



Air Conditioning Technical Data

Concealed ceiling unit with medium ESP



EEDEN15-100

FBQ-D

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FBQ-D

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1 Features

Optimum comfort guaranteed no matter the length of ductwork or type of grilles

- Top efficiency in the market! Energy label up to A++
- Up to 150Pa external static pressure (ESP) to cope with most of the duct and grille setups
- Whisper quiet operation: down to 25dBA sound pressure level
- Narrow ceilings voids are no longer a challenge, these units can swiftly be integrated as they only are 245mm in height.
- Unique automatic air flow adjustment function selects the most appropriate fan curve to achieve the best comfort. With these concealed ceiling units, over 10 fan curves can be chosen to select the most appropriate fan curve for your application
- Flexible installation: - bottom and rear suction allow installation both in low and shallow ceiling voids - choice between free use into a false ceiling or connection to optional suction grilles
- Discretely concealed in the ceiling: only the suction and discharge grilles are visible
- No optional adapter needed for DIII-connection, link your unit into the wider building management system.
- Fresh air intake integrated in the same system thus reducing installation cost as no additional ventilation is required
- Standard built-in drain pump increases flexibility and installation speed

1



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



Drain pump kit



Twin/triple/double twin application



Multi model application



VRV for residential application

2 Specifications

2-1 Technical Specifications				FBQ35D	FBQ50D	FBQ60D	FBQ71D	FBQ100D	FBQ125D	FBQ140D		
Power input	Cooling	Nom.	kW	3.4	5.0	5.7	6.8	9.5	12.0	13.4		
	Heating	Nom.	kW	4.0	5.5	7.0	7.5	10.8	13.5	15.5		
Casing	Colour	Not painted (galvanised)										
	Material	Galvanised steel plate										
Dimensions	Unit	Height/Width/Depth	mm	245/700/800		245/1,000/800		245/1,400/800				
	Packed unit	Height/Width/Depth	mm	890/900/295		890/1,200/295		890/1,600/295				
Weight	Unit			kg	28		35		46			
	Packed unit			kg	30.5		38		49			
Packing	Weight			kg	2.5		3					
Heat exchanger	Fin	Type	Cross fin coil (Multi slit fins with hydrophilic treatment and Ø5HI-XA tubes)									
Air filter	Type	Resin net with mold resistance										
Fan	Type	Sirocco fan										
	Quantity			1		2		3				
	Air flow rate	Cooling	High	m³/min	15		18		29		34	
			Nom.	m³/min	12.5		15		26		29	
			Low	m³/min	10.5		12.5		23		23.5	
		Heating	High	m³/min	15		18		29		34	
			Nom.	m³/min	12.5		15		26		29	
			Low	m³/min	10.5		12.5		23		23.5	
External static pressure	High			Pa	150							
	Nom.			Pa	30		40		50			
Fan motor	Quantity	1										
	Model	Brushless DC motor										
	Poles	10										
	Speed	Steps	3									
	Output	Rated	W	130		230		300				
Sound power level	Cooling			dBA	60		56		58, 62			
	Heating			dBA	-							
Sound pressure level	Cooling	High/Nom./Low	dBA	35/32/29		30/28/25		34/32/30		37/35/32		
	Heating	High/Nom./Low	dBA	37/34/29		31/28/25		36/33/30		38/35/32		
Control systems	Infrared remote control	BRC4C65										
	Wired remote control	BRC1E52A/B / BRC1D528										
Refrigerant	Type	R-410A										
	GWP	2,087.5										
Piping connections	Sound absorbing insulation	Butyl Rubber										
	Liquid	Type/OD	mm	Flare connection/6.35			Flare connection/9.52					
	Gas	Type/OD	mm	Flare connection/9.52	Flare connection/12.7			Flare connection/15.9				
	Drain	VP20 (I.D. 20/O.D. 26)										
	Heat insulation	Foamed polystyrene/polyethylene										
Drain-up height			mm	625								

Standard Accessories : Operation manual; Quantity : 1;

Standard Accessories : Installation manual; Quantity : 1;

Standard Accessories : Drain hose; Quantity : 1;

Standard Accessories : Metal clamp for drain hose; Quantity : 1;

Standard Accessories : Washer for hanger bracket; Quantity : 8;

Standard Accessories : Screws; Quantity : 40;

Standard Accessories : Insulation for fitting; Quantity : 2;

Standard Accessories : Sealing pad; Quantity : 5;

Standard Accessories : Clamps; Quantity : 4;

2 Specifications

2-2 Electrical Specifications		FBQ35D	FBQ50D	FBQ60D	FBQ71D	FBQ100D	FBQ125D	FBQ140D
Power supply	Name	VE						
	Phase	1~						
	Frequency	Hz	50					
	Voltage	V	220-240					

2

Notes

The sound power level is an absolute value indicating the power which a sound source generates.

3 Safety device settings

3 - 1 Safety Device Settings

FBQ-D

Safety devices		35	50	60	71	100	125	140
FBQ	Printed circuit board (main)	250V, 3.15A	250V, 3.15A	250V, 3.15A	250V, 3.15A	250V, 3.15A	250V, 3.15A	250V, 3.15A
	Printed circuit board (fan)	250V, 6.3A	250V, 6.3A	250V, 6.3A	250V, 6.3A	250V, 6.3A	250V, 6.3A	250V, 6.3A
	Fan motor thermal protector	* C	---	---	---	---	---	---
	Drain pump fuse	* C	145	145	145	145	145	145

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4 Options

4 - 1 Options

4

FBQ-D					
Discharge related					
Description		Option name	FBQ35-50D	FBQ60-71D	FBQ100-140D
Air inlet and discharge related	Air discharge adapter for round duct	KDAP25A56A	x		
		KDAP25A71A		x	
		KDAP25A140A			x
Operation control					
Description		Option name	FBQ35-50D	FBQ60-71D	FBQ100-140D
Wired remote controller		BRC1D528	x	x	x
		BRC1E52A/B	x	x	x
Central remote controller		DCS302CA51	x	x	x
Unified ON/OFF controller		DCS301BA51	x	x	x
I-touch controller		DSC601A51	x	x	x
Schedule timer		DST301BA51	x	x	x
Adapter for wiring (interlock for fresh air intake fan)		KRP1BA59	x	x	x
Wiring adapter for electrical appendices		KRP4A52	x (*4)	x (*4)	x (*4)
Wiring adapter for electrical appendices (*2)		KRP2A51	x (*4)	x (*4)	x (*4)
Interface adapter for Sky Air series		DTA112BA51	x	x	x
Option PCB for external electrical heater, humidifier and/or hour meter		EKRP1B2A	x (*1)	x (*1)	x (*1)
Infrared remote controller	H/P	BRC4C65	x	x	x
	C/O	BRC4C66	x	x	x
Simplified remote controller (Hotel)		BRC2E52C7	x (*6)	x (*6)	x (*6)
Remote controller for hotel use		BRC2E52C7	x (*6)	x (*6)	x (*6)
Remote sensor		KRC501-4B	x	x	x
Electric box with earth terminal - 3 blocks		KJB311A			
Electric box with earth terminal - 2 blocks		KJB212A			
Electric box with earth terminal		KJB411A	x	x	x
External adaptor for outdoor unit (installation on indoor unit)		DTA104A61			
Option PCB for Multi tenant		DTA114A61			
Installation box for adaptor PCB		KRP1BA101	x	x	x
		KRP1B101	x	x	x
Digital input adaptor		BRP7A51	x (*3,5)	x (*3,5)	x (*3,5)

