



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



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RZA-D

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14 Appropriate Indoors

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1 Features

1 - 1 RZA-D

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

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|------------------------------------|----------|------------------|------------------------|---------------------------------|------------------|-------------------------------------|--------------------------------|
| | | | | | | | |
| Guaranteed operation down to -20°C | Inverter | 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	WF fin					
	Type Treatment	Anti-corrosion treatment (PE)					
Fan	Type	Propeller					
	Discharge direction	Horizontal					
	Quantity	1					
	Air flow rate	Cooling	Nom.	m ³ /min	101	119	
			Heating	Nom.	m ³ /min	126	142
		Partial	m ³ /min	52 (1)			
Fan motor	Quantity	1					
	Model	Brushless DC motor					
	Output	W		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	kg		5			
	Control	Expansion valve (electronic type)					
Refrigerant	GWP	675					
	Circuits	Quantity	1				
Refrigerant oil	Type	FW68DE					
	Charged volume	l		3			
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	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	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: Peel off F-gas label;Quantity: 1;

Standard accessories: Connection pipes;Quantity: 6;

Standard accessories: Tie-wraps;Quantity: 2;

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	V		342
V				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 (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)	TOL	Tol (temperature operating limit)	°C		-10
	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
Space heating (Average climate)	C Condition (7°C)	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	
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	Heating	PSB	kW	0.040
		Cooling	PSB	kW	0.031
	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
Cooling	Cdc (Degradation cooling)				0.25
Heating	Cdh (Degradation heating)				0.25
Cooling function included					Yes

2 Specifications

2 - 1 Specifications

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Technical specifications		FDA200A + RZA200D	FDA250A + RZA250D
Heating function included			Yes
Average climate included			Yes
Cold season included			No
Warm season included			No
Space heating (Average climate) - Low sound mode (Stb. 2020, 189)	B Condition COPd (declared COP)		---
	(2°C) - SCOPnet/A		
	SCOPnet/A		-
	C Condition Pdh (declared heating cap)		---
	(7°C) - SCOPnet/A		

(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

1. 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
2. ·TOCA· is the total value of each overcurrent set.
3. 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.
4. The maximum allowable voltage that is unbalanced between phases is ·2%·.
5. ·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.
6. Select the wire size according to the MCA.
7. ·MFA· is used to select the circuit breaker and the ground fault circuit interruptor.
 - Earth leakage circuit breaker

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Indoor	Outdoor	Power supply	Voltage range		Compressor			OFM		IFM				
					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				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	20.5	—	25	—	13.0	0.6	1.3	1.4 x4	
FBA60A2VEB	x3				RZA200D7Y1B	19.7	—	20	—	13.9	0.6	1.3	1.3 x3	
FBA71A2VEB	x3				RZA200D7Y1B	19.7	—	20	—	13.9	0.6	1.3	1.3 x3	
FBA100A2VEB	x2				RZA200D7Y1B	22	—	25	—	13.1	0.6	1.3	3.5 x2	
FHA50AVEB98	x4				RZA200D7Y1B	17.4	—	20	—	13.0	0.6	1.3	0.6 x4	
FHA60AVEB98	x3				RZA200D7Y1B	17.7	—	20	—	13.9	0.6	1.3	0.6 x3	
FHA71AVEB98	x3				RZA200D7Y1B	18.3	—	20	—	13.9	0.6	1.3	0.8 x3	
FHA100AVEB8	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			
FAA71BUV1B	x3		RZA200D7Y1B	17.4	—	20	—	13.9	0.6	1.3	0.5 x3			
FAA100BUV1B	x2		RZA200D7Y1B	16.8	—	20	—	13.1	0.6	1.3	0.9x2			
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			3N~ 50Hz 380-415V	Minimum: ·342 V·	Maximum: ·457 V·	20.2	—	25	—	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	21.1	—	25	—	14.0	0.6	1.3	1.3 x4
FBA125A2VEB	x2	RZA250D7Y1B				22.7	—	25	—	13.6	0.6	1.3	3.6 x2	
FHA60AVEB98	x4	RZA250D7Y1B				18.4	—	20	—	14.0	0.6	1.3	0.6 x4	
FHA125AVEB8	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	

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4 Options

4 - 1 Options

RZA-D

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Available options for ·RZA200/250D7Y1B· models

Description	Combination		Material name	RZA200D7Y1B	RZA250D7Y1B
Refrigerant branch piping	Twin	(2)	KHRQ(M)22M20TA	1	1
	Triple	(2)	KHRQ(M)250H7	1	1
	Double twin	(2)	KHRQ(M)22M20TA	3x	3x
Demand adaptor kit			KRP58M51	1	1
Mounting plate		(1)	EKMKA3	1	1
Bottom plate heater			EKBPH250D	1	1

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

(2) KHRQ* is branch piping for imperial pipe sizes, KHRQM* for metric pipe sizes.

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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	FCAAG35BVEB	FCAAG50BVEB	FCAAG60BVEB	FCAAG71BVEB	FCAAG100BVEB	FCAAG125BVEB	FCAAG140BVEB	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	3	2					4	3	3	2				3	2		3	2		
RZA250D7Y1B	P						4				2						4		4							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

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

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RZA200D

Cooling

Heating

Legend:

- 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]

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	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			6			10	
[°C DB]	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	
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	26.9	1.10			
18	12.5	0.92	14.1	0.98	15.2	0.99	15.9	1.01	17.8	1.06	24.6	1.07	26.8	1.12			
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	26.6	1.13			
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	1.16			
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	1.18			

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 × 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.

Pair

AFR	64
BF	0.3

Twin

FCAG12S82	FBA125A2	FBA125A2	FVA125A2	FVA125A2	FVA125A2	FVA125A2
AFR	22.82	25.02	28.02	28.02	31.02	26.02
BF	0.1742	0.1923	0.1923	0.1923	0.1923	0.1923

Triple

FCAG50B3	FCAG71B3	FBA50A3	FBA71A3	FBA50A3	FBA71A3	FBA71A3
AFR	13.63	15.33	18.03	18.03	19.53	20.53
BF	0.2043	0.1443	0.1343	0.1343	0.1343	0.1343

Double twin

FCAG50B4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4
AFR	17.64	15.84	15.84	12.84	15.84	16.04
BF	0.2241	0.1341	0.1341	0.1641	0.1141	0.1141

Pair

Cooling	7.06
Heating	6.93

Twin

FCAG12S82	FBA125A2	FBA125A2	FVA125A2	FVA125A2	FVA125A2	FVA125A2
Cooling	6.61	7.52	6.97	6.26	6.09	6.89
Heating	6.54	6.22	6.37	6.74	6.07	7.77

Triple

FCAG50B3	FCAG71B3	FBA50A3	FBA71A3	FBA50A3	FBA71A3	FBA71A3
Cooling	6.51	7.40	7.46	6.97	5.97	5.81
Heating	7.16	6.22	6.22	6.20	7.13	6.41

Double twin

FCAG50B4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4
Cooling	8.34	6.78	6.78	6.27	5.81	6.24
Heating	7.03	6.83	6.73	7.20	5.50	6.71

3D125190E

RZA250D

Cooling

Heating

Legend:

- 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]

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	20.8	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

Heating

Indoor	Outdoor temperature [°C WB]																
	-15			-11			-8			-6			6			10	
[°C DB]	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	
16	14.0	0.89	15.6	0.95	16.6	0.99	17.6	1.01	19.5	1.06	26.1	1.07	30.5	1.14			
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	1.19			
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	1.23			
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	1.28			
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	1.32			

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 × 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.

Pair

AFR	85
BF	0.25

Twin

FCAG12S82	FBA125A2	FBA125A2	FVA125A2	FVA125A2	FVA125A2	FVA125A2
AFR	26.02	30.02	31.02	28.02	31.02	30.02
BF	0.2321	0.1823	0.1823	0.1823	0.1923	0.1823

Double twin

FCAG50B4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4
AFR	13.04	18.04	19.04	14.04	16.04	16.04
BF	0.2045	0.1545	0.2045	0.1145	0.1245	0.1245

Pair

Cooling	8.76
Heating	7.69

Twin

FCAG12S82	FBA125A2	FBA125A2	FVA125A2	FVA125A2	FVA125A2	FVA125A2
Cooling	7.87	8.09	8.21	8.58	8.86	7.82
Heating	7.60	7.16	7.12	7.52	6.68	6.94

Double twin

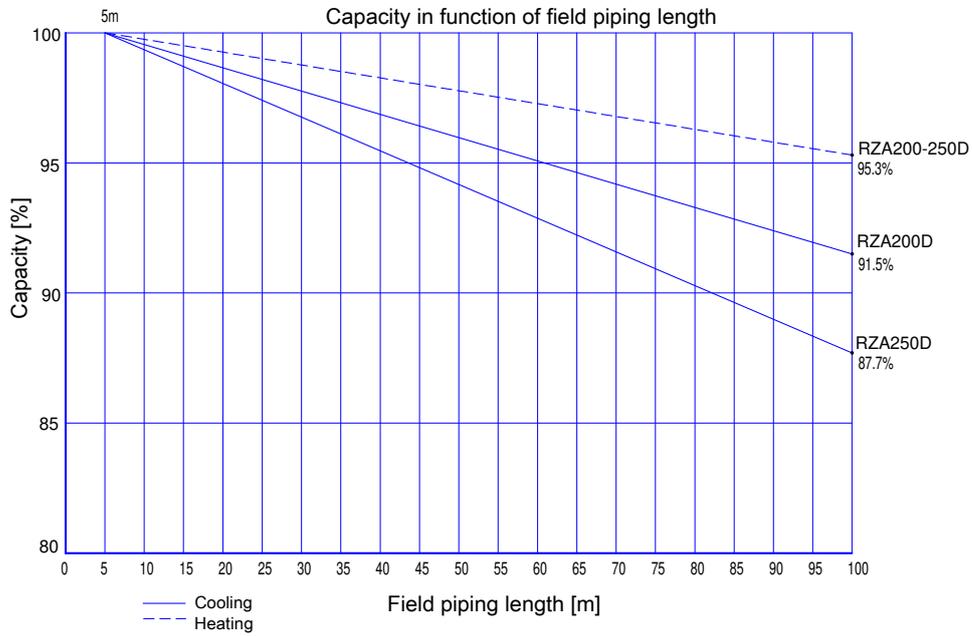
FCAG50B4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4	FBA50A4
Cooling	7.24	6.93	7.40	6.99	7.26	7.26
Heating	7.14	6.43	6.84	7.29	6.83	6.75

