



# technical data

Concealed Ceiling Unit (Small)

FXDQ-M8V3B

air conditioning systems

*VRV<sup>®</sup> III-S*

*VRV<sup>®</sup> III*

*VRV<sup>®</sup> II*

*VRV<sup>®</sup>-WII*

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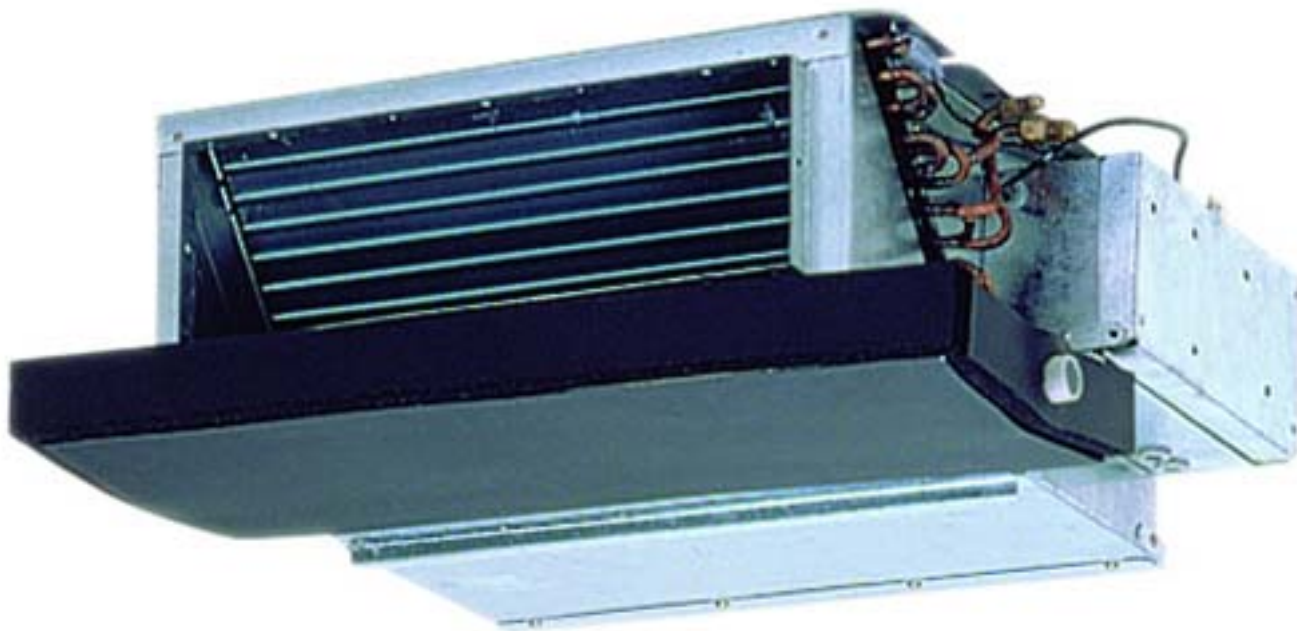
## FXDQ-M8V3B

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# 1 Features

- Designed for hotel bedrooms
- Compact dimensions (230mm high & 652mm deep), can easily be mounted in a ceiling void
- Blends unobtrusively with any interior décor: only the suction and discharge grilles are visible
- The air suction direction can be altered from rear to bottom suction
- Air suction filter fitted as standard
- Extremely quiet in operation both indoors and outdoors
- For easy mounting, the drain pan can be located to the left or the right of the unit.

