

Ceiling suspended unit Air Conditioning Technical Data FHA-A(9)



FHA35AVEB98
FHA50AVEB98
FHA60AVEB98
FHA71AVEB98
FHA100AVEB8
FHA125AVEB8
FHA140AVEB8

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FHA-A(9)

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1 Features

1 - 1 FHA-A(9)

For wide rooms with no false ceilings nor free floor space

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- › 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



Onecta app (optional)



Home leave operation



Fan only



Auto cooling-heating changeover



Vertical auto swing



Fan speed steps (5 steps + auto)



Dry programme



Air filter



Weekly timer (optional)



Infrared remote control (optional)



Wired remote control (optional)



Centralised control (optional)



Auto-restart



Self diagnosis



Drain pump kit (optional)



Twin/triple/double twin application



Multi model application



VRV for residential application

2 Specifications

2 - 1 Specifications

Technical specifications					FHA35A9	FHA50A9	FHA60A9	FHA71A9	FHA100A	FHA125A	FHA140A
Cooling capacity	Sensible capacity	Nom.	kW		-					9.06	9.98
	Latent capacity	Nom.	kW		-					4.94	5.42
	Total capacity	Nom.	kW		-					14.00	15.40
Power input - 50Hz	Cooling	Nom.	kW		0.090		0.091	0.110	0.172	0.217	0.251
	Heating	Nom.	kW		0.072	0.090			0.172	0.217	0.251
Casing	Colour				White						
	Material				Resin, sheet metal						
Dimensions	Unit	Height	mm		235						
		Width	mm		960		1,270		1,590		
		Depth	mm		690						
	Packed unit	Height	mm		336		334				
		Width	mm		1,060		1,388		1,708		
		Depth	mm		824		869				
	Weight	Unit	kg		26	27	32	34	41		
Packed unit		kg		32	33	42	44	53			
Heat exchanger	Fin	Type	ML fin (Anti Corrosion Hydrophilic)								
Fan	Type	Sirocco fan									
	Quantity	2				3			4		
	Air flow rate	Cooling	High	m³/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	m³/min	11.5	12.0	15.0	17.0	24.0	27.0	29.0
				cfm	406	424	530	600	848	953	1,024
			Low	m³/min	10.0		11.5	14.0	20.0	23.0	24.0
				cfm	353		406	494	706	812	848
		Heating	High	m³/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	m³/min	11.5	12.0	15.0	17.0	24.0	27.0	29.0
				cfm	406	424	530	600	848	953	1,024
			Low	m³/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-280-87-8E				KFD-280-117-8E			EQDW01HDK		
	Speed	Steps	5								
	Output	High	W	87		117		150			
	Full load amps (FLA)	Cooling	A	0.6			0.8	1.3	1.5	1.8	
		Heating	A	0.6			0.8	1.3	1.5	1.8	
Sound power level	Cooling	dBA		53.0	54.0		55.0	60.0	62.0	64.0	
	Heating	dBA		53.0	54.0		55.0	60.0	62.0	64.0	
Sound pressure level	Cooling	High	dBA	36.0	37.0		38.0	42.0	44.0	46.0	
		Medium	dBA	34.0	35.0		36.0	38.0	41.0	42.0	
		Low	dBA	31.0	32.0	33.0	34.0		37.0	38.0	
	Heating	High	dBA	36.0	37.0		38.0	42.0	44.0	46.0	
		Nom.	dBA	34.0	35.0		36.0	38.0	41.0	42.0	
		Medium	dBA	31.0	32.0	33.0	34.0		37.0	38.0	
		Refrigerant R-32 / R-410A									
Piping connections	Sound absorbing insulation				Not needed						
	Liquid	Type	Flare connection								
		OD	mm	6.35			9.52				
	Gas	Type	Flare connection								
		OD	mm	9.50	12.70		15.90				
	Drain	VP20									
Heat insulation Needed											
Air filter	Type	Resin net									
Safety devices	Item	01	Fuse (F, 5A, 250V)							-	
	02	Fan motor fuse (F, 4A, 500V)									
Control systems	Infrared remote control				BRC7GA53-9 / BRC7GA56						
	Wired remote control				BRC1D528 / BRC1H51(9)W/S/K7 / BRC1H52W/S/K / BRC1H81W7 / BRC1H81S7 / BRC1E53A/B/C7 / BRC1H82W/S/K						

