

Air Conditioning
Technical Data

FXMQ-MB



- > FXMQ200MBVE
- > FXMQ250MBVE

TABLE OF CONTENTS

FXMQ-MB

1	Features	2
2	Specifications	3
	Technical Specifications	3
	Electrical Specifications	4
3	Electrical data	5
4	Safety device settings	6
5	Options	7
6	Capacity tables	8
	Cooling Capacity Tables	8
	Heating Capacity Tables	9
7	Dimensional drawings	10
8	Centre of gravity	11
9	Piping diagrams	12
10	Wiring diagrams	13
	Wiring Diagrams - Single Phase	13
11	Sound data	14
	Sound Pressure Spectrum	14
12	Fan characteristics	15

1 Features

ESP up to 270, ideal for extra large sized spaces

- High external static pressure up to 270Pa facilitates extensive duct and grille network
- Discretely concealed in the wall: only the suction and discharge grilles are visible
- Large capacity unit: up to 31.5 kW heating capacity
- Reduced energy consumption thanks to specially developed DC fan motor

1



Inverter



Home leave operation



Fan only



Auto cooling-heating changeover



Whisper quiet



Fan speed steps



Dry programme



Air filter



Weekly timer



Infrared remote control



Wired remote control



Centralised control



Auto-restart



Self diagnosis



Multi tenant



Drain pump kit

2 Specifications

2-1 Technical Specifications					FXMQ200MB		FXMQ250MB	
Cooling capacity	Sensible capacity	Nom.	kW		16.8		20.9	
	Latent capacity	Nom.	kW		5.6		7.1	
	Total capacity	Nom.	kW		22.4 (1)		28.0 (1)	
Heating capacity	Total capacity	Nom.	kW		25.0 (2)		31.5 (2)	
Power input - 50Hz	Cooling	Nom.	kW		0.895		1.185	
	Heating	Nom.	kW		0.895		1.185	
Dimensions	Unit	Height	mm		470			
		Width	mm		1,380			
		Depth	mm		1,100			
Weight	Unit		kg		132			
Casing	Material				Galvanised steel plate			
Heat exchanger	Rows	Quantity			3			
	Fin pitch		mm		2.0			
	Face area			m²		0.68		
	Stages	Quantity			26			
Fan	Type				Sirocco fan			
	Air flow rate - 50Hz	Cooling	High	m³/min	58		72	
			Mediu m	m³/min	54.0		67.0	
			Low	m³/min	50		62	
	External static pressure - 50Hz	High		Pa		270		
		Nom.		Pa		160		170
Fan motor	Model				2D1 3/4 G2 CM1			
	Output	High		W		1,100		
	Drive				Direct drive			
Sound power level	Cooling	High		dBA		76		
		Nom.		dBA		75		
		Low		dBA		73		
Sound pressure level	Cooling	Medium		dBA		-		
		High		dBA		48		
		Low		dBA		45		
Refrigerant	Type				R-410A			
	GWP				2,087.5			
	Control				Electronic expansion valve			
Piping connections	Liquid	Type			Flare connection			
		OD		mm		9.52		
	Gas	Type			Braze connection			
		OD		mm		19.1		22.2
	Drain				PS1B			
	Heat insulation				Glass fiber			
	Sound absorbing insulation				Glass fiber			
Temperature control					Microprocessor thermostat for cooling and heating			
Safety devices	Item	01			Fuse			
		02			Fan driver overload protector			
Control systems	Infrared remote control				BRC4C65			
	Wired remote control				BRC1E53A / BRC1E53B / BRC1E53C / BRC1D52			
	Simplified wired remote control for hotel applications				BRC2E52C (heat recovery type) / BRC3E52C (heat pump type)			

Standard Accessories : Installation and operation manual;

Standard Accessories : Connection pipes;

Standard Accessories : Sealing pads;

Standard Accessories : Clamps;

Standard Accessories : Screws;

2 Specifications

2-2 Electrical Specifications				FXMQ200MB		FXMQ250MB	
Power supply	Name			VE			
	Phase			1~			
	Frequency		Hz	50			
	Voltage		V	220-240			
Voltage range	Max.		%	10			
	Min.		%	-10			
Current - 50Hz	Minimum circuit amps (MCA)		A	10.3			
	Maximum fuse amps (MFA)		A	16			
	Full load amps (FLA)	Total	A	4.3		5.6	

Notes

(1) Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m (horizontal)

(2) Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m (horizontal)

Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

The external static pressure is changeable: change the connectors inside the electrical box, this pressure means: High static pressure - Standard

The air filter is not a standard accessory, but please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.