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## 2 Specifications

2-1 TECHNICAL SPECIFICATIONS				FXDQ20M8V3B		FXDQ25M8V3B	
Nominal Capacity	Cooling	kW		2.20		2.80	
	Heating	kW		2.50		3.20	
Power input (Nominal)	Cooling	kW		0.050		0.050	
	Heating	kW		0.050		0.050	
Casing	Colour		Non painted				
	Material		Galvanised steel				
Dimensions	Packing	Height	mm	301		301	
		Width	mm	584		584	
		Depth	mm	753		753	
	Unit	Height	mm	230		230	
		Width	mm	502		502	
		Depth	mm	652		652	
Weight	Unit	kg		17		17	
	Packed unit	kg		18		18	
Required Ceiling Void		mm		250		250	
Heat Exchanger	Dimensions	Length	mm	430		430	
		Nr of Rows			2		2
		Fin Pitch	mm	1.40		1.40	
		Nr of Passes			2		2
		Face Area	m <sup>2</sup>	0.108		0.108	
		Nr of Stages			12		12
		Empty Tubeplate Hole			4		
	Tube type		Hi-XSS (7)				
Fin	Fin type		Symmetric waffle louvre				
	Treatment		Hydrophilic				
Fan	Type		Sirocco fan				
	Quantity			1		1	
Air Flow Rate	Cooling	High	m <sup>3</sup> /min	6.70		7.40	
		Low	m <sup>3</sup> /min	5.20		5.80	
	Heating	High	m <sup>3</sup> /min	6.70		7.40	
		Low	m <sup>3</sup> /min	5.20		5.80	
Fan	Motor	Quantity		1		1	
		Steps		step motor			
		Output (high)	W	10		10	
		Drive		Direct drive			
Refrigerant	Name		R-410A				
Sound Level	Cooling	Sound power (nominal)	dBA	50.0		50.0	
		Sound Pressure	High	dBA	37.0		37.0
Heating	Low		dBA	32.0		32.0	
	Sound Pressure	High	dBA	37.0		37.0	
Low		dBA	32.0		32.0		
Piping connections	Liquid (OD)	Type		Flare connection			
		Diameter	mm	6.4		6.4	
	Gas	Type		Flare connection			
		Diameter	mm	12.7		12.7	
	Drain	Diameter	mm	27.2		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					

## 2 Specifications

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2-1 TECHNICAL SPECIFICATIONS		FXDQ20M8V3B	FXDQ25M8V3B
Standard Accessories	Standard Accessories	Installation and operation manual	
		Fuse	
		Caution for servicing sticker	
		Suction air filter	
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.	

2-2 ELECTRICAL SPECIFICATIONS			FXDQ20M8V3B	FXDQ25M8V3B
Power Supply	Name		V1	
	Phase		1	1
	Frequency	Hz	50	50
	Voltage	V	230	230
Current	Minimum circuit amps (MCA)	A	0.20	0.20
	Maximum fuse amps (MFA)	A	16.00	16.00
	Full load amps (FLA)	A	0.10	0.10
Voltage range	Minimum	V	-10%	
	Maximum	V	+10%	
Power Supply Intake			Both indoor and outdoor unit	
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	
For more details concerning conditional connections, see <a href="http://www.daikineurope.com/extranet">http://www.daikineurope.com/extranet</a> , select "Daikin Documentation" and select "conditional connection", "the requested product type" and "English" from the drop down lists, click the search button. Finally click on the document title of your choice				

### 3 Safety device settings

		FXDQ20M8	FXDQ25M8
FAN MOTOR THERMAL PROTECTOR	°C	OFF:135 $\pm$ 8, (ON:87 $\pm$ 15)	
PC BOARD FUSE		250V 10A	

3TW25511-3

## 4 Options

	FXDQ20M8	FXDQ25M8
WIRING ADAPTER (HOUR METER) (1)		EKP1B2
		3TW25779-1C

**NOTE**

1 Fixing box = KRP1A90

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## 5 Control systems

### Individual control systems

		FXDQ20M8	FXDQ25M8
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

		FXDQ20M8	FXDQ25M8
CENTRALISED REMOTE CONTROL			DCS302C51
UNIFIED ON/OFF CONTROL			DCS301B51
SCHEDULE TIMER			DST301B51

### Others

		FXDQ20M8	FXDQ25M8
WIRING ADAPTER			KRP1B61
WIRING ADAPTER FOR ELECTRICAL APPENDICES (1)			KRP2A516
WIRING ADAPTER FOR ELECTRICAL APPENDICES (2)			KRP4A516
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)			KEK26-1
EXTERNAL CONTROL ADAPTER FOR OUTDOOR UNITS (INSTALLATION ON INDOOR UNIT)			DTA104A51

3TW25779-1C



# 6 Capacity tables

## 6 - 1 Cooling capacity tables

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### FXDQ-M8

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

Unit size	Nominal capacity	Outdoor air temp. °CDB	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		
			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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	2.0

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## 6 Capacity tables

### 6 - 2 Heating capacity tables

FXDQ-M8									
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		

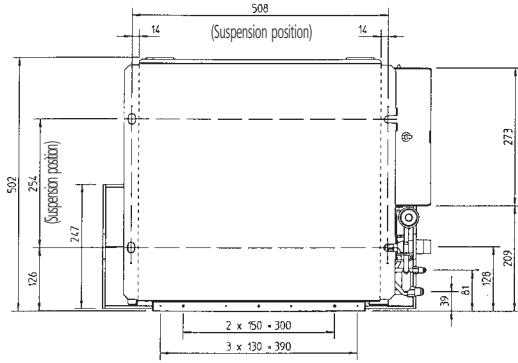
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# 7 Dimensional drawing

