

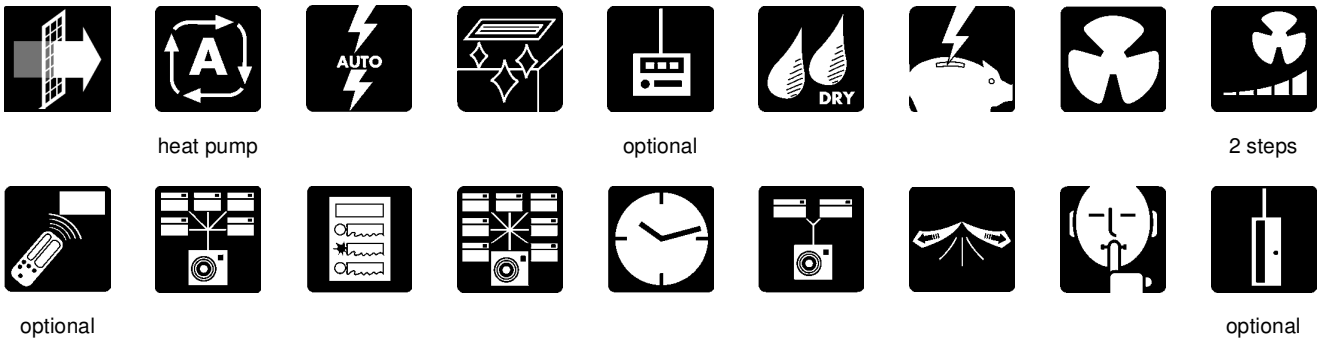
# 1 Features

- Modern style decoration panel in white (RAL9010)
- 360° air discharge ensures uniform air flow and temperature distribution
- Air discharge from the corners avoids dead zones that may be subject to temperature differences
- Comfortable horizontal air discharge ensures draughtfree operation and prevents ceiling soiling
- 23 different air flow patterns possible
- Reduced installation height: 214mm for class 35-71
- Fresh air intake: up to 20 %
- Easy visible drain check thanks to clear drain socket
- Drain-up pump with 850mm lift fitted as standard



29

1



## 2 Specifications

2-1 TECHNICAL SPECIFICATIONS				FCQ35C7VEB	FCQ50C7VEB	FCQ60C7VEB	FCQ71C7VEB	FCQ100C7VEB	FCQ125C7VEB	FCQ140C7VEB	
Casing	Material			Galvanised steel plate							
Dimensions	Packing	Height	mm	220	220	220	220	262	262	262	
		Width	mm	882	882	882	882	882	882	882	
		Depth	mm	882	882	882	882	882	882	882	
	Unit	Height	mm	204	204	204	204	246	246	246	
		Width	mm	840	840	840	840	840	840	840	
Depth		mm	840	840	840	840	840	840	840		
Weight	Unit		kg	19	19	19	21	23	23	23	
	Packed Unit		kg	24	24	24	25	28	28	28	
Heat Exchanger	Dimensions	Length	mm	inside: 2096, outside: 2152							
		Nr of Rows			2	2	2	2	2	2	2
		Fin Pitch	mm	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
		Nr of Passes			4	6	6	7	9	9	9
		Face Area	m <sup>2</sup>	0.267	0.267	0.267	0.357	0.446	0.446	0.446	
		Nr of Stages			6	6	6	8	10	10	10
	Empty Tubeplate Hole			4							
Fin	Type			Cross fin coil (Multi louver fins and Hi-XSS tubes)							
Fan	Type			Turbo fan							
	Quantity			1	1	1	1	1	1	1	
Air Flow Rate	Cooling	High	m <sup>3</sup> /min	10.5	12.5	13.5	15.5	23.5	27.5	27.5	
		Low	m <sup>3</sup> /min	8.5	8.5	8.5	9.0	16.0	19.0	19.0	
	Heating	High	m <sup>3</sup> /min	12.5	12.5	13.5	16.0	23.5	27.5	27.5	
		Low	m <sup>3</sup> /min	10.0	8.5	8.5	9.5	16.0	19.0	19.0	
Fan	Motor	Model		QTS48D11M	QTS48D11M	QTS48D11M	QTS48D11M	QTS48C15M	QTS48C15M	QTS48C15M	
		Number of steps		2	2	2	2	2	2	2	
		Output (high)	W	56	56	56	56	120	120	120	
Cooling	Sound Power	High	dBA	49	49	51	51	54	58	58	
		Low	dBA	27	27	28	28	32	35	35	
	Sound Pressure	High	dBA	31	31	33	33	37	41	41	
Heating	Sound Pressure	High	dBA	31	31	33	34	37	41	42	
		Low	dBA	27	27	28	28	32	35	35	
Sound Level	Sound Absorbing Insulation			foamed polyurethane							
Refrigerant	Type			R-410A							
Piping connections	Liquid (OD)	Type		Flare connection							
		Diameter(OD)	mm	6.35	6.35	6.4	9.5	9.5	9.5	9.5	
	Gas	Type		Flare connection							
		Diameter(OD)	mm	9.5	12.7	12.7	15.9	15.9	15.9	15.9	
	Drain	Diameter (OD)	mm	VP25 (I.D. 25/O.D. 32)	VP25 (I.D. 25/O.D. 32)	VP25 (I.D. 25/O.D. 32)	VP25 (I.D. 25/O.D. 32)	VP25 (I.D. 25/O.D. 32)	VP25 (I.D. 25/O.D. 32)	VP25 (I.D. 25/O.D. 32)	O.D. 21
Heat Insulation			Foamed polystyrene/polyethylene								
Decoration Panel	Model			BYCQ140CW1							
	Colour			Pure White (RAL 9010)							
	Dimensions	H	mm	50	50	50	50	50	50	50	
		W	mm	950	950	950	950	950	950	950	
		D	mm	950	950	950	950	950	950	950	
Weight		kg	5.5	5.5	5.5	5.5	5.5	5.5	5.5		
Air Filter	Resin net with mold resistance										

## 2 Specifications

2-1 TECHNICAL SPECIFICATIONS		FCQ35C7VEB	FCQ50C7VEB	FCQ60C7VEB	FCQ71C7VEB	FCQ100C7VEB	FCQ125C7VEB	FCQ140C7VEB
Standard Accessories	Item	Installation and operation manual						
		Drain hose						
		Clamp for drain hose						
		Washer for hanger bracket						
		Screws						
		Installation guide						
		Insulation for fitting						
		Sealing pad						
		Drain sealing pad						

### 3 Safety device settings

**FCQ35-140C**

Safety devices			35	50	60	71	100	125	140
FCQ	PC board fuse		250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A
	Fan motor thermal fuse	°C	---	---	---	---	---	---	---
	Fan motor thermal protector	°C	Off: 108 $\pm$ 5 (On: 96 $\pm$ 15)	Off: 108 $\pm$ 5 (On: 96 $\pm$ 15)	Off: 108 $\pm$ 5 (On: 96 $\pm$ 15)	Off: 108 $\pm$ 5 (On: 96 $\pm$ 15)	Off: 108 $\pm$ 5 (On: 96 $\pm$ 15)	Off: 108 $\pm$ 5 (On: 96 $\pm$ 15)	Off: 108 $\pm$ 5 (On: 96 $\pm$ 15)
	Drain pump fuse	°C	145	145	145	145	145	145	145

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# 4 Options

## FCQ35-140C

### OPTIONS

No.	Item	Model	FCQ35	FCQ50	FCQ60	FCQ71	FCQ100	FCQ125	FCQ140
1	Decoration panel								BYCQ140CW1
2	Long life replacement filter	non-woven type							KAFP551K160
3	Fresh air intake kit (20% fresh air)	Chamber type							KDDQ55C140
4	Sealing member of air discharge outlet								KDBHQ55C140

### CONTROL SYSTEM

No.	Item	Model	FCQ35	FCQ50	FCQ60	FCQ71	FCQ100	FCQ125	FCQ140	
1	Remote control	Wireless								
										H/P
		C/O								BRC7F533F
		Wired							BRC1D528	
2-1	Wiring adapter for electrical appendices (1)								KRP1BA57 *1	
2-2	Wiring adapter for electrical appendices (2)								KRP4AA53 *1	
2-3	Wiring adapter (hour meter)								EKRP1C11 *1	
3	Remote sensor								KRCS01-4	
4	Installation box for adapter PCB								KRP1H98	
5	Central remote control								DCS302CA51	
6	Unified On/Off control								DCS301BA51	
7	Electrical box with earth terminal (2 blocks)								KJB212AA	
8	Schedule timer								DST301BA51	
9	Remote on/off								EKRORO2	

\*1 Installation box is necessary for these adapters.

\*2 All options are supplied as kit.

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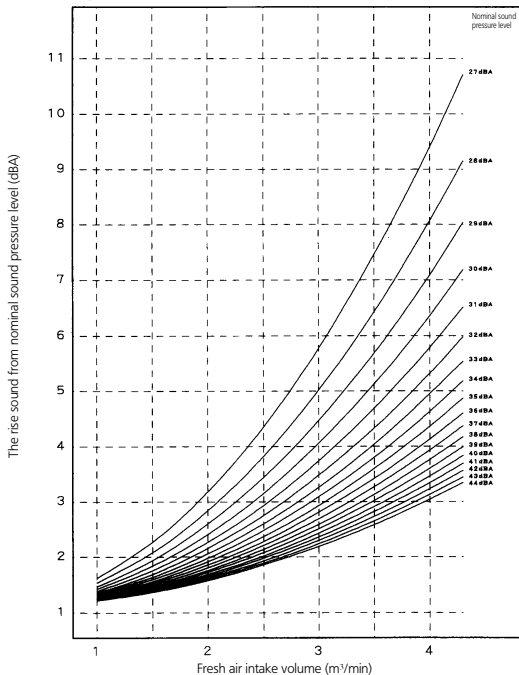
## FCQ35-140C

### Max fresh air intake volume table

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.

FCQ-C7VEB	35	50	60	71	100	125	140
Max fresh air intake volume (m <sup>3</sup> /min)	2.5	2.5	2.7	3.2	4.3	4.3	4.3

### The rise of operating sound at with fresh air intake kit

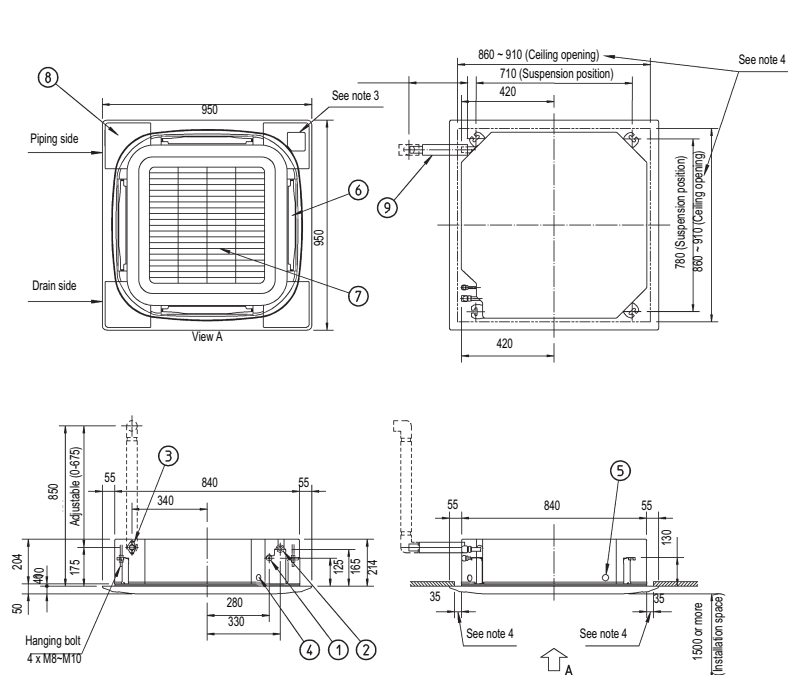


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# 5 Dimensional drawing & centre of gravity

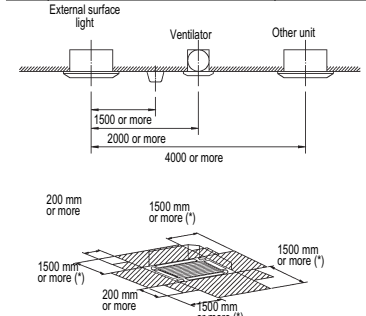
## 5 - 1 Dimensional drawing

FCQ35,50,60,71C



Model	A	B
FCQ35	6.35	9.52
FCQ50-60	6.35	12.7
FCQ71	9.52	15.9

Item	Name	Description
1	Liquid pipe connection	ø A flare connection
2	Gas pipe connection	ø B flare connection
3	Drain pipe connection	VP25 (O.D. ø32, I.D. ø25)
4	Power supply connection	
5	Transmission wiring connection	
6	Air discharge opening	
7	Air suction grille	
8	Corner decoration cover	
9	Drain house	O.D. ø32 I.D. ø26



**NOTES**

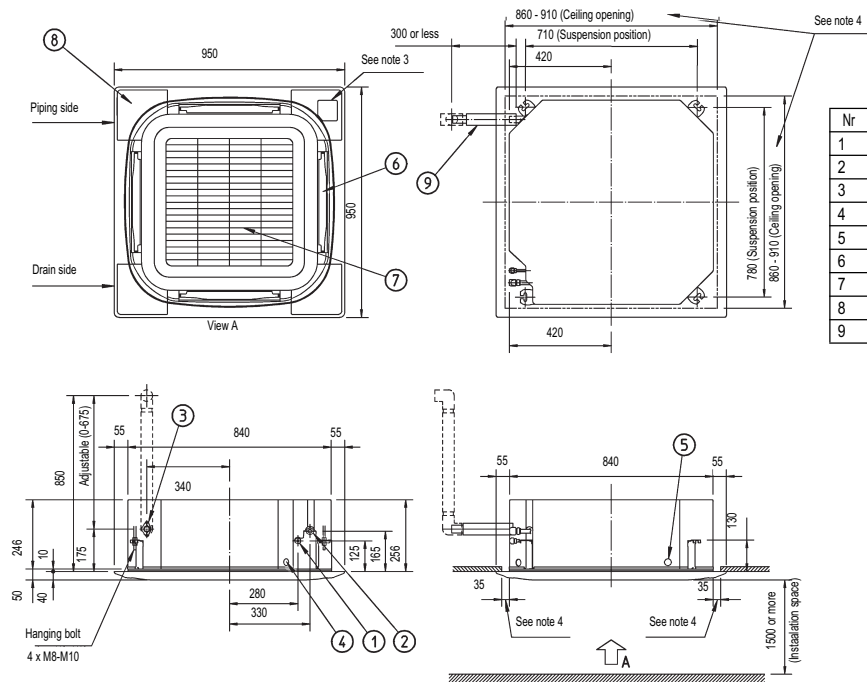
- 1 Location of the nameplates:  
- Unit body: on the control box cover.  
- Decoration panel: on the panel frame at the motor side under the corner cover
- 2 When installing an optional accessory, refer to the installation drawings  
- For the fresh air intake kit ... an inspection port is necessary

- 3 In case of using an Infrared remote control, this position will be a signal receiver. Refer to the drawing of the infrared remote control for more detail
- 4 Make sure the spacing between the ceiling and the cassette is no more than 35 mm. Max ceiling opening: 910 mm.
- 5 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.)
- 6 Please respect the distances as shown on figure above.

