DAIKIN

SkyAir

Air Conditioning Technical Data

RZA-D

TABLE OF CONTENTS

RZA-D

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.	m^3/min	101	119
		Heating	Nom.	m^3/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

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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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3 Electrical data

3 - 1 Electrical Data

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Indoor		Outdoor	Power supply	Voltage range		MCA	TOCA	MFA	Compressor MSC	Compressor RLA	OFM kW	OFM FLA	IFM 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
FAA71AUVEB	x3	RZA200D7Y1B				17,4	—	20	—	13,9	0,6	1,3	0,5 x3
FAA100AUVEB	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**	**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	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

1. Maximum capacity is limited based on outdoor unit capacity.
2. When combining multiple indoor units, designate the unit whose remote controller is equipped with the most functions as the master unit.
3. 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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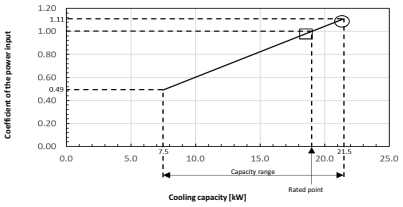
6 Capacity tables

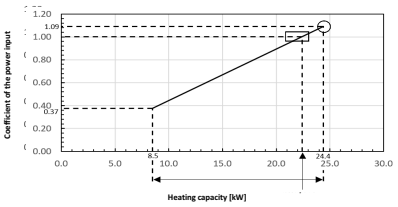
6 - 1 Cooling/Heating Capacity Tables

RZA-D

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		
	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
°C WB	(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		-1		6		10	
	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
°C DB	(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	26.9	1.10
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	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
1. The ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. ○ = Maximum at standard conditions
   □ = Rated capacity and rated coefficient of the power input
   The maximum capacity is not guaranteed except at standard conditions.
3. ·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 x AFR (m³/min) x (1-BF) x (DB* - EDB)
4. 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
5. ·CPI· is a percentage value compared to the rated value which is ·1.00·.
6. The error rate for this value is less than ·5·% and depends on the indoor unit type.
7. The heating performance takes into account the drop that occurs during defrost operation.
8. The air flow rate and bypass factor are mentioned in the table.
9. The rated power input for each model is mentioned in the table below.

Pair	FDA200A
AFR	64
(BF)	(0.3)

Pair	FDA200A
Cooling	7,06
Heating	6,93

Twin	FCAG100Bx2	FBA100Ax2	FHA100Ax2	FVA100Ax2	FUA100Ax2	FAA100Ax2
AFR	22.8x2	29.0x2	28.0x2	28.0x2	31.0x2	26.0x2
(BF)	(0.17x2)	(0.03x2)	(0.09x2)	(0.20x2)	(0.20x2)	(0.10x2)

Twin	FCAG100Bx2	FBA100Ax2	FHA100Ax2	FVA100Ax2	FUA100Ax2	FAA100Ax2
Cooling	5,87	7,51	5,96	5,82	5,81	7,11
Heating	6,52	6,49	6,63	6,74	6,19	7,77

Triple	FCAG60Bx3	FCAG71Bx3	FBA60Ax3	FBA71Ax3	FHA60Ax3	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	FCAG60Bx3	FCAG71Bx3	FBA60Ax3	FBA71Ax3	FHA60Ax3	FHA71Ax3
Cooling	5,58	7,39	7,45	5,35	5,97	5,30
Heating	7,16	6,37	6,43	6,57	7,13	6,41

Triple	FFA60Ax3	FDXM60Fx3	FNA60Ax3	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)

Triple	FFA60Ax3	FDXM60Fx3	FNA60Ax3	FVA71Ax3	FUA71Ax3	FAA71Ax3
Cooling	8,08	5,20	5,22	6,31	5,31	6,25
Heating	7,69	6,83	6,73	7,10	6,05	6,73

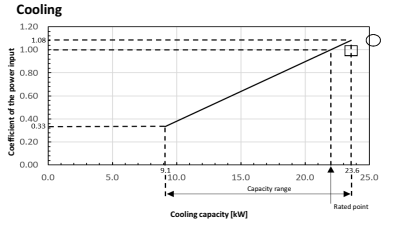
Double twin	FCAG50Bx4	FBA50Ax4	FHA50Ax4	FFA50Ax4	FDXM50Fx4	FNA50Ax4
AFR	12.6x4	15.0x4	15.0x4	12.0x4	15.8x4	16.0x4
(BF)	(0.22x4)	(0.13x4)	(0.18x4)	(0.16x4)	(0.11x4)	(0.11x4)

Double twin	FCAG50Bx4	FBA50Ax4	FHA50Ax4	FFA50Ax4	FDXM50Fx4	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

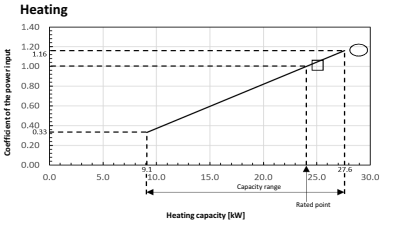
3D125190

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		
	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI	TC	SHC	CPI
°C WB	(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

Heating

Indoor	Outdoor temperature [°C WB]													
	-15		-11		-8		-6		-1		6		10	
	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI	TC	CPI
°C DB	(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	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
1. The ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. ○ = Maximum at standard conditions
   □ = Rated capacity and rated coefficient of the power input
   The maximum capacity is not guaranteed except at standard conditions.
3. ·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 x AFR (m³/min) x (1-BF) x (DB* - EDB)
4. 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
5. ·CPI· is a percentage value compared to the rated value which is ·1.00·.
6. The error rate for this value is less than ·5·% and depends on the indoor unit type.
7. The heating performance takes into account the drop that occurs during defrost operation.
8. The air flow rate and bypass factor are mentioned in the table.
9. The rated power input for each model is mentioned in the table below.

Pair	FDA250A
AFR	69
(BF)	(0.25)

Pair	FDA250A
Cooling	8,76
Heating	7,69

Twin	FCAG125Bx2	FBA125Ax2	FHA125Ax2	FVA125Ax2	FUA125Ax2	FDA125Ax2
AFR	26.0x2	34.0x2	31.0x2	28.0x2	32.5x2	39.0x2
(BF)	(0.21x2)	(0.06x2)	(0.14x2)	(0.16x2)	(0.19x2)	(0.16x2)

Twin	FCAG125Bx2	FBA125Ax2	FHA125Ax2	FVA125Ax2	FUA125Ax2	FDA125Ax2
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	FCAG60Bx4	FBA60Ax4	FHA60Ax4	FFA60Ax4	FDXM60Fx4	FNA60Ax4
AFR	13.6x4	18.0x4	19.5x4	14.5x4	16.0x4	16.0x4
(BF)	(0.20x4)	(0.15x4)	(0.20x4)	(0.11x4)	(0.12x4)	(0.12x4)

Double twin	FCAG60Bx4	FBA60Ax4	FHA60Ax4	FFA60Ax4	FDXM60Fx4	FNA60Ax4
Cooling	7,24	6,92	6,83	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

1. The ratings shown are peak capacities which include a deduction for indoor fan motor heat.

2. 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

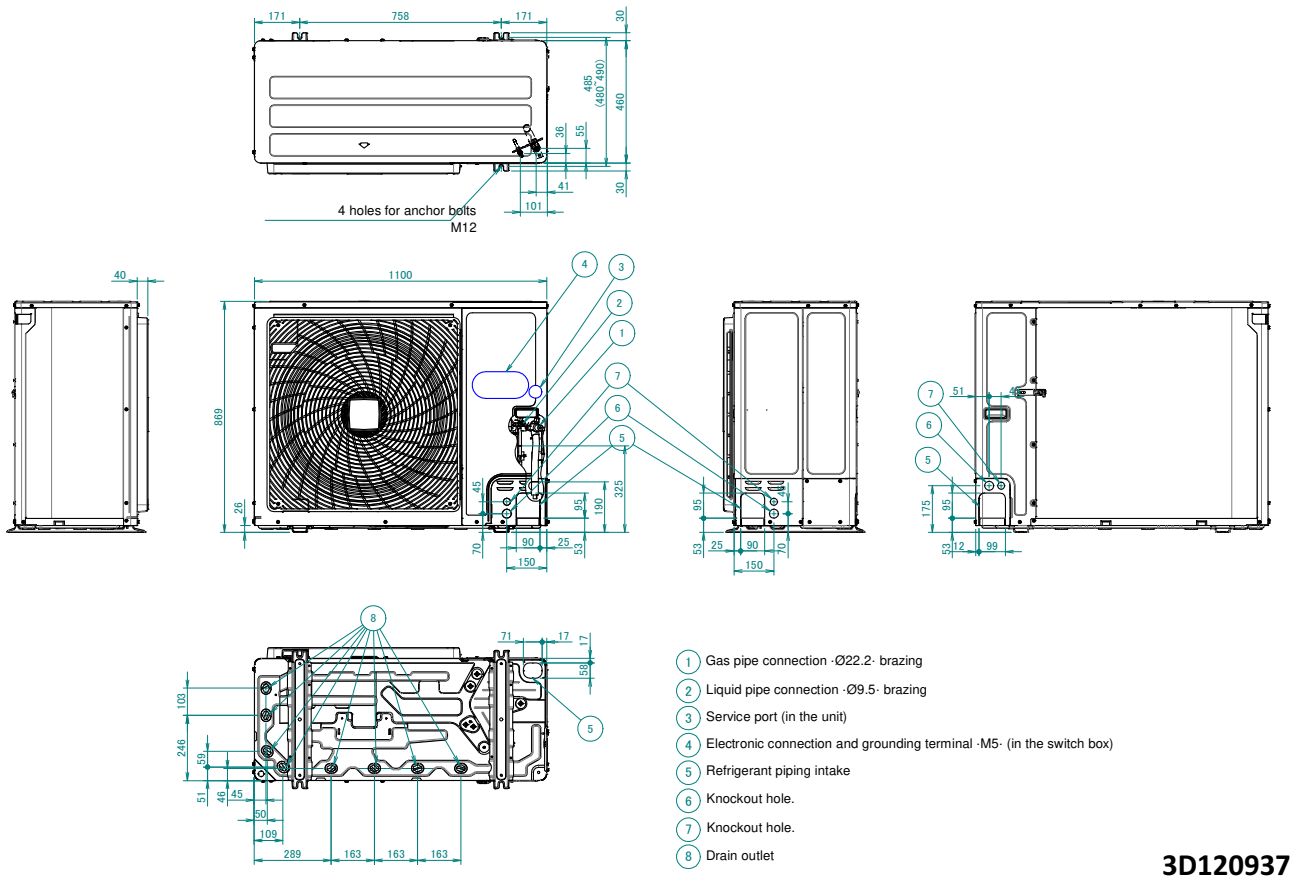
3. The error rate for this value is less than ·5·% and depends on the indoor unit type.

