



Air Conditioning

Technical Data

Round flow cassette



EEDEN15-100

FCQG-F

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FCQG-F

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1 Features

360° air discharge for optimum efficiency and comfort

- 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	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				FCQG35F	FCQG50F	FCQG60F	FCQG71F	FCQG100F	FCQG125F	FCQG140F
Casing	Material			Galvanised steel plate						
Dimensions	Unit	Height/Width/Depth	mm	204/840/840				246/840/840		
	Packed unit	Height/Width/Depth	mm	220/880/880				260/880/880		
Weight	Unit		kg	18	19		21	24		
	Packed unit		kg	22	23		25	28		
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	2,134			2,090			
	Outside length		mm	2,181			2,184			
	Rows	Quantity		2			3			
	Fin pitch		mm	1.2						
	Passes	Quantity		4	6		12	14		
	Face area		m²	0.278	0.366		0.371	0.464		
	Stages	Quantity		9	12			15		
	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	12.5	12.6	13.6	15.0	22.8	26.0
			Nom.	m³/min	10.6	10.7	11.2	12.1	17.6	19.2
			Low	m³/min	8.7			9.1	12.4	
		Heating	High	m³/min	12.5	12.6	13.6	15.0	22.8	26.0
			Nom.	m³/min	10.6	10.7	11.2	12.1	17.6	19.2
Low			m³/min	8.7			9.1	12.4		
Fan motor	Model			QTS48D11M				QTS48C15M		
	Speed	Steps		3						
	Output	High	W	48				106		
Sound power level	Cooling		dBA	49		51		54	58	
	Heating		dBA	49		51		54	58	
Sound pressure level	Cooling	High/Nom./Low	dBA	31/29/27		33/31/28		37/33/29	41/35/29	
	Heating	High/Nom./Low	dBA	31/29/27		33/31/28		37/33/29	41/35/29	
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/6.35			Flare connection/9.52			
	Gas	Type/OD	mm	Flare connection/9.52	Flare connection/12.7			Flare connection/15.9		
	Drain			VP25 (O.D. 32 / I.D. 25)						
	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			FCQG35F	FCQG50F	FCQG60F	FCQG71F	FCQG100F	FCQG125F	FCQG140F
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

FCQG-F

Safety devices		FCQG35FVEB	FCQG50FVEB	FCQG60FVEB	FCQG71FVEB	FCQG100FVEB	FCQG125FVEB	FCQG140FVEB
Fuse		250V 5A	250V 5A	250V 5A	---	---	---	---
Fan motor thermal fuse	°C	---	---	---	---	---	---	---
Fan motor thermal protector	°C	---	---	---	---	---	---	---
Drain pump fuse	°C	---	---	---	---	---	---	---

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4 Options

4 - 1 Options

FCQG-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	Longlifereplacement 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				

Controlsystem

	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

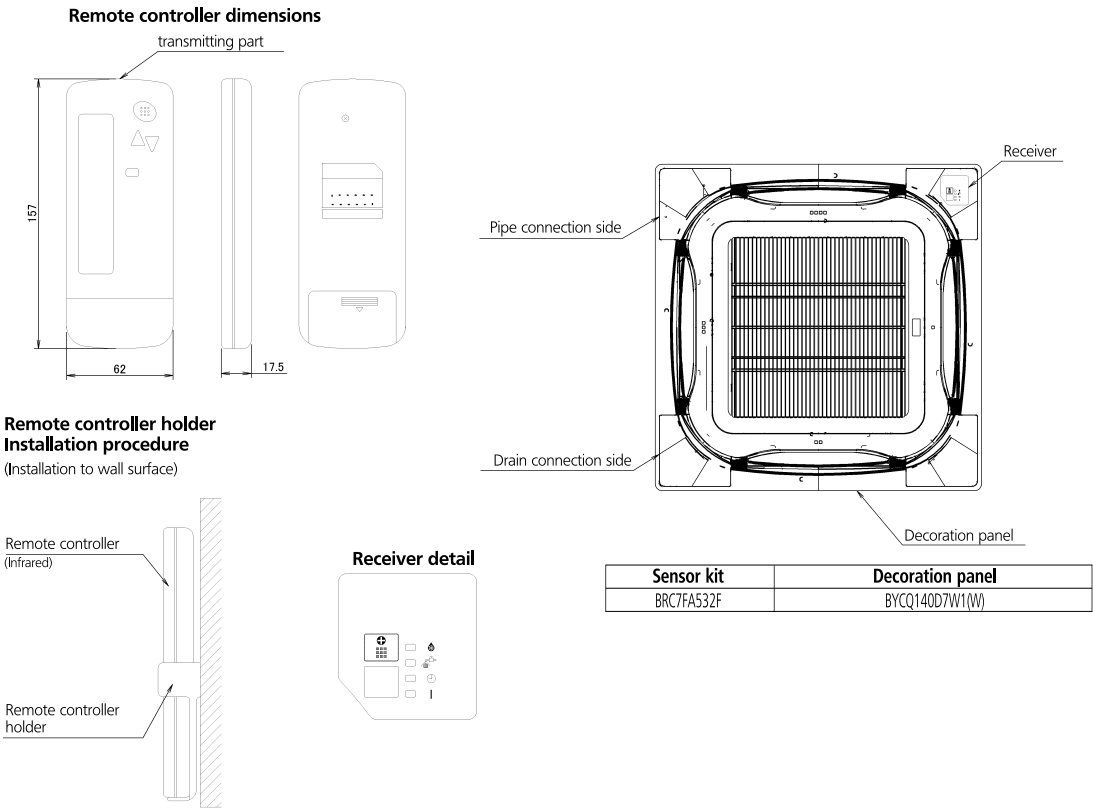
- All options are supplied as kit.
- Installation box is necessary for these adapters.
- The BYCQ140D7W1W has white insulations. Be informed that formation of dirt on white insulations is visibly stronger and that it is consequently not advised to install the BYCQ140D7W1W decoration panel in environments 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

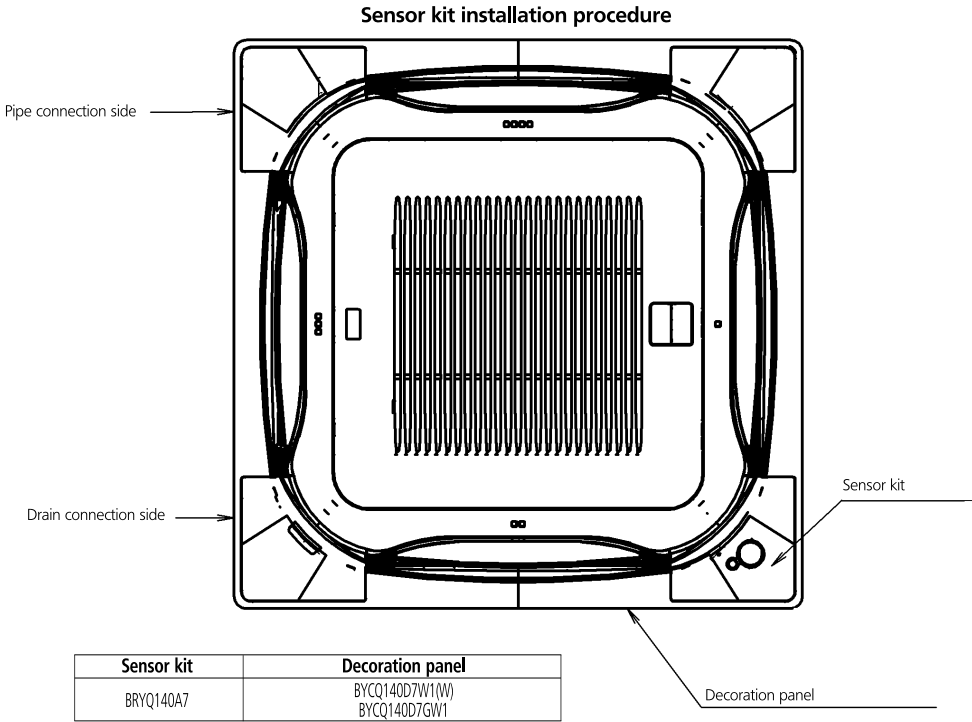
5 - 1 Dimensional Drawings with Accessories

FCQG-F



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FCQG-F



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5 Dimensional drawings

5 - 1 Dimensional Drawings with Accessories

5

FCQG35-71F

with auto-cleaning panel

- 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
FCQG35-71F, FXFQ20-63A

Notes:

1. 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.
2. When installing an optional accessory, refer to the installation drawings.
 - For fresh air intake kit an inspection part is necessary.
3. Make sure the spacing between the ceiling and the cassette is no more than 35mm. MAX ceiling opening: 910mm.
4. 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 10 mm or more).
5. In case of using a sensor kit, this position will be a sensor, refer to the drawing of the sensor kit for more detail.

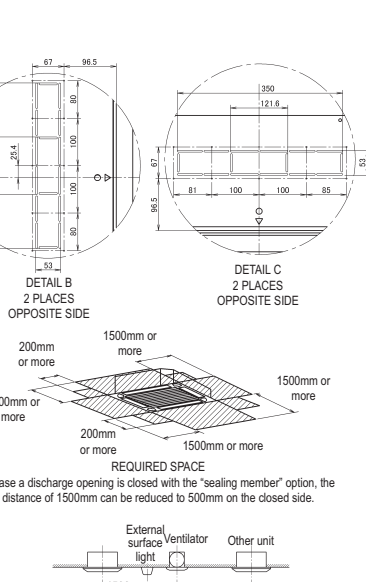
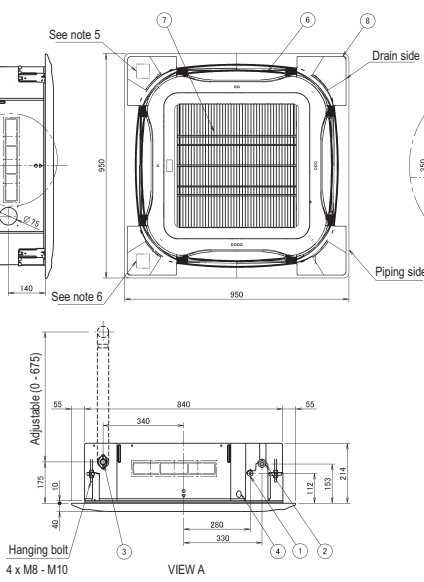
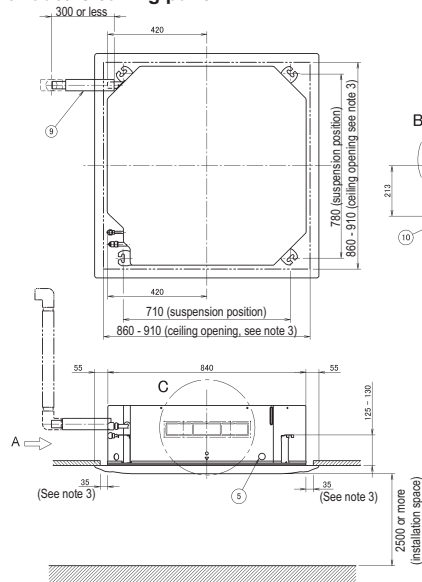
Required space

In case a discharge opening is closed with the "sealing member" option, the distance of 1500mm can be reduced to 500mm on the closed side.

