



Air Conditioning Technical Data

High COP, round flow cassette



EEDEN15-100

FCQHG-F

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FCQHG-F

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1 Features

360° air discharge for optimum efficiency and comfort

- High COP cassette ensures top performance, great savings in energy consumption and a comfortable environment for commercial applications
- 360° air discharge ensures uniform air flow and temperature distribution
- The round flow cassette provides a more comfortable environment and offers greater savings in energy consumption to shop, office and restaurant owners
- Daily automatic filter cleaning results in higher efficiency & comfort and lower maintenance costs. Dust can easily be removed with a vacuum cleaner without opening the unit
- Two optional intelligent sensors improve energy efficiency and comfort. The presence sensor adjusts the set point if no one is detected in the room. It also automatically directs air flow away from any person to avoid draught. The infrared floor sensor detects the average floor temperature and ensures even temperature distribution between ceiling and floor to prevent cold feet.
- Refurbishing the room? Flexibility to suit every room layout without changing the location of the unit! Via the wired remote controller you can easily control each flap individually and even close the flaps.
- Modern style decoration panel is available in 3 different variations: white (RAL9010) with grey louvers, full white (RAL9010) or auto cleaning panel
- Reduced energy consumption thanks to specially developed small tube heat exchanger, DC fan motor and drain pump
- Fresh air intake integrated in the same system thus reducing installation cost as no additional ventilation is required
- Lowest installation height in the market: 204mm for class 71
- Standard drain pump with 850mm lift increases flexibility and installation speed
- No optional adapter needed for DIII-connection, link your unit into the wider building management system.



								
Presence & floor sensor	Home leave operation	Fan only	Auto-cleaning filter	Draught prevention	Whisper quiet	Ceiling soiling prevention	Individual flap control	Vertical auto swing
								
Fan speed steps	Dry programme	Air filter	Weekly timer	Infrared remote control	Wired remote control	Auto-restart	Self diagnosis	Drain pump kit

2 Specifications

2-1 Technical Specifications					FCQHG71F		FCQHG100F		FCQHG125F		FCQHG140F	
Casing	Material				Galvanised steel plate							
Dimensions	Unit	Height/Width/Depth		mm	288/840/840							
	Packed unit	Height/Width/Depth		mm	300/880/880							
Weight	Unit			kg	25		26					
	Packed unit			kg	29		30					
Decoration panel	Model				BYCQ140D7W1 - white with grey louvers							
	Colour				Pure White (RAL 9010)							
	Dimensions	Height/Width/Depth		mm	50/950/950							
	Weight			kg	5.4							
Decoration panel 2	Model				BYCQ140D7W1W - full white							
	Colour				Pure White (RAL 9010)							
	Dimensions	Height/Width/Depth		mm	50/950/950							
	Weight			kg	5.4							
Decoration panel 3	Model				BYCQ140D7GW1 - auto cleaning panel							
	Colour				Pure White (RAL 9010)							
	Dimensions	Height/Width/Depth		mm	130/950/950							
	Weight			kg	10.3							
Heat exchanger	Inside length			mm	2,090							
	Outside length			mm	2,184							
	Rows	Quantity			3							
	Fin pitch			mm	1.2							
	Passes	Quantity			17							
	Face area			m²	0.556							
	Stages	Quantity			18							
	Empty tubeplate hole	Quantity			0							
	Fin	Type			Cross fin coil (multi slit fins and hi-XA tubes)							
Air filter	Type				Resin net with mold resistance							
Fan	Type				Turbo fan							
	Quantity				1							
	Air flow rate	Cooling	High	m³/min	21.2	32.3		33.5				
			Nom.	m³/min	16.7	25.7		26.7		27.3		
			Low	m³/min	12.2	19.0		19.9		21.1		
		Heating	High	m³/min	21.2	32.3		33.5				
			Nom.	m³/min	16.7	25.7		26.7		27.3		
Low			m³/min	12.2	19.0		19.9		21.1			
Fan motor	Model				QTS48C15M							
	Speed		Steps		3							
	Output		High	W	48		106					
Sound power level	Cooling			dBA	53		61					
	Heating			dBA	53		61					
Sound pressure level	Cooling	High/Nom./Low		dBA	36/33/29		44/39/33		45/40/35		45/41/37	
	Heating	High/Nom./Low		dBA	36/33/29		44/39/33		45/40/35		45/41/37	
Control systems	Infrared remote control				BRC7FA532F							
	Wired remote control				BRC1D52 / BRC1E52A/B							
Refrigerant	Type				R-410A							
Piping connections	Sound absorbing insulation				Foamed Polyurethane							
	Liquid	Type/OD		mm	Flare connection/9.52							
	Gas	Type/OD		mm	Flare connection/15.9							
	Drain				VP25 (I.D. 25/O.D. 32)							
	Heat insulation				Foamed polystyrene / Foamed polyethylene							

2 Specifications

Standard Accessories : Operation manual;
 Standard Accessories : Installation manual;
 Standard Accessories : Drain hose;
 Standard Accessories : Clamp for drain hose;
 Standard Accessories : Washer for hanger bracket;
 Standard Accessories : Screws;
 Standard Accessories : Installation guide;
 Standard Accessories : Insulation for fitting; Quantity : 2;
 Standard Accessories : Sealing pads; Quantity : 4;
 Standard Accessories : Drain sealing pad;
 Standard Accessories : Clamps;

2-2 Electrical Specifications			FCQHG71F	FCQHG100F	FCQHG125F	FCQHG140F
Power supply	Name		VE			
	Phase		1~			
	Frequency	Hz	50			
	Voltage	V	220-240			

Notes

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

The BYCQ140D7W1W has white insulations. Be informed that formation of dirt on white insulation is visibly stronger and that it is consequently not advised to install the BYCQ140D7W1W decoration panel in environments exposed to concentrations of dirt.

BYCQ140D7W1: pure white standard panel with grey louvers; BYCQ140D7W1W: pure white standard panel with white louvers; BYCQ140D7GW1: pure white auto cleaning panel.

3 Safety device settings

3 - 1 Safety Device Settings

FCQHG71-125F

Safety devices		FCQHG71FVEB	FCQHG100FVEB	FCQHG125FVEB
Fuse		---	---	---
Fan motor thermal fuse	°C	---	---	---
Fan motor thermal protector	°C	---	---	---
Drain pump fuse	°C	---	---	---

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4 Options

4 - 1 Options

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FCQHG-F

Options

	Item	Model	FCQG35FVEB	FCQG50FVEB	FCQG60FVEB	FCQG71FVEB	FCQG100FVEB	FCQG125FVEB	FCQG140FVEB	FCQH671FVEB	FCQH6100FVEB
1	Decoration panel	Standard					BYCQ140D7W1				
		White					BYCQ140D7W1W *3				
		Self clean					BYCQ140D7GQ1 *5, *6				
2	Longlife replacement filter	Non-woven type					KAFP551K160				
3	Fresh air intake kit (20% fresh air)	Chamber type					KDDQ55B140 *7				
4	Sealing member of air discharge outlet						KDBHQ55B140 *7				
5	Sensor kit						BRYQ140A7				

Control system

	Item	Model	FCQG35FVEB	FCQG50FVEB	FCQG60FVEB	FCQG71FVEB	FCQG100FVEB	FCQG125FVEB	FCQG140FVEB	FCQH671FVEB	FCQH6100FVEB
1-1	Remote control	Infrared					BRC7FA532F *7				
		Wired					BRC1D528 *4				
							BRC1E51A *4				
							BRC1E52A / BRC1E52B				
1-2	Simplified remote control (with operation mode selector button)						BRC2E52C *8				
1-3	Simplified remote control (without operation mode selector button)						BRC3E52C *8				
2-1	Wiring adapter for electrical appendices (1)						KRP1BA57 *2 *7				
2-2	Wiring adapter for electrical appendices (2)						KRP4AA53 *2 *7				
2-3	Wiring adapter (hour meter)						EKRP1C11 *2 *7				
3	Remote sensor						KRCS01-4B				
4	Installation box for adapter PCB						KRP1H98 *7				
5	Central remote control						DCS302CA51				
6	Unified ON/OFF control						DCS301BA51				
7	Electrical box with earth terminal (2 blocks)						KJB212AA				
8	Electrical box with earth terminal (3 blocks)						KJB311AA				
9	Schedule timer						DST301BA51				
10	Digital input adapter						BRP7A53				

NOTES

- All options are supplied as kit.
- Installation box is necessary for these adapters.
- The BYCQ140D7W1W has white insulations. Be informed that formation of dirt on white insulations is visibly stronger and that it is consequently not advised to install the BYCQ140D7W1W decoration panel in environments exposed to concentrations of dirt.
- Not recommended because of the limitation of the functions.
- To be able to control the BYCQ140D7GW1 the control BRC1E* is needed.
- The BYCQ140D7GW1 is not compatible with mini-VRV, multi and split non-inverter outdoor units.
- Option not available in combination with BYCQ140D7GW1.
- Included languages are:
Language pack 1: English, German, French, Dutch, Spanish, Italian and Portuguese.
With PC cable EKPCCAB3 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, Slovak and Turkish.
- Only possible in combination with simplified remote control BRC2/3E52C.
- Requires installation box for adapter PCB.

