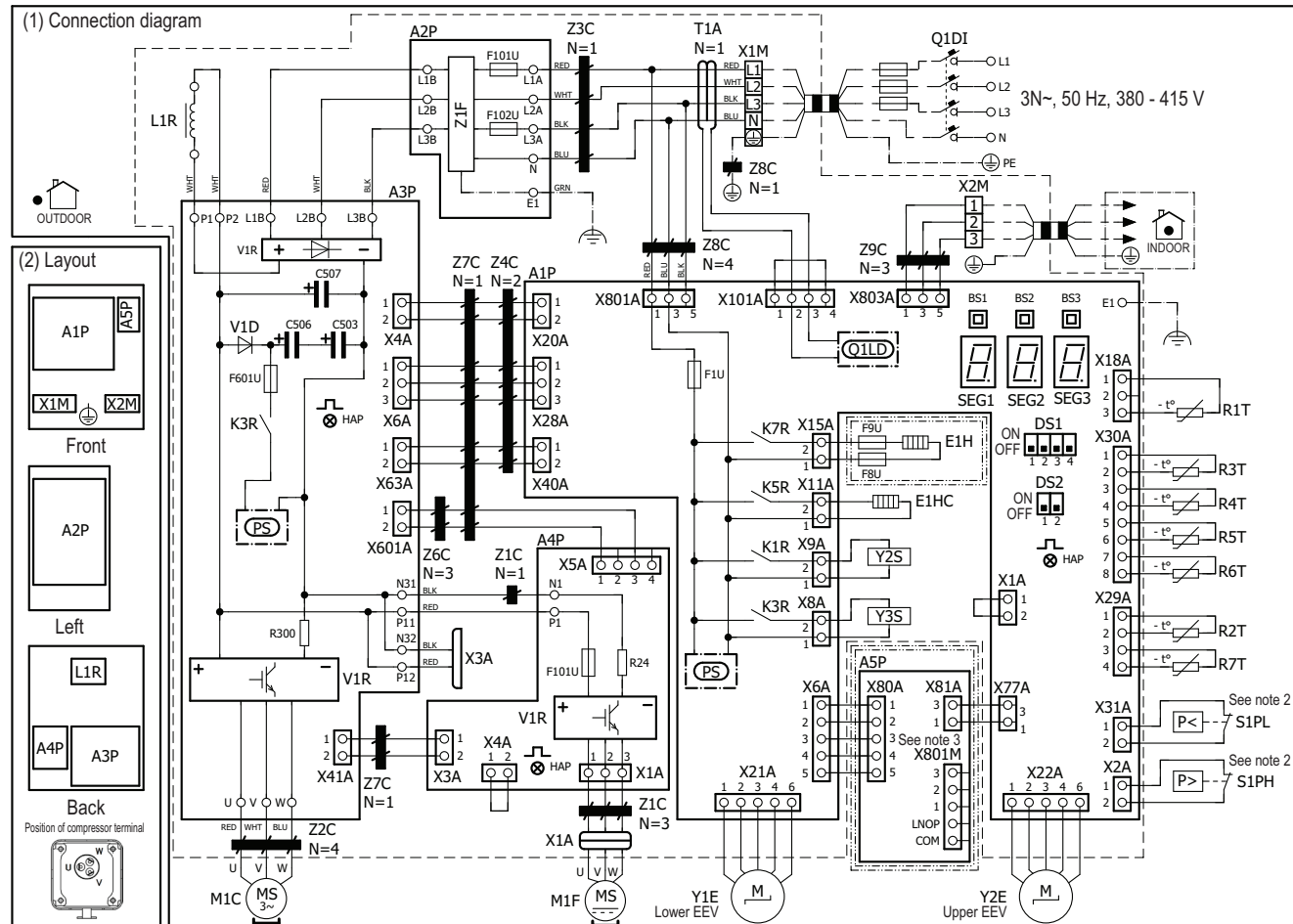
1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120918

