



# technical data

**FHQ-BU**



**Ceiling  
Suspended Unit**



air conditioning systems

# Split Sky Air

# Split - Sky Air



ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment



Daikin units comply with the European regulations that guarantee the safety of the product.



Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

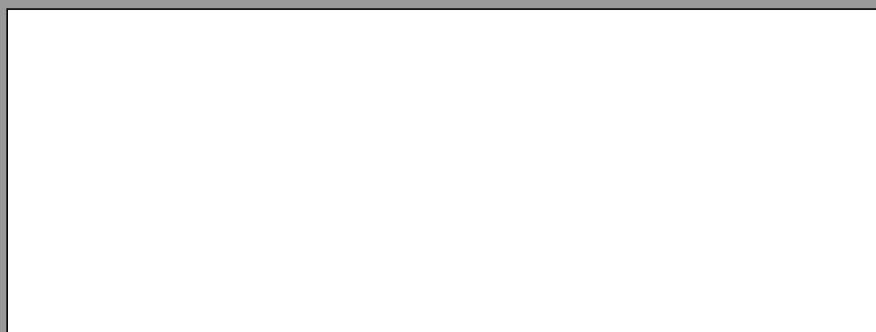


Daikin Europe N.V. is participating in the EUROVENT Certification Programme. Products are as listed in the EUROVENT Directory of Certified Products.

Specifications are subject to change without prior notice.

## **DAIKIN EUROPE N.V.**

Zandvoordestraat 300  
B - 8400 Ostend Belgium  
Internet: <http://www.daikineurope.com>





# TABLE OF CONTENTS

## FHQ-BU

1	Features .....	2
2	Specifications .....	3
	Nominal capacity, capacity steps and nominal input	
	Technical specifications	
3	Dimensional drawings .....	5
4	Piping diagrams .....	7
5	Wiring diagrams .....	8
6	Sound level .....	9
	Sound level data	
	Sound pressure spectrum	
7	Air flow patterns .....	10
8	Accessories .....	14
	Optional accessories	
9	Control systems .....	15
10	Safety device settings .....	15

\* For capacity tables, please refer to part II: outdoor units





# 1 Features

1

- Leaves maximum floor and wall space for furniture, decoration and fittings
- Compact casing (only 960mm width)
- Extremely quiet in operation both indoors and outdoors
- Automatic air flow director ensures uniform air flow and temperature distribution
- Air flow distribution for ceiling heights up to 3.8m without loss of capacity
- Up to 4 indoor units can be connected to 1 Multi outdoor unit. All indoor units are individually controllable with remote control and do not need to be installed in the same room. They operate simultaneously within the same cooling or heating mode.
- The (wired) remote control has a programmable timer
- Centralised control of several units can be achieved via 3 wired remote controls
  - centralised remote control
  - unified ON/OFF control
  - schedule timer



Optional



Optional



2 steps



## 2 Specifications



NOMINAL CAPACITY and NOMINAL INPUT					
For indoor units only:					
INDOOR UNITS			FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B
NOMINAL INPUT	Cooling	kW	-	-	-
	Heating	kW	0.111		0.115

For combination indoor + outdoor units (air cooled):							
INDOOR UNITS			FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B	FHQ50BUV1B	FHQ60BUV1B
OUTDOOR UNITS			RKS35BVMB	RKS50BVMB	RKS60BVMB	RS50BVMB	RS60BVMB
CAPACITY (3)	Cooling	min~nom~max kW	1.00~3.40~3.70	0.90~5.00~5.60	0.90~5.70~6.00	5.00 (nom.)	5.70 (nom.)
INPUT	Cooling	min~nom~max kW	0.40~1.21~1.50	0.45~1.83~2.02	0.44~2.15~2.23	1.83 (nom.)	2.15 (nom.)
EER			2.81	2.73	2.65	2.73	2.65
ENERGY LABEL	Cooling		C	D	D	D	D
ANNUAL ENERGY CONSUMPTION	Cooling	kWh	605	915	1,075	915	1,075

For combination indoor + outdoor units (air cooled):							
INDOOR UNITS			FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B		
OUTDOOR UNITS			RXS35BVMB	RXS50BVMB	RXS60BVMB		
CAPACITY (3)	Cooling	min~nom~max kW	1.00~3.40~3.70	0.90~5.00~5.60	0.90~5.70~6.00		
	Heating	min~nom~max kW	1.00~4.10~5.00	0.90~6.00~7.00	0.90~7.20~8.00		
INPUT	Cooling	min~nom~max kW	0.40~1.21~1.50	0.45~1.83~2.02	0.44~2.15~2.23		
	Heating	min~nom~max kW	0.44~1.18~1.62	0.36~2.05~2.45	0.40~2.49~2.75		
EER			2.81	2.73	2.65		
COP			3.47	2.93	2.89		
ENERGY LABEL	Cooling		C	D	D		
	Heating		B	D	D		
ANNUAL ENERGY CONSUMPTION	Cooling	kWh	605	915	1,075		

TECHNICAL SPECIFICATIONS						
For indoor units only:						
INDOOR UNITS			FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B	
DIMENSIONS	Unit	H	mm	195		
		W	mm	960		1,160
		D	mm	680		
WEIGHT	Unit	kg	24	25	27	
COLOUR	Unit		White			
SOUND LEVEL	Sound pressure (cooling/heating) (3)	high	dB(A)	37/37	38/38	39/38
		low	dB(A)	32/32	33/33	33/33
	Sound power (cooling/heating) (4)	high	dB(A)	53/53	54/54	55/54
		low	dB(A)	48/48	49/49	49/49
FAN	Air flow rate (cooling/heating)	high	m³/min	13/13		17/16
		low	m³/min	10/10		13/13
	Speed	steps	2steps			
	Type		Sirocco fan			
	Qty x motor output	W	1 x 62			
HEAT EXCHANGER	Type		Cross fin coil (Multi lower fins and N-HiX tubes)			
	Rows x stages x fin pitch	mm	2 x 12 x 1.75	3 x 12 x 1.75	2 x 12 x 1.75	
	Face area	m²	0.182		0.233	
PIPING CONNECTIONS	liquid	mm	φ6.4			
		gas	mm	φ9.5	φ12.7	
	drain I.D.	mm	φ20 (VP20)			
	drain O.D.	mm	φ26 (VP20)			
	INSULATION MATERIAL	Heat insulation		Foamed polystyrene / Foamed polyethylene		
	Sound absorbing insulation		Foamed polyurethane/Glass wool			