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: Resin bushing;Quantity: 1;

Standard accessories: Screws;Quantity: 2;

Standard accessories: Wiring fixture;Quantity: 2;

Standard accessories: Sealing material;Quantity: 6;

Standard accessories: General safety precautions;Quantity: 1;

2 Specifications

2 - 1 Specifications

Standard accessories: Installation and operation manual;Quantity: 1;

Standard accessories: Paper pattern for installation;Quantity: 1;

2

Electrical specifications		FHA35A9	FHA50A9	FHA60A9	FHA71A9	FHA100A	FHA125A	FHA140A
Power supply	Phase	1~						
	Frequency	50/60						
	Voltage	220-240/220						

See separate drawing for electrical data

3 Safety device settings

3 - 1 Safety Device Settings

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Safety devices		FHA35-50AVEB98	FHA60-71AVEB98
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		FHA100-140AVEB8
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

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Option kit	Product name	FHA35	FHA50	FHA60	FHA71	FHA100	FHA125	FHA140
Long-life replacement filter (nonwoven type)	KAF501B56	✓	✓	×	×	×	×	×
	KAF501B80	×	×	✓	✓	×	×	×
	KAF501B160	×	×	×	×	✓	✓	✓
Drain pump kit	KDU50R63	✓	✓	✓	×	×	×	×
	KDU50R160	×	×	×	✓	✓	✓	✓
L-type piping kit	KHFP5MA35	✓	×	×	×	×	×	×
	KHFP5N63	×	✓	✓	×	×	×	×
	KHFP5N160	×	×	×	✓	✓	✓	✓
Wired remote control	BRC1E53A7 ①④	✓	✓	✓	✓	✓	✓	✓
	BRC1E53B7 ②④	✓	✓	✓	✓	✓	✓	✓
	BRC1E53C7 ③④	✓	✓	✓	✓	✓	✓	✓
	BRC1D528	✓	✓	✓	✓	✓	✓	✓
	BRC1H52W/S/K	✓	✓	✓	✓	✓	✓	✓
	BRC1H82W/S/K	✓	✓	✓	✓	✓	✓	✓
	BRC7GA53-9	✓	✓	✓	✓	✓	✓	✓
Wireless remote control	Heat pump	✓	✓	✓	✓	✓	✓	✓
	Cooling only	✓	✓	✓	✓	✓	✓	✓
Simplified remote control (with operation mode selector button)	BRC2E52C7 ⑤	✓	✓	✓	✓	✓	✓	✓
Simplified remote control (without operation mode selector button)	BRC3E52C7 ⑤	✓	✓	✓	✓	✓	✓	✓
Central remote control	DCS302CA51	✓	✓	✓	✓	✓	✓	✓
Unified ON/OFF controller	DCS301BA51	✓	✓	✓	✓	✓	✓	✓
Wiring adaptor for electrical appendices -1-	KRP1BA54 ⑥	✓	✓	✓	✓	✓	✓	✓
Wiring adaptor for electrical appendices -2-	KRP4AA52 ⑥	✓	✓	✓	✓	✓	✓	✓
Installation box for adaptor PCB	KRP1D93A	✓	✓	✓	✓	✓	✓	✓
Remote sensor	KRCS01-4B	✓	✓	✓	✓	✓	✓	✓
Remote "ON/OFF" and "forced OFF" kit	EKROR04	✓	✓	✓	✓	✓	✓	✓
Electrical box with earth terminal (-3- blocks)	KJB311AA	✓	✓	✓	✓	✓	✓	✓
Electrical box with earth terminal (-2- blocks)	KJB212AA	✓	✓	✓	✓	✓	✓	✓
Digital input adaptor	BRP7A52 ⑥⑦	✓	✓	✓	✓	✓	✓	✓
WLAN adaptor for smartphones	BRP069C81 ⑨	✓	✓	✓	✓	✓	✓	✓

