DAIKIN

technical data

air conditioning systems

Concealed Ceiling Unit (Small)

FXDQ-M9V3B

R-410A

TABLE OF CONTENTS

FXDQ-M9V3B

1 Specifications

1-1 TECHNICAL SPECIFICATIONS				FXDQ20M9V3B	FXDQ25M9V3B
Capacity	Cooling		kW	2.2	2.8
	Heating		kW	2.5	3.2
Power Input (50Hz)	Cooling		kW	0.050	
	Heating		kW	0.050	
Casing	Colour			Non painted	
	Material			Galvanised steel	
Dimensions	Packing	Height	mm	301	
		Width	mm	584	
		Depth	mm	753	
	Unit	Height	mm	230	
		Width	mm	502	
		Depth	mm	652	
Weight	Unit		kg	17	
	Packed Unit		kg	18	
Required Ceiling Void			mm	>250	
Heat Exchanger	Dimensions	Length	mm	430	
		Nr of Rows		2	
		Fin Pitch	mm	1.4	
		Nr of Passes		2	
		Face Area	m²	0.108	
		Nr of Stages		12	
		Empty Tubeplate Hole		4	
	Tube type			Hi-XSS (7)	
	Fin	Fin type		Symmetric waffle louvre	
		Treatment		Hydrophilic	
Fan	Type			Sirocco fan	
	Quantity			1	
Cooling	High	m³/min		6.7	7.4
	Low	m³/min		5.2	5.8
Heating	High	m³/min		6.7	7.4
	Low	m³/min		5.2	5.8
Fan	Motor	Quantity		1	
		Steps		step motor	
		Output (high)	W	10	
		Drive		Direct drive	
Refrigerant	Name			R-410A	
Sound level	Cooling	Sound power (nominal)	dBA	50	
Cooling	Sound Pressure	High	dBA	37	
		Low	dBA	32	
Heating	Sound Pressure	High	dBA	37	
		Low	dBA	32	
Piping connections	Liquid (OD)	Type		Flare connection	
		Diameter	mm	6.35	
	Gas	Type		Flare connection	
		Diameter	mm	12.7	
	Drain	Diameter	mm	I.D. 21.6, O.D. 27.2	
Air Filter				Resin net with mold resistance	
Air direction control				Up and downwards	
Refrigerant control				Electronic expansion valve	
Temperature control				Microprocessor thermostat for cooling and heating	
Safety devices				PC board fuse	
				Fan motor thermal protector	
Notes				Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 8m, level difference : 0m.	
				Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 8m, level difference : 0m.	
				Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.	

1 Specifications

1-2 ELECTRICAL SPECIFICATIONS (50HZ)			FXDQ20M9V3B	FXDQ25M9V3B
Power Supply	Name		V1	
	Phase		1~	
	Frequency	Hz	50	
	Voltage	V	230	
Current	Minimum circuit amps (MCA)	A	0.2	
	Maximum fuse amps (MFA)	A	16	
	Full load amps (FLA)	A	0.1	
Voltage range	Minimum	V	-10%	
	Maximum	V	+10%	
Notes			Voltage range : units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.	
			Maximum allowable voltage range variation between phases is 2%.	
			MCA/MFA : MCA = 1.25 x FLA	
			MFA < 4 x FLA	
			Next lower standard fuse rating minimum 16A	
			Select wire size based on the MCA	
			Instead of a fuse, use a circuit breaker	

2 Safety device settings

		FXDQ20M9	FXDQ25M9
FAN MOTOR THERMAL PROTECTOR	°C	OFF:135$^{\pm 8}$, (ON:87$^{\pm 15}$)	
PC BOARD FUSE		250V 10A	

3TW25511-3

3 Options

	FXDQ20M9	FXDQ25M9
WIRING ADAPTER (HOUR METER) (1)	EKRP1B2	

3TW25779-1D

NOTE

1 Fixing box = KRP1A90

4 Control systems

Individual control systems

		FXDQ20M9	FXDQ25M9
WIRED REMOTE CONTROL		BRC1D52	
INFRARED REMOTE CONTROL	Heat pump	BRC4C62	
	Cooling only	BRC4C64	
SIMPLIFIED REMOTE CONTROL		BRC2A51	
REMOTE CONTROL FOR HOTEL USE		BRC3A61	