Sound pressure levels are measured at 220V.

Sound values are measured in an anechoic room.

Operation sound differs with operation and ambient conditions

Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.

Maximum allowable voltage range variation between phases is 2%.

MCA/MFA: $MCA = 1.25 \times FLA$

$MFA \leq 4 \times FLA$

Next lower standard fuse rating minimum 15A

Select wire size based on the value of MCA

Instead of a fuse, use a circuit breaker

Contains fluorinated greenhouse gases

3 Electrical data

3 - 1 Electrical Data

FXMQ-MB

Units					Power supply		IFM		Input (W)	
Model	Type	Hz	Volts	Voltage range	MCA	MFA	kW	FLA	Cooling	Heating
FXMQ200MB	VE	50	220-240V	Max. 264V	10.3	16	1100	4.3	895	895
FXMQ250MB				Min. 198V	10.3	16	1100	5.6	1185	1185

SYMBOLS

MCA	: Min. Circuit Amps. (A)
MFA	: Max. Fuse Amps. (See note 5)
kW	: Fan Motor Rated Output (kW)
FLA	: Full Load Amps. (A)
IFM	: Indoor Fan Motor.

NOTES

- 1 Voltage range
Units are suitable for use on electrical systems where the voltage supplied to the unit terminals is not below or above the listed range limits.
- 2 Maximum allowable voltage unbalance between phases is 2%.
- 3 MCA/MFA
MCA=1.25xFLA
MFA≤4xFLA
(next lower standard fuse rating, min.15A)
- 4 Select wire size based on the MCA.
- 5 Instead of fuse, use circuit breaker.

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4 Safety device settings

4 - 1 Safety Device Settings

FXMQ-MB

	Safety devices	200	250
FXMQ~MB	PC board fuse	250V 3.15A	250V 3.15A
	PC board fuse (Fan driver)	250V 20A	250V 20A

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5 Options

5 - 1 Options

FXMQ-MB

			Type	FXMQ-MB
Item				
Remote controller	Infrared	H/P	BRC4C65	
		C/O	BRC4C66	
	Wired		BRC1E52	
Simplified remote controller			BRC2E52C	
Remote control for hotel use			BRC3E52C	
Adapter for wiring			KRP1C64	
Wiring adapter for electrical appendices (1)			KRP2A61	
Wiring adapter for electrical appendices (2)			KRP4AA51	
Remote sensor			KRCS01-4B	
Central remote control			DCS302CA61	
Electric box with earth terminal - 3 blocks			KJB311AA	
Unified ON/OFF control			DCS301BA61	
Electric box with earth terminal - 2 blocks			KJB212AA	
Noise filter (for electromagnetic interface use only)			KEK26-1A	
Schedule timer			DST301BA61	
Intelligent touch controller			DCS601CS1	
Intelligent touch manager			DCM601A51	
External control adapter for outdoor unit (must be installed on indoor unit)			DTA104A61	

Note:
Up to 2 installation boxes can be installed for each indoor unit.