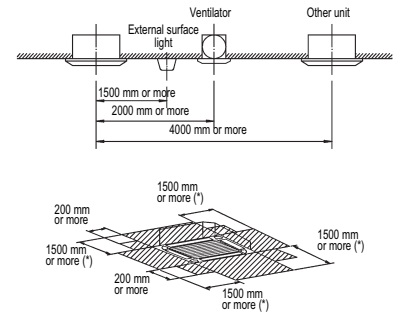
(\*) In case a discharge opening is closed with the 'sealing member' option, the distance of 1500 mm can be reduced to 500 mm on the closed side.

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FCQ100,125,140C



Nr	Name	Description
1	Liquid pipe connection	ø 9.52 flare connection
2	Gas pipe connection	ø 15.90 flare connection
3	Drain pipe connection	VP25 (O.D. ø32, I.D. ø25)
4	Power supply connection	
5	Transmission wiring connection	
6	Air discharge opening	
7	Air suction grill	
8	Corner decoration cover	
9	Drain house	O.D. ø32 I.D. ø26



**NOTES**

- 1 Location of the nameplates:  
- Unit body: on the control box cover.  
- Decoration panel: on the panel frame at the motor side under the cover
- 2 When installing an optional accessory, refer to the installation drawings  
- For the fresh air intake kit ... an inspection port is necessary

- 3 In case of using an Infrared remote control, this position will be a signal receiver. Refer to the drawing of the infrared remote control for more detail
- 4 Make sure the spacing between the ceiling and the cassette is no more than 35 mm. Max ceiling opening: 910 mm.
- 5 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.)

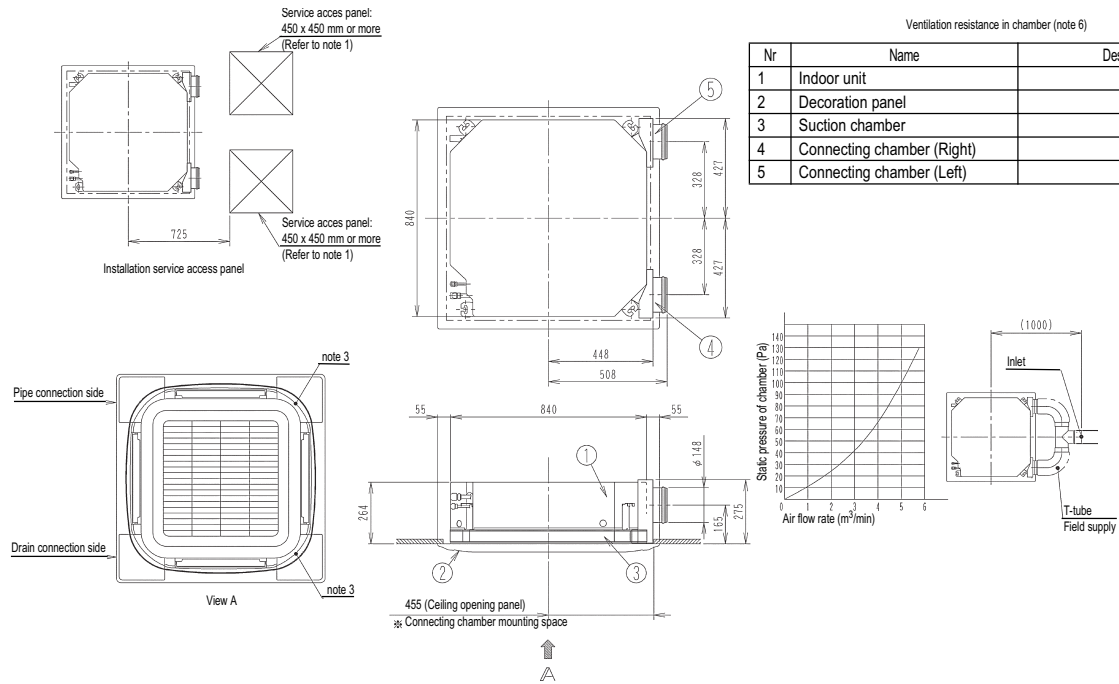
(\*) In case a discharge opening is closed with the 'sealing member' option, the distance of 1500 mm can be reduced to 500 mm on the closed side.

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# 5 Dimensional drawing & centre of gravity

## 5 - 1 Dimensional drawing

### FCQ35,50,60,71C



**NOTES**

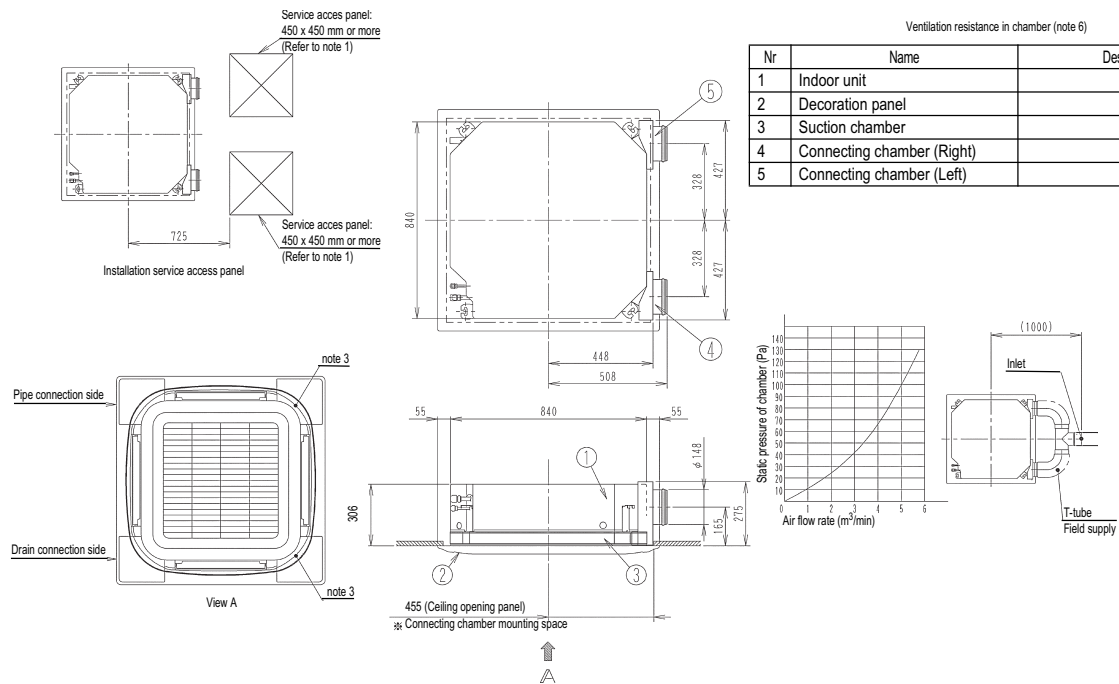
(\*) In case a discharge opening is closed with the 'sealing member' option, the distance of 1500 mm can be reduced to 500 mm on the closed side.

- When installing this kit, inspection hatch is necessary. (It is necessary when servicing.) Either one of inspection hatches must be installed.
- Field construction.
- The corner air outlet of this part must be shut.
- In case of mounting a duct fan, make sure to use a wiring adapter for electrical appendices and link with the indoor unit fan.

- The intake air flow rate is recommended to be 20% or less of the H speed air flow rate. If the intake air flow rate is too large, the operating sound may rise or detection of the indoor unit suction temperature may be affected.
- It indicates the distance between the T-tube inlet and the indoor unit inlet when the T-tube is connected.

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### FCQ100,125,140C



**NOTES**

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

- When installing this kit, inspection hatch is necessary. (It is necessary when servicing.) Either one of inspection hatches must be installed.
- Field construction.
- The corner air outlet of this part must be shut.
- In case of mounting a duct fan, make sure to use a wiring adapter for electrical appendices and link with the indoor unit fan.

- The intake air flow rate is recommended to be 20% or less of the H speed air flow rate. If the intake air flow rate is too large, the operating sound may rise or detection of the indoor unit suction temperature may be affected.
- It indicates the distance between the T-tube inlet and the indoor unit inlet when the T-tube is connected.

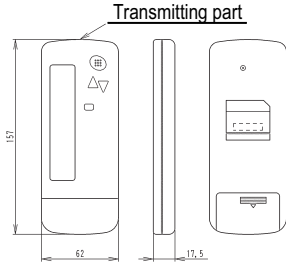
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# 5 Dimensional drawing & centre of gravity

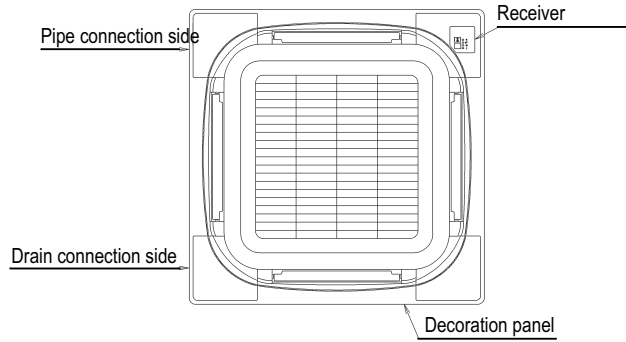
## 5 - 1 Dimensional drawing

FCQH35-140C

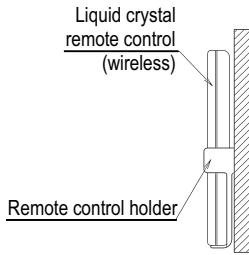
### Remote control dimensions



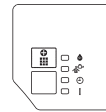
### Receiver installation procedure



### Remote controller holder installation procedure (installation to wall surface)



### Receiver detail



### Wireless remote control kit for each decoration panel

Wireless remote control kit	Decoration panel
BRC7F532F BRC7F533F	BYCQ140CW1

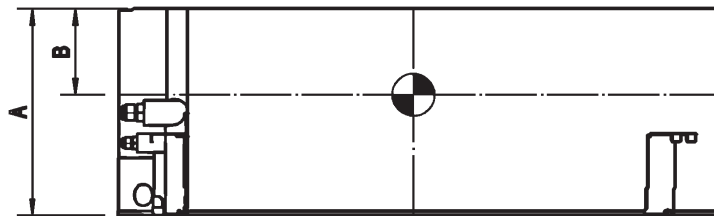
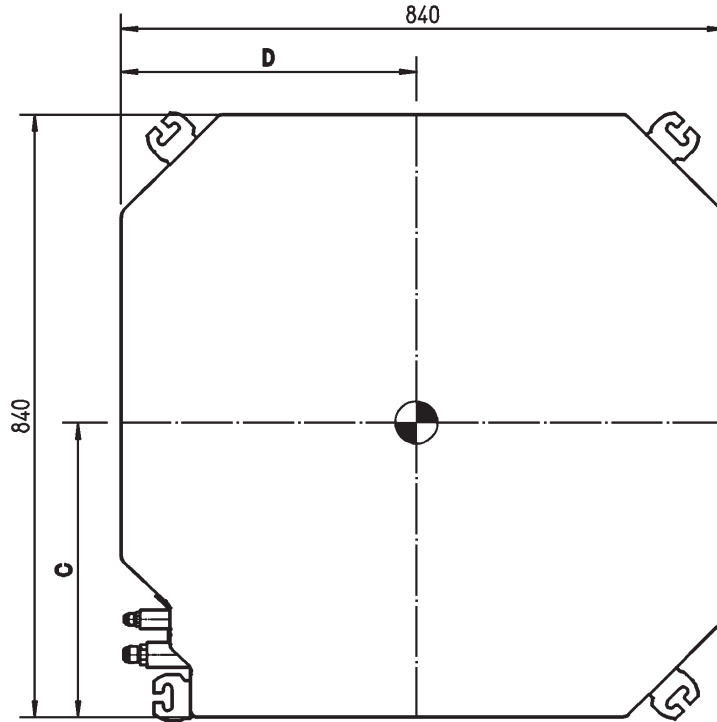
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## 5 Dimensional drawing & centre of gravity