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FCQG35-71F

with auto-cleaning panel



NOTE

1. 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
2. When installing an optional accessory, refer to the installation drawings.
 - For fresh air intake kit an inspection part is necessary
3. Make sure the spacing between the ceiling and the cassette is no more than 35mm. Max ceiling opening: 910mm
4. 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)
5. In case of using a sensor kit, this position will be a sensor, refer to the drawing of the sensor kit for more detail
6. In case of using a 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
FCQG35-71FVEB, FXFQ20-63AVEB

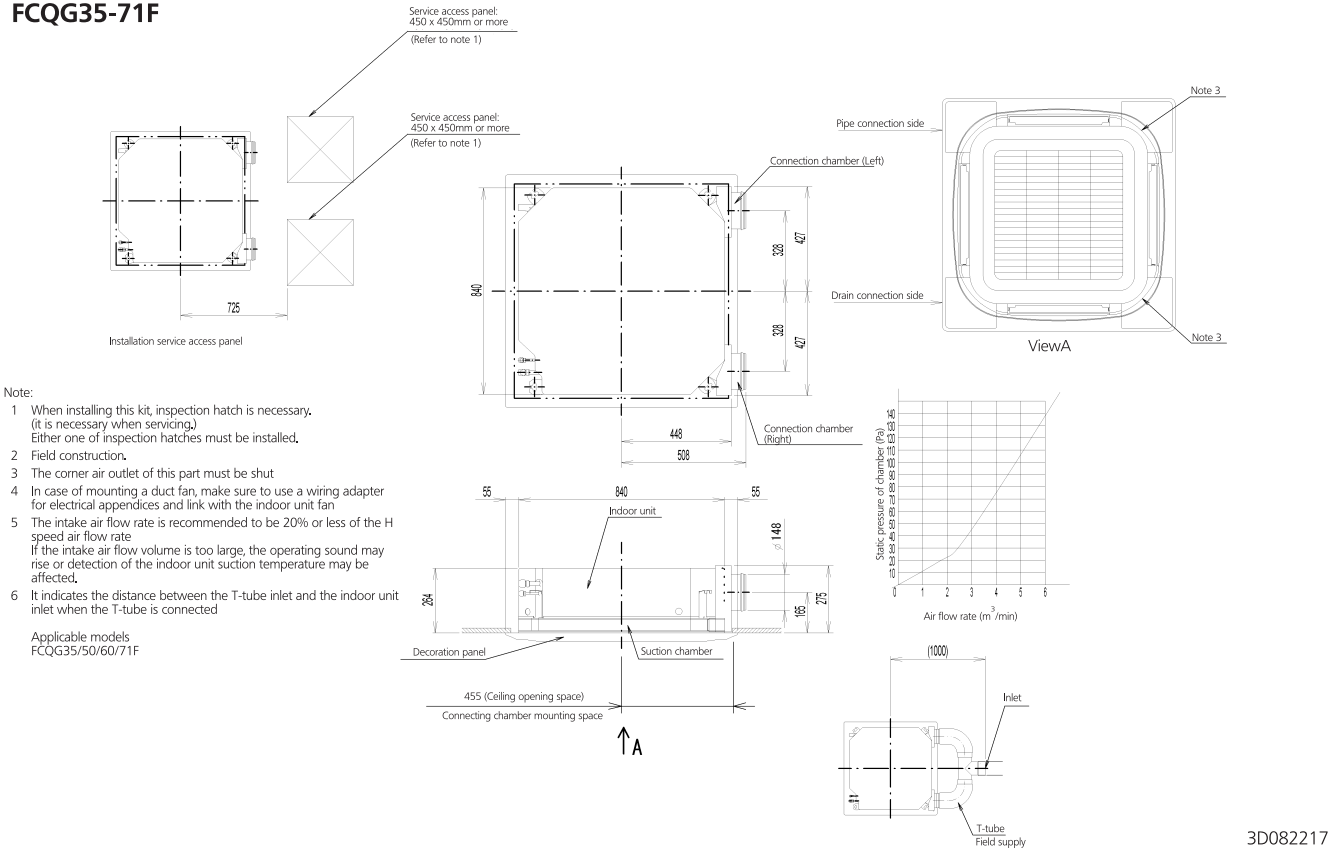
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5 Dimensional drawings

5 - 1 Dimensional Drawings with Accessories

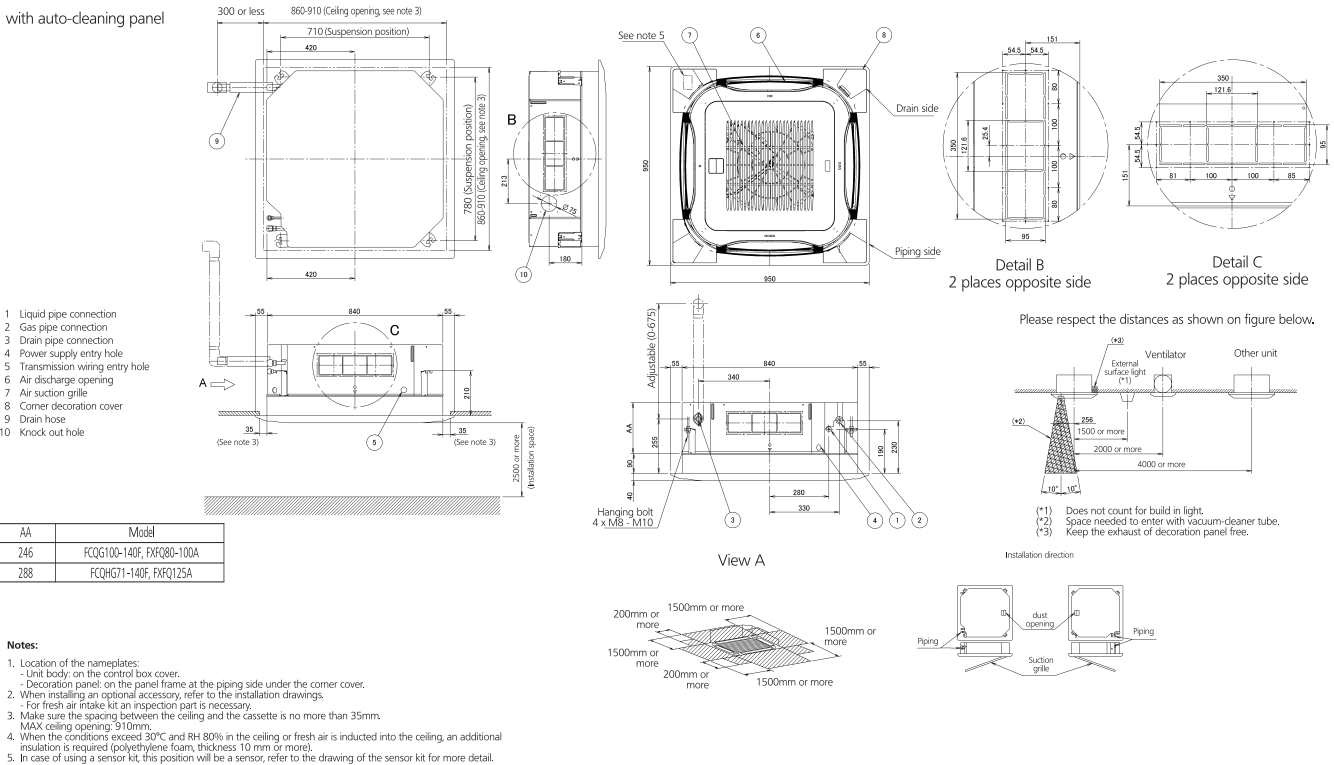
FCQG35-71F



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FCQG100-140F

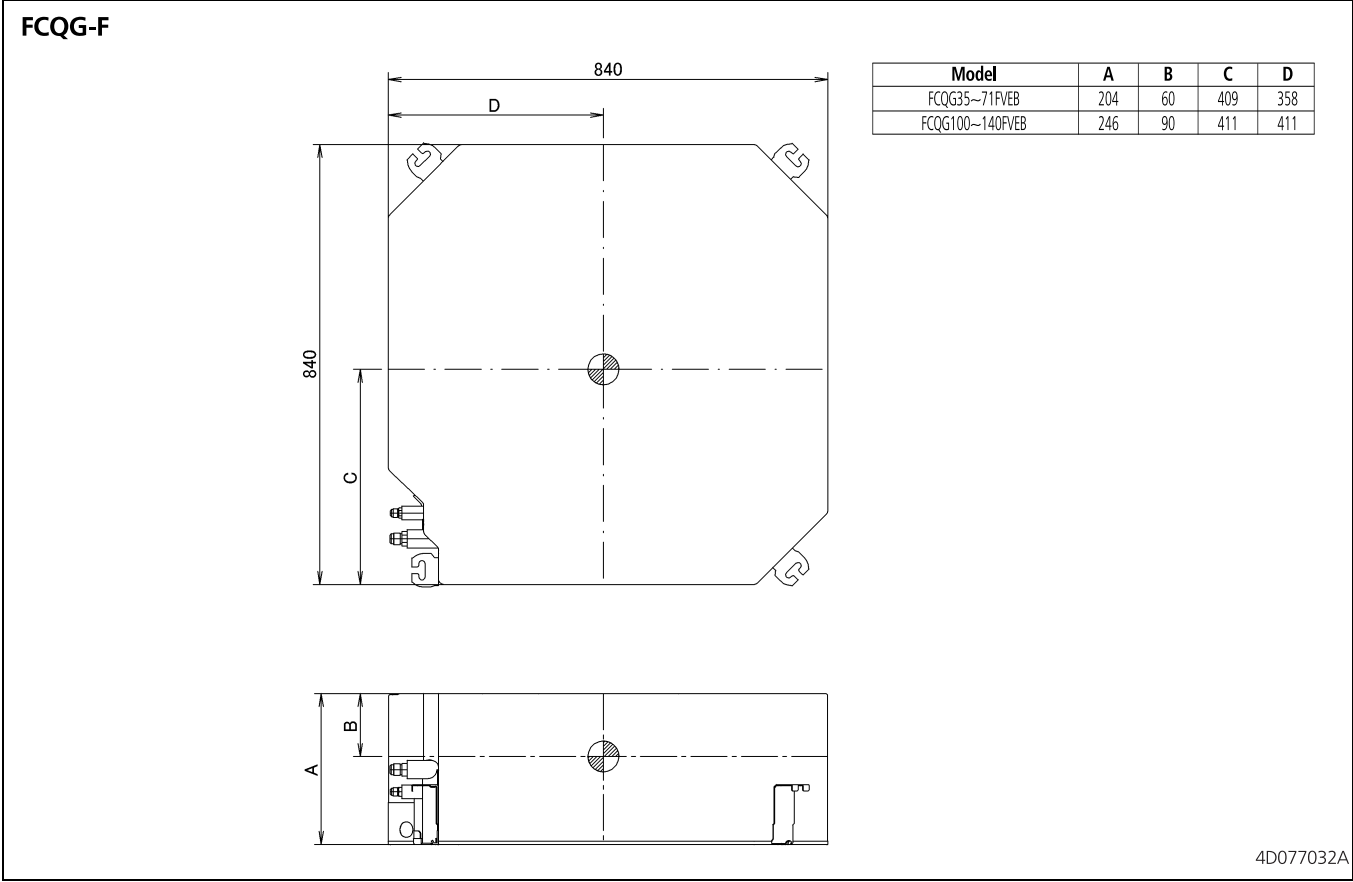
with auto-cleaning panel



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6 Centre of gravity

6 - 1 Centre of Gravity



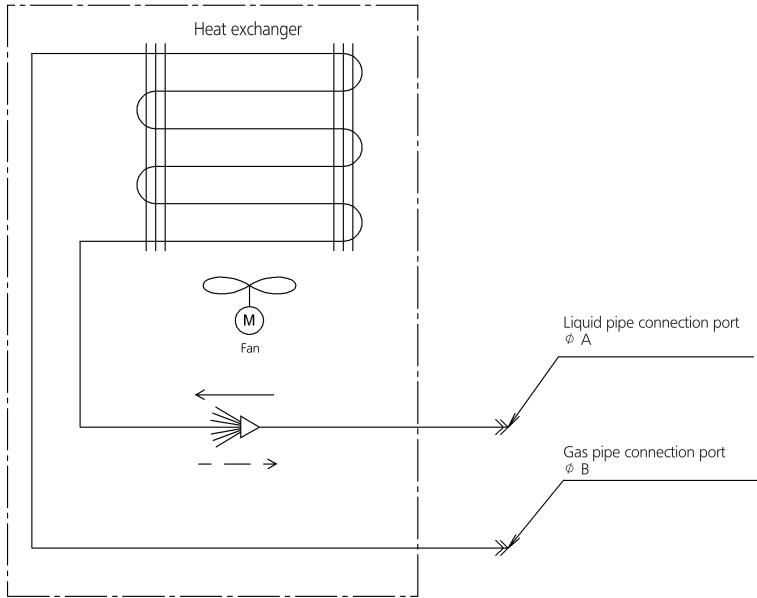
7 Piping diagrams

7 - 1 Piping Diagrams

7

FCQG-F

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



Model	A	B
FCQG35FVEB	6.35	9.52
FCQG50FVEB		12.7
FCQG60FVEB		
FCQG71FVEB	9.52	15.9
FCQG100FVEB		
FCQG125FVEB		
FCQG140FVEB		

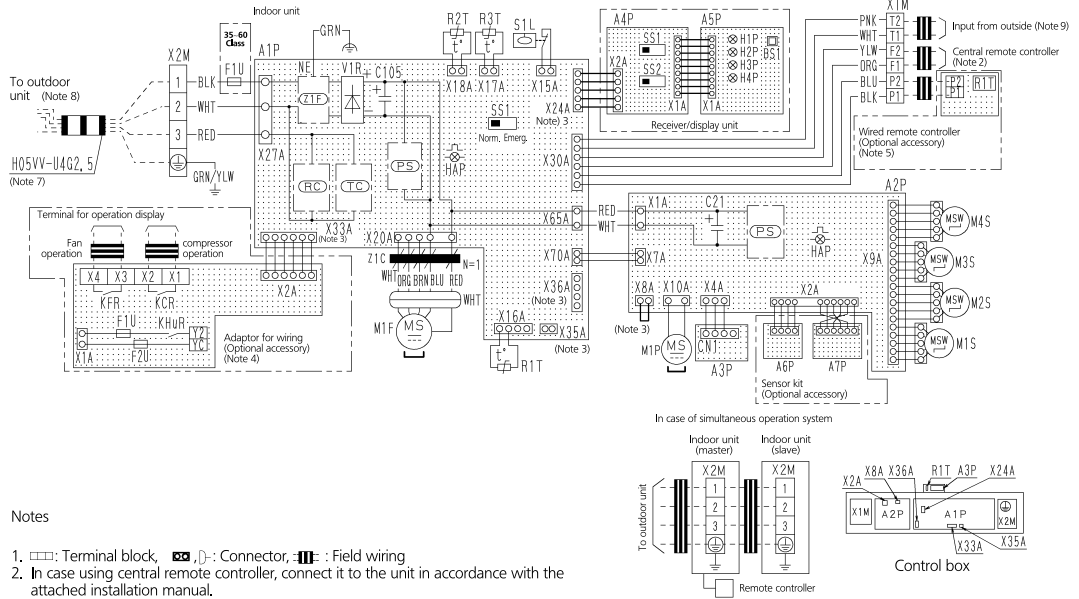
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8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

