



Air Conditioning Technical Data

Ceiling suspended unit



EEEN14-100

FHQ-C

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FHQ-C

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1 Features

- Ideal solution for commercial spaces with narrow or no false ceilings
- The unit can easily be mounted in corners and narrow spaces, as it only needs 30mm lateral service space
- Low energy consumption thanks to DC fan motor and drain pump
- Stylish unit blends easily with any interior, as the flaps close entirely when not in operation
- Can be installed in both new and existing buildings
- Wider air discharge thanks to Coanda effect: up to 100°
- Air flow distribution for ceiling heights up to 3.8m without capacity loss
- No optional adapter needed for DIII-connection, link your unit into the wider building management system.



Inverter



Home leave operation



Fan only



Auto cooling-heating changeover



Vertical auto swing



Fan speed steps



Dry programme



Air filter



Weekly timer



Infrared remote control



Wired remote control



Centralised control



Auto-restart



Self diagnosis



Drain pump kit



Twin/triple/double twin application



Multi model application



Super Multi Plus

2 Specifications

2-1 Technical Specifications					FHQ35C	FHQ50C	FHQ60C	FHQ71C	FHQ100C	FHQ125C	FHQ140C			
Power input - 50Hz	Cooling		Nom.		kW		0.090		0.091		0.110	0.172	0.217	0.251
	Heating		Nom.		kW		0.072	0.090				0.172	0.217	0.251
Casing	Colour				Fresh White									
	Material				Resin, sheet metal									
Dimensions	Unit		Height/Width/Depth		mm		235/960/690		235/1,270/690		235/1,590/690			
	Packed unit		Height/Width/Depth		mm		340/1,116/858		349/1,426/878		349/1,746/878			
Weight	Unit				kg		24	25	31	32	38			
	Packed unit				kg		38	39	52	54	61			
Packing	Material				-		Carton / Plywood							
	Weight				kg		8.5		13.9		15.0			
Heat exchanger	Length				mm		722		1,032		1,352			
	Rows		Quantity			2	3	2	3					
	Fin pitch				mm		1.5							
	Face area				m²		0.2130		0.3030		0.3980			
	Stages		Quantity			14								
	Empty tubeplate hole		Quantity			0								
	Tube type				ø7 Hi-XSL									
	Tube material				Copper									
	Tube diameter				mm		7.0							
	Fin		Type			ML fin (Multi louver)								
			Treatment			Anti Corrosion Hydrophilic								
Fan	Type				Sirocco fan									
	Quantity				2					4				
	Air flow rate	Cooling	High	m³/min	14	15	19.5	20.5	28	31	34			
				cfm	494	530	689	724	989	1,095	1,201			
			Nom.	m³/min	11.5	12	15	17	24	27	29			
				cfm	406	424	530	600	848	953	1,024			
			Low	m³/min	10		11.5	14	20	23	24			
				cfm	353		406	494	706	812	848			
		Heating	High	m³/min	14	15	19.5	20.5	28	31	34			
				cfm	494	530	689	724	989	1,095	1,201			
			Nom.	m³/min	11.5	12	15	17	24	27	29			
				cfm	406	424	530	600	848	953	1,024			
			Low	m³/min	10		11.5	14	20	23	24			
				cfm	353		406	494	706	812	848			
Fan motor	Quantity				1									
	Model				KFD-280-87-8A		KFD-280-117-8A		EQDW01EDK					
	Index of Protection				20									
	Insulation grade				Class "E"									
	Poles				8									
	Drive				Direct drive									
	Speed	Steps			3									
		Cooling	High/ Mediu m/Low	rpm	864/787/710	960/856/711	875/792/709	936/825/714	1,090/935/ 780	1,170/1,017/ 864	1,254/1,076/ 898			
				rpm	864/787/710	960/856/711	875/792/709	936/825/714	1,090/935/ 780	1,170/1,017/ 864	1,254/1,076/ 898			
	Output		High	W	60		91		150					
	Phase x Voltage				V		DC280V			DC192V-380V				
	Full load amps (FLA)	Cooling			A	0.6			0.8	1.2	1.6	1.8		
Heating			A	0.6			0.8	1.2	1.6	1.8				
Sound power level	Cooling		/	dBA	53	54		55	60	62	64			
	Heating		/	dBA	53	54		55	60	62	64			
Sound pressure level	Cooling		High/Nom./Low	dBA	36/34/31	37/35/32	37/35/33	38/36/34	42/38/34	44/41/37	46/42/38			
	Heating		Super high/High/ Nom./Low	dBA	-36/34/31	-37/35/32	-37/35/33	-38/36/34	-42/38/34	-44/41/37	-46/42/38			

2 Specifications

2

2-1 Technical Specifications				FHQ35C	FHQ50C	FHQ60C	FHQ71C	FHQ100C	FHQ125C	FHQ140C
Refrigerant	Type			R-410A						
Piping connections	Sound absorbing insulation			Not needed						
	Liquid	Type/OD	mm	C1220T (Flare connection)/6.35			C1220T (Flare connection)/9.52			
	Gas	Type/OD	mm	C1220T (Flare connection)/9.5	C1220T (Flare connection)/12.7		C1220T (Flare connection)/15.9			
	Drain			VP20						
	Heat insulation			Needed						
Air direction control				Up and downwards						
Air filter	Type			Resin net with mold resistance						
	Quantity		pc	2						
Safety devices	Item	01		Fuse (F, 5A, 250V)			-			

Standard Accessories : Clamps;

Standard Accessories : Joint insulating material;

Standard Accessories : Clamp metal;

Standard Accessories : Installation pattern;

Standard Accessories : Screw for wiring fixture;