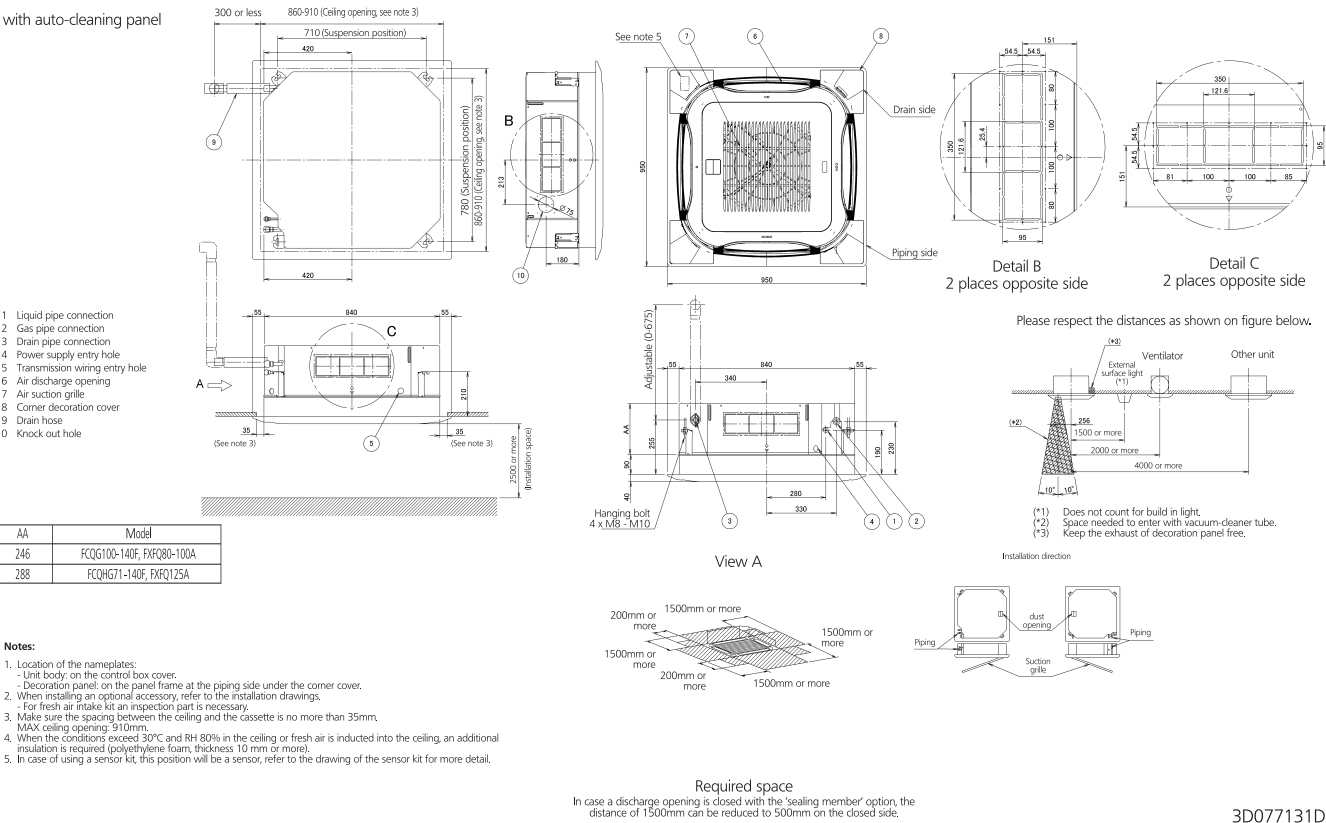
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5 Dimensional drawings

5 - 1 Dimensional Drawings with Accessories

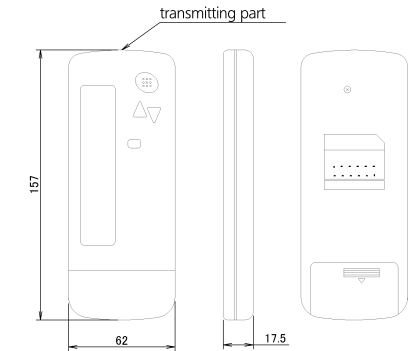
FCQHG-F

with auto-cleaning panel

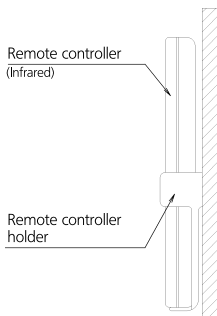


FCQHG-F

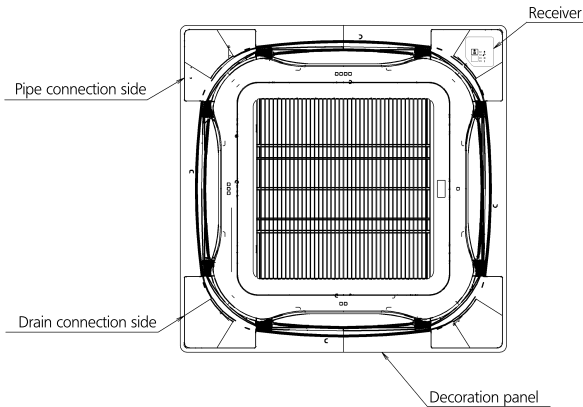
Remote controller dimensions



Remote controller holder Installation procedure (Installation to wall surface)



Receiver detail



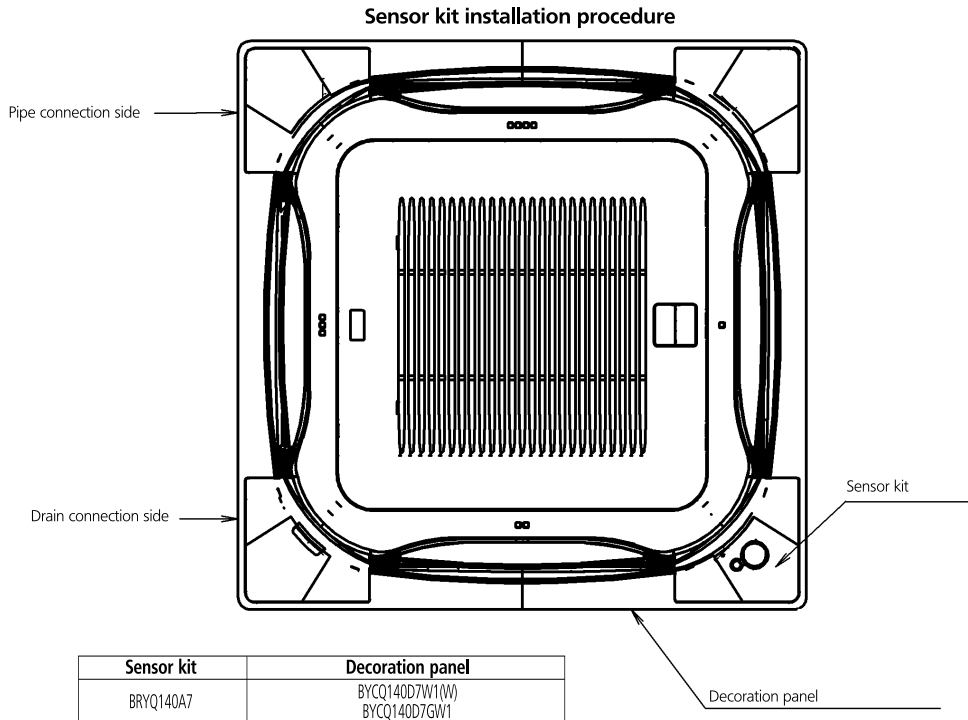
Sensor kit	Decoration panel
BRC7FA532F	BYCQ140D7W1(W)

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5 Dimensional drawings

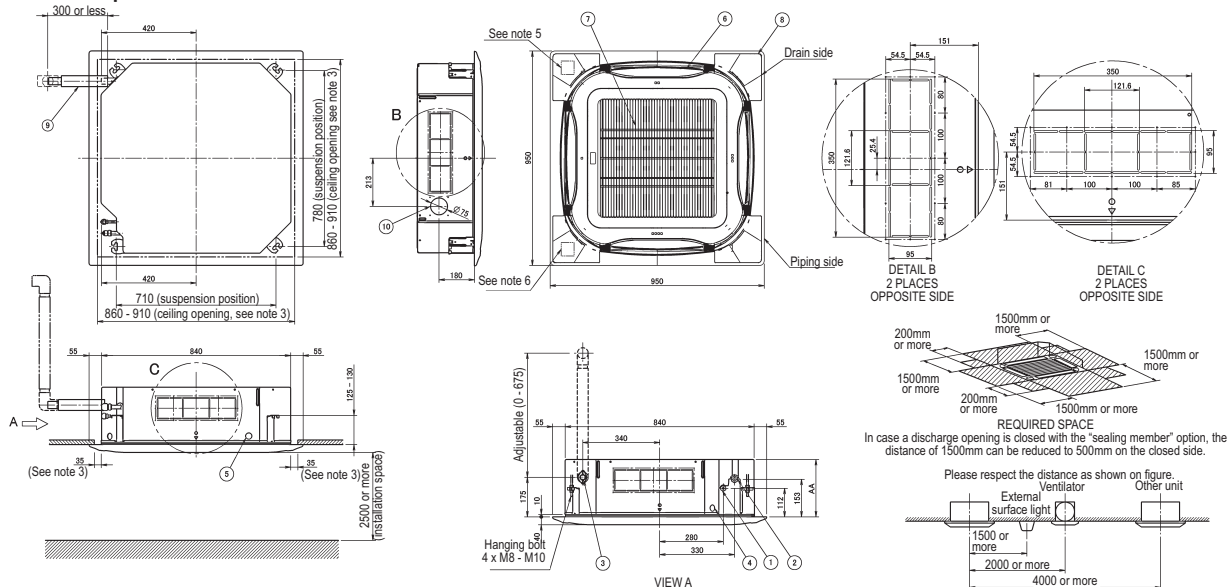
5 - 1 Dimensional Drawings with Accessories

FCQHG-F



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FCQHG-F with standard panel



NOTE

- Location of the nameplates
 - Unit body: on the control box cover
 - Decoration panel: on the panel frame at the piping side under the corner cover
- When installing an optional accessory, refer to the installation drawings.
 - For fresh air intake kit an inspection part is necessary
- Make sure the spacing between the ceiling and the cassette is no more than 35mm. Max ceiling opening: 910mm
- When the conditions exceed 30°C and RH 80% in the ceiling or fresh air is inducted into the ceiling, an additional insulation is required (polyethylene foam, thickness 10mm or more)
- In case of using a sensor kit, this position will be a sensor, refer to the drawing of the sensor kit for more detail
- In case of using an infrared control, this position will be a receiver, refer to the drawing of the infrared control for more detail

Item	Name
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection
4	Power supply entry hole
5	Transmission wiring entry hole
6	Air discharge opening
7	Air suction grille
8	Corner decoration cover
9	Drain hose
10	Knock out hole