FCQG-F

Indoor unit	
A1P	Printed circuit board
A2P	Printed circuit board
A3P	Printed circuit board (Humidity sensor unit)
C21	Capacitor
C105	Capacitor
F1U	Fuse (F: 5A, 250V)
H4P	Light emitting diode (service monitor green)
M1P	Motor (indoor fan)
M1P	Motor (drain pump)
M1S-A4S	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	Zero core (Noise filter)
Z1CB	Noise filter
PS	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
B51	Push button (on/off)
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 (F: 5A, 250V)
F2U	Fuse (F: 5A, 250V)
KCR	Magnetic relay
KFR	Magnetic relay
MS	Magnetic relay (H)
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

- : Terminal block, ⊗: Connector, —: Field wiring
- In case using central remote controller, connect it to the unit in accordance with the attached installation manual.
- 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.
- Connect power of adaptor for wiring to terminal block (X2M) of indoor unit directly.
- In case of main/sub overcharge, see the installation manual attached to remote controller.
- Symbols show as follows: RED:Red BLK:Black WHT:White YLW:Yellow GRN:Green ORG:Orange BRN:Brown PNK:Pink GRY:Grey BLU:Blue.
- Shows only in case of protected pipes, use HO7RN-F in case of no protection.
- For the detail, see wiring diagram attached to outdoor unit.
- 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 - 1 External Connection Diagrams



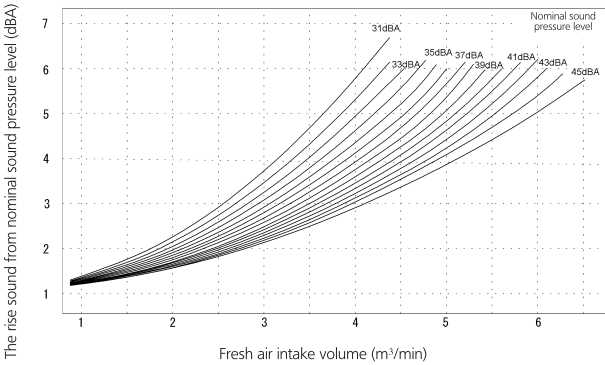
10 Sound data

10 - 1 Sound Pressure Spectrum

FCQG-F

Max fresh air intake volume table

The rise of operating sound with fresh air intake kit



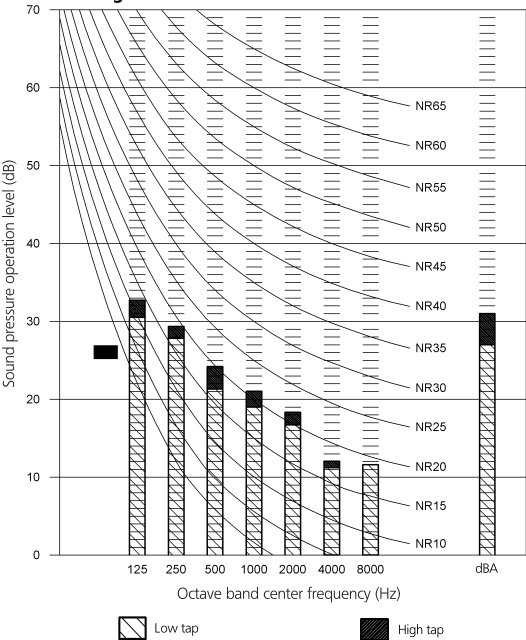
The maximum intake air flow volume is following table.
If the intake air flow volume is too large, the operating sound may rise or detection of the indoor unit suction temperature may be affected.

FCQG-F	35	50	60	71	100	125	140
Max fresh air intake volume (m³/min)	2.5	2.5	2.7	3.0	4.5	5.2	5.2

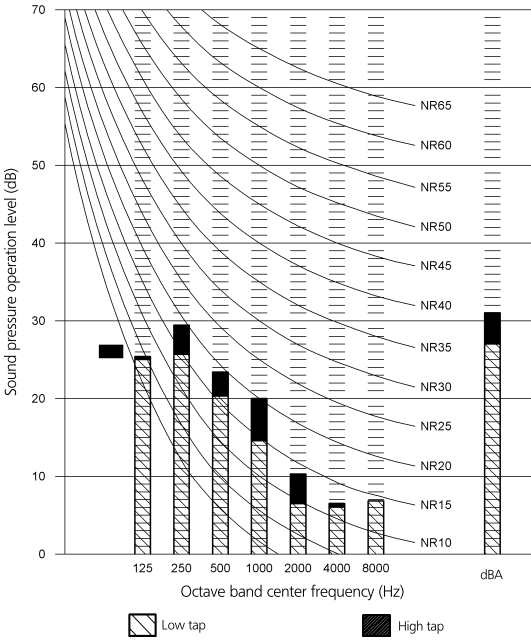
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FCQG35-50F

Cooling



Heating



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 FCQG35FVEB and FCQG50FVEB in cooling/heating mode.
- 6 Sound power level:

High tap
49 dB

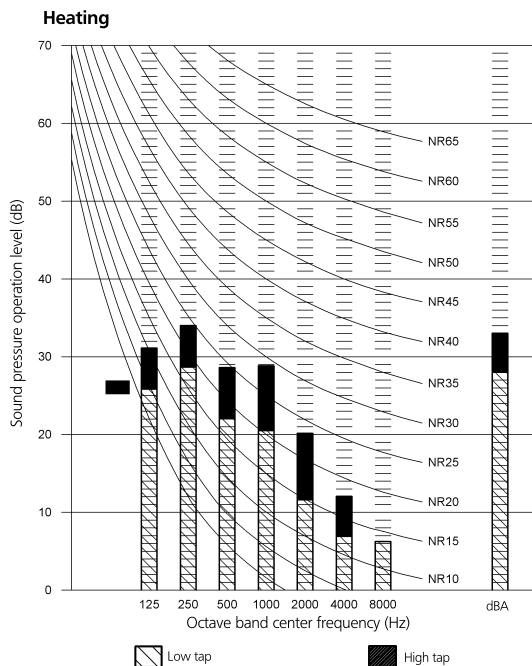
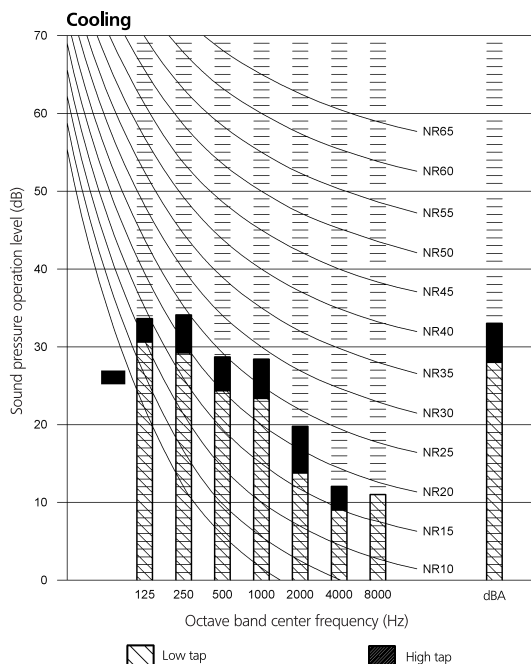
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10 Sound data

10 - 1 Sound Pressure Spectrum

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FCQG60-71F



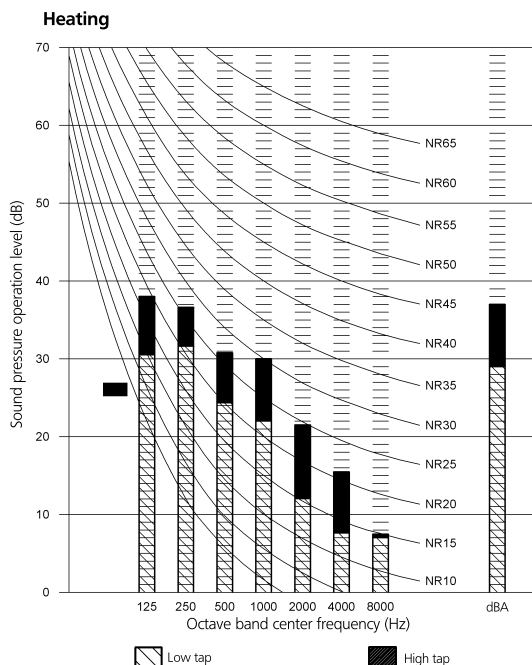
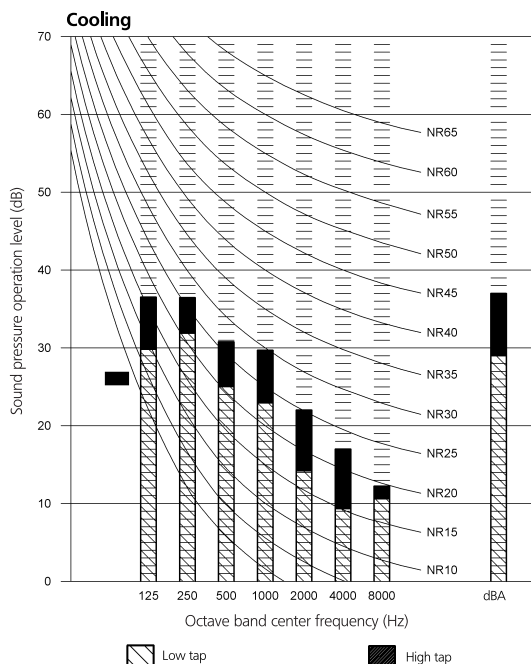
NOTES

- 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 FCQG60FVEB and FCQG71FVEB in cooling/heating mode.
- 6 Sound power level:

High tap
51 dB

3D077505

FCQG100F



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 FCQG100FVEB in cooling/heating mode.
- 6 Sound power level:

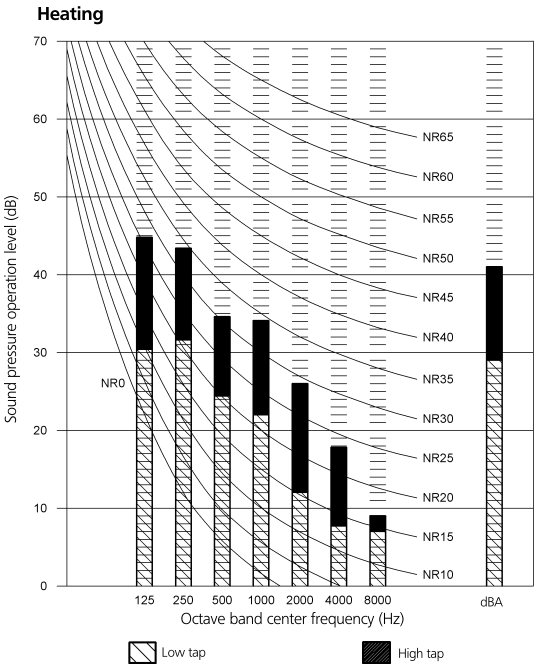
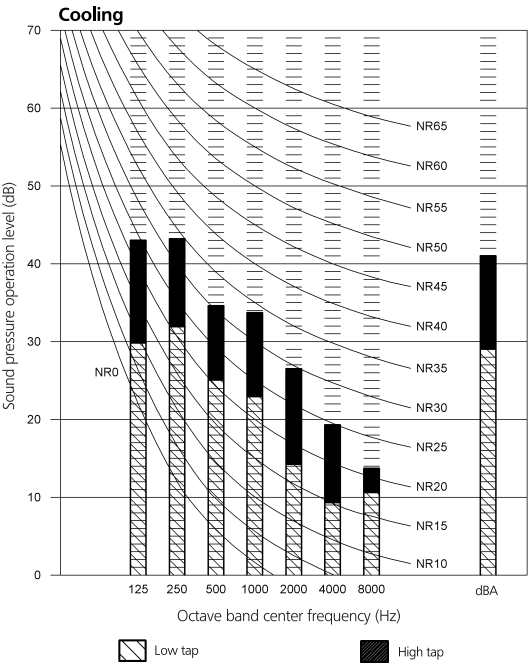
High tap
54 dB

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10 Sound data

10 - 1 Sound Pressure Spectrum

FCQG125-140F



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 FCQG125FVEB and FCQG140FVEB in cooling/heating mode.
- 6 Sound power level:

