

Air Conditioning  
Technical Data

FHA-A(9)



- > FHA35AVEB9
- > FHA50AVEB9
- > FHA60AVEB9
- > FHA71AVEB9
- > FHA100AVEB
- > FHA125AVEB

- > FHA140AVEB



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# 1 Features

For wide rooms with no false ceilings nor free floor space

- Ideal for comfortable air flow in wide rooms thanks to Coanda effect: up to 100° discharge angle
- Even rooms with ceilings up to 3.8m can be heated up or cooled down very easily without capacity loss
- Can easily be installed in both new and refurbishment projects
- Unified indoor unit range for R-32 and R-410A
- Combining with R-32 Bluevolution technology, reduces environmental impact with 68% compared to R-410A, leads directly to lower energy consumption thanks to its high energy efficiency and has up to lower 16% refrigerant charge
- Can easily be mounted in corners and narrow spaces, as it only needs 30mm lateral service space
- Reduced energy consumption thanks to specially developed DC fan motor
- 5 different fan speeds available for maximum comfort
- Stylish unit blends easily with any interior. The flaps close entirely when the unit is not operating and there are no air intake grilles visible



Infrastructure cooling



Home leave operation



Fan only



Auto cooling-heating changeover



Vertical auto swing



Fan speed steps



Dry programme



Air filter



Weekly timer



Infrared remote control



Wired remote control



Centralised control



Online controller via app



Auto-restart



Self diagnosis



Drain pump kit



Twin/triple/double twin application



Multi model application

## 2 Specifications

2-1 Technical Specifications				FHA35A9	FHA50A9	FHA60A9	FHA71A9	FHA100A	FHA125A	FHA140A	
Casing	Colour			White							
	Material			Resin, sheet metal							
Dimensions	Unit	Height/Width/Depth	mm	235/960/690		235/1,270/690		235/1,590/690			
	Packed unit	Height/Width/Depth	mm	340/1,116/858		349/1,426/878		349/1,746/878			
Weight	Unit		kg	24	25	31	32	38.0			
	Packed unit		kg	38	39	52	54	61			
Heat exchanger	Fin	Type		ML fin (Anti Corrosion Hydrophilic)							
Air filter	Type			Resin net							
Fan	Type			Sirocco fan							
	Quantity			2		3		4			
	Air flow rate	Cooling	High	m <sup>3</sup> /min	14.0	15.0	19.5	20.5	28.0	31.0	34.0
				cfm	494	530	689	724	989	1,095	1,201
			Medium	m <sup>3</sup> /min	11.5 (1)	12.0 (1)	15.0 (1)	17.0 (1)	24.0 (1)	27.0 (1)	29.0 (1)
		cfm		406	424	530	600	848	953	1,024	
		Low	m <sup>3</sup> /min	10.0		11.5	14.0	20.0	23.0	24.0	
			cfm	353		406	494	706	812	848	
	Heating	High	m <sup>3</sup> /min	14.0	15.0	19.5	20.5	28.0	31.0	34.0	
			cfm	494	530	689	724	989	1,095	1,201	
Medium		m <sup>3</sup> /min	11.5 (1)	12.0 (1)	15.0 (1)	17.0 (1)	24.0 (1)	27.0 (1)	29.0 (1)		
		cfm	406	424	530	600	848	953	1,024		
Low		m <sup>3</sup> /min	10.0		11.5	14.0	20.0	23.0	24.0		
		cfm	353		406	494	706	812	848		
Fan motor	Quantity			1							
	Model			KFD-280-87-8A		KFD-280-117-8A		EQDW01EDK			
	Speed		Steps	5							
	Output		High	W	60		91		150		
	Full load amps (FLA)	Cooling		A	0.6		0.8		1.2	1.6	1.8
		Heating		A	0.6		0.8		1.2	1.6	1.8
Sound power level	Cooling		dBA	53.0	54.0		55.0	60	62	64	
Sound pressure level	Cooling	High/Medium/Low	dBA	36.0/34.0 (1)/31.0	37.0/35.0 (1)/32.0	37.0/35.0 (1)/33.0	38.0/36.0 (1)/34.0	42/38 (1)/34	44/41 (1)/37	46/42 (1)/38	
			Heating	High/Nom./Medium	dBA	36.0/34.0/ 31.0	37.0/35.0/ 32.0	37.0/35.0/ 33.0	38.0/36.0/ 34.0	42/38/34	44/41/37
Control systems	Infrared remote control			BRC7GA53 / BRC7GA56							
	Wired remote control			BRC1E53A7 / BRC1E53B7 / BRC1E53C7 / BRC1D528 / BRC1E51A7							
Refrigerant	Type			R-32 / R-410A							
Piping connections	Sound absorbing insulation			Not needed							
	Liquid	Type/OD	mm	Flare connection/6,4			Flare connection/ 9,5	Flare connection/9,52			
	Gas	Type/OD	mm	Flare connection/ 9,5	Flare connection/12,7		Flare connection/15,9				
	Drain			VP20							
	Heat insulation			Needed							
Safety devices	Item	01/02	Fuse (F, 5A, 250V)/Fan motor fuse (F,4A,500V)				Fuse (F, 5A, 250V)/-				

Standard Accessories : Thermal insulation tube; Quantity : 2;

Standard Accessories : Wire clamp material; Quantity : 7;

Standard Accessories : Hose band; Quantity : 1;

Standard Accessories : Drain hose; Quantity : 1;

Standard Accessories : Washer; Quantity : 8;

Standard Accessories : Sealing pad (large); Quantity : 1;

Standard Accessories : Sealing pad (small); Quantity : 1;

Standard Accessories : Resin bushing; Quantity : 1;

Standard Accessories : Screws; Quantity : 2;

Standard Accessories : Wiring fixture; Quantity : 2;

## 2 Specifications

2-2 Electrical Specifications			FHA35A9	FHA50A9	FHA60A9	FHA71A9	FHA100A	FHA125A	FHA140A
Power supply	Phase		1~						
	Frequency	Hz	50						
	Voltage	V	220-240						

### Notes

2

(1) See separate drawing for electrical data

### 3 Safety device settings

#### 3 - 1 Safety Device Settings

**FHA35-71A9**  
**FHA100-140A**

Safety devices		<b>FHA35-50AVEB(9)</b>	<b>FHA60-71AVEB(9)</b>
PCB fuse		250V, 3.15A	250V, 3.15A
Fan motor fuse (on wire)		500V, 4A	500V, 4A
Fan motor overcurrent protection	Nominal	1.65A	1.65A
Fan motor thermal protector	Maximum	125°C	125°C

Safety devices		<b>FHA100-140AVEB</b>
PCB fuse		250V, 3.15A
Fan motor fuse (on wire)		---
Fan motor overcurrent protection	Nominal	2.3A
Fan motor thermal protector	Maximum	125°C