Centralised control systems

	FXDQ20M9	FXDQ25M9
CENTRALISED REMOTE CONTROL	DCS302C51	
UNIFIED ON/OFF CONTROL	DCS301B51	
SCHEDULE TIMER	DST301B51	

Others

	FXDQ20M9	FXDQ25M9
WIRING ADAPTER	KRP1B61	
WIRING ADAPTER FOR ELECTRICAL APPENDICES (1)	KRP2A51	
WIRING ADAPTER FOR ELECTRICAL APPENDICES (2)	KRP4A51	
REMOTE SENSOR	KRCS01-1	
ELECTRICAL BOX WITH EARTH TERMINAL (3 BLOCKS)	KJB311A	
ELECTRICAL BOX WITH EARTH TERMINAL (2 BLOCKS)	KJB212A	
NOISE FILTER (FOR ELECTROMAGNETIC INTERFACE USE ONLY)	KEK26-1A	
EXTERNAL CONTROL ADAPTER FOR OUTDOOR UNITS (INSTALLATION ON INDOOR UNIT)	DTA104A61	

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5 Capacity tables

5 - 1 Cooling capacity tables

FXDQ-M9

TC: Total capacity;kW – SHC: Sensible capacity;kW

Unit size	Nominal capacity	Outdoor air temp.	Indoor air temperature													
			14.0WB		16.0WB		18.0WB		19.0WB		20.0WB		22.0WB		24.0WB	
			20.0DB		23.0DB		26.0DB		27.0DB		28.0DB		30.0DB		32.0DB	
		°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	2.2	10.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.9	1.9
		12.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.9	1.9
		14.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.8	1.9
		16.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.8	1.8
		18.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.7	1.8
		20.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.7	1.8
		21.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.7	1.8
		23.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.9	2.6	1.7
		25.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.6	1.8	2.6	1.7
		27.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.5	1.8	2.6	1.7
		29.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.5	1.8	2.5	1.7
		31.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.4	1.8	2.5	1.7
		33.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.9	2.4	1.8	2.5	1.7
		35.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.8	2.4	1.8	2.4	1.7
		37.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.3	1.8	2.3	1.8	2.4	1.7
		39.0	1.5	1.4	1.8	1.6	2.1	1.7	2.2	1.8	2.2	1.8	2.3	1.7	2.3	1.6
25	2.8	10.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.4	2.3	3.7	2.3
		12.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.4	2.3	3.6	2.2
		14.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.4	2.3	3.6	2.2
		16.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.4	2.3	3.5	2.2
		18.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.4	2.3	3.5	2.2
		20.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.4	2.3	3.4	2.1
		21.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.4	2.3	3.4	2.1
		23.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.3	2.2	3.4	2.1
		25.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.3	2.2	3.3	2.1
		27.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.2	2.2	3.3	2.1
		29.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.2	2.2	3.2	2.0
		31.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.1	2.1	3.2	2.0
		33.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.1	2.1	3.1	2.0
		35.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	3.0	2.2	3.0	2.1	3.1	2.0
		37.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	2.9	2.2	3.0	2.1	3.0	2.0
		39.0	1.9	1.7	2.3	1.9	2.6	2.0	2.8	2.1	2.9	2.2	2.9	2.1	3.0	2.0