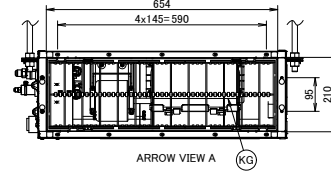
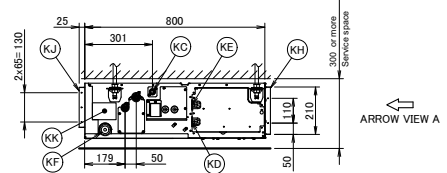
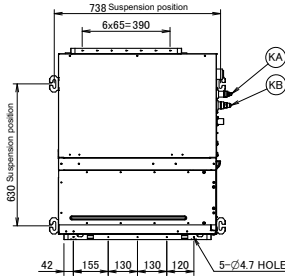
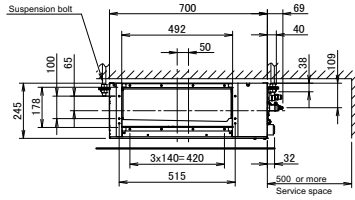
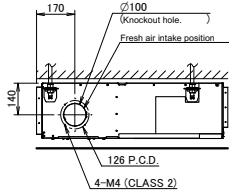
(*1) Electrical heater and humidifier are field supply. These parts should not be installed inside the equipment. (Refer to installation manual EKRP1B2A).
 (*2) If installing an electrical heater, an option PCB for external electrical heater (EKRP1B2) for each indoor unit is required.
 (*3) Mounting plate KRP4A56 is required for these options. Maximum 2 option PCBs can be mounted.
 (*4) This option needs to be installed together with installation box KRP1B101 / KRP1BA101.
 (*5) Only possible in combination with simplified remote control BRC2/3E52C7.
 (*6) Included languages are:
 Language pack 1: English, German, French, Dutch, Spanish, Italian and Portuguese.
 With PC cable - EKPCAB3 - in combination with the Updater PC software, you can additionally change the language to:
 Language pack 2: English, Bulgarian, Croatian, Czech, Hungarian, Romanian and Slovenian.
 Language pack 3: English, Greek, Polish, Russian, Serbian, Slovakian and Turkish.

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5 Dimensional drawings

5 - 1 Dimensional Drawings

FBQ35D

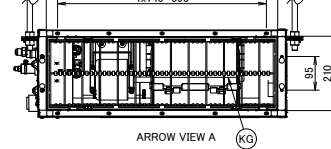
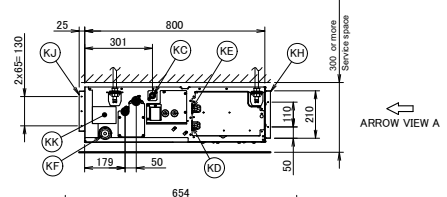
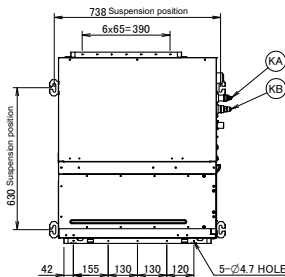
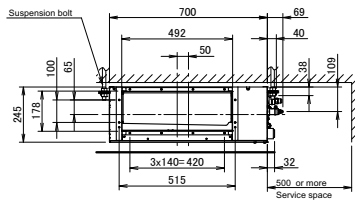
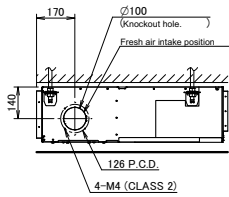


Item	Name	Description
KA	Liquid pipe connection port	Ø6.35 flared connection
KB	Gas pipe connection port	Ø9.52 flared connection
KC	Drain pipe connection	VP20 (OD Ø26, ID Ø20)
KD	Wiring connection	/
KE	Power supply connection	/
KF	Drain outlet	VP20 (OD Ø26, ID Ø20)
KG	Air filter	/
KH	Air suction side	/
KJ	Air discharge side	/
KK	Nameplate	/

Notes
 1. When installing optional accessories, refer to their respective documentation.
 2. The ceiling depth varies according to the documentation of the specific system.

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FBQ50D



Item	Name	Description
KA	Liquid pipe connection port	Ø6.35 flared connection
KB	Gas pipe connection port	Ø12.70 flared connection
KC	Drain pipe connection	VP20 (OD Ø26, ID Ø20)
KD	Wiring connection	/
KE	Power supply connection	/
KF	Drain outlet	VP20 (OD Ø26, ID Ø20)
KG	Air filter	/
KH	Air suction side	/
KJ	Air discharge side	/
KK	Nameplate	/

Notes
 1. When installing optional accessories, refer to their respective documentation.
 2. The ceiling depth varies according to the documentation of the specific system.

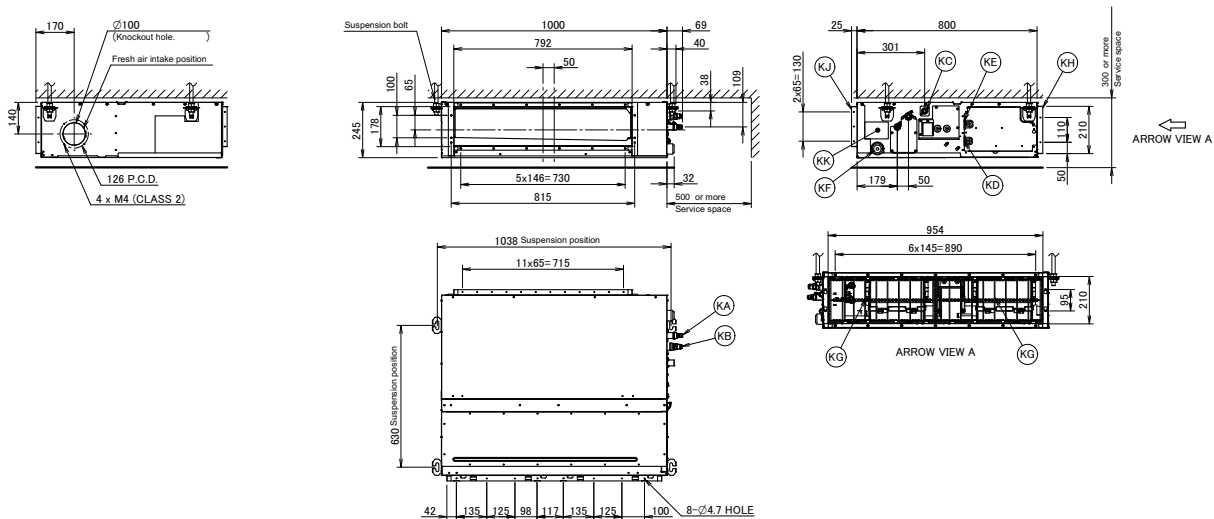
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5 Dimensional drawings

5 - 1 Dimensional Drawings

5

FBQ60D

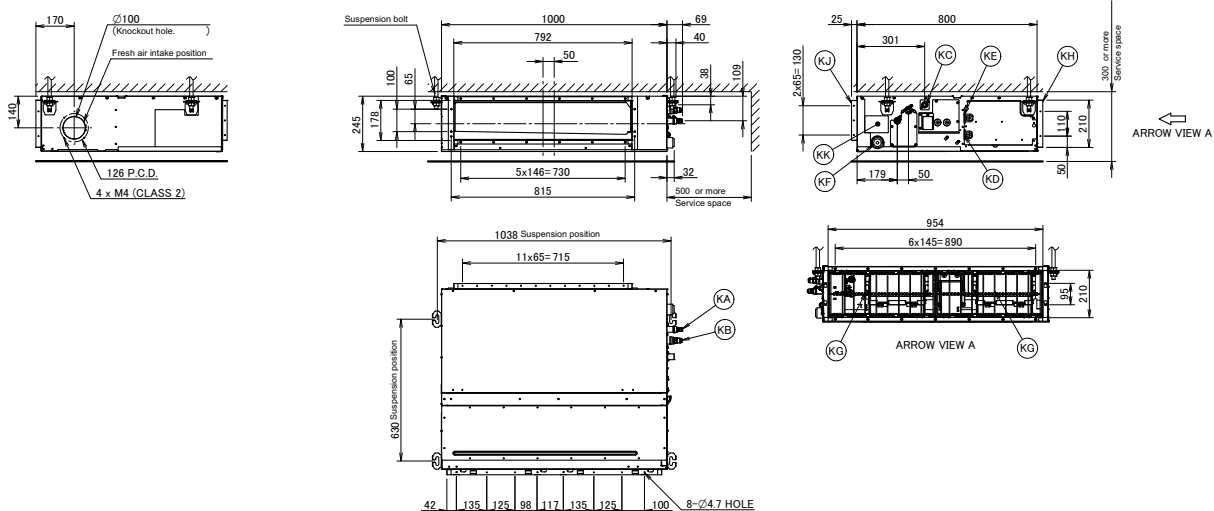


Item	Name	Description
KA	Liquid pipe connection port	∅6.35 flared connection
KB	Gas pipe connection port	∅12.70 flared connection
KC	Drain pipe connection	VP20 (OD ∅26, ID ∅20)
KD	Wiring connection	/
KE	Power supply connection	/
KF	Drain outlet	VP20 (OD ∅26, ID ∅20)
KG	Air filter	/
KH	Air suction side	/
KJ	Air discharge side	/
KK	Nameplate	/