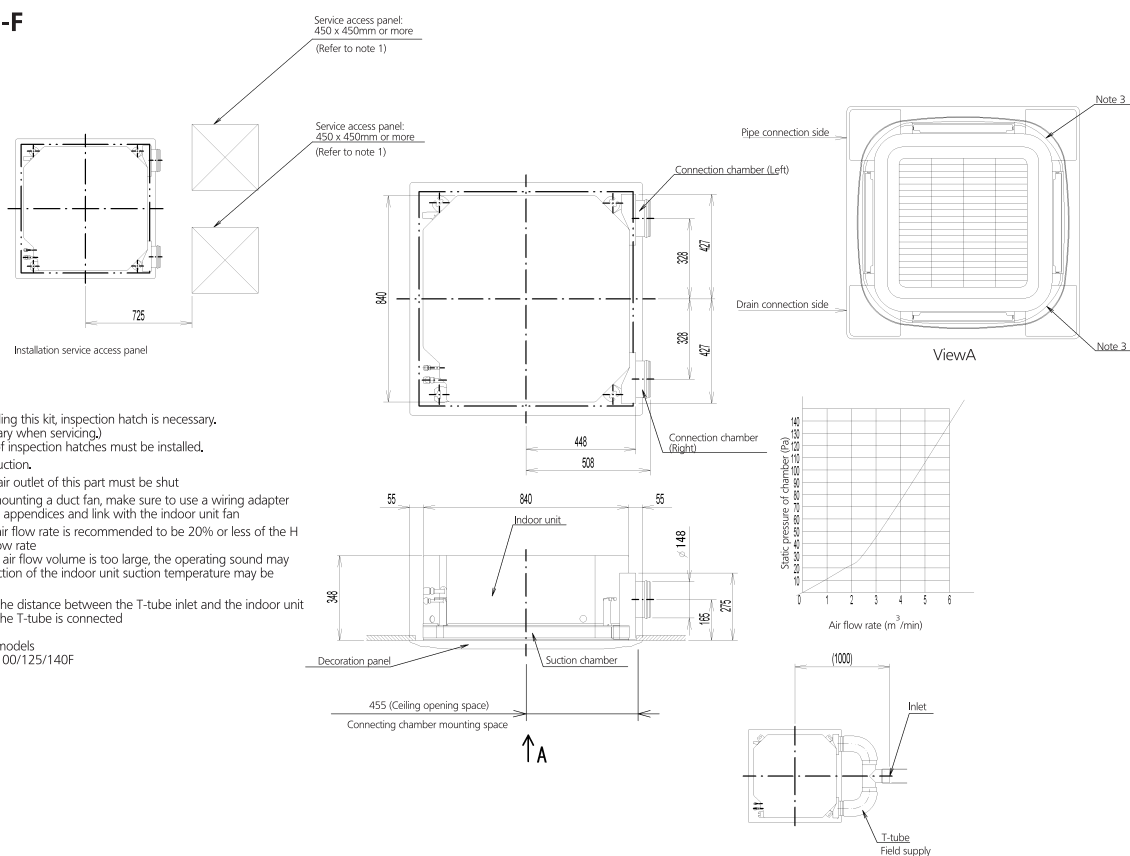
	Model
256	FCQG100-140FVEB, FXFQ80-100AVEB
298	FCQHG71-140FVEB, FXFQ125AVEB

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5 Dimensional drawings

5 - 1 Dimensional Drawings with Accessories

FCQHG-F

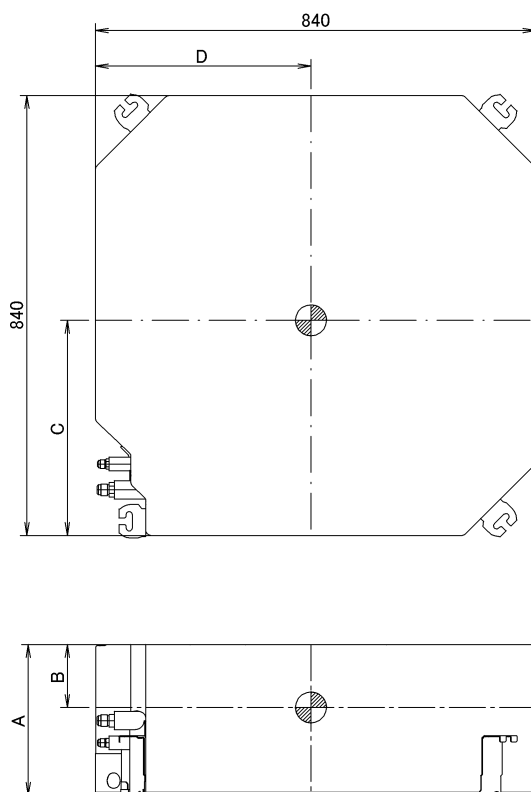


6 Centre of gravity

6 - 1 Centre of Gravity

6

FCQHG-F

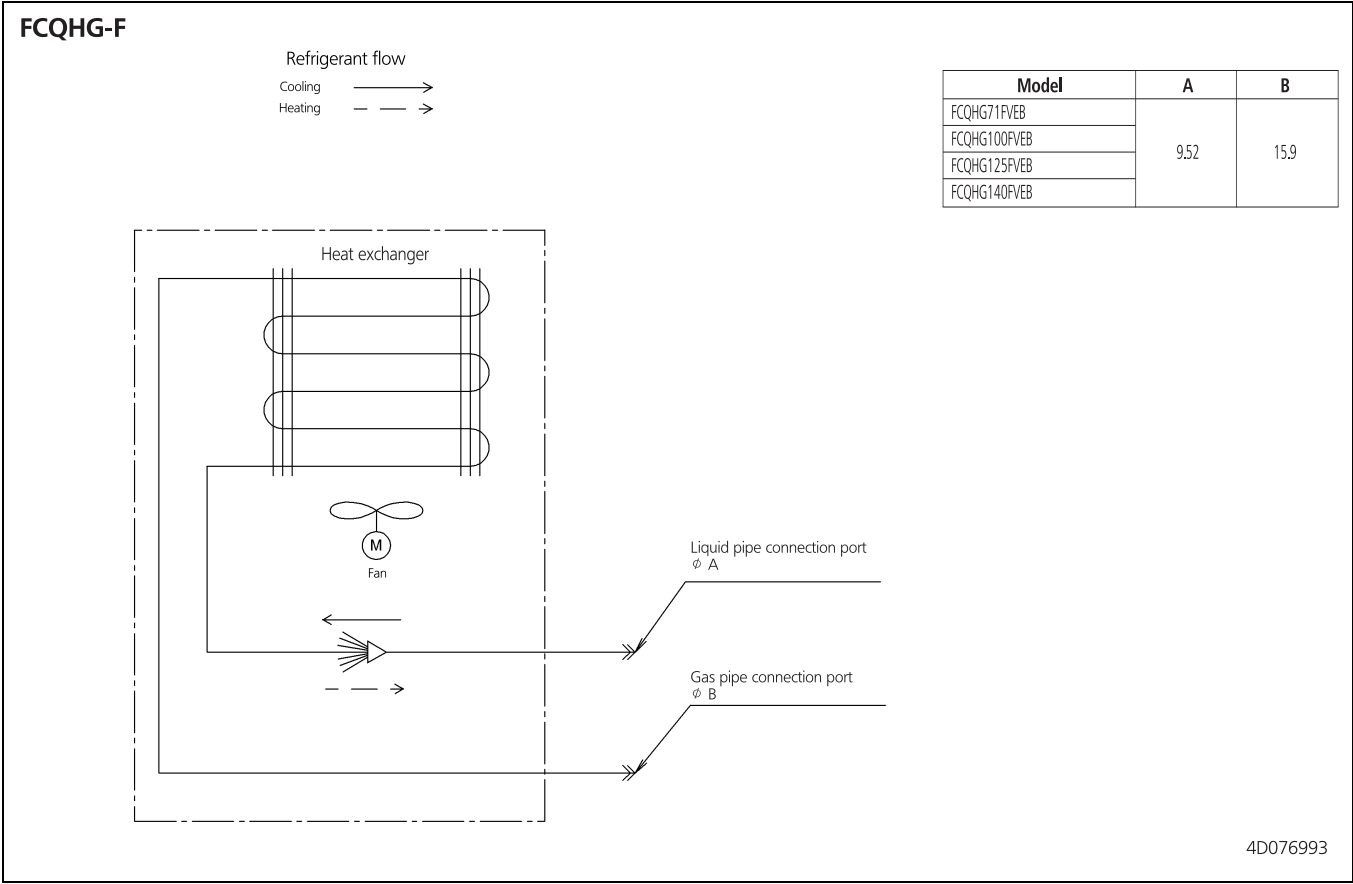


Model	A	B	C	D
FCQHG71~140FVEB	288	120	420	420

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7 Piping diagrams

7 - 1 Piping Diagrams



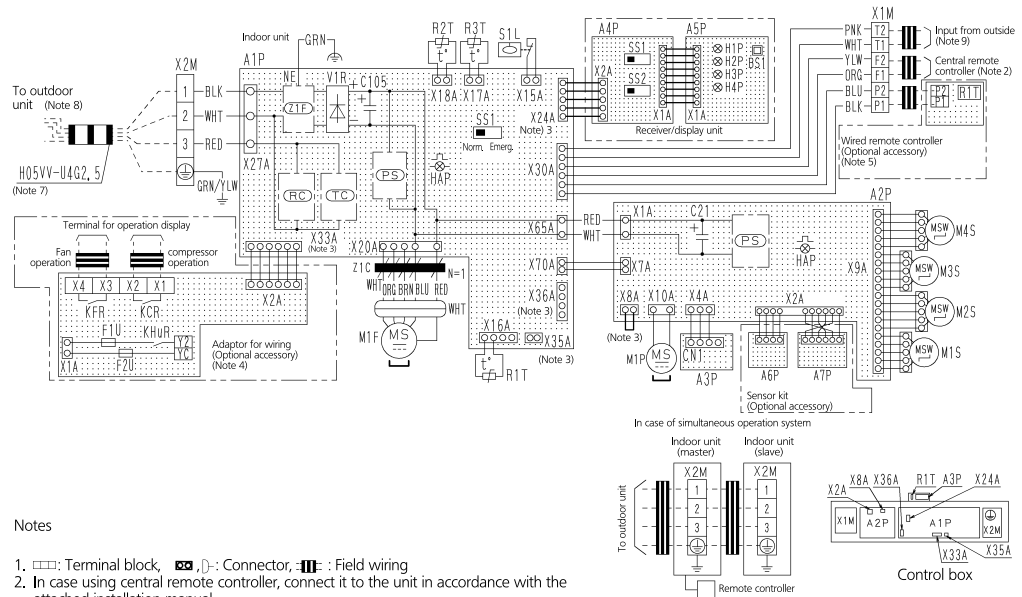
8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

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FCQHG-F

Indoor unit	
A1P	Printed circuit board
A2P	Printed circuit board
A3P	Printed circuit board
C21	Capacitor
C105	Capacitor
H0P	Light emitting diode (service monitor green)
M1F	Motor (indoor fan)
M1P	Motor (drain pump)
M1S-M4S	Motor (swing flap)
R1T	Thermistor (air)
R2T-R3T	Thermistor (coil)
S1L	Float switch
SS1	Selector switch (emergency)
V1R	Diode bridge
X1M	Terminal block
X2M	Terminal block
Z1C	Refrigerant cover (noise filter)
Q1T3	Noise filter
Q2P	Power supply circuit
RC	Signal receiver circuit
TC	Signal transmission circuit
Wired remote controller	
R1T	Thermistor (air)
Receiver/display unit (Attached to infrared remote controller)	
A4P	Printed circuit board
A5P	Printed circuit board
BS1	Push button (pinoff)
H1P	Light emitting diode (on-red)
H2P	Light emitting diode (time-green)
H3P	Light emitting diode (filter sign-red)
H4P	Light emitting diode (defrost-orange)
SS1	Selector switch (main/sub)
SS2	Selector switch (infrared address set)
Adaptor for wiring	
F1U	Fuse (C25A, 250V)
F2U	Fuse (C25A, 250V)
KCR	Magnetic relay
KFR	Magnetic relay
K4R	Magnetic relay (4u)
Connector for optional parts	
X2A	Connector (Sensor kit)
X8A	Connector (Auto clean panel)
X24A	Connector (Infrared remote controller)
X33A	Connector (adaptor for wiring)
X35A	Connector (group control adaptor)
X36A	Connector (Auto clean panel)