3D125191C

6 Capacity tables

6 - 1 Cooling/Heating Capacity Tables

RZA-D



3D125192

6 Capacity tables

6 - 2 Maximum heating capacity tables

6

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

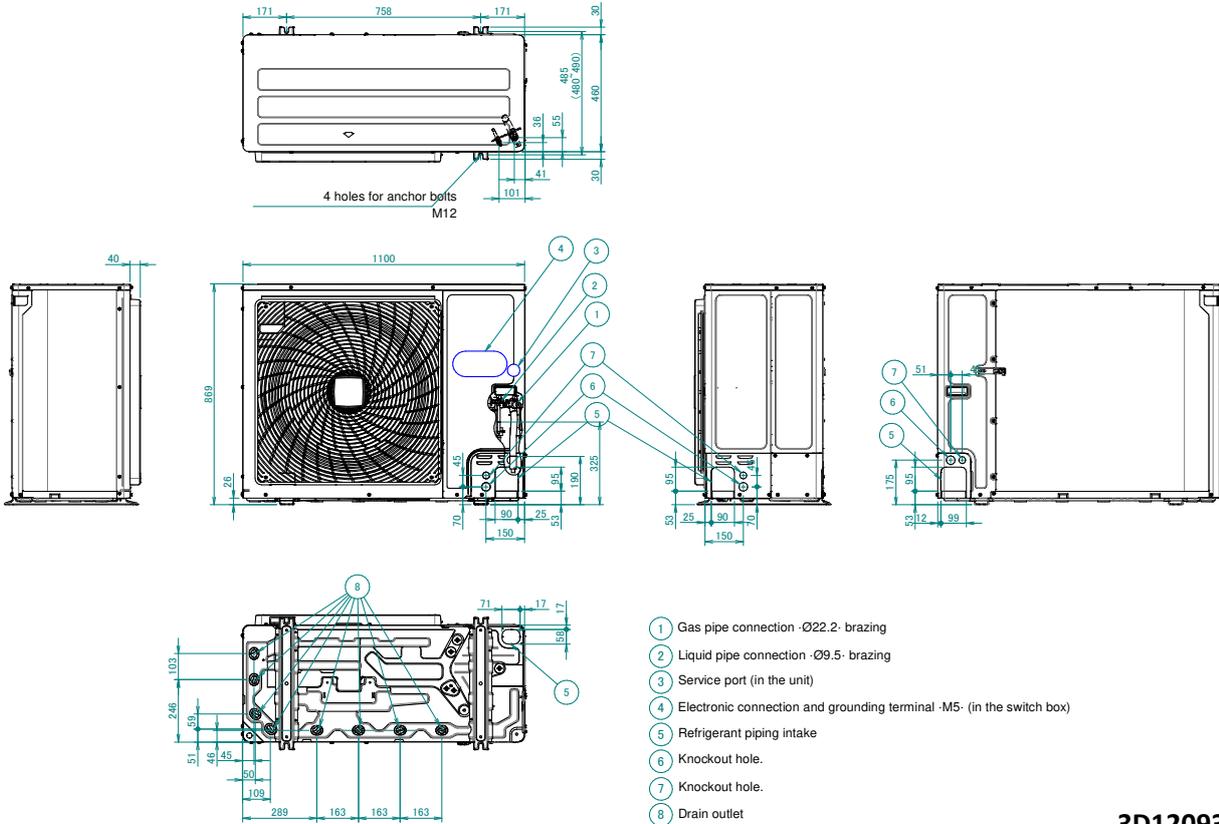
- The ratings shown are peak capacities which include a correction for indoor fan motor heat.
- The capacities are based on the following conditions:
 Outdoor air: ·85% RH·
 However, the outdoor ambient condition of the rated capacity during heating operation is ·7°C DB/6°C WB·.
 Corresponding refrigerant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



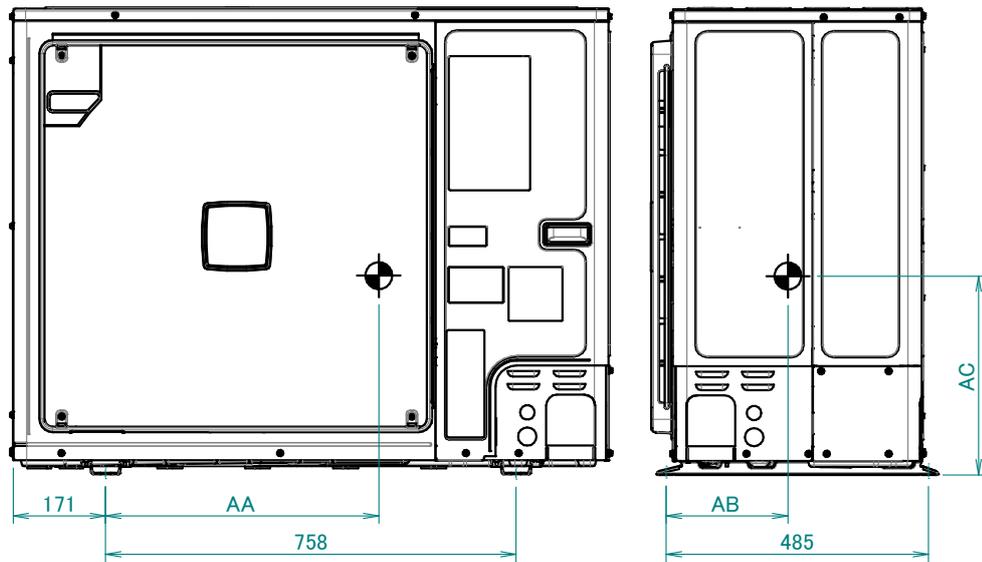
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8 Centre of gravity

8 - 1 Centre of Gravity

8

RZA-D



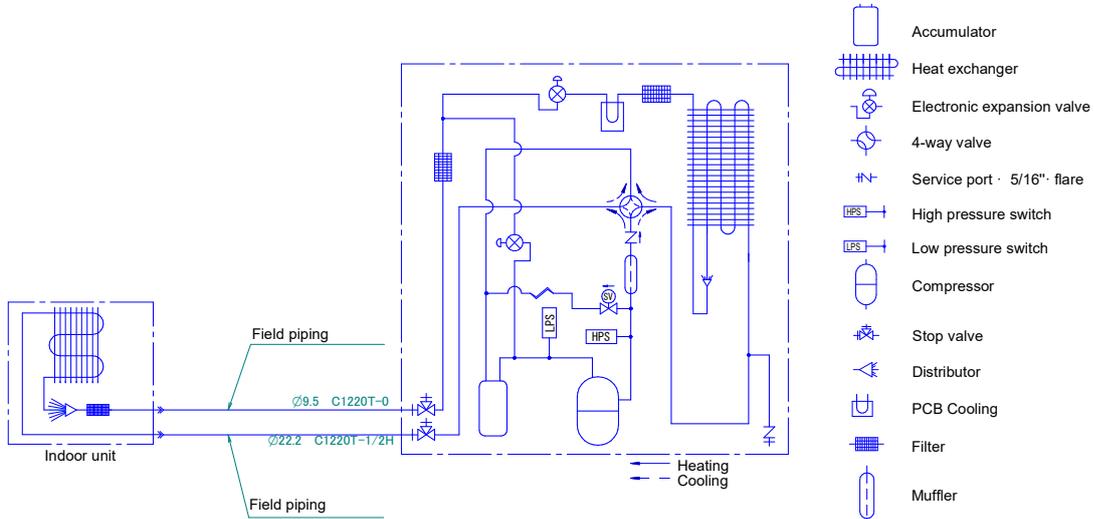
Model	AA	AB	AC
RZA200/250D	703.9	239.0	385.1

4D120934A

9 Piping diagrams

9 - 1 Piping Diagrams

RZA-D



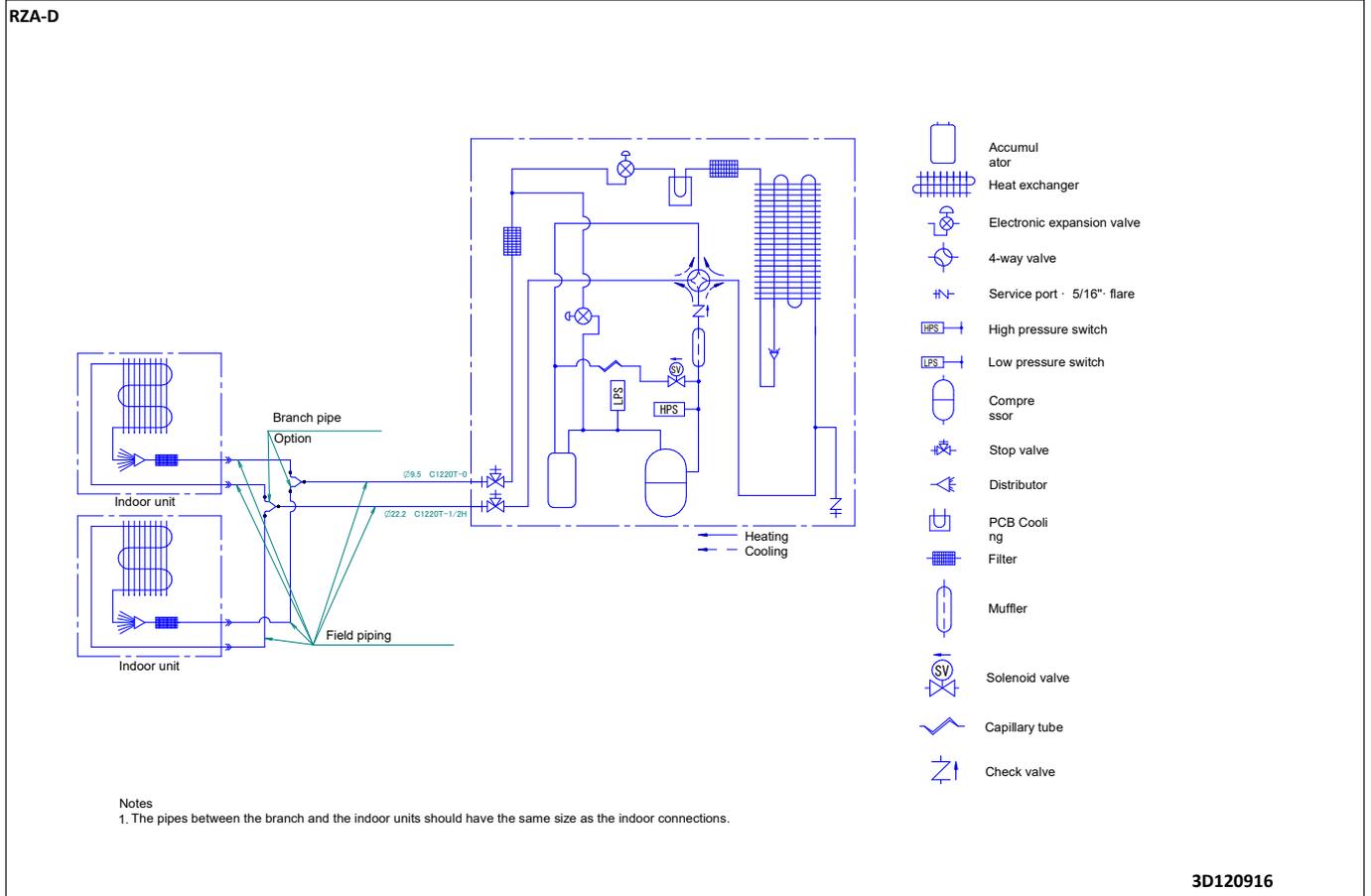
Notes
 1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120908