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FXMQ-MB

Item			Model	Duct type	
				FXMQ200MB	FXMQ250MB
Drain pump kit			Type	KDU30M250VE	
			Z No.	Z150304	
High efficiency filter	65%		Type	KAFI372L280	
			AS No.	AS3600873	
	90%		Type	KAFI373L280	
			AS No.	AS3600873	
Filter chamber			Type	KDI3705L280	
			AS No.	AS3600874	
Long life replacement filter			Type	KAFI371L280	
			AS No.	AS3600872	

Note:
See the latest for the modification marks

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6 Capacity tables

6 - 1 Cooling Capacity Tables

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FXMQ-MB

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	
		°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
200	22.4	35.0	15.1	13.4	18.0	14.9	21.0	16.3	22.4	16.8	23.6	17.0	24.2	16.1	24.6	15.4
250	28.0	35.0	18.9	16.9	22.5	18.5	26.2	20.4	28.0	20.9	29.5	21.1	30.2	20.2	30.8	19.4

6 Capacity tables

6 - 2 Heating Capacity Tables

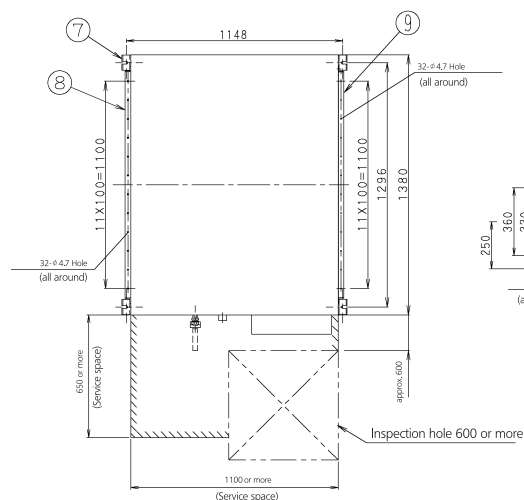
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Unit Size	Nominal capacity	Outdoor air temperature		Indoor air temperature °CDB					
				16.0	18.0	20.0	21.0	22.0	24.0
		°CDB	°CWB	kW	kW	kW	kW	kW	kW
200	25.0	7.0	6.0	26.2	26.2	25.0	24.2	23.4	21.8
250	31.5	7.0	6.0	33.1	33.0	31.5	30.5	29.5	27.5

7 Dimensional drawings

7 - 1 Dimensional Drawings

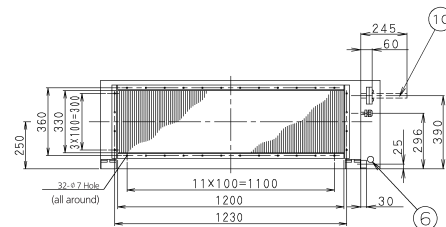
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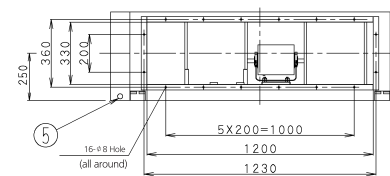
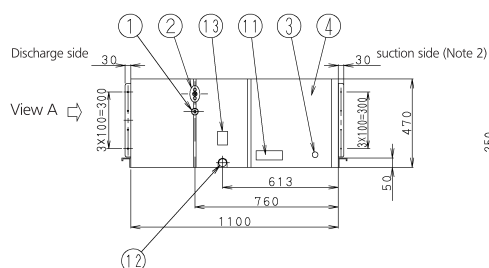
piping size (Field supply)

Indoor unit	Gas side	Liquid side
FXMQ200MB	ø 15.1 Attached piping	ø 9.5
FXMQ250MB	ø 22.2 Attached piping	ø 9.5