### 5 - 2 Centre of gravity

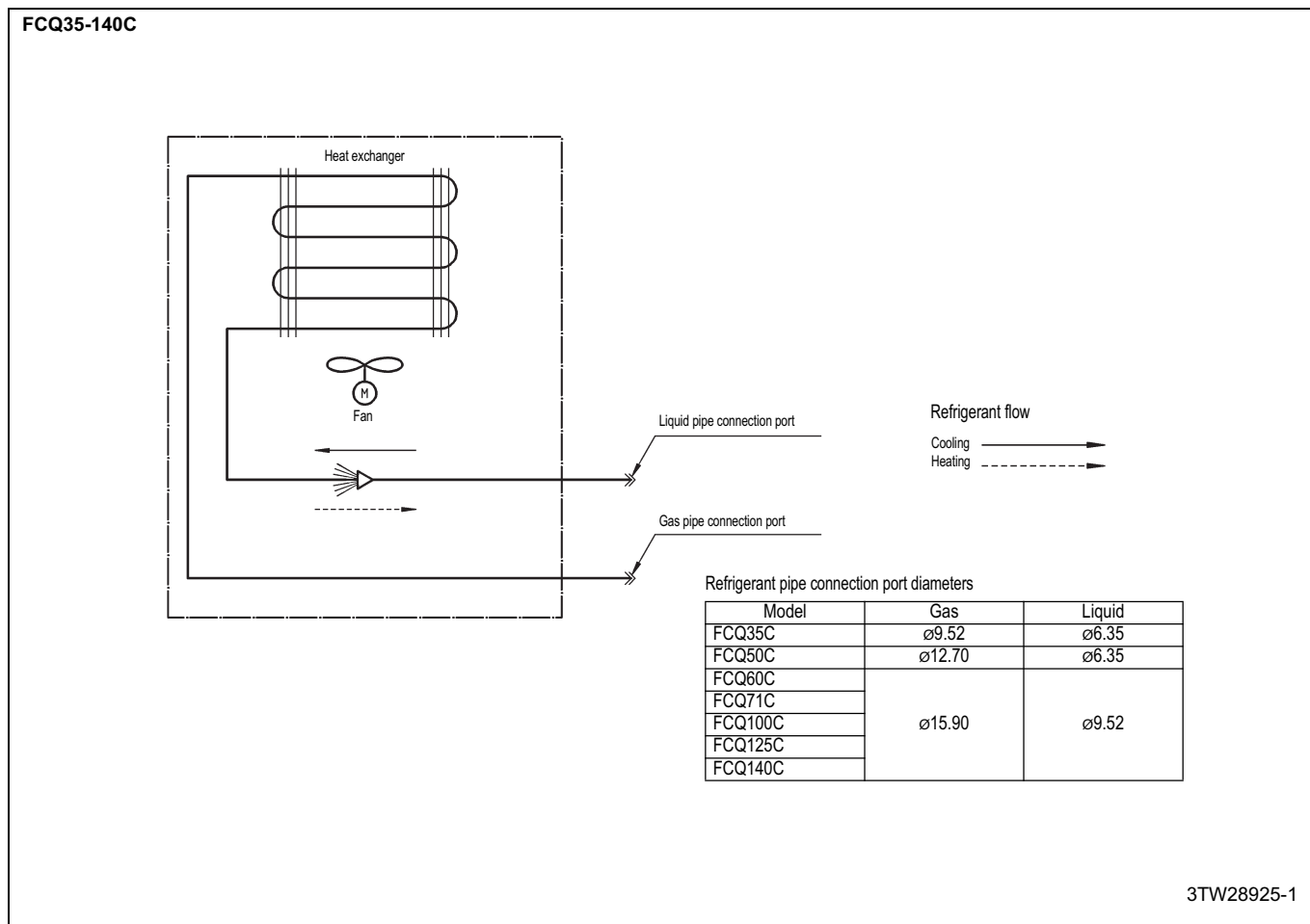
FCQ35-140C



Models	A	B	C	D
FCQ35~71	202	60	409	358
FCQ100~140	246	90	411	411

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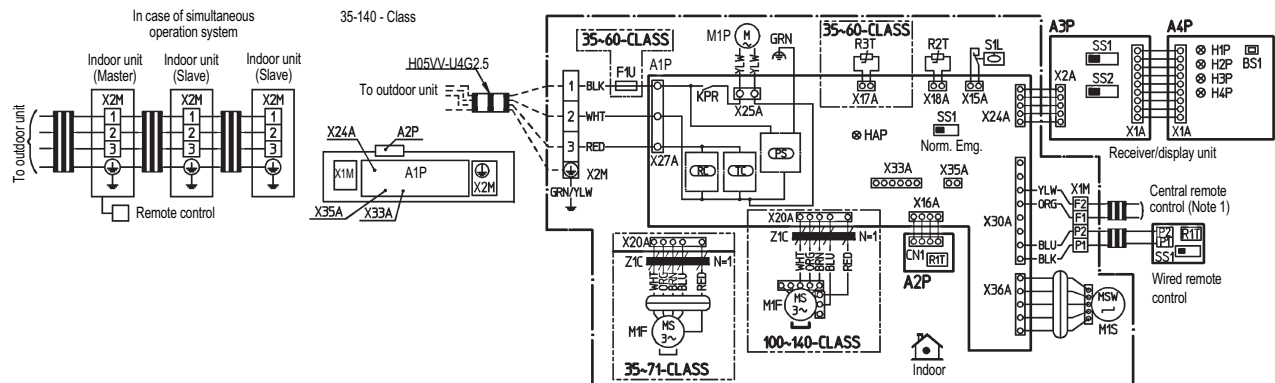
## 6 Piping diagram



# 7 Wiring diagram

## 7 - 1 Wiring diagram

FCQ35-140C



INDOOR UNIT		R3T	Thermistor (coil)	H1P	Light emitting diode (on-red)	
A1P	Printed circuit board	RC	Signal receiver circuit	H2P	Light emitting diode (timer-green)	
A2P	Printed circuit board (humidity sensor unit)	S1L	Float switch	H3P	Light emitting diode (filter sign-red)	
F1U	Fuse (T, 5A, 250V)	SS1	Selector switch (emergency)	H4P	Light emitting diode (defrost-orange)	
HAP	Light emitting diode (service monitor green)	TC	Signal transmission circuit	SS1	Selector switch (main/sub)	
KPR	Magnetic relay (M1P)	X1M	Terminal strip	SS2	Selector switch (wireless address set)	
M1F	Motor (indoor fan)	X2M	Terminal strip	<b>CONNECTOR FOR OPTIONAL PARTS</b>		
M1P	Motor (drain pump)	Z1C	Ferrite core	X24A	Connector (infrared remote control)	
M1S	Motor (swing flap)	<b>RECEIVER/DISPLAY UNIT (ATTACHED TO INFRARED REMOTE CONTROL)</b>			X33A	Connector (adapter for wiring)
PS	Power supply circuit	A3P	Printed circuit board	X35A	Connector (group control adapter)	
R1T	Thermistor (air)	A4P	Printed circuit board	<b>WIRED REMOTE CONTROL</b>		
R2T	Thermistor (coil)	BS1	Push button (on/off)	R1T	Thermistor (air)	
				SS1	Selector switch (main/sub)	

□□□□ : Terminal block  
 □□, D- : Connector  
 ≡≡≡ : Field wiring

Colors: RED: Red GRN: Green  
 BLK: Black ORG: Orange  
 WHT: White BRN: Brown  
 YLW: Yellow GRY: Grey  
 BLU: Blue

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**NOTES**

- In case of using central remote control, connect it to the unit in accordance with the attached installation manual.
- X24A, X33A, and X35A are connected when the optional accessories are being used.
- Remote control model varies according to the combination system, confirm engineering data and catalogs, etc. before connecting
- Confirm the method of setting the selector switch (SS1, SS2) by installation manual and engineering data, etc.

# 8 Sound data

## 8 - 1 Sound pressure spectrum

### FCQ35C

4D056856

Scale	Mode	
	Hi	Low
A	31.0	27.0
C	37.0	33.0

Over All (dB): (B, G, N is already rectified)  
 Operating conditions:  
 • Power source: 220~240V 50Hz/220V 60Hz  
 • Cooling: return air temperature: 27°C DB, 19°C WB - outdoor temperature: 35°C DB, 24°C WB  
 • Heating: return air temperature: 20°C DB, 15°C WB - outdoor temperature: 7°C DB, 6°C WB  
 • 4 direction discharge

Power level (dB): Hi 49  
 Measuring place: Anechoic chamber  
 Location of microphone

Note: Operation noise differs with operation and ambient conditions.

### FCQ50C

4D056857

Scale	Mode	
	Hi	Low
A	31.0	27.0
C	37.0	33.0

Over All (dB): (B, G, N is already rectified)  
 Operating conditions:  
 • Power source: 220~240V 50Hz/220V 60Hz  
 • Cooling: return air temperature: 27°C DB, 19°C WB - outdoor temperature: 35°C DB, 24°C WB  
 • Heating: return air temperature: 20°C DB, 15°C WB - outdoor temperature: 7°C DB, 6°C WB  
 • 4 direction discharge

Power level (dB): Hi 49  
 Measuring place: Anechoic chamber  
 Location of microphone

Note: Operation noise differs with operation and ambient conditions.

### FCQ60C

4D056858

Scale	Mode	
	Hi	Low
A	33.0	28.0
C	39.0	34.0

Over All (dB): (B, G, N is already rectified)  
 Operating conditions:  
 • Power source: 220~240V 50Hz/220V 60Hz  
 • Cooling: return air temperature: 27°C DB, 19°C WB - outdoor temperature: 35°C DB, 24°C WB  
 • Heating: return air temperature: 20°C DB, 15°C WB - outdoor temperature: 7°C DB, 6°C WB  
 • 4 direction discharge

Power level (dB): Hi 51  
 Measuring place: Anechoic chamber  
 Location of microphone

Note: Operation noise differs with operation and ambient conditions.

### FCQ71C

4D056859

Scale	Mode			
	Hi		Low	
A	Cooling	Heating	Cooling	Heating
A	33.0	34.0	28.0	28.0
C	39.0	40.0	34.0	34.0

Over All (dB): (B, G, N is already rectified)  
 Operating conditions:  
 • Power source: 220~240V 50Hz/220V 60Hz  
 • Cooling: return air temperature: 27°C DB, 19°C WB - outdoor temperature: 35°C DB, 24°C WB  
 • Heating: return air temperature: 20°C DB, 15°C WB - outdoor temperature: 7°C DB, 6°C WB  
 • 4 direction discharge

Power level (dB): Hi 51  
 Measuring place: Anechoic chamber  
 Location of microphone

Note: Operation noise differs with operation and ambient conditions.

# 8 Sound data

## 8 - 1 Sound pressure spectrum

**FCQ100C**

4D056860

Scale	Mode	
	Hi	Low
A	37.0	32.0
C	43.0	38.0

Over All (dB):  
(B, G, N is already rectified)

Operating conditions:

- Power source: 220-240V 50Hz/220V 60Hz
- Cooling: return air temperature: 27°C DB, 19°C WB - outdoor temperature: 35°C DB, 24°C WB
- Heating: return air temperature: 20°C DB, 15°C WB - outdoor temperature: 7°C DB, 6°C WB
- 4 direction discharge

Power level (dB): **Hi 54**

Measuring place: Anechoic chamber  
Location of microphone

**Note:** Operation noise differs with operation and ambient conditions.

**FCQ125C**

4D056861

Scale	Mode	
	Hi	Low
A	41.0	35.0
C	47.0	41.0

Over All (dB):  
(B, G, N is already rectified)

Operating conditions:

- Power source: 220-240V 50Hz/220V 60Hz
- Cooling: return air temperature: 27°C DB, 19°C WB - outdoor temperature: 35°C DB, 24°C WB
- Heating: return air temperature: 20°C DB, 15°C WB - outdoor temperature: 7°C DB, 6°C WB
- 4 direction discharge

Power level (dB): **Hi 58**

Measuring place: Anechoic chamber  
Location of microphone

**Note:** Operation noise differs with operation and ambient conditions.

**FCQ140C**

4D056862

Scale	Mode			
	Hi		Low	
	Cooling	Heating	Cooling	Heating
A	41.0	42.0	35.0	
C	47.0	48.0	41.0	

Over All (dB):  
(B, G, N is already rectified)

Operating conditions:

- Power source: 220-240V 50Hz/220V 60Hz
- Cooling: return air temperature: 27°C DB, 19°C WB - outdoor temperature: 35°C DB, 24°C WB
- Heating: return air temperature: 20°C DB, 15°C WB - outdoor temperature: 7°C DB, 6°C WB
- 4 direction discharge

Power level (dB):