Notes
 1. When installing optional accessories, refer to their respective documentation.
 2. The ceiling depth varies according to the documentation of the specific system.

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FBQ71D



Item	Name	Description
KA	Liquid pipe connection port	∅9.52 flared connection
KB	Gas pipe connection port	∅15.90 flared connection
KC	Drain pipe connection	VP20 (OD ∅26, ID ∅20)
KD	Wiring connection	/
KE	Power supply connection	/
KF	Drain outlet	VP20 (OD ∅26, ID ∅20)
KG	Air filter	/
KH	Air suction side	/
KJ	Air discharge side	/
KK	Nameplate	/

Notes
 1. When installing optional accessories, refer to their respective documentation.
 2. The ceiling depth varies according to the documentation of the specific system.

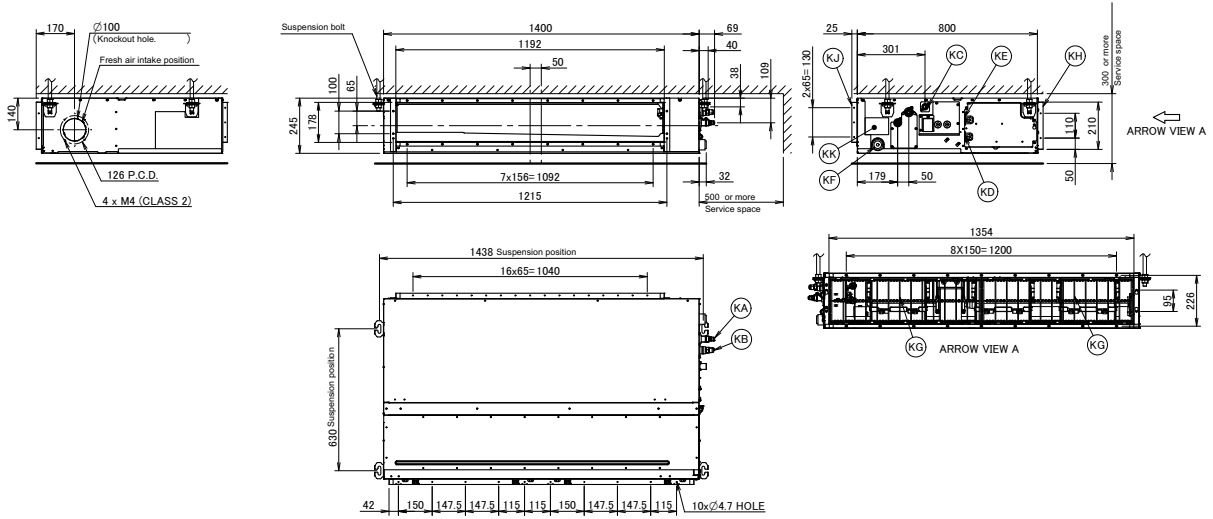
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5 Dimensional drawings

5 - 1 Dimensional Drawings

FBQ100-140A



Item	Name	Description
KA	Liquid pipe connection port	Ø9.52 flared connection
KB	Gas pipe connection port	Ø15.90 flared connection
KC	Drain pipe connection	VP20 (OD Ø26, ID Ø20)
KD	Wiring connection	/
KE	Power supply connection	/
KF	Drain outlet	VP20 (OD Ø26, ID Ø20)
KG	Air filter	/
KH	Air suction side	/
KJ	Air discharge side	/
KK	Nameplate	/

Notes
 1. When installing optional accessories, refer to their respective documentation.
 2. The ceiling depth varies according to the documentation of the specific system.

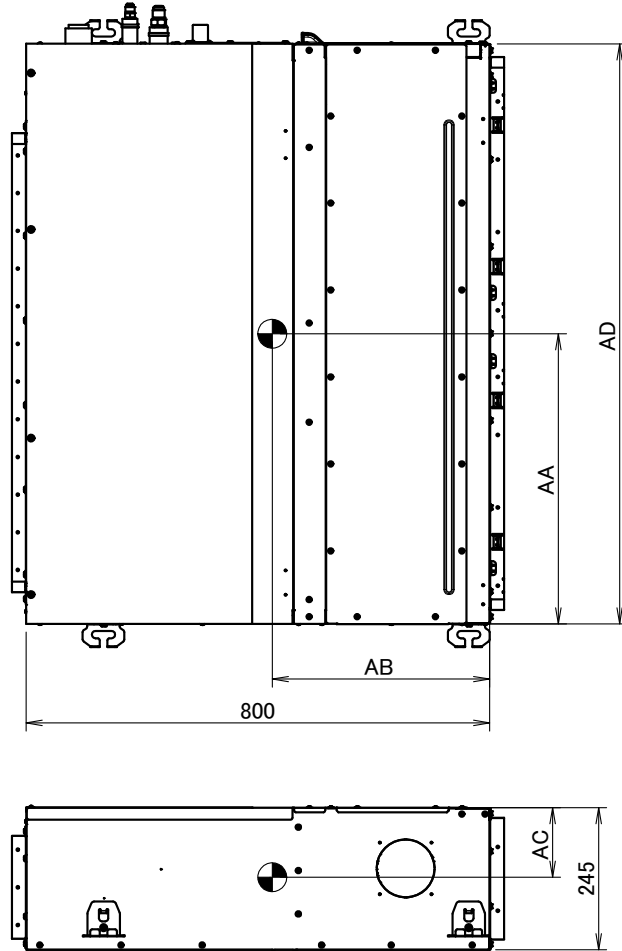
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6 Centre of gravity

6 - 1 Centre of Gravity

FBQ-D

6



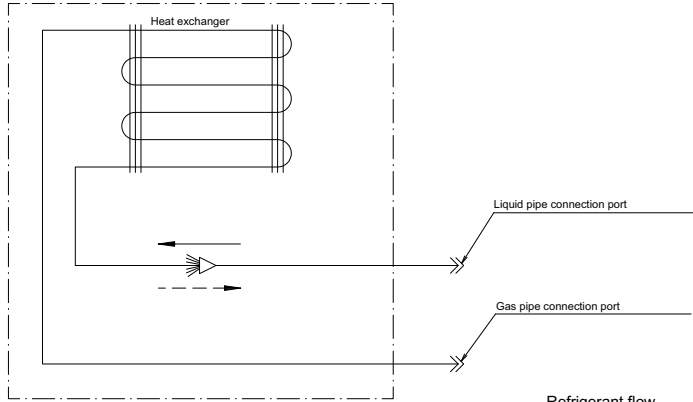
Applicable models	AA	AB	AC	AD
FBQ35/50	410	375	125	700
FBQ60/71	525	380	125	1000
FBQ100/125/140	760	390	115	1400

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7 Piping diagrams

7 - 1 Piping Diagrams

FBQ-D



Refrigerant flow
 Cooling ———→
 Heating - - - ->

Piping connections Ø

Model	Gas	Liquid
FB0350ZVEB	Ø 9.52	Ø 6.35
FB0500ZVEB	Ø 12.70	Ø 6.35
FB0600ZVEB	Ø 12.70	Ø 6.35
FB0710ZVEB	Ø 15.90	Ø 9.52
FB10000ZVEB	Ø 15.90	Ø 9.52
FB01250ZVEB	Ø 15.90	Ø 9.52
FB01400ZVEB	Ø 15.90	Ø 9.52

Notes
 1. Editable data for this drawing are available in the GDE (E-BOM) system.