Notes

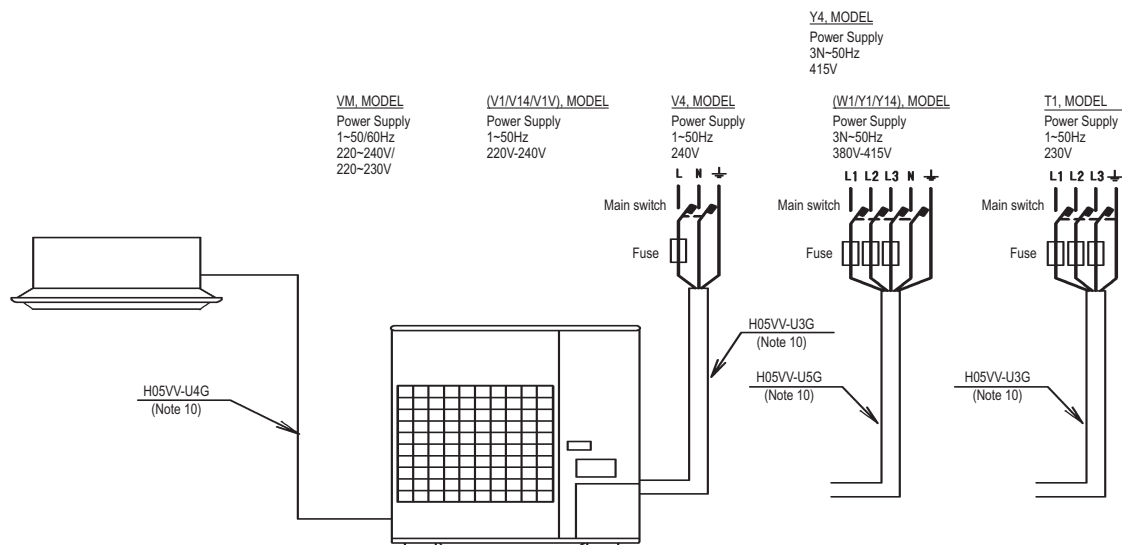
1. : Terminal block, : Connector, : Field wiring
2. In case using central remote controller, connect it to the unit in accordance with the attached installation manual.
3. X2A, X8A, X33A, X35A, X36A are connected when the optional accessories are being used. In case of using an auto clean panel, see the wiring diagram of it.
4. Connect power of adaptor for wiring to terminal block (X2M) of indoor unit directly.
5. In case of main/sub overcharge, see the installation manual attached to remote controller.
6. Symbols show as follows: RED:Red BLK:Black WHT:White YLW:Yellow GRN:Green ORG:Orange BRN:Brown PNK:Pink GRY:Grey BLU:Blue
7. Shows only in case of protected pipes, use HO7RN-F in case of no protection.
8. For the detail, see wiring diagram attached to outdoor unit.
9. When connecting the input wires from outside, forced OFF or ON/OFF control operation can be selected by the remote controller. See installation manual for more details.

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9 External connection diagrams

9 - 1 External Connection Diagrams

FCQHG-F



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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 conductor only.
4. As for details, see wiring diagrams.
5. Install fuse and main switch for safety.
6. All field wiring and components must be provided by a licensed electrician.
7. 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 source with other equipment.
10. Shows only in case of protected pipes.
Use H07RN-F in case of no protection.

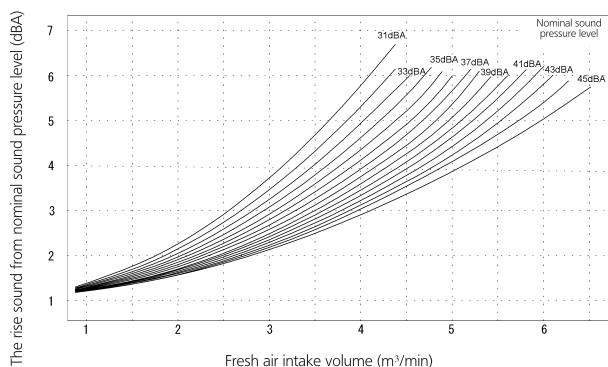
10 Sound data

10 - 1 Sound Pressure Spectrum

FCQHG-F

Max fresh air intake volume table

The rise of operating sound with fresh air intake kit



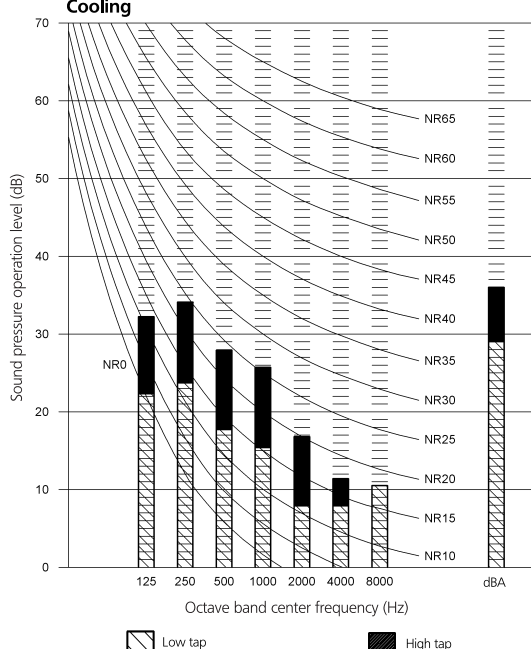
The maximum intake air flow volume is following table.
If the intake air flow volume is too large, the operating sound may rise or detection of the indoor unit suction temperature may be affected.

FCQHG-F	71	100	125	140
Max fresh air intake volume (m³/min)	4.2	6.4	6.7	6.7

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FCQHG71F

Cooling



Low tap

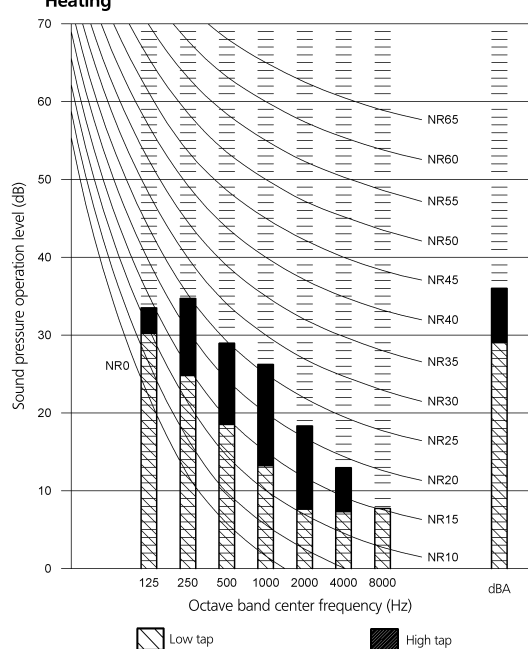
High tap

NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Curve for FCQHG71FVEB in cooling/heating mode.
- 6 Sound power level:

High tap
53 dB

Heating



Low tap

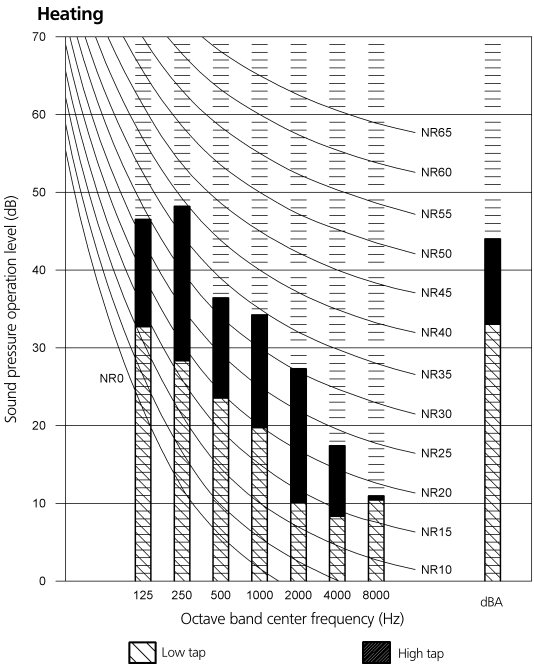
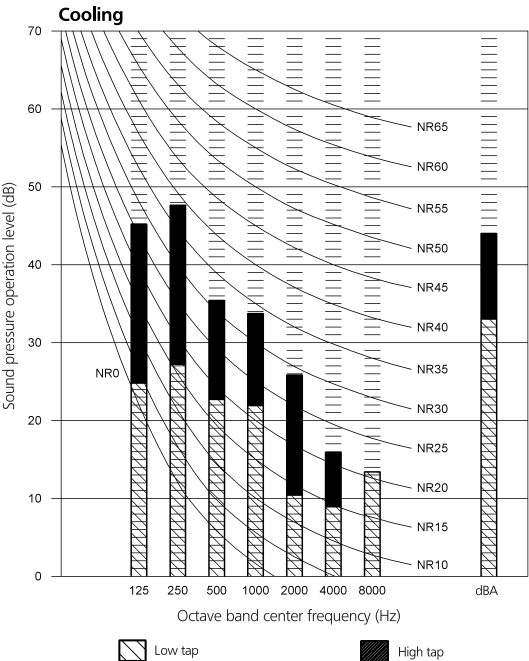
High tap