10 Wiring diagrams

RZA-D

(1) Connection diagram



(3) NOTES

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

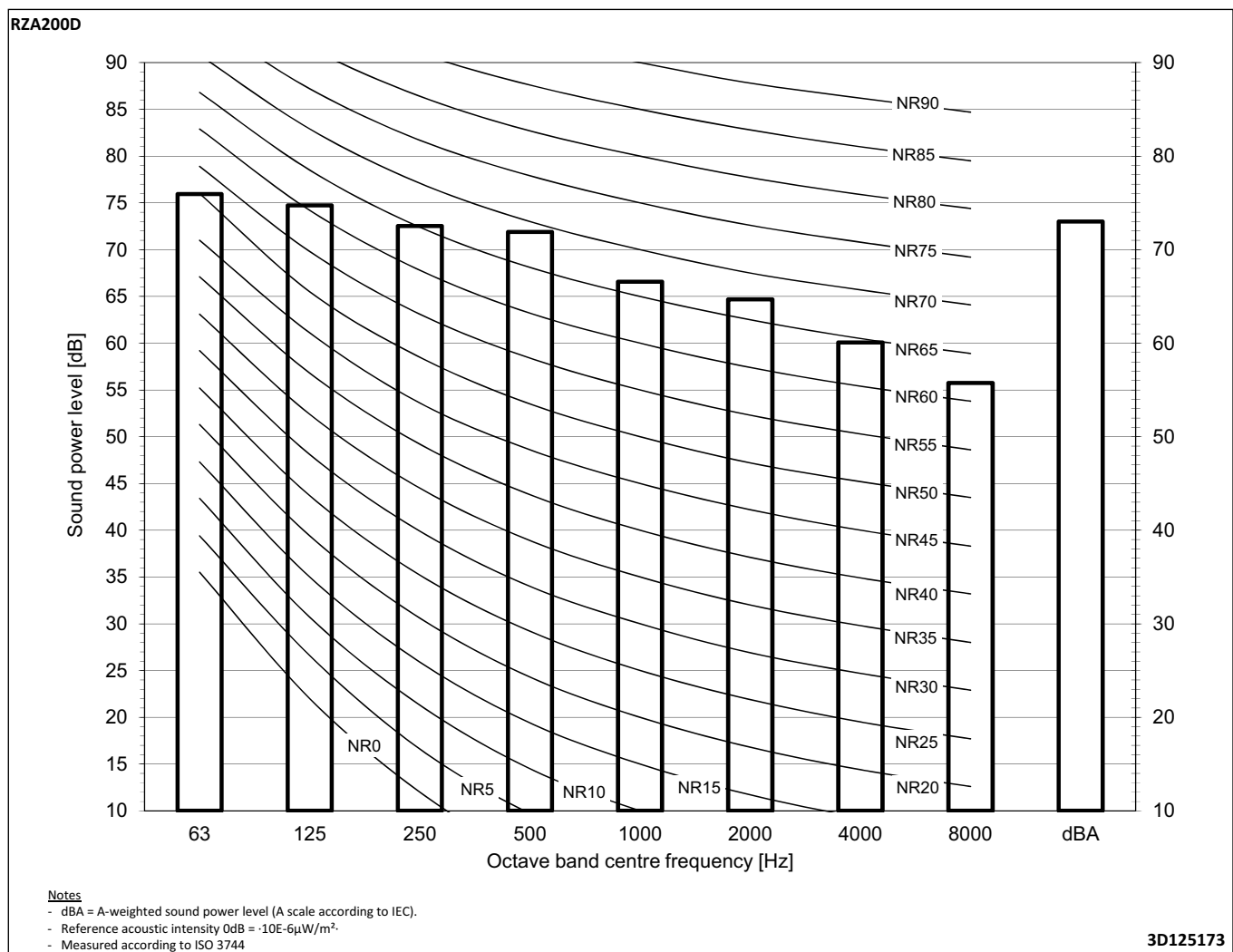
NOTES

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

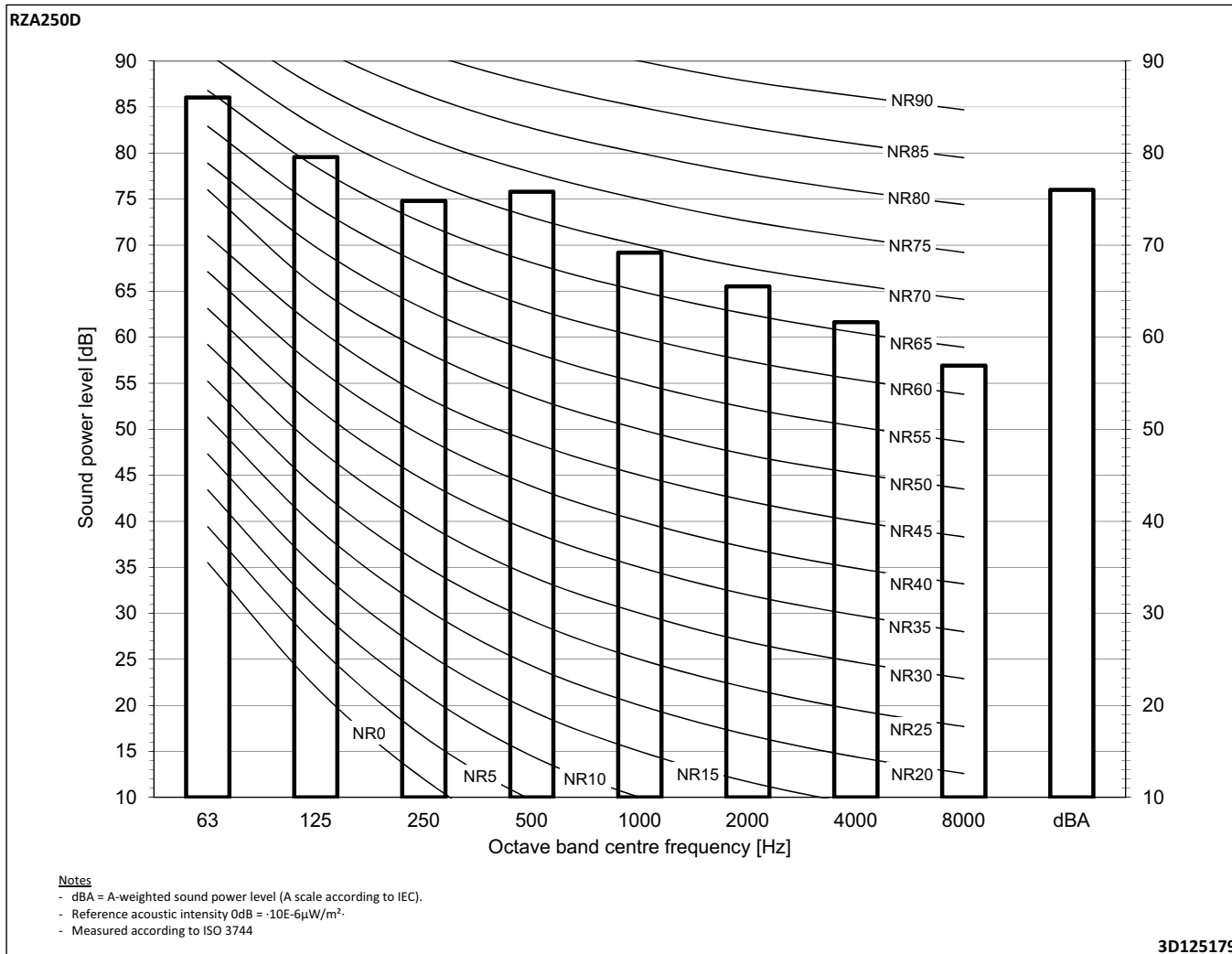
11 Sound data

11 - 1 Sound Power Spectrum



11 Sound data

11 - 1 Sound Power Spectrum