3D125193

7 Dimensional drawings

7 - 1 Dimensional Drawings

RZA-D



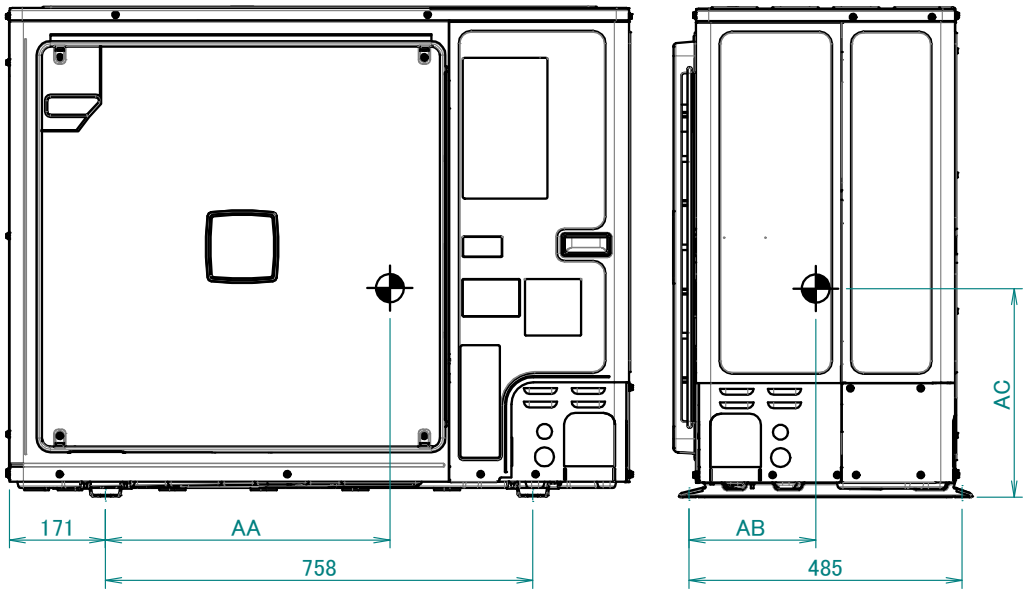
1. Gas pipe connection ·Ø22.2· brazing
2. Liquid pipe connection ·Ø9.5· brazing
3. Service port (in the unit)
4. Electronic connection and grounding terminal ·M5· (in the switch box)
5. Refrigerant piping intake
6. Knockout hole.
7. Knockout hole.
8. Drain outlet

3D120937

8 Centre of gravity

8 - 1 Centre of Gravity

RZA-D



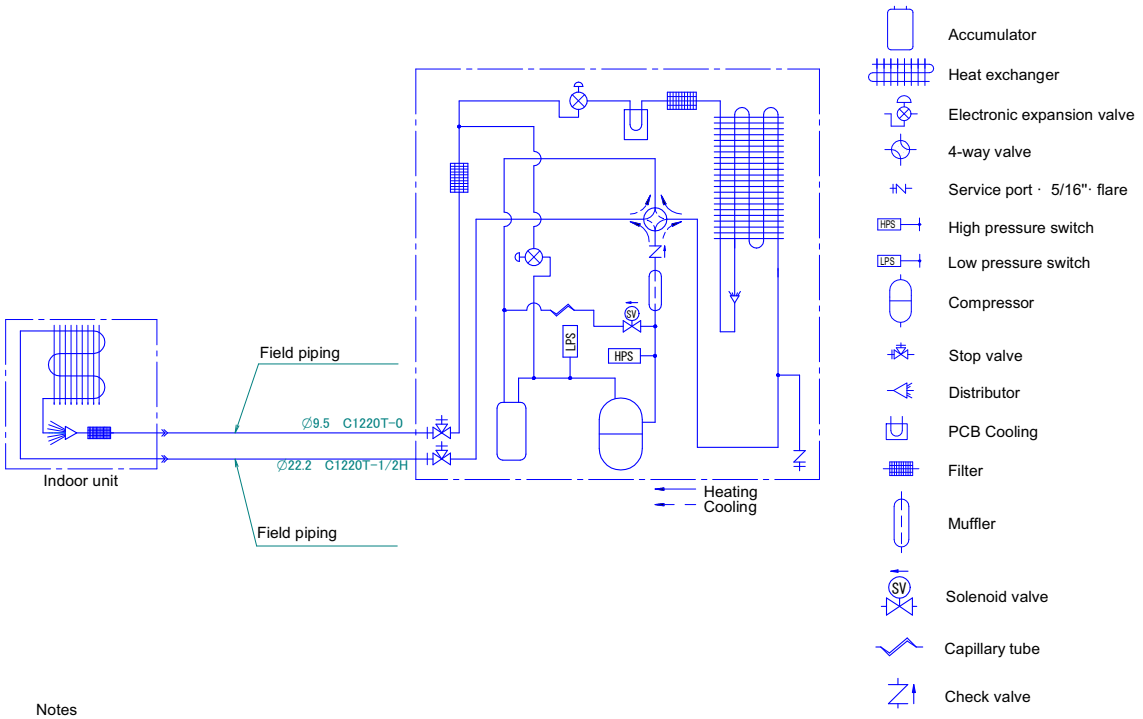
Model	AA	AB	AC
RZA200/250D	703.9	239.0	385.1

4D120934A

9 Piping diagrams

9 - 1 Piping Diagrams

RZA-D



- 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

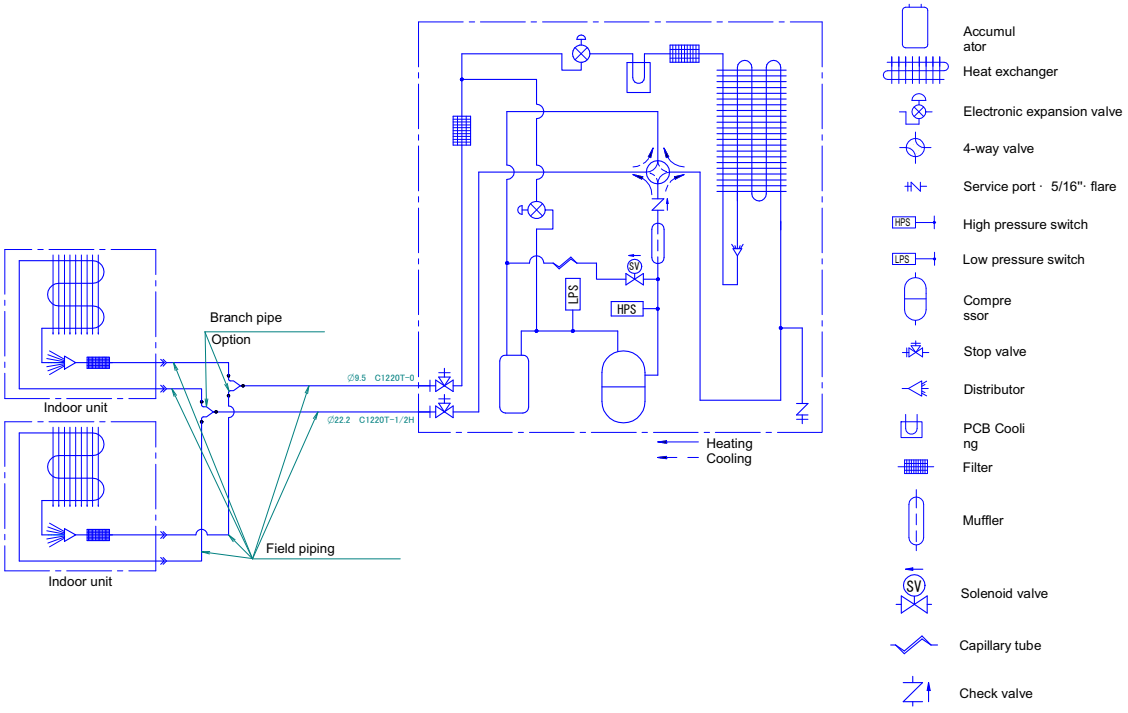
Notes
1.The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120908