High tap
58 dB

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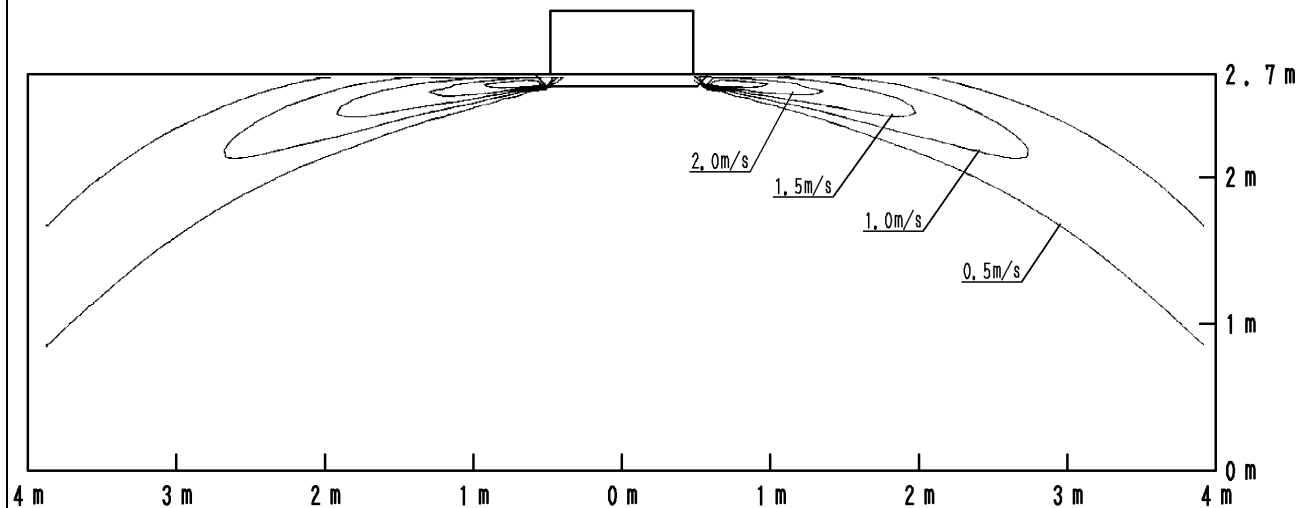
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQG35F

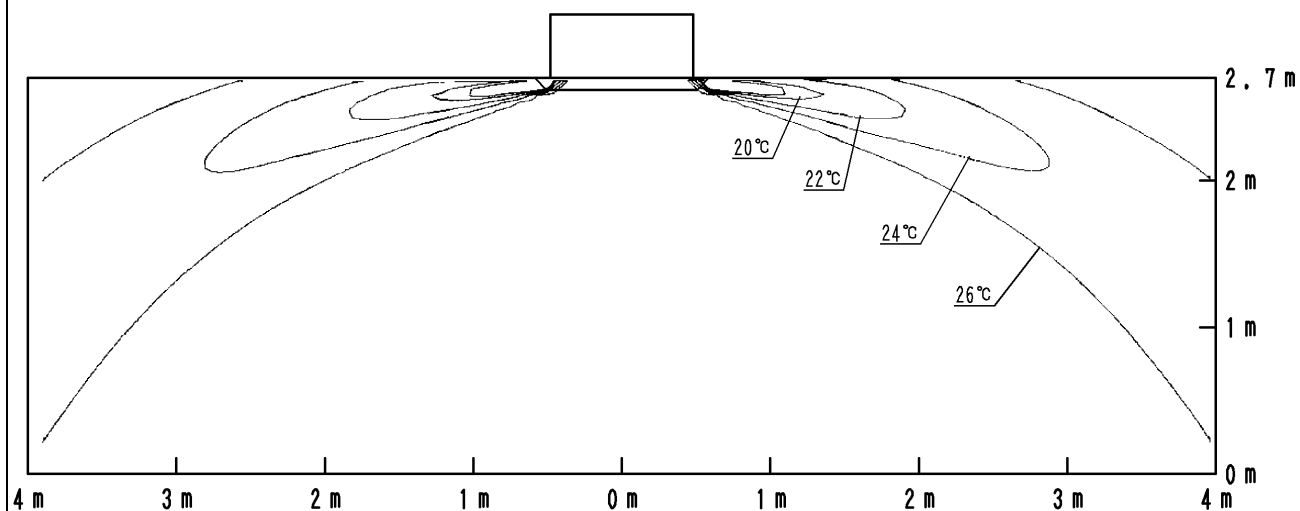
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



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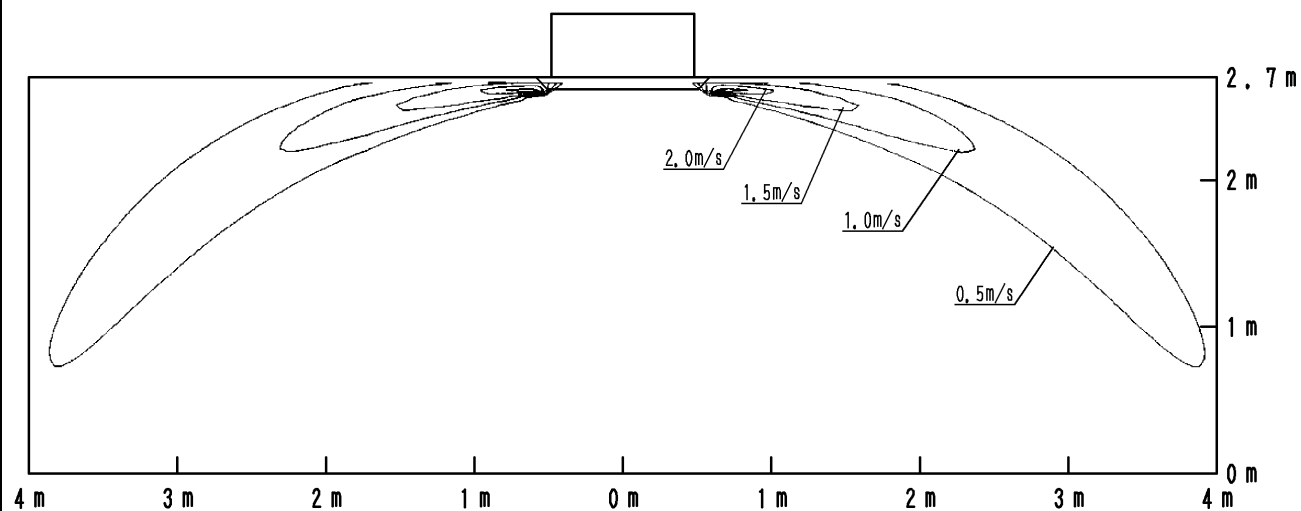
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQG50F

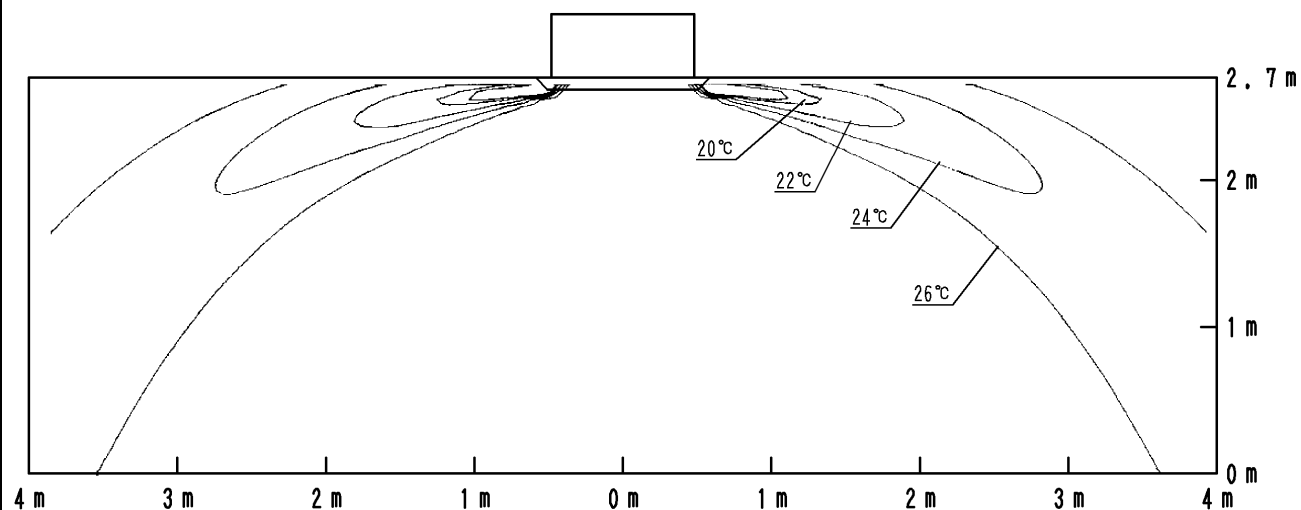
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



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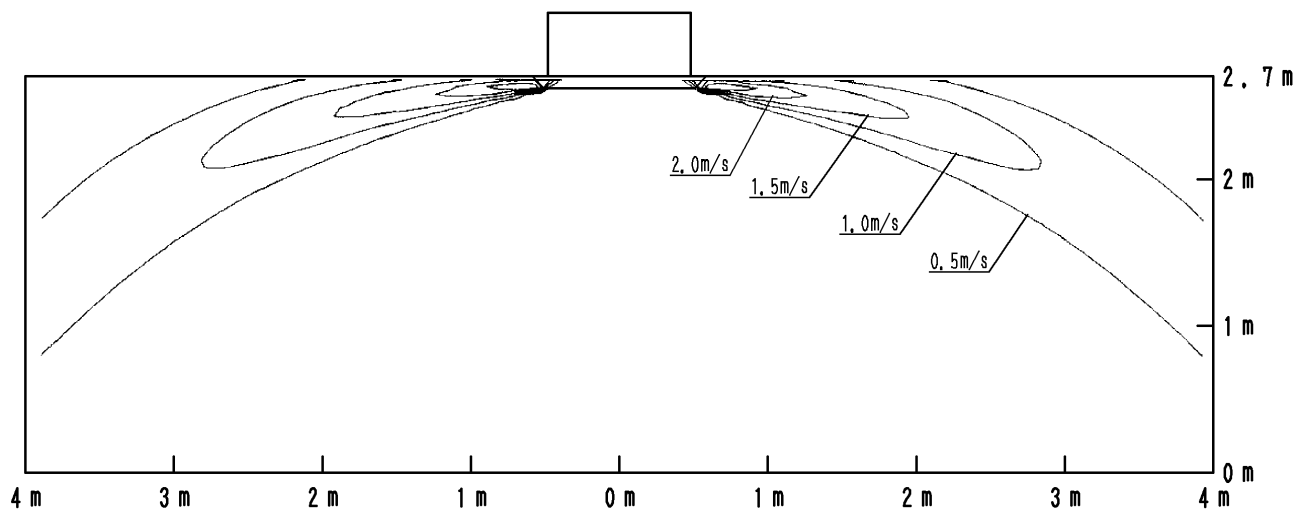
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQG60F

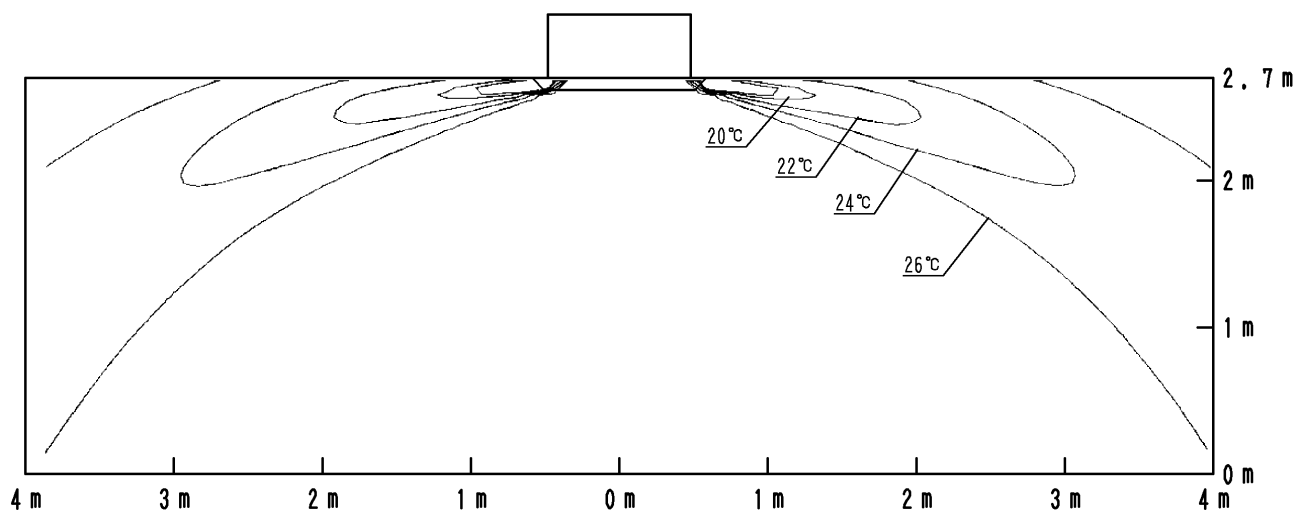
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