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# 4 Options

## 4 - 1 Options

4

### FHA35-71A9 FHA100-140A

Option kit	Capacity class						
	35	50	60	71	100	125	140
Long-life replacement filter	KAFP501A56		KAFP501A80		KAFP501A160		
Fresh air intake kit							KDDQ50A140
Drain pump kit	KDUP50Q63			KDUP50Q160			
L-type piping kit (upward direction)	KHFP5MA35		KHFP5N63		KHFP5N160		
Remote control	Wired remote control						
	BRC1E53A7 <sup>(1)(4)</sup> , BRC1E53B7 <sup>(2)(4)</sup> , BRC1E53C7 <sup>(3)(4)</sup> , BRC1D528, BRC1H51(9)W/S/K, BRC1H81W/S						
Wireless remote control	Heat pump						BRC7GA53
	Cooling only						BRC7GA56
Simplified remote control (with operation mode selector button)							BRC2E52C7 <sup>(5)</sup>
Simplified remote control (without operation mode selector button)							BRC3E52C7 <sup>(5)</sup>
Central remote control							DCS302CA51
Unified ON/OFF controller							DCS301BA51
Schedule timer							DST301BA51
Wiring adaptor for electrical appendices							KRP1BA54 <sup>(6)</sup>
Wiring adaptor for electrical appendices							KRP4AA52 <sup>(6)</sup>
Installation box for adaptor PCB							KRP1D93A
Mounting plate for adaptor PCB installation box		KKSAP50A56					
Remote sensor							KRCS01-4B
Remote "ON/OFF" and "forced OFF" kit							EKRORO4
Electrical box with earth terminal (-3- blocks)							KJB311AA
Electrical box with earth terminal (-2- blocks)							KJB212AA
Digital input adaptor							BRP7A52 <sup>(6)(7)</sup>
Wi-Fi adaptor for smartphones							BRP069A81 <sup>(9)</sup>

- ① Included languages are: English, German, French, Italian, Spanish, Portuguese, and Dutch.
- ② Included languages are: English, Czech, Croatian, Hungarian, Slovenian, Romanian, and Bulgarian.
- ③ Included languages are: English, Russian, Greek, Turkish, Polish, Albanian, and Slovak.
- ④ Includes duty rotation functionality
- ⑤ Included languages are:  
 Language pack ·1·: English, German, French, Dutch, Spanish, Italian, and Portuguese.  
 With PC cable ·EKPCAB3· in combination with the Updater PC software, you can additionally change the language to: Language pack ·2·:  
 English, Bulgarian, Croatian, Czech, Hungarian, Romanian, and Slovenian.  
 Language pack ·3·: English, Greek, Polish, Russian, Serbian, Slovak, and Turkish.
- ⑥ Requires installation box ·6·.
- ⑦ Only possible in combination with ·BRC2/3E52C7, BRC1E53A7/B7/C7, BRC1H51(9)W/S/K, BRC1H81W/S·
- ⑧ Only possible in combination with wired or wireless remote control (e.g. ·BRC1E\*, BRC1H\*, BRC7FA\*·)

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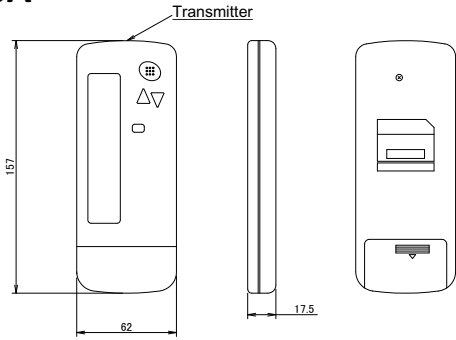


# 5 Dimensional drawings

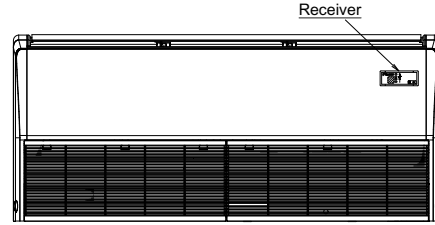
## 5 - 1 Dimensional Drawings

### FHA35-71A9 FHA100-140A

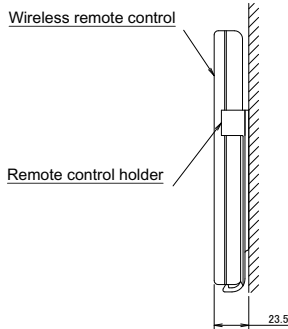
Remote control dimensions



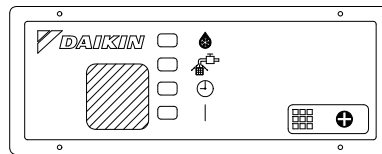
Receiver installation procedure



Installation to wall surface

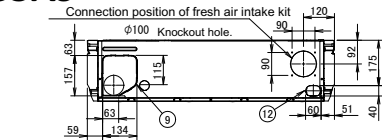


Receiver detail



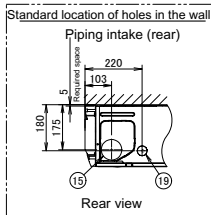
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### FHA35A9



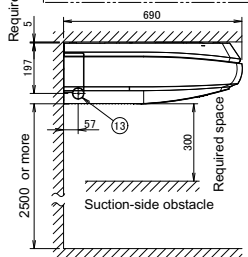
Position of knockout hole for piping intake (rear)

Rear view



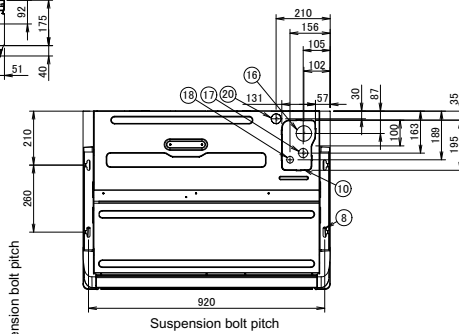
Rear view

Required space



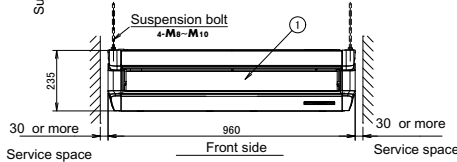
Suction-side obstacle

Drain pipe connection



Suspension bolt pitch

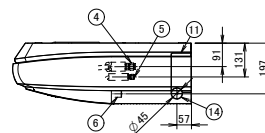
Suspension bolt pitch



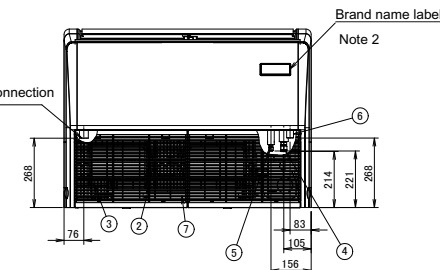
Suspension bolt  
• M10

Service space

Service space



Number	Name	Description
1	Air discharge grille	
2	Air suction grille	
3	Air filter	
4	Gas pipe connection Ø9.5 flare	
5	Liquid pipe connection Ø6.4 flare	
6	Drain pipe connection	VP20
7	Terminal block with earth terminal	M4
8	Metal hanger	
9	Position of knockout hole	Rear side
10	Position of knockout hole	Top
11	Piping intake (right)	Knockout hole
12	Drain piping intake (left-rear)	Knockout hole
13	Drain piping intake (left)	Knockout hole
14	Drain piping intake (right)	Knockout hole
15	Standard location of holes in the wall	Knockout hole
16	Piping intake (rear)	Ø100
17	Drain piping intake (top)	Ø60
18	Gas piping intake (top)	Ø36
19	Liquid piping intake (top)	Ø26
20	Power supply wiring and control wiring intake (rear)	Ø29
21	Power supply wiring and control wiring intake (top)	Ø29



Brand name label

Note 2

1) Notes  
Location of nameplate  
Bottom of the fan housing inside the suction grille

2) When installing a wireless controller, there will be a receiver on this location. For details, see the drawing of the wireless controller.  
3) Do not place any objects under the indoor unit. In case of high humidity (>80%), clogged drain outlets, or dirty air filters, condensate may drop out.