Hi	
Cooling	Heating
58	59

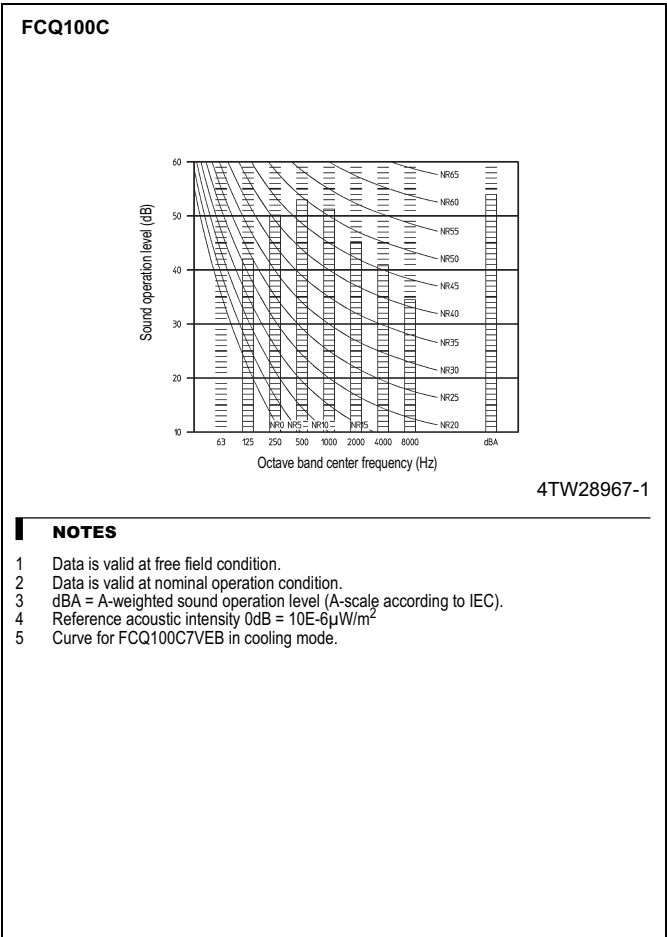
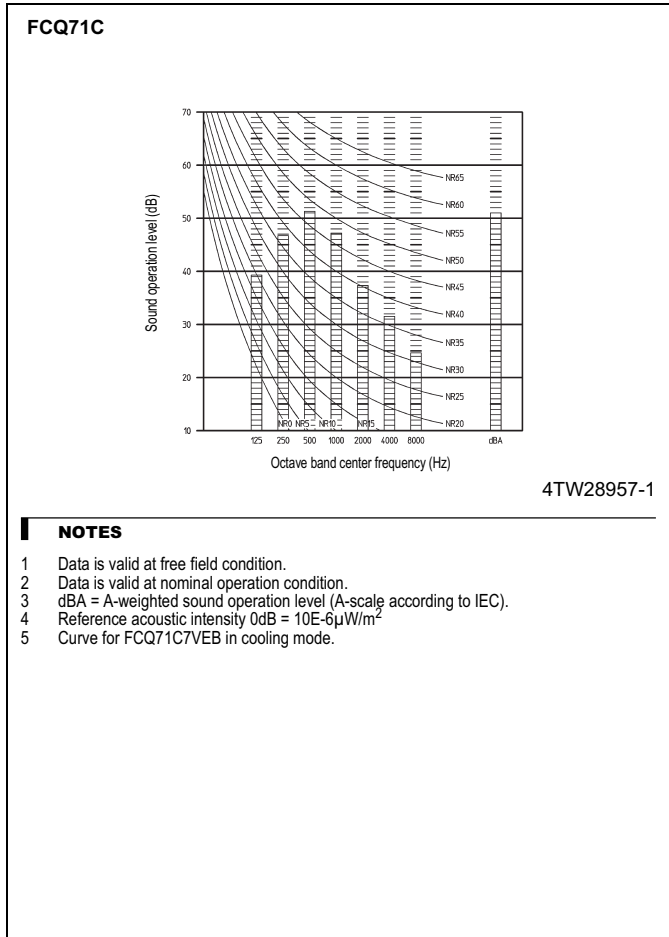
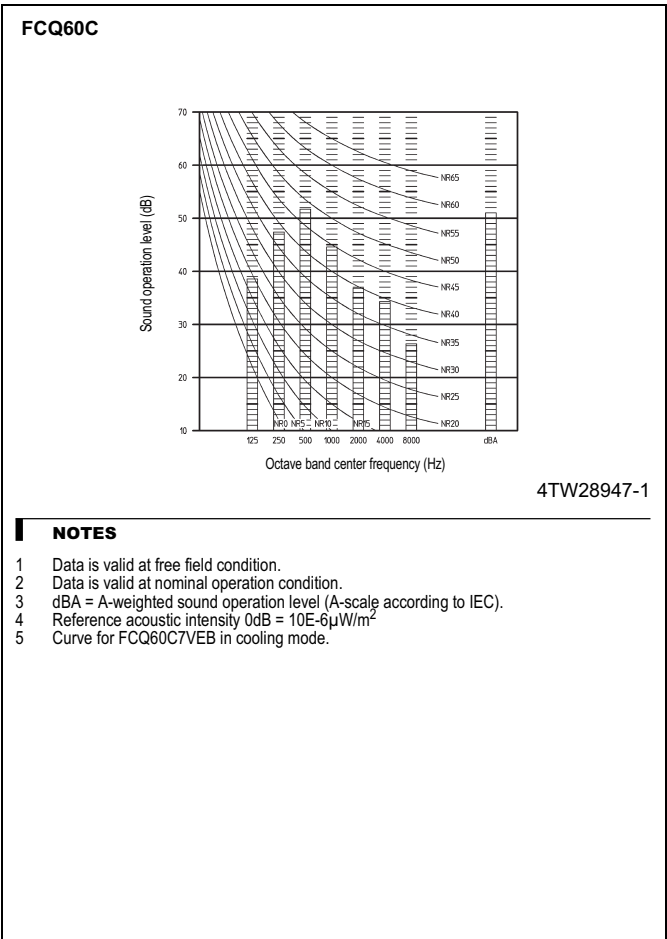
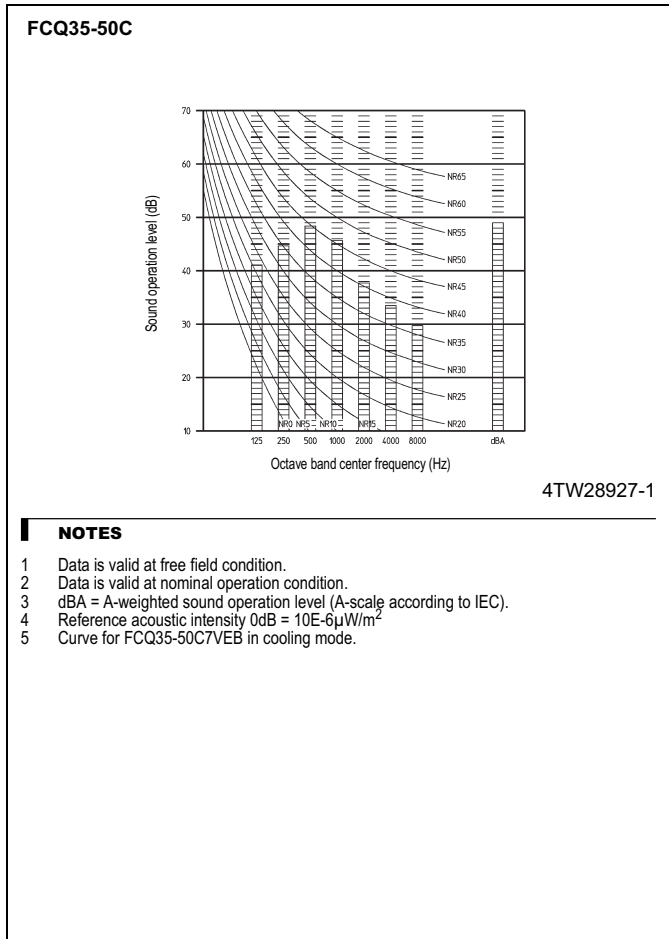
Measuring place: Anechoic chamber  
Location of microphone

**Note:** Operation noise differs with operation and ambient conditions.

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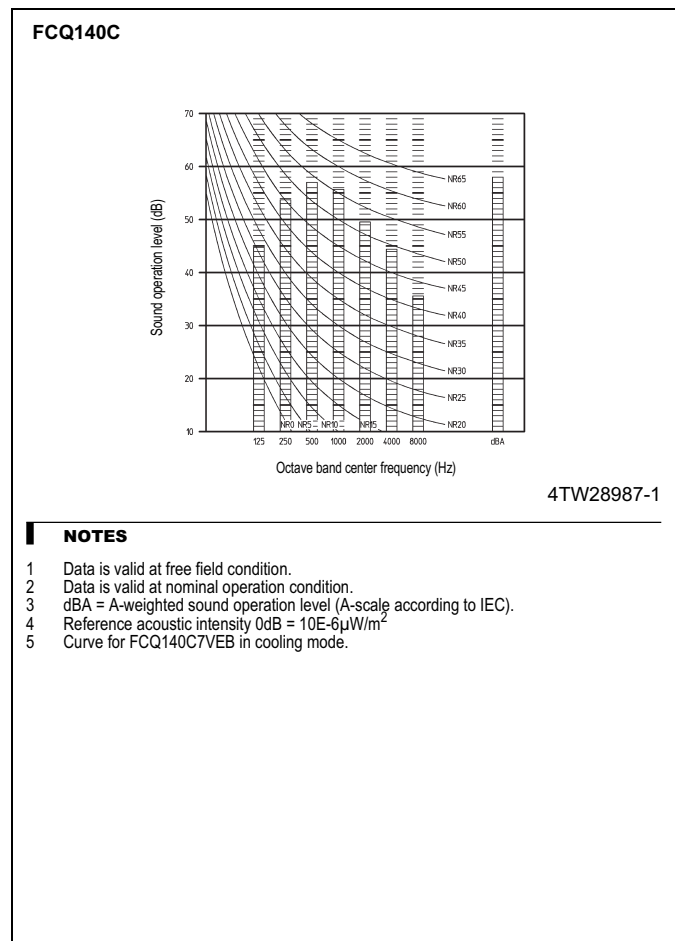
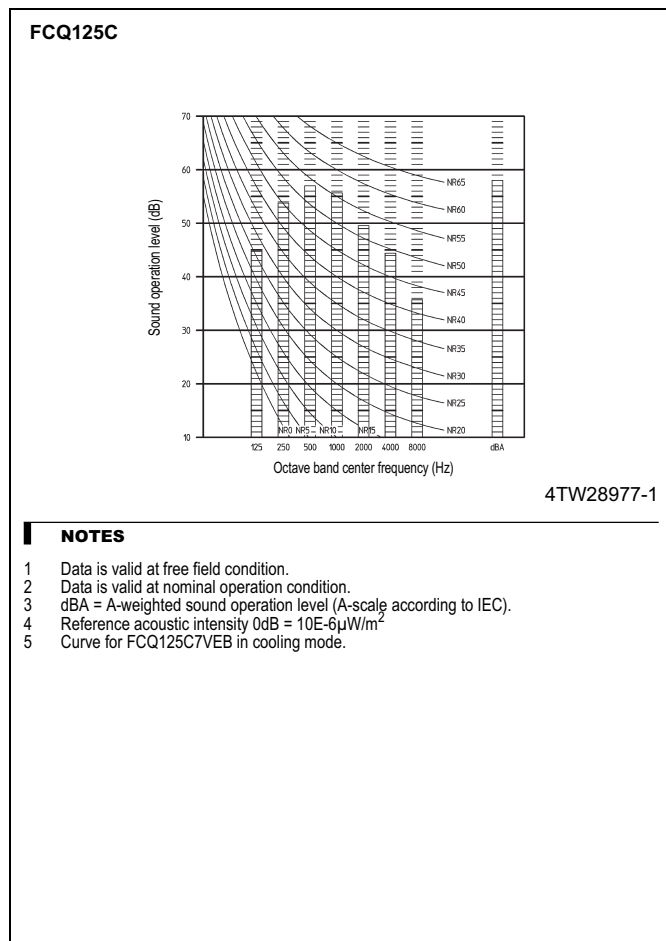
# 8 Sound data

## 8 - 2 Sound power spectrum



## 8 Sound data

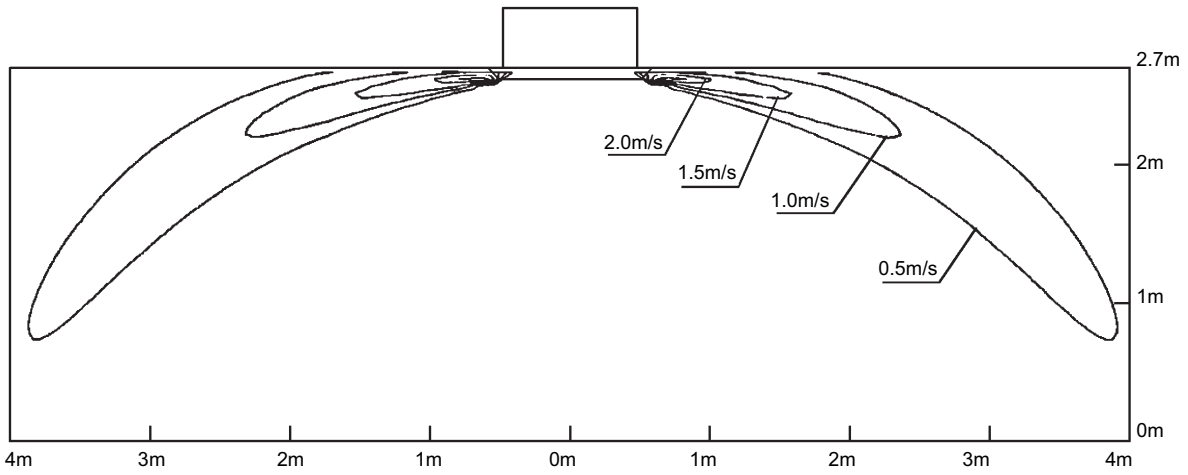
### 8 - 2 Sound power spectrum



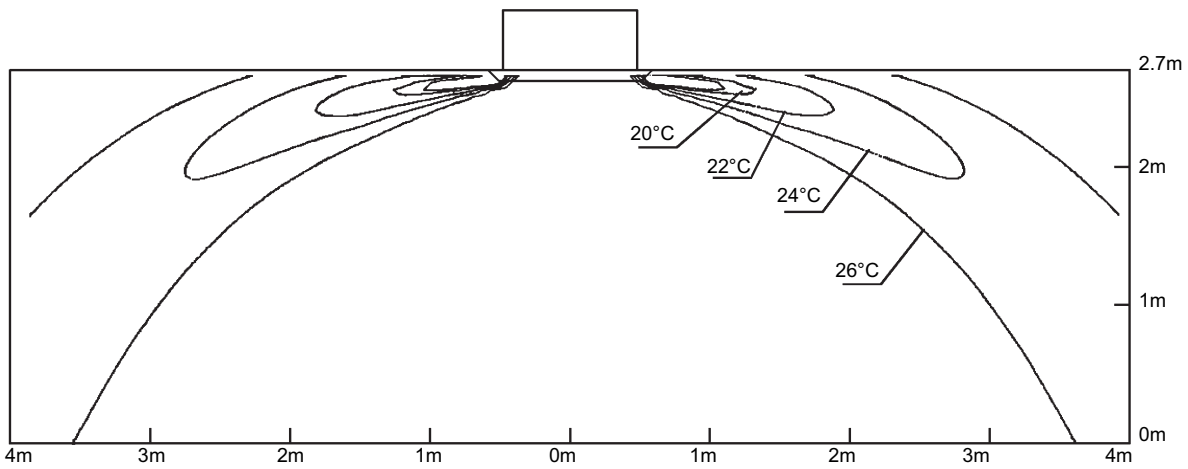
# 9 Air flow pattern

FCQ35C

Cooling air velocity distribution  
 All round air discharge, air flow direction: horizontal