3TW25772-1

5 Capacity tables

5 - 2 Heating capacity tables

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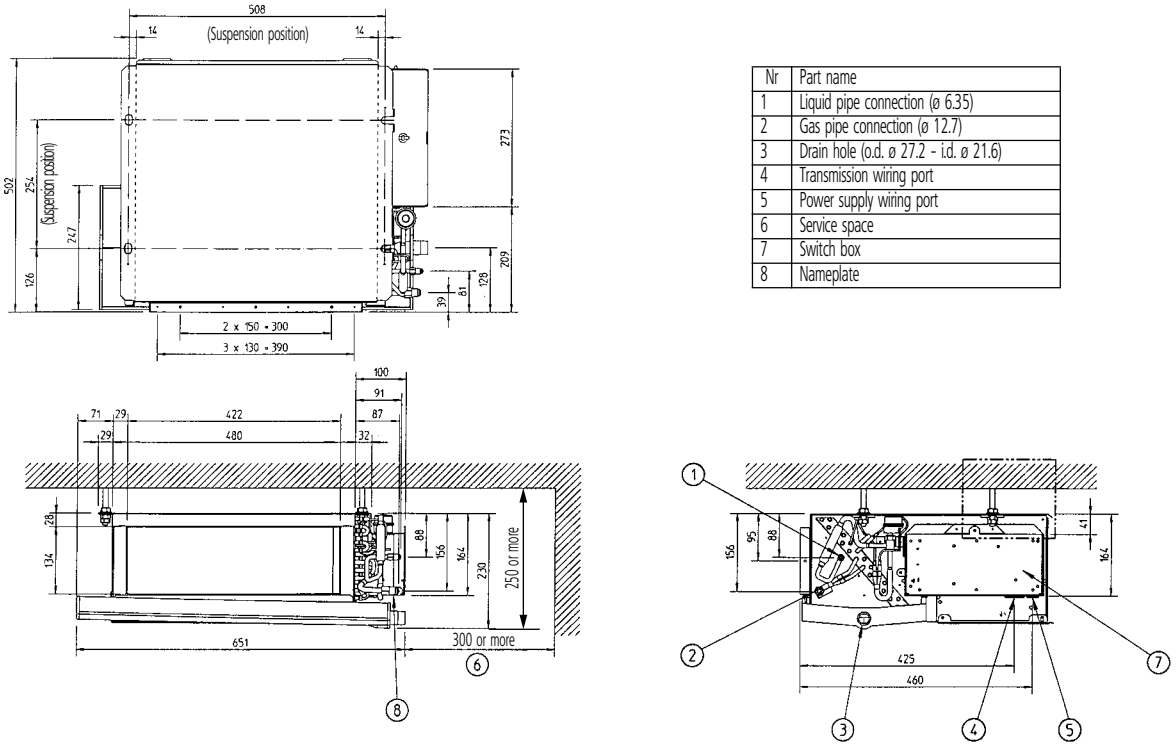
Unit Size	Nominal capacity	Outdoor air temperature		Indoor air temperature °CDB					
				16.0	18.0	20.0	21.0	22.0	24.0
		°CDB	°CWB	kW	kW	kW	kW	kW	kW
20	2.5	-19.8	-20.0	1.5	1.5	1.5	1.5	1.5	1.5
		-18.8	-19.0	1.5	1.5	1.5	1.5	1.5	1.5
		-16.7	-17.0	1.6	1.6	1.6	1.6	1.6	1.6
		-14.7	-15.0	1.7	1.7	1.7	1.7	1.7	1.7
		-12.6	-13.0	1.8	1.8	1.8	1.8	1.8	1.8
		-10.5	-11.0	1.9	1.9	1.9	1.9	1.9	1.9
		-9.5	-10.0	1.9	1.9	1.9	1.9	1.9	1.9
		-8.5	-9.1	2.0	2.0	1.9	1.9	1.9	1.9
		-7.0	-7.6	2.0	2.0	2.0	2.0	2.0	2.0
		-5.0	-5.6	2.1	2.1	2.1	2.1	2.1	2.1
		-3.0	-3.7	2.2	2.2	2.2	2.2	2.2	2.2
		0.0	-0.7	2.3	2.3	2.3	2.3	2.3	2.2
		3.0	2.2	2.5	2.5	2.4	2.4	2.3	2.2
		5.0	4.1	2.5	2.5	2.5	2.4	2.3	2.2
		7.0	6.0	2.6	2.6	2.5	2.4	2.3	2.2