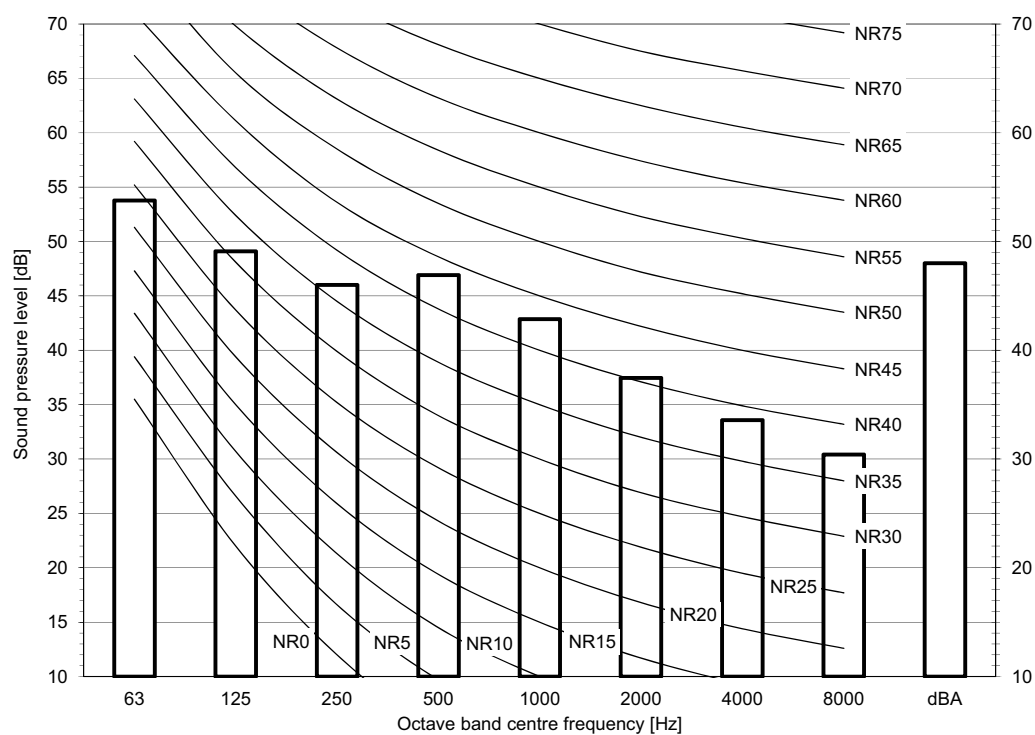


11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA200D

LEVEL 2



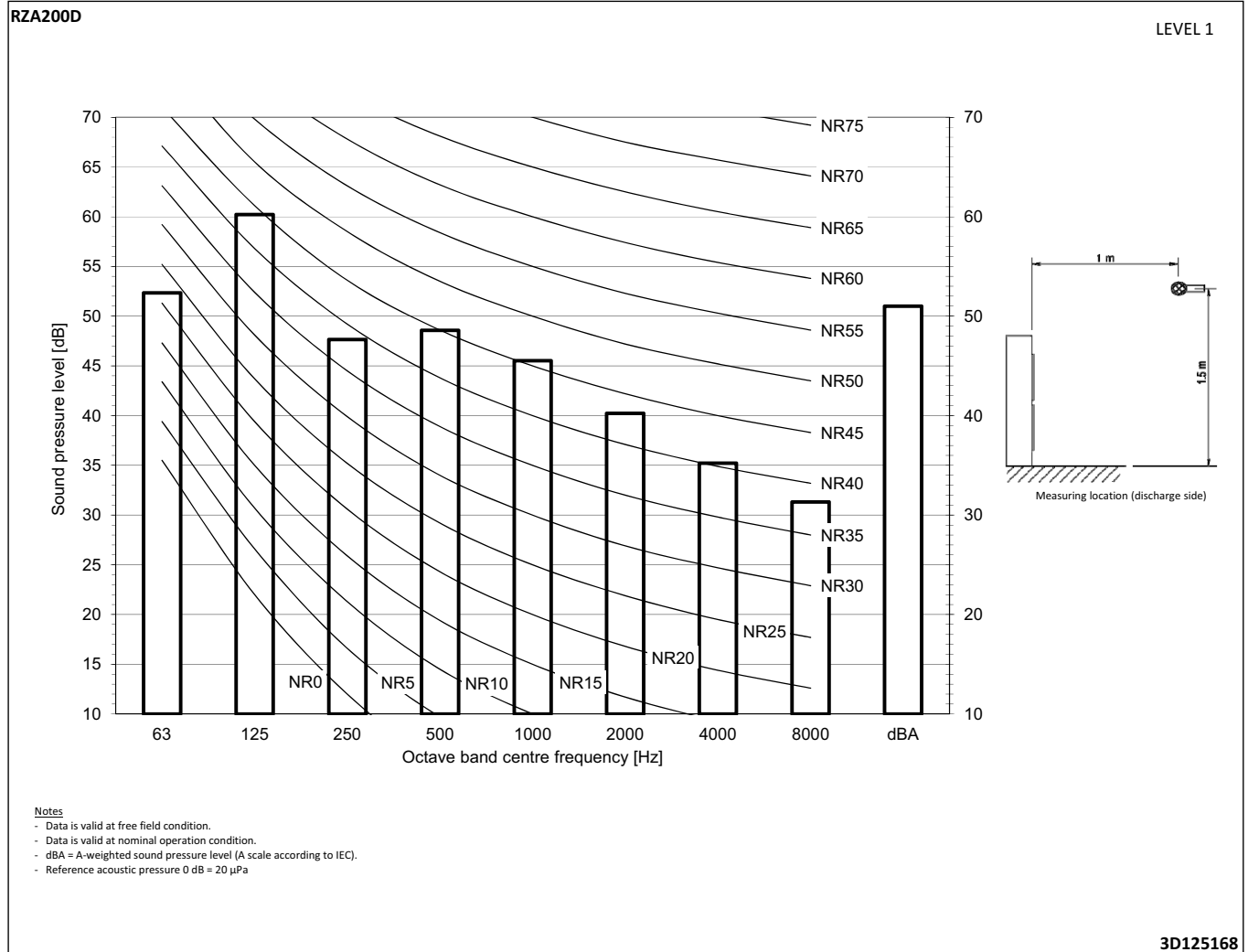
Notes

- 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

3D125169

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

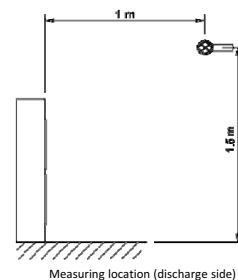
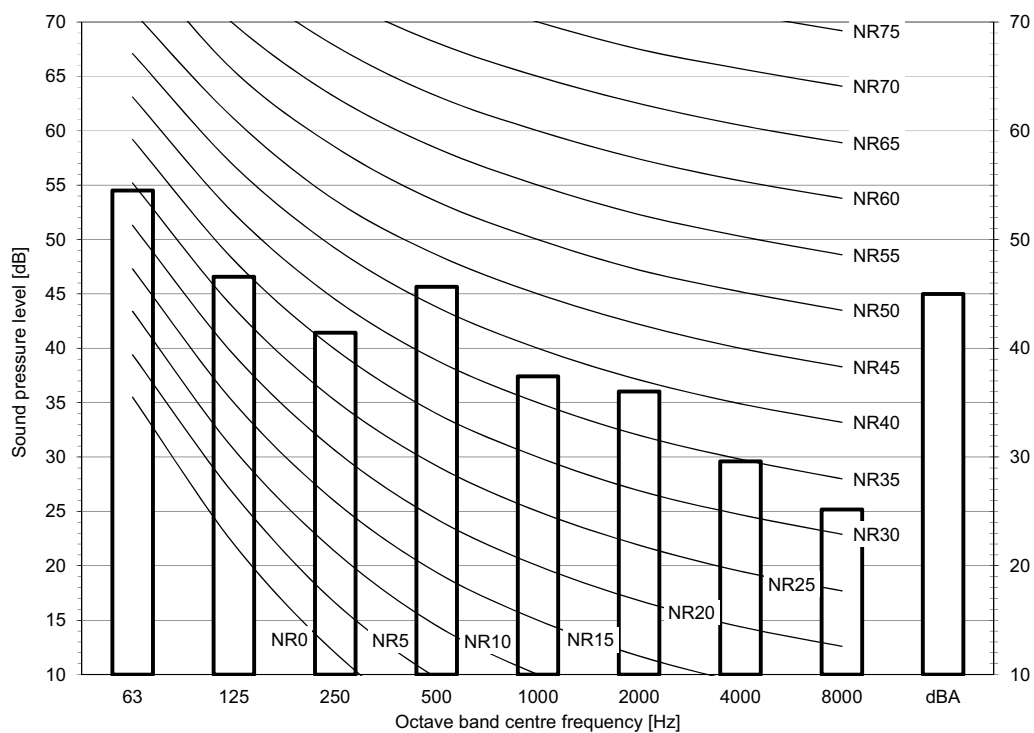