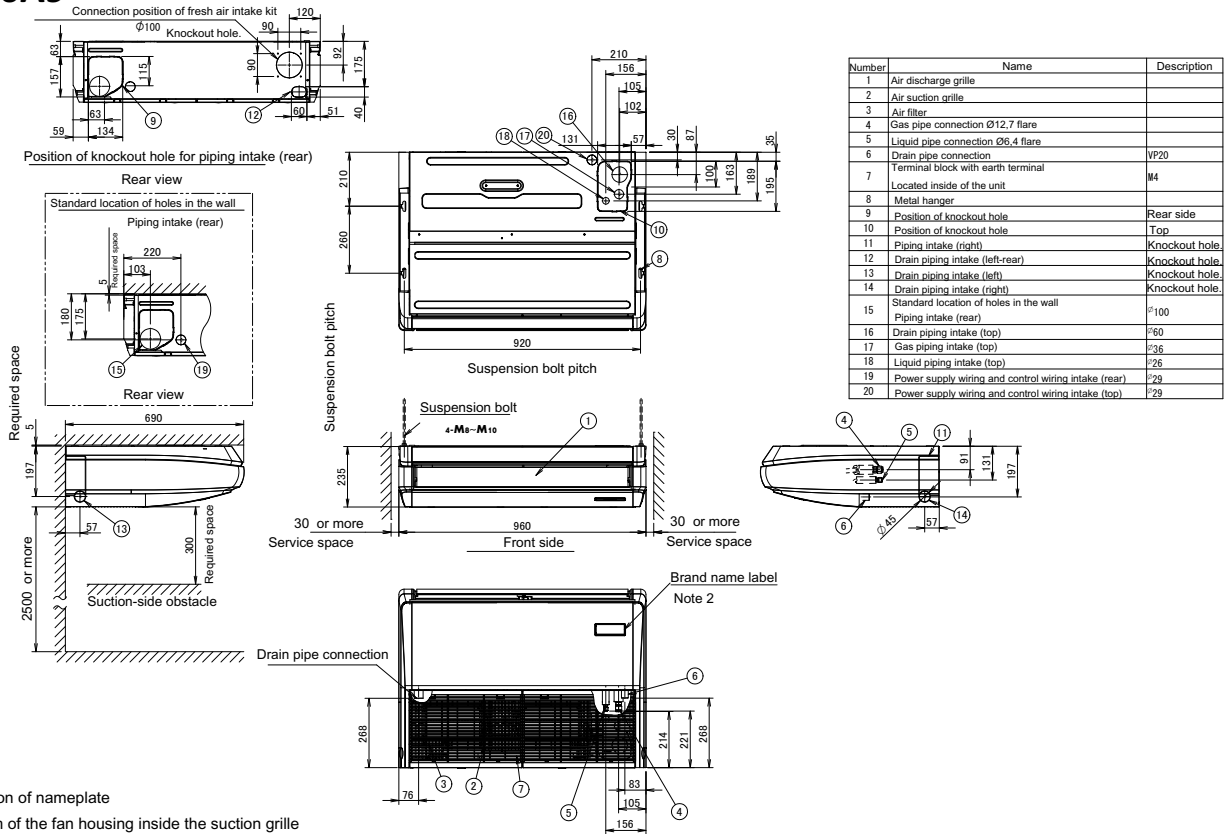
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# 5 Dimensional drawings

## 5 - 1 Dimensional Drawings

5

### FHA50A9

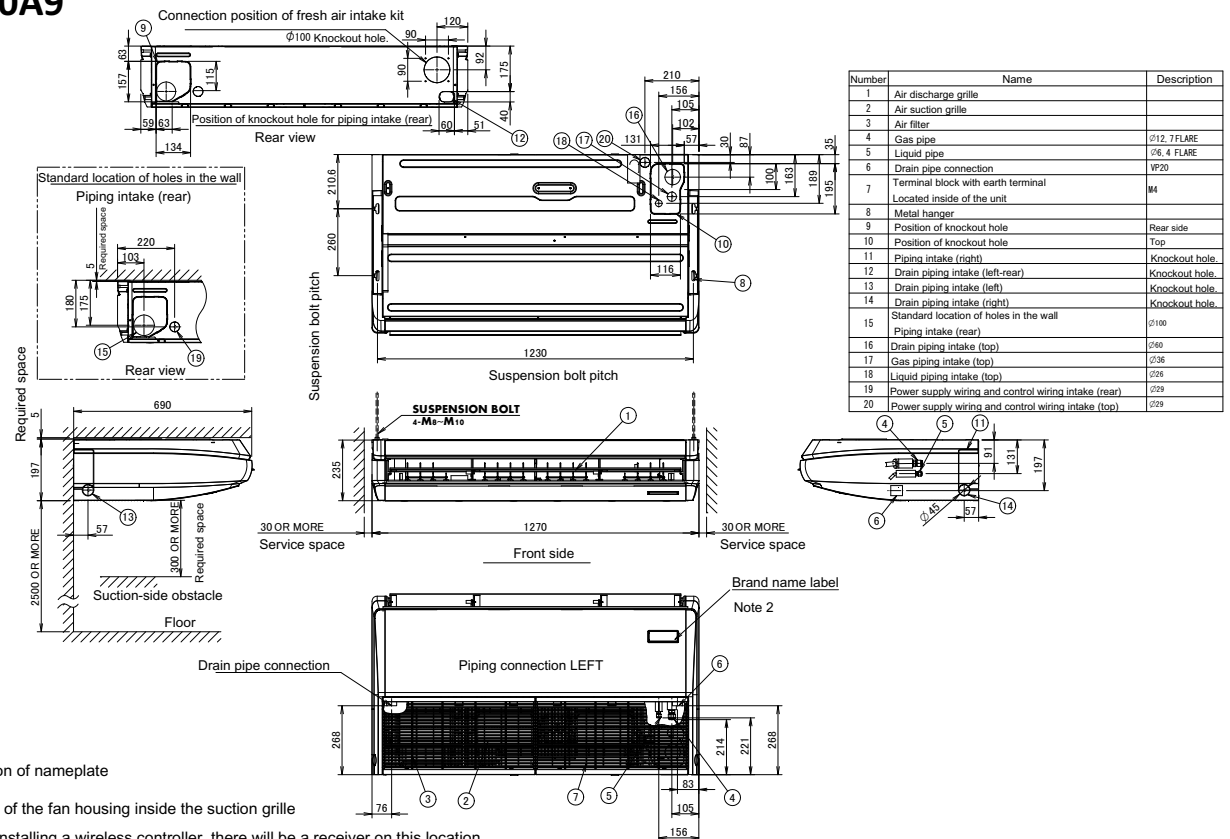


#### Notes

- 1) Location of nameplate  
Bottom of the fan housing inside the suction grille
- 2) When installing a wireless controller, there will be a receiver on this location.  
For details, see the drawing of the wireless controller.
- 3) Do not place any objects under the indoor unit. In case of high humidity (>80%), clogged drain outlets, or dirty air filters, condensate may drop out.