9 Piping diagrams

9 - 2 Piping Diagram Twin Application

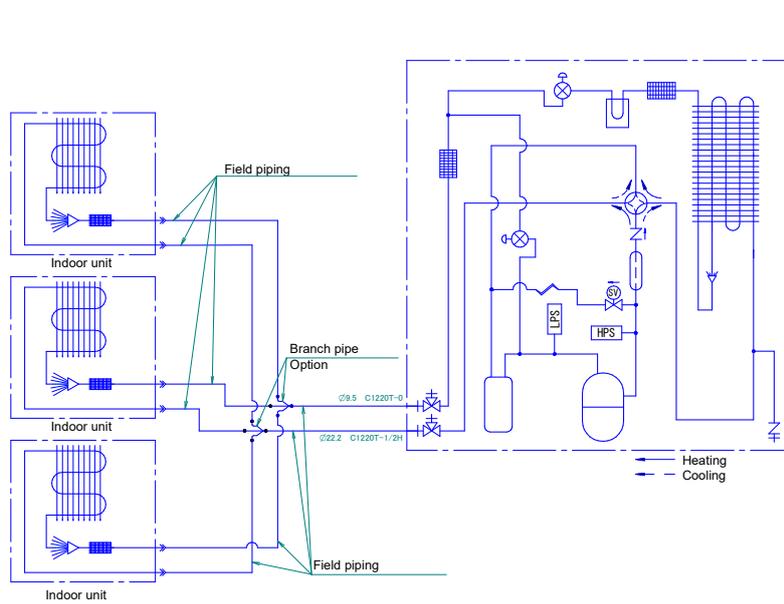
9



9 Piping diagrams

9 - 3 Piping Diagram Triple Application

RZA-D



- 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

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

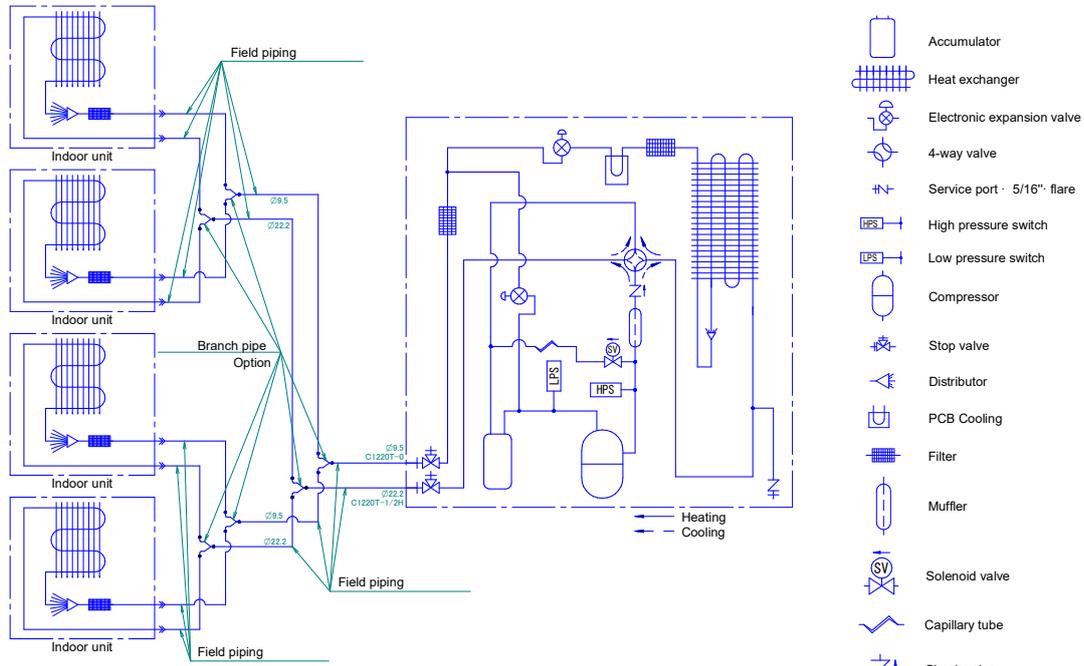
3D120917

9 Piping diagrams

9 - 4 Piping Diagram Double Twin Application