Standard Accessories : Installation manual;

Standard Accessories : Declaration of conformity;

Standard Accessories : Washer for hanger bracket;

Standard Accessories : Wiring fixture;

Standard Accessories : Drain hose;

Standard Accessories : Resin bushing;

Standard Accessories : Operation manual;

Standard Accessories : Sealing material;

2-2 Electrical Specifications				FHQ35C	FHQ50C	FHQ60C	FHQ71C	FHQ100C	FHQ125C	FHQ140C
Power supply	Name	VE								
	Phase	1~								
	Frequency	Hz	50/60							
	Voltage	V	220-240/220							
Current - 50Hz	Maximum running current	A	0.6			0.8	1.3	1.5	1.8	

3 Safety device settings

3 - 1 Safety Device Settings

FHQ-C

Safety devices		35	50	60	71	100	125	140
FHQ~C	Fuse	250V 5A	250V 5A	250V 5A	---	---	---	---
	Fan motor thermal fuse	°C	---	---	---	---	---	---
	Fan motor thermal protector	°C	---	---	---	---	---	---

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4 Options

4 - 1 Options

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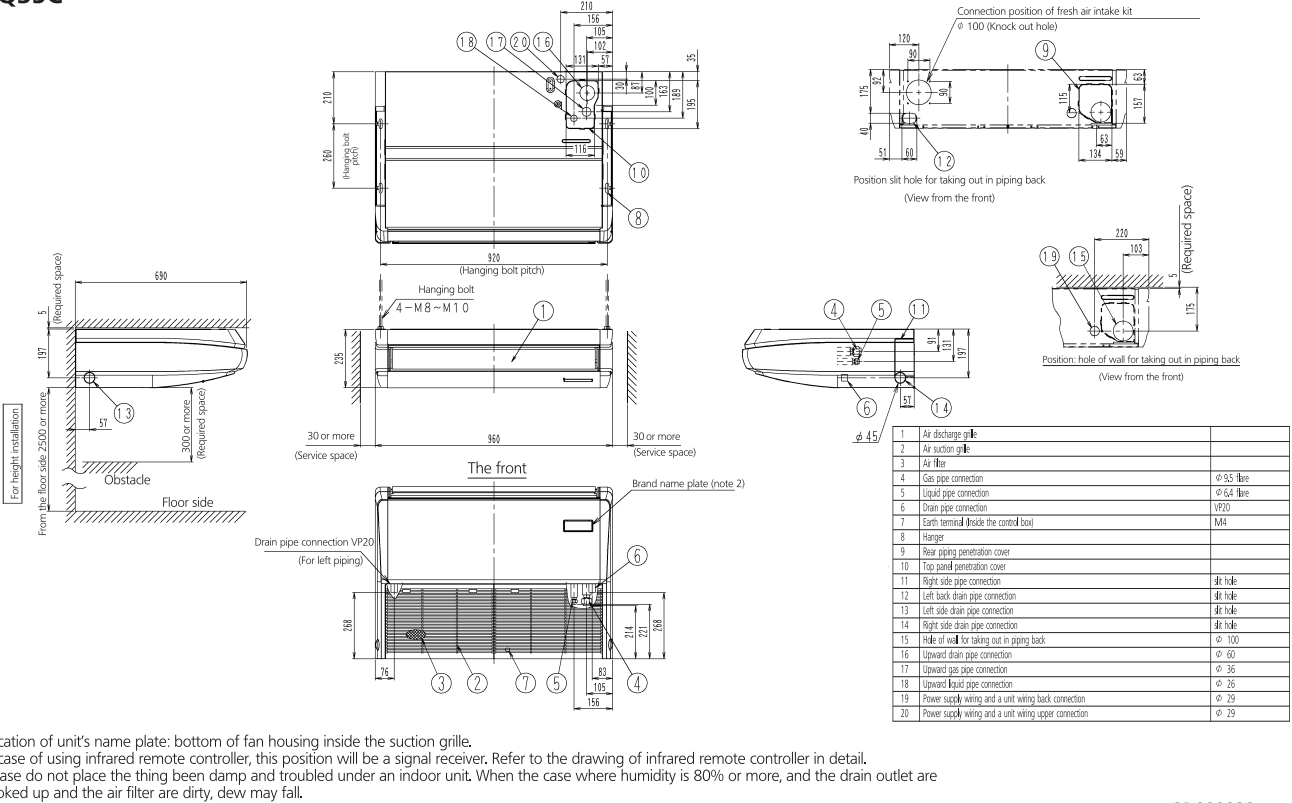
Name of option	Remark		FHQ-C						
			35	50	60	71	100	125	140
Long-life filter			KAFP501A56		KAFP501A80		KAFP501A160		
Fresh air intake kit			KDDQ50A140						
L-type piping kit (for upward direction)			KHFP5N63			KHFP5N160			
Remote controller	Wired type		BRC1D528, BRC1E51A7, BRC1E52A7, BRC1E52B7						
	Infrared type	Heat pump use	BRC7GA53						
		Cooling only use	BRC7GA56						
Central remote controller			DCS302CA51						
Unified ON/OFF controller			DCS301BA51						
Schedule timer			DST301BA51						
Wiring adapter for electrical appendices			KRP1BA54						
Wiring adapter for electrical appendices			KRP4AA52						
Wiring adapter for electrical appendices			—						
External adaptor for outdoor unit (installation on indoor unit)			—						
Installation box for adapter PCB			KRP1D93A						
Remote sensor			KRCS01-4B						
Remote On/Off (Connector for forced on, forced off)			EKRORO4						
Noise filter (for electromagnetic use only)			—						
Electrical box with earth terminal (3 blocks)			KJB311AA						
Electrical box with earth terminal (2 blocks)			KJB212AA						