		9.0	7.9	2.7	2.7	2.5	2.4	2.3	2.2
		11.0	9.8	2.8	2.7	2.5	2.4	2.3	2.2
		13.0	11.8	2.8	2.7	2.5	2.4	2.3	2.2
		15.0	13.7	2.8	2.7	2.5	2.4	2.3	2.2
25	3.2	-19.8	-20.0	1.9	1.9	1.9	1.9	1.9	1.9
		-18.8	-19.0	1.9	1.9	1.9	1.9	1.9	1.9
		-16.7	-17.0	2.1	2.1	2.0	2.0	2.0	2.0
		-14.7	-15.0	2.2	2.2	2.2	2.2	2.2	2.1
		-12.6	-13.0	2.3	2.3	2.3	2.3	2.3	2.3
		-10.5	-11.0	2.4	2.4	2.4	2.4	2.4	2.4
		-9.5	-10.0	2.5	2.4	2.4	2.4	2.4	2.4
		-8.5	-9.1	2.5	2.5	2.5	2.5	2.5	2.5
		-7.0	-7.6	2.6	2.6	2.6	2.6	2.6	2.6
		-5.0	-5.6	2.7	2.7	2.7	2.7	2.7	2.7
		-3.0	-3.7	2.8	2.8	2.8	2.8	2.8	2.8
		0.0	-0.7	3.0	3.0	3.0	3.0	3.0	2.8
		3.0	2.2	3.1	3.1	3.1	3.1	3.0	2.8
		5.0	4.1	3.3	3.2	3.2	3.1	3.0	2.8
		7.0	6.0	3.4	3.4	3.2	3.1	3.0	2.8
		9.0	7.9	3.5	3.4	3.2	3.1	3.0	2.8
		11.0	9.8	3.6	3.4	3.2	3.1	3.0	2.8
		13.0	11.8	3.6	3.4	3.2	3.1	3.0	2.8
		15.0	13.7	3.6	3.4	3.2	3.1	3.0	2.8