9 Piping diagrams

9 - 2 Piping Diagram Twin Application

RZA-D



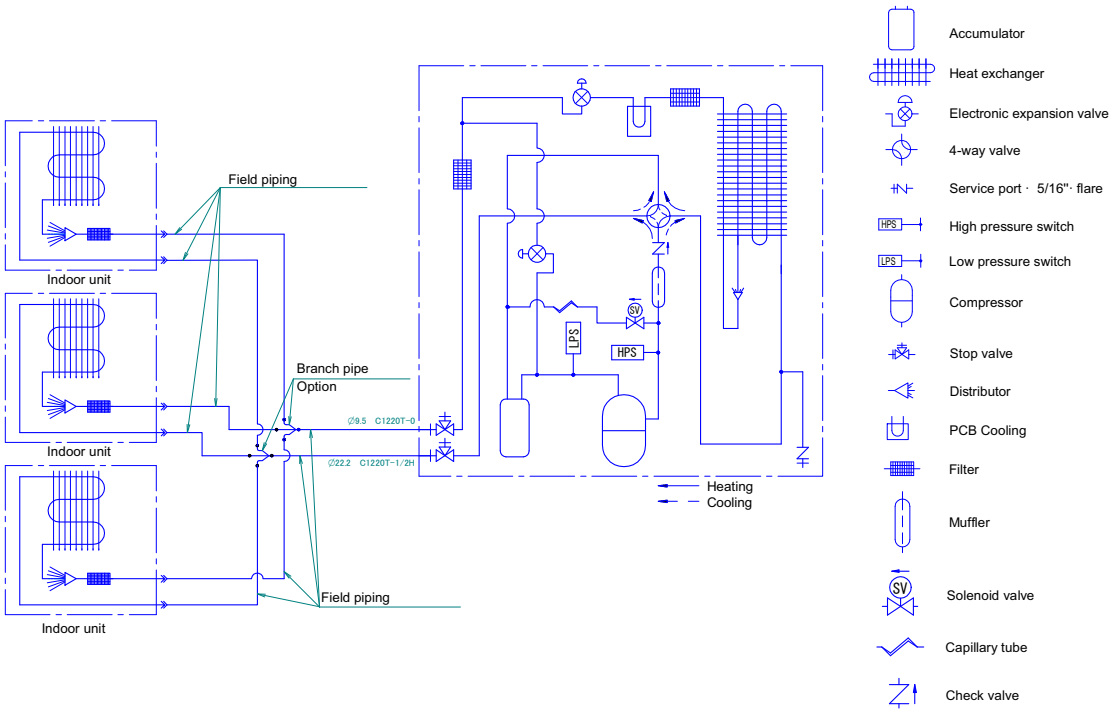
Notes
1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120916

9 Piping diagrams

9 - 3 Piping Diagram Triple Application

RZA-D



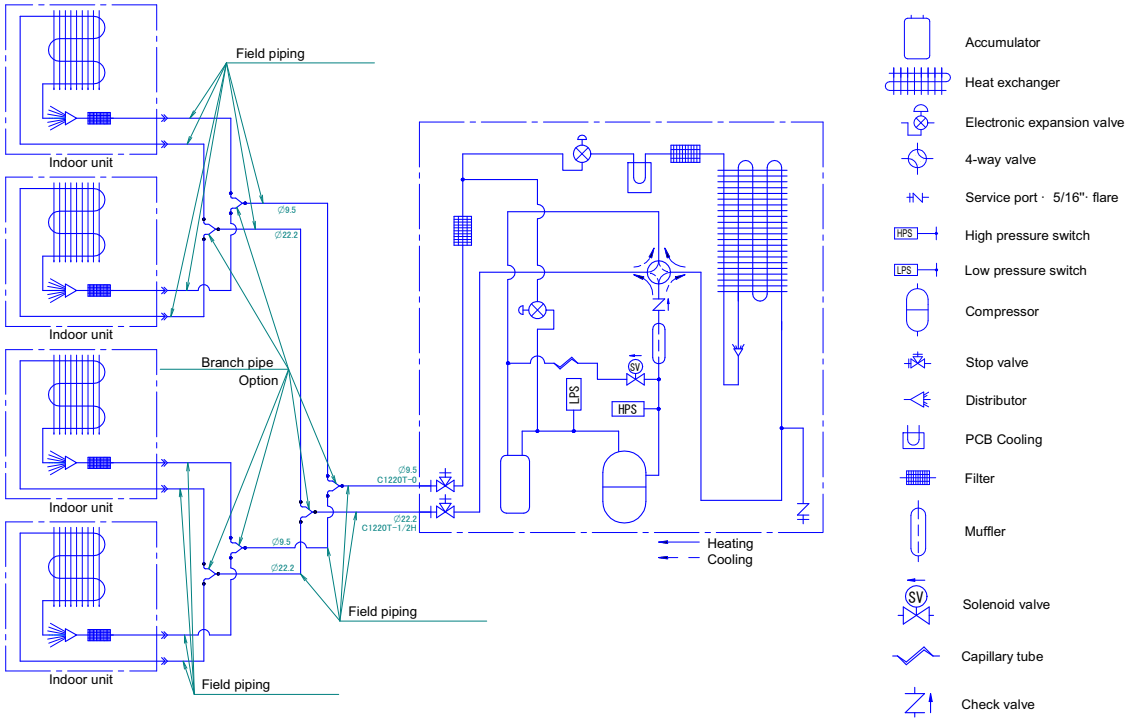
Notes
1. The pipes between the branch and the indoor units should have the same size as the indoor connections.

3D120917

9 Piping diagrams

9 - 4 Piping Diagram Double Twin Application

RZA-D



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

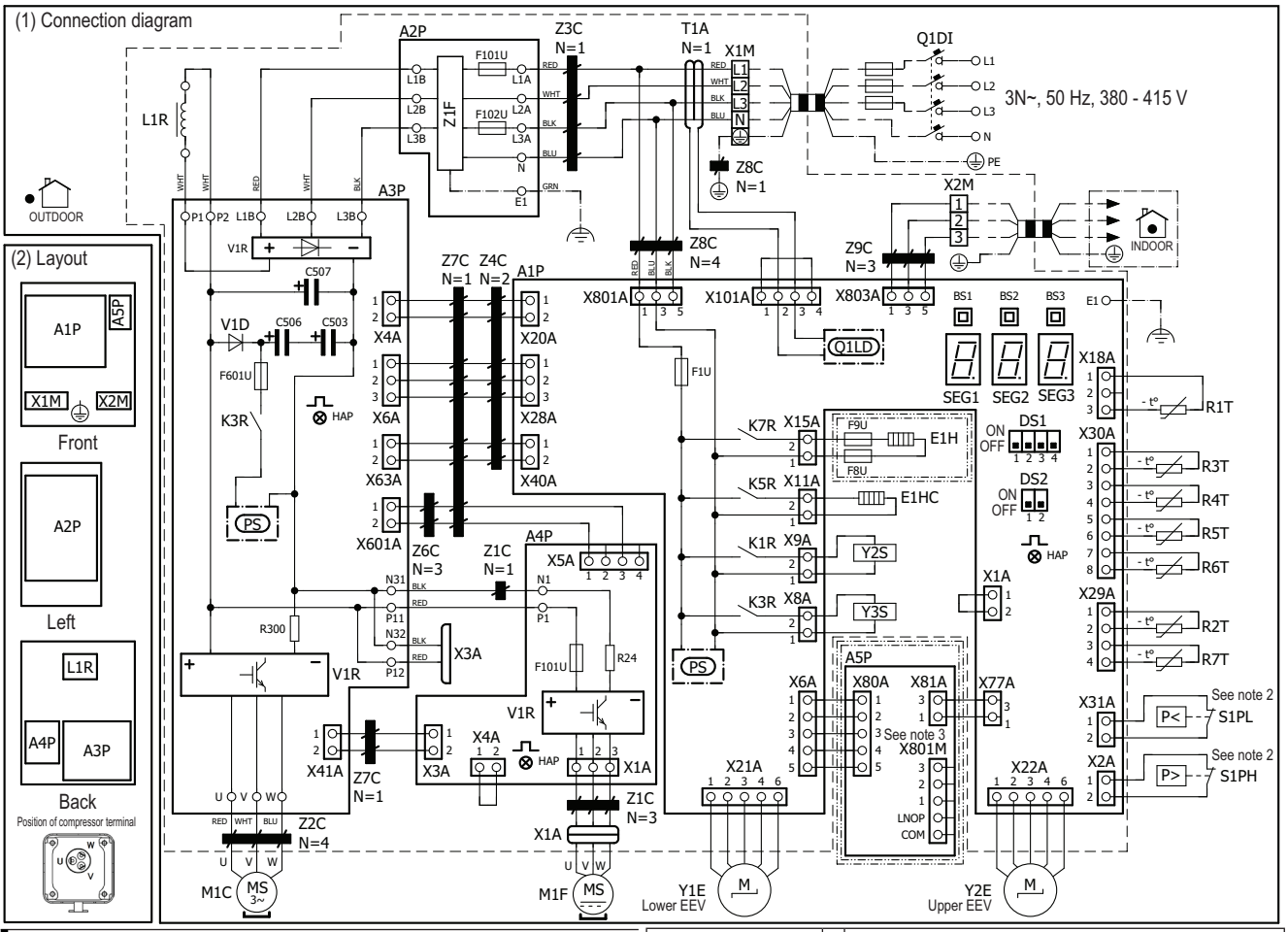
3D120918

10 Wiring diagrams

10 - 1 Wiring Diagrams - Three Phase

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
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