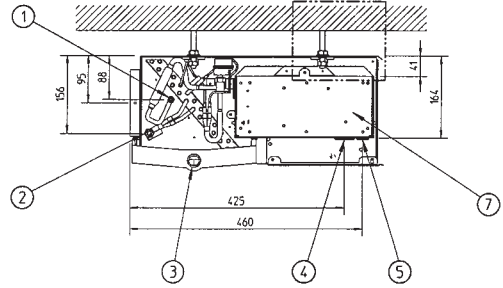
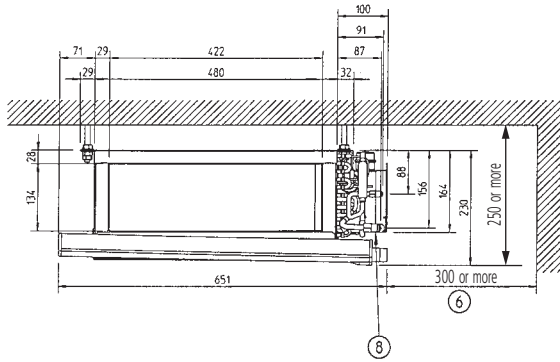
## 7 - 1 Dimensional drawing

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FXDQ-M8

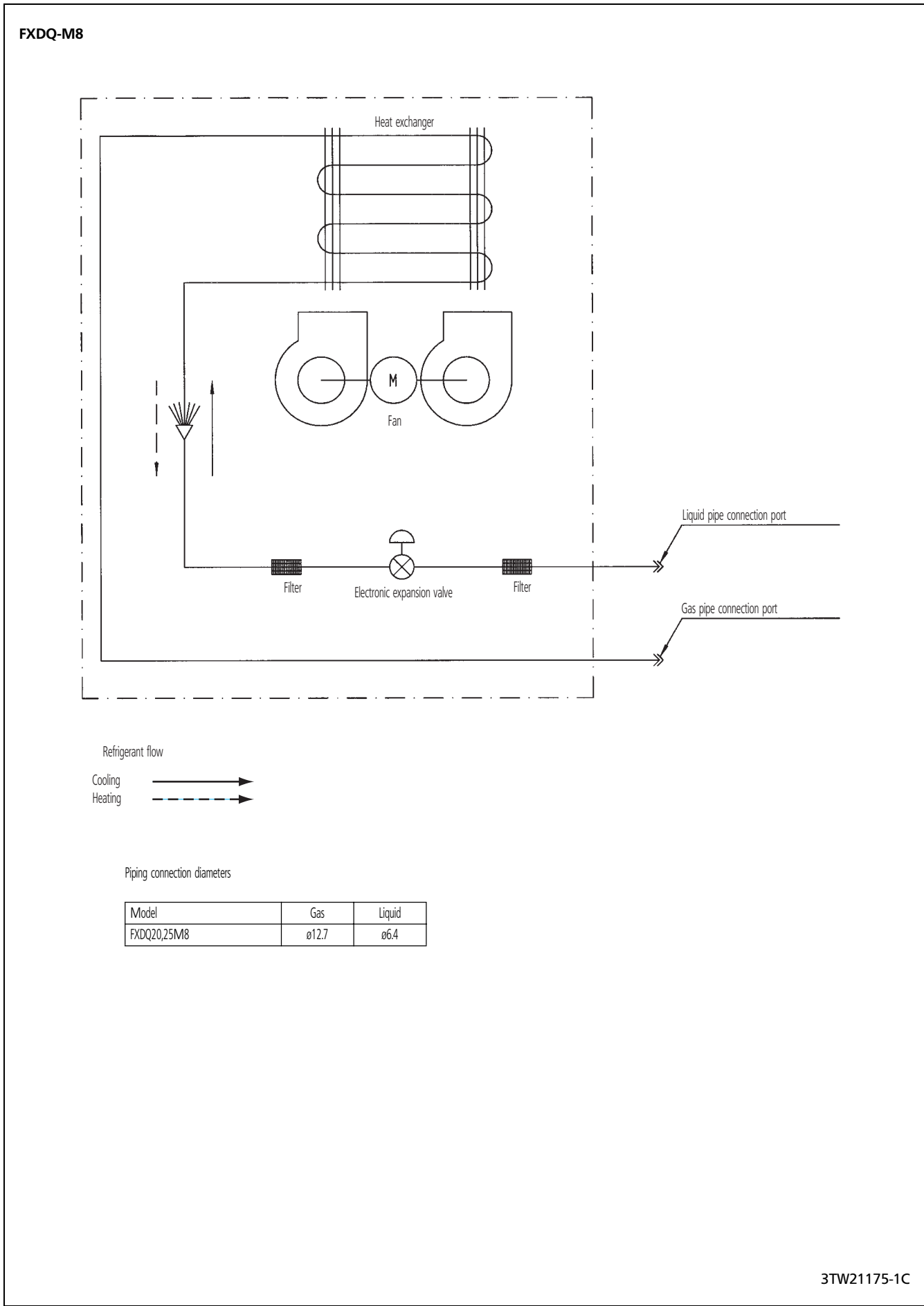


Nr	Part name
1	Liquid pipe connection (ø 6.35)
2	Gas pipe connection (ø 12.7)
3	Drain hole (o.d. ø 27.2 - i.d. ø 21.6)
4	Transmission wiring port
5	Power supply wiring port
6	Service space
7	Switch box
8	Nameplate



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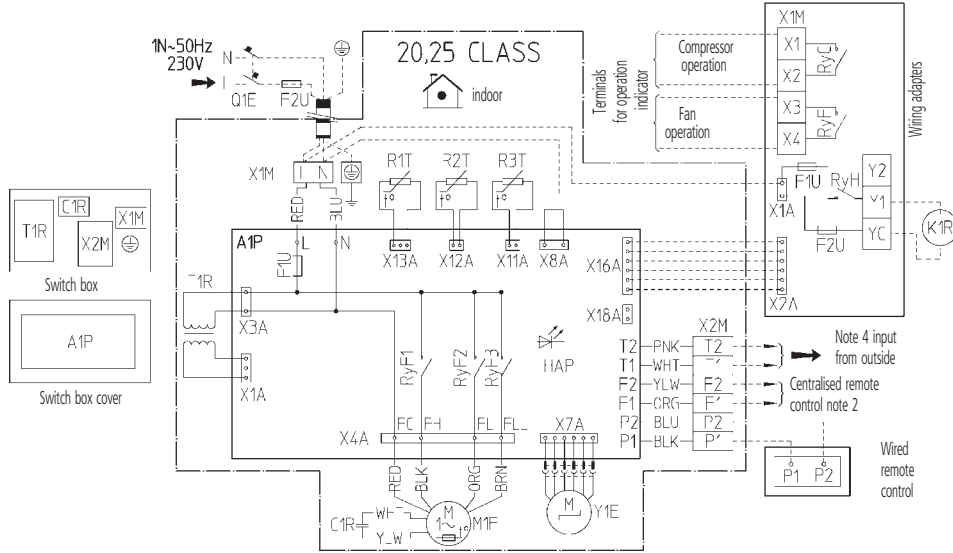
# 8 Piping diagram



# 9 Wiring diagram

## 9 - 1 Wiring diagram

FXDQ-M8



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 electrical 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

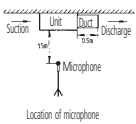
- 1 Use copper conductors only.
- 2 When using a centralised remote control, see manual for connection to the unit.
- 3 When installing the electric heater change the wiring for the heater circuit. The main power supply has to be supplied independently.
- 4 When connecting the input wires from the outdoor unit "forced off" or "on/off" operation can be selected by the remote control. For more details see installation manual.

2TW23666-1B

## 10 Sound data

### 10 - 1 Sound level data

#### FXDQ-M8

Model	Sound pressure level - 230V		Measuring location	Sound power level
	H	L		
FXDQ20M8	37	32		50
FXDQ25M8	37	32		50