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10 Sound data

10 - 1 Sound Pressure Spectrum

FCQHG100F



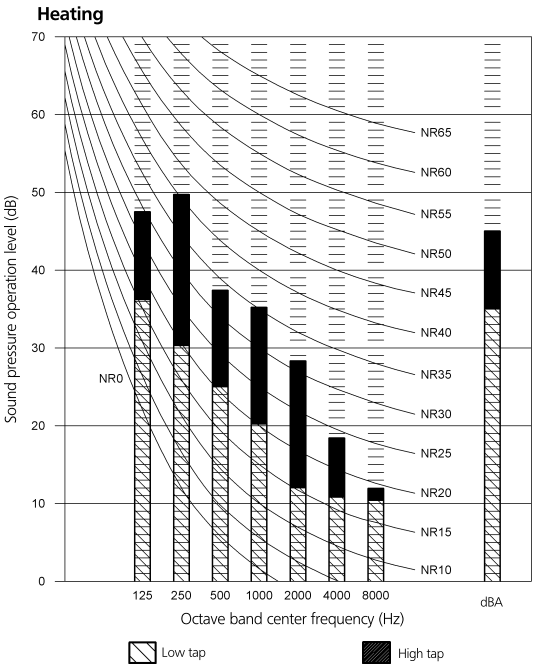
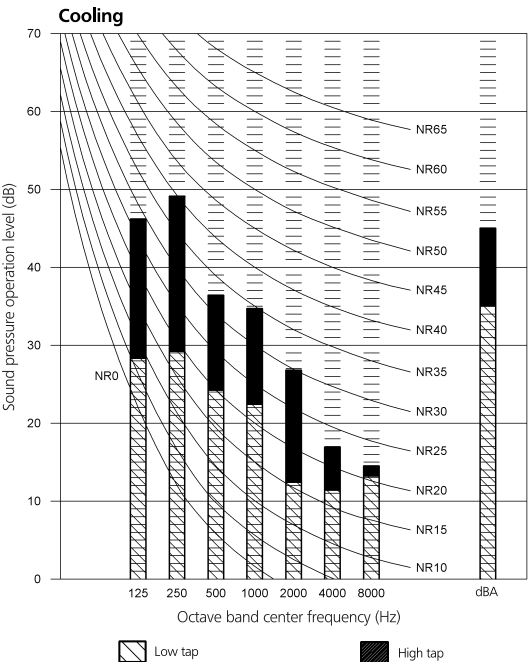
NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Curve for FCQHG100FVEB in cooling/heating mode.
- 6 Sound power level:

High tap
61 dB

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FCQHG125F



NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Curve for FCQHG125FVEB in cooling/heating mode.
- 6 Sound power level:

High tap
61 dB

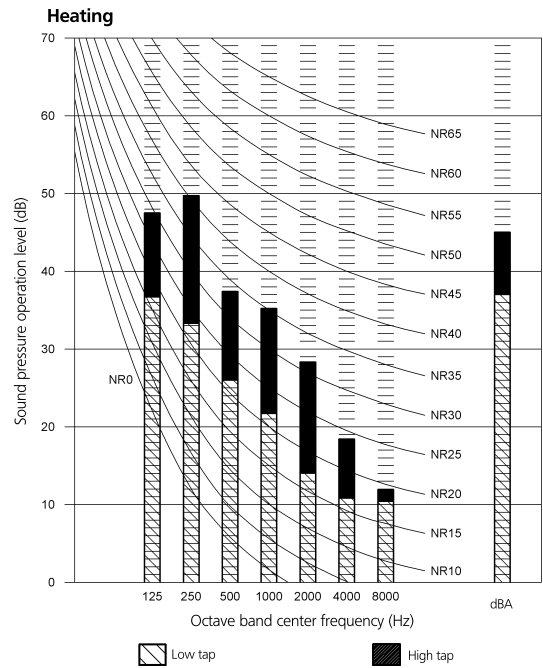
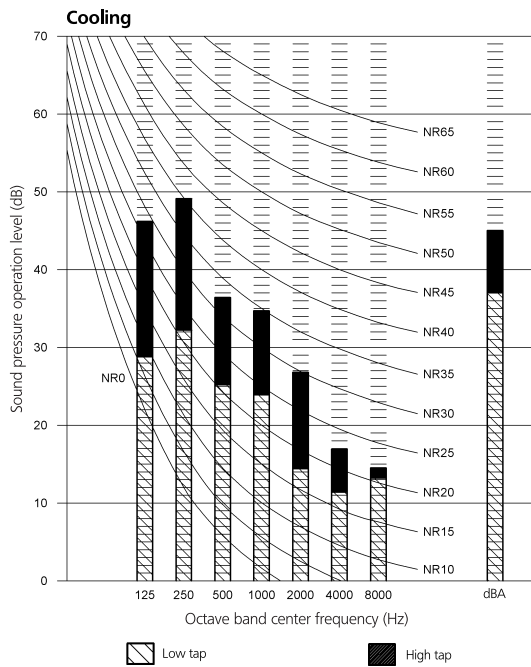
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10 Sound data

10 - 1 Sound Pressure Spectrum

10

FCQHG140F



NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Curve for FCQHG140FVEB in cooling/heating mode.
- 6 Sound power level:

High tap
61 dB

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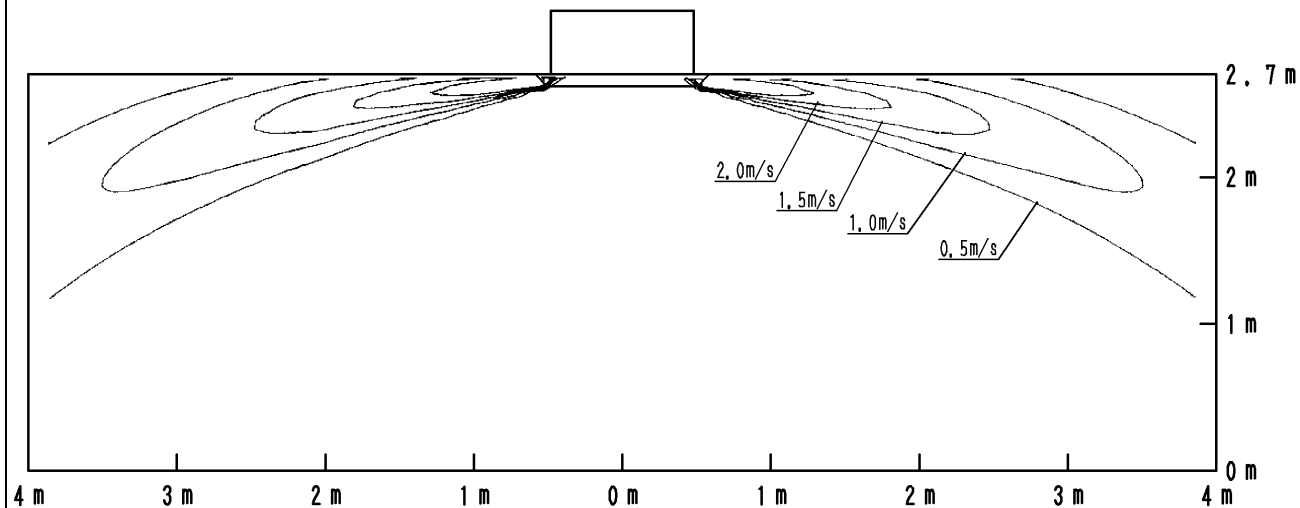
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQHG71F

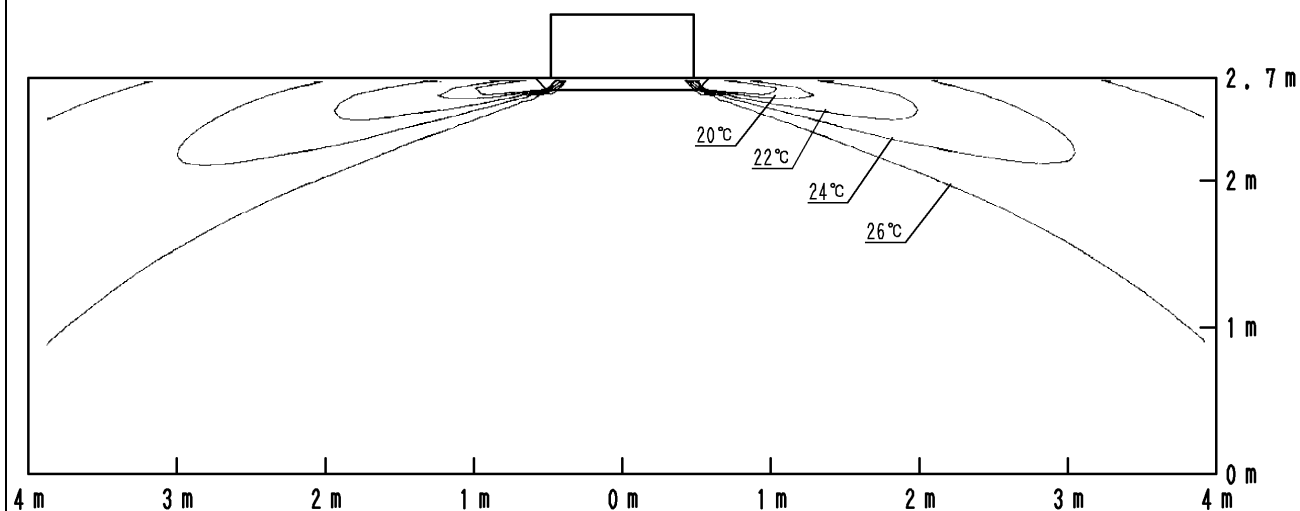
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



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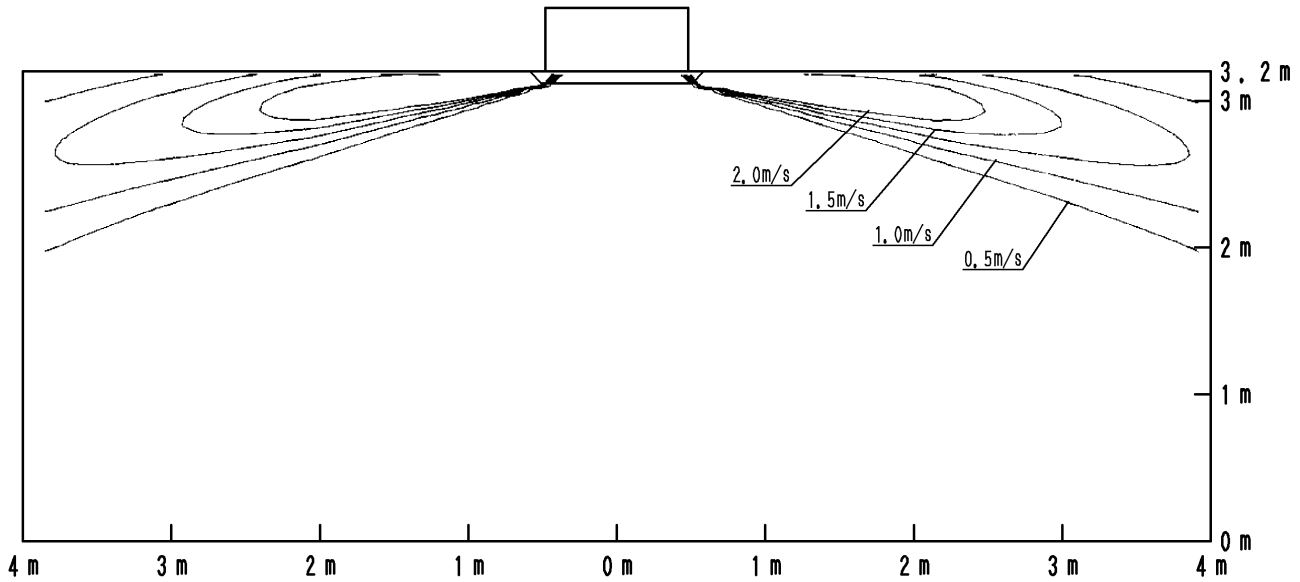
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQHG100F