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### FHA60A9



#### Notes

- 1) Location of nameplate  
Bottom of the fan housing inside the suction grille
- 2) When installing a wireless controller, there will be a receiver on this location.  
For details, see the drawing of the wireless controller.
- 3) Do not place any objects under the indoor unit.  
In case of high humidity (>80%), clogged drain outlets, or dirty air filters, condensate may drop out.

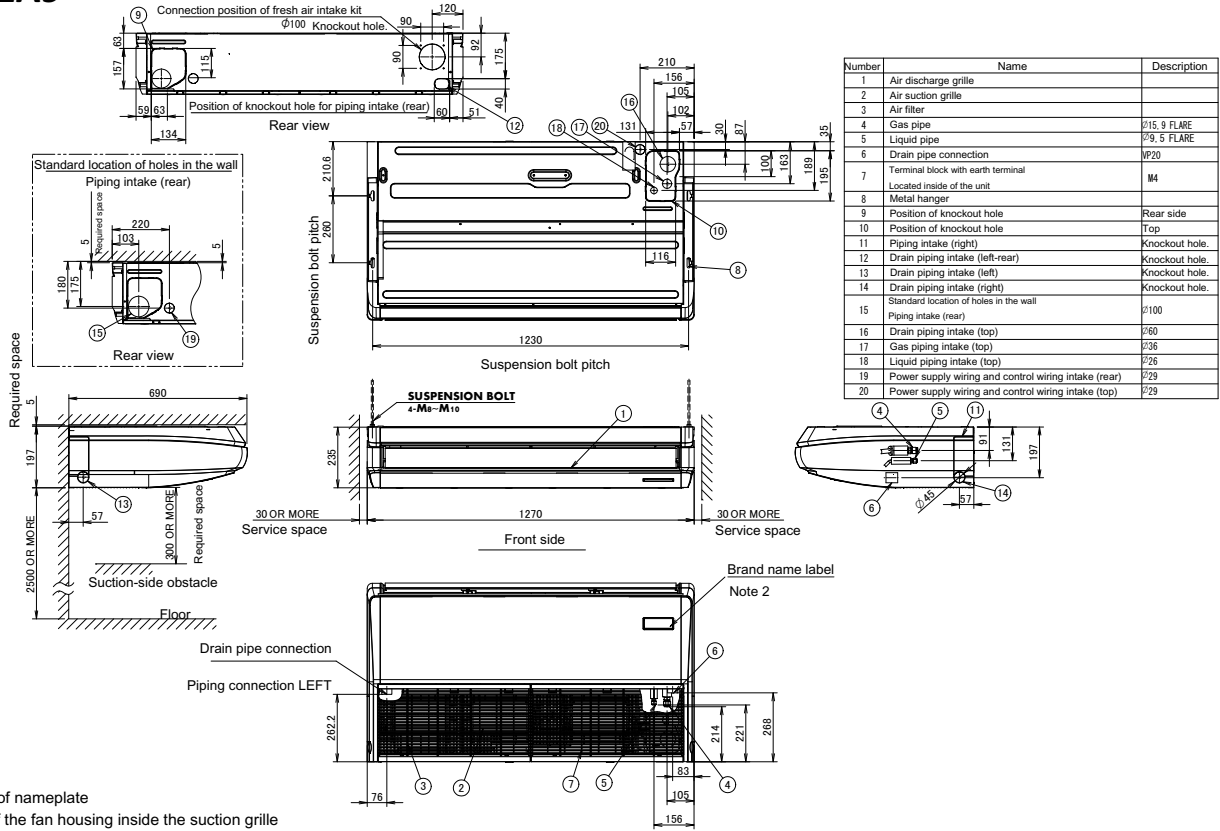
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# 5 Dimensional drawings

## 5 - 1 Dimensional Drawings

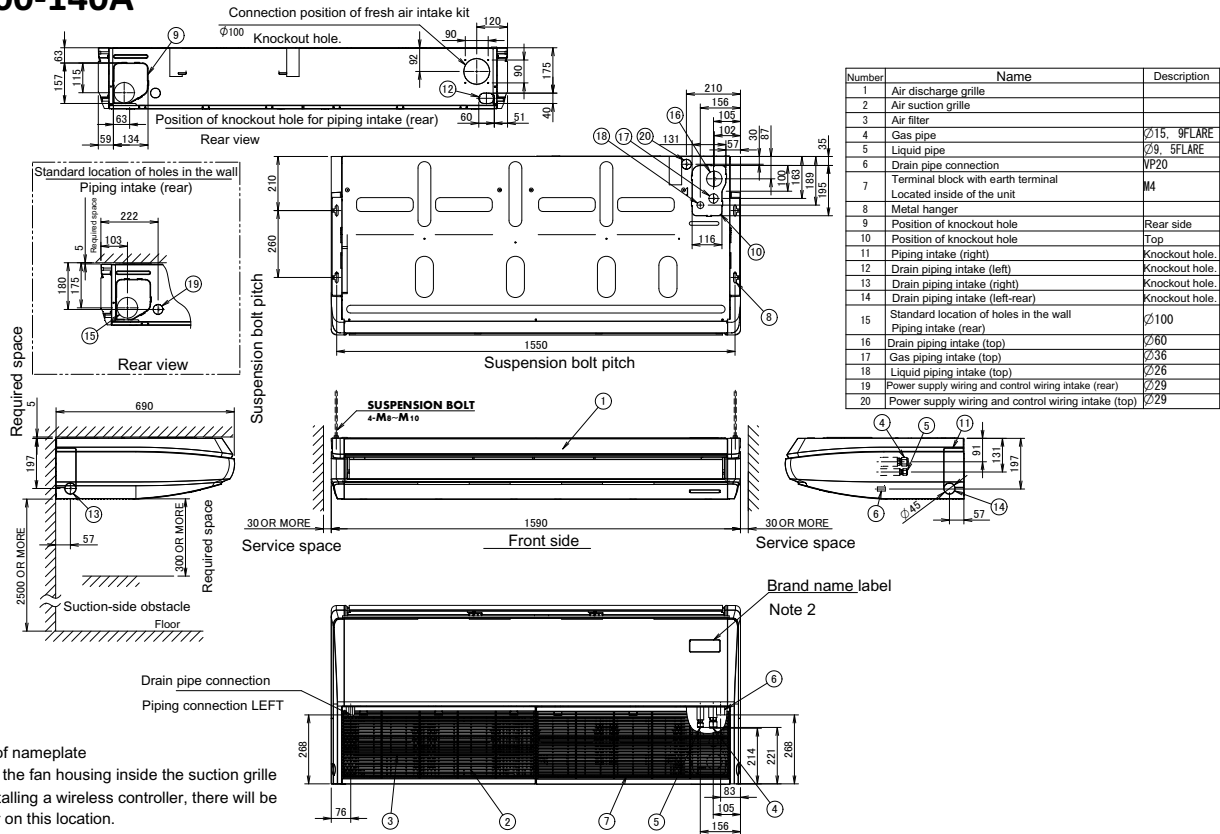
### FHA71A9



- Notes
- 1) Location of nameplate  
Bottom of the fan housing inside the suction grille
  - 2) When installing a wireless controller, there will be a receiver on this location.  
For details, see the drawing of the wireless controller.
  - 3) Do not place any objects under the indoor unit. In case of high humidity (>80%), clogged drain outlets, or dirty air filters, condensate may drop out.