Notes

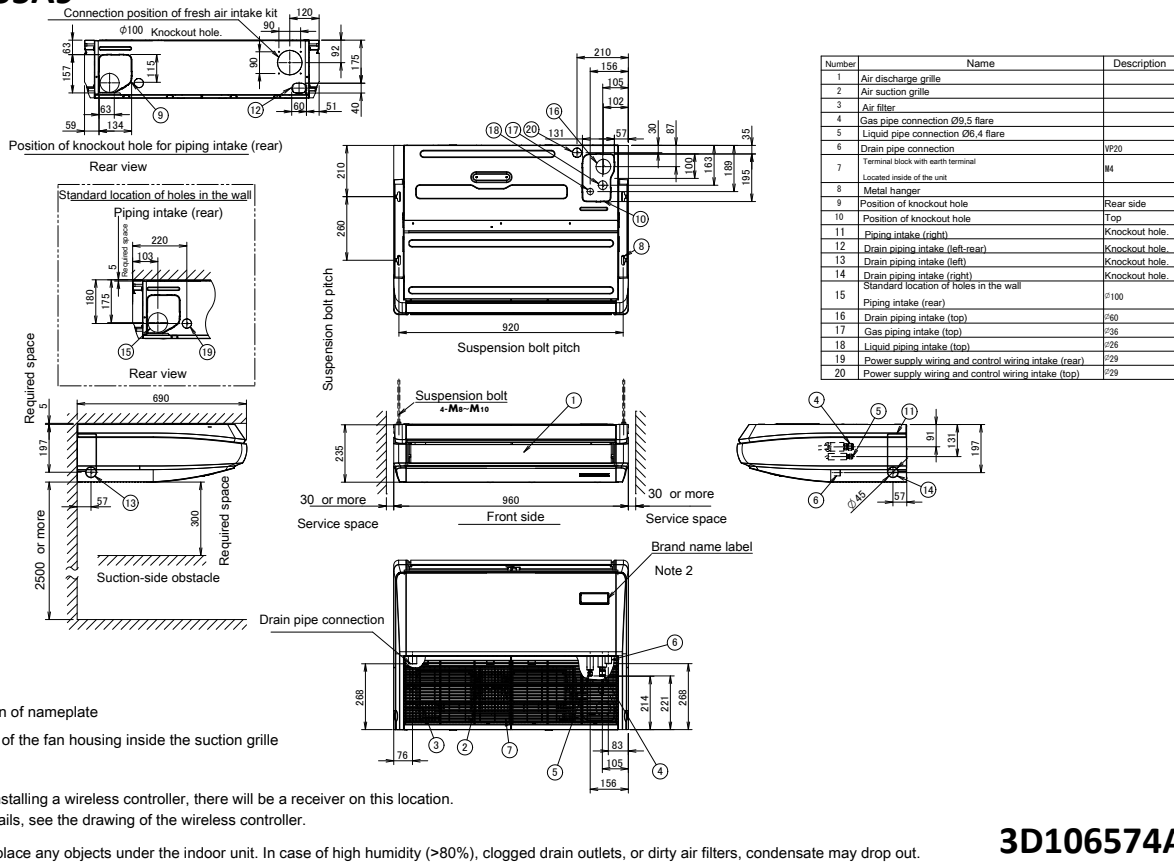
- ① Included languages are: English, German, French, Italian, Spanish, Portuguese, and Dutch.
- ② Included languages are: English, Czech, Croatian, Hungarian, Slovenian, Romanian, and Bulgarian.
- ③ Included languages are: English, Russian, Greek, Turkish, Polish, Albanian, and Slovak.
- ④ Includes duty 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 for adaptor PCB -KRP1D93A-.
- ⑦ Only possible in combination with -BRC2/3E52C7, BRC1E53A7/B7/C7, BRC1H52W/S/K, BRC1H82W/S/K-.
- ⑧ Editable data for this drawing are available in the -BOM (E-BOM)- system.
- ⑨ Only possible in combination with wired or wireless remote control (e.g. -BRC1E*, BRC1H*, BRC7GA*-).