For outdoor units only:		
Pair application		See chapters RS-B + RKS-B + RXS-B
Multi model application		See chapters 4MKS-B + 3MXS-B/4MXS-B

## 2 Specifications



2

ELECTRICAL SPECIFICATIONS						
For indoor units only:				FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B
CURRENT	Nominal running current	cooling/heating	A	See chapters RS-B + RKS-B + RXS-B		
	Max. running current	cooling/heating	A	See chapters RS-B + RKS-B + RXS-B		

For combination indoor units + outdoor units:				FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B	FHQ50BUV1B	FHQ60BUV1B
				RKS35BVMB	RKS50BVMB	RKS60BVMB	RS50BVMB	RS60BVMB
CURRENT	Nominal running current	cooling	A	See chapter RKS-B			See chapter RS-B	
	Maximum running current	cooling	A	See chapter RKS-B			See chapter RS-B	
	Starting current	cooling	A	See chapter RKS-B			See chapter RS-B	

For combination indoor units + outdoor units:				FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B
				RXS35BVMB	RXS50BVMB	RXS60BVMB
CURRENT	Nominal running current	cooling/heating	A	See chapter RXS-B		
	Maximum running current	cooling/heating	A	See chapter RXS-B		
	Starting current	cooling/heating	A	See chapter RXS-B		

For indoor units only:				FHQ35BUV1B	FHQ50BUV1B	FHQ60BUV1B
POWER SUPPLY				V1	V1	V1
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase			1~	1~	1~
	Frequency		Hz	50	50	50
	Voltage		V	220-240	220-240	220-240

3D028492

### NOTES

- 1 Nominal cooling capacities are based on: indoor temperature 27°CDB/19°CWB \* outdoor temperature 35°CDB \* refrigerant piping length: 7.5m \* level difference: 0m.
- 2 Nominal heating capacities are based on: indoor temperature: 20°CDB \* outdoor temperature: 7°CDB/6°CWB \* refrigerant piping length: 7.5m \* level difference 0m.
- 3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- 4 The sound pressure level is measured at 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. For measuring conditions: please refer to item 6 of this chapter.
- 5 The sound power level is an absolute value indicating the "power" which a sound source generates.
- 6 Energy label: scale from A (most efficient) to G (less efficient).
- 7 Annual energy consumption: based on average use of 500 running hours per year at full load (= nominal conditions).



# 3 Dimensional drawings

3

### FHQ35BU

**Note:**

1. Location of unit's name plate: bottom of fan housing inside the suction grille.
2. In case of using infrared remote control, this position will be a signal receiver. Refer to the drawing of infrared remote control in detail.
3. The remote control code is the standard (about 3m outside the machine) attached.  
(0.5 mm<sup>2</sup> x 2 Wicks x O.D. φ 5.4)  
(It is not attached in VRV.)

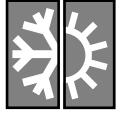
**3D037996**

### FHQ50BU

**Note:**

1. Location of unit's name plate: bottom of fan housing inside the suction grille.
2. In case of using infrared remote control, this position will be a signal receiver. Refer to the drawing of infrared remote control in detail.
3. The remote control code is the standard (about 3m outside the machine) attached.  
(0.5 mm<sup>2</sup> x 2 Wicks x O.D. φ 5.4)  
(It is not attached in VRV.)

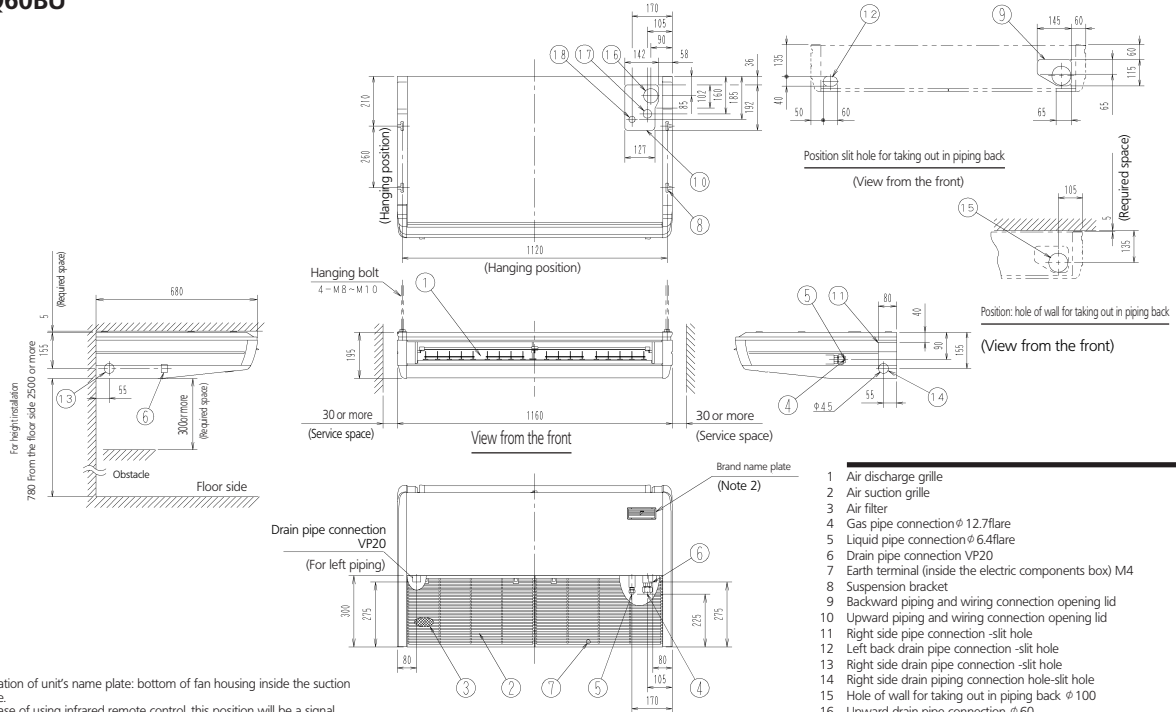
**3D027536C**



# 3 Dimensional drawings

3

FHQ60BU



**Note:**  
 1. Location of unit's name plate: bottom of fan housing inside the suction grille.  
 2. In case of using infrared remote control, this position will be a signal receiver. Refer to the drawing of infrared remote control in detail.  
 3. The remote control code is the standard (about 3m outside the machine) attached, (0.5 mm x 2 Wicks x O.D. φ 5.4) (It is not attached in VRV.)