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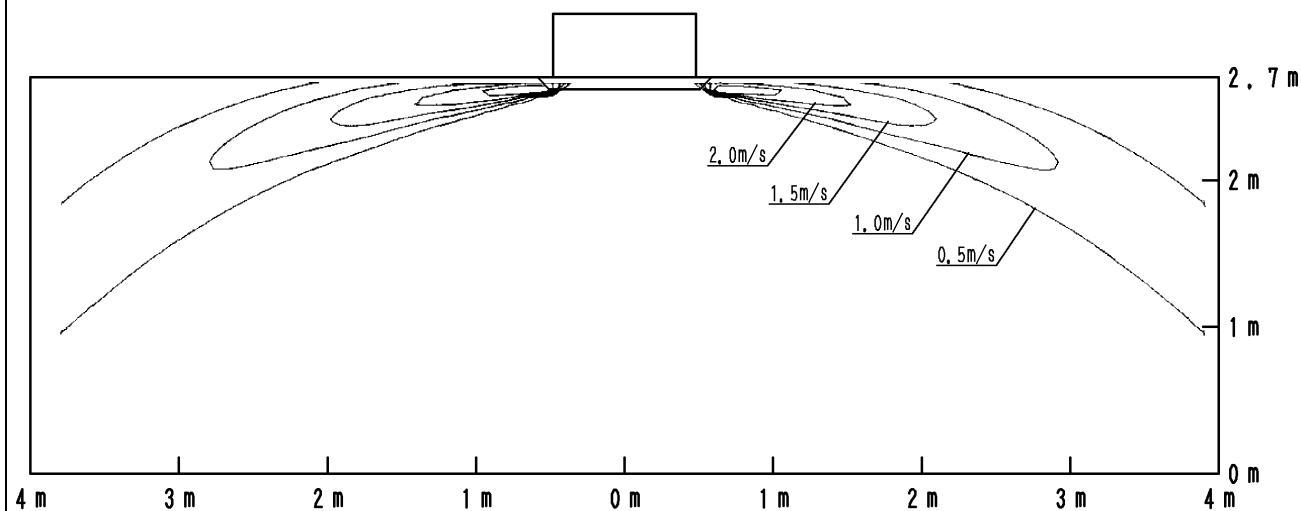
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQG71F

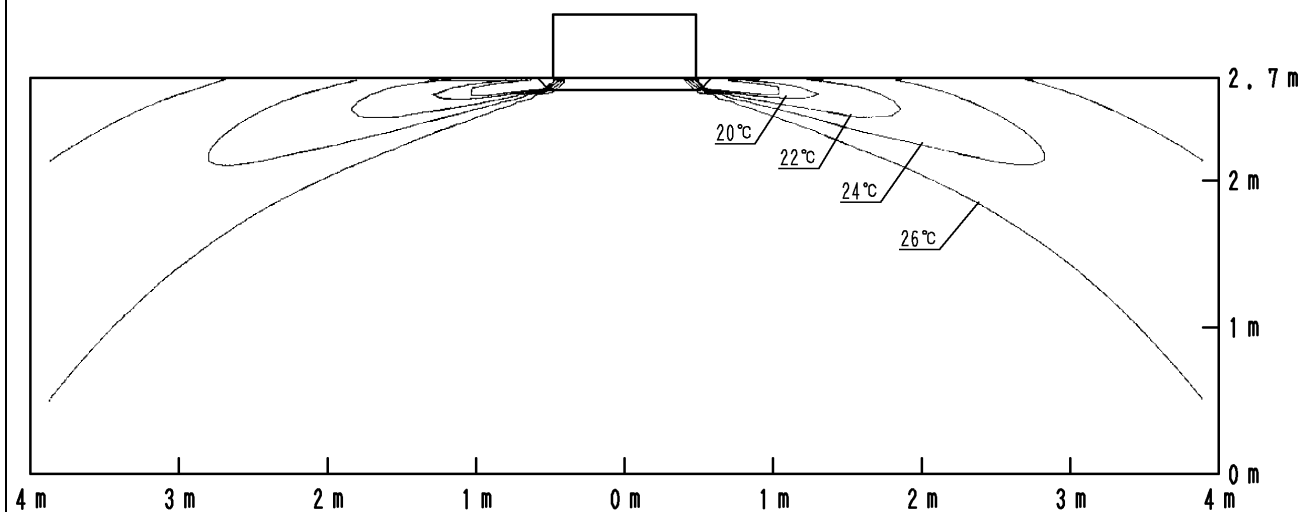
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



4D077056A

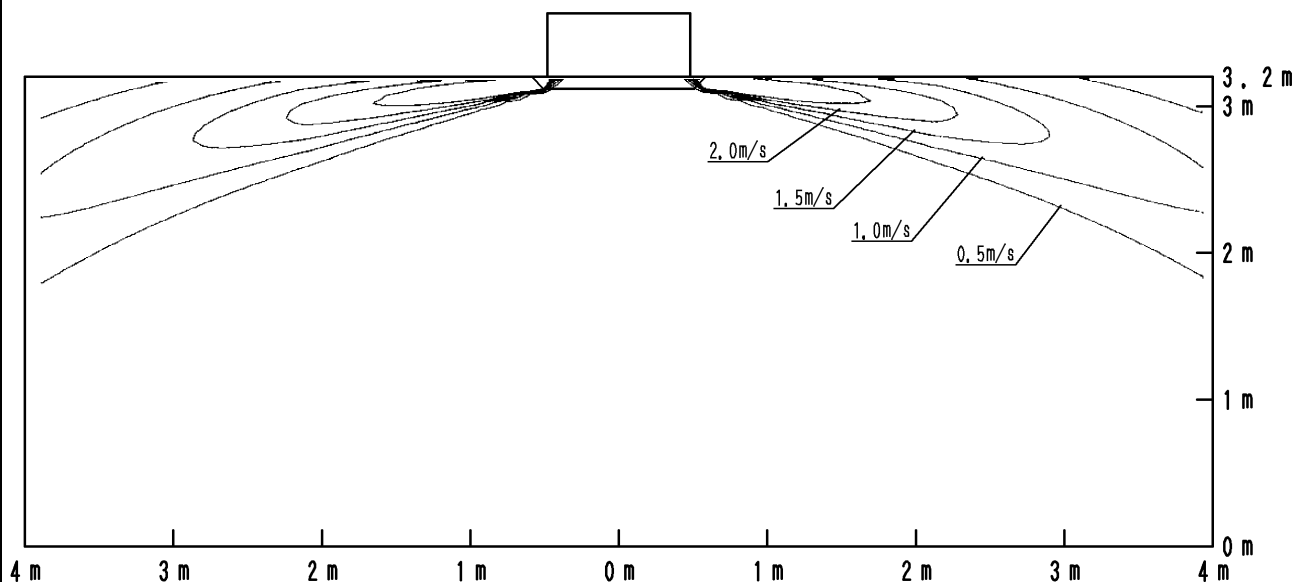
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQG100F

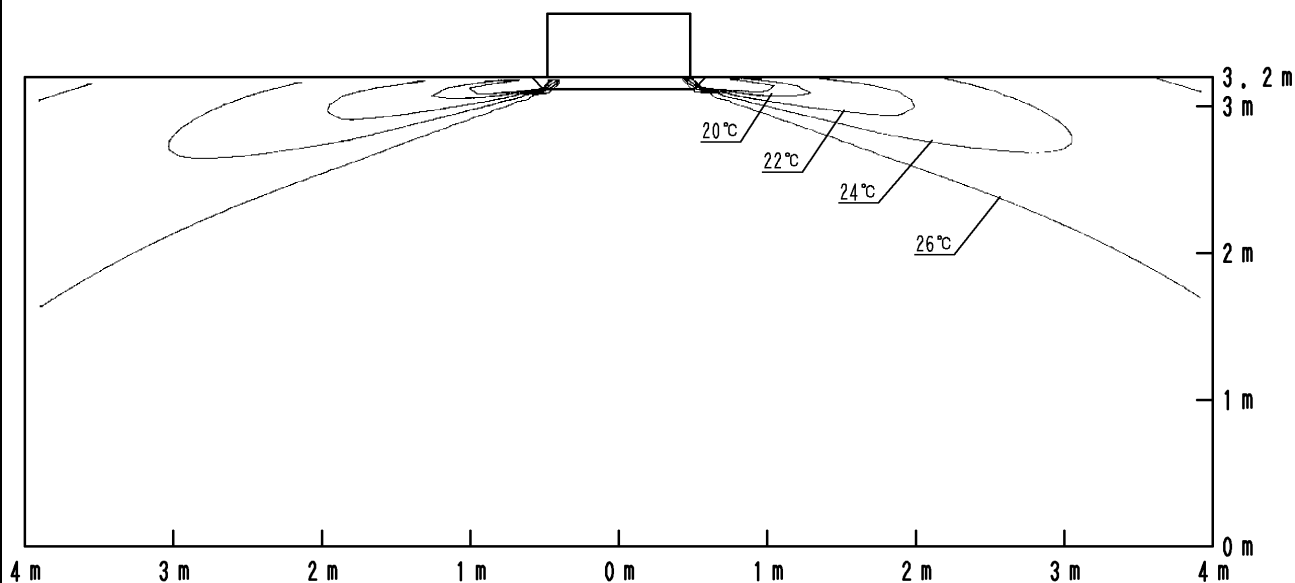
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



4D077057A

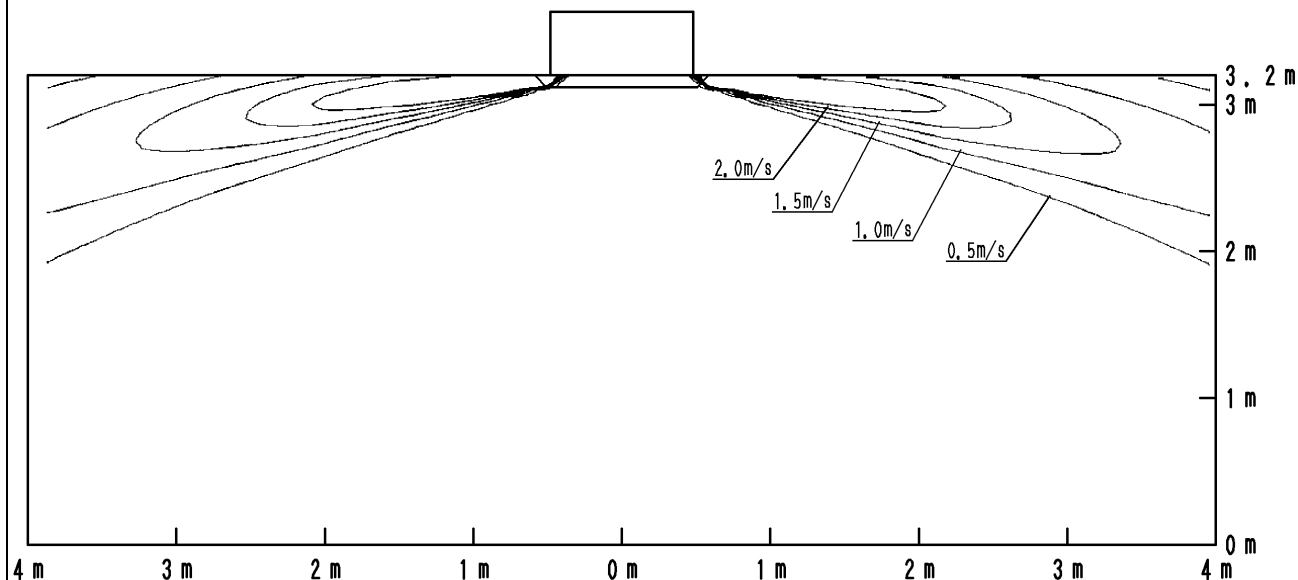
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQG125F