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5 Dimensional drawings

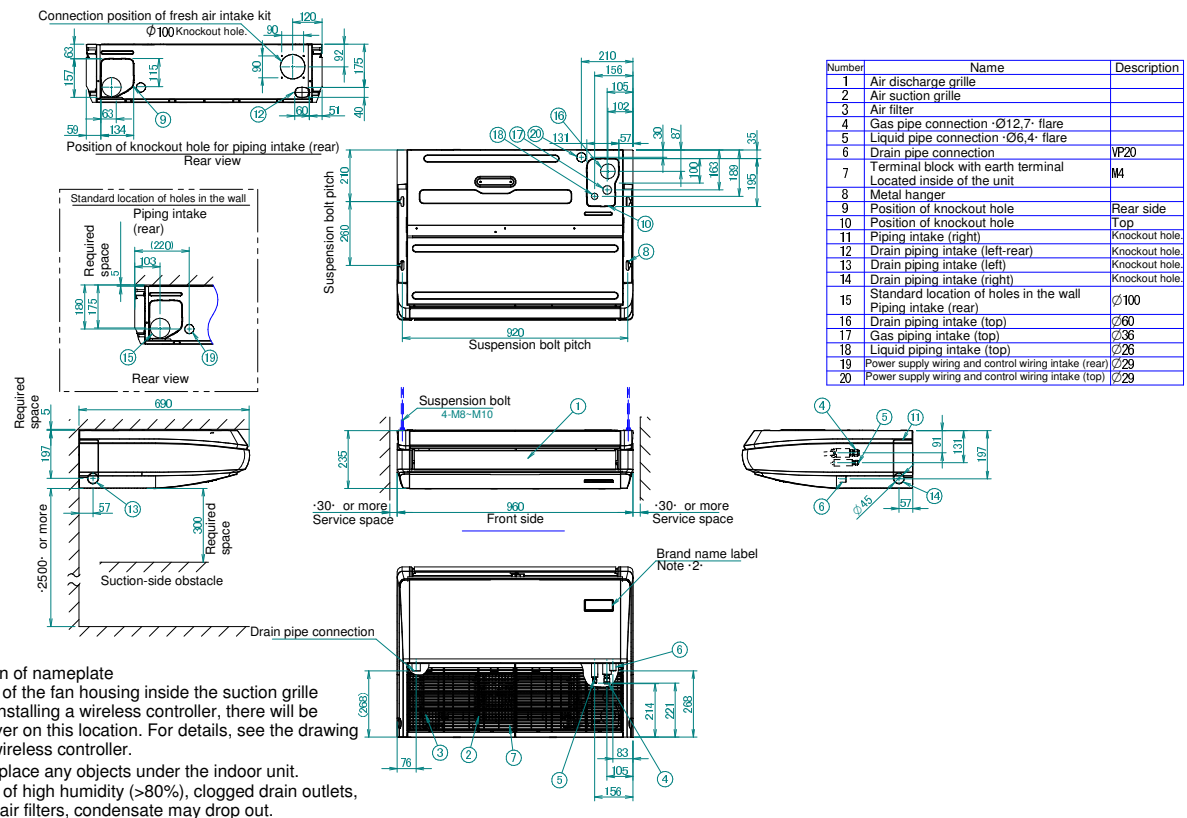
5 - 1 Dimensional Drawings

FHA35A9



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FHA50A9