- 1 Air discharge grille
- 2 Air suction grille
- 3 Air filter
- 4 Gas pipe connection φ 12.7 flare
- 5 Liquid pipe connection φ 6.4 flare
- 6 Drain pipe connection VP20
- 7 Earth terminal (inside the electric components box) M4
- 8 Suspension bracket
- 9 Backward piping and wiring connection opening lid
- 10 Upward piping and wiring connection opening lid
- 11 Right side pipe connection -slit hole
- 12 Left back drain pipe connection -slit hole
- 13 Right side drain pipe connection -slit hole
- 14 Right side drain piping connection hole-slit hole
- 15 Hole of wall for taking out in piping back φ 100
- 16 Upward drain pipe connection φ 60
- 17 Upward gas pipe connection φ 36
- 18 Upward liquid pipe connection φ 26

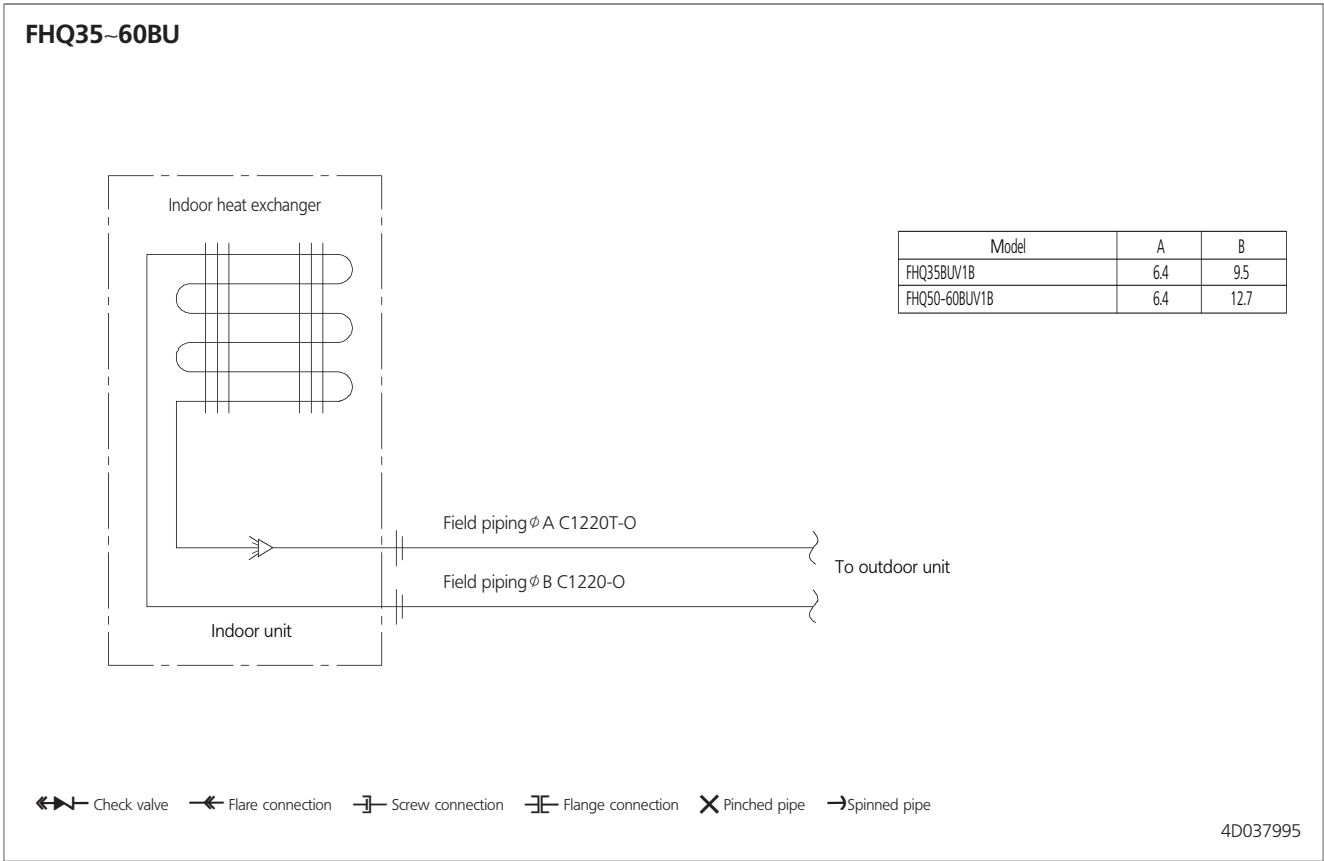
3D037994





# 4 Piping diagrams

4





# 5 Wiring diagrams

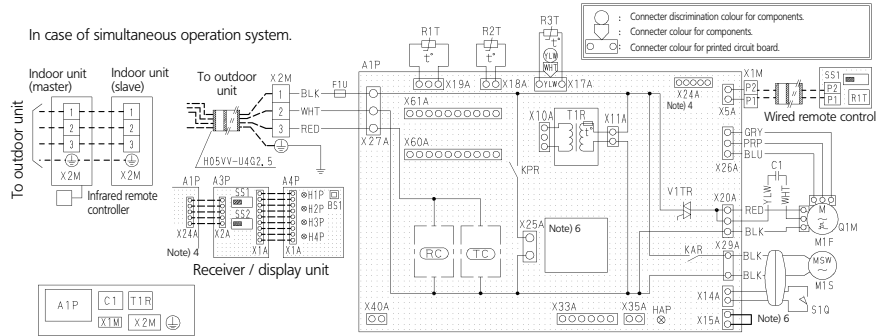
5

## FHQ35~60BU

### Notes

- Terminal : Connector   
 : Protective earth (screw)
- Field wiring
- In case using central remote control, connect it to the unit in accordance with the attached instruction manual.
- X24A is connected when the infrared remote control kit is being used.
- Remote controller model varies according to the combination system, confirm technical materials and catalogs, etc. before connecting.
- In case installing the drain pump (M1P), remove the jumper connector of X15A and execute the additional wiring for float switch and drain pump.
- Symbols show as follows Red:red, Blk:black, Ylw:yellow, Org:orange, Gry:gray, Prp:purple, Blu:blue

In case of simultaneous operation system.