Cooling air temperature distribution  
 All round air discharge, air flow direction: horizontal



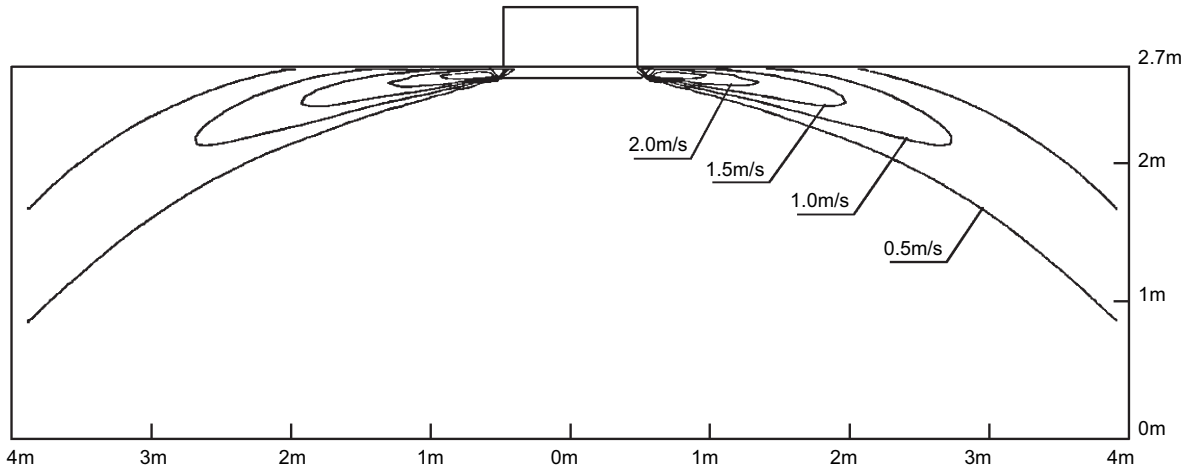
4D057199



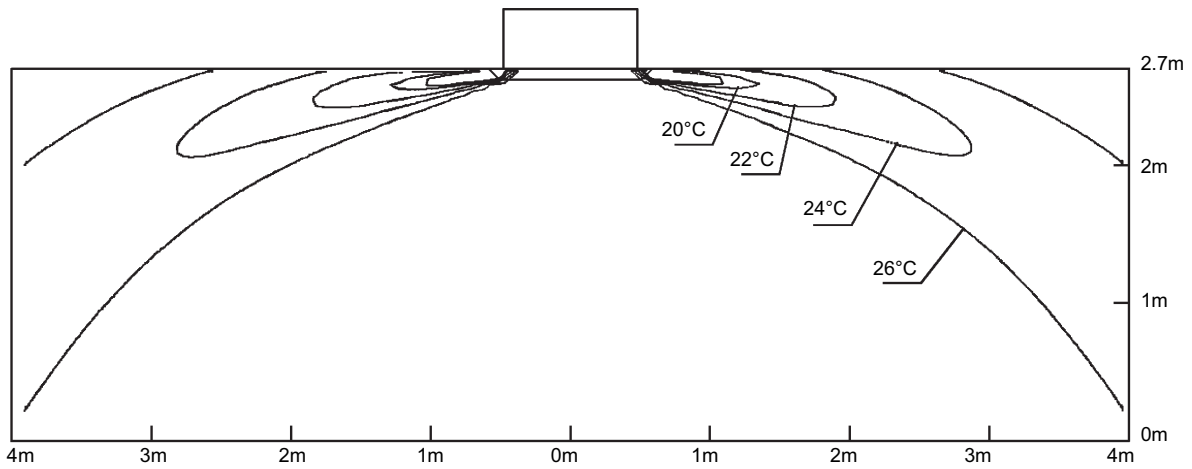
# 9 Air flow pattern

FCQ50C

Cooling air velocity distribution  
 All round air discharge, air flow direction: horizontal



Cooling air temperature distribution  
 All round air discharge, air flow direction: horizontal

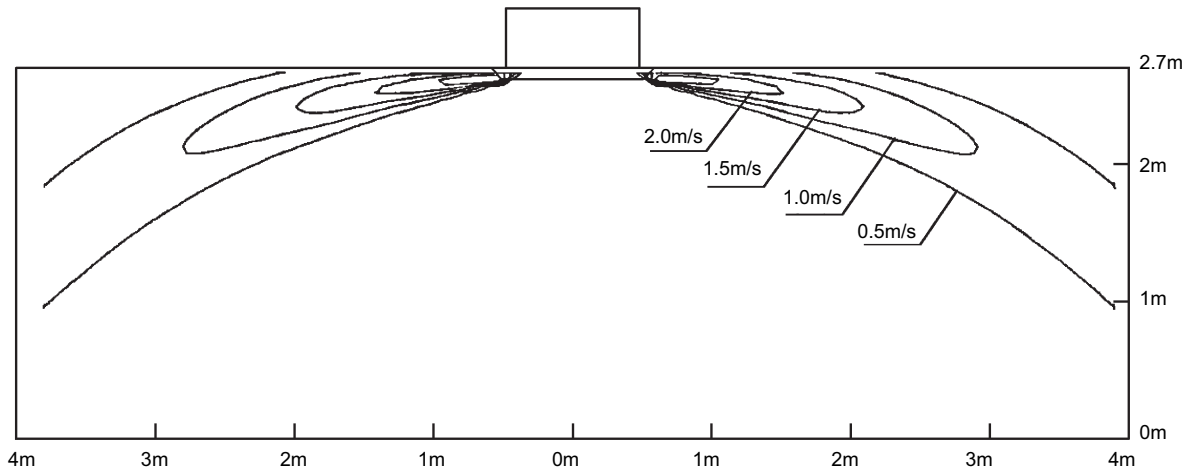


4D057201

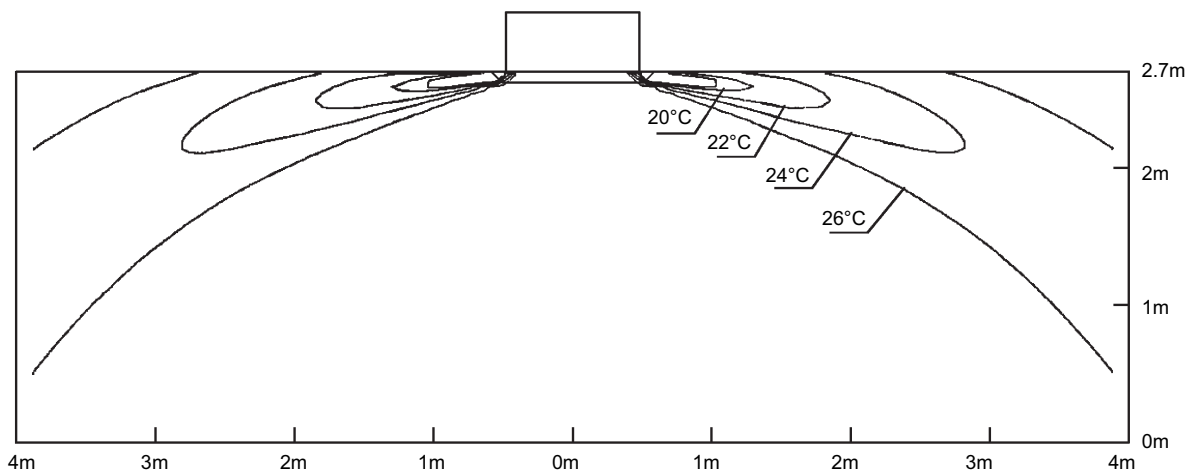
# 9 Air flow pattern

FCQ60C

Cooling air velocity distribution  
All round air discharge, air flow direction: horizontal



Cooling air temperature distribution  
All round air discharge, air flow direction: horizontal

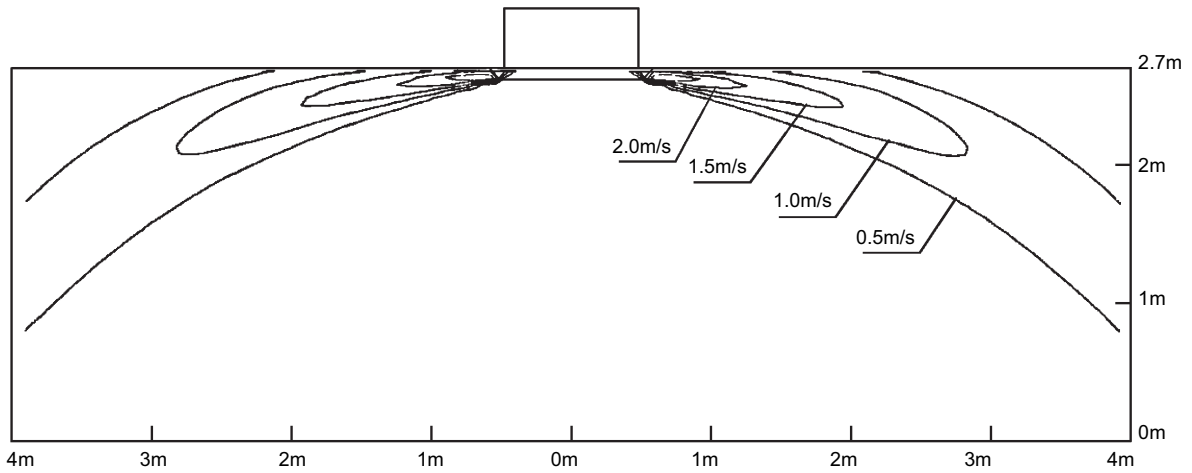


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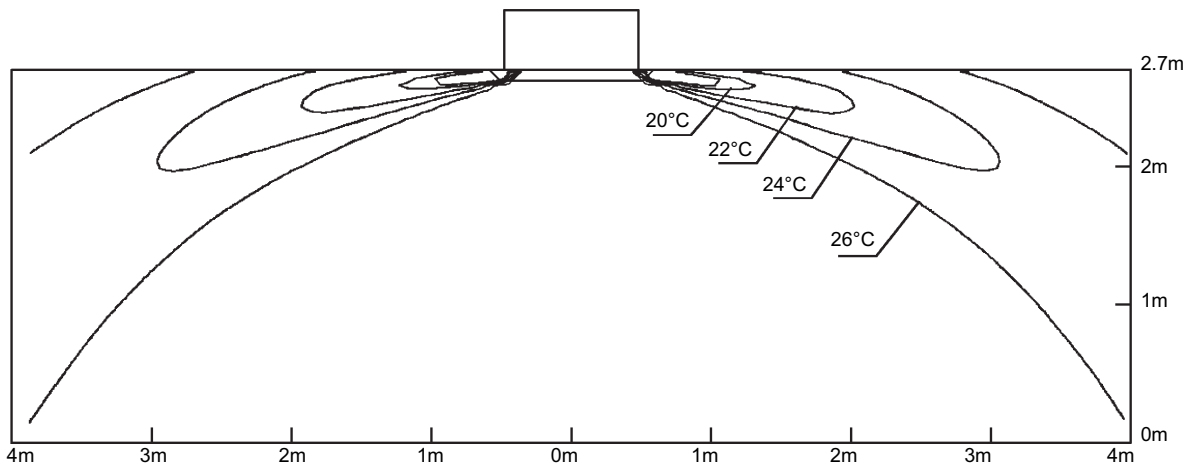
# 9 Air flow pattern

FCQ71C

Cooling air velocity distribution  
 All round air discharge, air flow direction: horizontal



Cooling air temperature distribution  
 All round air discharge, air flow direction: horizontal