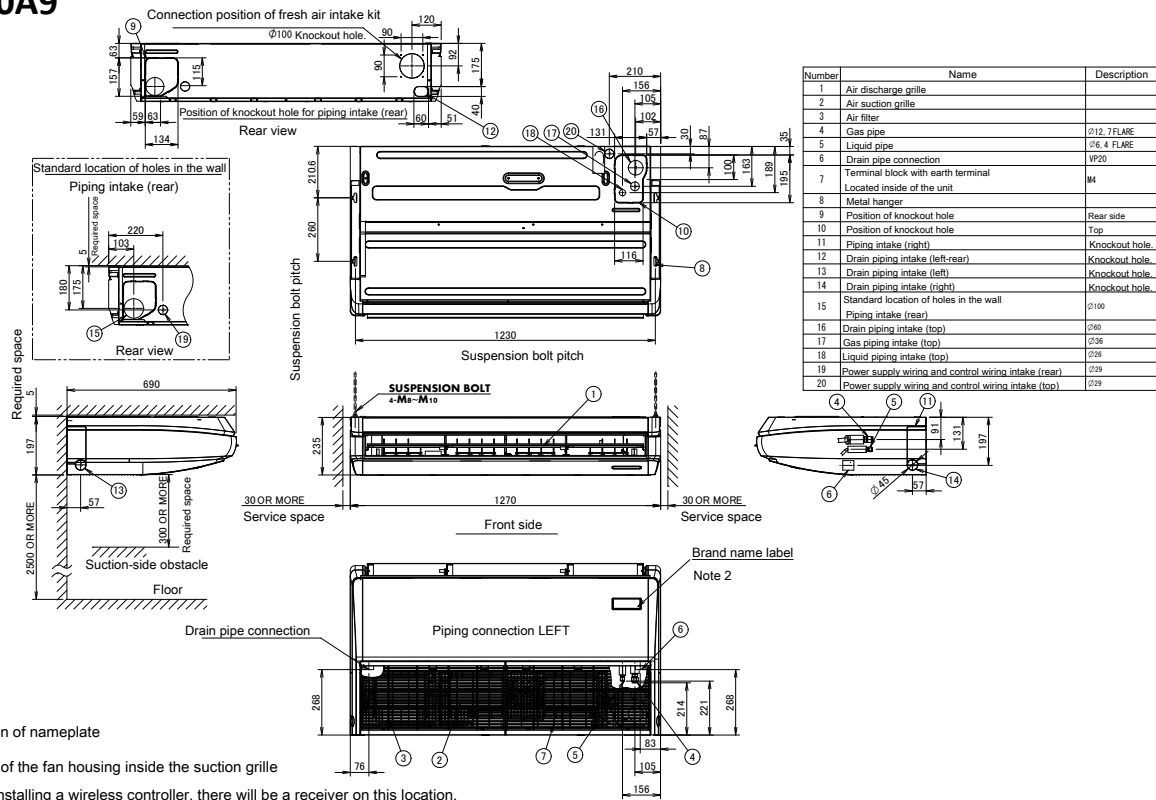


3D109224B

5 Dimensional drawings

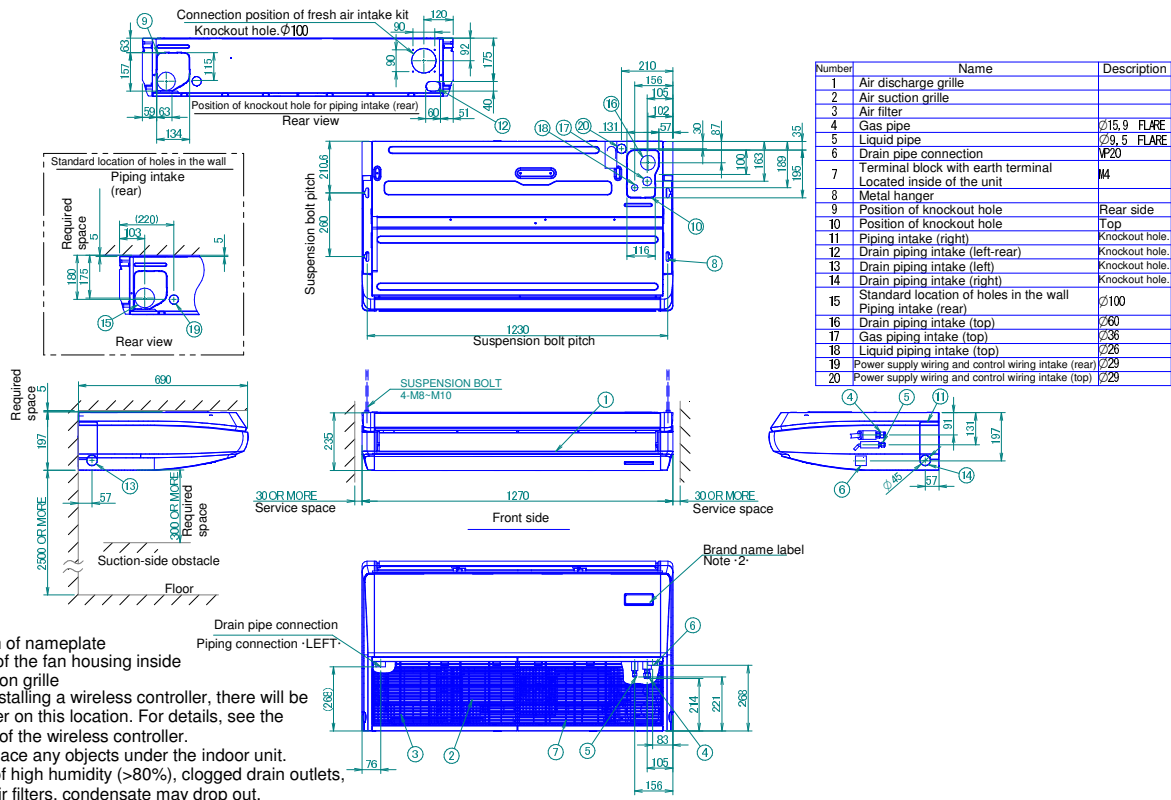
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FHA60A9