1-RED, 2-WHITE, 3-BLACK
A1P Printed circuit board
C1R Capacitor (M1F)
F1U Fuse(F5A, 250V)
HAP Light emitting diode (service monitor green)
KAR Magnetic relay (M1P)
M1S Motor (swing flap)
M1F Motor (indoor fan)
Q1M Thermo switch (M1F embedded)
R1T Thermistor (air)
R2T Thermistor (coil1)
R3T Thermistor (coil2)

S1Q Limit switch (swing flap)
T1R Transformer(220-240V/22V)
V1TR Phase control circuit
X1M Terminal block
X2M Terminal block
RC Signal receiver circuit
TC Signal transmission circuit
Wired remote control
RIT Thermistor (air)
SS1 Selector switch (main/sub)

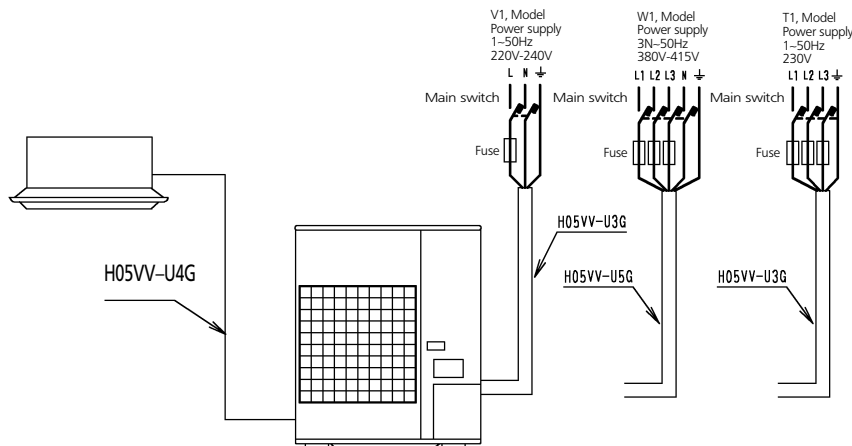
Infrared remote control
Receiver / display unit
A3P Printed circuit board
A4P Printed circuit board
B51 Push button (on/off)
H1P Light emitting diode (service monitor red)
H2P Light emitting diode (service monitor green)
H3P Light emitting diode (service monitor orange)
H4P Light emitting diode (service monitor purple)
SS1 Selector switch (main/sub)
SS2 Selector switch (wireless address set)

Connector for optional parts
X15A Connector (float switch)
X25A Connector (drain pump)
X33A Connector (adapter for wiring)
X35A Connector (group control adapter)
X40A Connector (ON/OFF input from outside)
X60A Connector (interface adapter for sky air series)
X61A Connector (interface adapter for sky air series)

3D037842C

### NOTES

- Line voltage wiring  
Control circuit wiring
- All wiring, components and materials to be produced on the site must comply with the applicable local and national codes.
- Use copper conductors only.
- See wiring diagrams for details.
- Install wiring and mains switch for safety.
- All field wiring and components must be provided by a licensed electrician.
- The unit shall be grounded in compliance with the applicable local and national codes.
- Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
- Never share a common power supply with other equipment.



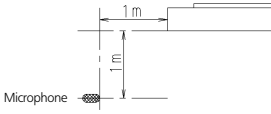
4D010992A



# 6 Sound level

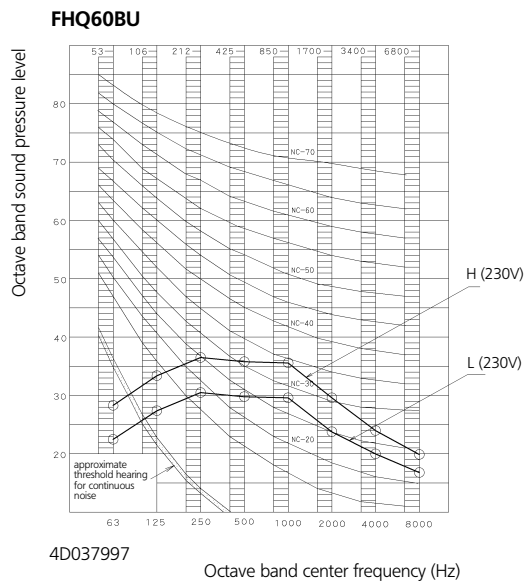
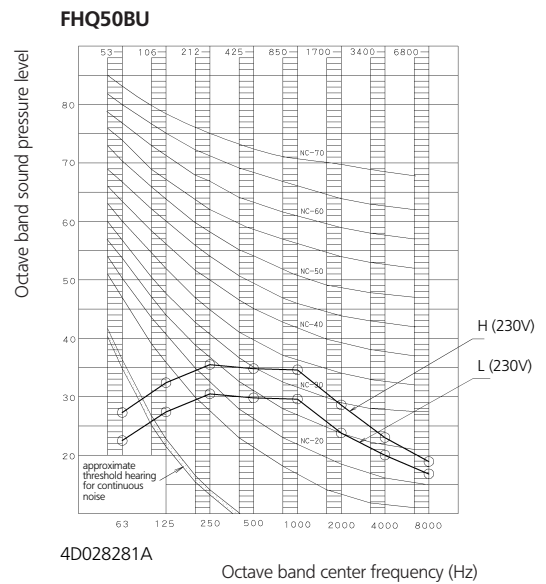
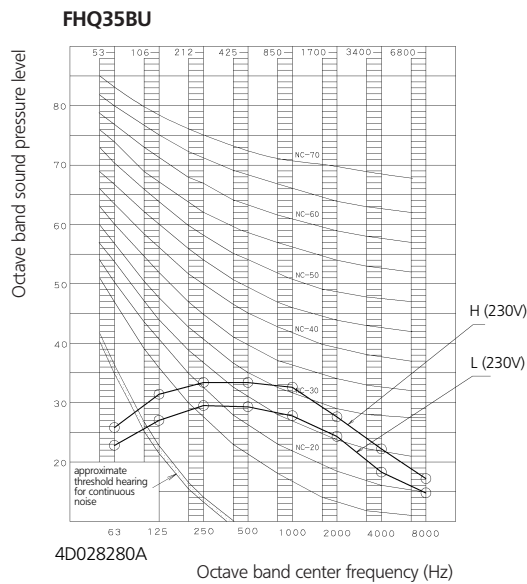
## 6-1 Sound level data

