

CO2 VRV Air Conditioning Technical Data RXYN-B



RXYN10B7Y1B



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RXYN-B

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Features

RXYN-B 1 - 1

The low GWP solution

- > Using the **so-called** natural refrigerant CO2 (R-744) > With a low GWP of 1, CO2 is one of the most sustainable refrigerants
- > Non-flammable (A1) refrigerant, simplifying system design





Specifications2 - 1 Specifications

Technical Specific				RXYN10B
Recommended combinat				4 x FXSN63B2VEB
Recommended combinat	tion 2			4 x FXFN63B2VEB
Cooling capacity	Prated,c		kW	28.0 (1)
leating capacity	Nom.	6°CWB	kW	28.00 (2)
	Prated,h		kW	28.0 (2)
	Max.	6°CWB	kW	31.500 (2)
OP at nom. capacity	kW/kW		KW/KW	2.94 (2)
COP				3.50
COP recommended com	bination 2			3.50
EER				4.80
EER recommended com	hination 2			4.80
5,C	Dillation 2		%	189.2
s,c recommended comb	nination 2		%	189.2
s,h	JIIIativii 2		%	137.1
s,11 s,h recommended comb	hination 2		%	137.1
		EED 1	90	
pace cooling	A Condition		114/	1.88
	(35°C - 27/19)		kW	28.0
	B Condition			2.88
	(30°C - 27/19)		kW	20.6
	C Condition			6.40
	(25°C - 27/19)		kW	13.3
	D Condition			12.3
	(20°C - 27/19)		kW	8.28
pace cooling recom-	A Condition	EERd		1.88
ended combination 2	(35°C - 27/19)		kW	28.0
	B Condition	EERd		2.88
	(30°C - 27/19)		kW	20.6
	C Condition			6.40
	(25°C - 27/19)		kW	13.3
	D Condition			12.3
	(20°C - 27/19)		kW	8.28
asca hasting (Avarage	TBivalent	COPd (declared COP)	KVV	1.53
climate)	IDIValent		LAM	
		Pdh (declared heating cap)	kW	16.0
		Tbiv (bivalent temperature)	°C	-10.0
	TOL A Condition	Tol (temperature operating limit) COPd (declared COP)	°C	-10 2.14
pace heating (Average	(-7°C) A Condition	Pdh (declared heating cap)	kW	14.2
limate)	(-7°C)			
	B Condition	COPd (declared COP)		3.34
	(2°C)	Pdh (declared heating cap)	kW	8.62
	C Condition	COPd (declared COP)		5.00
	(7°C)	Pdh (declared heating cap)	kW	5.54
		COPd (declared COP)		6.52
	(12°C)	Pdh (declared heating cap)	kW	7.04
pace heating (Average		COPd (declared COP)		2.14
			kW	
imate) recommended ombination 2	(-7°C)	Pdh (declared heating cap)	r. fV	14.2 3.34
אווומנוטוו ב	(2°C)	COPd (declared COP) Pdh (declared heating cap)	I/M	
			kW	8.62
		COPd (declared COP)	LW	5.00
	(7°C)	Pdh (declared heating cap)	kW	5.54
		COPd (declared COP)		6.52
	(12°C)	Pdh (declared heating cap)	kW	7.04
	TBivalent	COPd (declared COP)		1.53
		Pdh (declared heating cap)	kW	16.0
		Tbiv (bivalent temperature)	°C	-10.0
	TOL	COPd (declared COP)		1.53
		Pdh (declared heating cap)	kW	16.0
		Tol (temperature operating limit)	°C	-10
pacity range			HP	10
:D	Category			Category III
	Most critical	Name		Liquid receiver
	part	Ps*V	Bar*I	2,583
aximum number of con			Dai i	8 (3)
ndoor index connection		v. w		125
INOUT ITHEE CONTRECTION				325
imancians	Max.	Unight	m m	
imensions	Unit	Height	mm	1,680
		Width	mm	1,930
		Depth	mm	765
	Packed unit		mm	1,855
		Width	mm	1,995
		Depth	mm	860