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5 Dimensional drawings

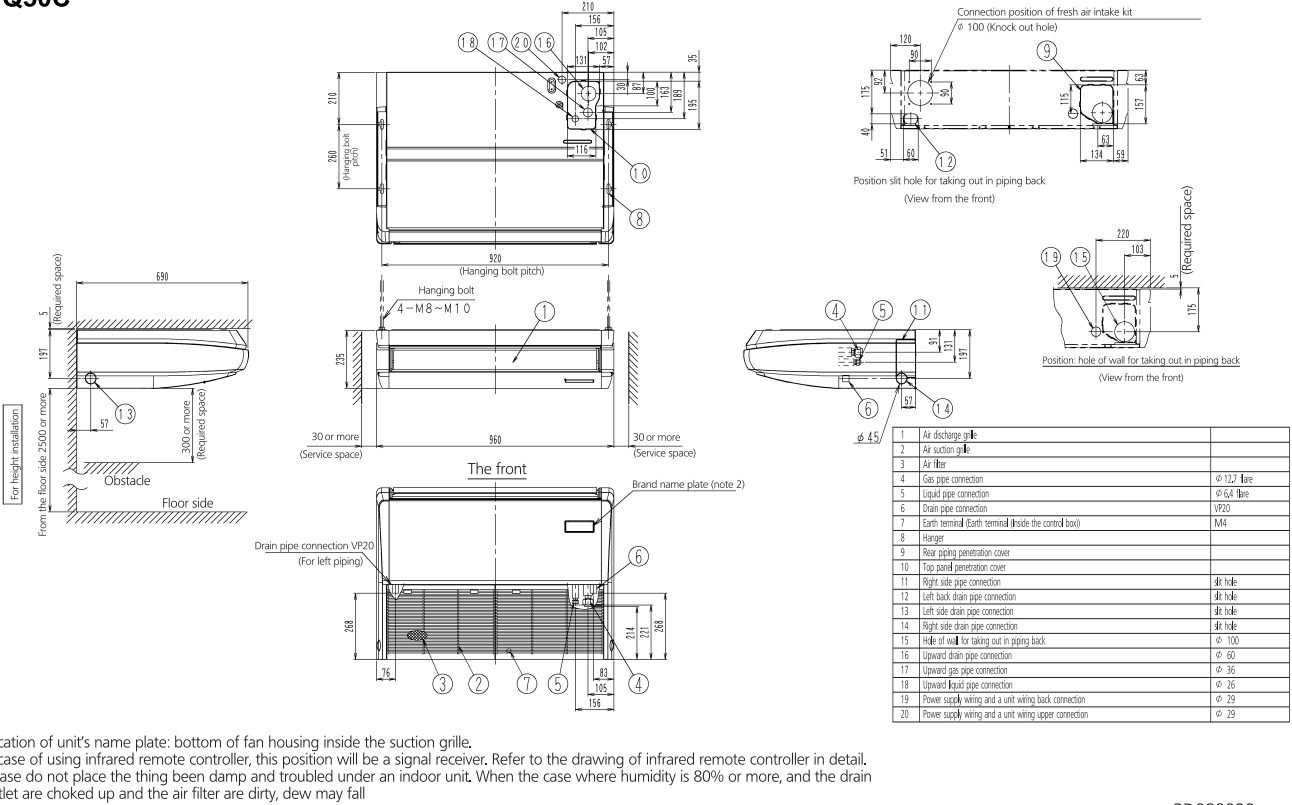
5 - 1 Dimensional Drawings

FHQ35C



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FHQ50C

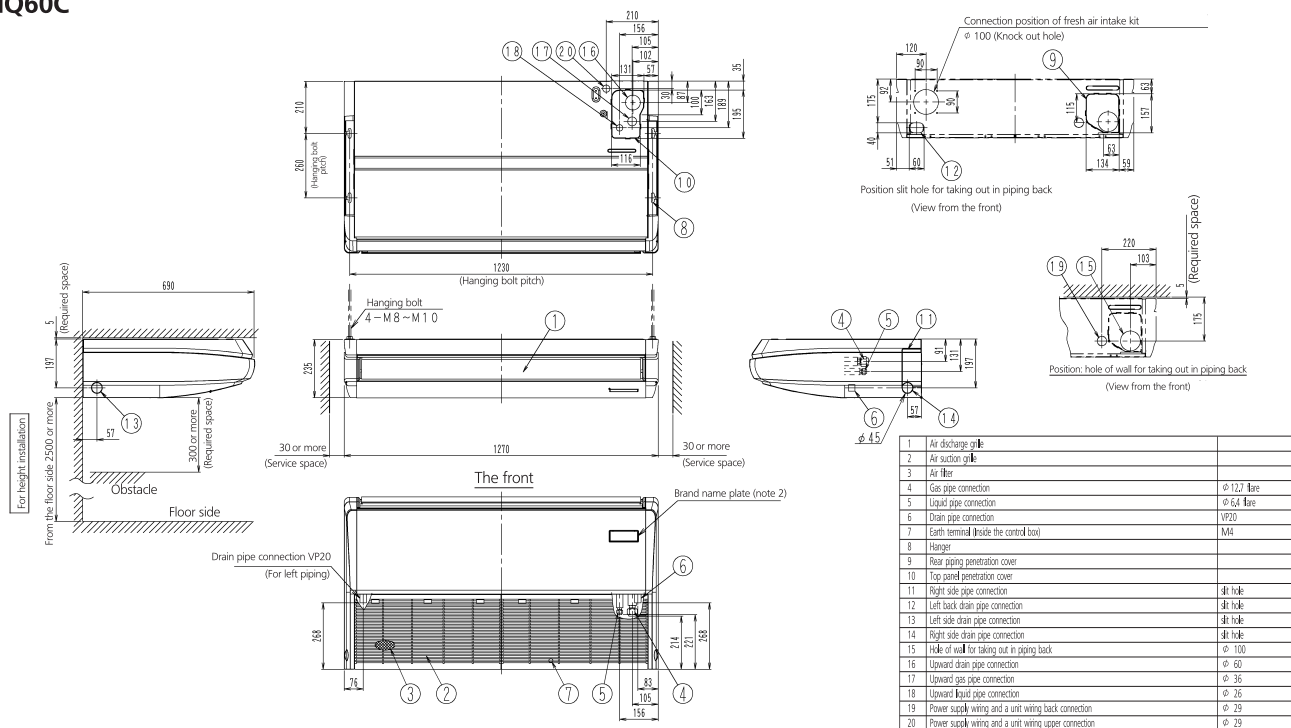


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5 Dimensional drawings

5 - 1 Dimensional Drawings

FHQ60C

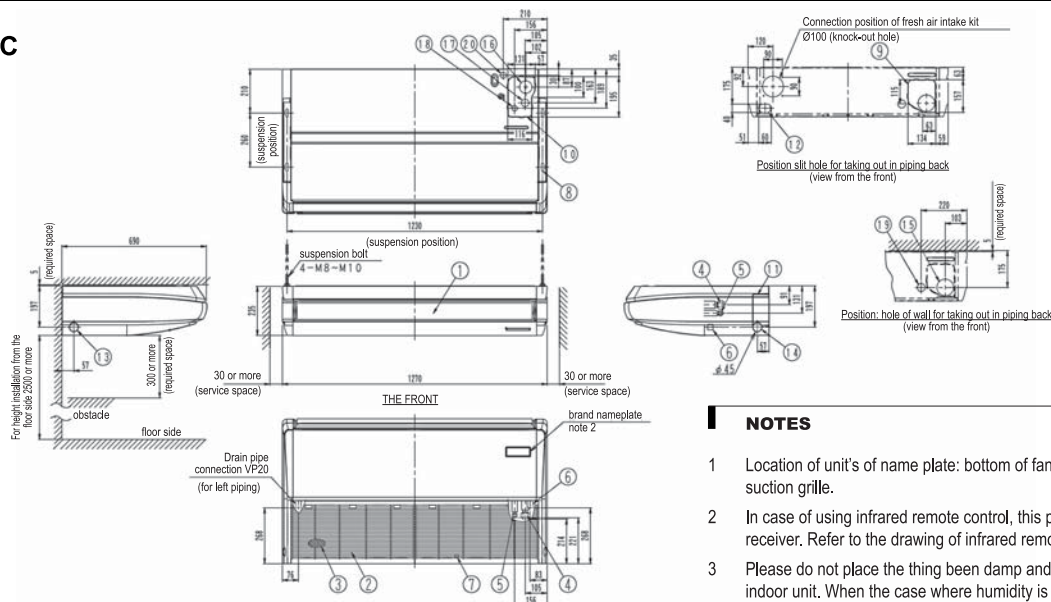


Note:

1. Location of unit's name plate: bottom of fan housing inside the suction grille.
2. In case of using infrared remote controller, this position will be a signal receiver. Refer to the drawing of infrared remote controller in detail.
3. Please do not place the thing been damp and troubled under an indoor unit. When the case where humidity is 80% or more, and the drain outlet are choked up and the air filter are dirty, dew may fall.

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FHQ71C