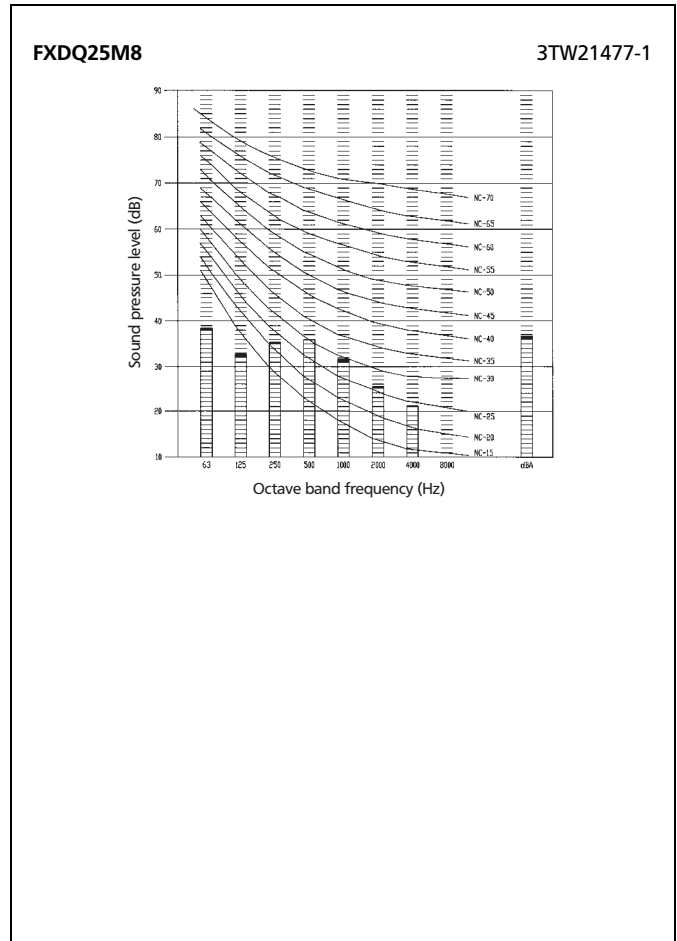
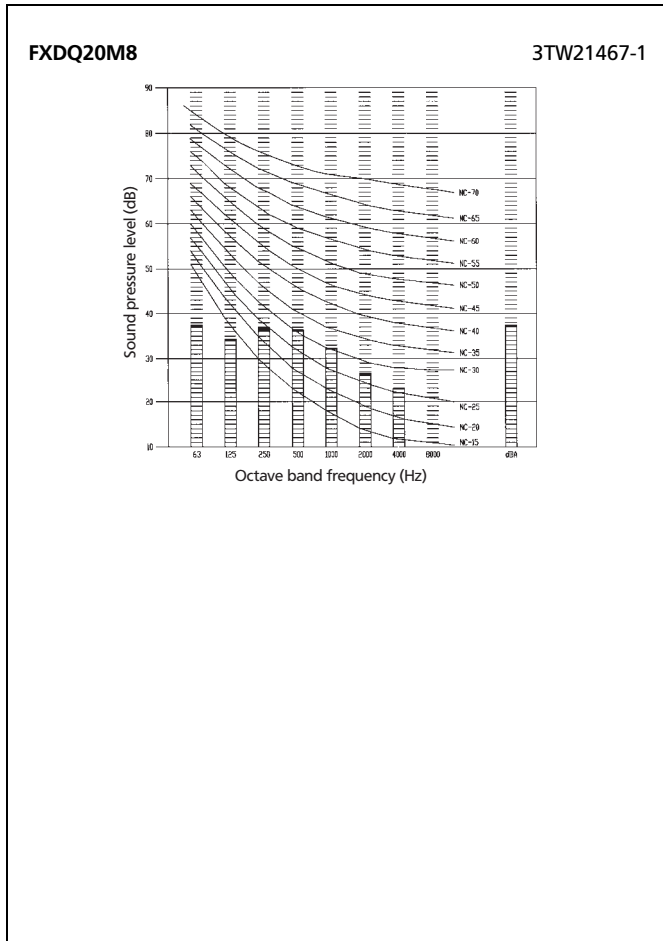
#### NOTES

- 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.

# 10 Sound data

## 10 - 2 Sound pressure spectrum

10



# 2

**VRV III-S**  
**VRV III**  
**VRV II**  
**VRV-WII**

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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.



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.



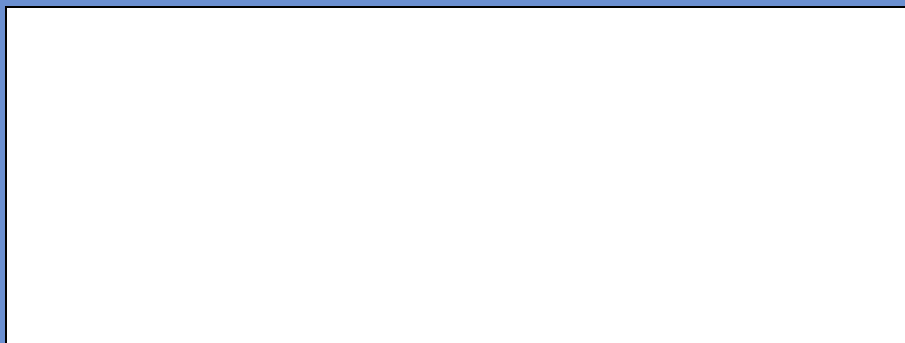
Daikin units comply with the European regulations that guarantee the safety of the product.

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

Daikin equipment is designed for comfort applications. For use in other applications, please contact your local Daikin representative.

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