Specifications2 - 1 Specifications

Technical Specific	cations				RXYN10B		
Weight	Unit			kg	564		
	Packed unit			kg	593		
Casing	Colour				lvory white		
asing	Material				Painted galvanized steel plate		
leat exchanger	Туре				Cross fin coil (waffle louver fins and Hi-X tubes)		
reat exemanger	Indoor side				Air		
	Outdoor side				Air		
·		:			3		
an .	Quantity Output Outp						
an motor					3		
	Type Outout				DC Motor		
	Output			W	750		
ompressor	Quantity				3		
	Type				Hermetically sealed swing compressor		
	Crankcase he	eater		W	32		
ompressor 2	Crankcase he	eater		W	32		
ompressor 3	Crankcase he	eater		W	32		
peration range	Cooling	Min.		°CDB	-5		
		Max.		°CDB	43		
	Heating	Min.		°CWB	-20		
	nearing	Max.		°CWB	-20 16		
	C I'						
ound power level	Cooling	Nom.		dBA	83.5 (4)		
	Heating	Nom.		dBA	83.5 (4)		
ound pressure level	nd pressure level Cooling Nom.			dBA	60.8 (5)		
	Heating			dBA	59.7 (5)		
efrigerant	Туре				R744 (CO2)		
	GWP			1.0			
	Charge			kg	0.00		
	Charge			tCO2Eq	0.00		
Refrigerant oil	Туре				PZ100D		
iping connections	Liquid Type			Braze connection			
iping connections	Erquiu	OD OD		mm	9.52		
	Gas	Туре			Braze connection		
	uas	OD OD		mm	15.9		
	Tetal minima		A atrial	mm			
	Total piping System Actual		ACLUAI	m	300 (6)		
	length						
Defrost method					Reversed cycle		
apacity control	Method				Inverter controlled		
ndication if the heater is					No		
Supplementary heater	Back-up	Heating	elbu	kW	0.0		
	capacity						
ower consumption in	Crankcase	Cooling	PCK	kW	0.01000		
ther than active mode	heater	Heating	PCK	kW	0.0500		
	mode	,					
ower consumption in	Off mode	Cooling	POFF	kW	0.0600		
ther than active mode	3ouc	Heating	POFF	kW	0.0500		
alan active mode	Standby	Cooling	PSB	kW	0.0600		
	mode	Heating	PSB	kW	0.0500		
	Thermo-	Cooling	PTO PTO	kW	0.01000		
	stat-off	f Heating PTO kW		kW	0.0500		
	mode						
ooling	Cdc (Degradation cooling)			0.25			
leating	Cdh (Degrad	ation heatin	g)		0.25		
afety devices	Item	01			Fuse		
•		02			High pressure switch		
		03			Fan driver overload protector		
		04			Inverter overload protector		
		05			Overcurrent relay		
		06			Earth leakage detector		
		07			High pressure relief valve		

Standard accessories: Installation manual;Quantity: 1;

Standard accessories: Auxiliary piping set;Quantity: 1;

Standard accessories: General safety precautions; Quantity: 1;

Standard accessories: Operation manual; Quantity: 1;

Standard accessories: Safety valve; Quantity: 2;

Standard accessories: Changeover valve; Quantity: 1;

 $Standard\ accessories: Declaration\ of\ conformity; Quantity: 1;$





Specifications

Specifications

Electrical Specif	fications				RXYN10B		
Power supply	Name				Y1		
	Phase				3N~		
	Frequency			Hz	50		
	Voltage			V	380-415		
Power supply intake					Both indoor and outdoor unit		
Voltage range	Min.			%	-2		
	Max.			%	2		
Current - 50Hz	Nominal running	Combina- tion A	Cooling				
	current (RLA)	Combina- tion B	Cooling		-		
	(11271)	Cooling		Α	25.0 (7)		
	Starting current (MSC) - remark				See note 8		
	Zmax List				No requirements		
	Minimum Ssc value			kVA	5,819 (8)		
	Minimum circuit amps (MCA)			A	34.0 (9)		
	Maximum f	use amps (MF	A)	A	40 (10)		
Power Performance	Power facto	r Combina-	35°C ISO - Full load				
		tion B	46°C ISO - Full load				
Wiring connections - 50Hz	For power supply	Quantity			56		
	For connec-	Quantity			2		
	tion with indoor	Remark			F1,F2		
Compressor	Crankcase h	eater		W	32		
Compressor 2	Crankcase h	eater		W	32		
Compressor 3	Crankcase h	eater		W	32		

Sec: Short-circuit power | For detailed contents of standard accessories, see installation/operation manual

⁽I)Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m; level difference: 0m | (2)Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m; level difference: 0m | (3)The actual number of units depends on the connection ratio (CR) and the restrictions for the system. |

⁽⁴⁾Sound power level is an absolute value that a sound source generates. (5)Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings.