9

RZA-D

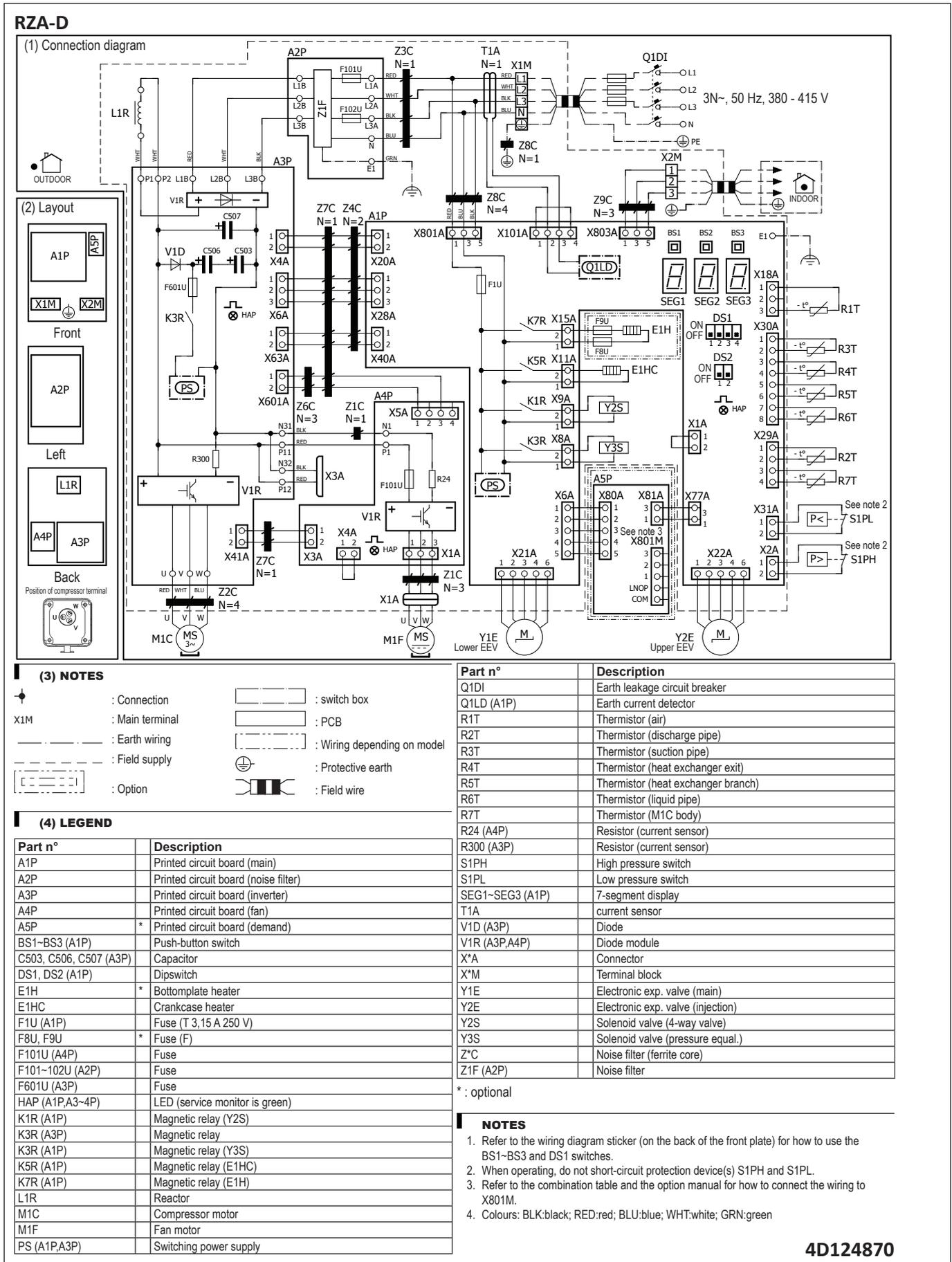


Notes
 1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120918

10 Wiring diagrams

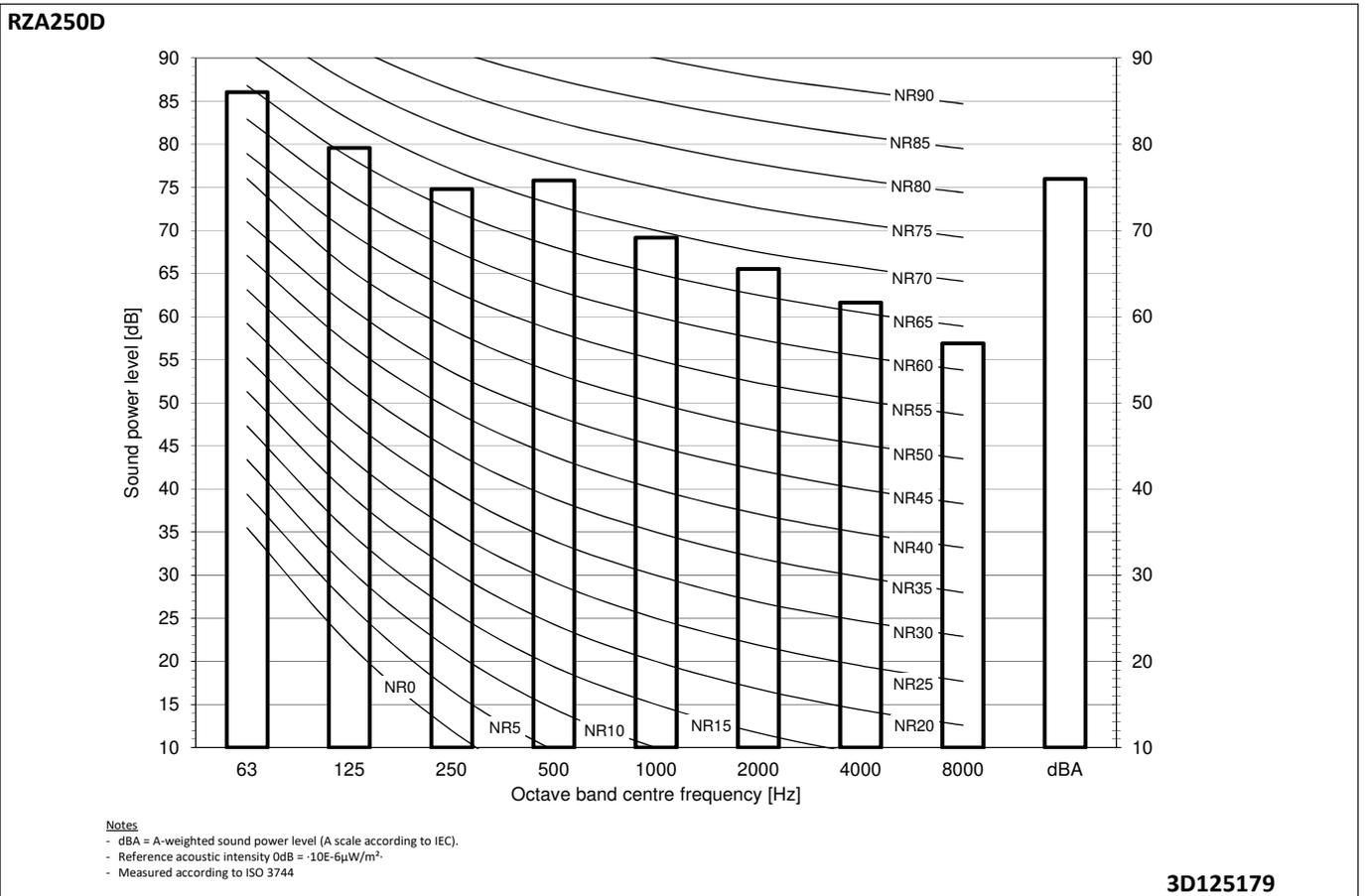
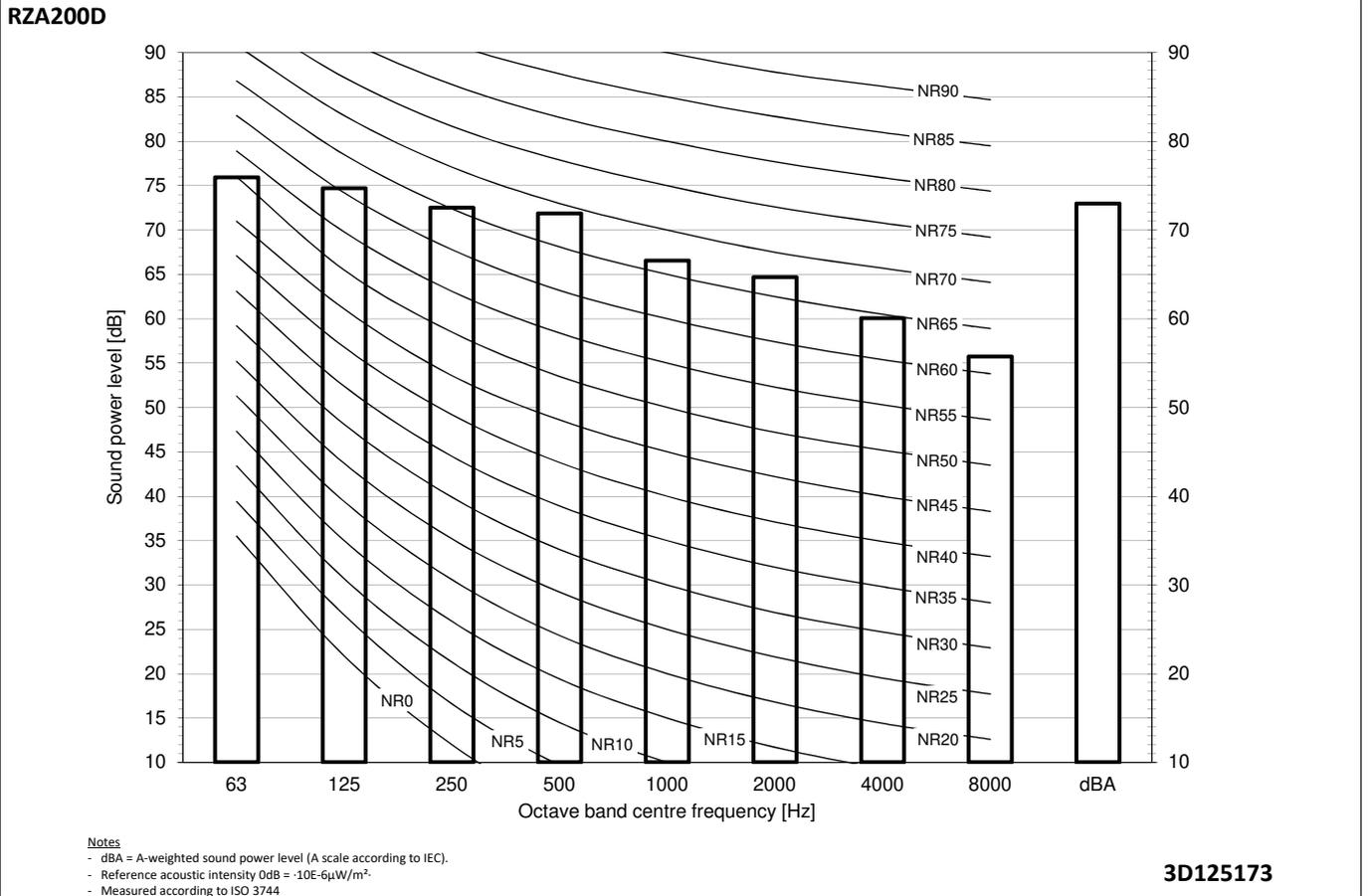
10 - 1 Wiring Diagrams - Three Phase



11 Sound data

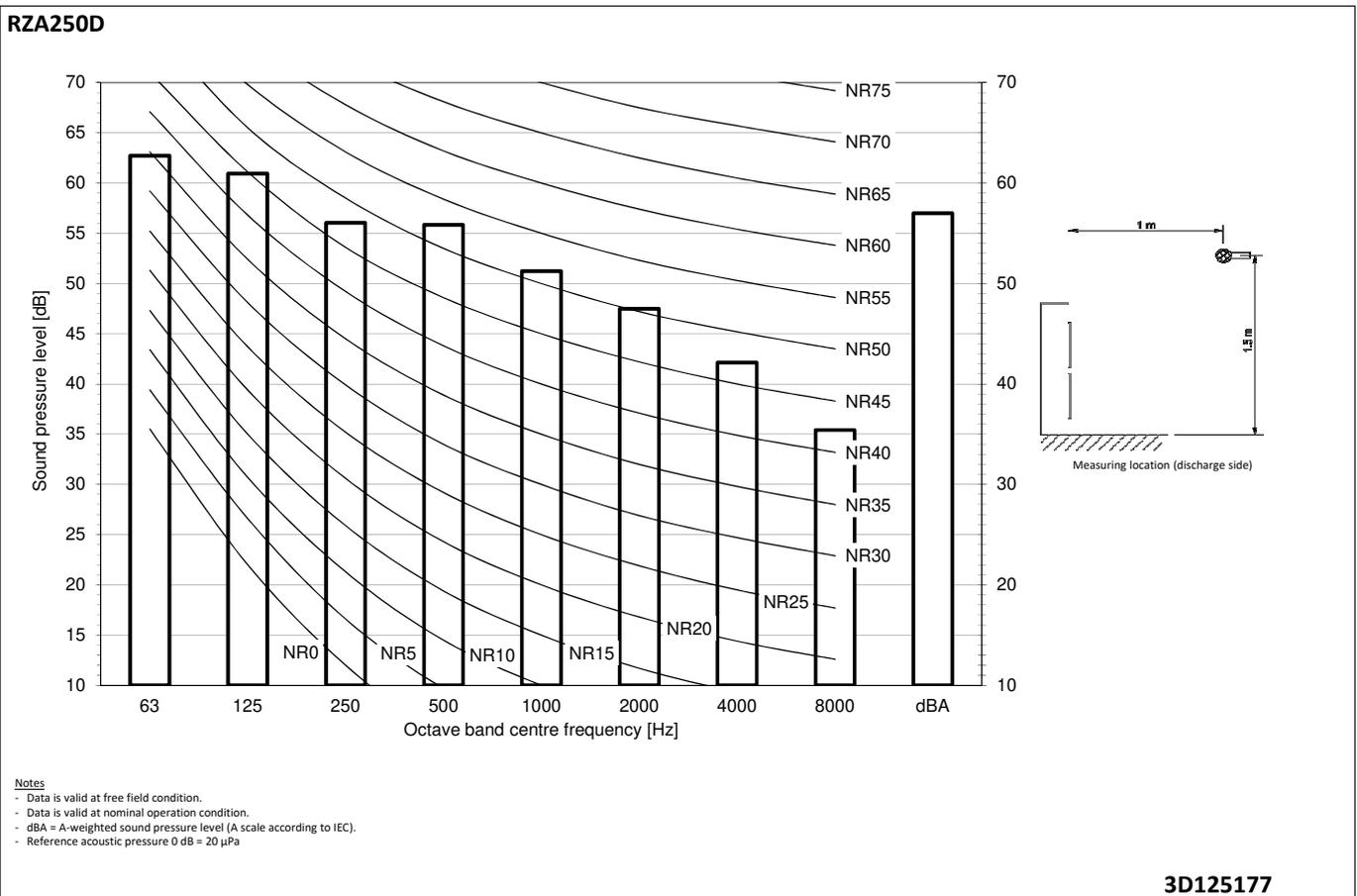
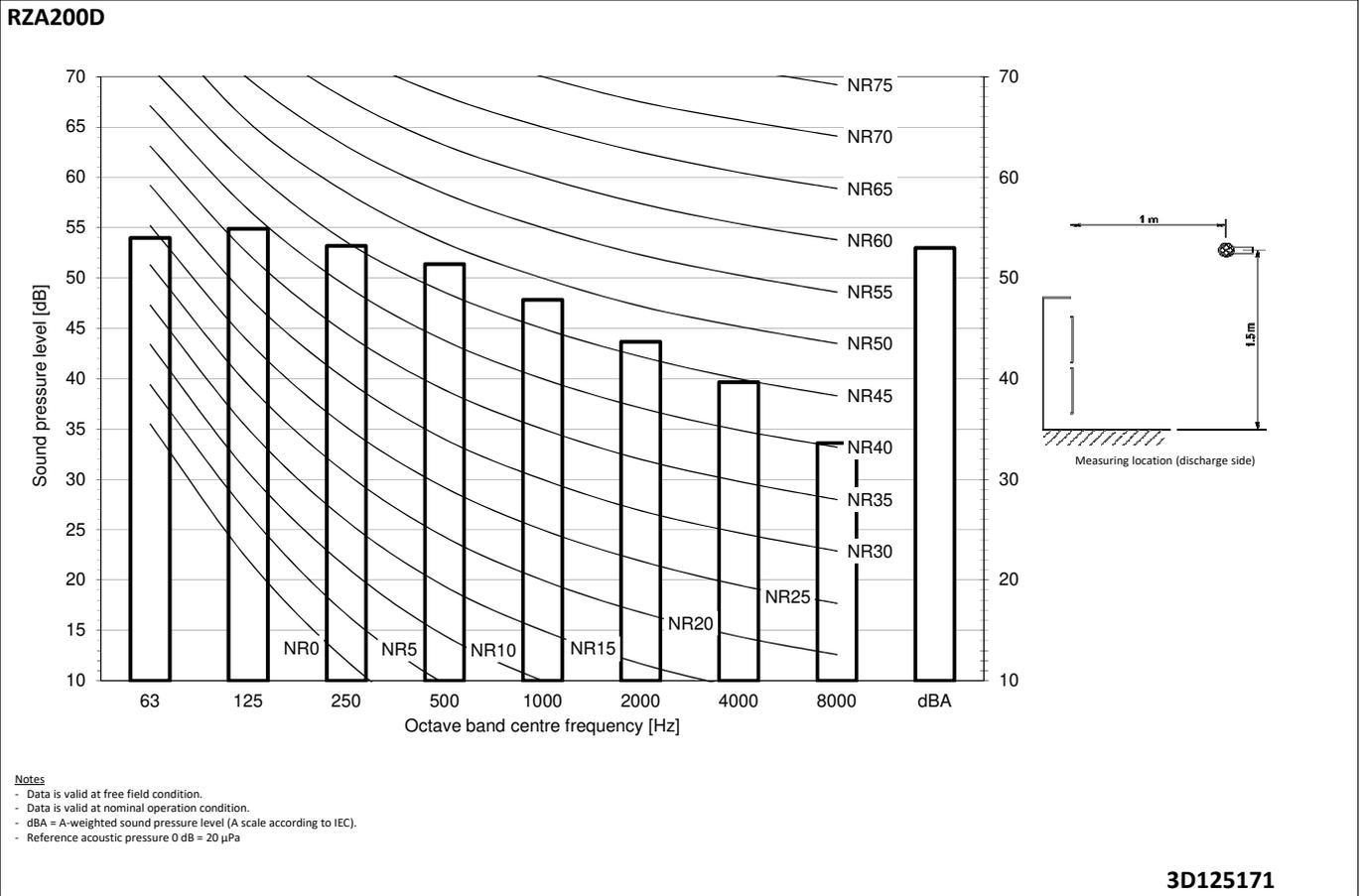
11 - 1 Sound Power Spectrum