6  
6-1

Model	Sound pressure level		Measuring location 	Sound power level (H) (cooling/heating)	
	230V			H (cooling/heating)	L (cooling/heating)
	50Hz				
FHQ35BUV1B	37/37	32/32		53/53	48/48
FHQ50BUV1B	38/38	33/33		54/54	49/49
FHQ60BUV1B	39/-	33/-		55/-	49/-

\* This information was not available at the time of publication.

## 6-2 Sound pressure spectrum



### NOTES

- 1 Sound pressure levels are measured in an anechoic room.
- 2 Operation sound levels are valid at nominal operation condition
- 3 Operation sound level differs with operation and ambient conditions.

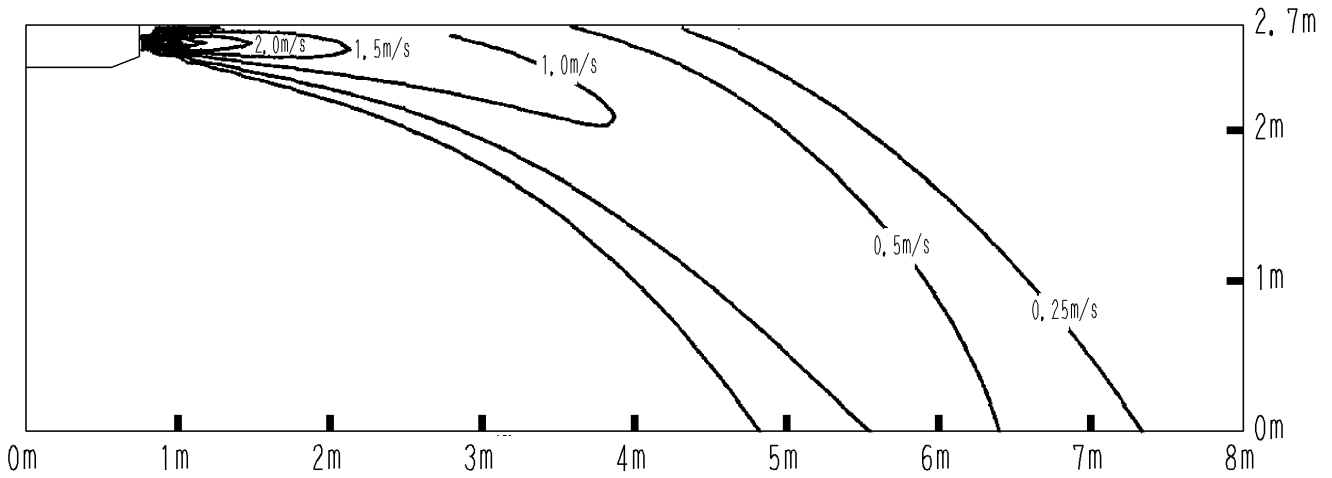