Note
1. Location of unit's name plate: Control box surface



View A

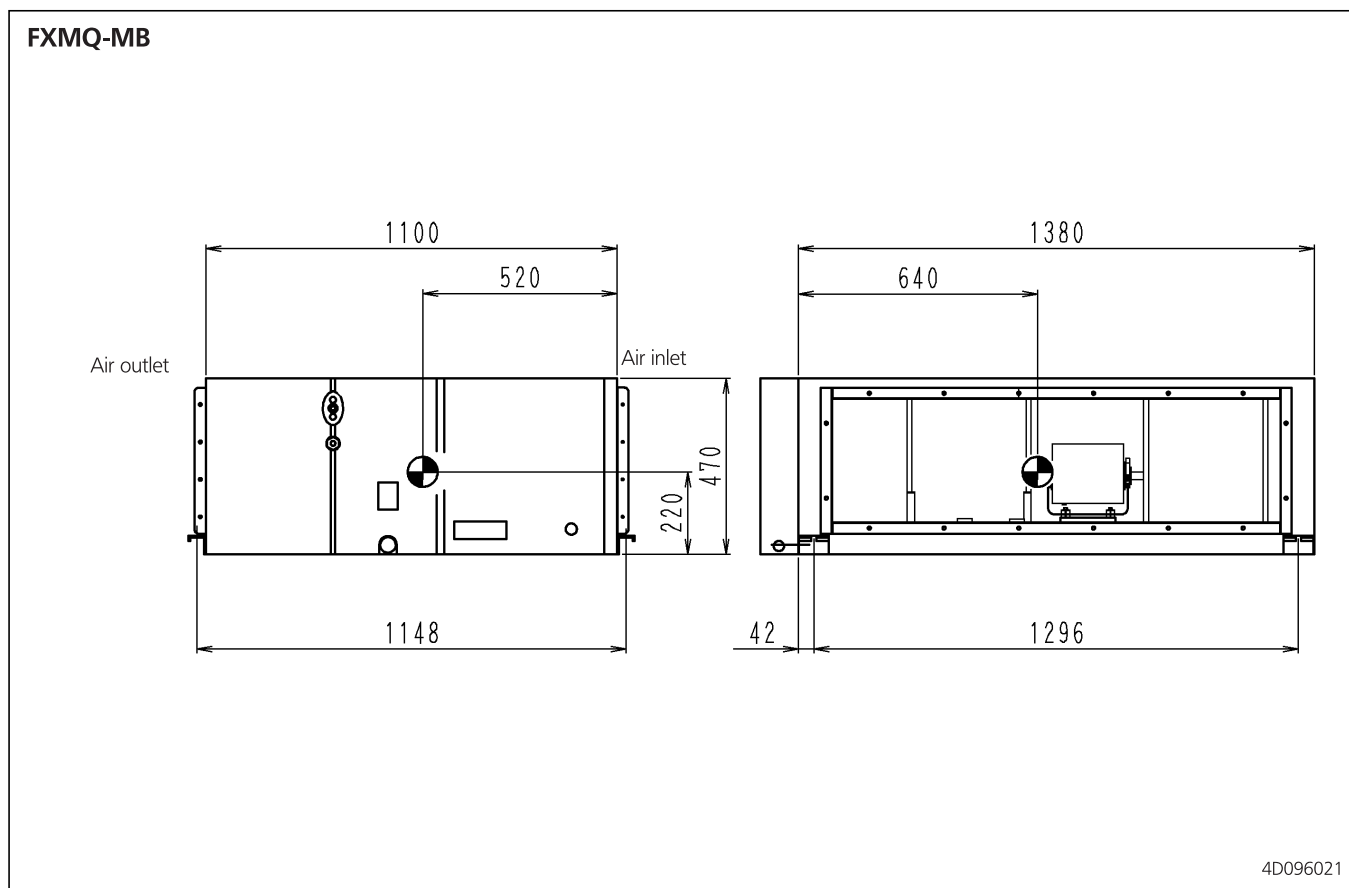


1	Liquid pipe connection	Flare connection
2	Gas pipe connection	Attendant piping connection
3	Ground terminal	MS (Inside switch box)
4	control box	
5	Power supply wiring connection	
6	Transmission wiring connection	
7	Hook	M10
8	Discharge flange	
9	Suction flange	
10	Attached piping	Brazing
11	Name plate	
12	Drain piping connection	PS1/8 Internal thread Major dia. ø 33.349 Minor dia. ø 30.391
13	Water supply port	