11



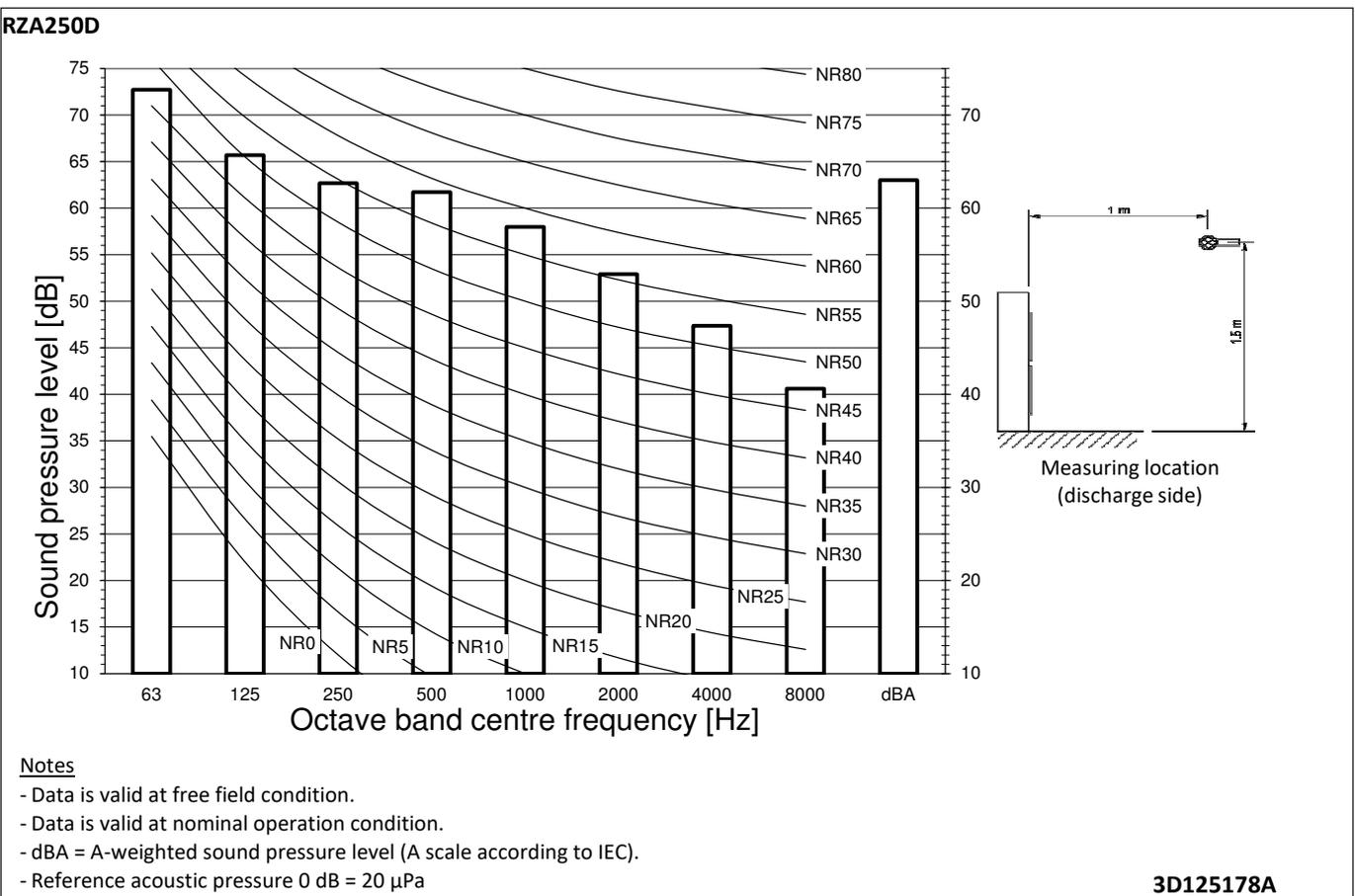
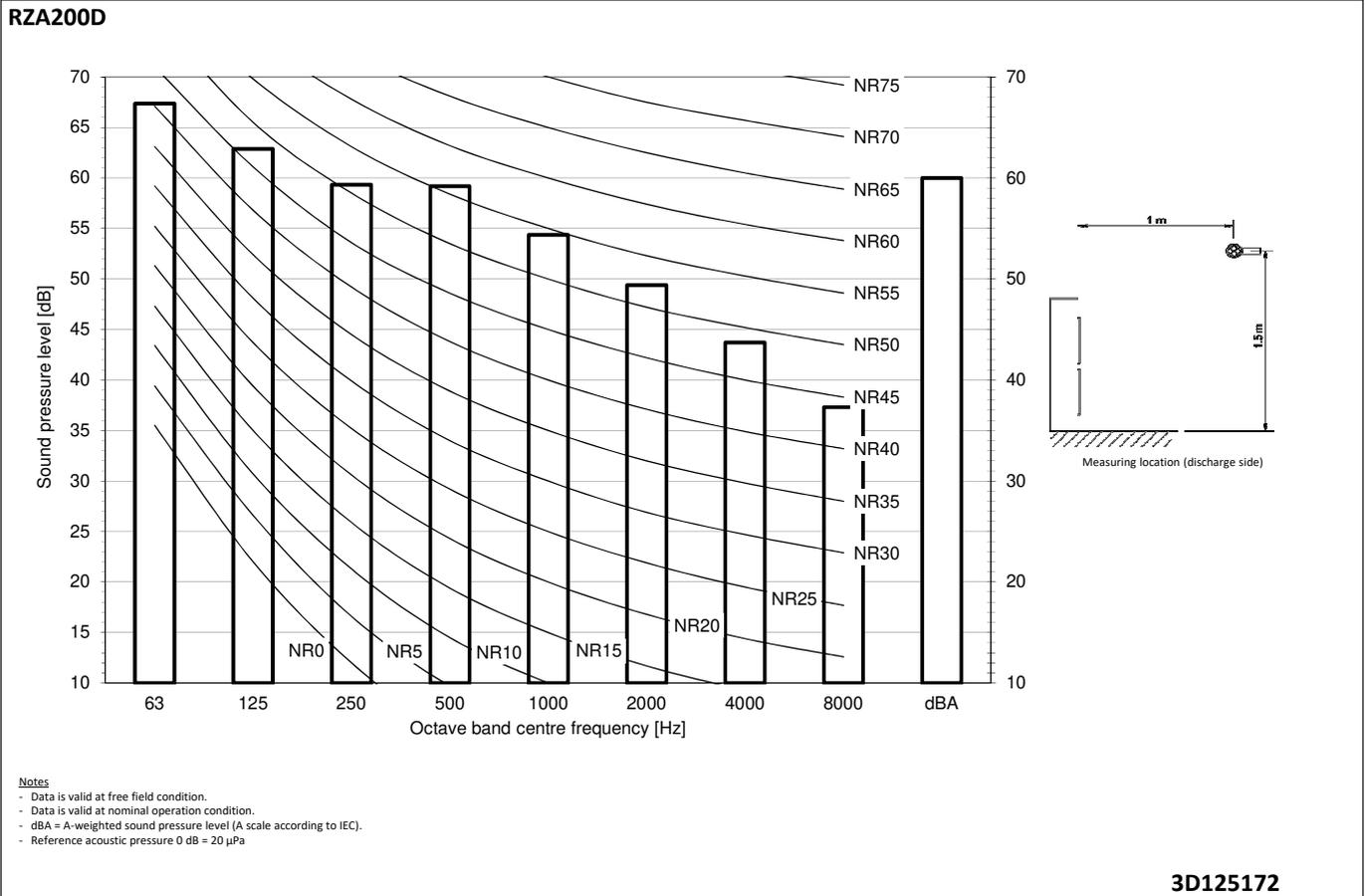
11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling



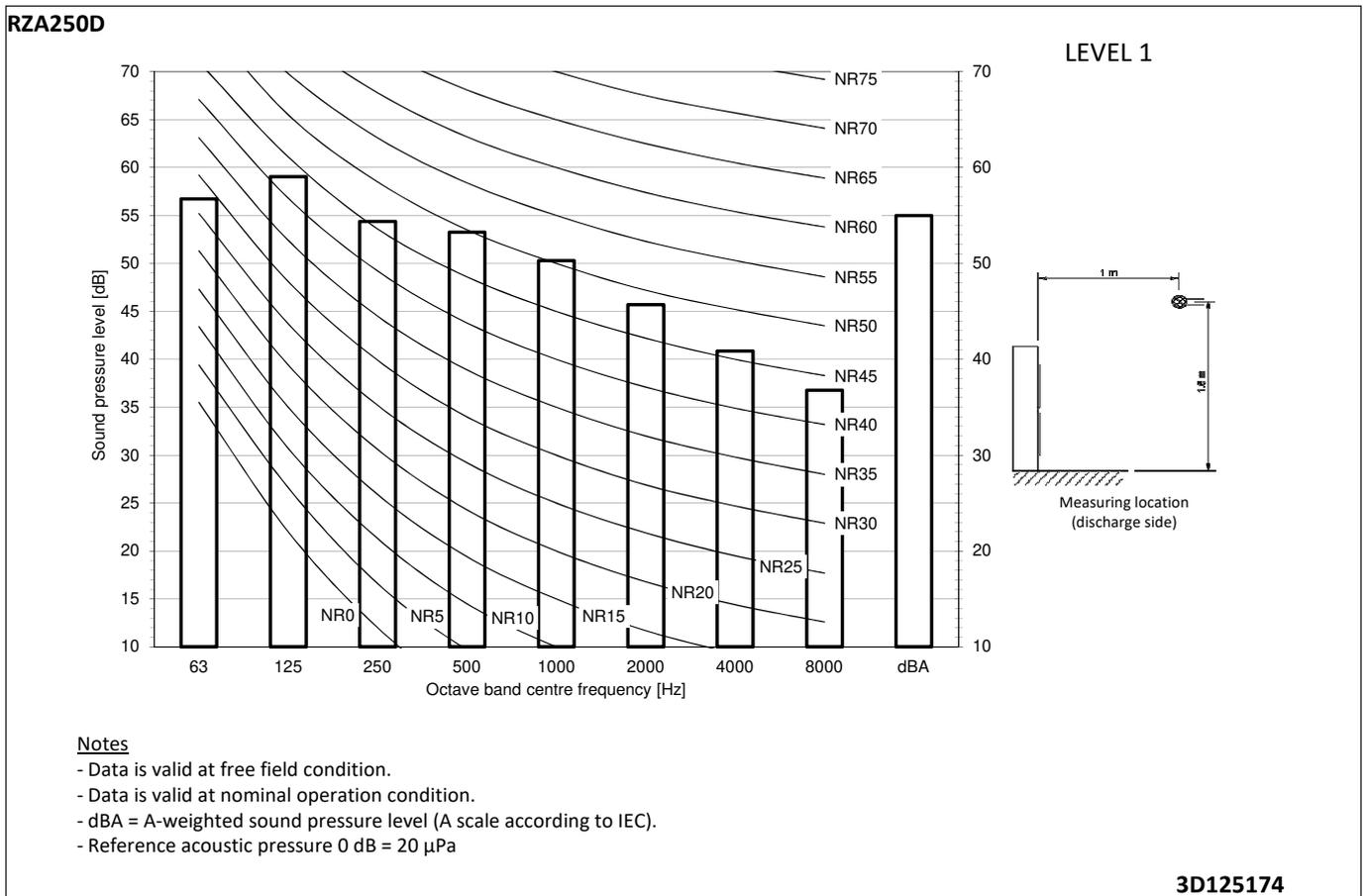
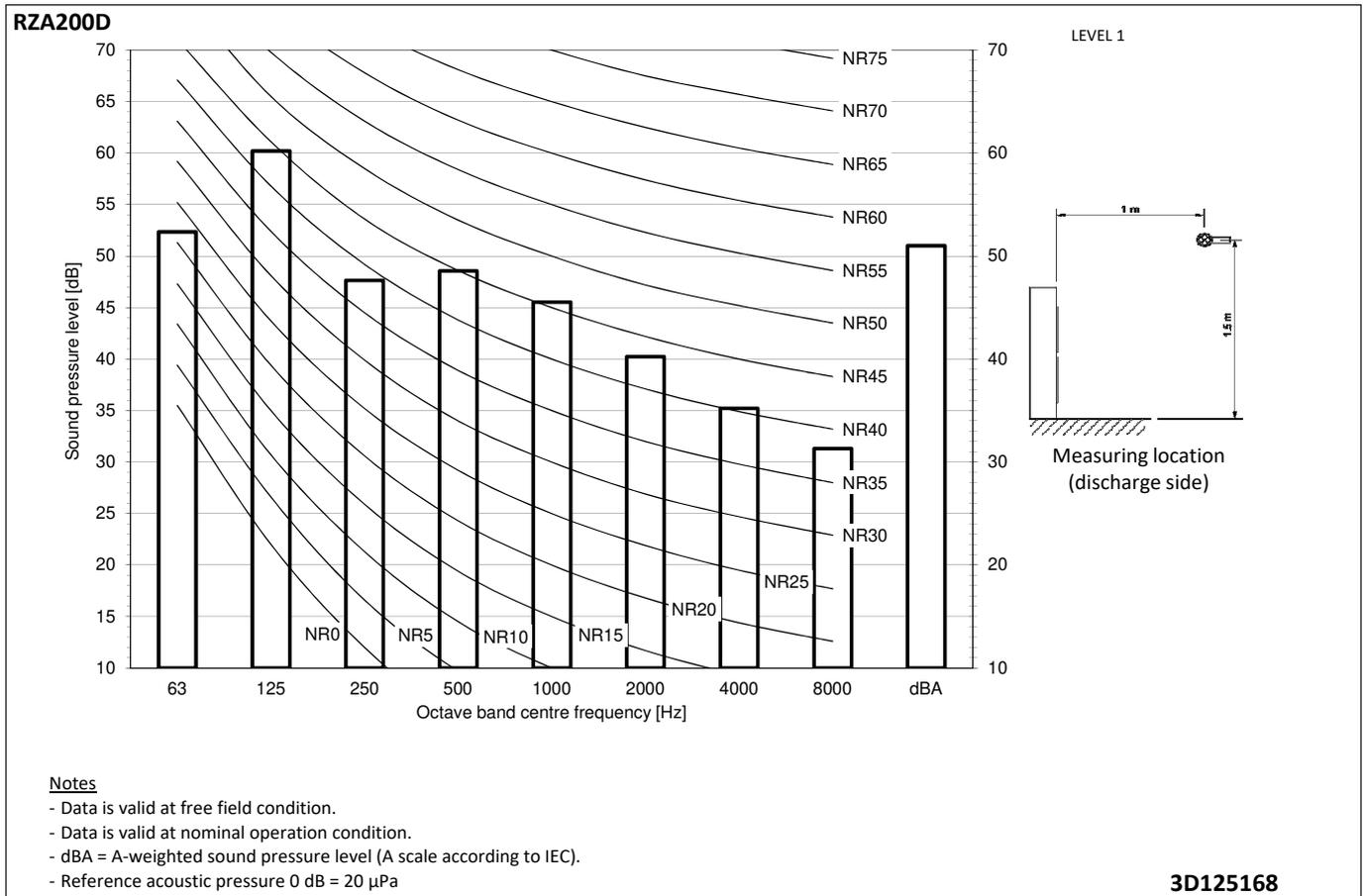
11 Sound data