⁽⁶⁾Refer to refrigerant pipe selection or installation manual | (7)RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB |

⁽⁸⁾In accordance with EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply wih Ssc ≥ minimum Ssc value |

(9)MCA must be used to select the correct field wiring size. The MCA can be regarded as the maximum running current. |

(10)MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker). |

MSC means the maximum current during start up of the compressor. This unit uses only inverter compressors. Starting current is always ≤ max. running current. |

Maximum allowable voltage range variation between phases is 2%. |

Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits. | Sound values are measured in a semi-anechoic room. |

EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A and \leq 75A per phase |



3 Options

3 - 1 Options

RXYN-B

		co	02 VRV	
Option	Model	RXY	N10B7Y1B	
	(a) Air outle	KPS26C504T	Left side	See note ·1 & 2·.
oc p	(b) Air inlet (rear	KPS26C504B	Left side	
ž	(c) Air inlet (left	KPS26C504L	Left side	
ea e	(d) Air inlet (right	KPS26C504R	Right side	
Snowbreak hood	·(a+b+c+d)· ki	KPS26C504		
Snc	Air outle	KPS26C160T	Right side	
	Air inlet (rear	KPS26C160B	Right side	
	External control adapte	DTA104A61/62	*	See note ·3 & 4·.

_						
Re	Remote controllers and centralised controllers					
1	1 Centralised remote controller DCS302C51					
2	Unified ON/OFF controller	DCS301B51				
3	Daikin Cloud Plus Edge	DGE601A51				
4	Intelligent Touch Manager	DCM601A51/DCM601B51				
5	BACnet gateway	DMS502A51				

Notes

- 1 Snowbreak hoods are field-supplied. For technical drawings and more information, contact your dealer.
- $2\,\,$ It is recommended to install a snowbreak hood when regular snowfall occurs.
- 3 ·RXYN10BY1B· is compatible with the option, but the option has to be installed inside an indoor unit. When installing optional accessories, refer to their respective documentation.
- 4 Refer to the option list of your indoor unit for the exact model of the option.



4 Capacity tables

4 - 1 Capacity Table Legend

In order to fulfill more your requirements on quick access of data in the format you require, we have developed a tool to consult capacity tables.

Below you can find the link to the capacity table database and an overview of all the tools we have to help you select the correct product:

- <u>Capacity table database:</u> lets you find back and export quickly the capacity information you are looking for based upon unit model, refrigerant temperature and connection ratio.
- You can access the capacity table viewer here: https://vrvxpress2.daikin.eu/CTV#/capacity



- An overview of all software tools that we offer can be found here:
- https://my.daikin.eu/denv/en_US/library/applications/software-finder.html





Capacity tables 4

Integrated Heating Capacity Correction Factor 4 - 2

RXYN-B

CO2 VRV

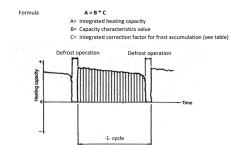
Heat pump

Integrated heating capacity coefficient

Inlet air temperature of heat exchanger

mict an temperatu	met un temperature of neut exchanger							
[°CDB/°CWB]	-7/-7.6	-5/-5.6	-3/-3.7	0/-0.7	3/2.2	5/4.1	7/6	
Integrated correcti	Integrated correction factor for frost accumulation ·(C)·							
RXYN10	0.81	0.78	0.72	0.65	0.69	0.77	1.00	