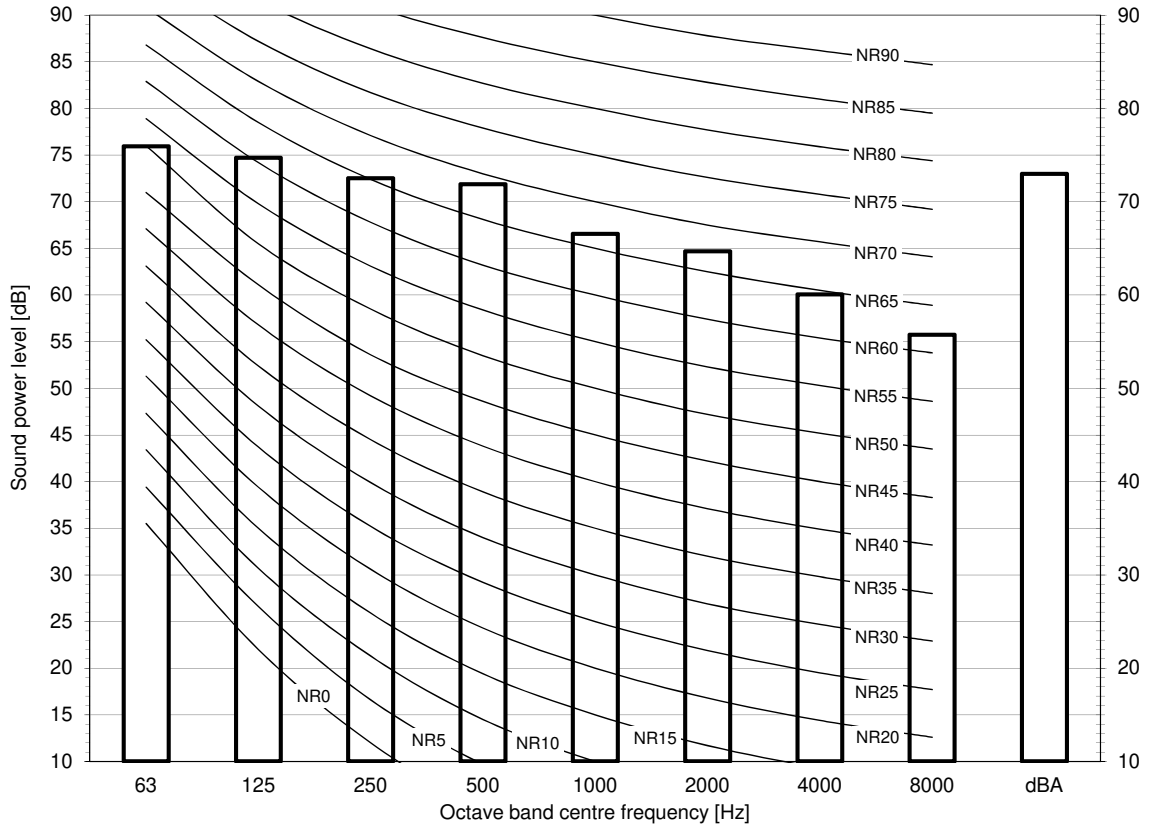
1. Refer to the wiring diagram sticker (on the back of the front plate) for how to use the BS1~BS3 and DS1 switches.
2. When operating, do not short-circuit protection device(s) S1PH and S1PL.
3. Refer to the combination table and the option manual for how to connect the wiring to X801M.
4. Colours: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

4D124870

11 Sound data

11 - 1 Sound Power Spectrum

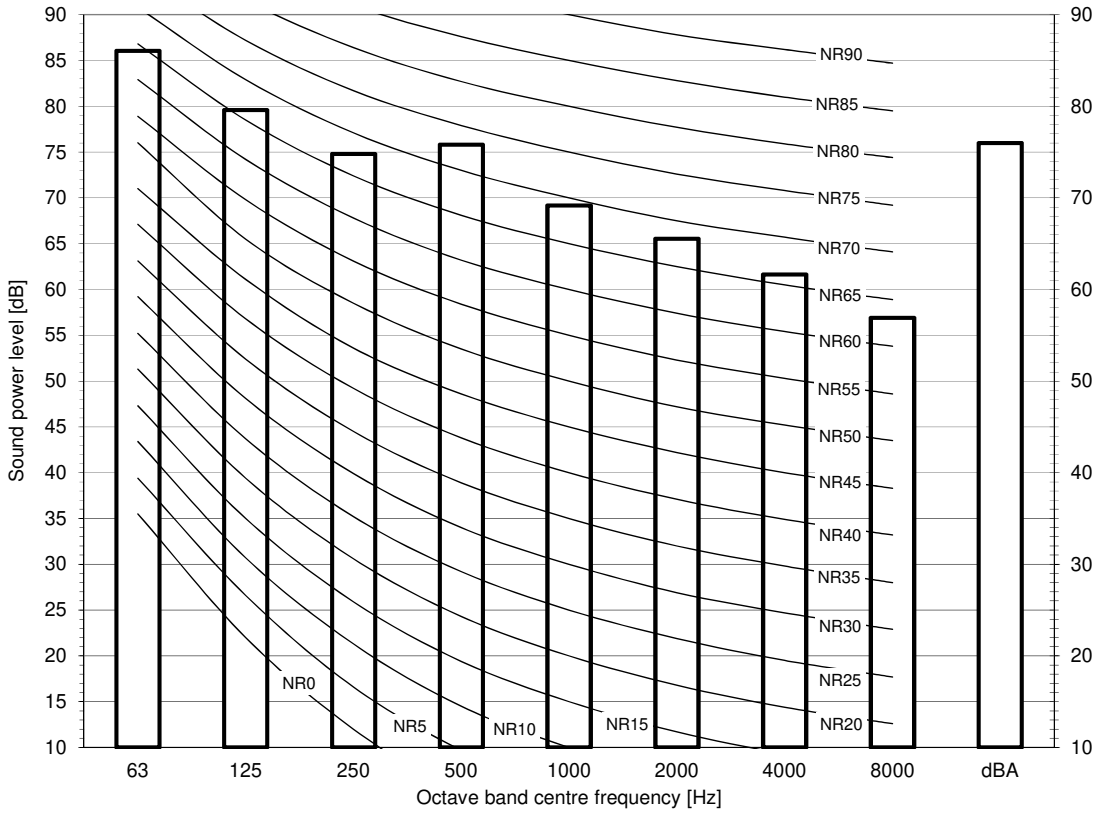
RZA200D



Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10E-6µW/m²·
- Measured according to ISO 3744

4D124870

RZA250D



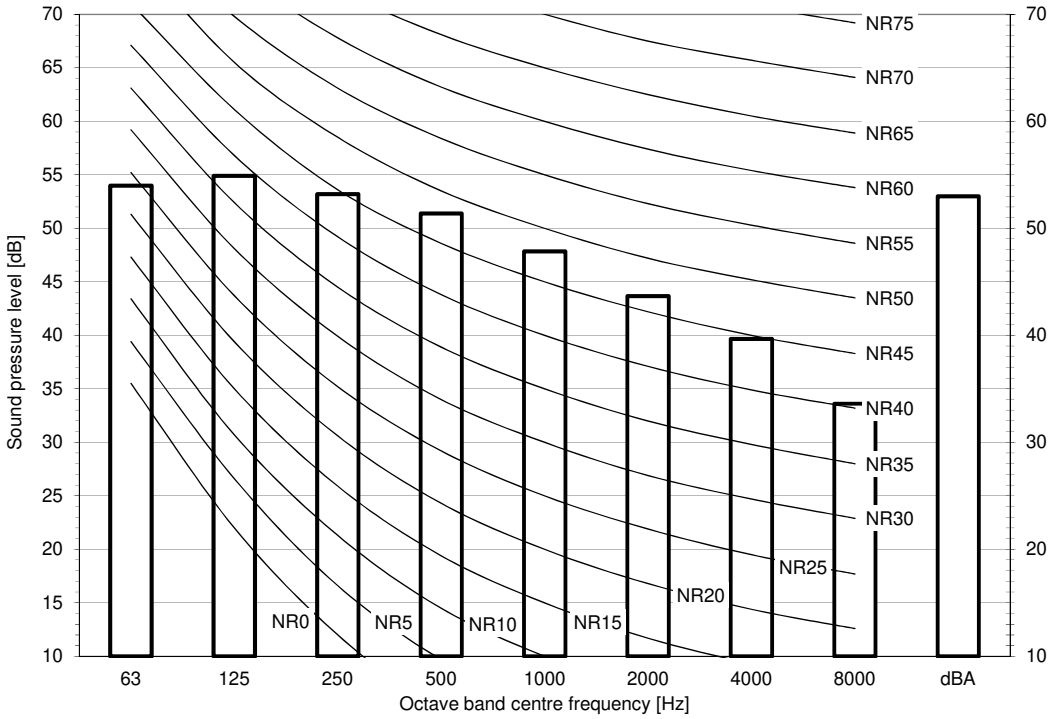
Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10E-6µW/m²·
- Measured according to ISO 3744