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NOTES

1. Location of unit's of name plate: bottom of fan housing inside the suction grille.
2. In case of using infrared remote control, this position will be a signal receiver. Refer to the drawing of infrared remote control in detail.
3. Please do not place the thing been damp and troubled under an indoor unit. When the case where humidity is 80% or more, the drain outlet are choked up and the air filter are dirty, dew may fall.

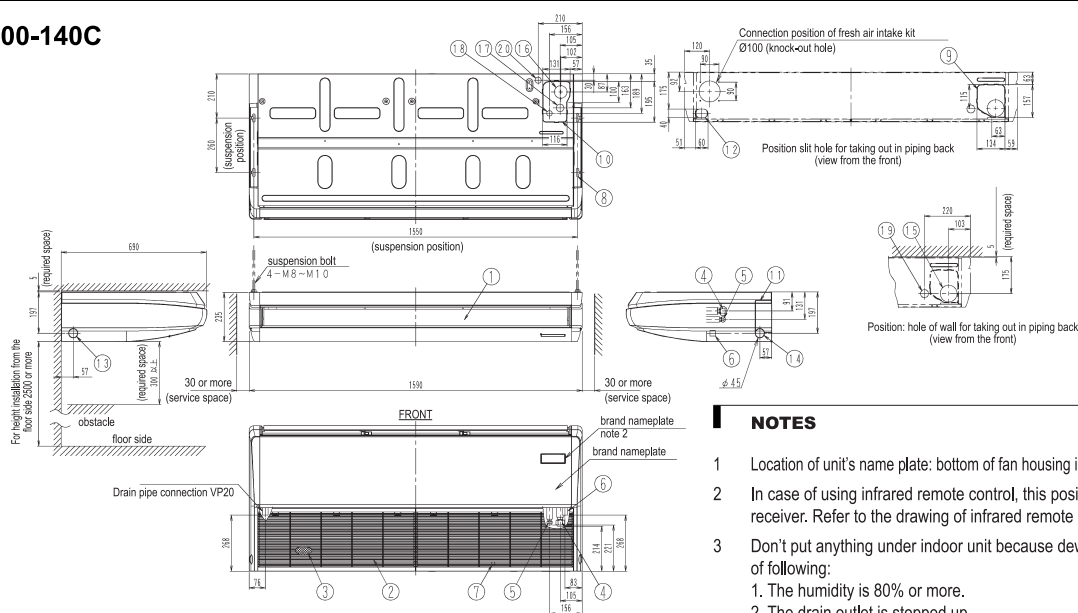
Nr	Name	Description
1	Air discharge grille	
2	Air suction grille	
3	Air filter	
4	Gas pipe connection	Ø15.9 flare
5	Liquid pipe connection	Ø9.5 flare
6	Drain pipe connection	VP20
7	Earth terminal (inside electric components box)	M4
8	Hanger bracket	
9	Backward piping and wiring connection opening lid	
10	Upward piping and wiring connection opening lid	