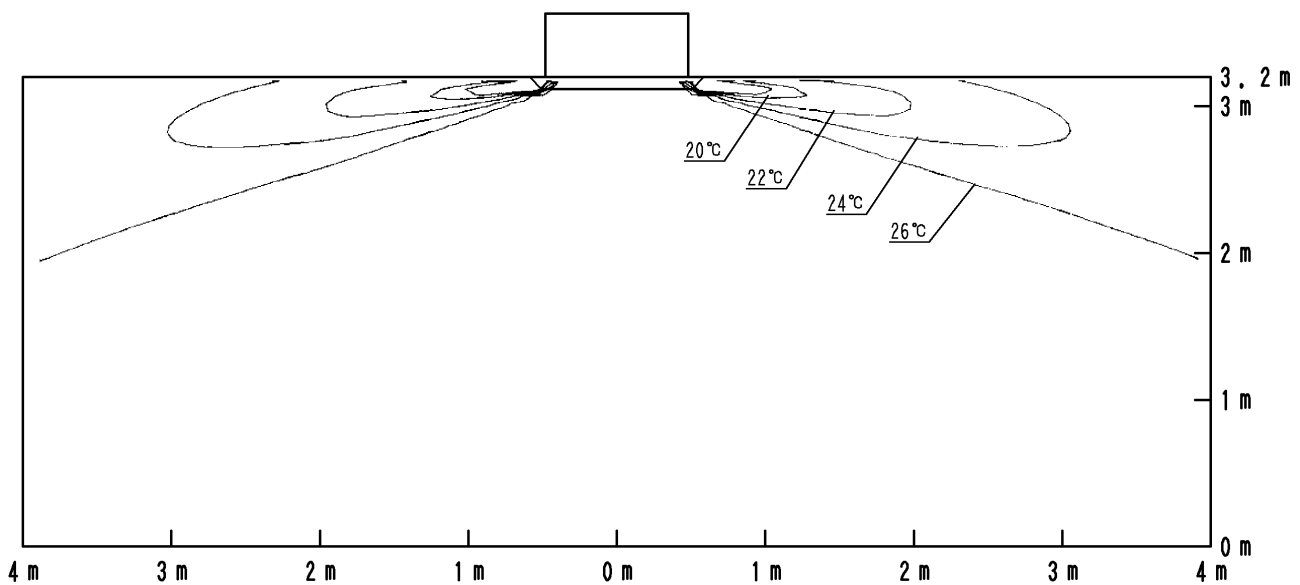
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



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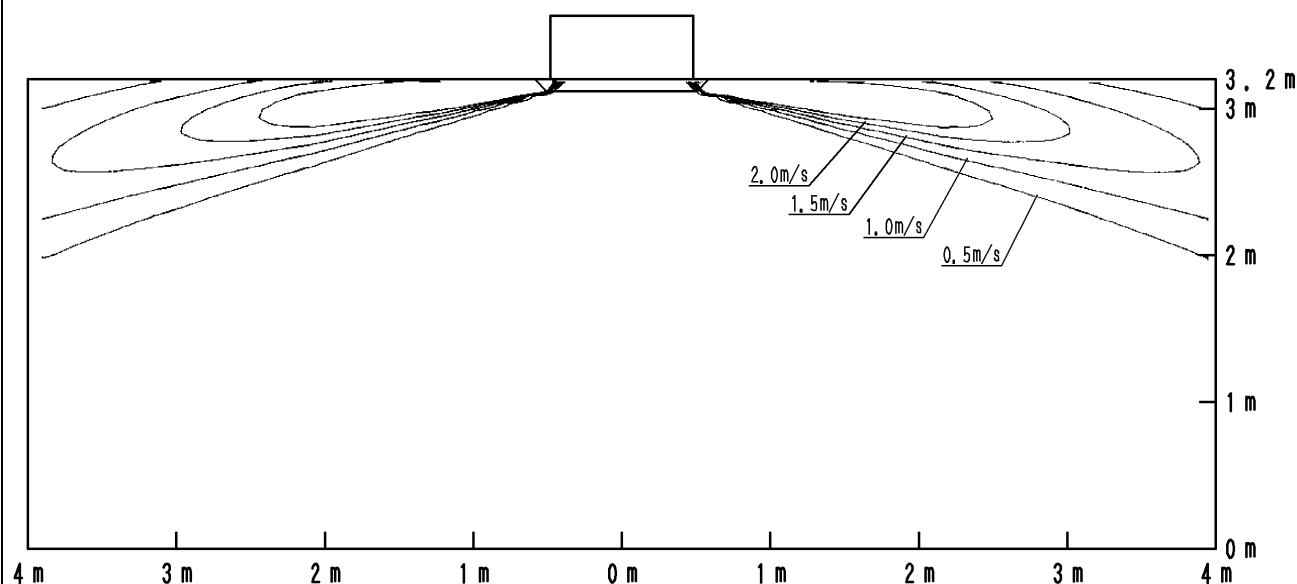
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQHG125F

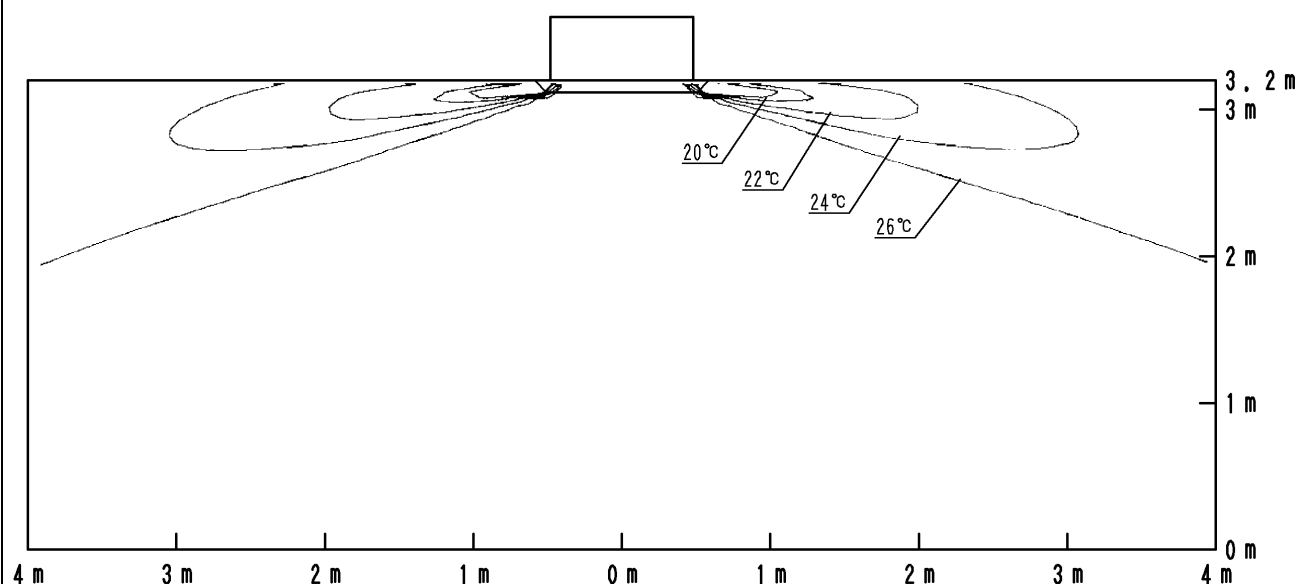
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



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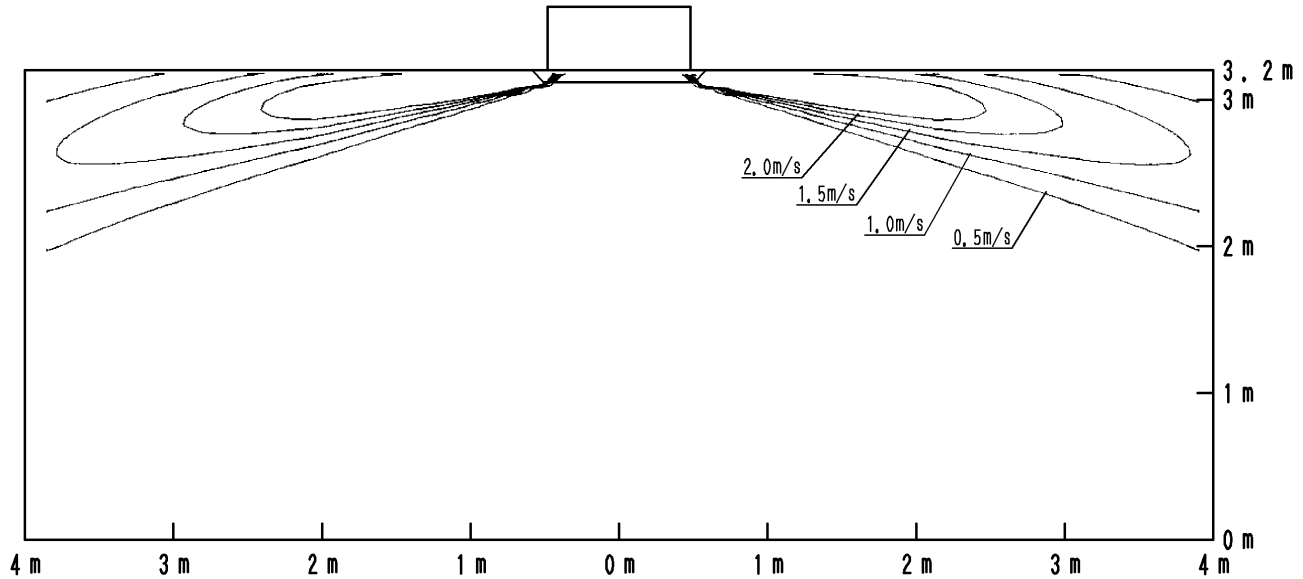
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQHG140F