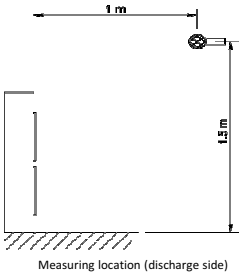
3D125179

11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling

RZA200D

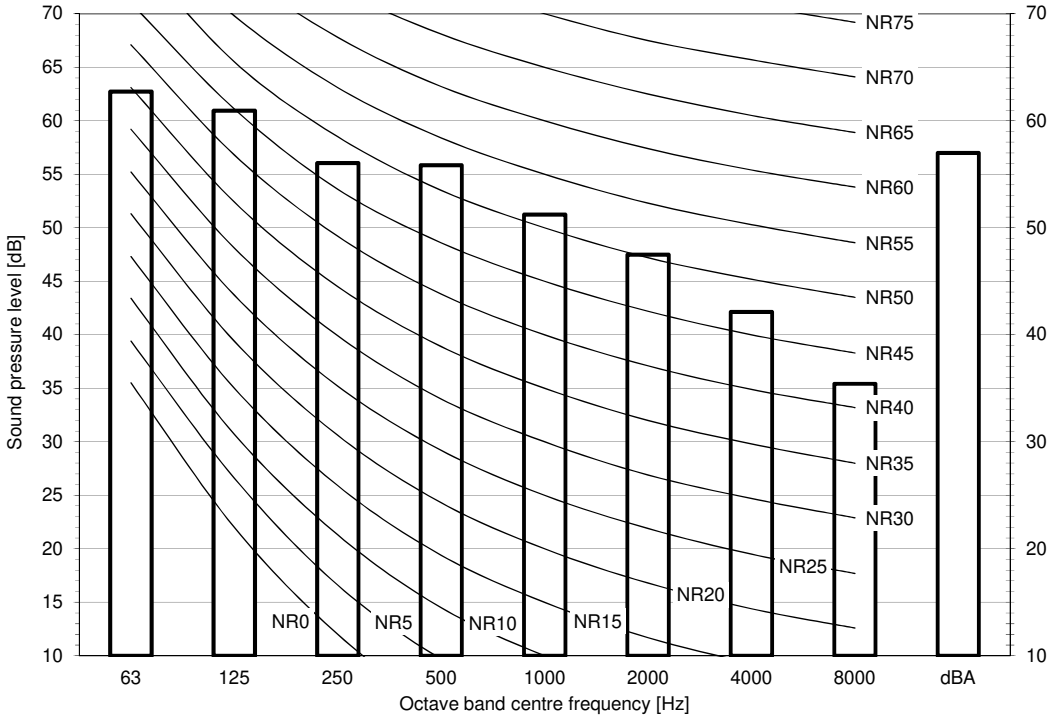


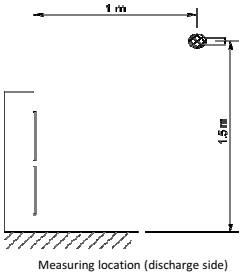


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

3D125171

RZA250D





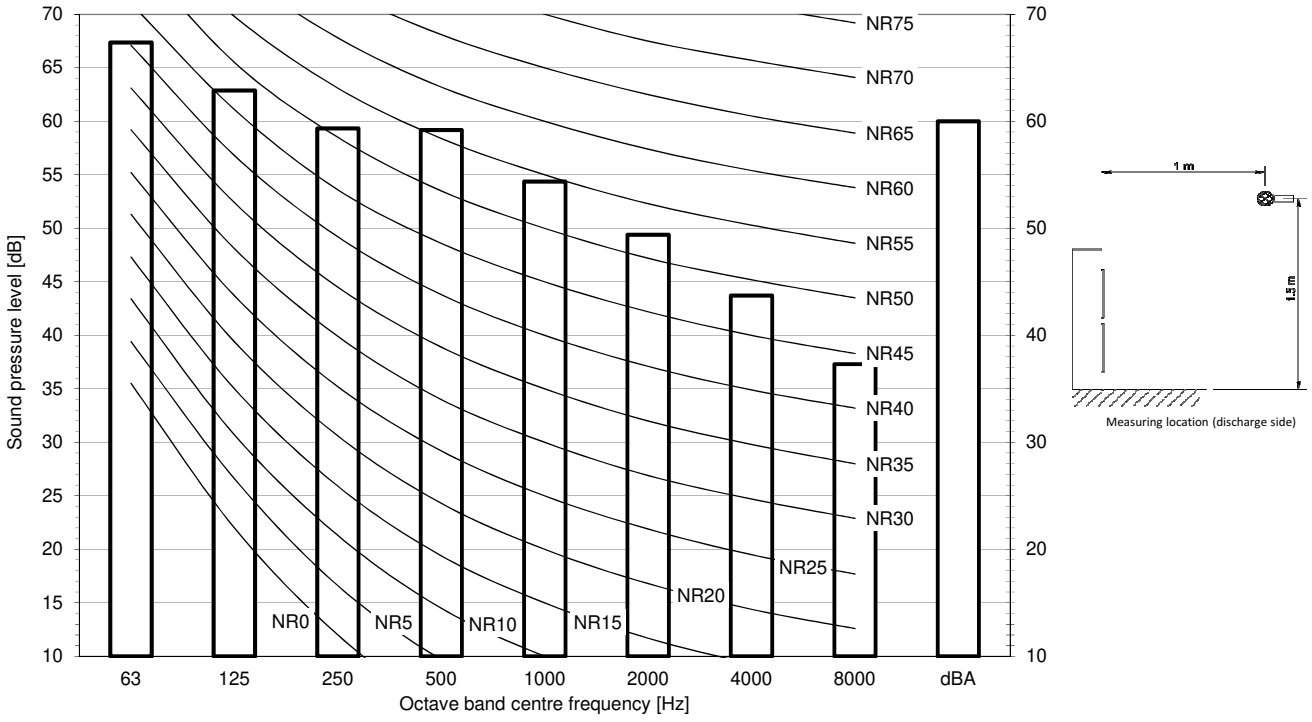
Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