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



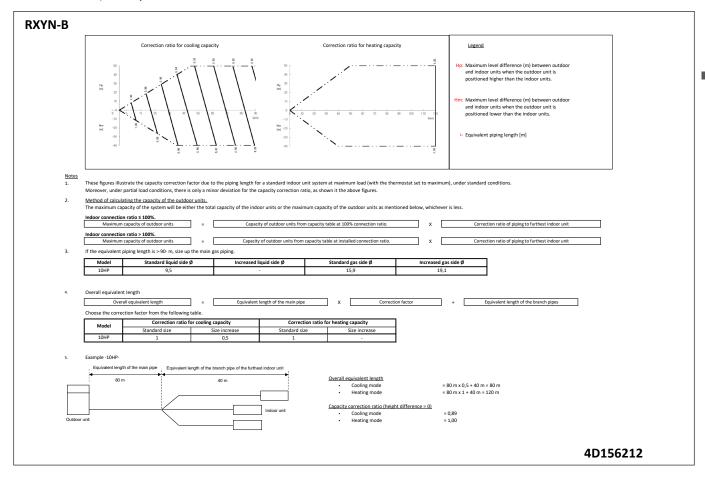
- es
 1. The figure shows the integrated heating capacity for a single cycle (from one defrost operation to the next).
 2. When there is an accumulation of snow against the outdoor unit heat exchanger, there will always be a temporary reduction in capacity depending on the outdoor temperature ("C DB), relative humidity (RH) and the amount of frosting which occurs.