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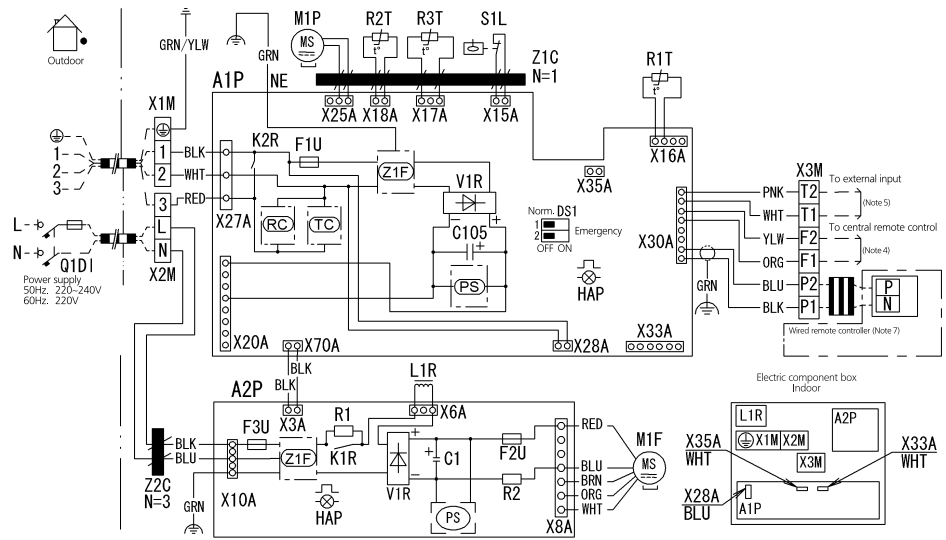
8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

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FBQ-D

- Indoor unit
- A1P : Printed circuit board
 - A2P : Printed circuit board (Fan)
 - C1 : Capacitor
 - DS1 : Selector switch
 - F1U : Fuse (T, 3.15A, 250V)
 - F2U : Fuse (T, 5A, 250V)
 - F3U : Fuse (T, 6.3A, 250V)
 - HAP : Indication lamps
 - K1R : Magnetic relay
 - K2R : Magnetic relay
 - L1 : Resistor
 - M1F : Motor (Indoor fan)
 - M1P : Motor (Drain pump)
 - R1 : Resistor (current sensor)
 - R2T : Thermistor (Resistance)
 - R3T : Thermistor (Liquid)
 - S1L : Float switch
 - V1R : Diode bridge
 - PS : Switching power supply
 - RC : Signal receiver circuit
 - TC : Signal transmission circuit
 - X1M : Terminal strip (Power supply)
 - X2M : Terminal strip (Power supply)
 - X3M : Terminal block (Control)
 - Z1F : Noise filter
 - Z2C : Ferrite core
 - Z3C : Ferrite core
 - Q1D : Earth leakage breaker
- Connector (Optional accessories)
- X28A : Connector (Power supply for wiring)
 - X33A : Connector (for wiring)
 - X35A : Connector (Power supply for adapter)



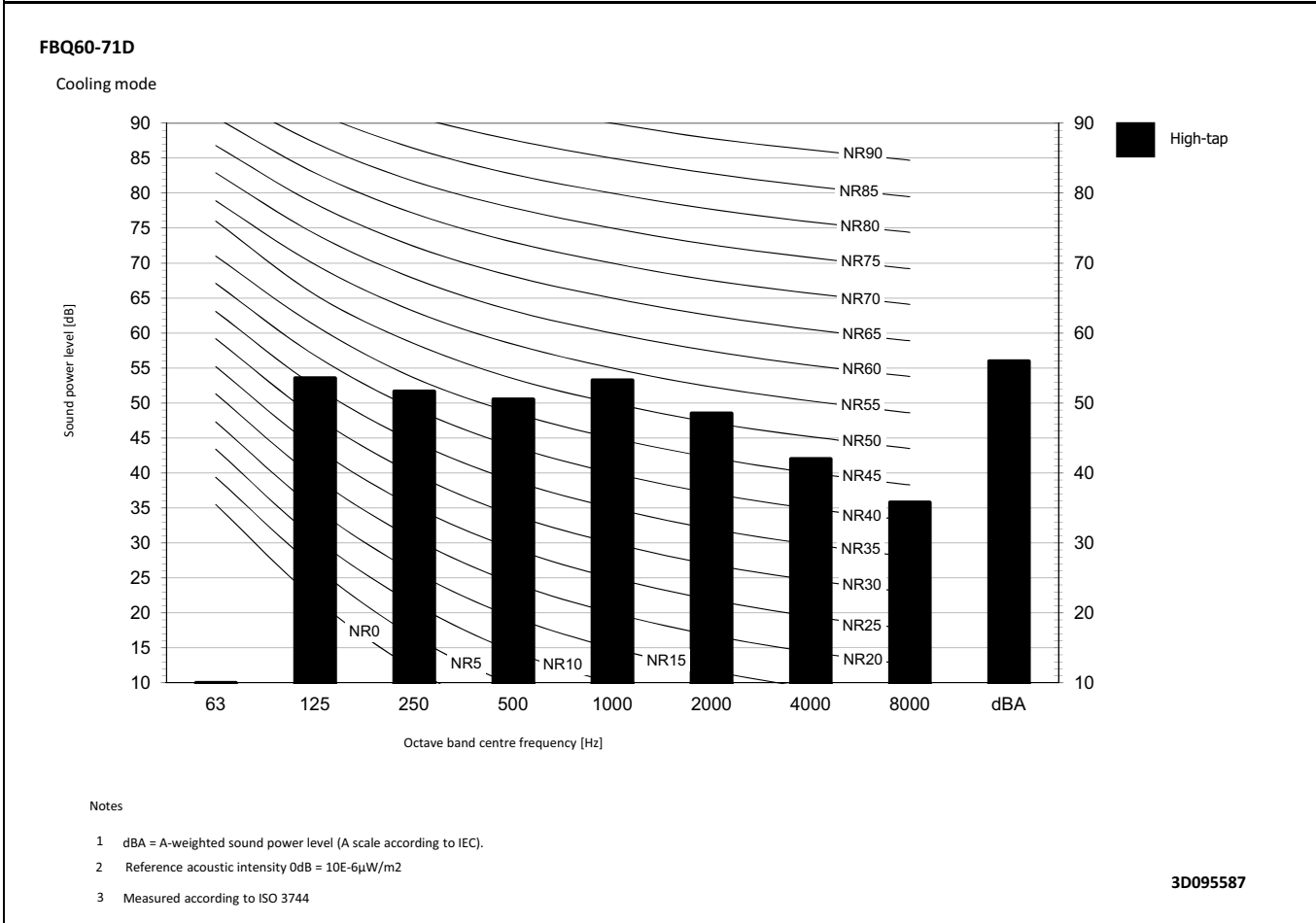
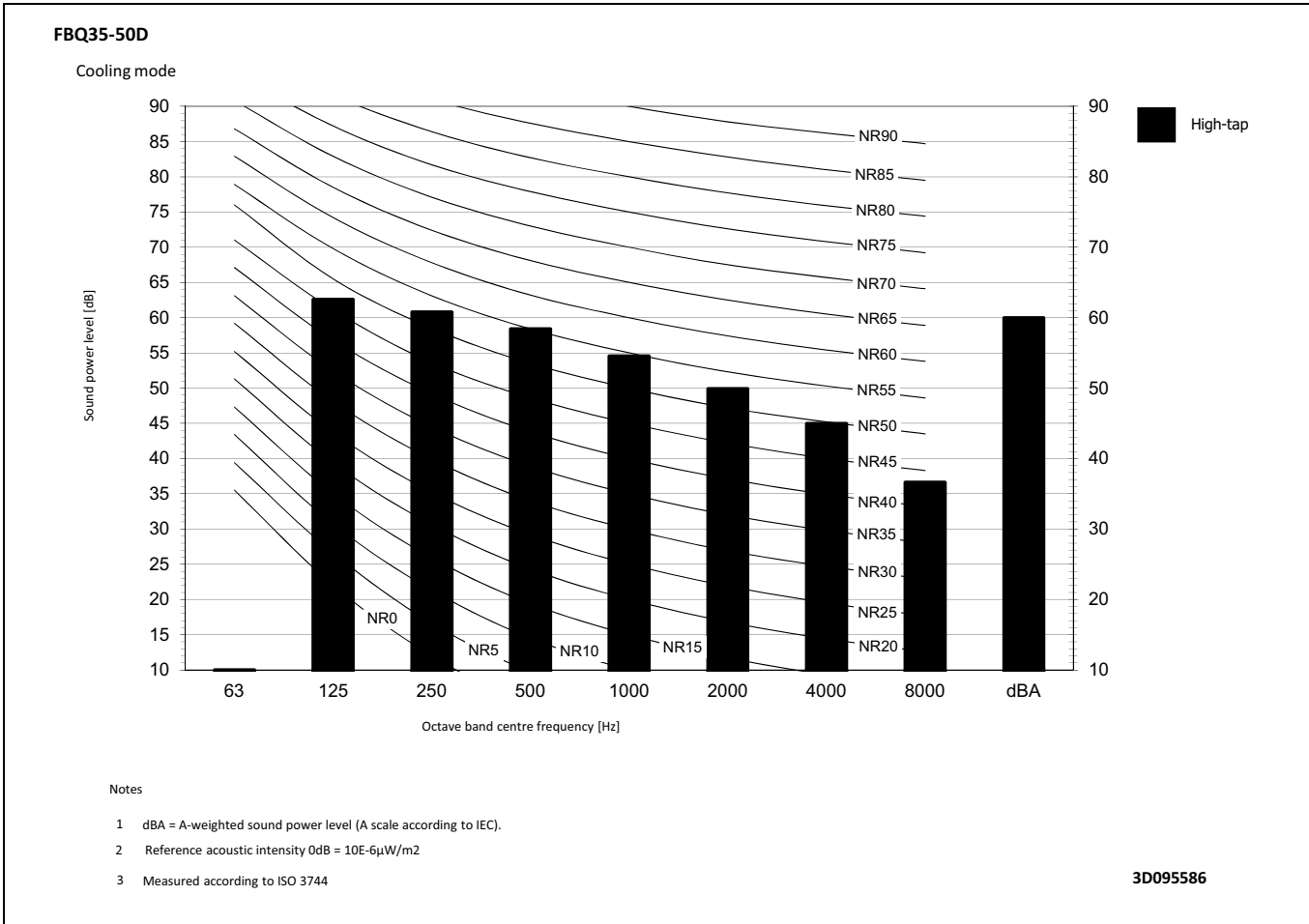
Notes