11 - 3 Sound Pressure Spectrum - Heating



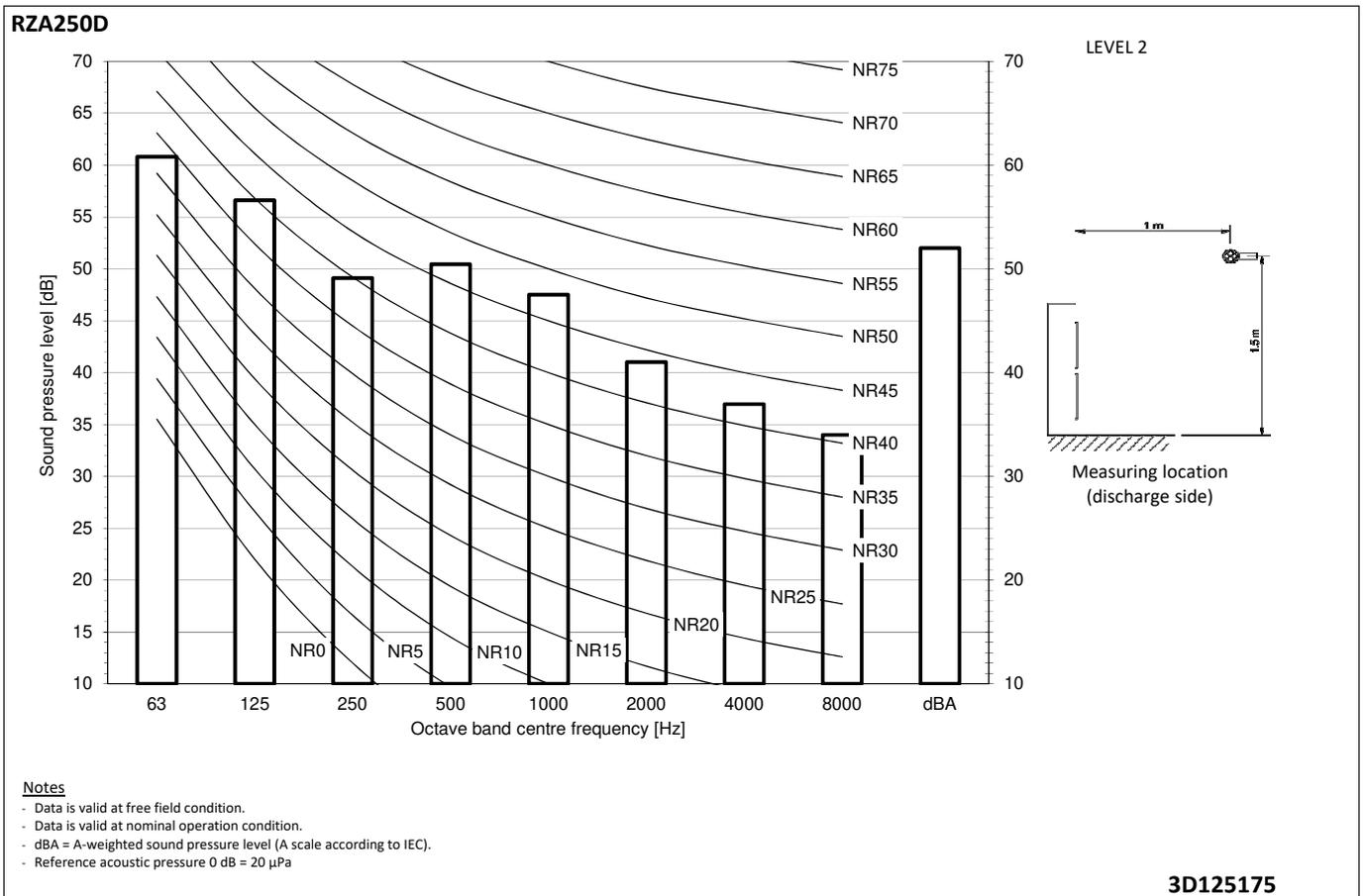
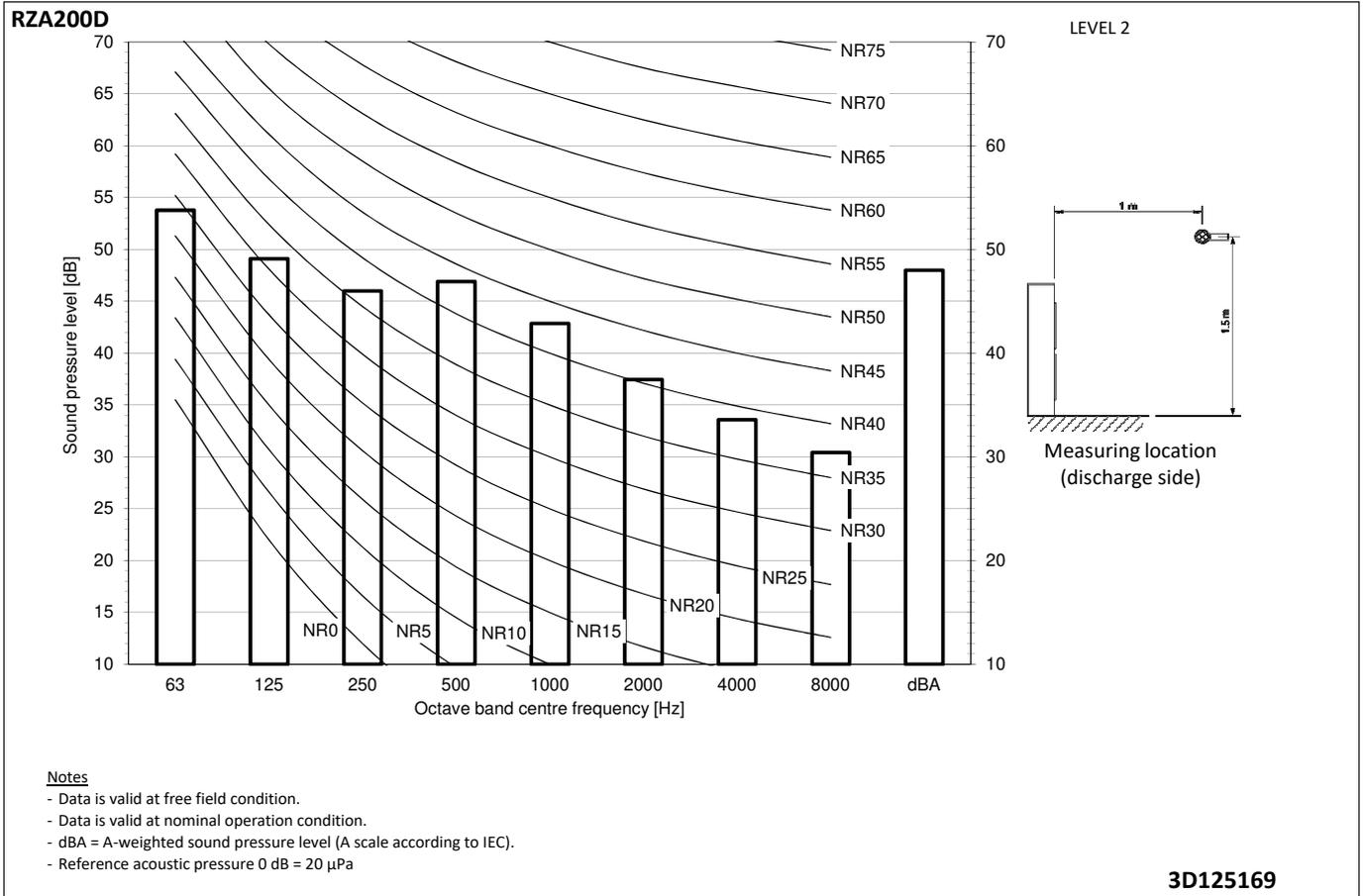
11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode Level 1



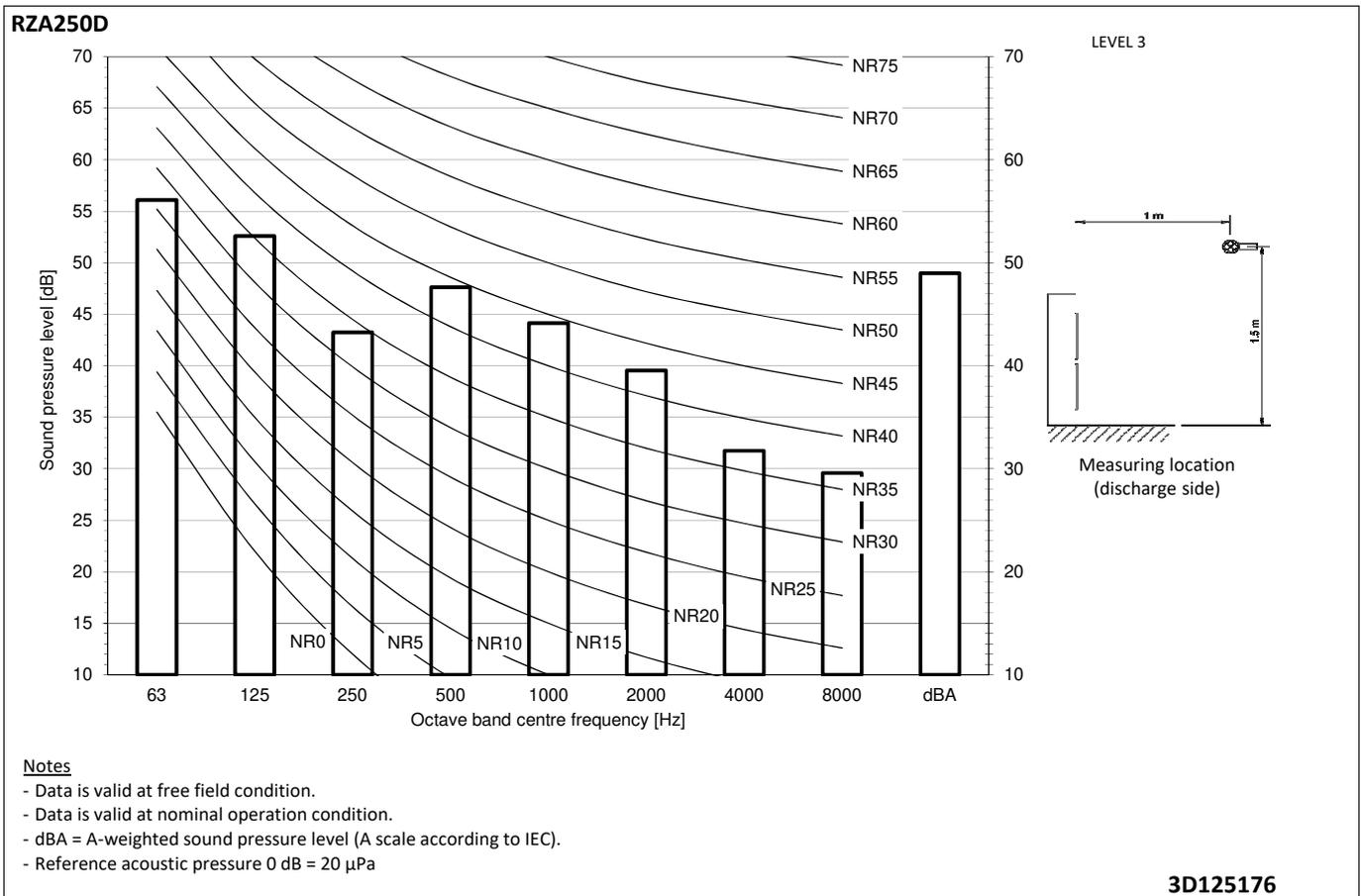
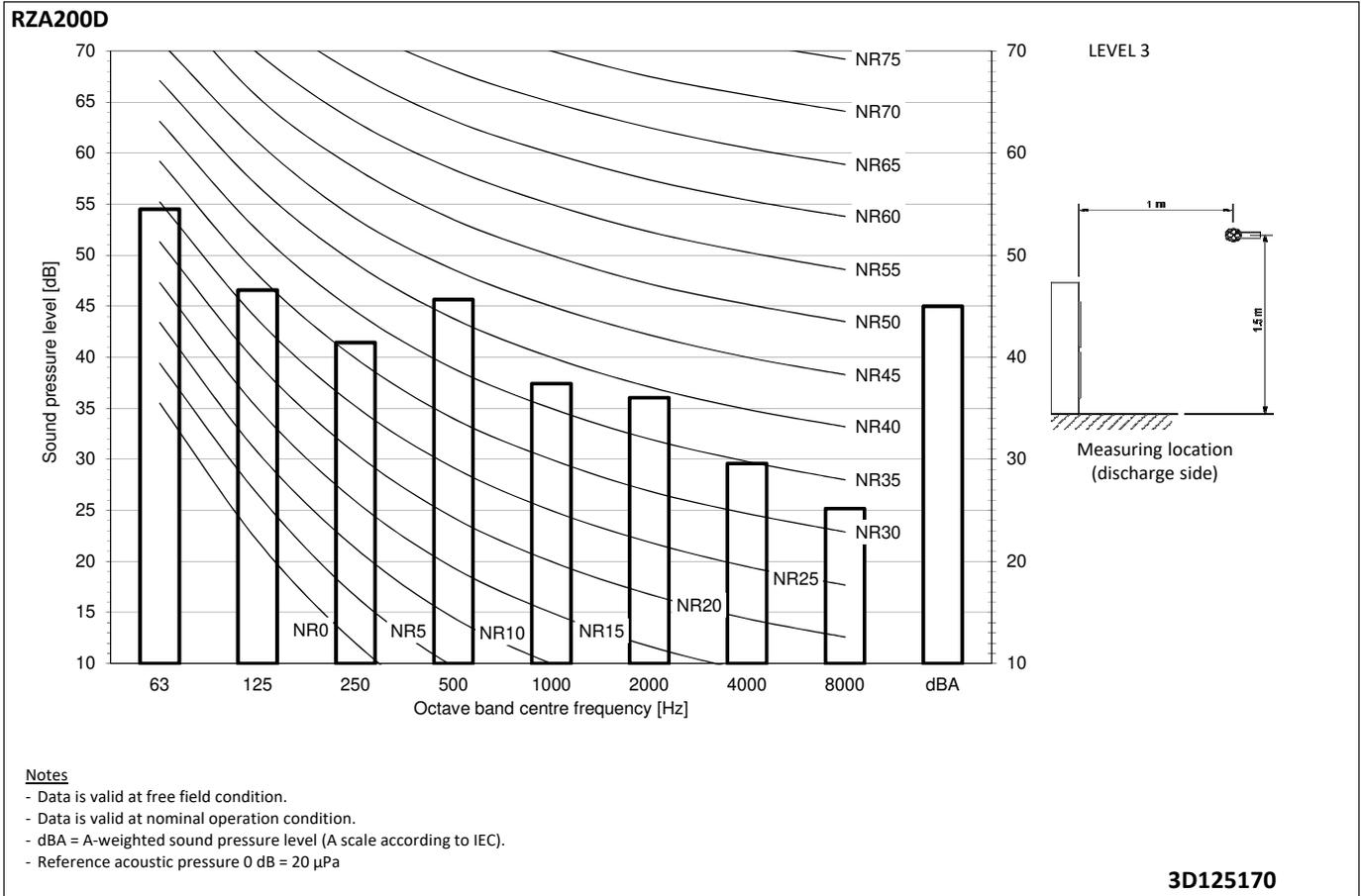
11 Sound data