3TW25512-2A

6 Dimensional drawing & centre of gravity

6 - 1 Dimensional drawing

FXDQ-M9

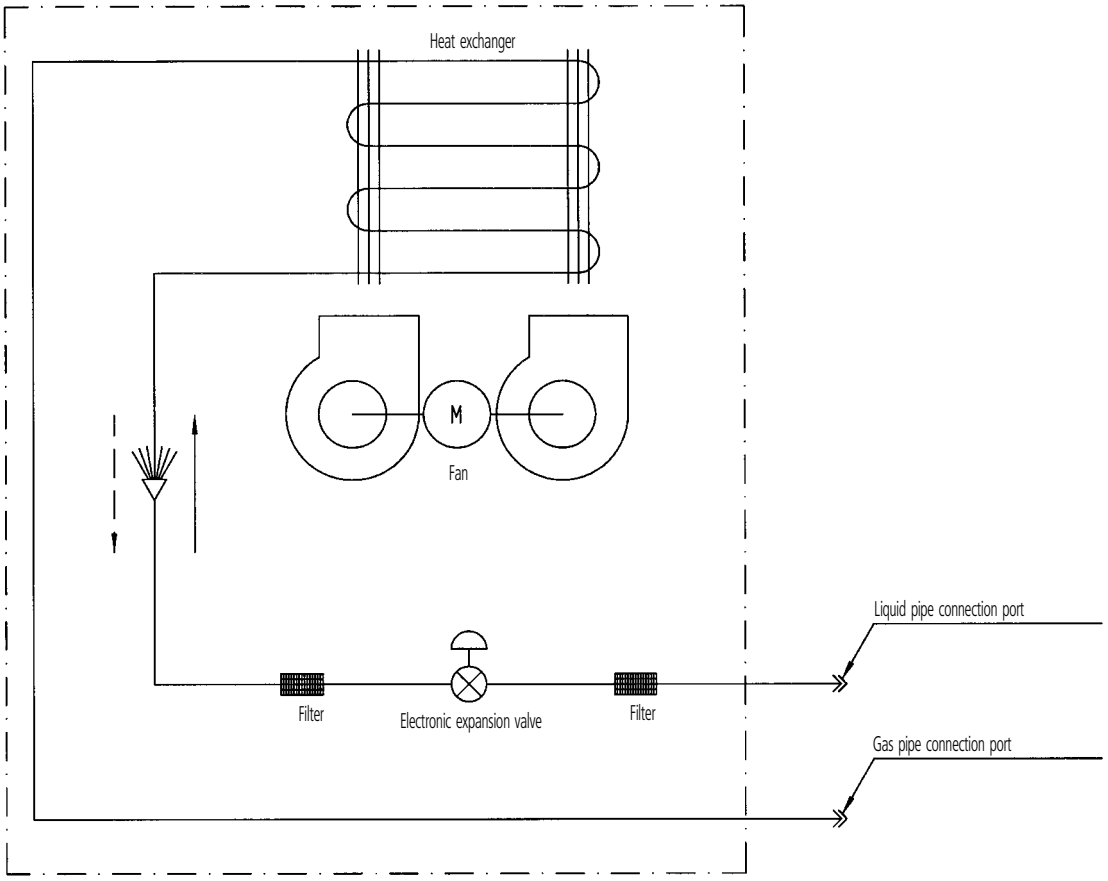


Nr	Part name
1	Liquid pipe connection (ø 6.35)
2	Gas pipe connection (ø 12.7)
3	Drain hole (o.d. ø 27.2 - i.d. ø 21.6)
4	Transmission wiring port
5	Power supply wiring port
6	Service space
7	Switch box
8	Nameplate