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8 Centre of gravity

8 - 1 Centre of Gravity

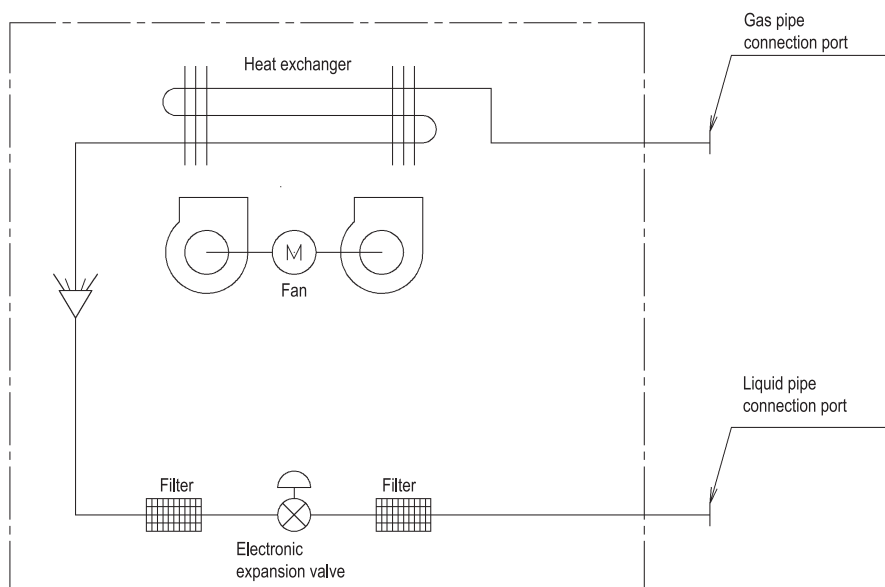


9 Piping diagrams

9 - 1 Piping Diagrams

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FXMQ-MB



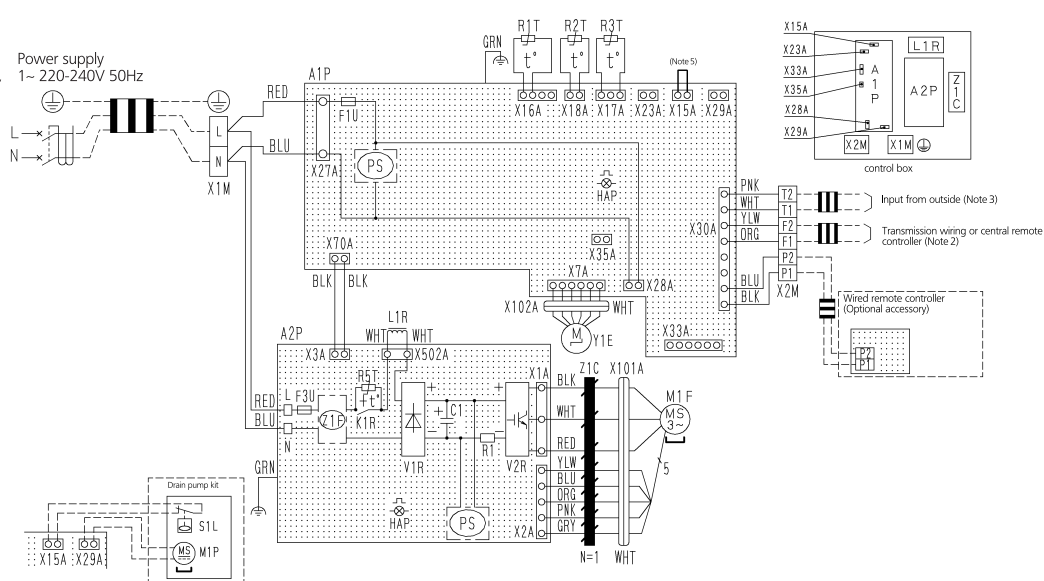
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10 Wiring diagrams