**3D109222**

### FHA100-140A



- Notes
- 1) Location of nameplate  
Bottom of the fan housing inside the suction grille
  - 2) When installing a wireless controller, there will be a receiver on this location.  
For details, see the drawing of the wireless controller.
  - 3) Do not place any objects under the indoor unit. In case of high humidity (>80%), clogged drain outlets, or dirty air filters, condensate may drop out.

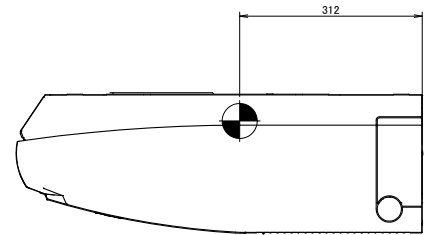
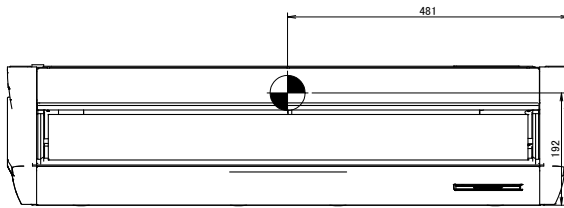
**3D106530A**

## 6 Centre of gravity

### 6 - 1 Centre of Gravity

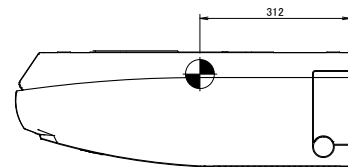
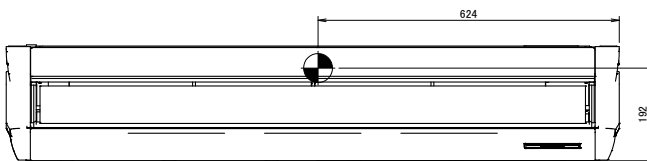
6

#### FHA35-50A9



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#### FHA60-71A9

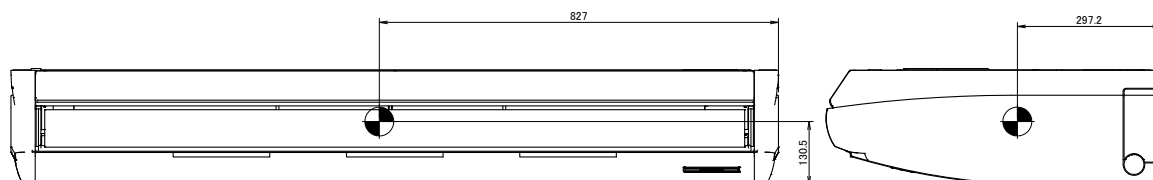


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## 6 Centre of gravity

### 6 - 1 Centre of Gravity

FHA100-140A



3D109249

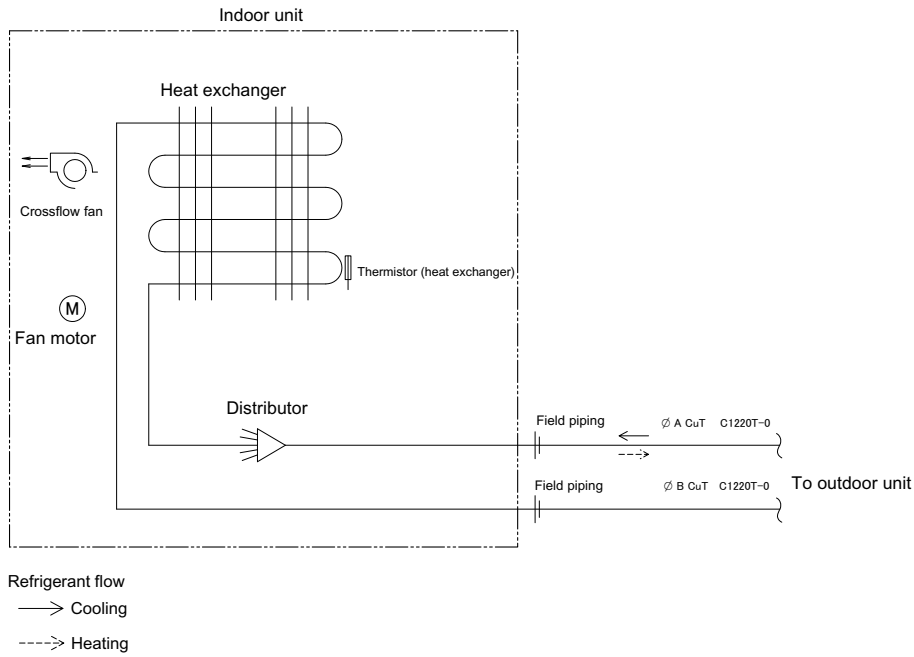
# 7 Piping diagrams

## 7 - 1 Piping Diagrams

7

**FHA35-71A9**  
**FHA100-140A**

Model	A (mm)	B (mm)
FHA35AVEB	6.4	9.5
FHA50, 60AVEB		12.7
FHA71, 100, 125, 140AVEB	9.5	15.9