11 - 5 Sound Pressure Spectrum Quiet Mode Level 2



11 Sound data

11 - 6 Sound Pressure Spectrum Quiet Mode Level 3



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	Hd>Hu	Hb≤½Hu	≥ 250		≥ 750	≥ 1000	≤500			1
			½Hu>Hb≤Hu	≥ 250		≥ 1000	≥ 1000	≤500			
Hb>Hu				⊘							
Hd≤Hu		Hd≤½Hu	≥ 100		≥ 1000	≥ 1000	≤500				
	½Hu<Hd≤Hu	≥ 200		≥ 1000	≥ 1000	≤500					
	Hd>Hu				⊘						
	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					1+2
			Hd≤Hu								
			Hd≤½Hu	≥ 250		≥ 1500					
	B,D,E	Hd>Hu	Hb≤½Hu	≥ 300		≥ 1000	≥ 1000	≤500			
			½Hu<Hb≤Hu	≥ 300		≥ 1250	≥ 1000	≤500			
		Hb>Hu			⊘						
Hd≤Hu		Hd≤½Hu	≥ 250		≥ 1500	≥ 1000	≤500				
	½Hu<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

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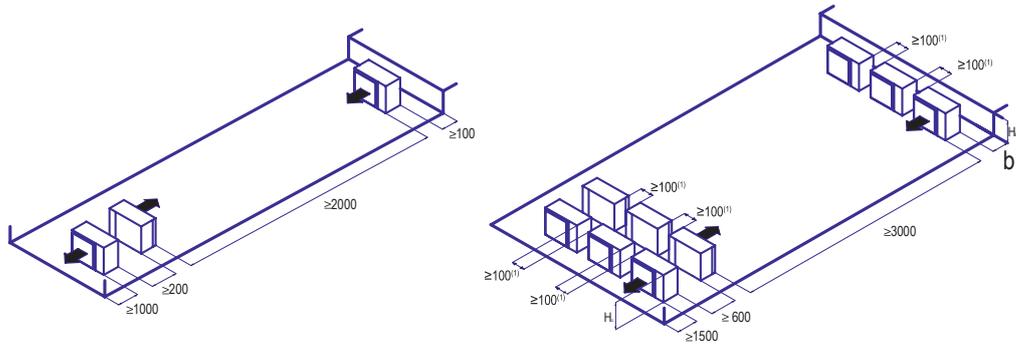
12 Installation

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

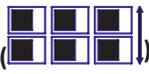
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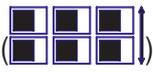
12 Installation

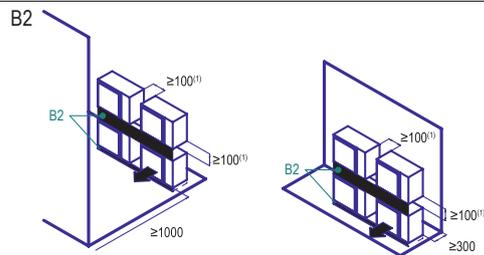
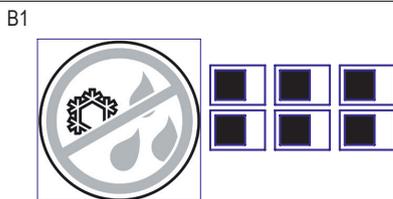
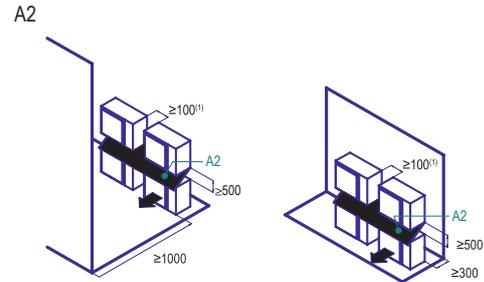
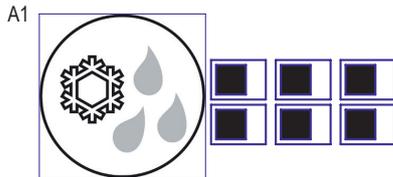
12 - 1 Installation Method

12

RZA-D

Stacked units (max.2 levels) 

Stacked units (max.2 levels) 



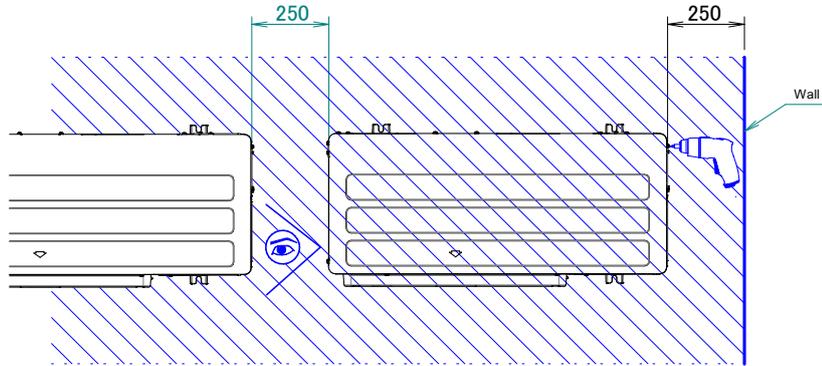
- (1) For better serviceability, use a distance ≥ 250 mm
- A1=>A2 (A1) If there is danger of drainage dripping and freezing between the upper and lower units...
 - (A2) Then install a roof between the upper and lower units. Install the upper unit high enough above the lower unit to prevent ice buildup 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·.

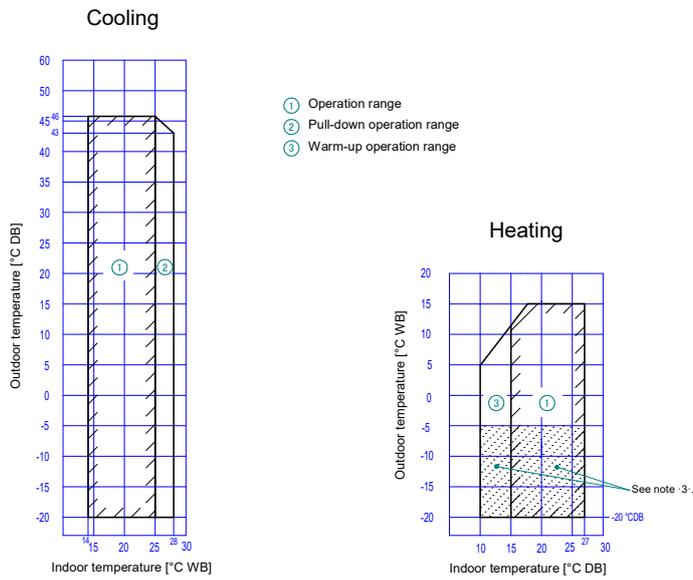
3D120935

13 Operation range

13 - 1 Operation Range

13

RZA-D



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

ENER Lot 21 Recommended combinations

Sky Air	Duct (high ESP)		Thin cassette		Duct (medium ESP)	
	FDA200	FDA250	FCAG60	FCAG60	FDA50	FBA60
RZA200D7Y1B	P		4		4	
RZA250D7Y1B		P		4		4

Appropriate indoor units

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

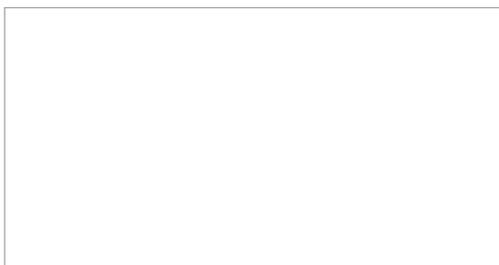
FDA200	FCAG60	FFA60	FBA60	FHA60	FUA71	FAA71	FVA71	FDXM60	FNA60
-	FCAG60	FFA60	FBA60	FHA60	FUA100	FAA100	FVA100	FDXM60	FNA60
-	FCAG71	-	FBA71	FHA71	-	-	-	-	-
-	FCAG100	-	FBA100	FHA100	-	-	-	-	-

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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