11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA200D

LEVEL 3



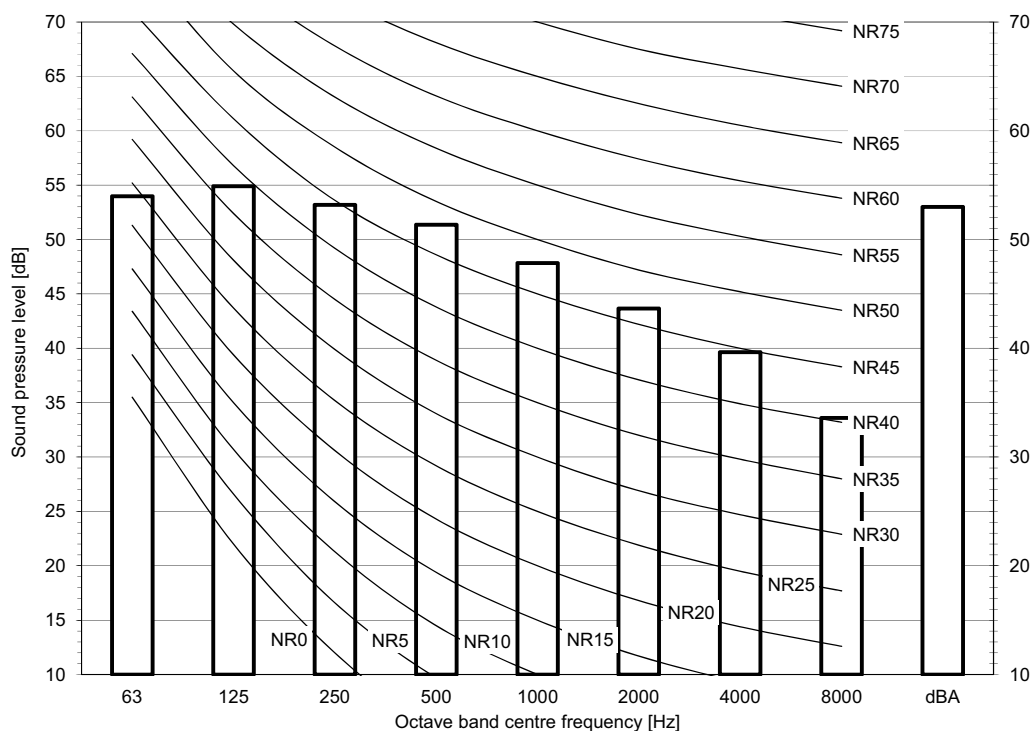
- Notes**
- Data is valid at free field condition.
 - Data is valid at nominal operation condition.
 - dBA = A-weighted sound pressure level (A scale according to IEC).
 - Reference acoustic pressure 0 dB = 20 μ Pa