1. [Symbol] - Screw terminal [Symbol] - Connector, [Symbol] - Field wiring
2. In case of a multi-indoor-unit-system with parallel operation, refer to the documentation for the indoor units.
3. For details, refer to the wiring diagram attached to the outdoor unit.
4. When using a central remote control, connect it to the unit according to the installation manual.
5. When connecting the input wires from outside, forced OFF or ON/OFF control operation can be selected by the remote controller. for more information, see installation manual
6. For a multi-indoor-unit-system with parallel operation, the connection ratio (number of indoor units you can connect to the outdoor unit) is different. Before connecting, refer to the Technical data of the General catalogue.
7. For how to switch between the main unit and the sub units, refer to the installation manual of the remote control.
8. Colours: BLK:Black; RED:Red; BLU:Blue; WHT:White; GRN:Green; YLW:Yellow; BRN:Brown; ORG:Orange; PNK:Pink

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9 Sound data

9 - 1 Sound Power Spectrum

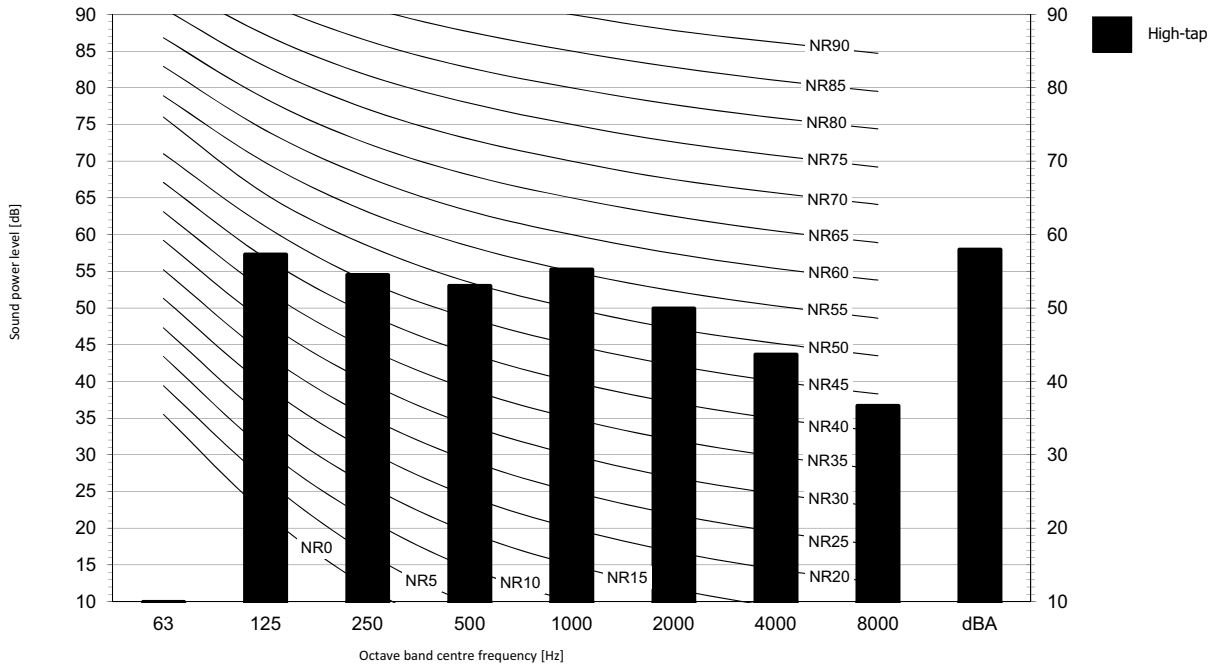


9 Sound data

9 - 1 Sound Power Spectrum

FBQ100D

Cooling mode



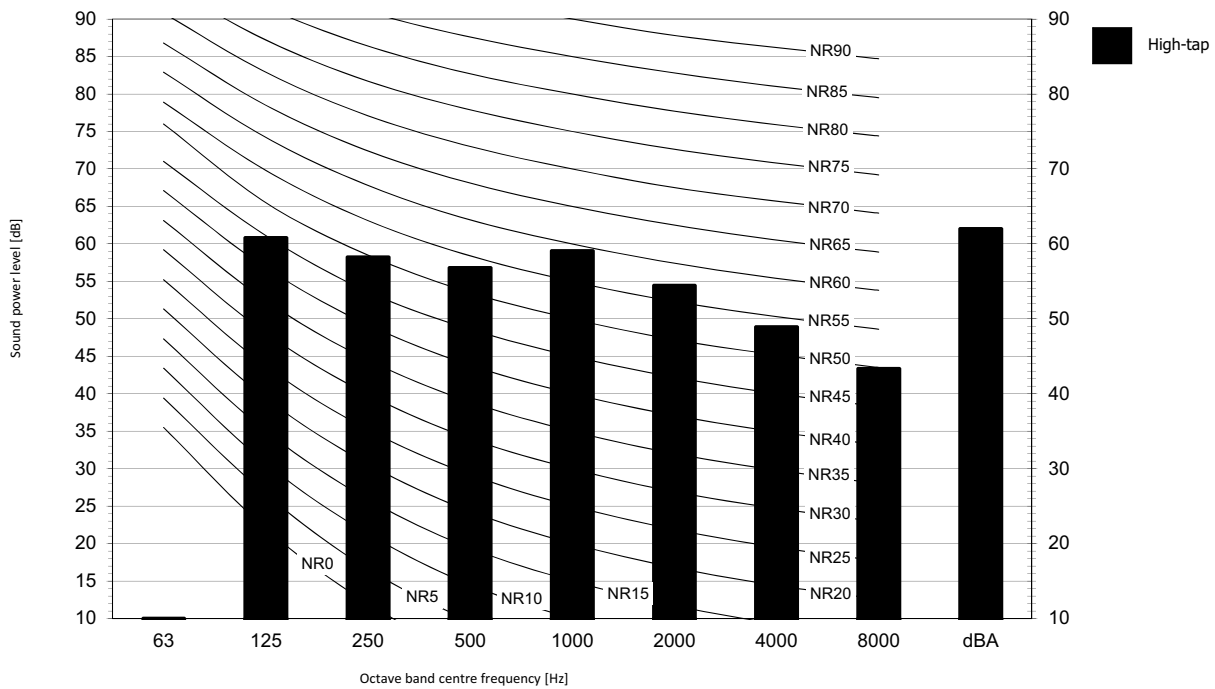
Notes

- 1 dBA = A-weighted sound power level (A scale according to IEC).
- 2 Reference acoustic intensity 0dB = 10E-6μW/m²
- 3 Measured according to ISO 3744