11	Right side pipe connection	slit hole
12	Left back drain pipe connection	slit hole
13	Left side drain pipe connection	slit hole
14	Right side drain pipe connection	slit hole
15	Hole of wall for taking out in piping back	Ø100
16	Upward drain pipe connection	Ø60
17	Upward gas pipe connection	Ø36
18	Upward liquid pipe connection	Ø26
19	Power source wiring and a unit wiring back connection	Ø29
20	Power source wiring and a unit wiring upper connection	Ø29

5 Dimensional drawings

5 - 1 Dimensional Drawings

FHQ100-140C



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NOTES

- 1 Location of unit's name plate: bottom of fan housing inside the suction grille.
- 2 In case of using infrared remote control, this position will be a signal receiver. Refer to the drawing of infrared remote control in detail.
- 3 Don't put anything under indoor unit because dew may fall by reason of following:
 1. The humidity is 80% or more.
 2. The drain outlet is stopped up.
 3. The air filter is dirty.

Nr	Name	Description
1	Air discharge grille	
2	Air suction grille	
3	Air filter	
4	Gas pipe connection	Ø15.9 flare
5	Liquid pipe connection	Ø9.5 flare
6	Drain pipe connection	VP20
7	Earth terminal (inside electric components box)	M4
8	Hanger bracket	
9	Backward piping and wiring connection opening lid	
10	Upward piping and wiring connection opening lid	

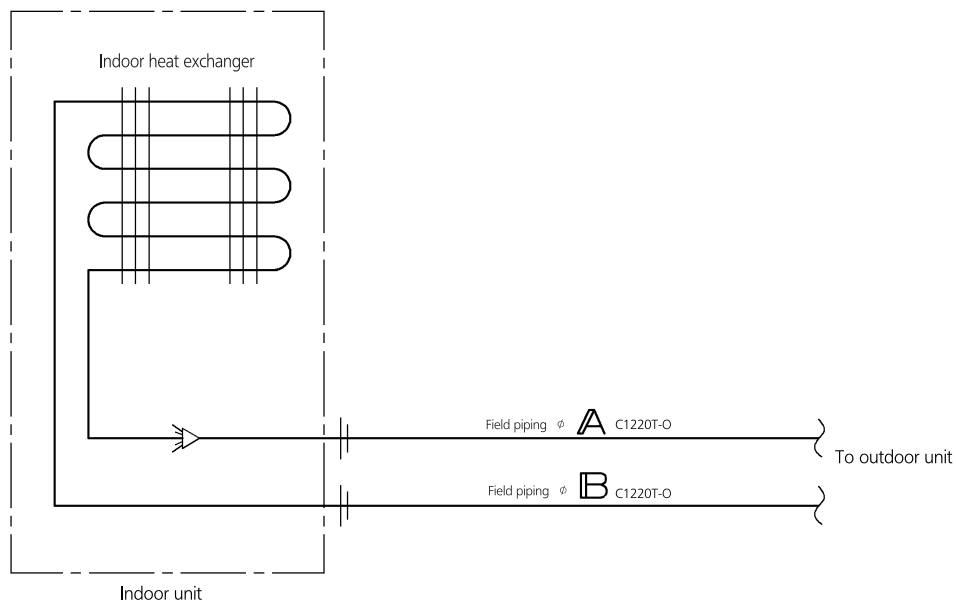
11	Right side pipe connection	slit hole
12	Left back drain pipe connection	slit hole
13	Left side drain pipe connection	slit hole
14	Right side drain pipe connection	slit hole
15	Hole of wall for taking out in piping back	Ø100
16	Upward drain pipe connection	Ø60
17	Upward gas pipe connection	Ø36
18	Upward liquid pipe connection	Ø26
19	Power source wiring and a unit wiring back connection	Ø29
20	Power source wiring and a unit wiring upper connection	Ø29