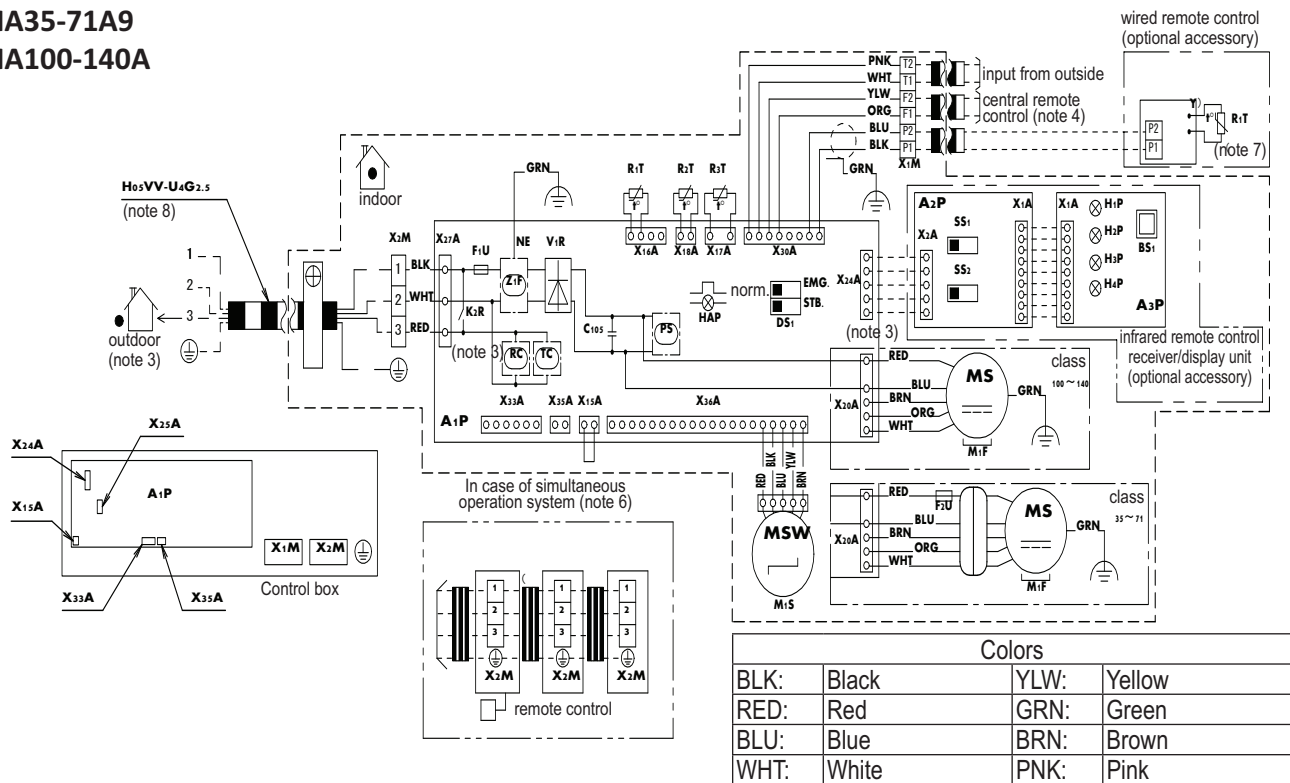


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# 8 Wiring diagrams

## 8 - 1 Wiring Diagrams - Single Phase

FHA35-71A9  
FHA100-140A



Indoor unit		TC	Signal transmission circuit
A1P	Printed circuit board		Wired remote control
C105	Capacitor (M1F)	R1T	Thermistor (air)
F1U	Fuse (F, 5A, 250V)		Infrared remote control (receiver/display unit)
F2U	Fuse (F, 4A, 500V)	A2P	Printed circuit board
DS1	Dip switch on PCB	A3P	Printed circuit board
HAP	Flashing lamp (service monitor: green)	BS1	Push button (on/off)
K2R	Magnetic relay	H1P	Pilot lamp (on: red)
M1F	Motor (indoor fan)	H2P	Pilot lamp (timer: green)
M1S	Motor (swing blade)	H3P	Pilot lamp (filter sign: red)
R1T	Thermistor (air)	H4P	Pilot lamp (defost: orange)
R2T-R3T	Thermistor (coil)	SS1	Selector switch (main/sub)
V1R	Diode bridge	SS2	Selector switch (wireless address set)
X1M	Terminal block		Connector for optional parts
X2M	Terminal block	X15A	Connector (floatins switch)
Z1F	Noise filter	X24A	Connector (infrared remote control)
PS	Power supply circuit	X33A	Connector (adapter for wiring)
RC	Signal receiver unit	X35A	Connector (power supply for adapter)

### NOTES

- : terminal block, ⊞: connector, ::■■■■::: field wiring, ⊞: short circuit connector
- In case of simultaneous operation indoor unit system, see the indoor unit wiring only. For the detail, see wiring diagram attached to outdoor unit.
- In case using central remote control, connect it to the unit in accordance with the attached installation manual.
- X15A, x25A are connected when the drain pump kit is being used.
- In case of simultaneous operation system, connected quantity of the indoor units varies according to the connection outdoor unit. Confirm technical guide and catalogue, etc. before connecting.
- In case of main/sub changeover see the installation manual attached to remote control.
- Shows only in case of protection piping, use H07RN-F in case of no protection.

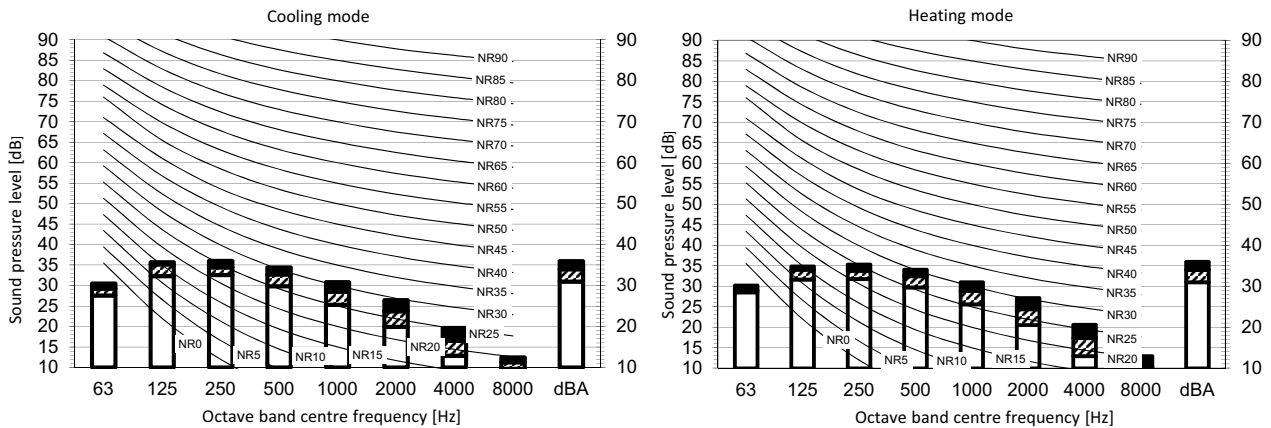
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# 9 Sound data

## 9 - 1 Sound Pressure Spectrum

9

### FHA35A9

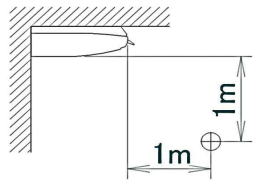


Legend  
dBA = A-weighted sound pressure level (A scale according to IEC).