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FBQ125-140D

Cooling mode



Notes

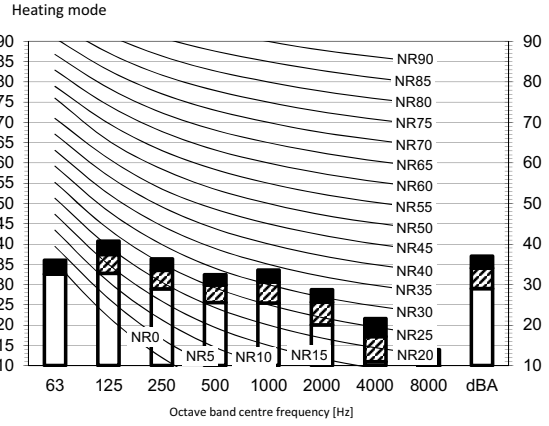
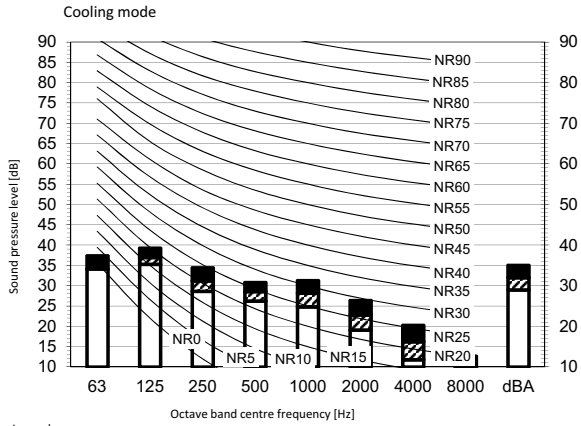
- 1 dBA = A-weighted sound power level (A scale according to IEC).
- 2 Reference acoustic intensity 0dB = 10E-6μW/m²
- 3 Measured according to ISO 3744

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9 Sound data

9 - 2 Sound Pressure Spectrum

FBQ35-50D

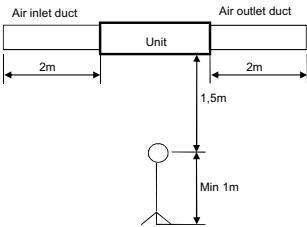


Legend

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

High-tap Medium-tap Low-tap

Location of microphone

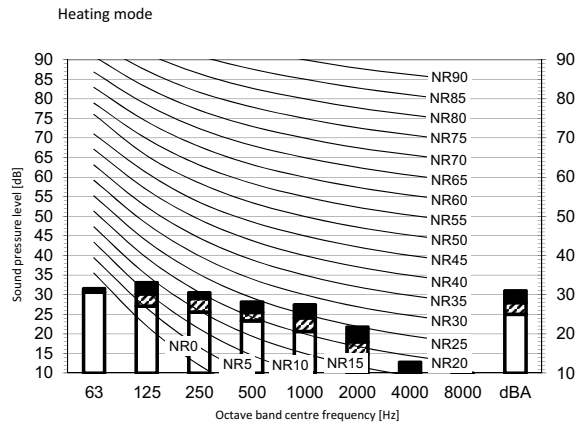
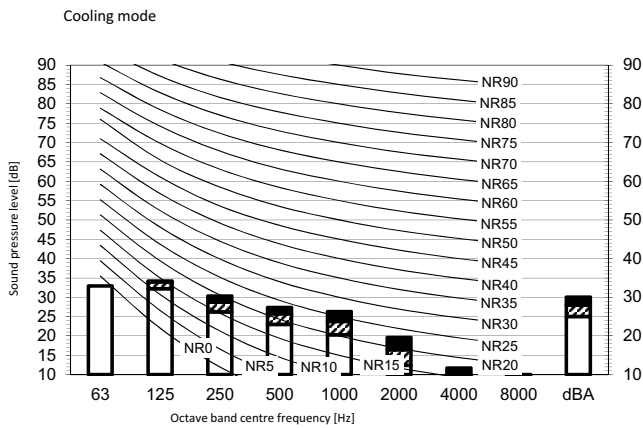


Notes

1. Operating conditions: power source 220-240 V/220 V 50/60 Hz; JIS standard
2. Background noise already taken into account.
3. Operating noise varies depending on operation and ambient conditions.
4. The operation noise measuring method is in accordance with JISC9612.
5. Measuring location: anechoic chamber

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FBQ60-71D

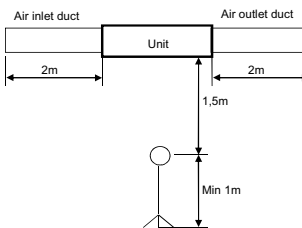


Legend

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

High-tap Medium-tap Low-tap

Location of microphone



Notes

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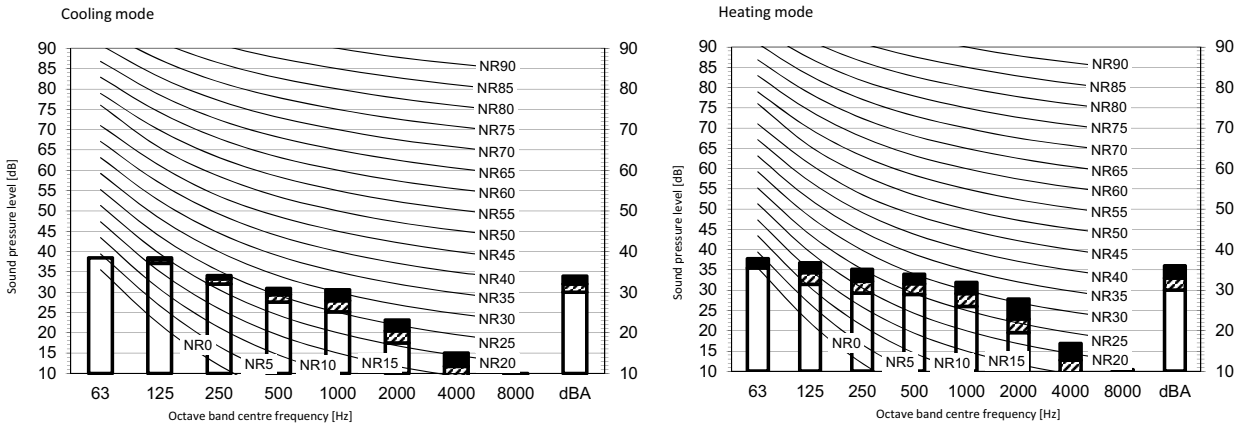
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9 Sound data