3D106552

FHA71A9

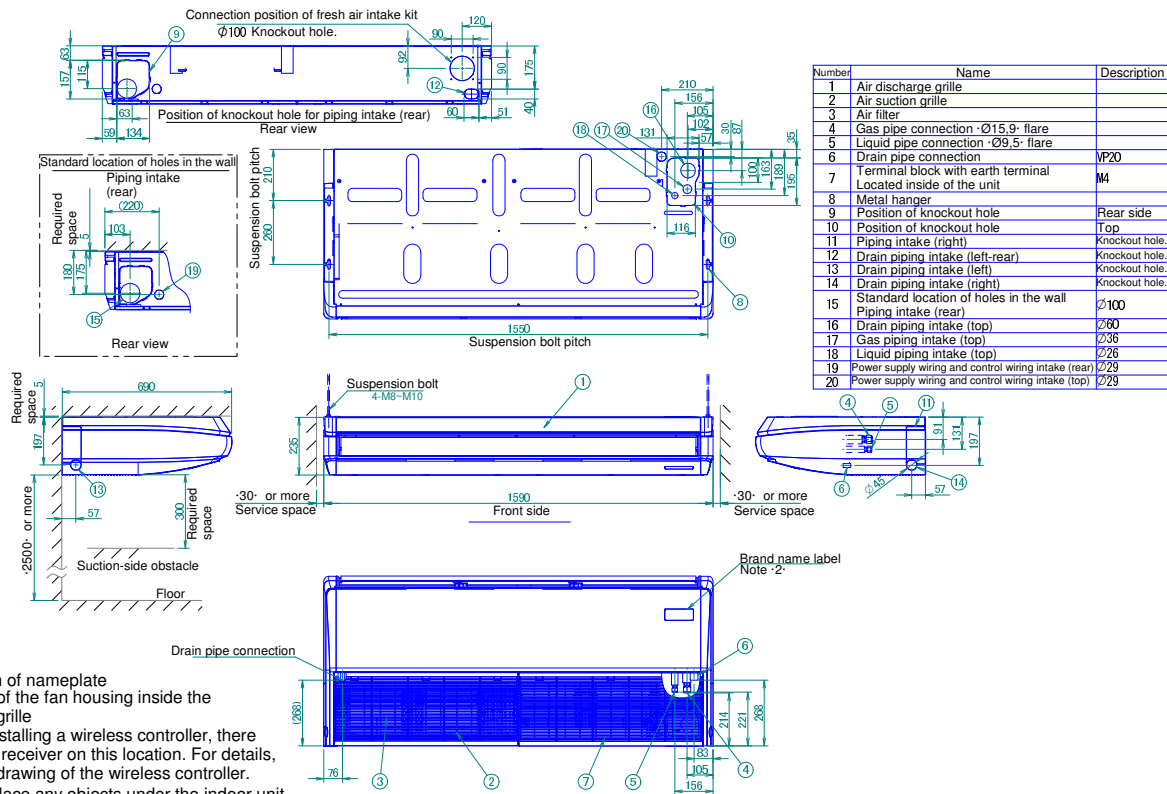


3D109222A

5 Dimensional drawings

5 - 1 Dimensional Drawings

FHA100-140A9



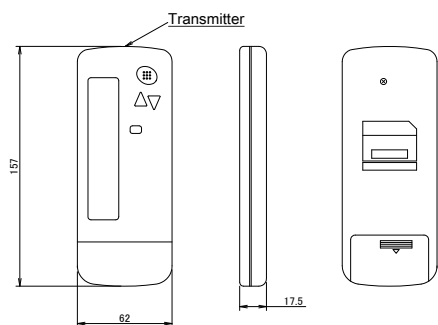
3D106530B

5 Dimensional drawings

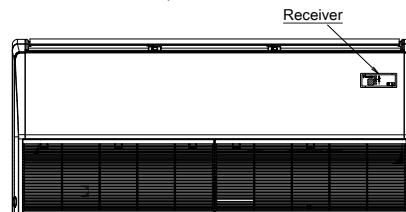
5 - 2 Dimensional Drawings with Accessories

FHA-A(9)

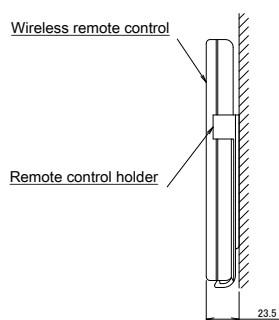
Remote control dimensions



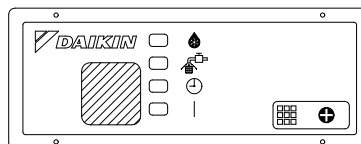