10 - 1 Wiring Diagrams - Single Phase

FXMQ-MB

- Indoor unit
- A1P : Printed circuit board (Main)
 - A2P : Printed circuit board (Fan)
 - C1 : Capacitor
 - F1U : Fuse (T, 3.15A, 250V)
 - F3U : Fuse
 - HAP : Flashing lamp (Service monitor-green) (A1P, A2P)
 - K1R : Magnetic relay
 - L1R : Reactor
 - M1F : Motor (Fan)
 - PS : Switching power supply (A1P, A2P)
 - R1 : Resistor (current limiting)
 - R1T : Thermistor (Air)
 - R2T : Thermistor (Liquid)
 - R3T : Thermistor (gas)
 - R5T : Thermistor (current limiting)
 - V1R : Diode bridge
 - V2R : Power module
 - X1M : Terminal block (Power supply)
 - X2M : Terminal block (Control)
 - X101A : Connector (M1F)
 - X102A : Connector (Y1E)
 - Y1E : Electronic expansion valve
 - Z1C : Ferrite core
 - Z1F : Noise filter
- Connector for optional parts
- X15A : Connector (Float switch)
 - X23A : Connector (Capacity setting adaptor)
 - X28A : Connector (Power supply for wiring)
 - X29A : Connector (Drain pump)
 - X33A : Connector (Wiring)
 - X35A : Connector (Power supply for adaptor)
- Drain pump kit
- M1P : Motor (drain pump)
 - S1L : Float switch



Notes

1. Terminal strip: ; Connector: ; Field wiring: ; Short circuit connector: ; Protective earth: ; Noiseless earth:
2. In case using central remote controller, connect it to the unit in accordance with the attached installation manual.
3. When connecting the input wires from outside, forced OFF or ON/OFF control operation can be selected by the remote controller. In details, refer to the installation manual attached to the unit.
4. Symbols shows as follows: PNK:Pink WHT:White YLW:Yellow ORG:Orange BLU:Blue BLK:Black RED:Red BRN:Brown
5. In case installing the drain pump, remove the short circuit connector of X15A and execute the additional wiring for float switch and drain pump.

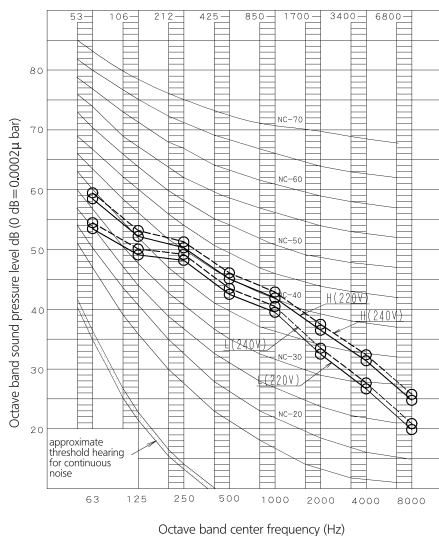
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11 Sound data

11 - 1 Sound Pressure Spectrum

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FXMQ200MB



NOTES

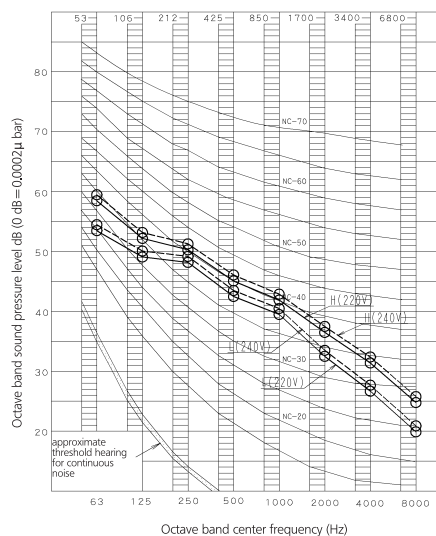
1 Overall (dB)

Scale	220V		240V	
	A	L	H	L
A	48	45	49	46
C	60	56	61	57

- (B.G.N is already rectified)
- Measuring place: Measure in anechoic room
 - Operation noise differs with operation and ambient conditions.
 - Operating conditions:
Power source 220-240V/220V 50/60Hz
 - standard condition (JIS)
○—○ 220V
○---○ 240V
ESP: 132/132Pa (220V 50/60Hz)
 - Location of microphone: JIS B8616