3D125170

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

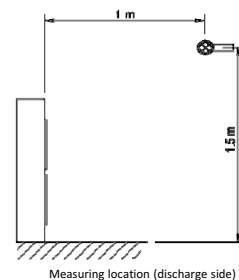
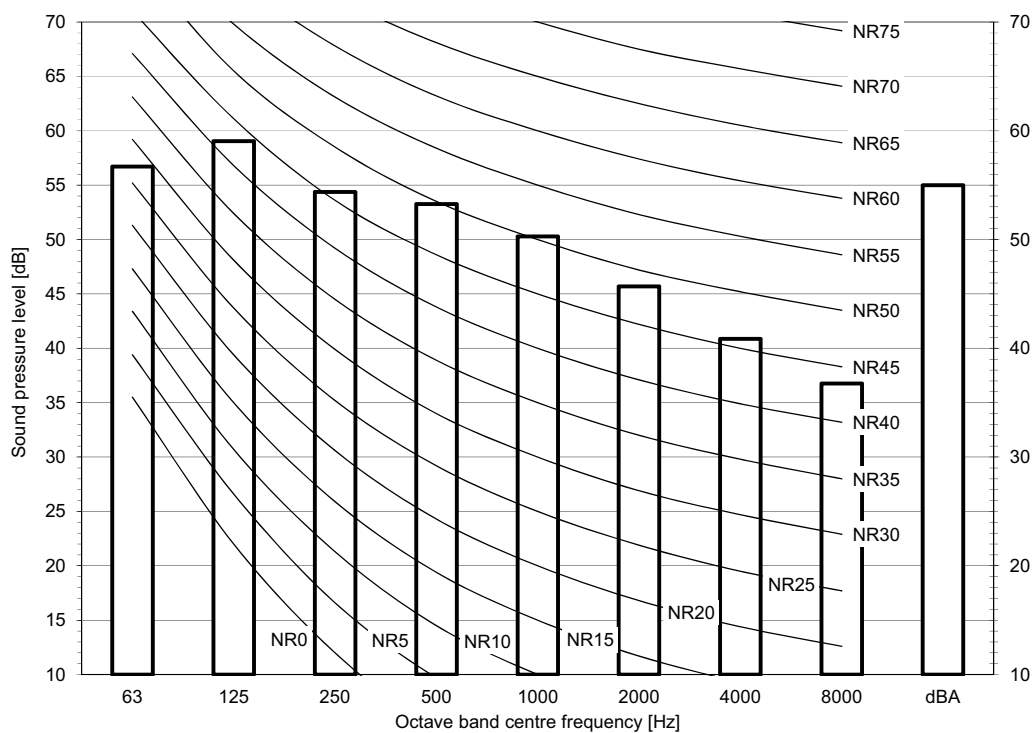
3D125171