6 Piping diagrams

6 - 1 Piping Diagrams

6

FHQ-C



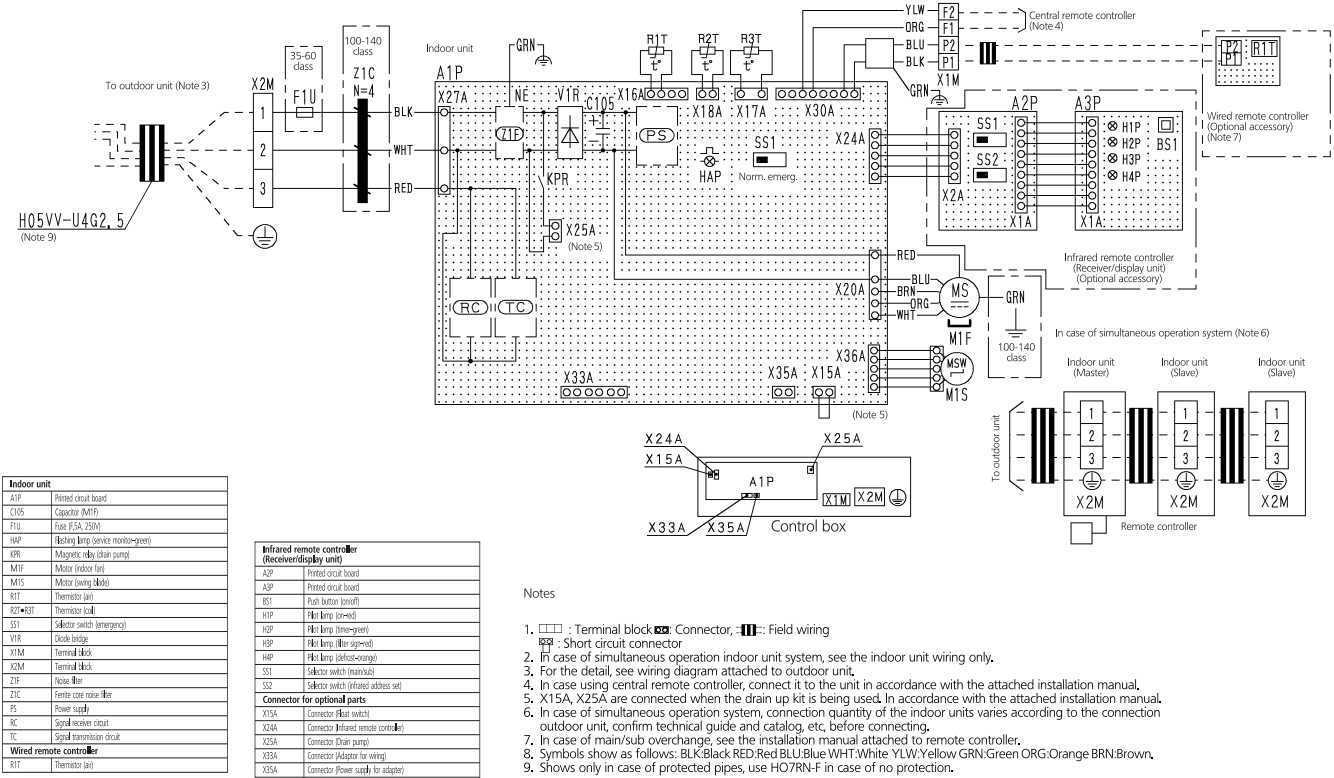
Model	A	B
FHQ35C	6.4	9.5
FHQ50, 60C	6.4	12.7
FHQ71, 100, 125C	9.5	15.9

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7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

FHQ-C



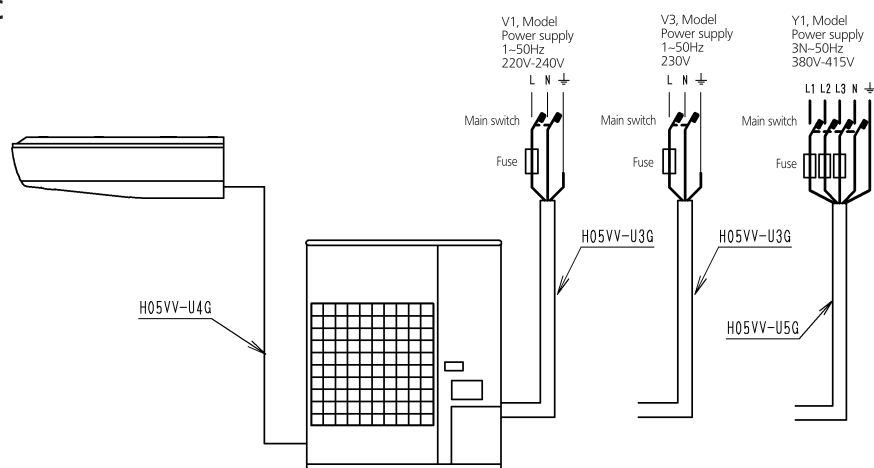
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8 External connection diagrams

8 - 1 External Connection Diagrams

8

FHQ-C



NOTES

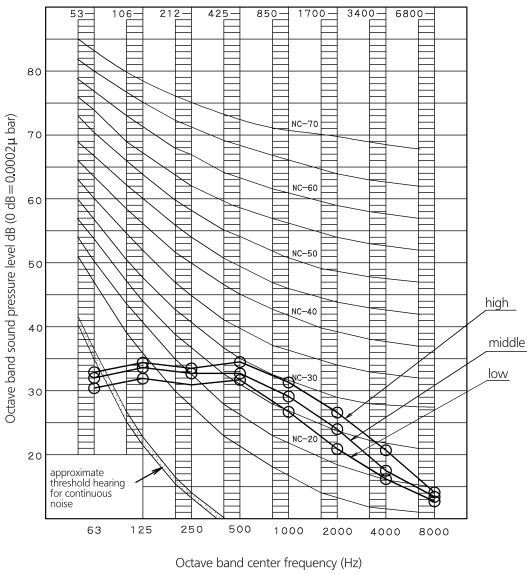
- 1 Line voltage wiring
 Control circuit wiring
- 2 All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
- 3 Use copper conductors only.
- 4 As for details, see wiring diagram.
- 5 Install fuse and main switch for safety.
- 6 All field wiring and components must be provided by a licensed electrician.
- 7 The unit shall be grounded in compliance with the applicable local and national codes.
- 8 Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
- 9 Never share a common power supply with other equipment.