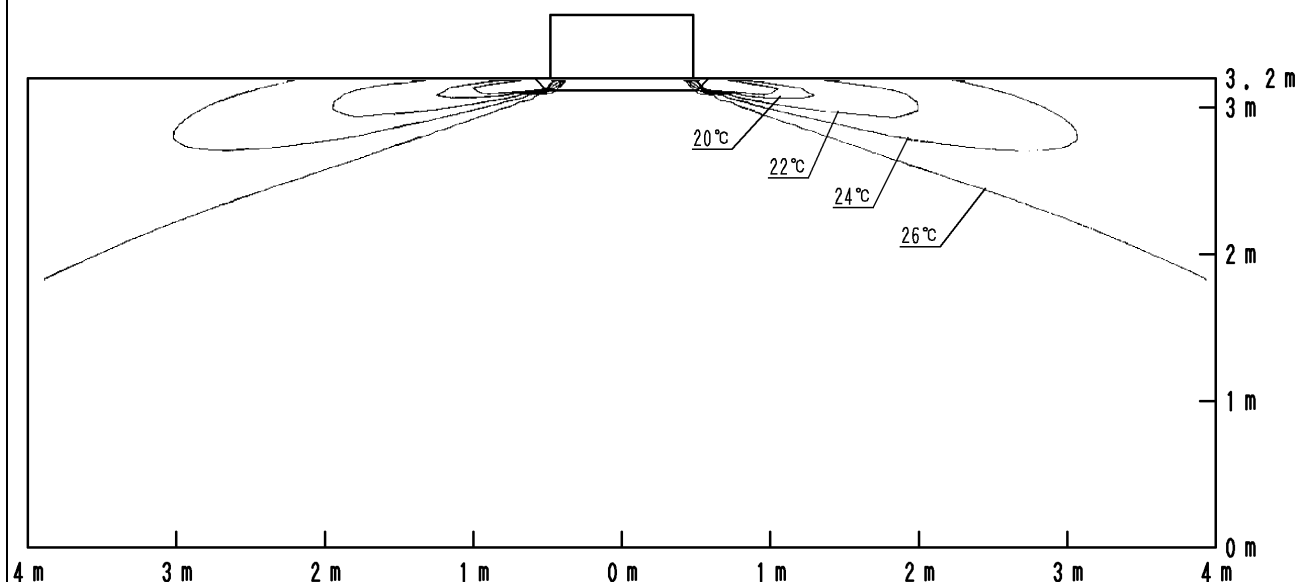
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



4D077058A

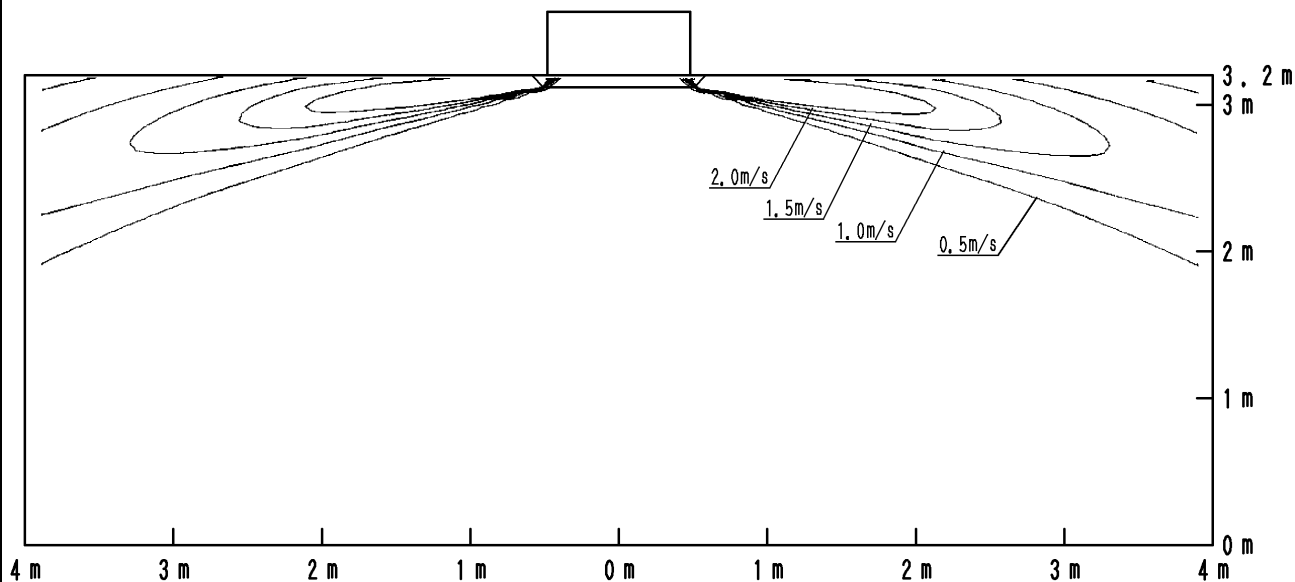
11 Air flow patterns

11 - 1 Air Flow Pattern - Cooling

FCQG140F

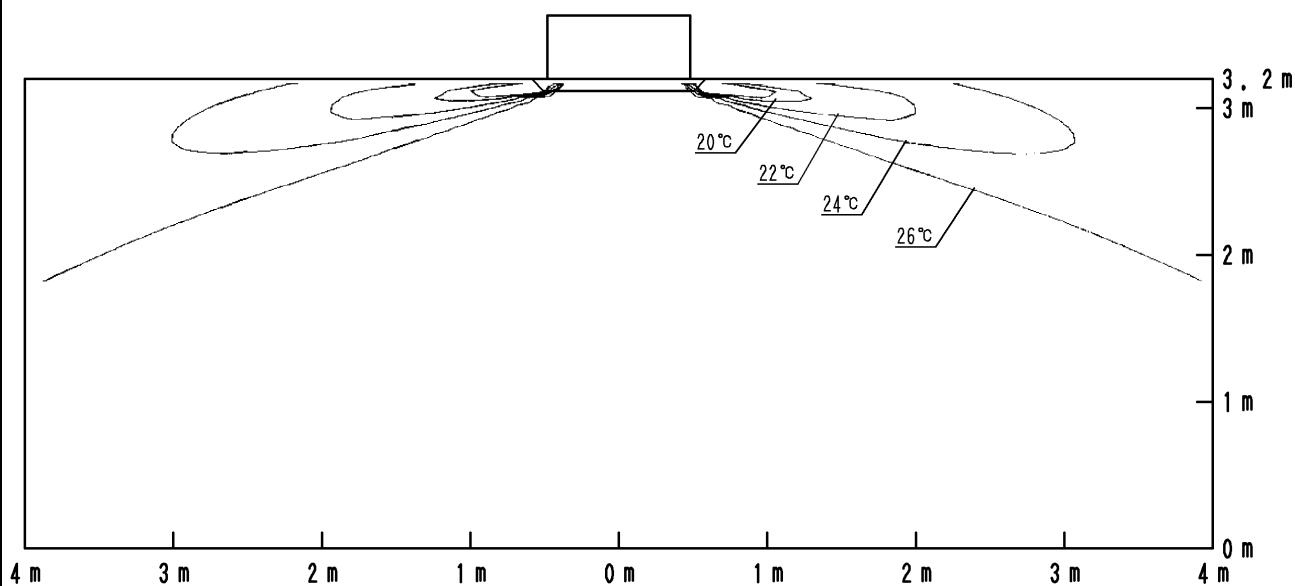
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



4D077059

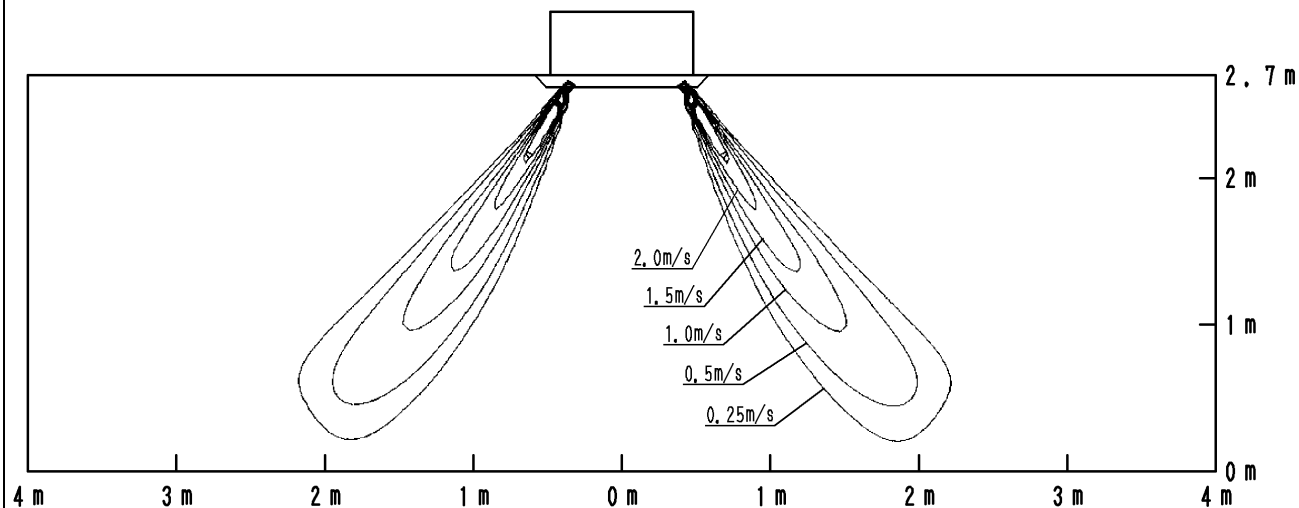
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQG35F

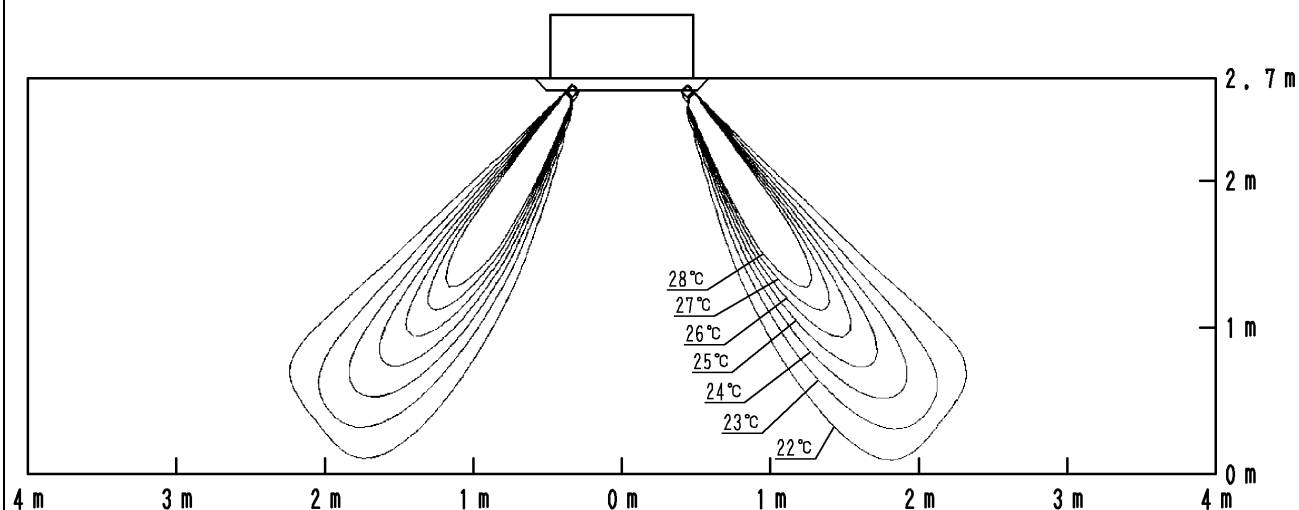
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077042A

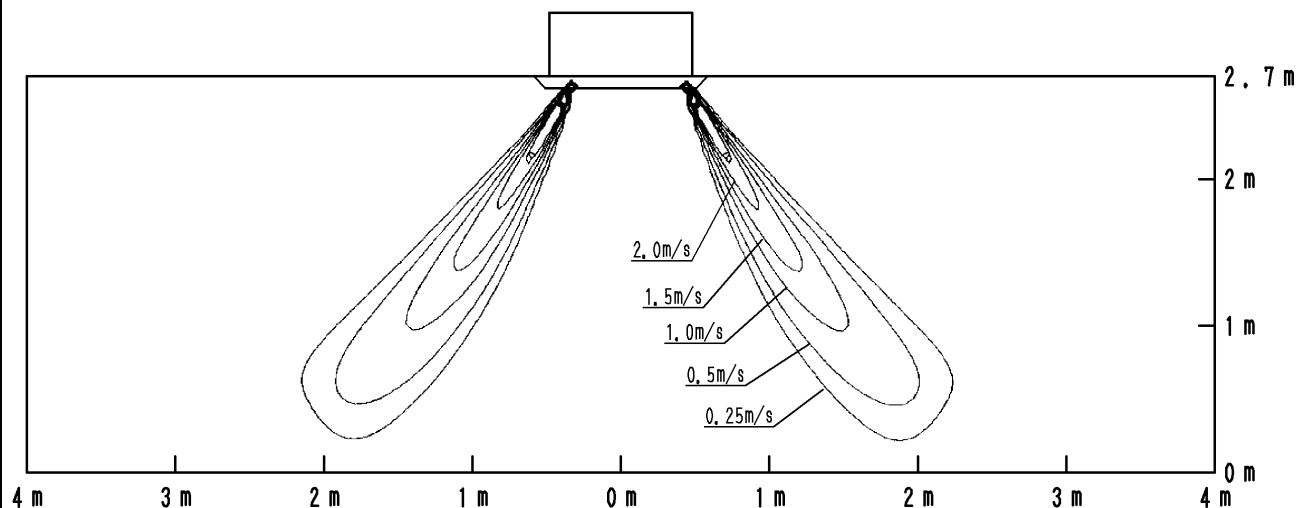
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQG50F