9 - 2 Sound Pressure Spectrum

9

FBQ100D

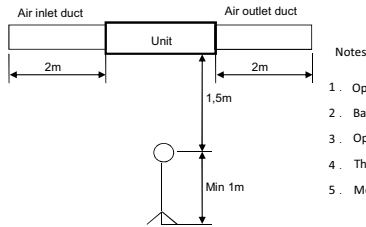


Legend

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



Location of microphone

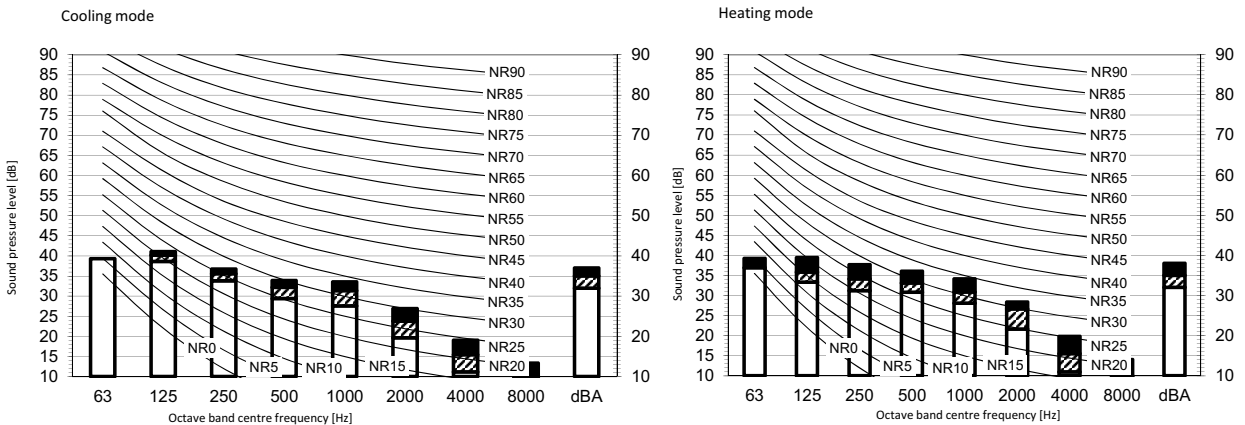


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FBQ125-140D

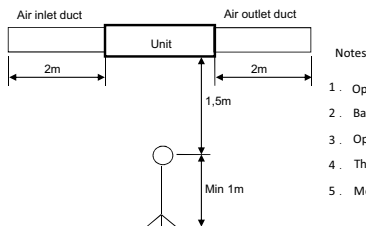


Legend

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



Location of microphone



Notes

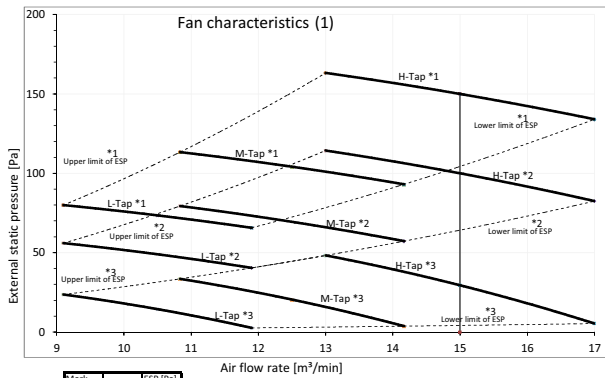
1. Operating conditions: power source 220-240 V/220 V 50/60 Hz; JIS standard
2. Background noise already taken into account.
3. Operating noise varies depending on operation and ambient conditions.
4. The operation noise measuring method is in accordance with JISC9612.
5. Measuring location: anechoic chamber

3D095567A

10 Fan characteristics

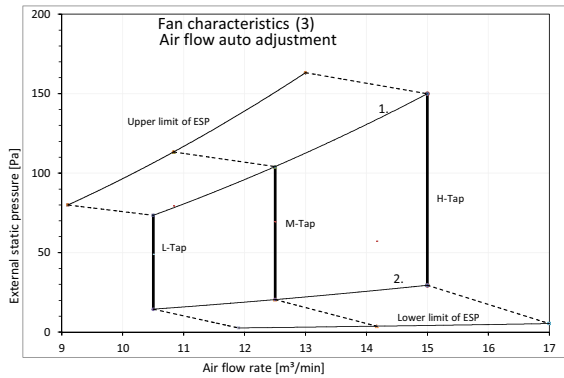
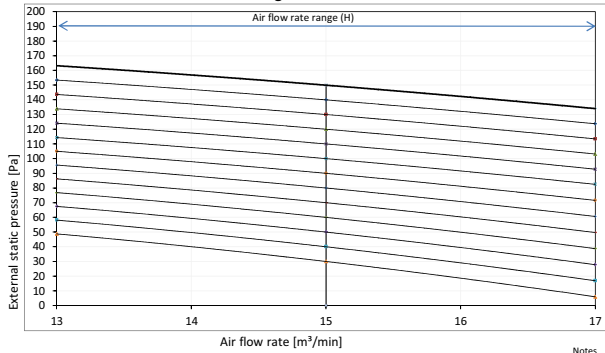
10 - 1 Fan Characteristics

FBQ35-50D



Mark	MAX	ESP [Pa]
*1	-	150
*2	-	100
*3	STD	30

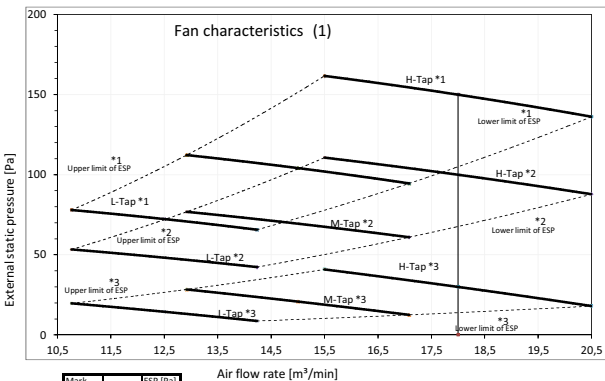
Fan characteristics (2)
Field setting with remote control



Notes
1. The fan characteristics shown are in "fan only" mode.
2. ESP: External Static Pressure

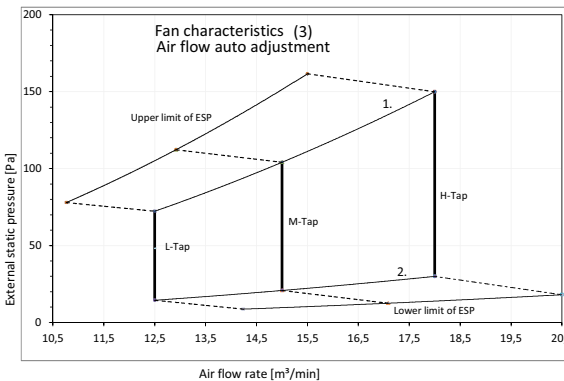
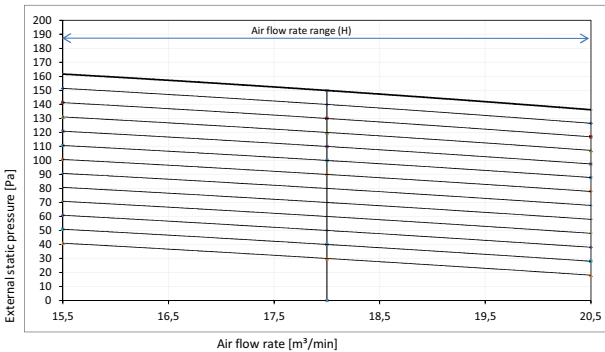
3D095521A