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9 Sound data

9 - 1 Sound Pressure Spectrum

FHQ35C



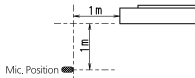
NOTES

- Overall (dB)

Scale	high	middle	low
A	36.0	34.0	31.0
C	42.0	40.0	37.0

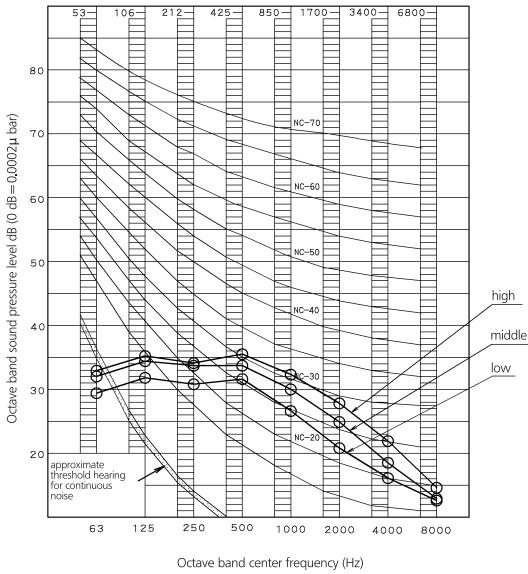
(dBA is already rectified)

Power level (dB)	high	middle	low
	53.0	51.0	48.0
- Measuring place: Anechoic chamber
- Operation noise differs with operation and ambient conditions.
- Operating conditions: Power source: 220-240V 50Hz
- Cooling: Return air temperature: 27°CDB, 19°CWB
Outdoor temperature: 35°CDB, 24°CWB
- Heating: Return air temperature: 20°CDB, 15°CWB
Outdoor temperature: 7°CDB, 6°CWB
- Location of microphone



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FHQ50C



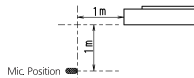
NOTES

- Overall (dB)

Scale	high	middle	low
A	37.0	35.0	32.0
C	43.0	41.0	38.0

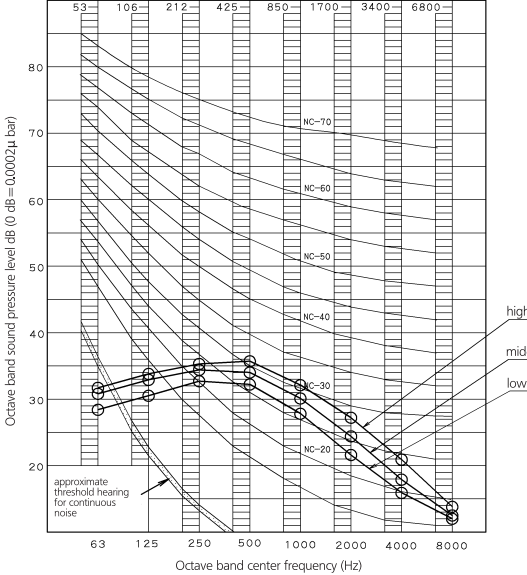
(dBA is already rectified)

Power level (dB)	high	middle	low
	54.0	52.0	49.0
- Measuring place: Anechoic chamber
- Operation noise differs with operation and ambient conditions.
- Operating conditions: Power source: 220-240V 50Hz
- Cooling: Return air temperature: 27°CDB, 19°CWB
Outdoor temperature: 35°CDB, 24°CWB
- Heating: Return air temperature: 20°CDB, 15°CWB
Outdoor temperature: 7°CDB, 6°CWB
- Location of microphone



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FHQ60C



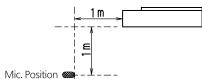
NOTES

- Overall (dB)

Scale	high	middle	low
A	37.0	35.0	33.0
C	43.0	41.0	39.0

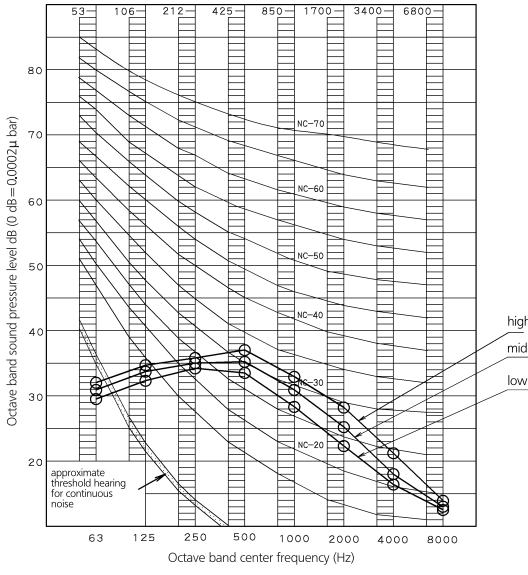
(dBA is already rectified)

Power level (dB)	high	middle	low
	54.0	52.0	50.0
- Measuring place: Anechoic chamber
- Operation noise differs with operation and ambient conditions.
- Operating conditions: Power source: 220-240V 50Hz
- Cooling: Return air temperature: 27°CDB, 19°CWB
Outdoor temperature: 35°CDB, 24°CWB
- Heating: Return air temperature: 20°CDB, 15°CWB
Outdoor temperature: 7°CDB, 6°CWB
- Location of microphone



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FHQ71C

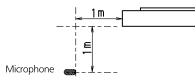


NOTES

- Overall (dB)