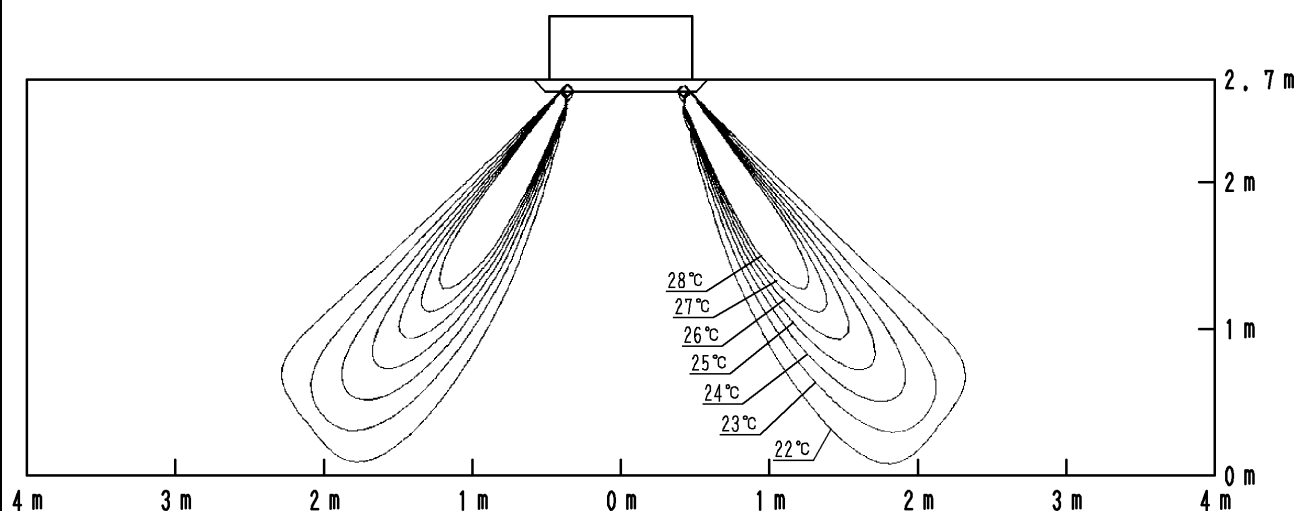
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077043

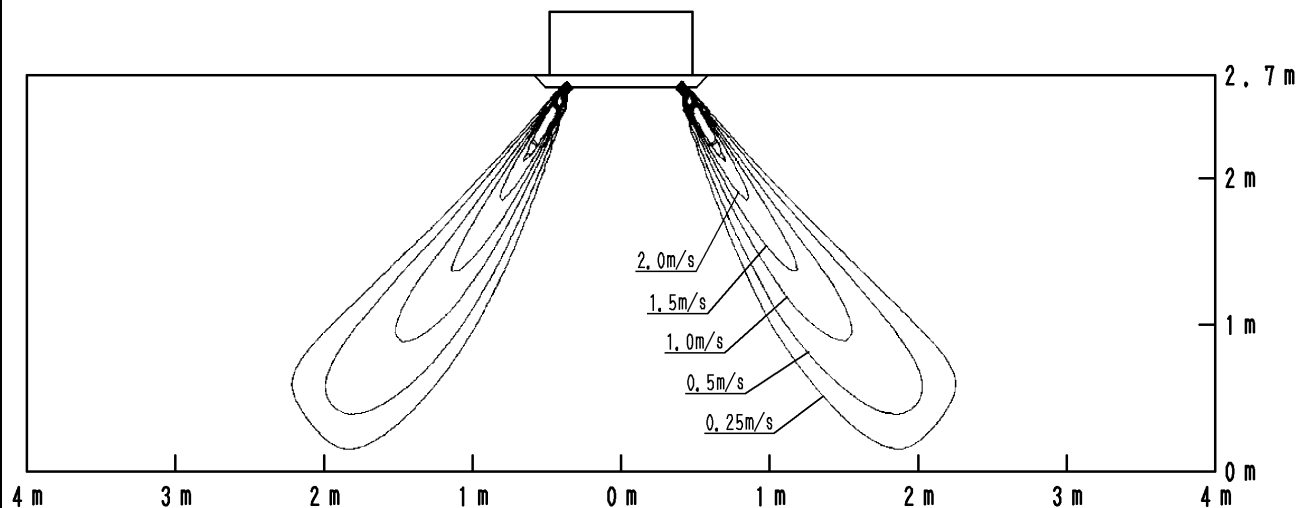
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQG60F

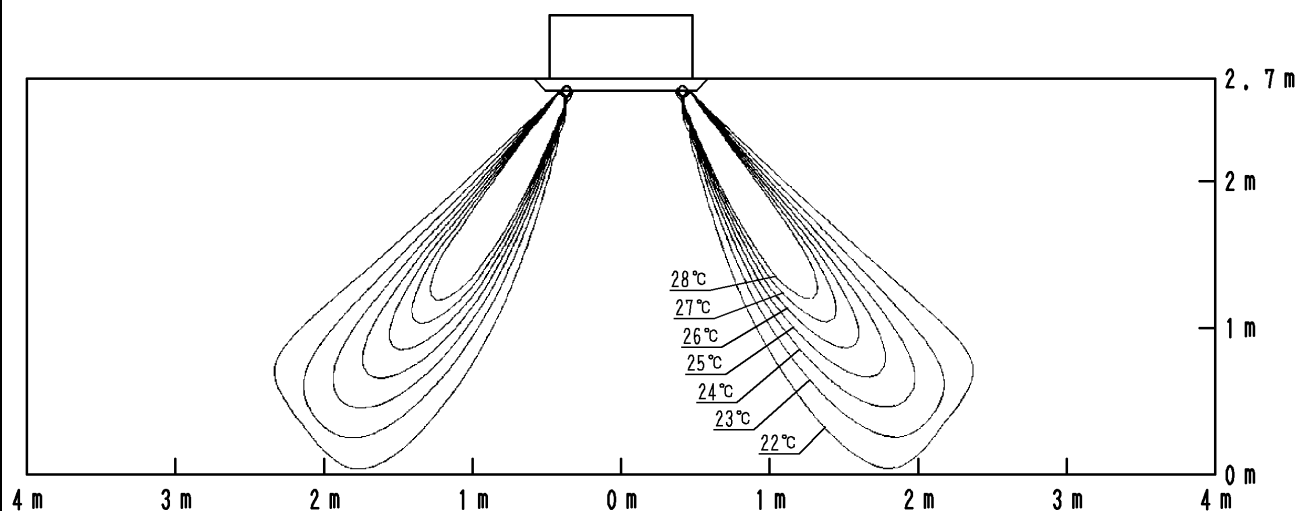
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077044A

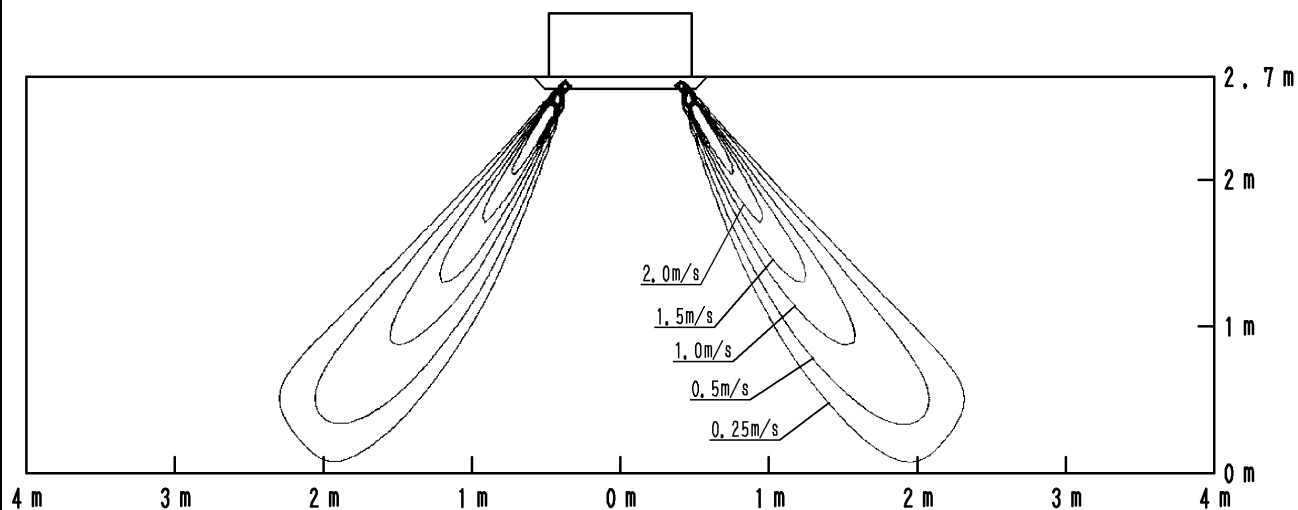
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQG71F

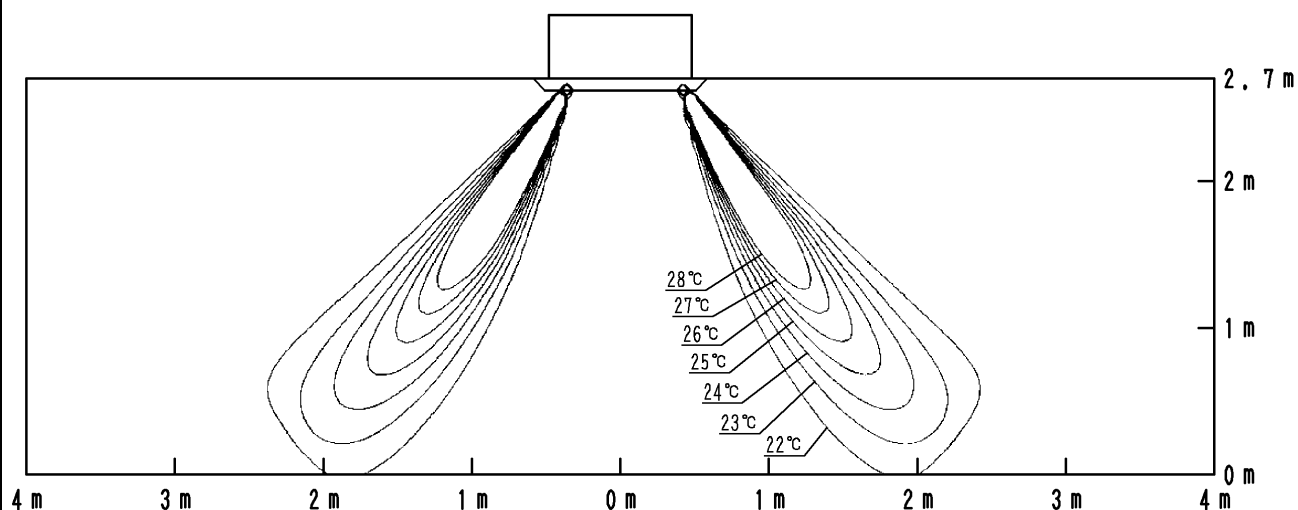
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077045A

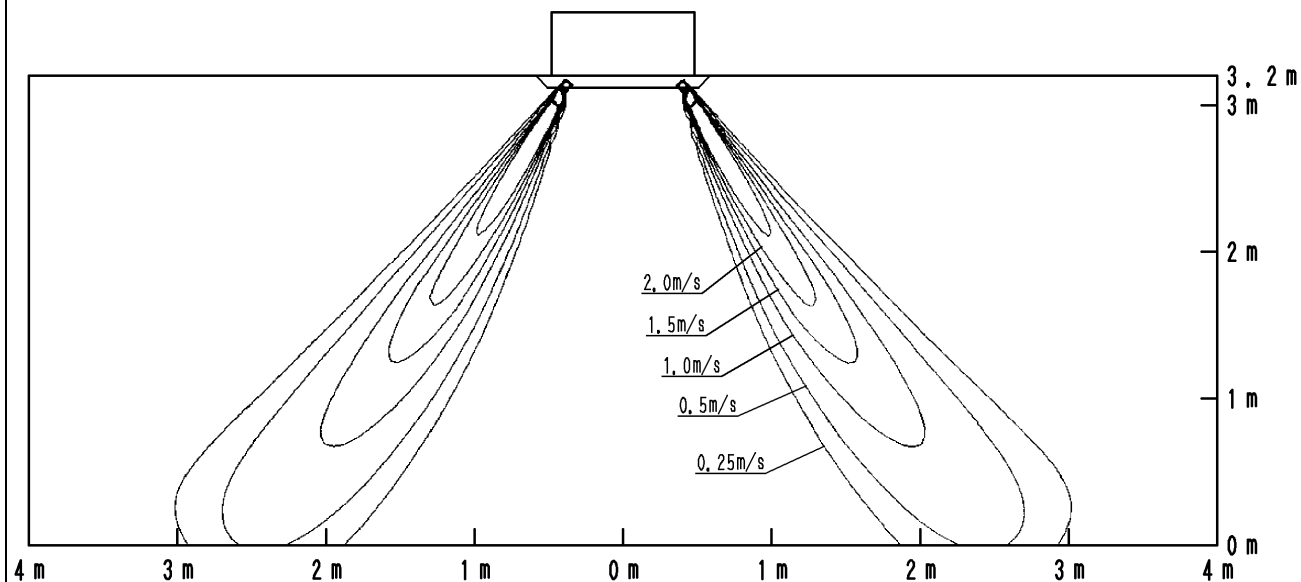
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQG100F