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA250D

LEVEL 1



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

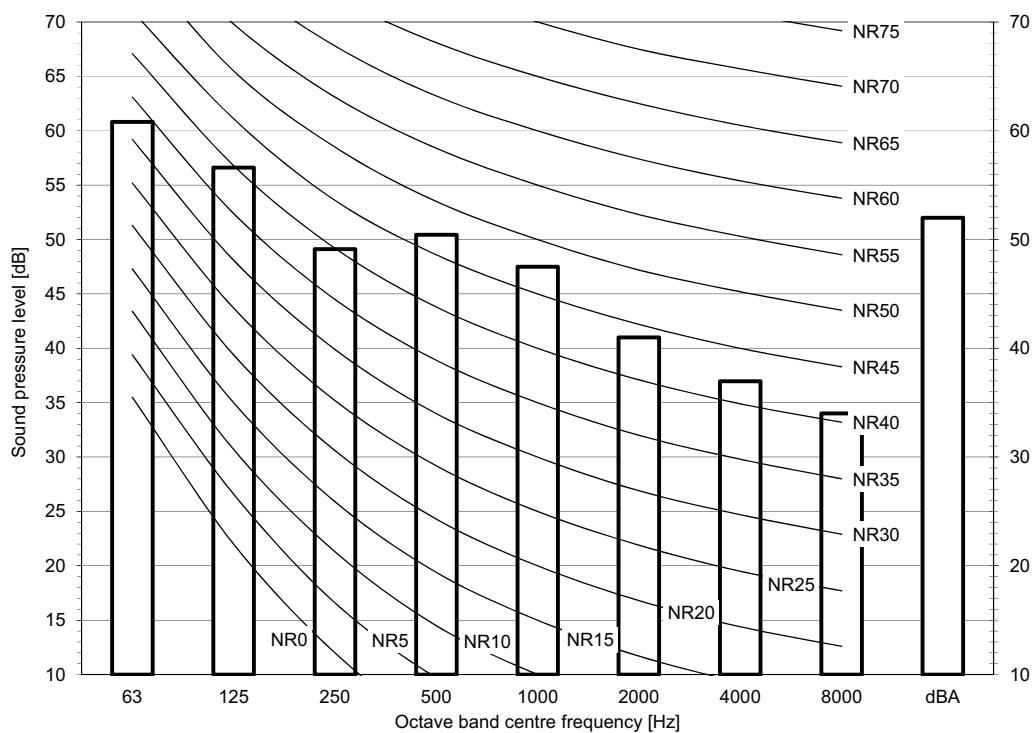
3D125174

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA250D

LEVEL 2



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

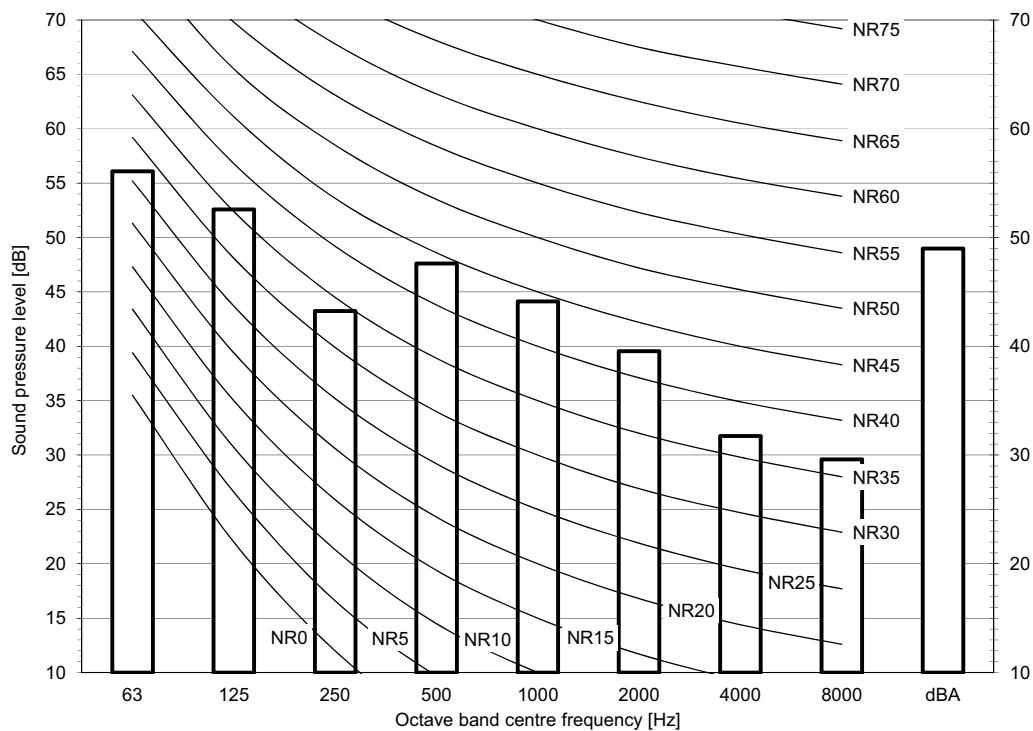
3D125175

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA250D

LEVEL 3



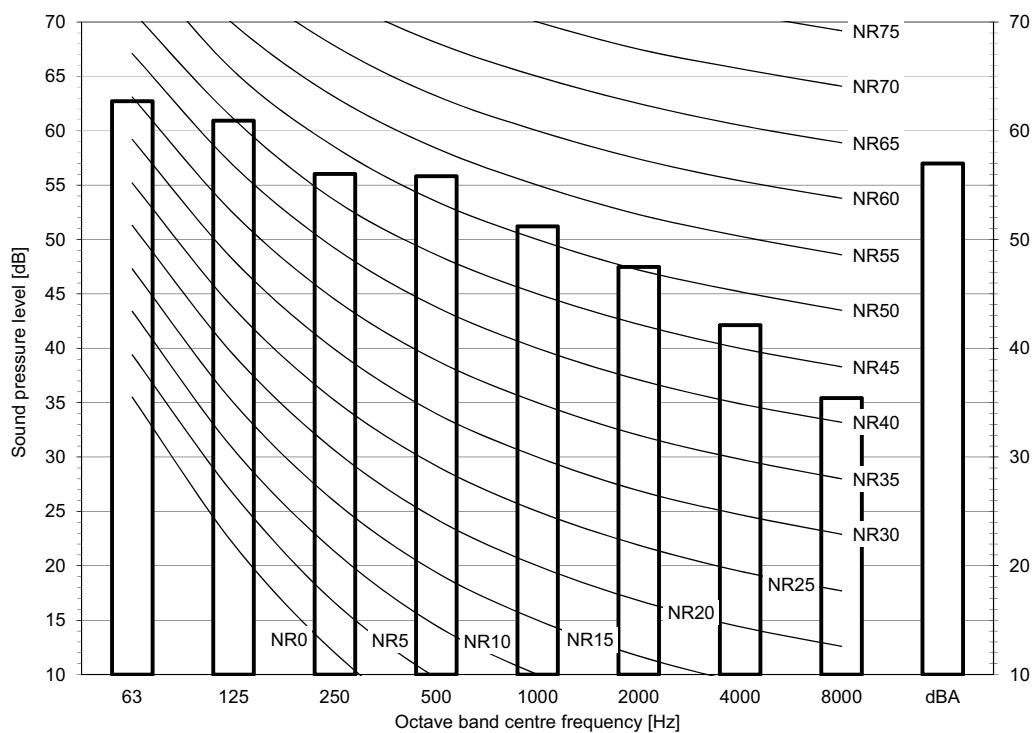
- Notes
- Data is valid at free field condition.
 - Data is valid at nominal operation condition.
 - dBA = A-weighted sound pressure level (A scale according to IEC).
 - Reference acoustic pressure 0 dB = 20 μ Pa