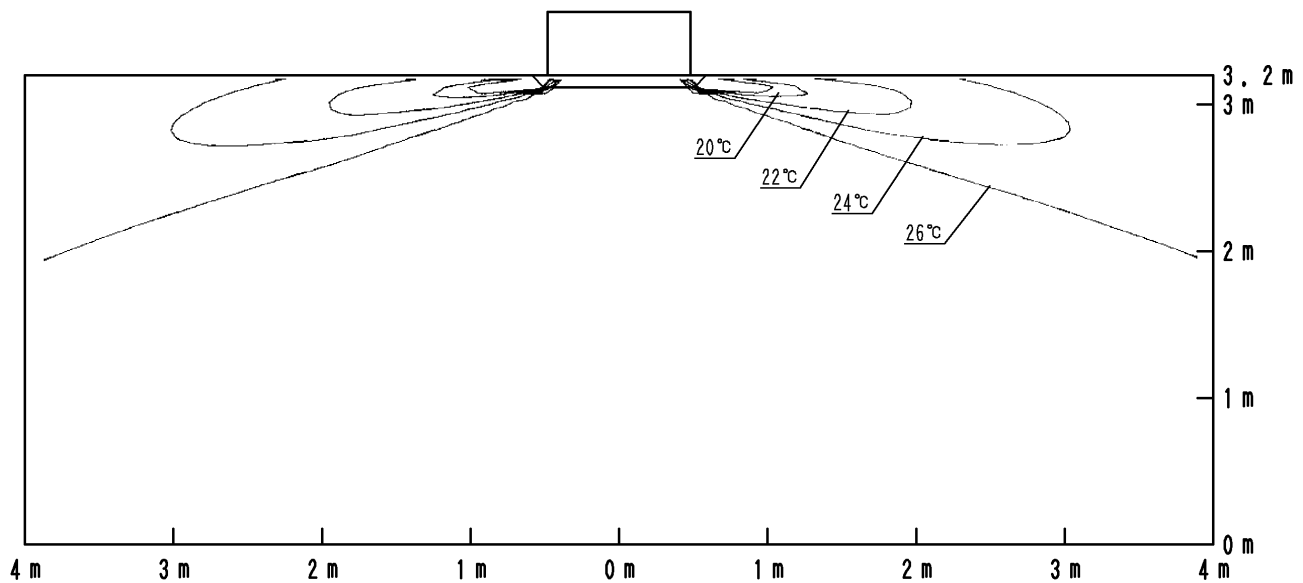
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



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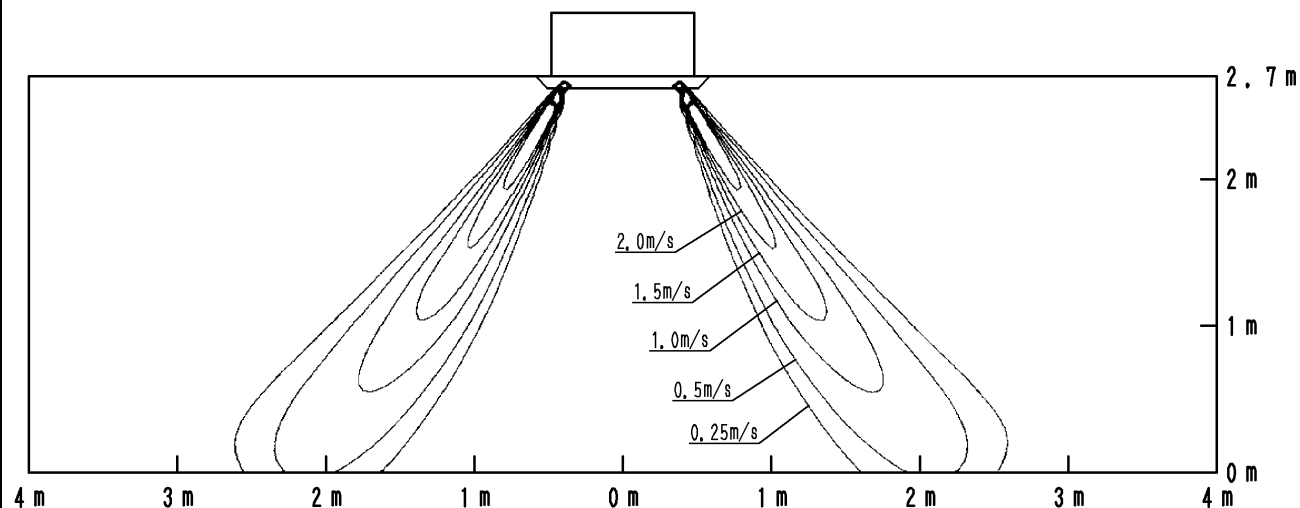
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQHG71F

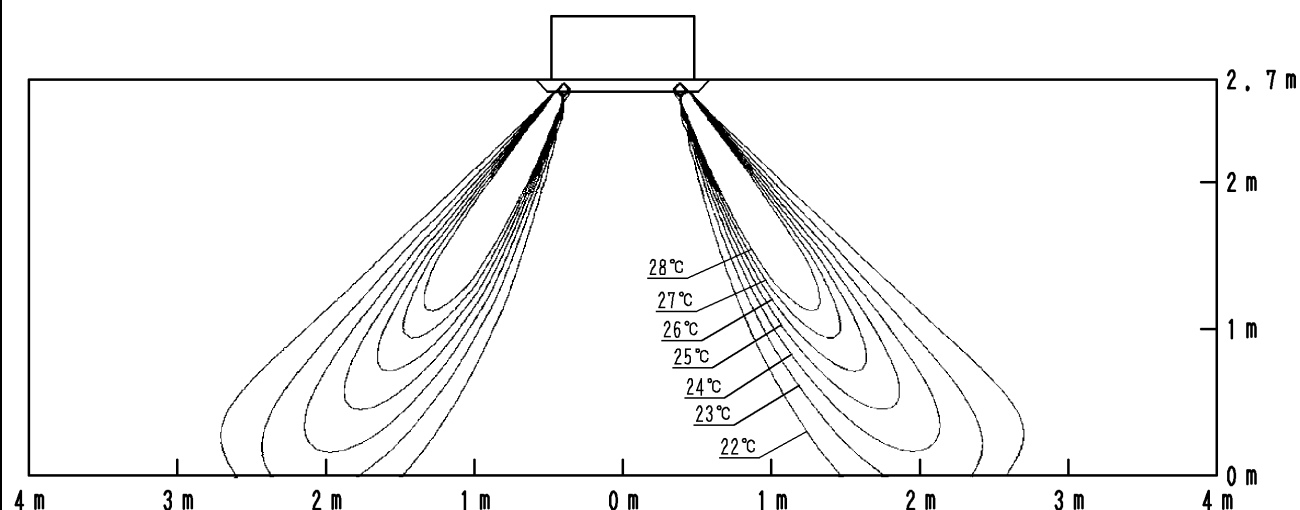
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077049

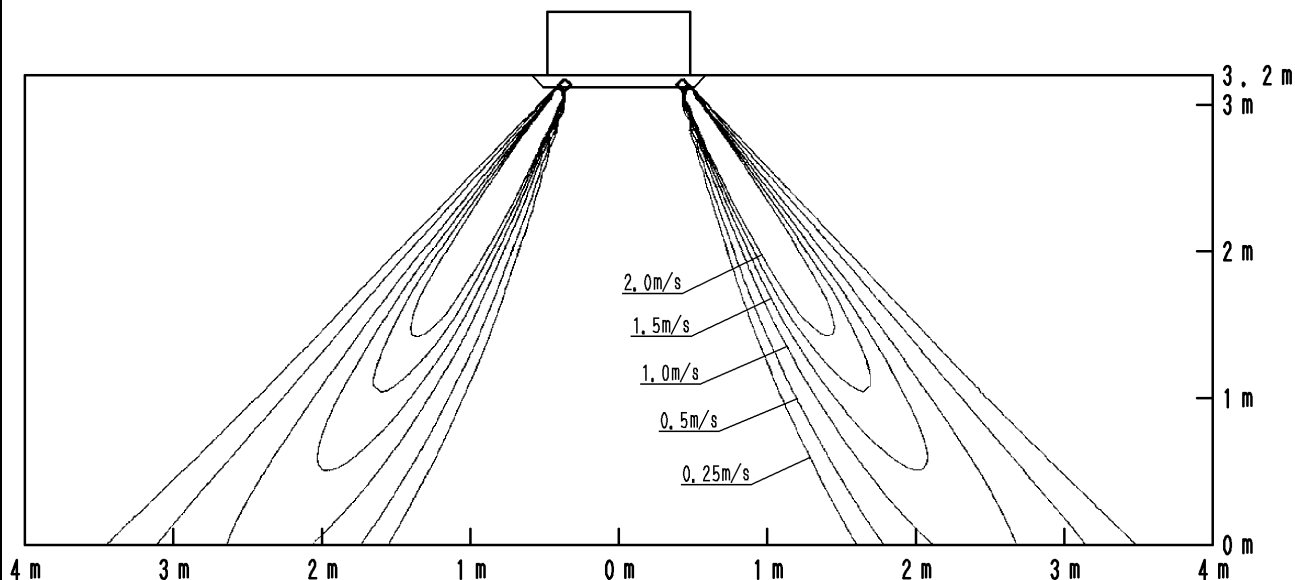
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQHG100F

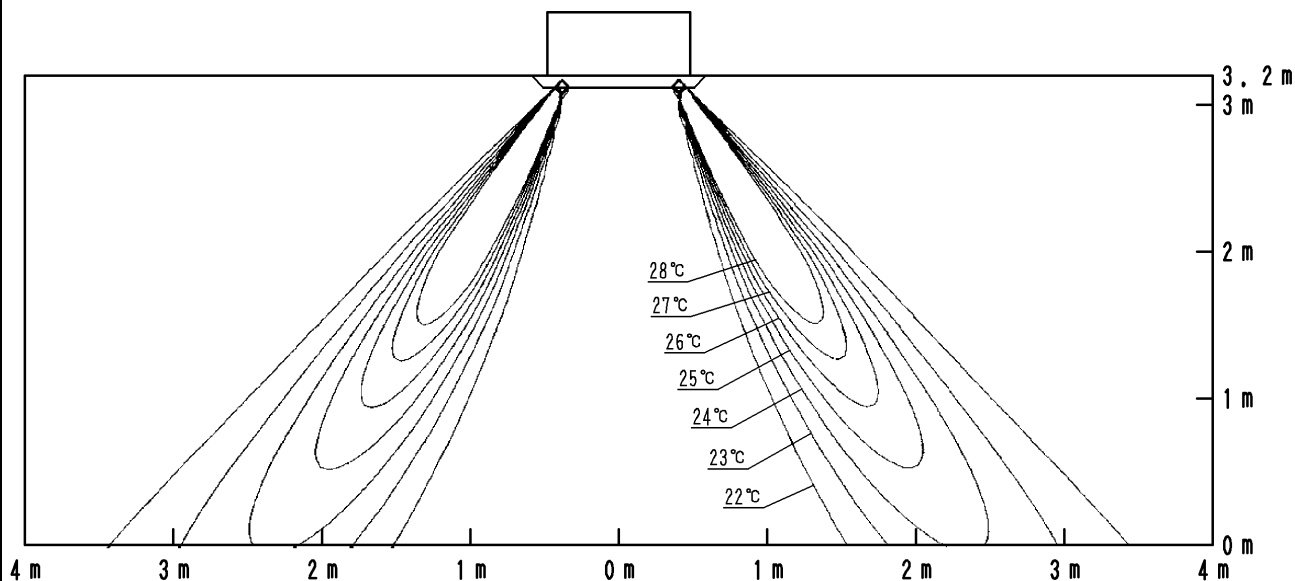
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077050