FBQ60-71D



Mark	MAX	ESP [Pa]
*1	-	150
*2	-	100
*3	STD	30

Fan characteristics (2)
Field setting with remote control



Notes
1. The fan characteristics shown are in "fan only" mode.
2. ESP: External Static Pressure

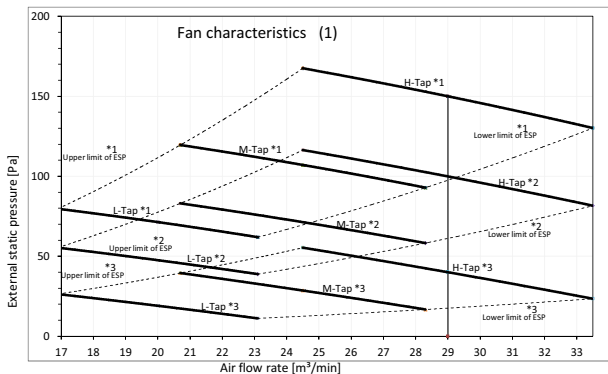
3D095524A

10 Fan characteristics

10 - 1 Fan Characteristics

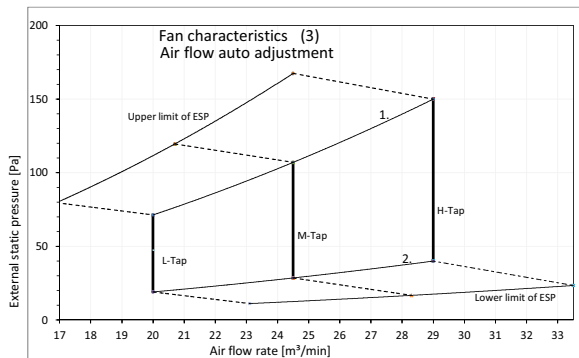
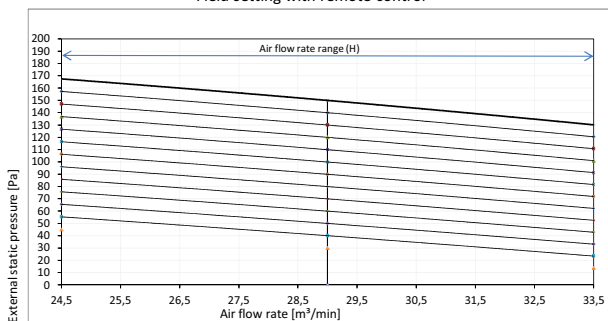
10

FBQ100D



Mark	ESP (Pa)
*1	MAX 150
*2	STD 100
*3	STD 40

Fan characteristics (2)
Field setting with remote control

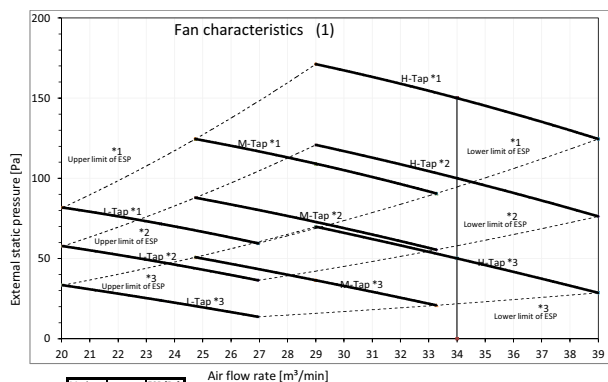


1. Upper limit of ESP by air flow auto adjustment
2. Lower limit of ESP by air flow auto adjustment

Notes
1. The fan characteristics shown are in "fan only" mode.
2. ESP: External Static Pressure

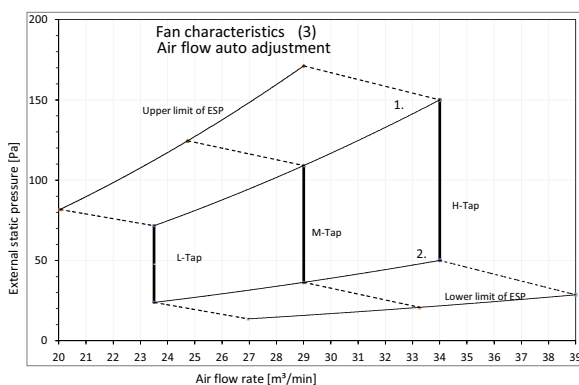
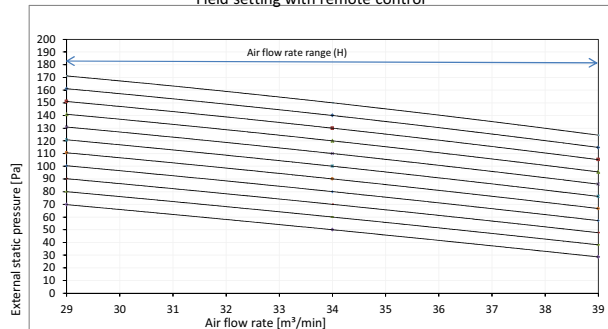
3D095526A

FBQ125-140D



Mark	ESP (Pa)
*1	MAX 150
*2	STD 100
*3	STD 50

Fan characteristics (2)
Field setting with remote control



1. Upper limit of ESP by air flow auto adjustment
2. Lower limit of ESP by air flow auto adjustment

Notes
1. The fan characteristics shown are in "fan only" mode.
2. ESP: External Static Pressure

3D095527A

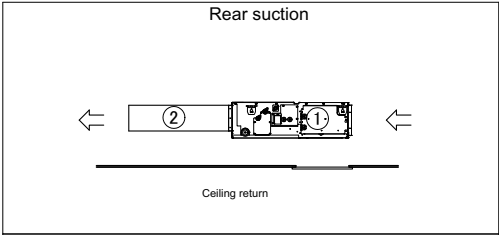
11 Installation

11 - 1 Installation Method

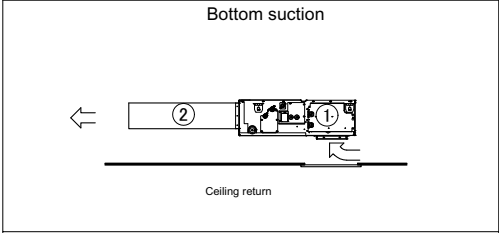
FBQ-D

Installation methods

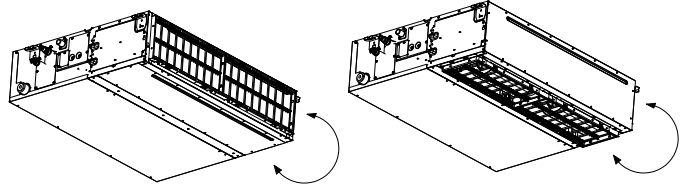
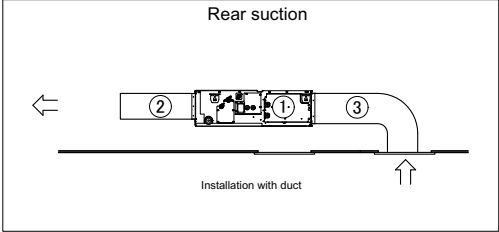
Rear suction



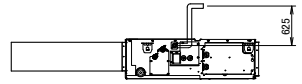
Bottom suction



Rear suction



Easy modification from rear suction to bottom suction



Height of drain pump outlet pipe

Number	Description	
①	Indoor unit	
②	Air outlet duct	Field supply
③	Air inlet duct	Field supply

3D094912A



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