3D125176

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA250D



Notes

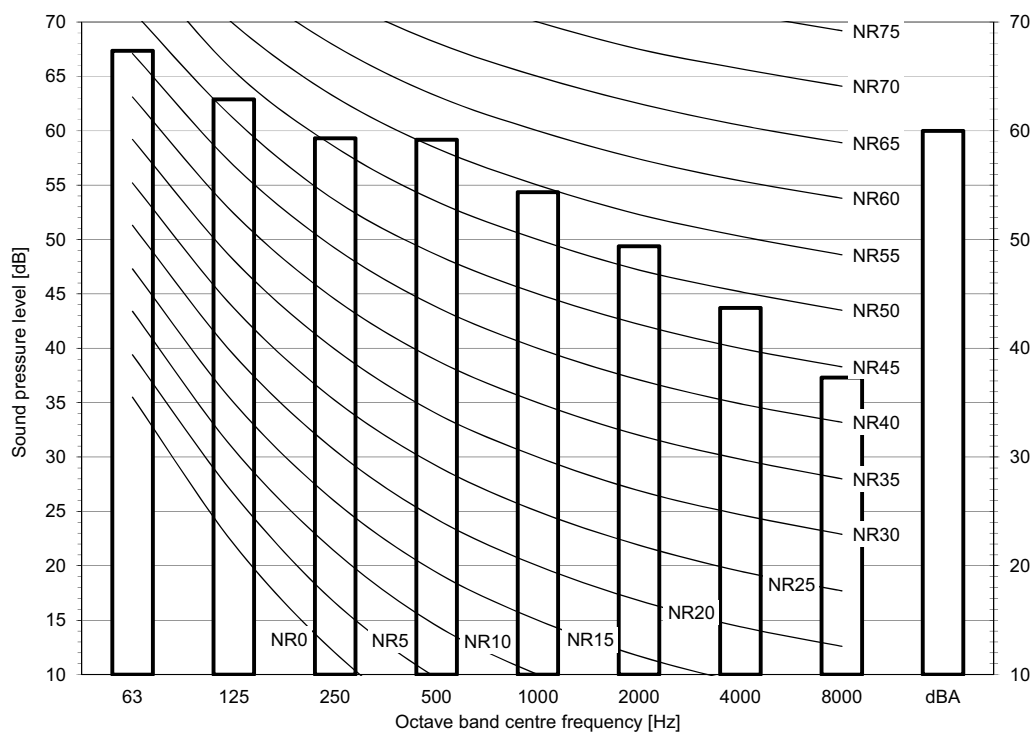
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 μ Pa

3D125177

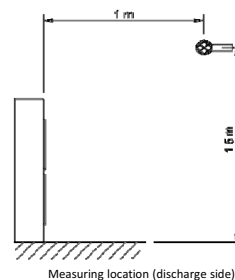
11 Sound data

11 - 3 Sound Pressure Spectrum - Heating

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

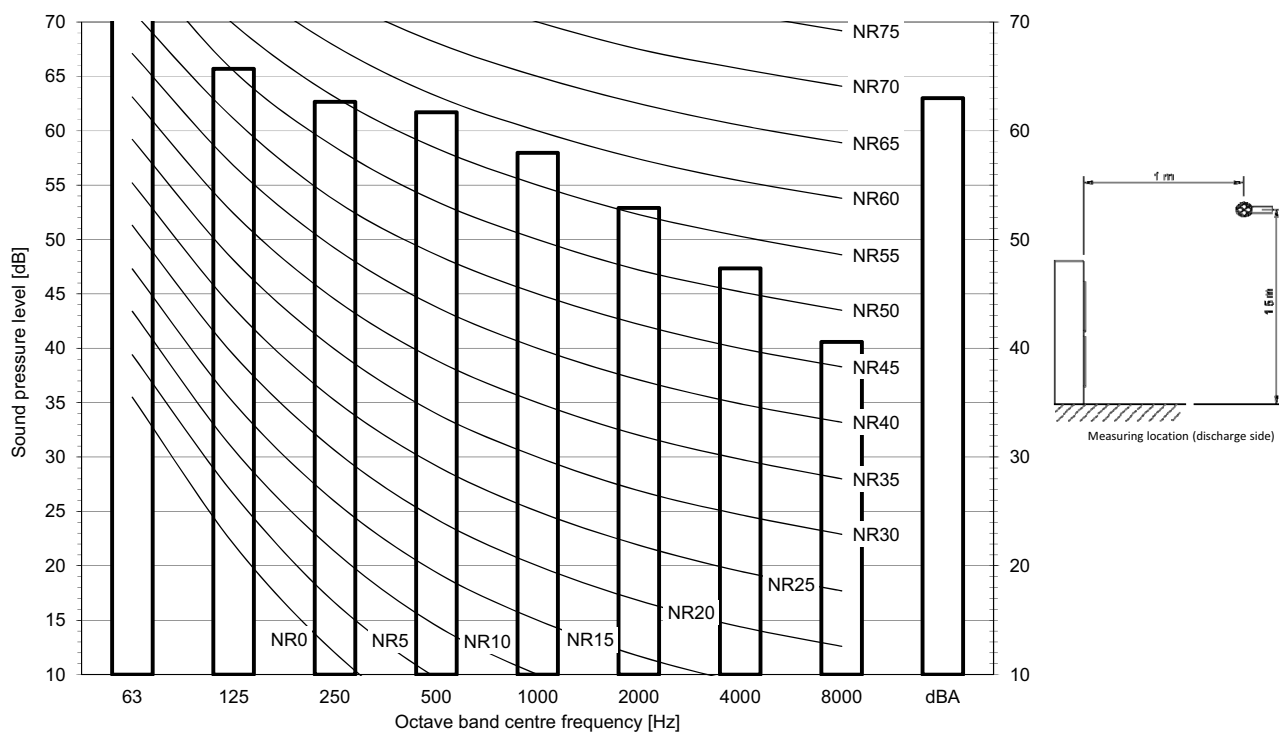


3D125172

11 Sound data

11 - 3 Sound Pressure Spectrum - Heating

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

12 Installation

12 - 1 Installation Method

RZA-D

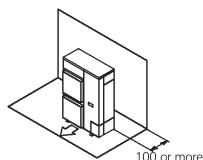
Installation service space

The measure of these values is "mm".