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FXMQ250MB



NOTES

1 Overall (dB)

Scale	220V		240V	
	H	L	H	L
A	48	45	49	46
C	60	56	61	57

- (B.G.N is already rectified)
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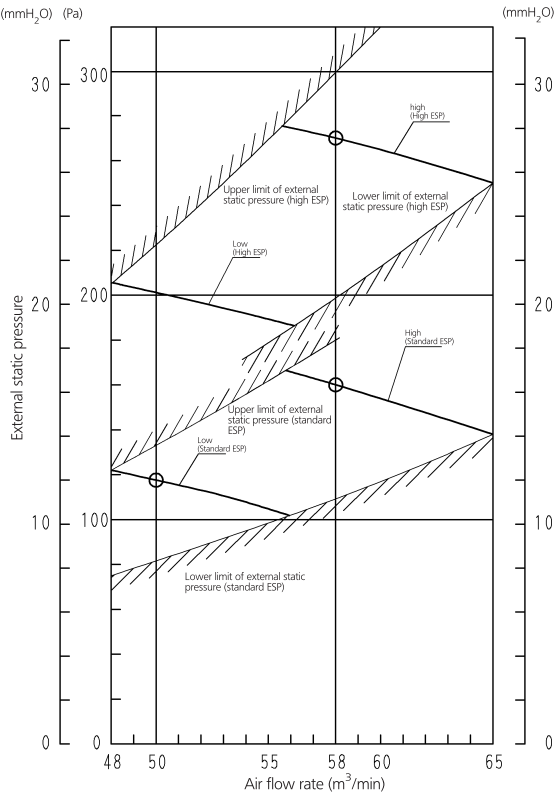
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12 Fan characteristics

12 - 1 Fan Characteristics

FXMQ200MB

50Hz 220-240V

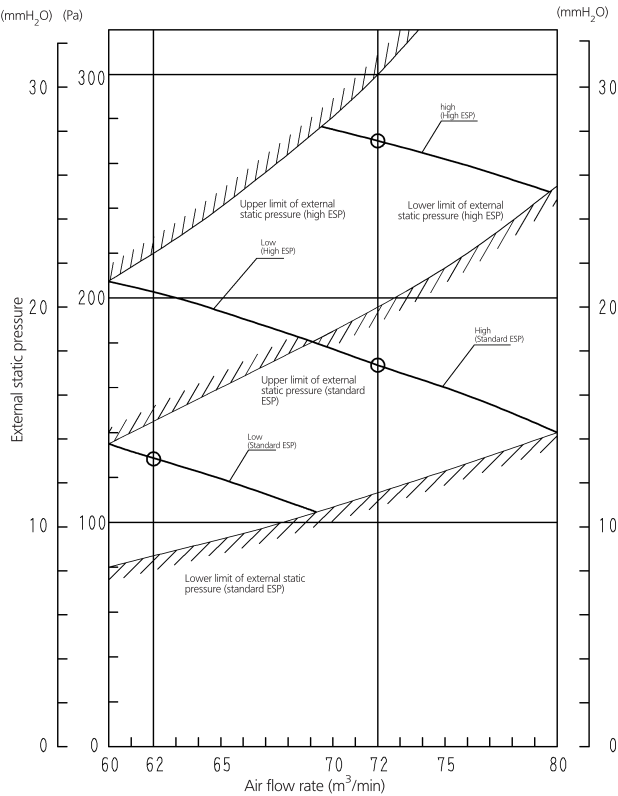


- Notes:
1. Remote controller can be used to switch between 'HIGH' and 'LOW'.
 2. The air flow is set to 'STANDARD' before leaving the factory. It is possible to switch between 'STANDARD ESP' and 'HIGH ESP' by remote controller.

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FXMQ250MB

50Hz 220-240V



- Notes:
1. Remote controller can be used to switch between 'HIGH' and 'LOW'.
 2. The air flow is set to 'STANDARD' before leaving the factory. It is possible to switch between 'STANDARD ESP' and 'HIGH ESP' by remote controller.

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