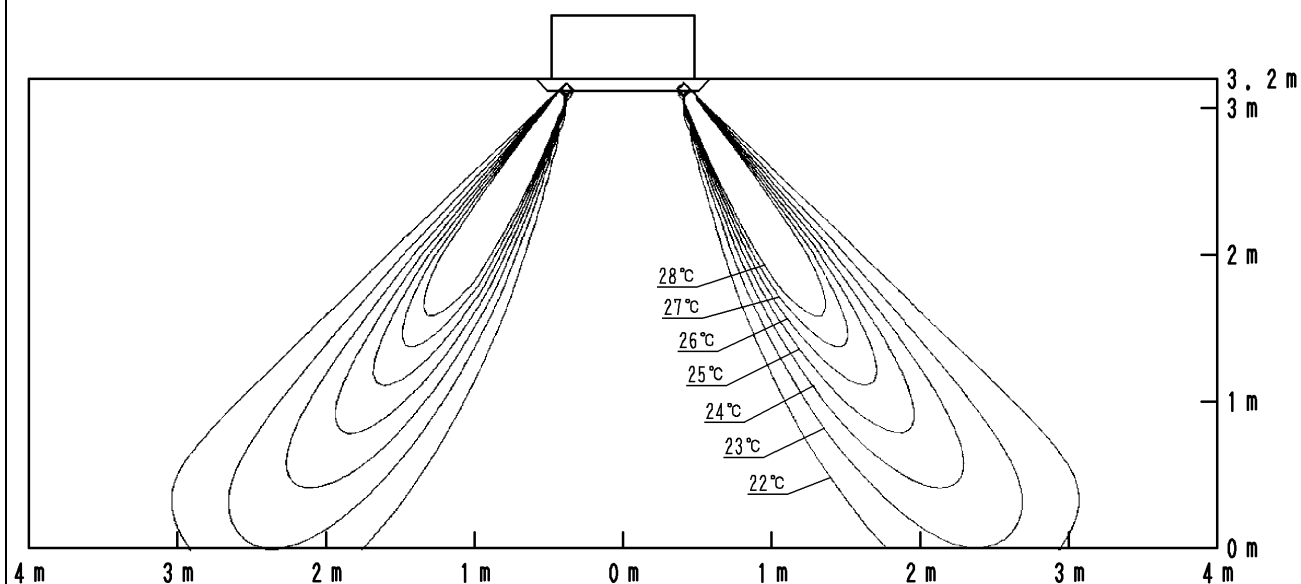
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077046A

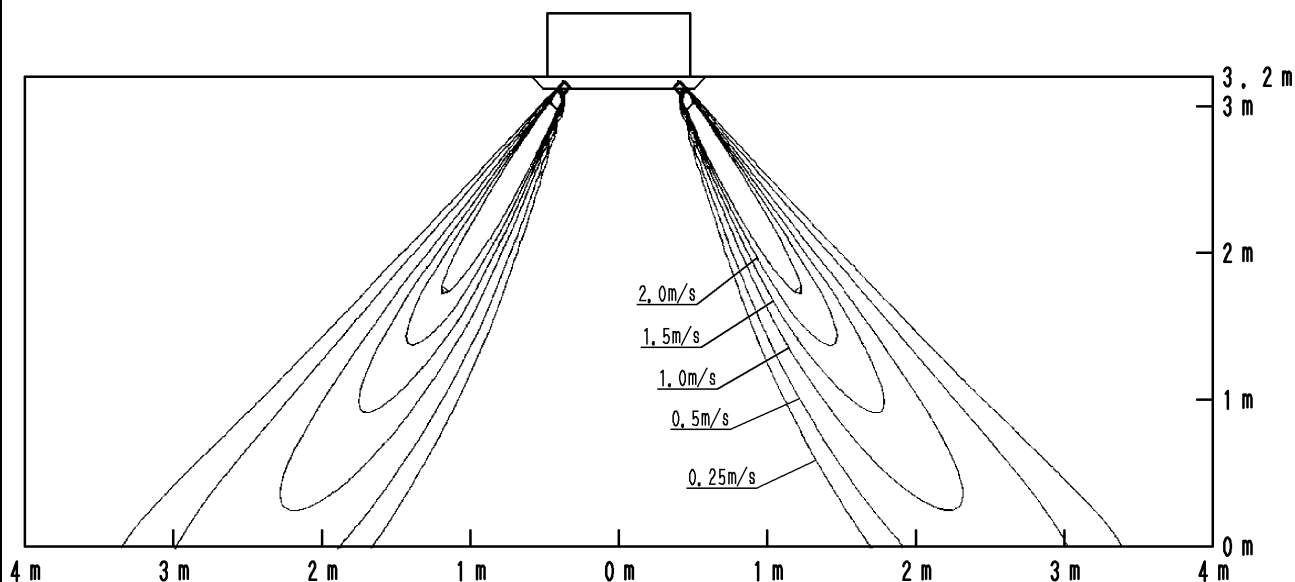
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQG125F

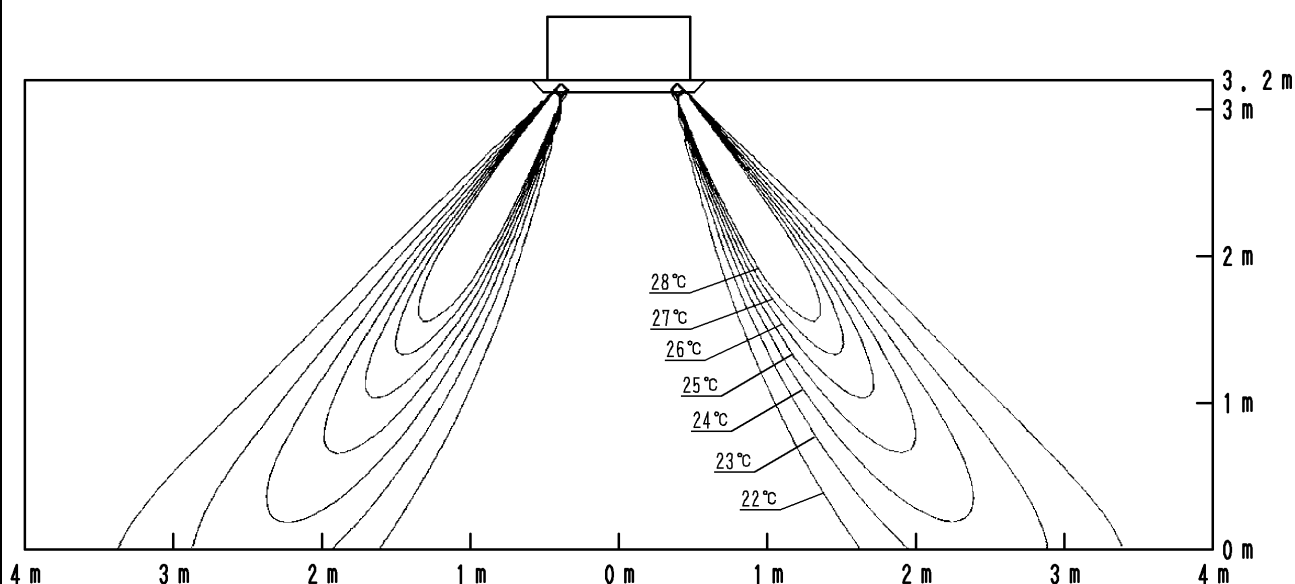
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077047A

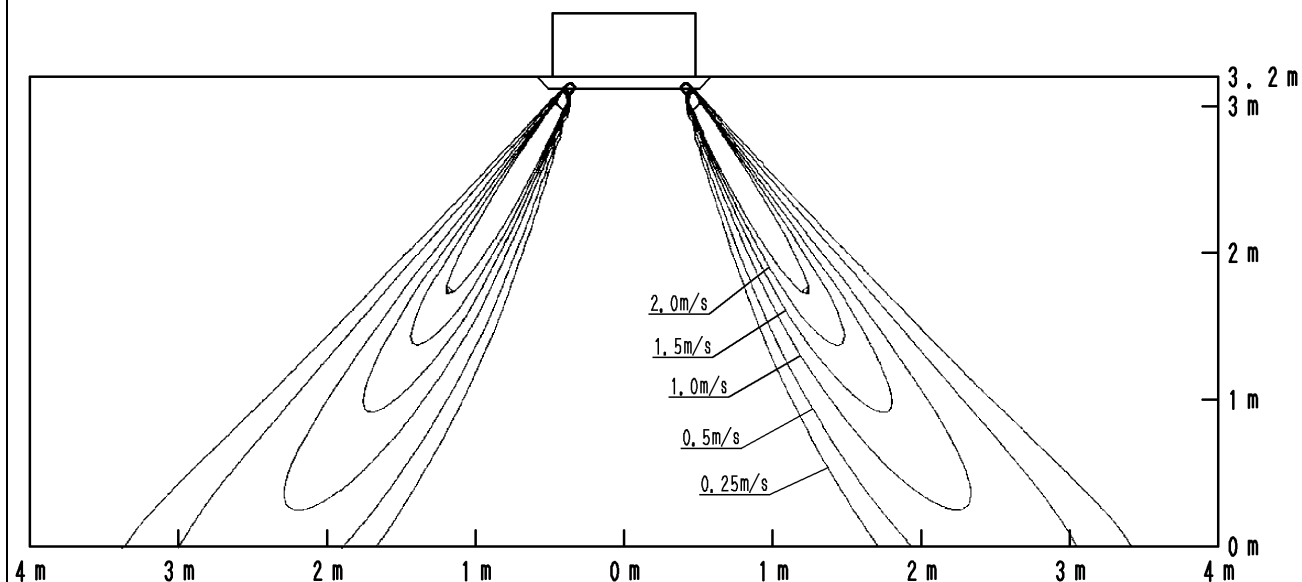
11 Air flow patterns

11 - 2 Air Flow Pattern - Heating

FCQG140F

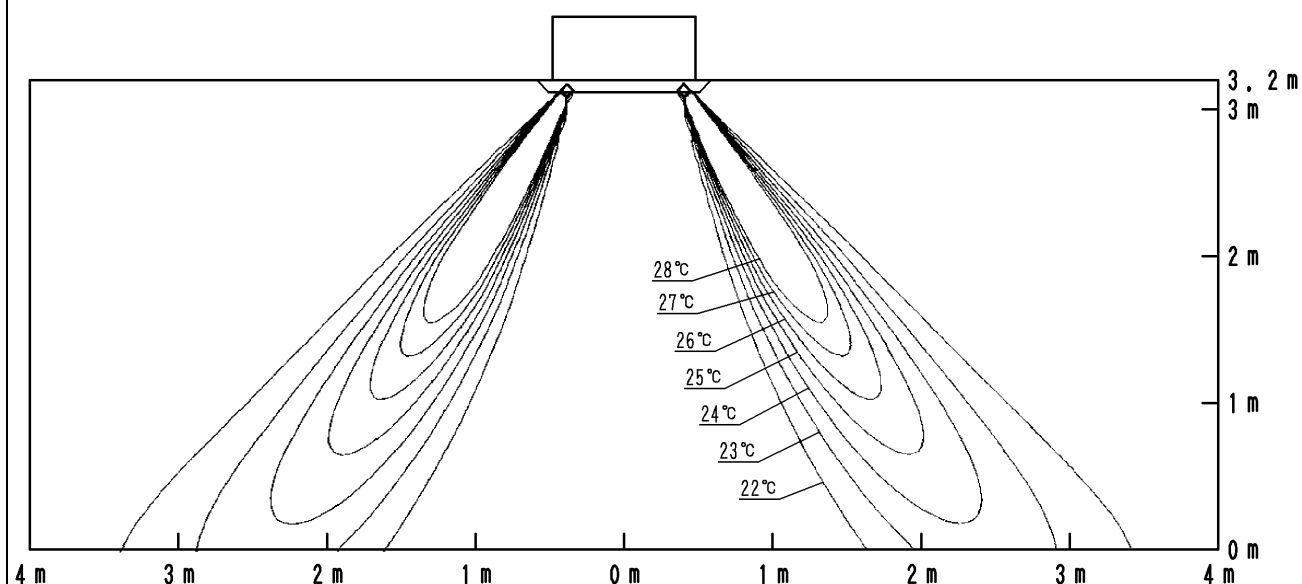
Heating air velocity distribution

All round air discharge, air flow direction: horizontal



Heating air temperature distribution

All round air discharge, air flow direction: horizontal



4D077048



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