A Scale Fan speed

- B High
- C Medium
- D Low

Location of microphone



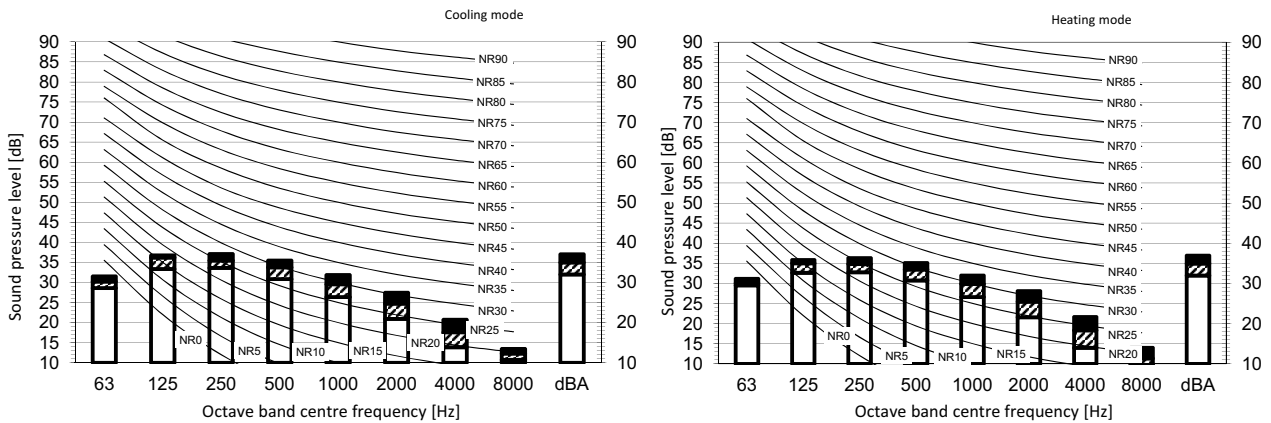
Cooling Total dB				Heating Total dB			
A	B	C	D	A	B	C	D
dBA	36	34	31	dBA	36	34	31

Notes

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

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### FHA50A9

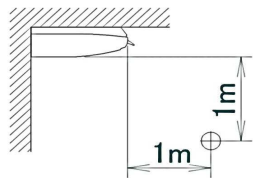


Legend  
dBA = A-weighted sound pressure level (A scale according to IEC).

A Scale Fan speed

- B High
- C Medium
- D Low

Location of microphone



Cooling Total dB				Heating Total dB			
A	B	C	D	A	B	C	D
dBA	37	35	32	dBA	37	35	32

Notes

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

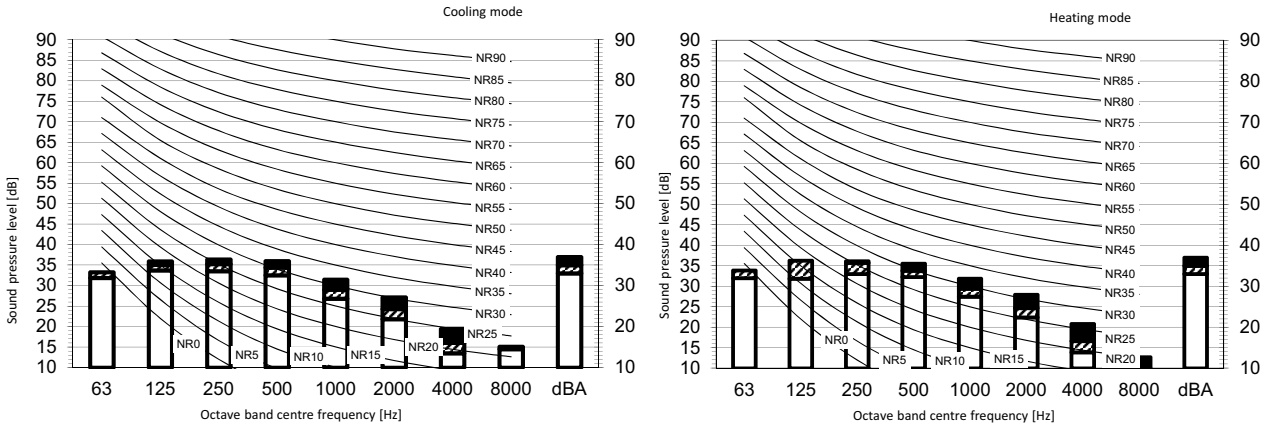
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# 9 Sound data

## 9 - 1 Sound Pressure Spectrum

### FHA60A9



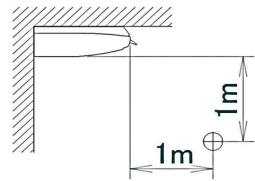
**Legend**

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

A Scale Fan speed

- B High
- C Medium
- D Low

Location of microphone



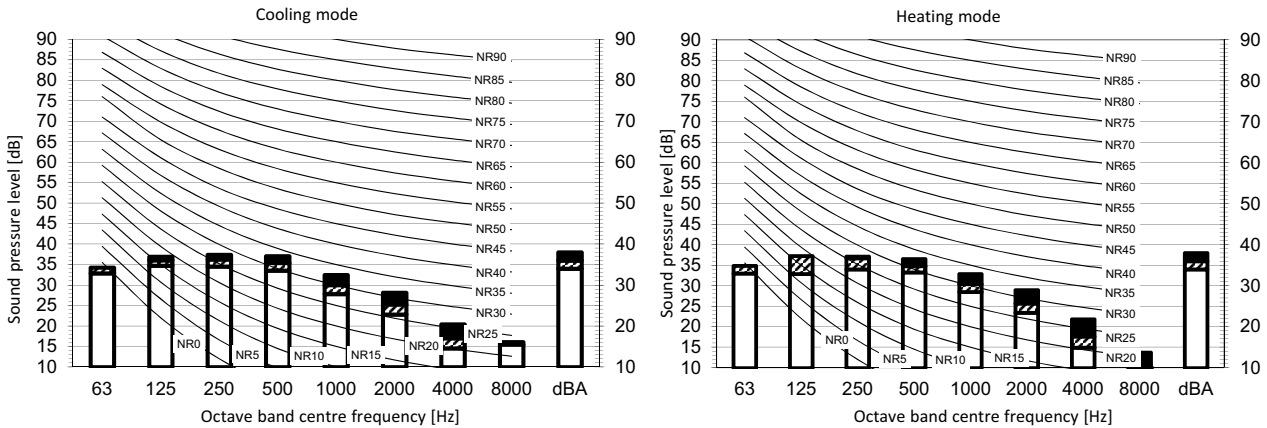
Cooling Total dB				Heating Total dB			
A	B	C	D	A	B	C	D
dBA	37	35	33	dBA	37	35	33

**Notes**

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

3D109741A

### FHA71A9



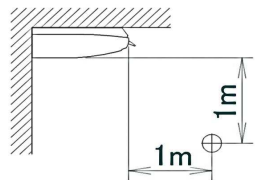
**Legend**

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

A Scale Fan speed

- B High
- C Medium
- D Low

Location of microphone



Cooling Total dB				Heating Total dB			
A	B	C	D	A	B	C	D
dBA	38	36	34	dBA	38	36	34