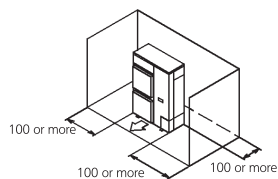
(A) When there are obstacles on suction sides.

• No obstacle above

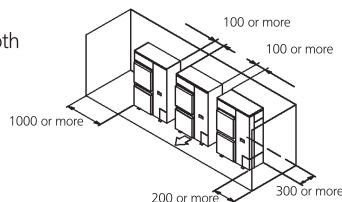
- ① Stand-alone installation
 - Obstacle on the suction side only



- Obstacle on both sides and suction side, too

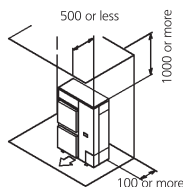


- ② Series installation (2 or more) (Note 1)
 - Obstacle on the suction side and both sides

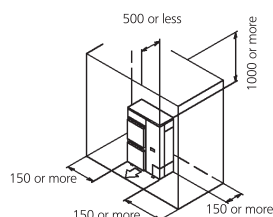


• Obstacle above, too.

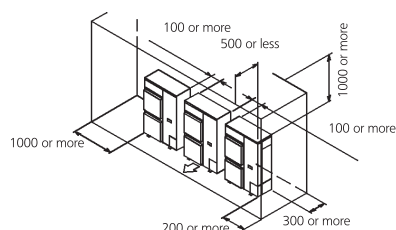
- ① Stand-alone installation
 - Obstacle on the suction side, too



- Obstacle on both sides and suction side, too



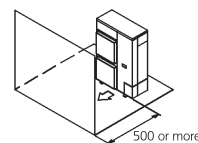
- ② Series installation (2 or more) (Note 1)
 - Obstacle on the suction side and both sides



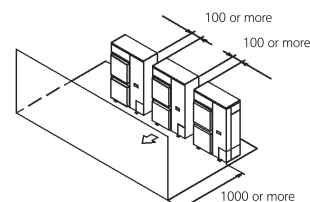
(B) When there are obstacles on discharge sides.

• No obstacle above

- ① Stand-alone installation
 - Obstacle on the discharge side only

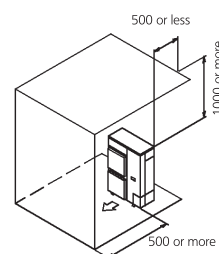


- ② Series installation (2 or more) (Note 1)
 - Obstacle on the discharge side only

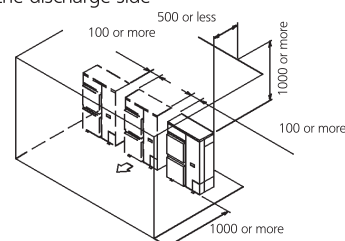


• Obstacle above, too

- ① Stand-alone installation
 - Obstacle on the discharge side only, too



- ② Series installation (2 or more) (Note 1)
 - Obstacle on the discharge side



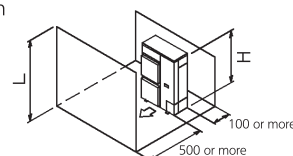
(C) When there are obstacles on both suction and discharge sides.:

Pattern 1

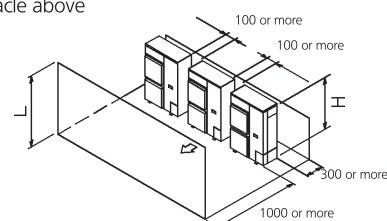
When the obstacles on the discharge side is higher than the unit. (L>H)
(There is no limit for the height of obstructions on the suction side.)

• No obstacle above

- ① Stand-alone installation
 - No obstacle above



- ② Series installation (2 or more) (Note 1)
 - No obstacle above

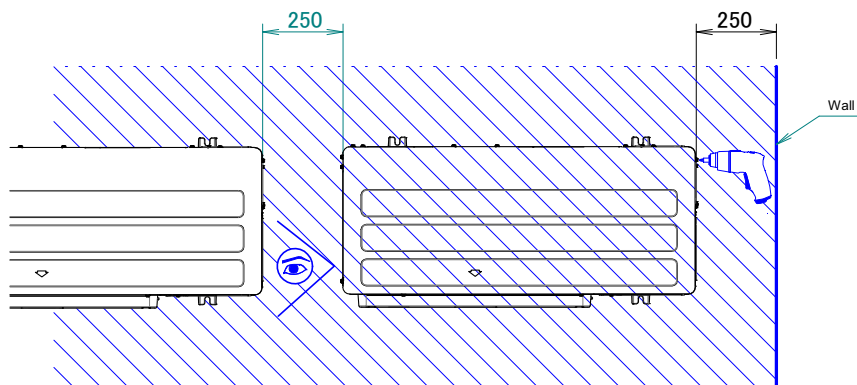


3D069554

12 Installation

12 - 1 Installation Method

RZA-D



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

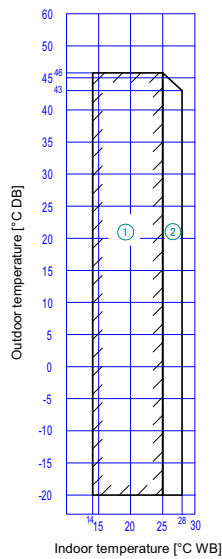
3D120935

13 Operation range

13 - 1 Operation Range

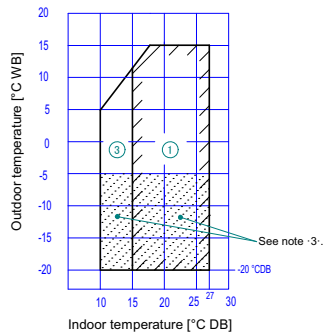
RZA-D

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

Daikin Europe N.V. Naamloze Vennootschap - Zandvoordestraat 300, B-8400 Oostende - Belgium - www.daikin.eu - BE 0412 120 336 - RPR Oostende



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