# 7 Air flow patterns

## 7 FHQ35-50BU

Cooling - air velocity distribution

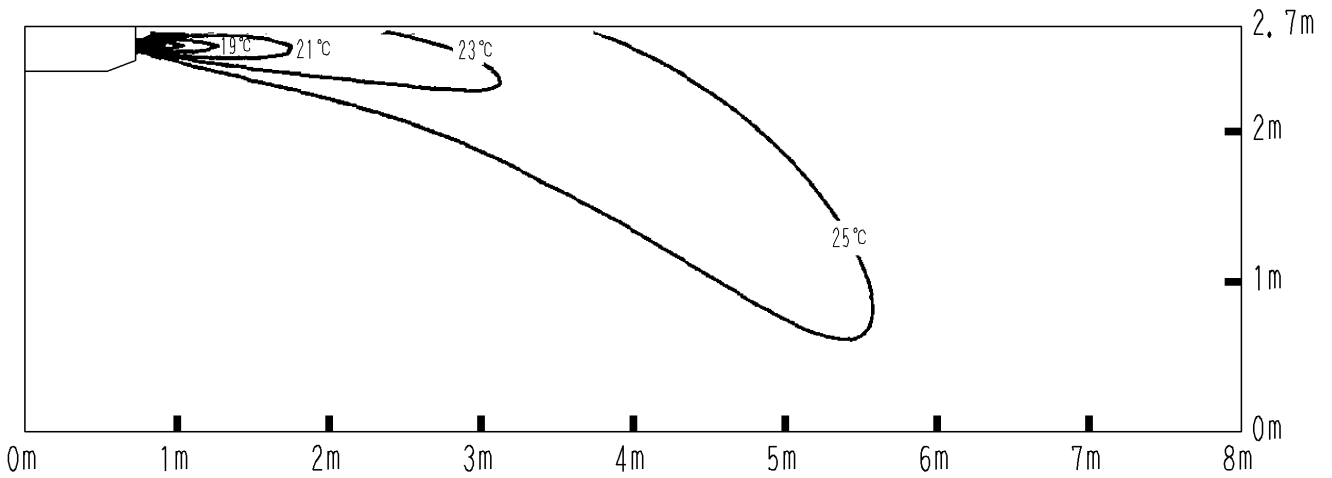
Air flow direction: horizontal



## FHQ35-50BU

Cooling - air temperature distribution

Air flow direction: horizontal



4D028550



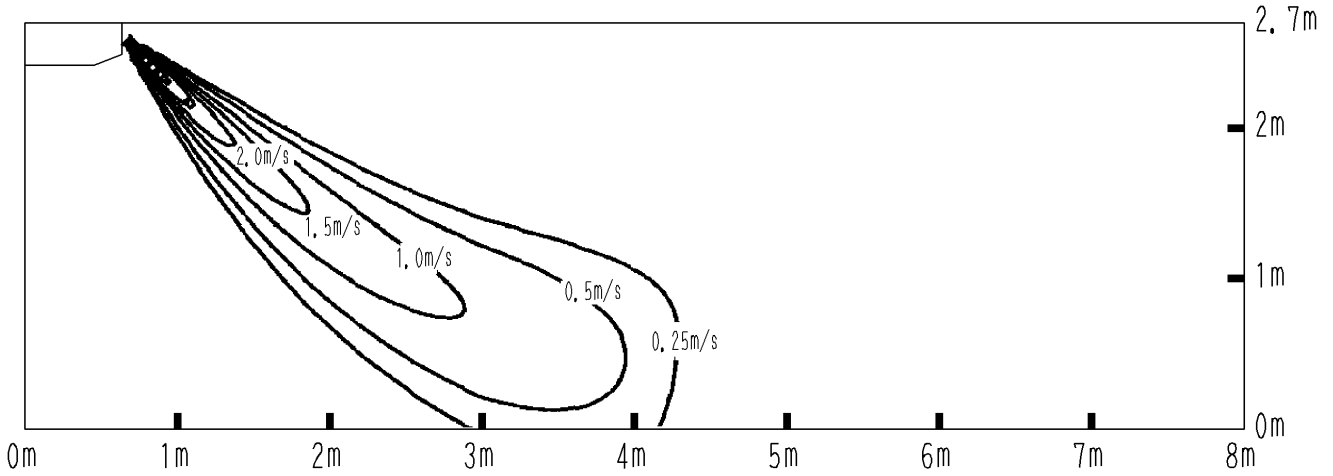
# 7 Air flow patterns

7

## FHQ35-50BU

Heating - air velocity distribution

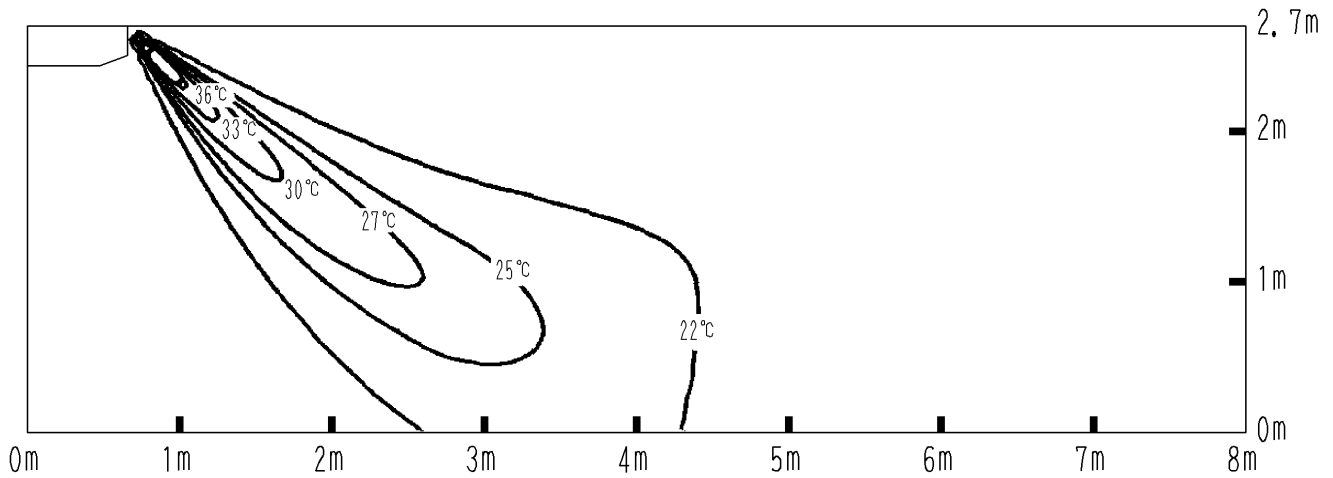
Air flow direction: 45° (downward)



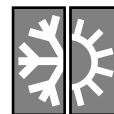
## FHQ35-50BU

Heating - air temperature distribution

Air flow direction: 45° (downward)