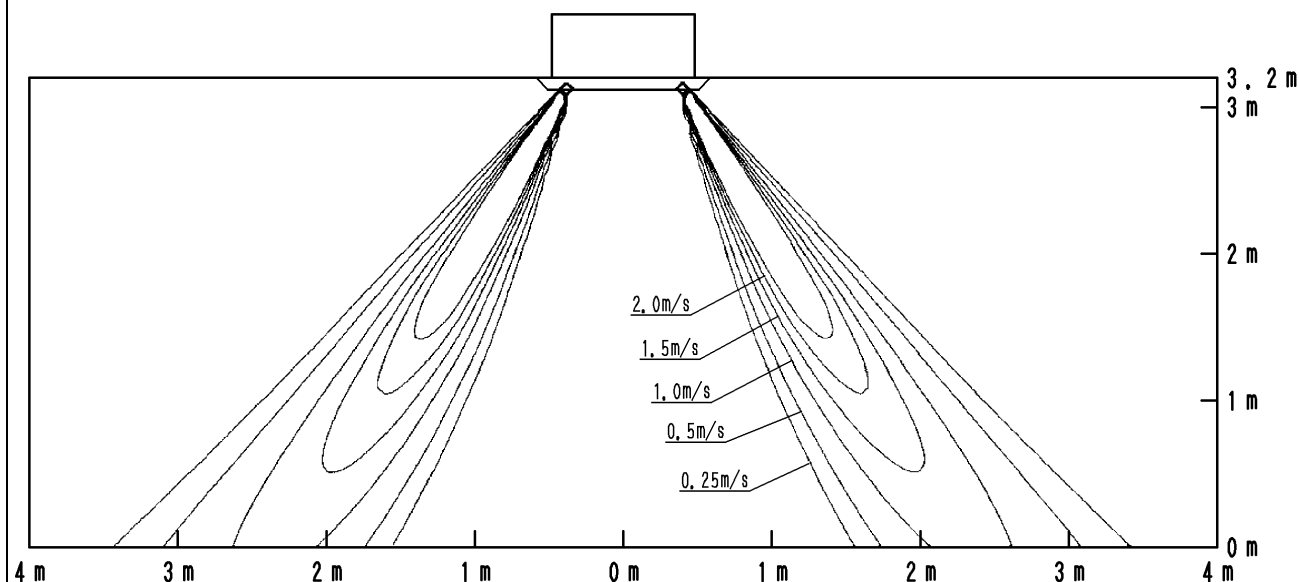
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQHG125F

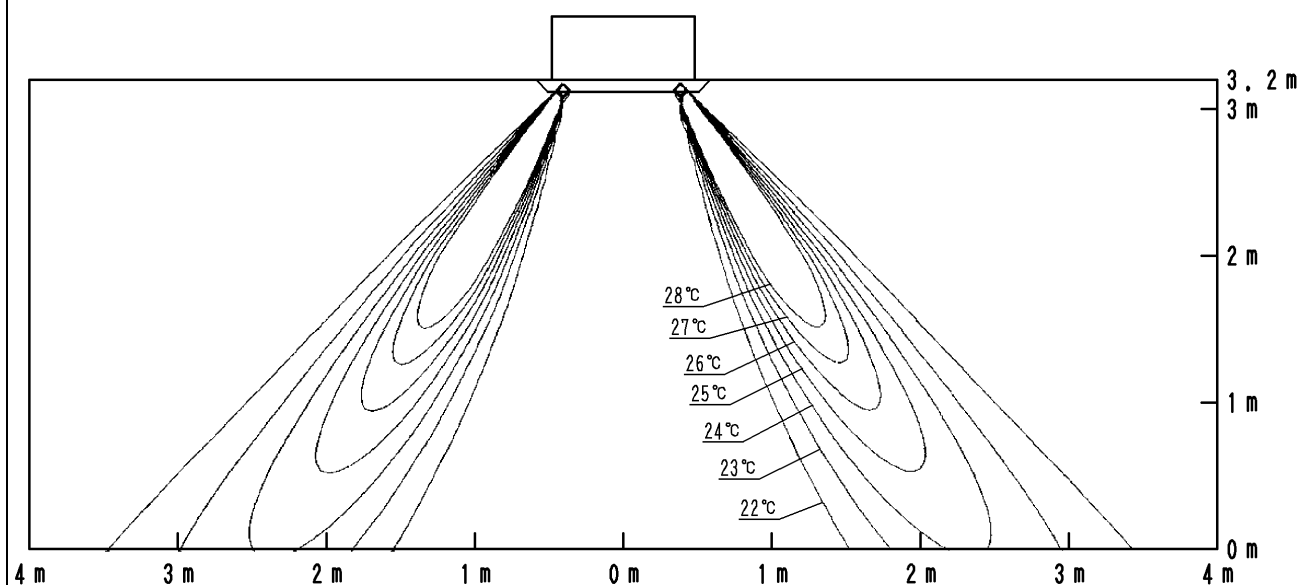
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077051

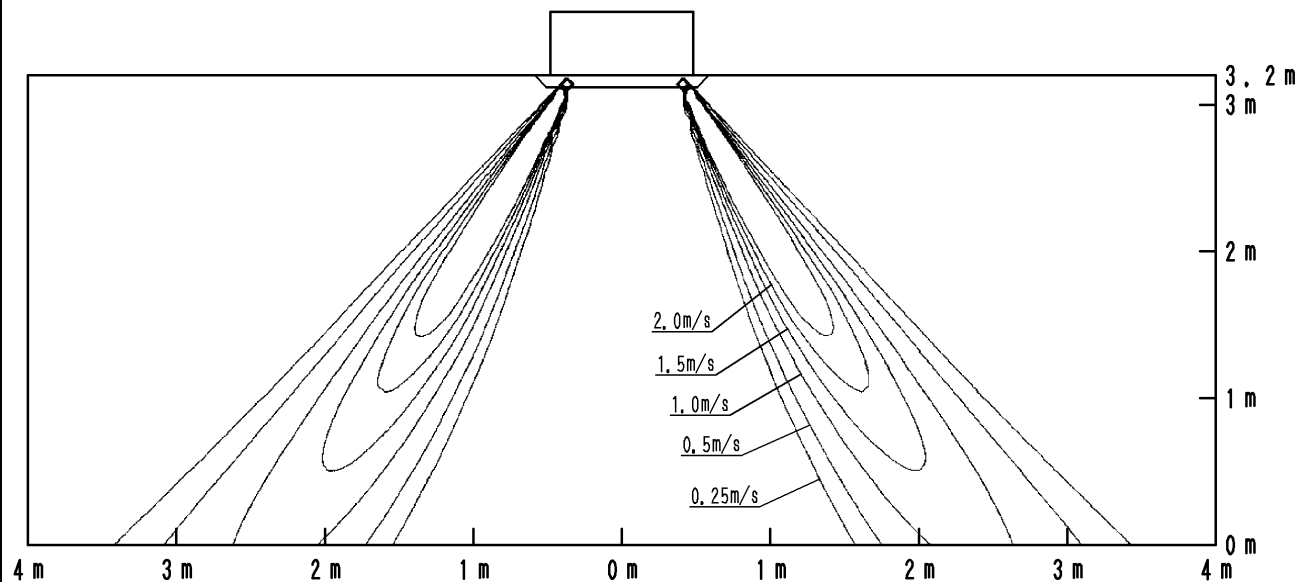
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQHG140F

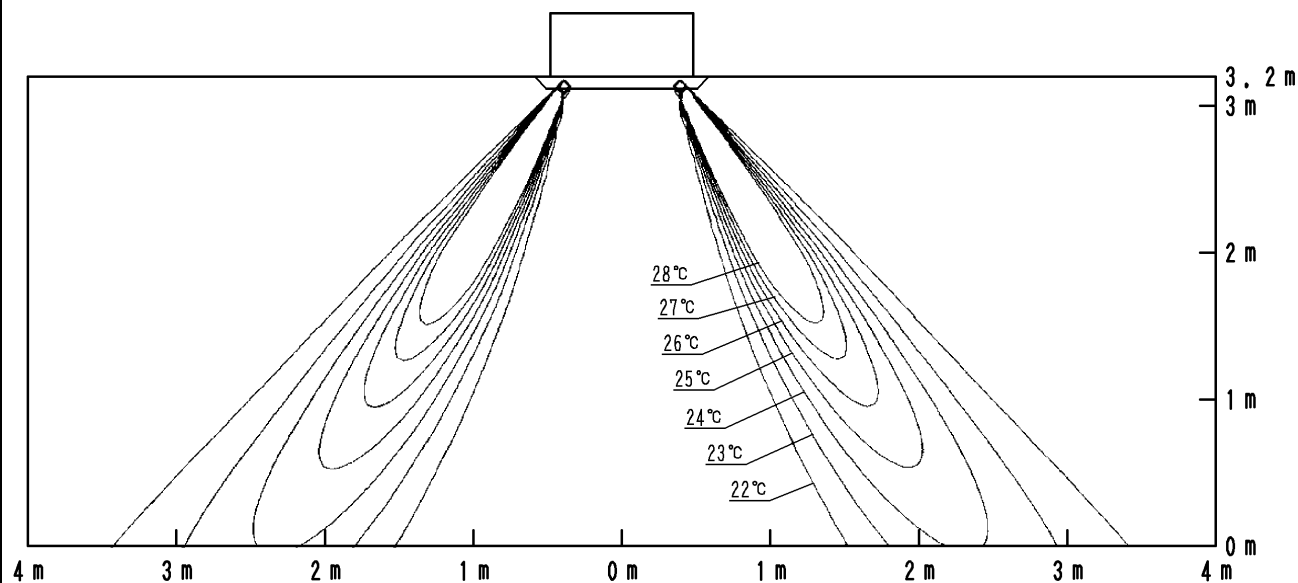
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077052A



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