3D125177

11 Sound data

11 - 3 Sound Pressure Spectrum - Heating

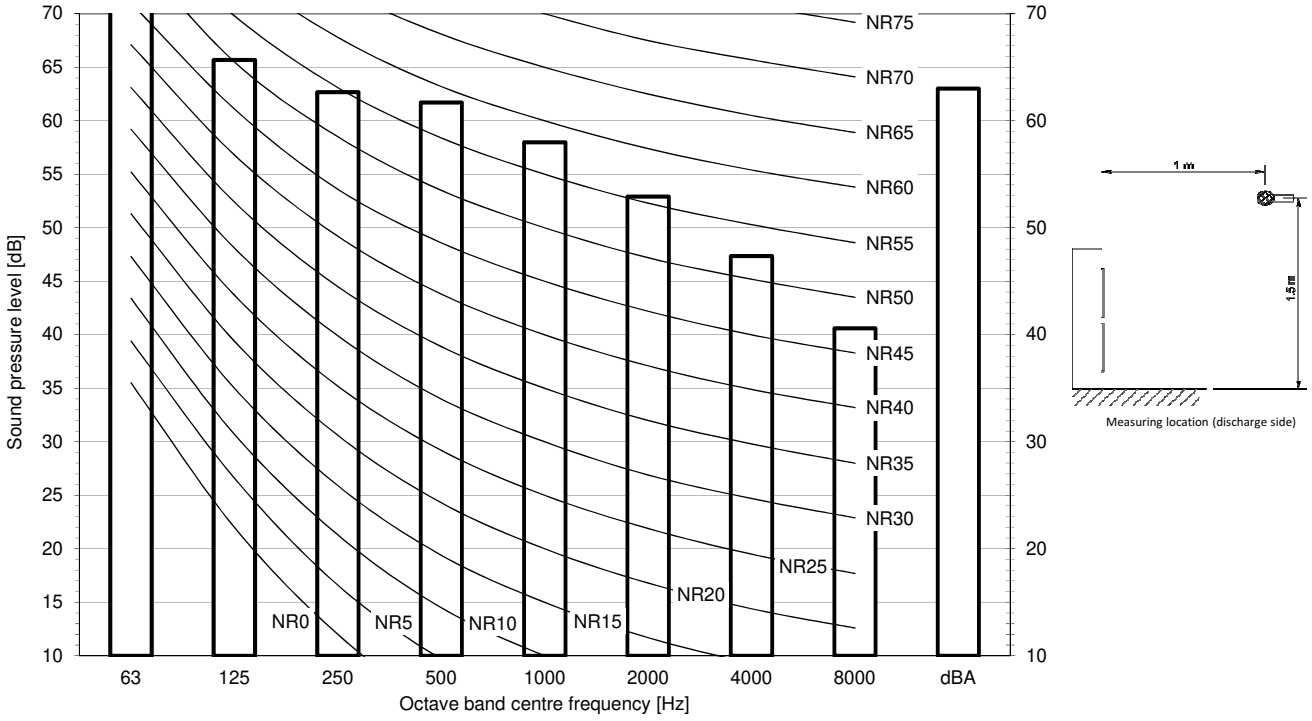
RZA200D



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 µPa

3D125172

RZA250D



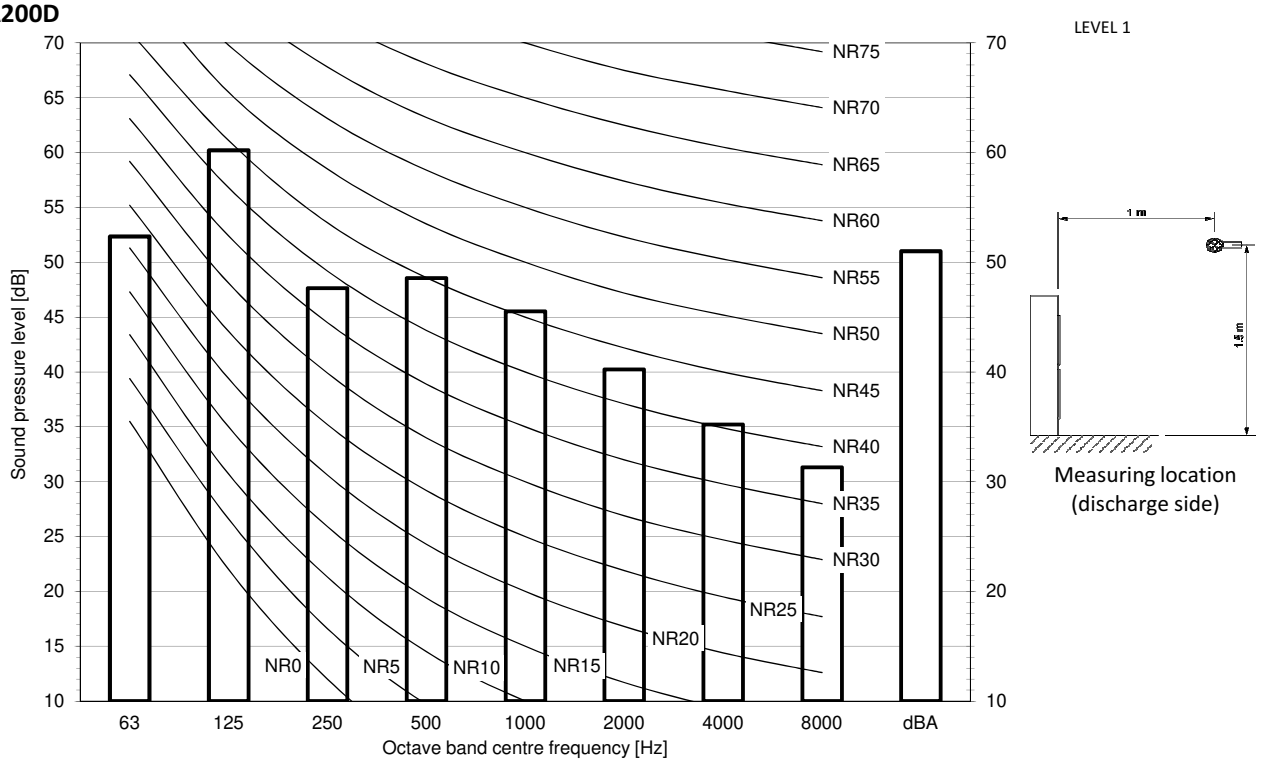
Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

3D125178

11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode

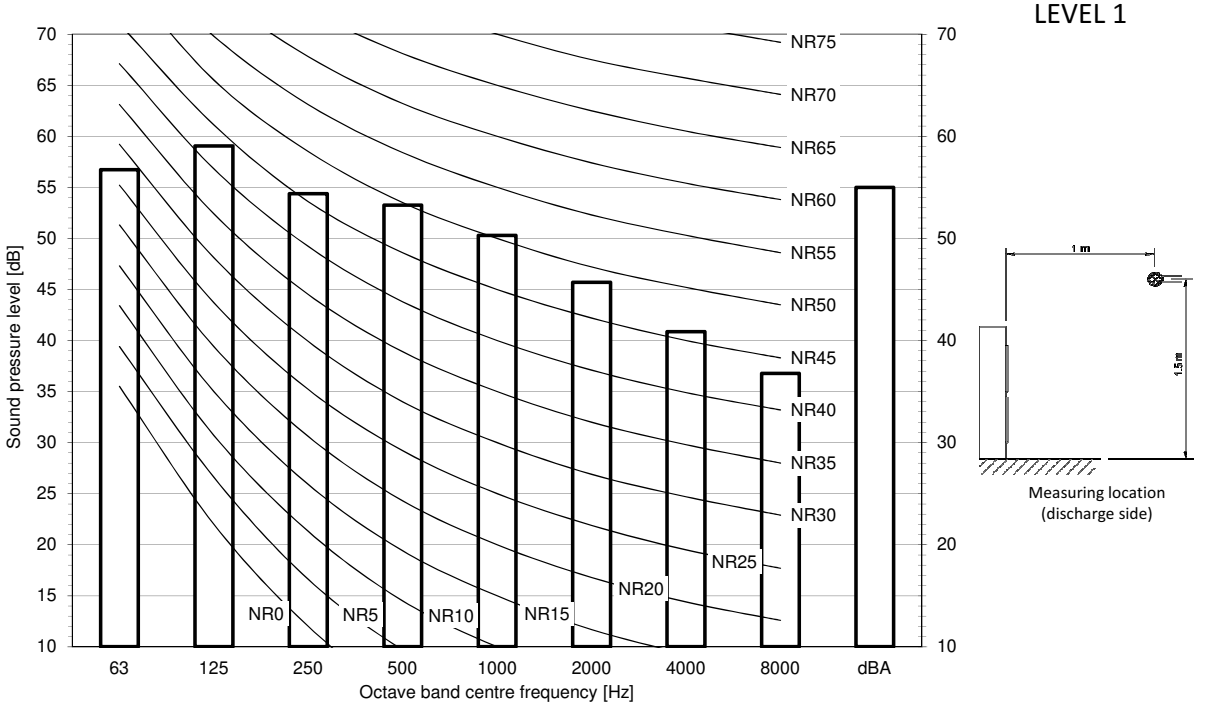
RZA200D



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 µPa

3D125168

RZA250D



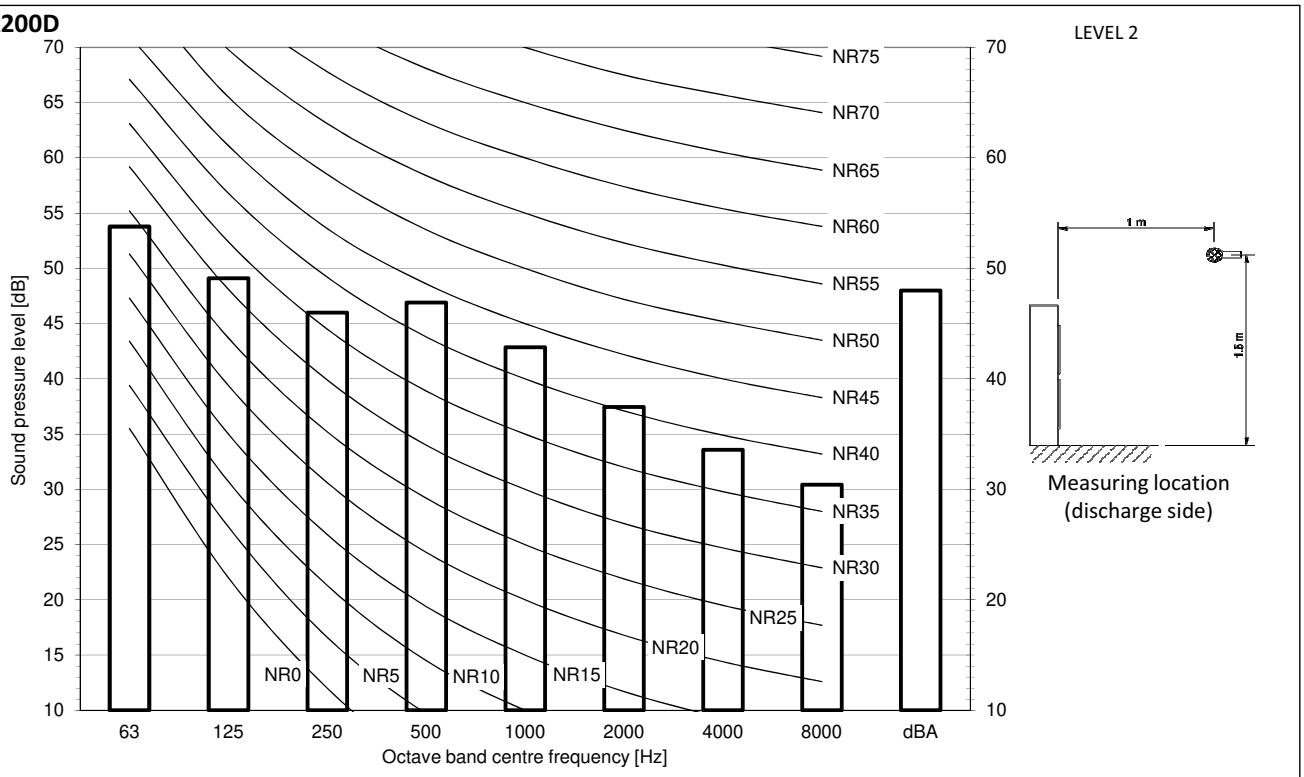
Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