4D028554

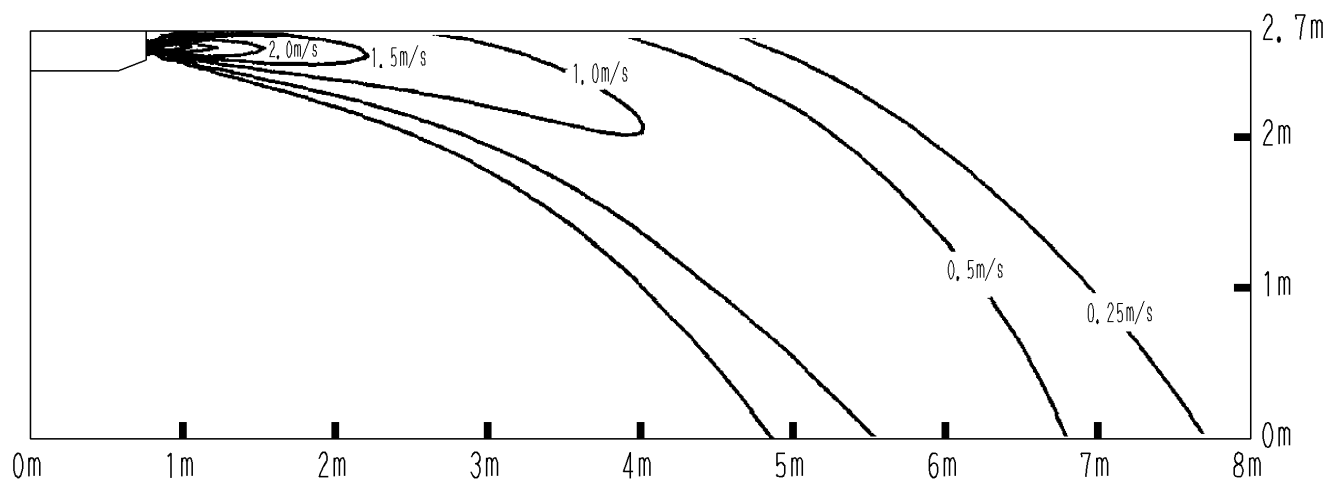


# 7 Air flow patterns

## 7 FHQ60BU

Cooling - air velocity distribution

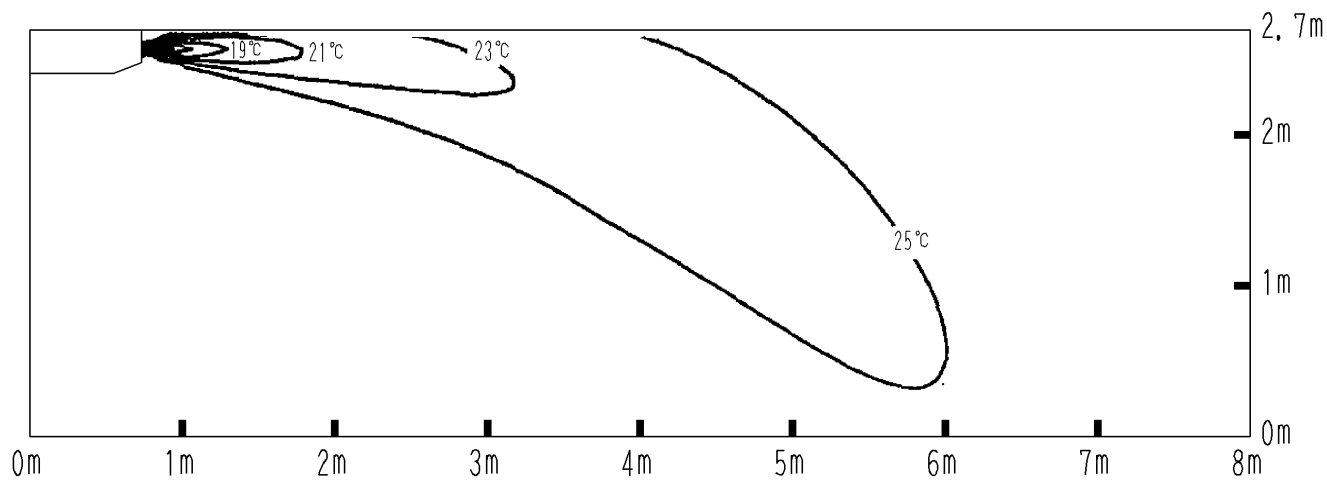
Air flow direction: horizontal



## FHQ60BU

Cooling - air temperature distribution

Air flow direction: horizontal



4D028551



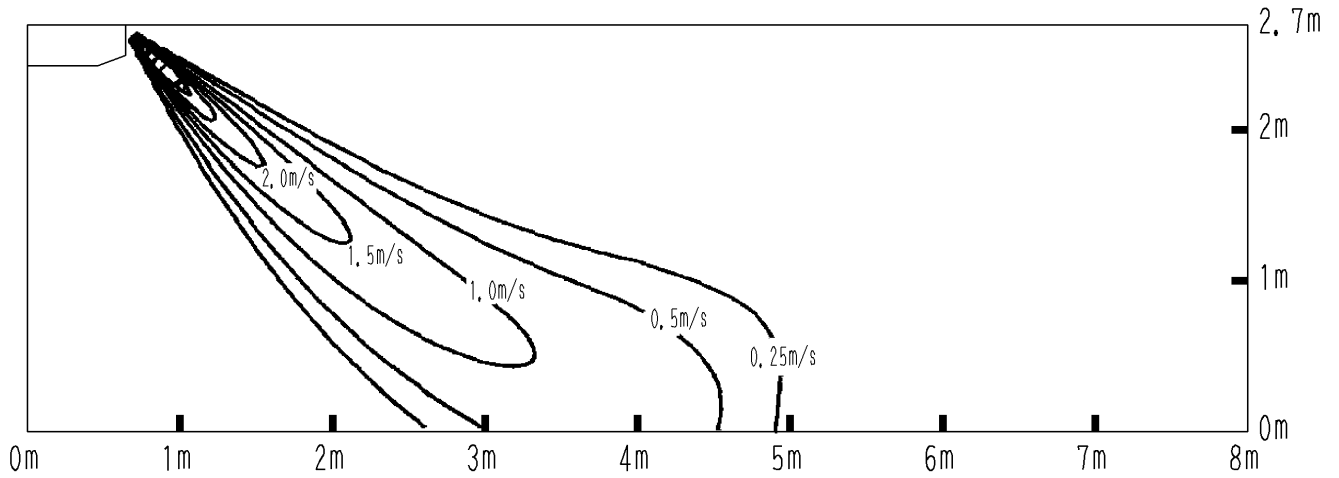
# 7 Air flow patterns

7

## FHQ60BU

Heating - air velocity distribution

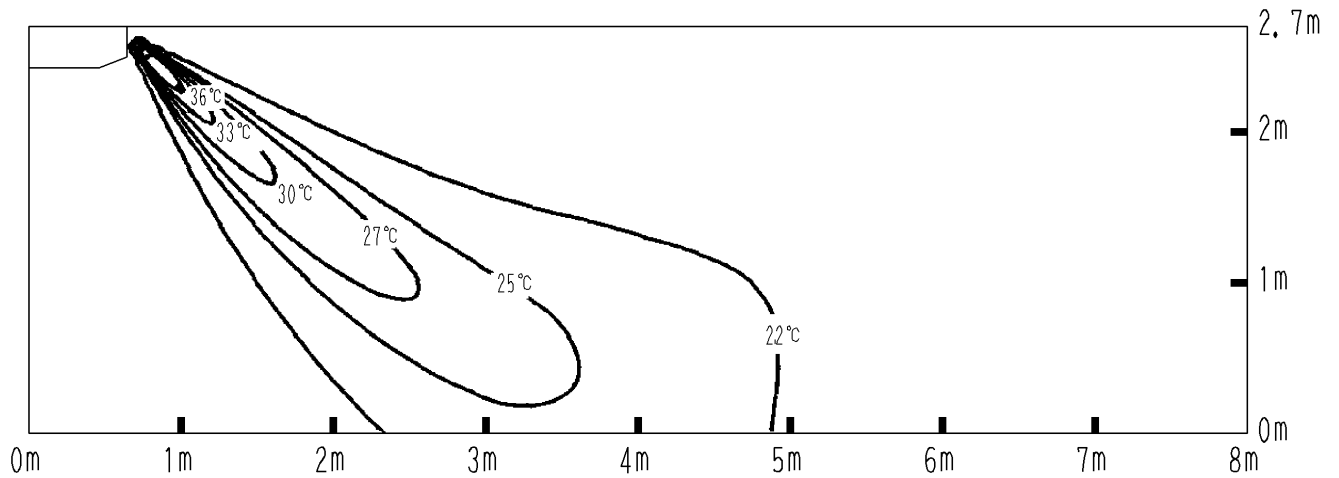
Air flow direction: 45° (downward)