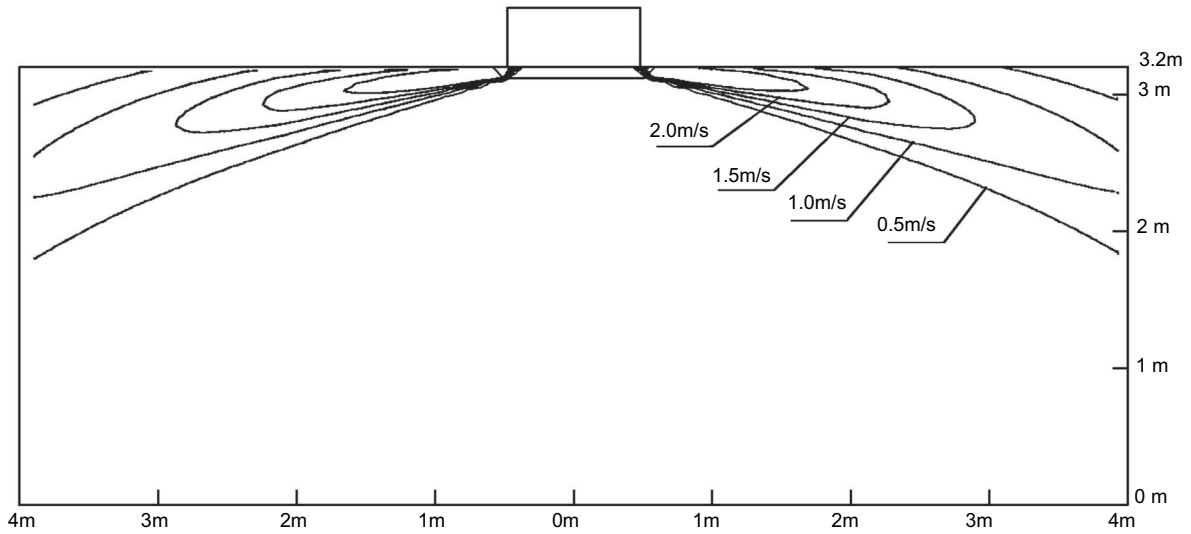


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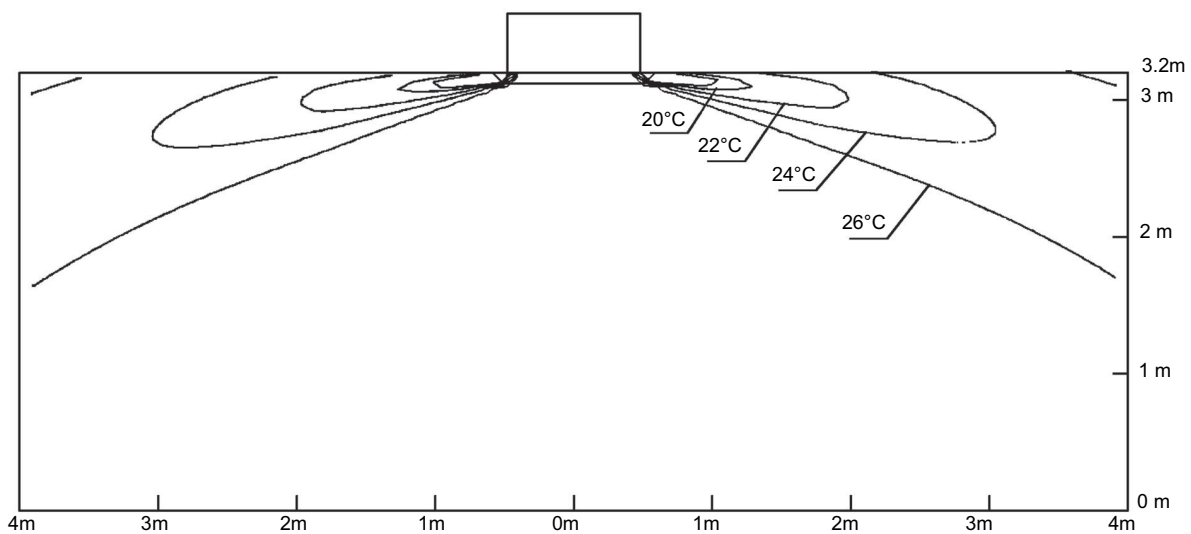
# 9 Air flow pattern

FCQ100C

Cooling air velocity distribution  
 All round air discharge, air flow direction: horizontal



Cooling air temperature distribution  
 All round air discharge, air flow direction: horizontal



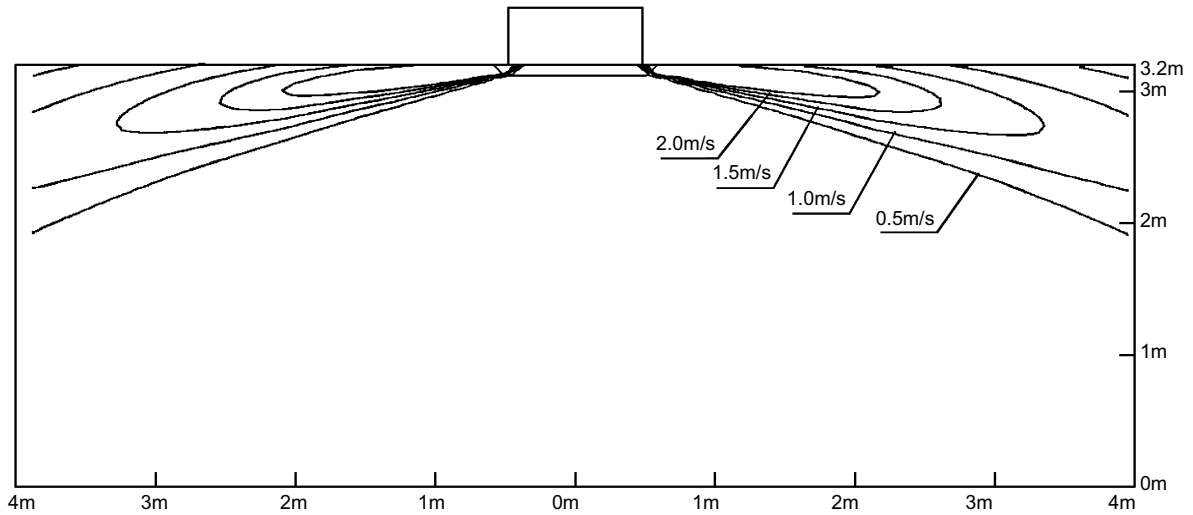
4D057207

# 9 Air flow pattern

FCQ125C

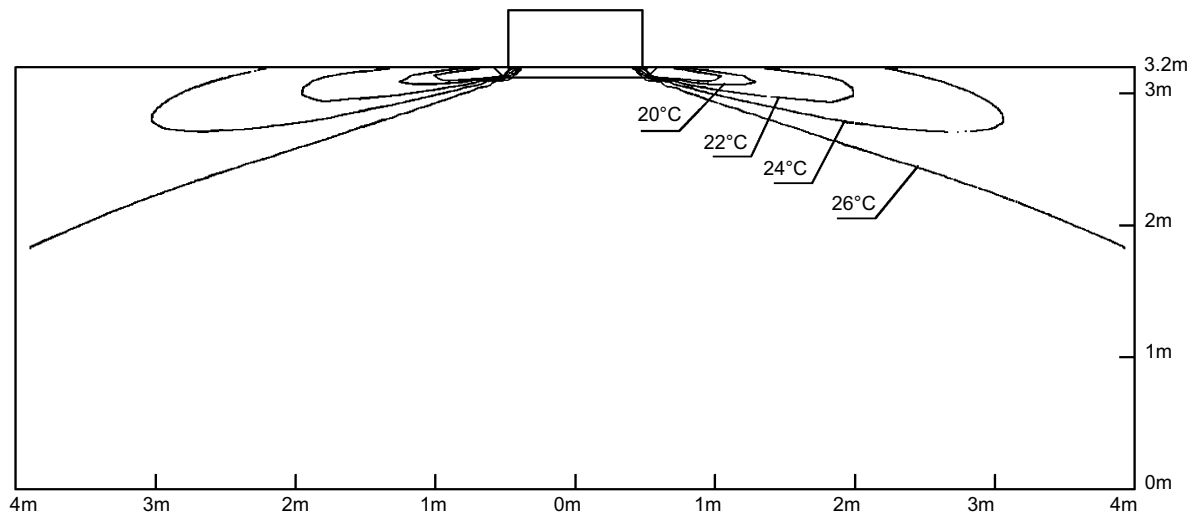
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal



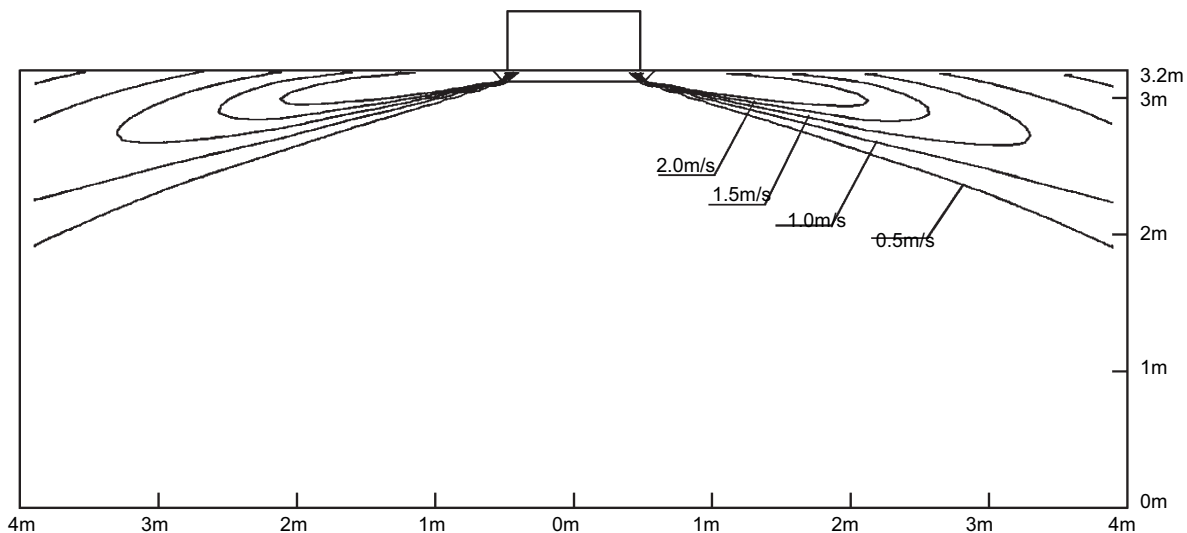
4D057209

# 9 Air flow pattern

FCQ140C

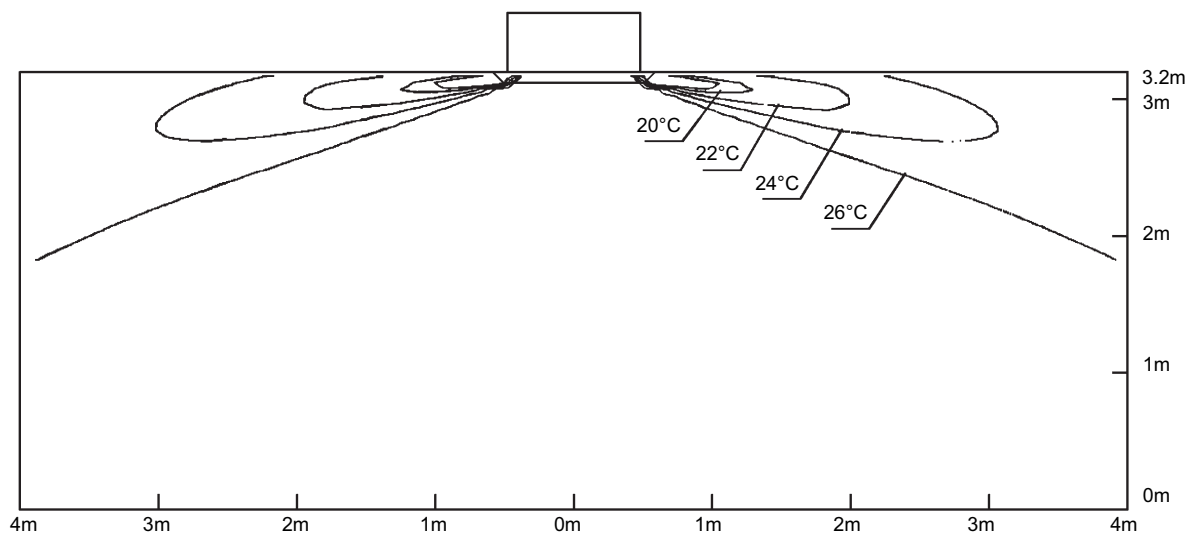
Cooling air velocity distribution

All round air discharge, air flow direction: horizontal



Cooling air temperature distribution

All round air discharge, air flow direction: horizontal

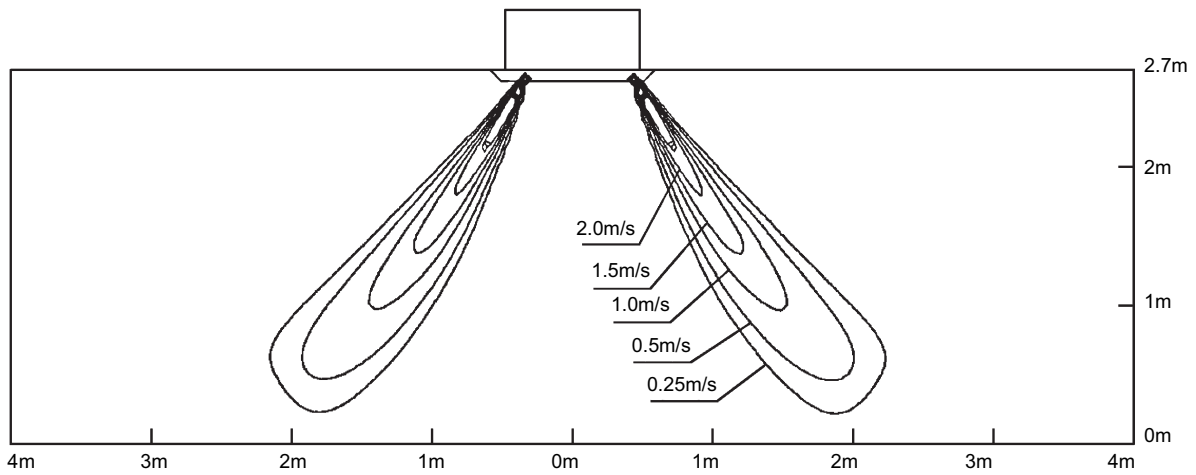


4D057211

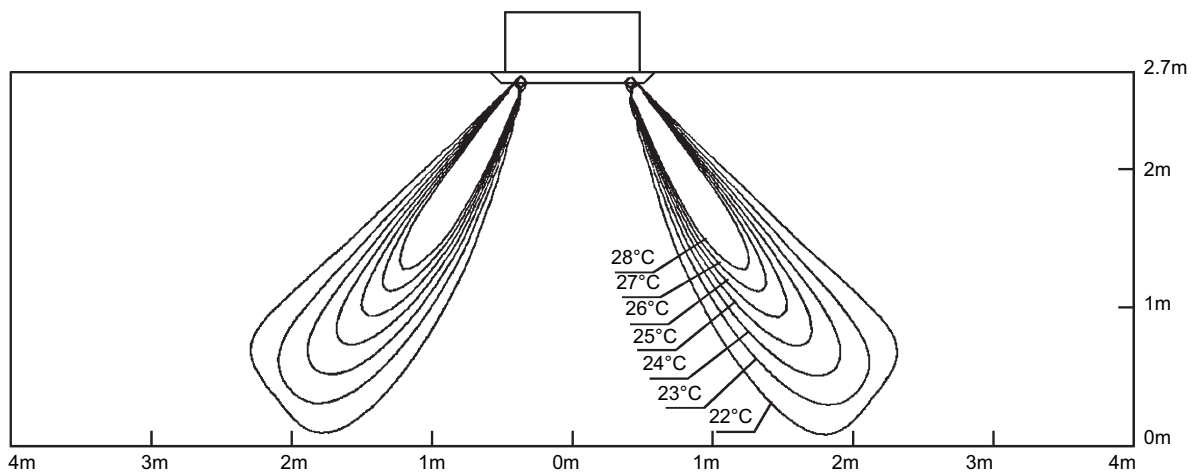
# 9 Air flow pattern

FCQ35C

Heating air velocity distribution  
 All round air discharge, air flow direction: horizontal



Heating air temperature distribution  
 All round air discharge, air flow direction: horizontal

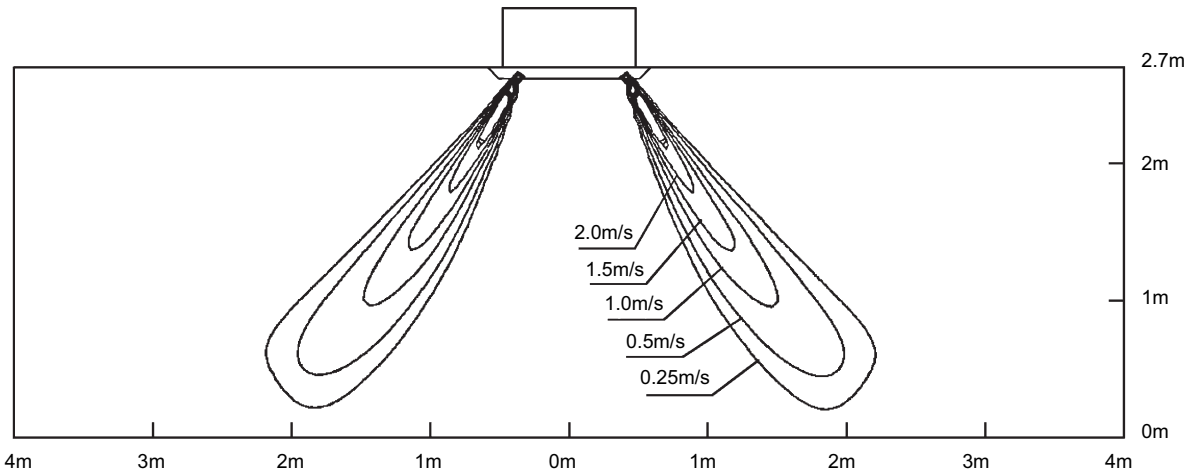


4D057198

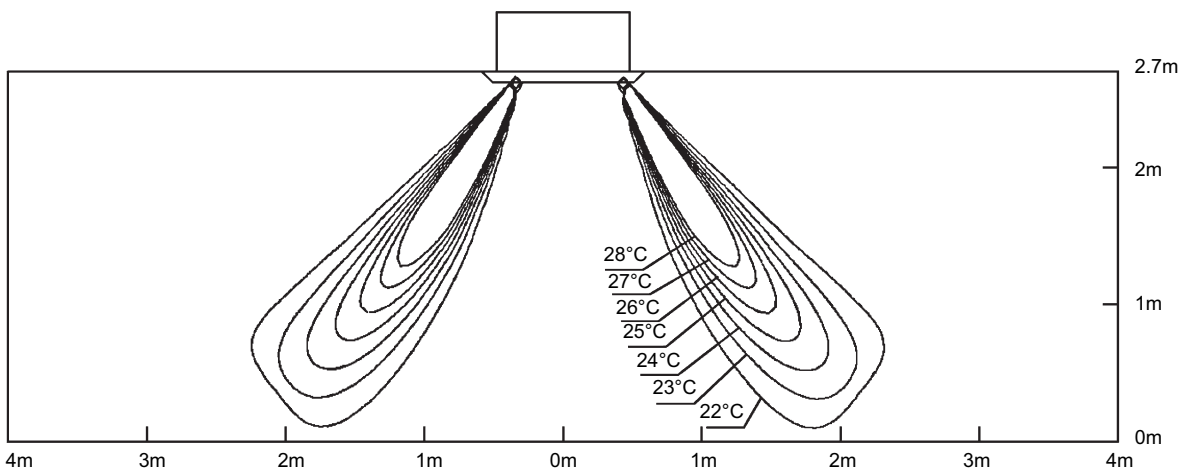
# 9 Air flow pattern

FCQ50C

Heating air velocity distribution  
 All round air discharge, air flow direction: horizontal



Heating air temperature distribution  
 All round air discharge, air flow direction: horizontal



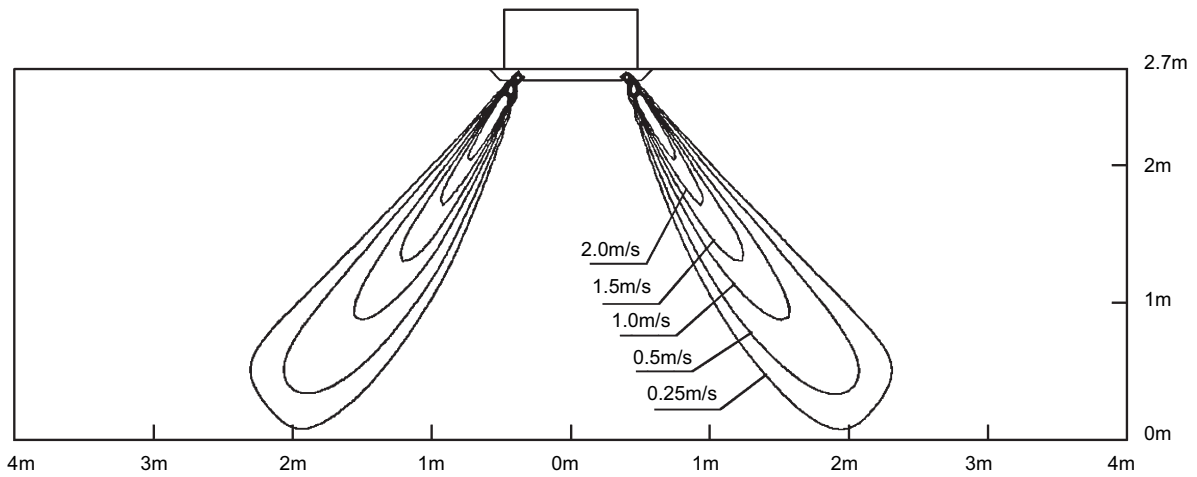
4D057200



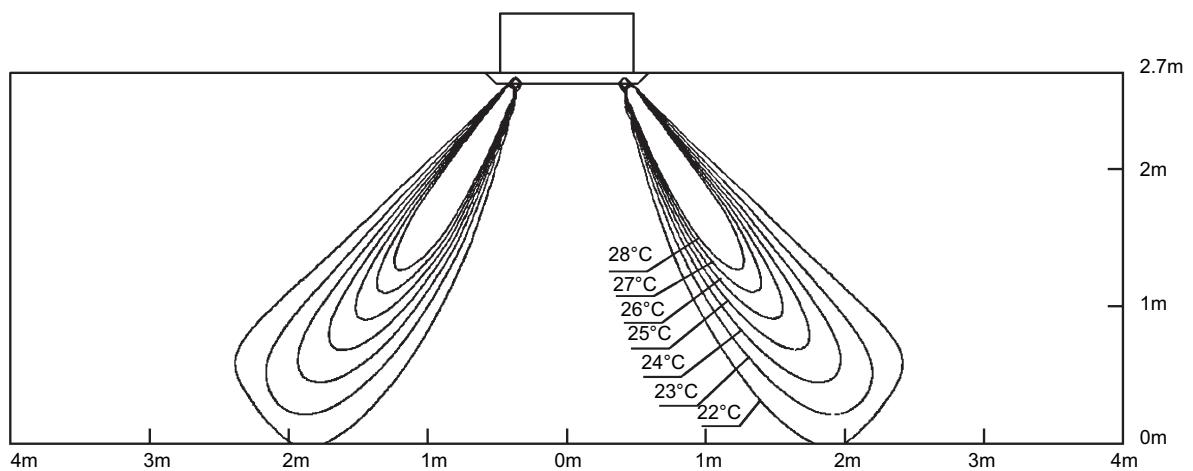
# 9 Air flow pattern

FCQ60C

Heating air velocity distribution  
 All round air discharge, air flow direction: horizontal



Heating air temperature distribution  
 All round air discharge, air flow direction: horizontal

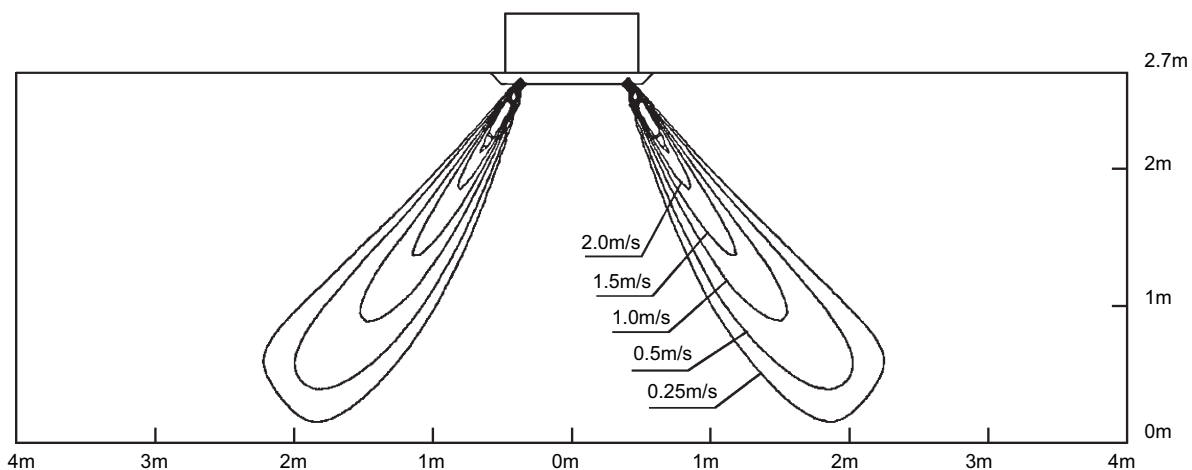


4D057202

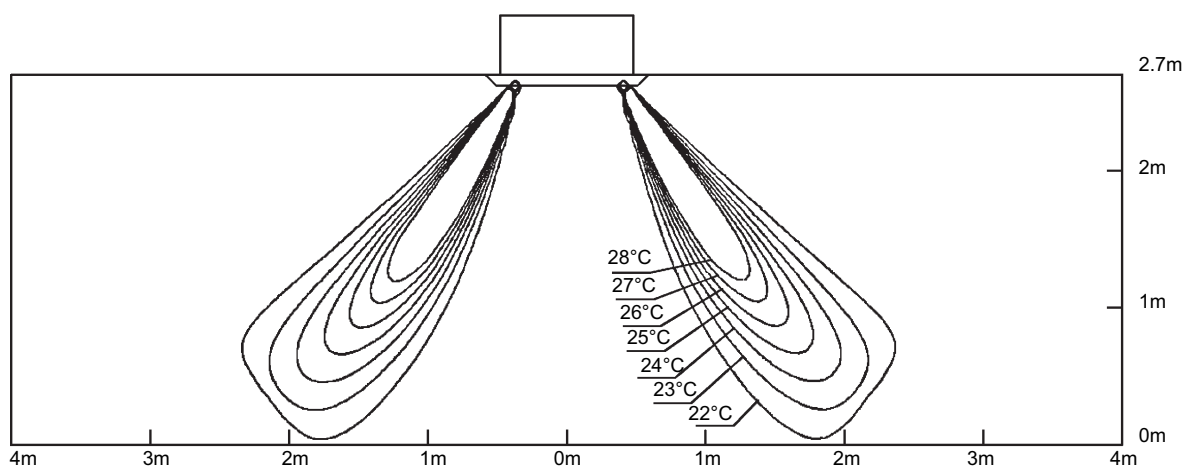
# 9 Air flow pattern

FCQ71C

Heating air velocity distribution  
 All round air discharge, air flow direction: horizontal