3TW25774-1

7 Piping diagram

FXDQ-M9



Refrigerant flow

Cooling
Heating

Piping connection diameters

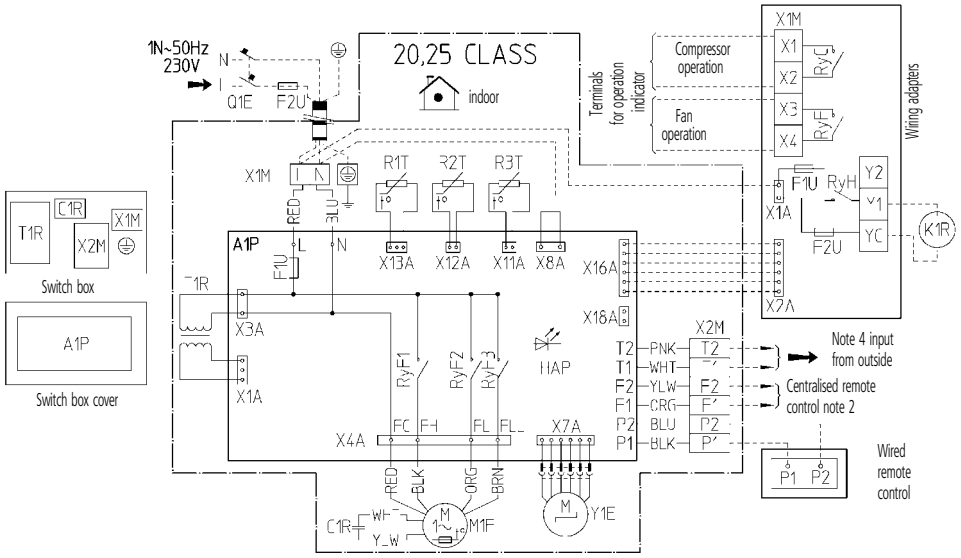
Model	Gas	Liquid
FXDQ20,25M9	ø12.7	ø6.4

3TW21175-1C

8 Wiring diagram

8 - 1 Wiring diagram

FXDQ-M9



A1P	Printed circuit board	RyF1-3	Magnetic relay (Fan)	RyC, RyF	Magnetic relay
C1R	Capacitor (Fan)	T1R	Transformer (220-240V/22V)	RyH	Magnetic relay (J1EH)
F1U	Fuse (250V, 10A)	X1M	Terminal strip (Power)	F1U, F2U	Fuse (250V, 5A)
F2U	Field fuse	X2M	Terminal strip (Control)	X1A, X2A	Connector (Wiring adapter)
HAP	Light emitting diode (Service monitor-green)	Y1E	Electronic expansion valve	X1M	Terminal strip
M1F	Motor (Fan)	Optional parts		Connector for optional parts	
Q1E	Earth leak detector	J1EH	Electric heater	X16A	Connector (Wiring adapter)
R1T	Thermistor (Air)	K1R	Magnetic relay (J1EH)	X18A	Connector (Wiring adapter for electronical appendices)
R2T, R3T	Thermistor (Refrigerant)	Wiring adapter			

: Field wiring
L : Live
N : Neutral
: Connector
: Wire clamp
: Protective earth (screw)

COLORS : BLK : Black PNK : Pink
BLU : Blue RED : Red
BRN: Brown WHT : White
ORG : Orange YLW : Yellow

NOTES

1 Use copper conductors only.

2 When using a centralised remote control, see manual for connection to the unit.

3 When installing the electric heater change the wiring for the heater circuit. The main power supply has to be supplied independently.

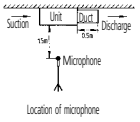
4 When connecting the input wires from the outdoor unit 'forced off' or 'on/off' operation can be selected by the remote control. For more details see installation manual.

2TW23666-1E

9 Sound data

9 - 1 Sound level data

FXDQ-M9

Model	Sound pressure level - 230V			Sound power level
	H	L	Measuring location	
FXDQ20M9	37	32		50
FXDQ25M9	37	32		50

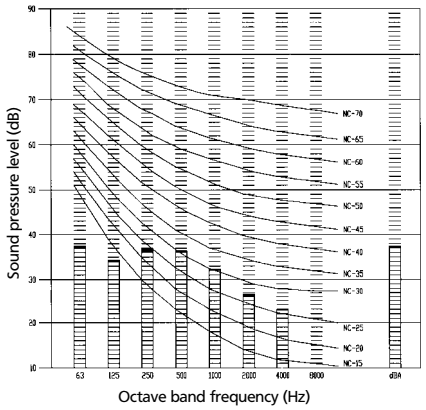
NOTES

1 dBA = A-weighted sound pressure level (A-scale according to IEC).
2 Reference acoustic pressure 0 dB = 20 Pa.
3 These operating values were obtained using a power source of 230V/50Hz.
4 These operating values were obtained in a dead room (conversion values). Noise values will vary depending on a range of factors such as the construction of the particular room in which the equipment is installed.
5 Operating noise differs with operation and ambient conditions.

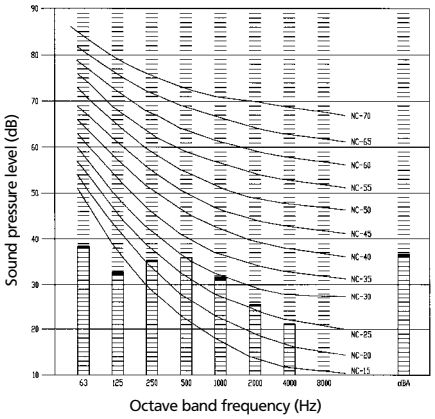
9 Sound data

9 - 2 Sound pressure spectrum

FXDQ20M9 3TW21467-1



FXDQ25M9 3TW21477-1



In all of us, a green heart

Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intension to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.

Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.

CE Daikin units comply with the European regulations that guarantee the safety of the product.

VRV® products are not within the scope of the Eurovent certification programme.

DAIKIN EUROPE N.V.

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