## FHQ60BU

Heating - air temperature distribution

Air flow direction: 45° (downward)



4D028555



# 8 Accessories

## 8-1 Optional accessories

### 8 FHQ35-60BU

8-1

Name of option	Remark	FHQ~BUV1B		
		35	50	60
Replacement long-life filter		KAFJ501D56		KAFJ501D80
Drain up kit		KDU50M60VE		
L-type piping kit (for upward direction)		KHFP5M35	KHFP5M63	
Infrared remote controller	Wired type	BRC1D517		
	Infrared type	for heat pump type	BRC7E63W	
		for cooling only type	BRC7E66	
Central remote control		DCS302B61		
Unified ON/OFF control		DCS301B61		
Schedule timer		DST301B61		
Adapter for wiring		KRP1B54		
Wiring adapter (hour meter)		EKR1B2		
Adaptor for external ON/OFF and monitoring ※1		KRP4A52		
Interface adapter for Sky Air series		DTA112B51		
Installation box for adapter PCB		KRP1C93		
Remote ON/OFF, forced OFF		EKRORO		

3D038056

Note \*1: Installation box for adapter PCB (KRP1C93) is necessary.

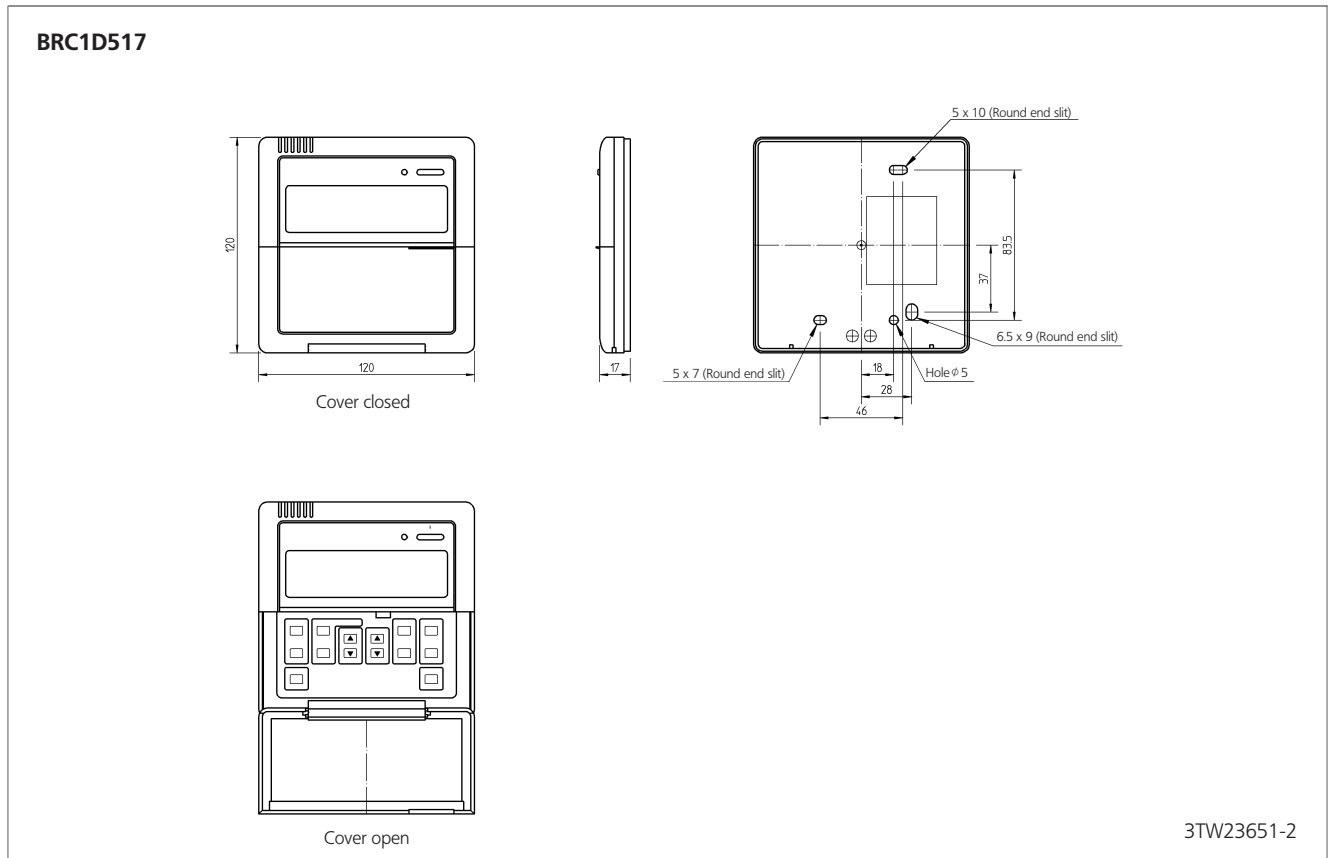




# 9 Control systems

## 9-1 Wired remote control

9  
9-1



# 10 Safety device settings

## FHQ35-60BU

Model	Safety devices	35	50	60
FHQ-BUV1B	Fuse	250V 5A	250V 5A	250V 5A
	Fan motor thermal protector (°C)	Off: 130 ±5 On: 83 ±20	Off: 130 ±5 On: 83 ±20	Off: 130 ±5 On: 83 ±20

3D006611F