Heating air temperature distribution  
 All round air discharge, air flow direction: horizontal

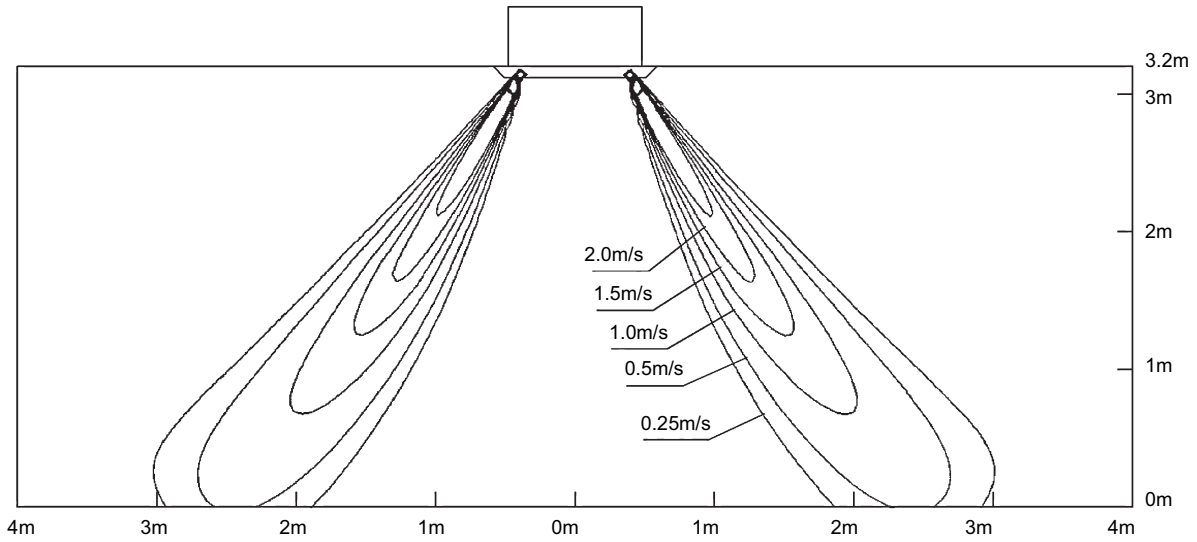


4D057204

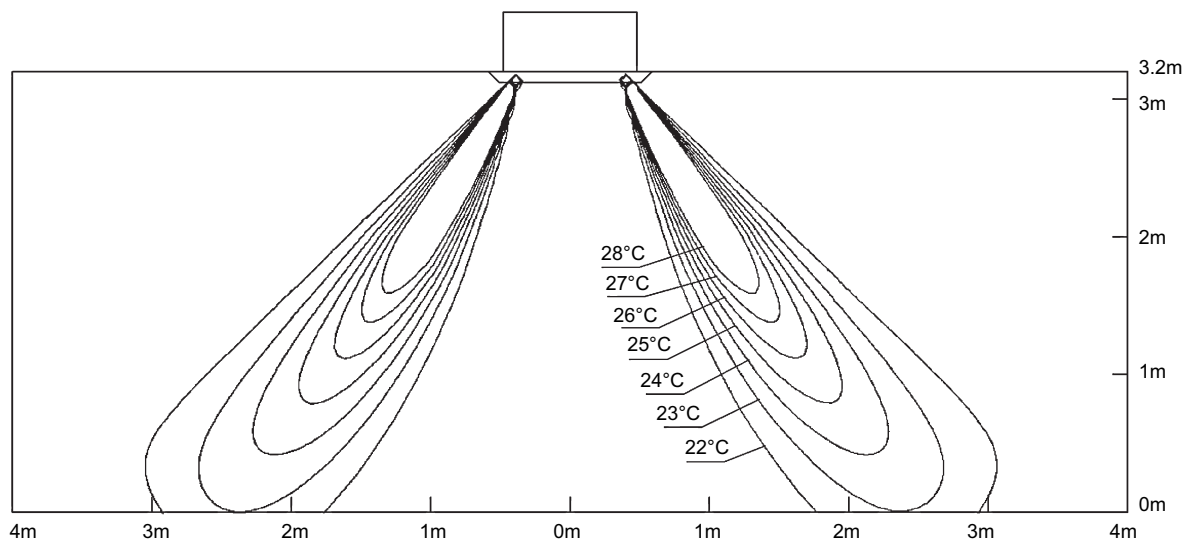
# 9 Air flow pattern

FCQ100C

Heating air velocity distribution  
 All round air discharge, air flow direction: horizontal



Heating air temperature distribution  
 All round air discharge, air flow direction: horizontal

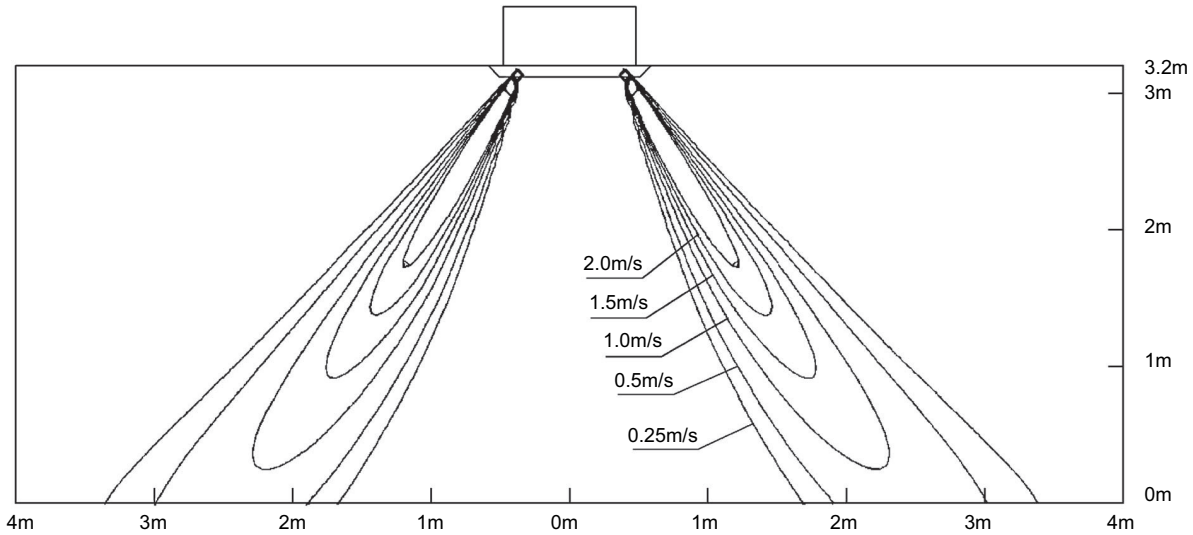


4D057206

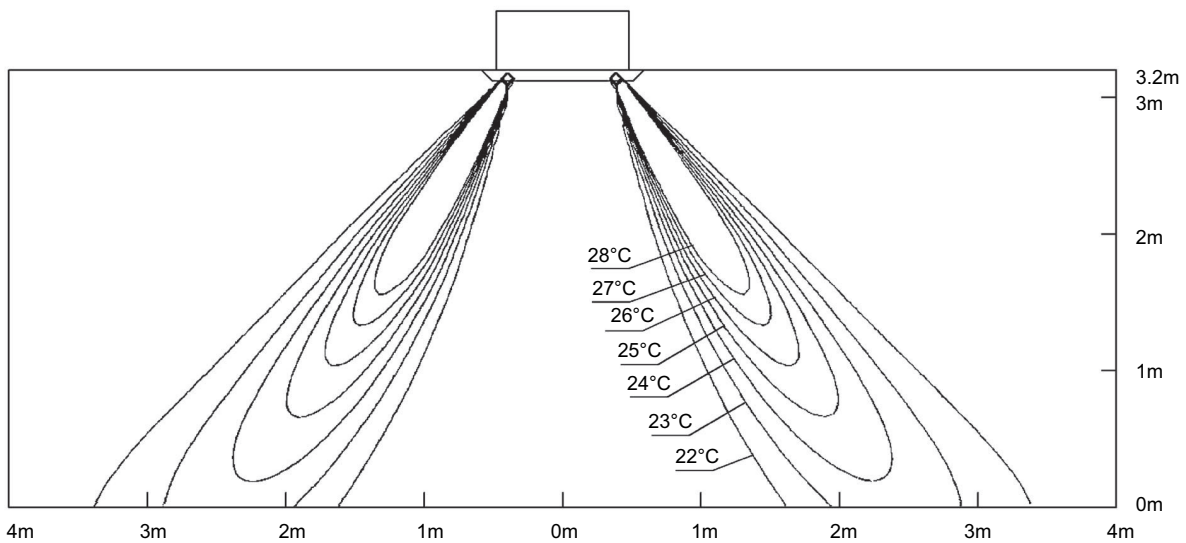
# 9 Air flow pattern

FCQ125C

Heating air velocity distribution  
 All round air discharge, air flow direction: horizontal



Heating air temperature distribution  
 All round air discharge, air flow direction: horizontal

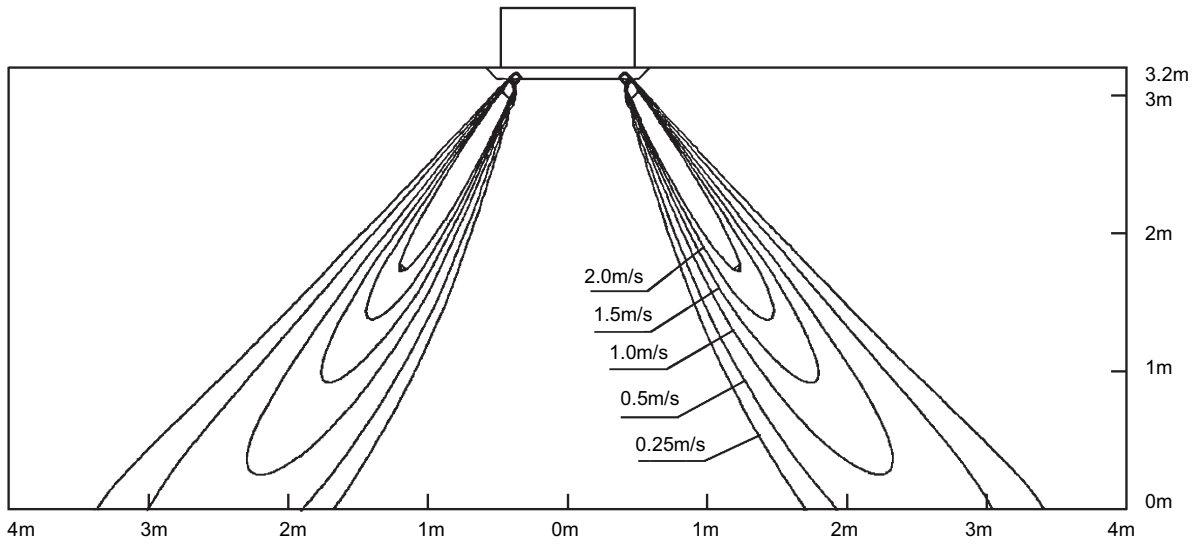


4D057208

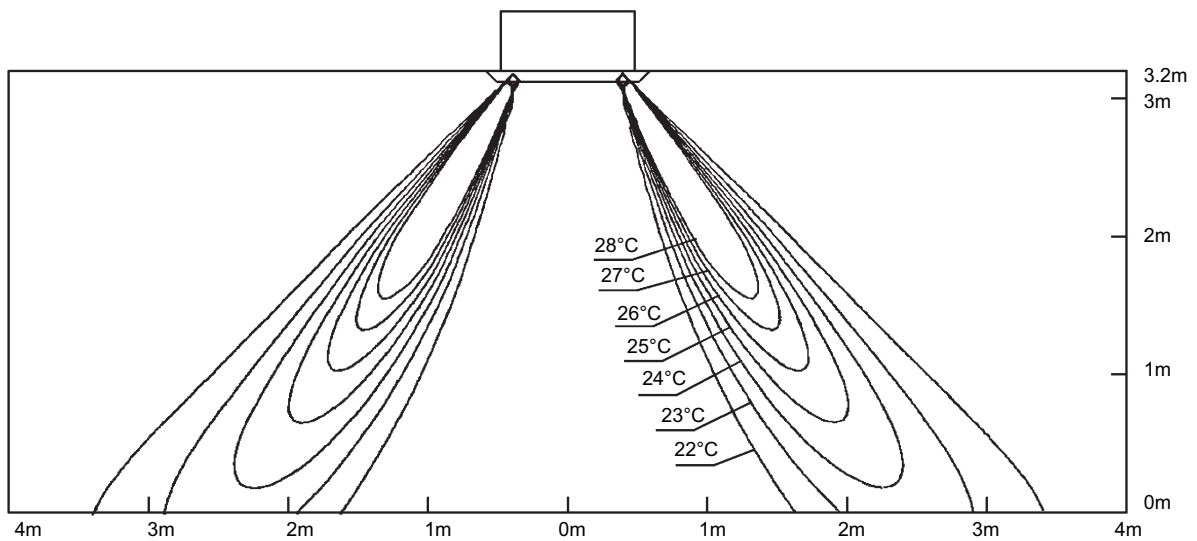
# 9 Air flow pattern

FCQ140C

Heating air velocity distribution  
 All round air discharge, air flow direction: horizontal



Heating air temperature distribution  
 All round air discharge, air flow direction: horizontal



4D057210