**Notes**

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

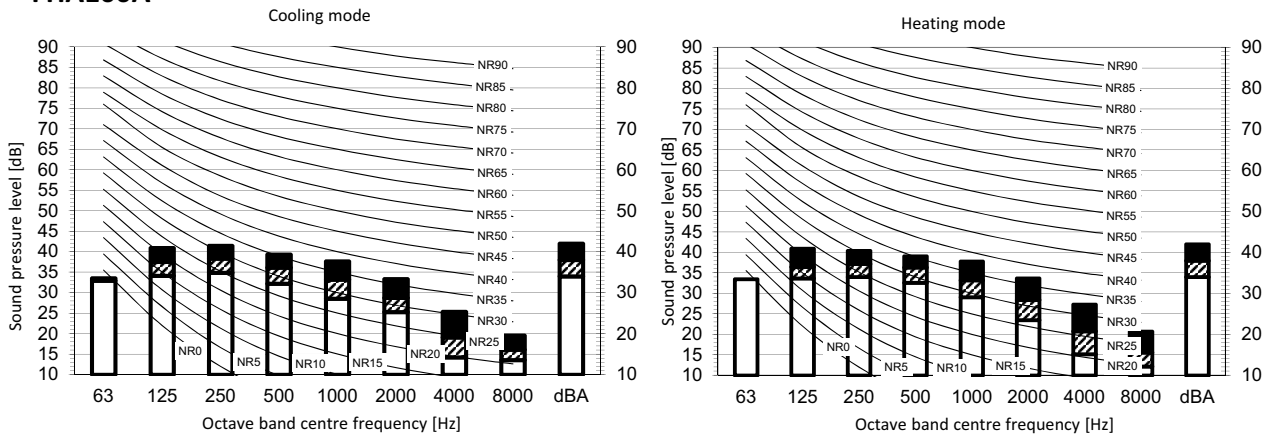
3D109736A

# 9 Sound data

## 9 - 1 Sound Pressure Spectrum

9

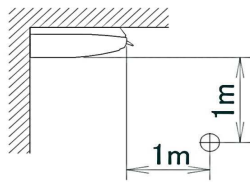
### FHA100A



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

- A Scale Fan speed
- B High
  - C Medium
  - D Low

Location of microphone

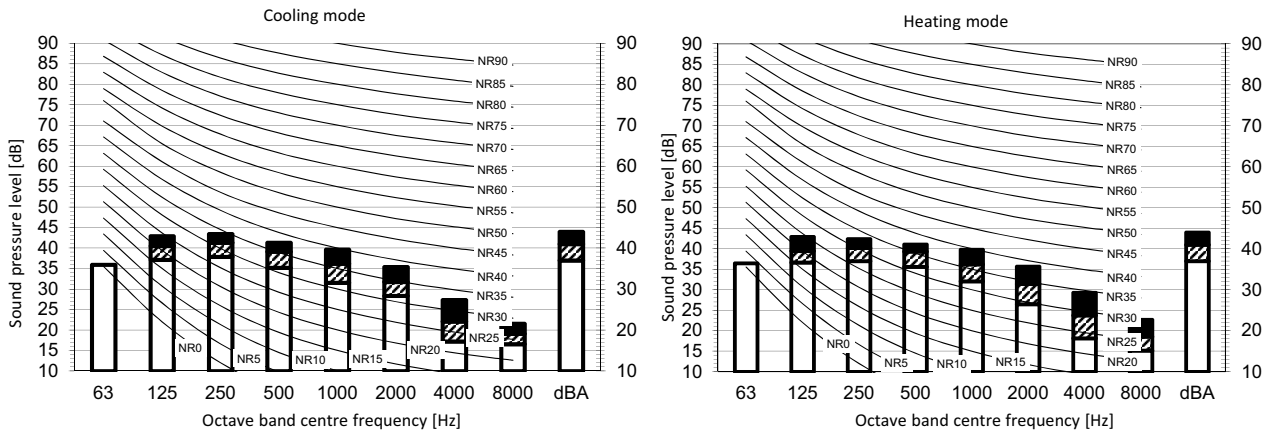


Cooling Total dB				Heating Total dB			
A	B	C	D	A	B	C	D
dBA	42	38	34	dBA	42	38	34

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

3D109737

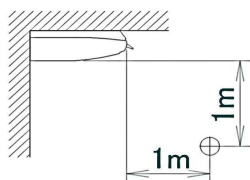
### FHA125A



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

- A Scale Fan speed
- B High
  - C Medium
  - D Low

Location of microphone



Cooling Total dB				Heating Total dB			
A	B	C	D	A	B	C	D
dBA	44	41	37	dBA	44	41	37

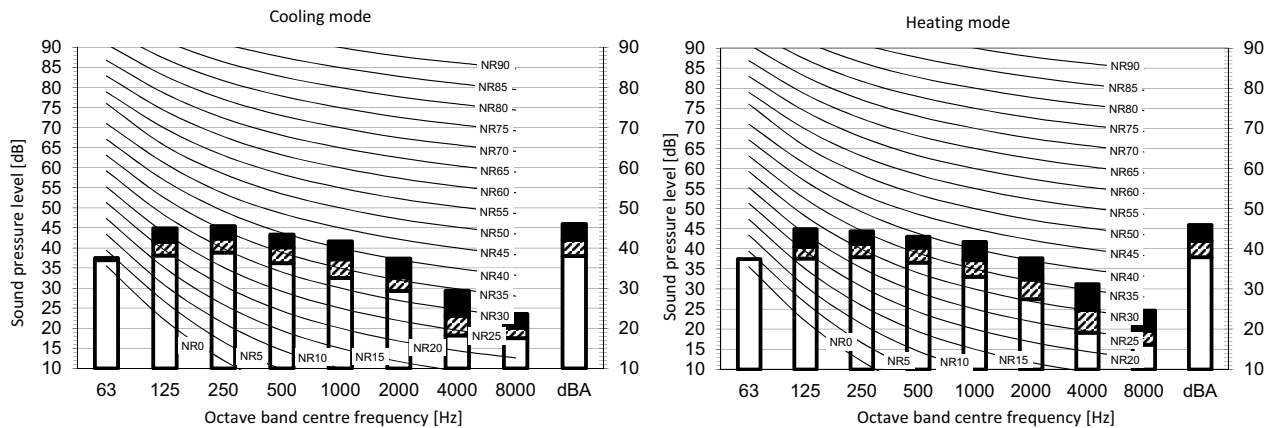
- Notes**
- Operating conditions: power source 220-240 V/220 V 50/60 Hz; JIS standard
  - Background noise already taken into account.
  - Operating noise varies depending on operation and ambient conditions.
  - The operation noise measuring method is in accordance with JISC9612.
  - Measuring location: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

3D109738

# 9 Sound data

## 9 - 1 Sound Pressure Spectrum

### FHA140A



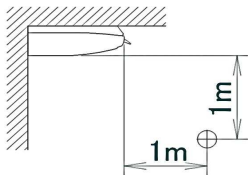
**Legend**

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

A Scale Fan speed

- B High
- C Medium
- D Low

Location of microphone



Cooling Total dB				Heating Total dB			
A	B	C	D	A	B	C	D
dBA	46	42	38	dBA	46	42	38

**Notes**

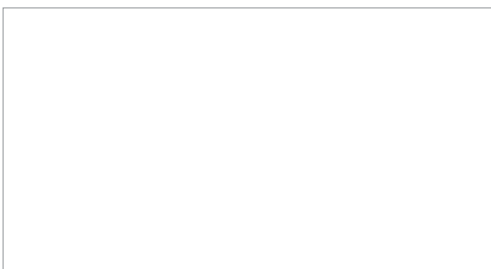
1. Operating conditions: power source 220-240 V/220 V 50/60 Hz; JIS standard
2. Background noise already taken into account.
3. Operating noise varies depending on operation and ambient conditions.
4. The operation noise measuring method is in accordance with JISC9612.
5. Measuring location: anechoic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

3D109740





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