Scale	high	middle	low
A	38	36	34
C	44	42	40

(dBA is already rectified)
- Measuring place: Anechoic chamber
- Operation noise differs with operation and ambient conditions.
- Operating conditions: Power source: 220-240V 50Hz/220V 60Hz
- Cooling: Return air temperature: 27°CDB, 19°CWB
Outdoor temperature: 35°CDB, 24°CWB
- Heating: Return air temperature: 20°CDB, 15°CWB
Outdoor temperature: 7°CDB, 6°CWB
- Location of microphone



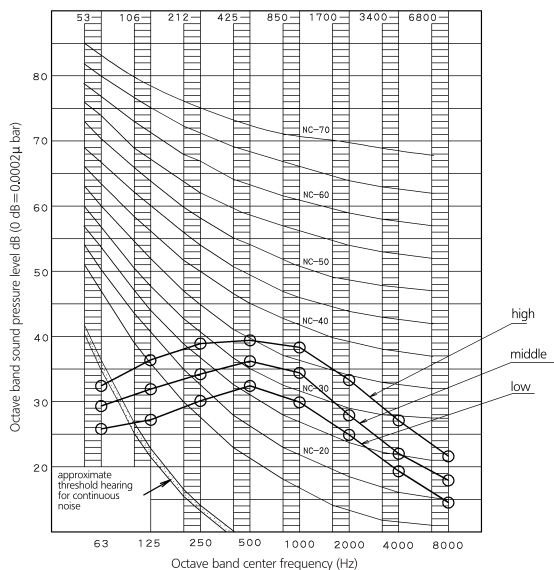
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9 Sound data

9 - 1 Sound Pressure Spectrum

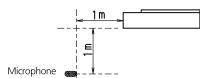
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FHQ100C



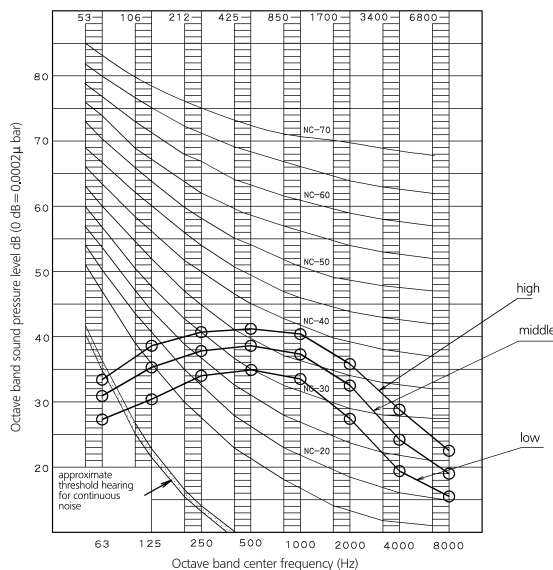
NOTES

- Overall (dB)
Scale: high, middle, low
A: 42, 38, 34
C: 45, 41, 37
(B/C is already rectified)
- Measuring place: Anechoic chamber
- Operation noise differs with operation and ambient conditions.
- Operating conditions: Power source: 220~240V/50Hz/220V/60Hz
- Cooling: Return air temperature: 27°CDB, 19°CWB
Outdoor temperature: 35°CDB, 24°CWB
- Heating: Return air temperature: 20°CDB, 15°CWB
Outdoor temperature: 7°CDB, 6°CWB
- Location of microphone



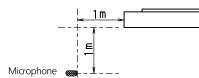
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FHQ125C



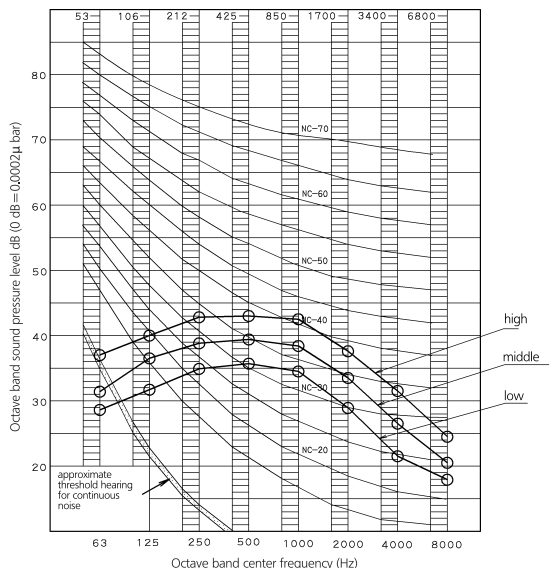
NOTES

- Overall (dB)
Scale: high, middle, low
A: 44, 41, 37
C: 47, 44, 40
(B/C is already rectified)
- Measuring place: Anechoic chamber
- Operation noise differs with operation and ambient conditions.
- Operating conditions: Power source: 220~240V/50Hz/220V/60Hz
- Cooling: Return air temperature: 27°CDB, 19°CWB
Outdoor temperature: 35°CDB, 24°CWB
- Heating: Return air temperature: 20°CDB, 15°CWB
Outdoor temperature: 7°CDB, 6°CWB
- Location of microphone



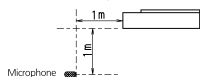
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FHQ140C



NOTES

- Overall (dB)
Scale: high, middle, low
A: 46, 42, 38
C: 49, 45, 41
(B/C is already rectified)
- Measuring place: Anechoic chamber
- Operation noise differs with operation and ambient conditions.
- Operating conditions: Power source: 220~240V/50Hz/220V/60Hz
- Cooling: Return air temperature: 27°CDB, 19°CWB
Outdoor temperature: 35°CDB, 24°CWB
- Heating: Return air temperature: 20°CDB, 15°CWB
Outdoor temperature: 7°CDB, 6°CWB
- Location of microphone



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