Formula



4 Capacity tables

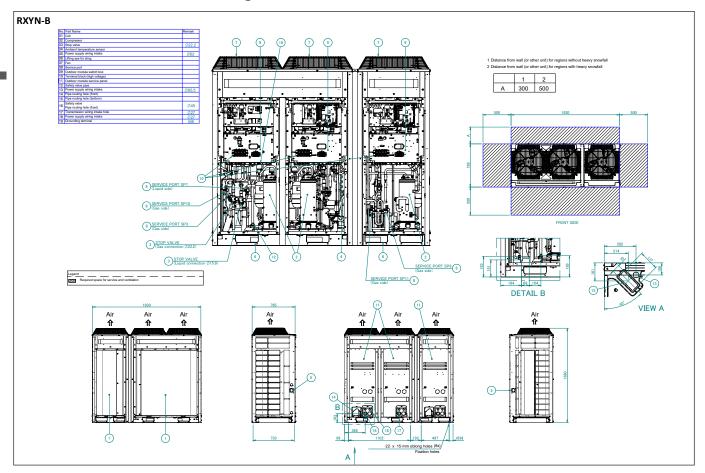
4 - 3 Capacity Correction Factor





5 Dimensional drawings

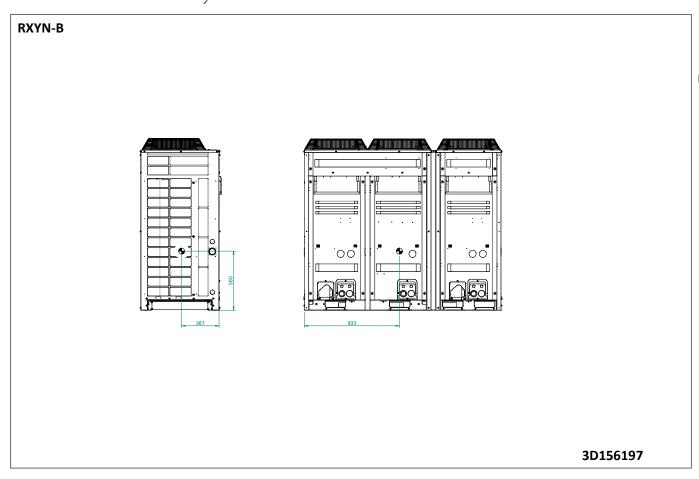
5 - 1 Dimensional Drawings





Centre of gravityCentre of Gravity

6 - 1



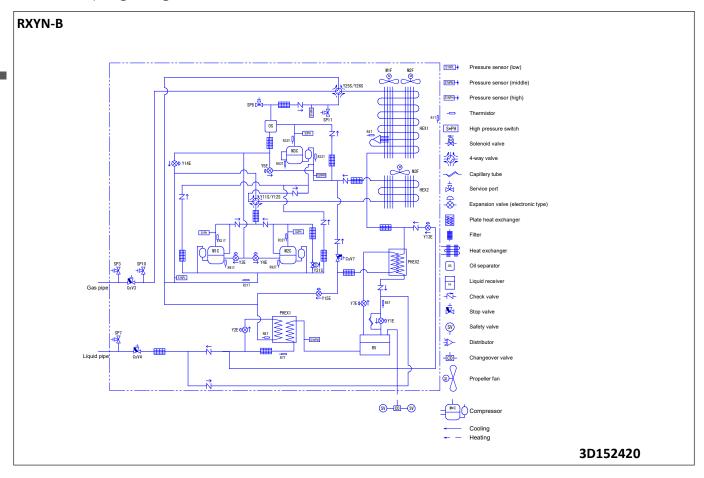


7



7 Piping diagrams

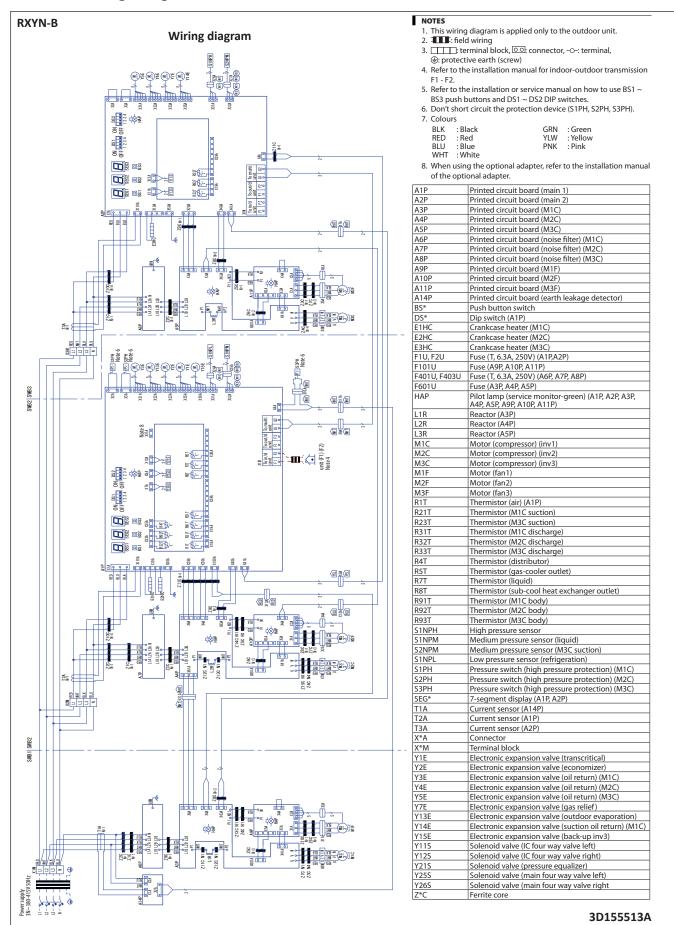
7 - 1 Piping Diagrams





8 Wiring diagrams

8 - 1 Wiring Diagrams - Three Phase

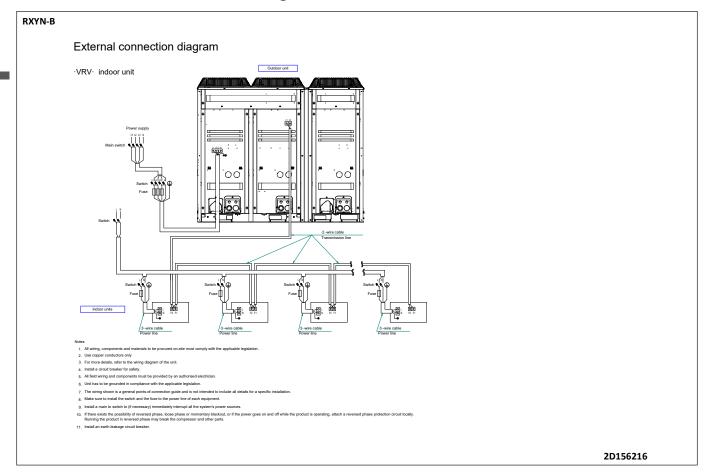






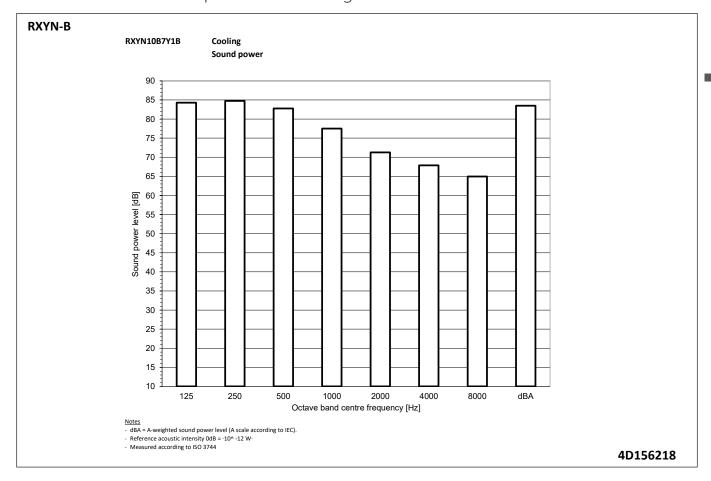
9 External connection diagrams

9 - 1 External Connection Diagrams





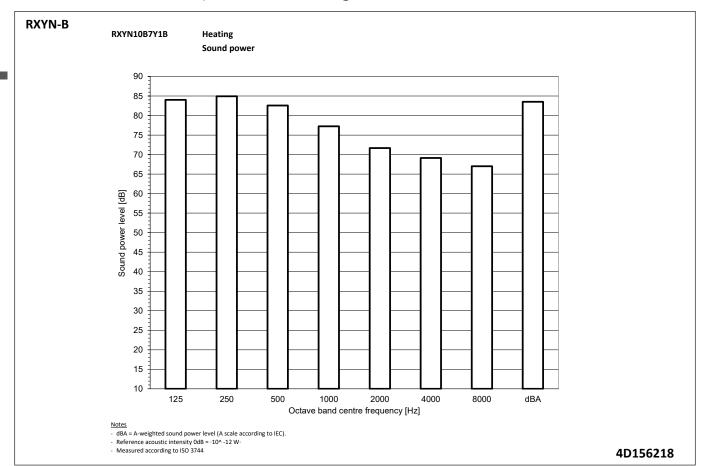
10 - 1 Sound Power Spectrum - Cooling