3D125174

11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode

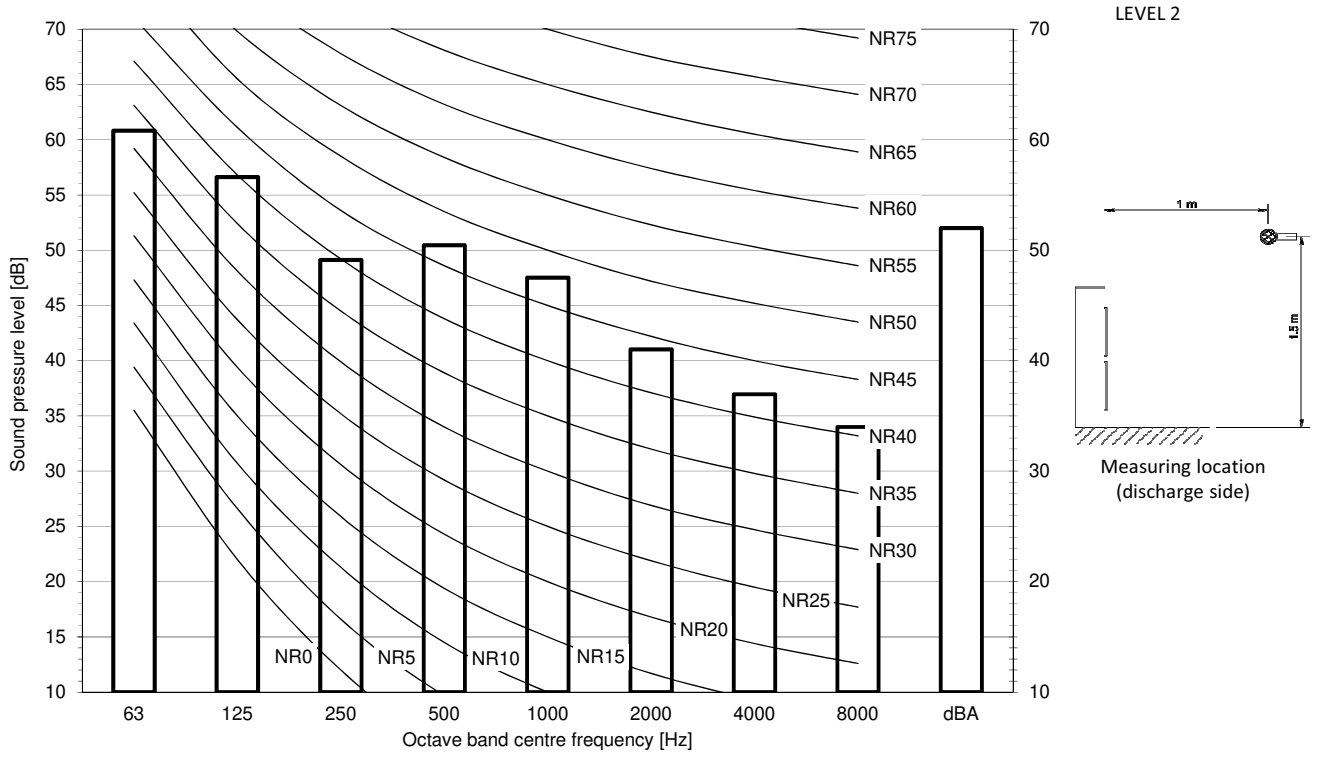
RZA200D



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 µPa

3D125169

RZA250D



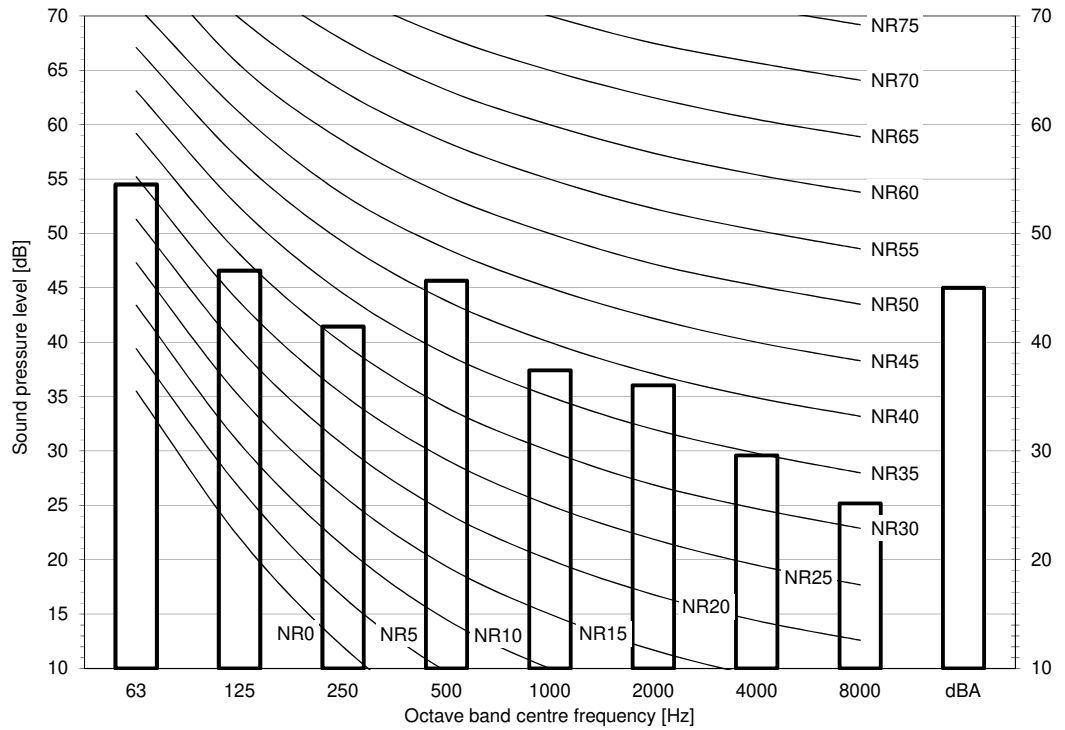
Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

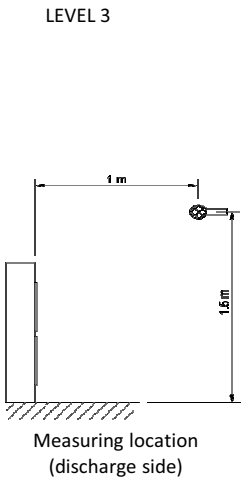
3D125175

11 Sound data

11 - 4 Sound Pressure Spectrum Quiet Mode

RZA200D

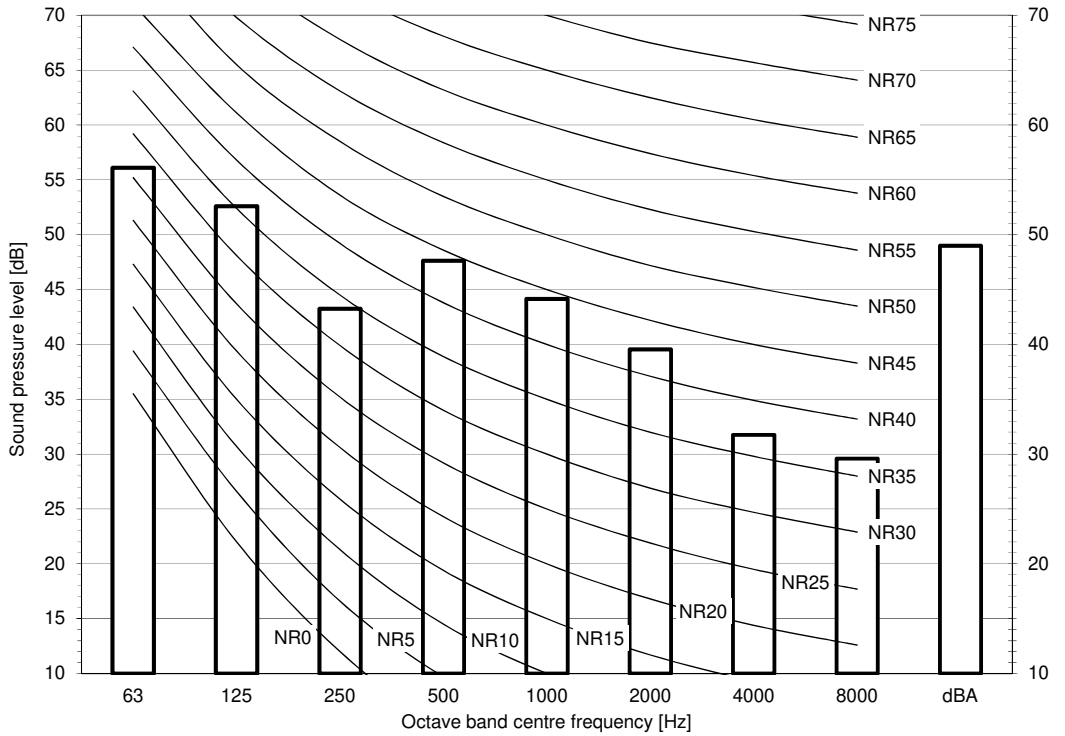


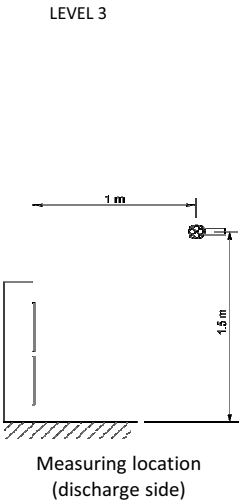


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

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 µPa

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12 Installation

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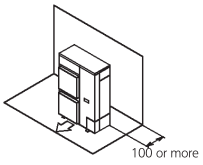
Installation service space

The measure of these values is "mm".

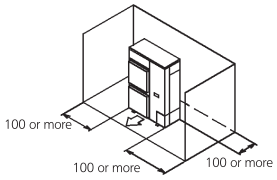
(A) When there are obstacles on suction sides.

- **No obstacle above**

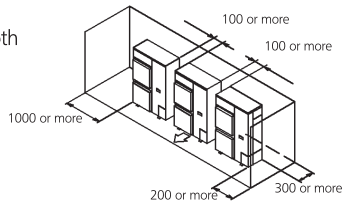
① Stand-alone installation
- Obstacle on the suction side only



- Obstacle on both sides and suction side, too

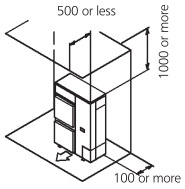


② Series installation (2 or more) (Note 1)
- Obstacle on the suction side and both sides

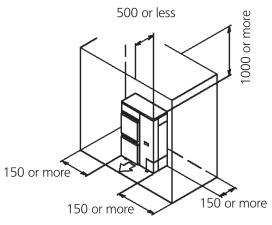


- **Obstacle above, too.**

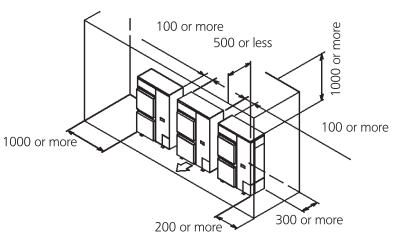
① Stand-alone installation
- Obstacle on the suction side, too



- Obstacle on both sides and suction side, too



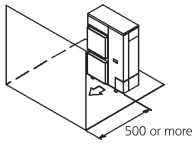
② Series installation (2 or more) (Note 1)
- Obstacle on the suction side and both sides



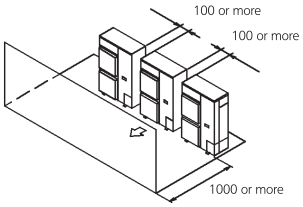
(B) When there are obstacles on discharge sides.