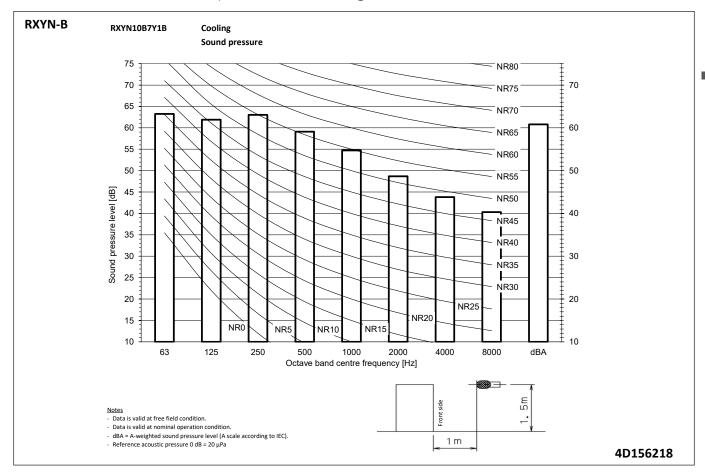


10 - 2 Sound Power Spectrum - Heating





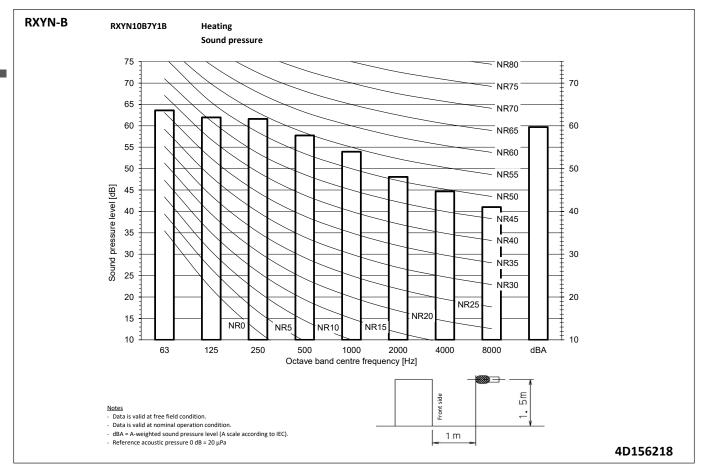
10 - 3 Sound Pressure Spectrum - Cooling





DAIKIN

10 - 4 Sound Pressure Spectrum - Heating





Low sound capacity table 10 - 5

RXYN-B

CO₂ VRV Heat pump Low noise data (level ·1-2·)

	Capacity ratio
LN1	80%

10HP	Cod	oling	Heating		
IOHP	Sound power [dBA]	Sound pressure [dBA]	Sound power [dBA]	Sound pressure [dBA]	
LN1	78,3	55,5	79,1	56,4	
LN2	76,2	53,9	73,4	50,8	

Low noise level ·1· LN2: Low noise level ·2·

Notes

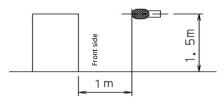
dBA = A-weighted sound power level (A scale according to IEC).

Reference acoustic intensity 0dB = ·10^ -12 W· Measured according to ISO 3744

Sound pressure

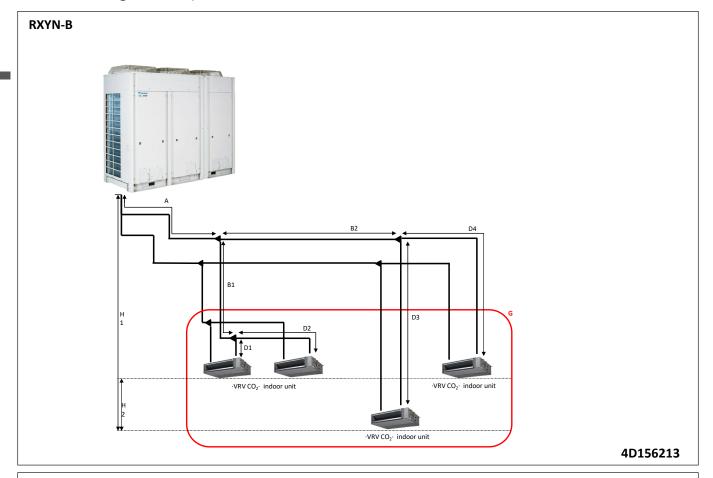
Data is valid at free field condition.

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



11 Installation

11 - 1 Refrigerant Pipe Selection



RXYN-B

CO₂ VRV
Heat pump
Pining restrictions

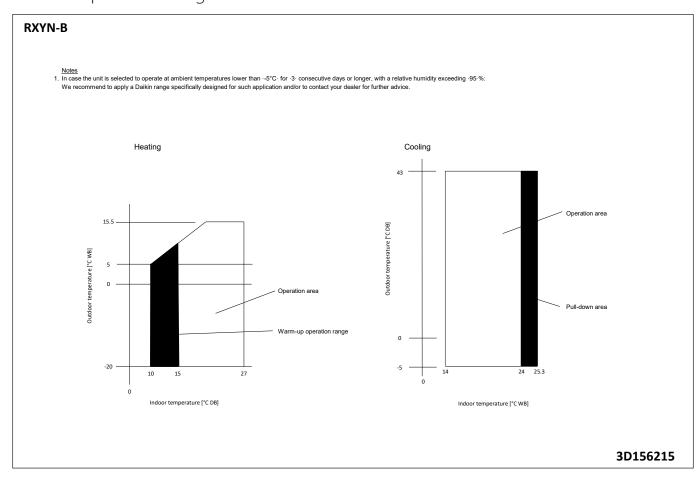
riping restrictions					
	Total				
	Capacity	Maximum indoor unit quantity	Maximum total indoor unit capacity class		
·VRV CO₂ DX· indoor units only	50 ~ 130%	8	325		

	Maximum p	iping length	Maximum heig	ht difference	Total piping length
	Longest pipe from the outdoor	Longest pipe after first branch	Indoor-to-outdoor	Indoor-to-indoor	Piping length
	unit to indoor unit				
			Outdoor unit higher than indoor		
			unit / Indoor unit higher than		
Indoor connection			outdoor unit		
	Actual / Equivalent	Actual			
			Maximum: ·(H1)·	Maximum: ·(H2)·	
	Maximum: ·(A + B1 + D1, A + B1	Maximum ·(B1 + D1, B1 + D2,			
	+ D2, A + B2 + D3, A + B2 + D4)-	B2 + D3, B2 + D4)·			
·VRV CO ₂ DX· indoor units only	120/150 m	40 m	50/40 m	10 m	300 m



12 Operation range

12 - 1 Operation Range



13 Appropriate Indoors

13 - 1 Appropriate Indoors

Recommended indoor units for -RXYN*B*- outdoor units

- HP 10
- 4KPXSN63

For details about the allowed combinations, see the engineering databook.

Appropriate indoor units for -RXYN*B*- outdoor units

Covered by -ENER LOT21
PINHO 50 63-80

PXSH0 50 63-80

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