- **No obstacle above**

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

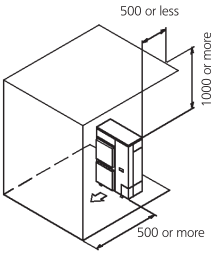


② Series installation (2 or more) (Note 1)
- Obstacle on the discharge side only

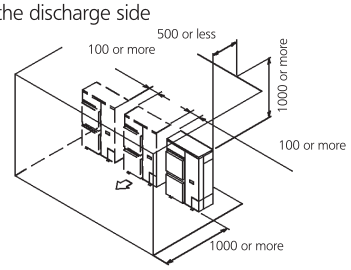


- **Obstacle above, too**

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



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



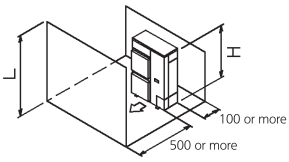
(C) When there are obstacles on both suction and discharge sides.:

Pattern 1

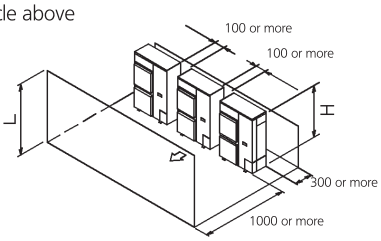
When the obstacles on the discharge side is higher than the unit. (L>H)
(There is no limit for the height of obstructions on the suction side.)

- **No obstacle above**

① Stand-alone installation
- No obstacle above



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



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12 Installation

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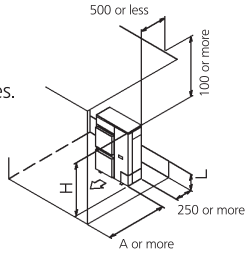
- **Obstacle above, too**

① Stand-alone installation (Note 2)
- When there are obstacles on suction, discharge and top sides.

The relations between H, A and L are as follows.

	L	A
L ≦ H	L ≦ 1/2 H	750 or more
	1/2 H < L ≦ H	1000 or more
L > H	Set the stand as : L ≦ H Refer to the column of L ≦ H for A	

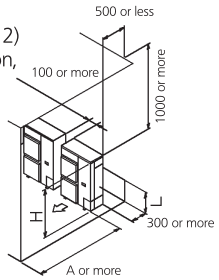


② Series installation (2 or more) (Note 1, 2)
- When there are obstacles on suction, discharge and top sides.

The relations between H, A and L are as follows.

	L	A
L ≦ H	L ≦ 1/2 H	1000 or more
	1/2 H < L ≦ H	1250 or more
L > H	Set the stand as : L ≦ H Refer to the column of L ≦ H for A	

Limit of series installation is 2 units.

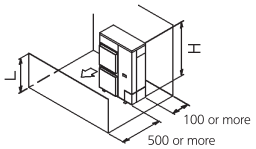


Pattern 2

When the obstacle on the discharge side is lower than the unit (L ≦ H)
(There is no limit for the height of obstructions on the suction side.)

- **No obstacle above**

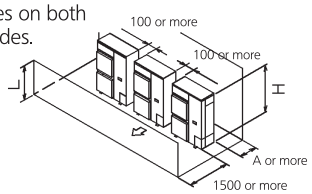
① Stand-alone installation
- No obstacle above



② Series installation (2 or more) (Note 1, 2)
- When there are obstacles on both suction and discharge sides.

The relations between H, A and L are as follows.

L	A
L ≦ 1/2 H	250 or more
1/2 H < L ≦ H	300 or more

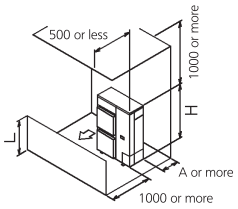


- **obstacle above**

① Stand-alone installation (Note 2)
- When there are obstacles on suction, discharge and top sides.

The relations between H, A and L are as follows.

	L	A
L ≦ H	L ≦ 1/2 H	100 or more
	1/2 H < L ≦ H	200 or more
L > H	Set the stand as : L ≦ H Refer to the column of L ≦ H for A	

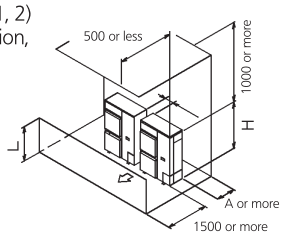


② Series installation (2 or more) (Note 1, 2)
- When there are obstacles on suction, discharge and top sides.

The relations between H, A and L are as follows.

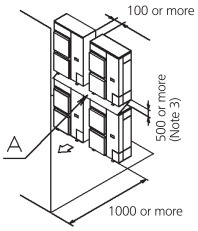
	L	A
L ≦ H	L ≦ 1/2 H	250 or more
	1/2 H < L ≦ H	300 or more
L > H	Set the stand as : L ≦ H Refer to the column of L ≦ H for A	

Limit of series installation is 2 units.

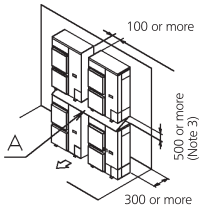


(D) Double-decker installation

① Obstacle on the discharge side. (1)
- Do not exceed two levels for stacked installation.
- Install a roof cover similar to A (field supply), as outdoor units with downward drainage are prone to dripping and freezing.
- Install the upper-level outdoor unit so that its bottom plate is a sufficient height above the roof cover. This is to prevent the buildup of ice on the underside of the bottom plate.

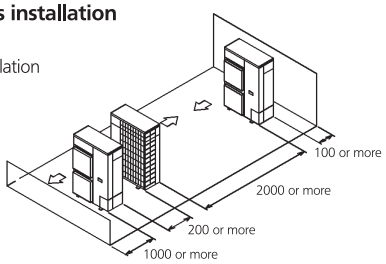


② Obstacle on the suction side. (1)
- Do not exceed two levels for stacked installation.
- Install a roof cover similar to A (field supply), as outdoor units with downward drainage are prone to dripping and freezing.
- Install the upper-level outdoor unit so that its bottom plate is a sufficient height above the roof cover. This is to prevent the buildup of ice on the underside of the bottom plate.



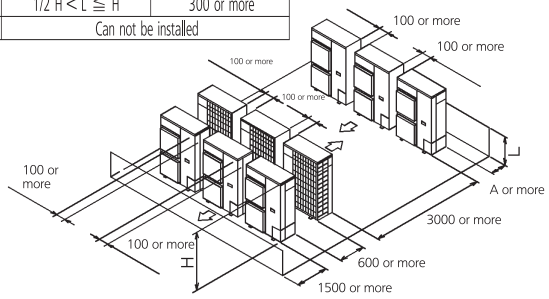
(E) Multiple rows of series installation (on the rooftop, etc.)

① One row of stand-alone installation



② Rows of series installation (2 or more)
The relations between H, A and L are as follows.

	L	A
L ≦ H	L ≦ 1/2 H	250 or more
	1/2 H < L ≦ H	300 or more
L > H	Can not be installed	



NOTES

1 In case of the sideway's piping, make a 100mm gap between the unit above.
2 Close the bottom of the installation frame to prevent the discharged air from being bypassed.
3 It is not necessary to install a roof cover if there is no danger of drainage dripping and freezing. In this case, the space between the upper and lower outdoor units should be at least 100mm. Close off the gap between the upper and lower units so there is no reintake of discharged air.

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12 Installation

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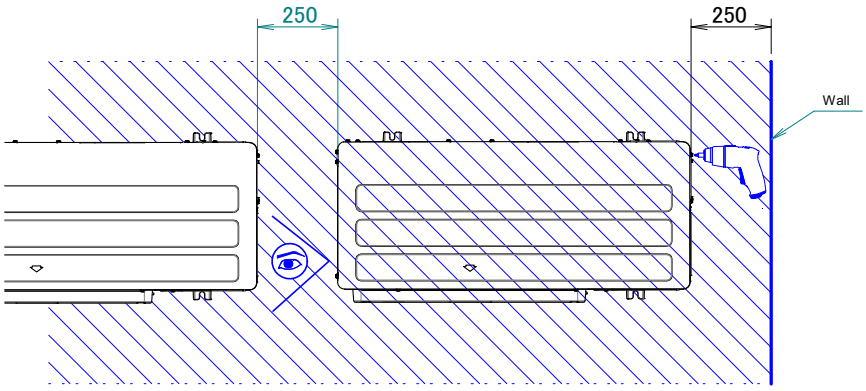

* For optimal serviceability, provide ≥·250·mm of free space.
For more installation and service space guidelines, see drawing ·3D069554·.

3D120935

13 Operation range

13 - 1 Operation Range

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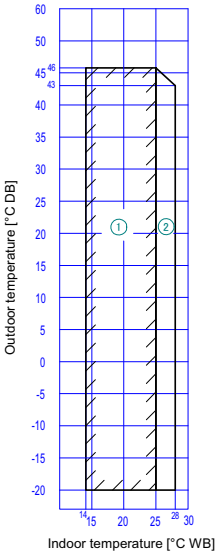
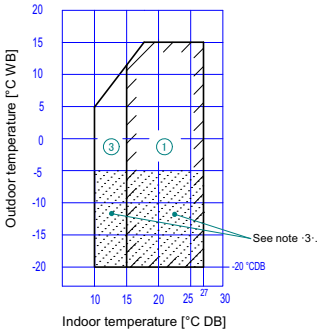
Cooling



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

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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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EEDEN19B 02/20

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