Receiver installation procedure



Installation to wall surface



Receiver detail

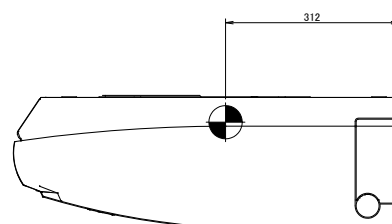
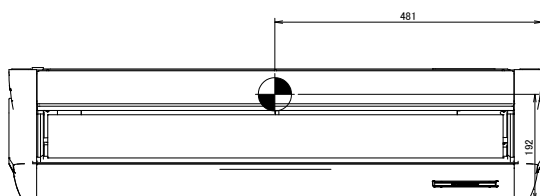


3D109659

6 Centre of gravity

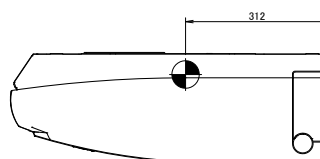
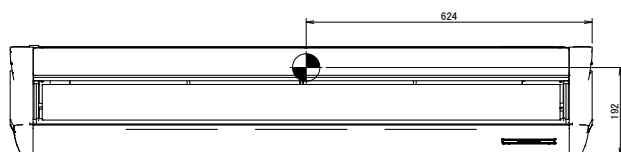
6 - 1 Centre of Gravity

FHA35-50A9



3D106833

FHA60-71A9

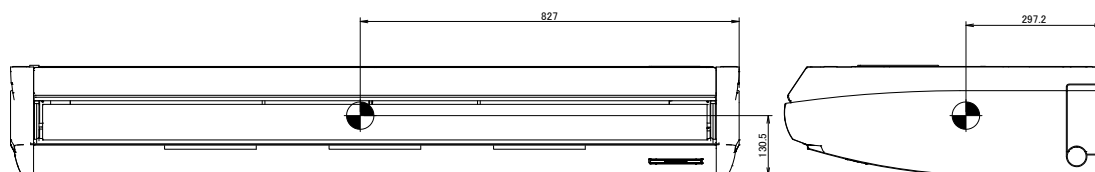


3D106836

6 Centre of gravity

6 - 1 Centre of Gravity

FHA100-140A

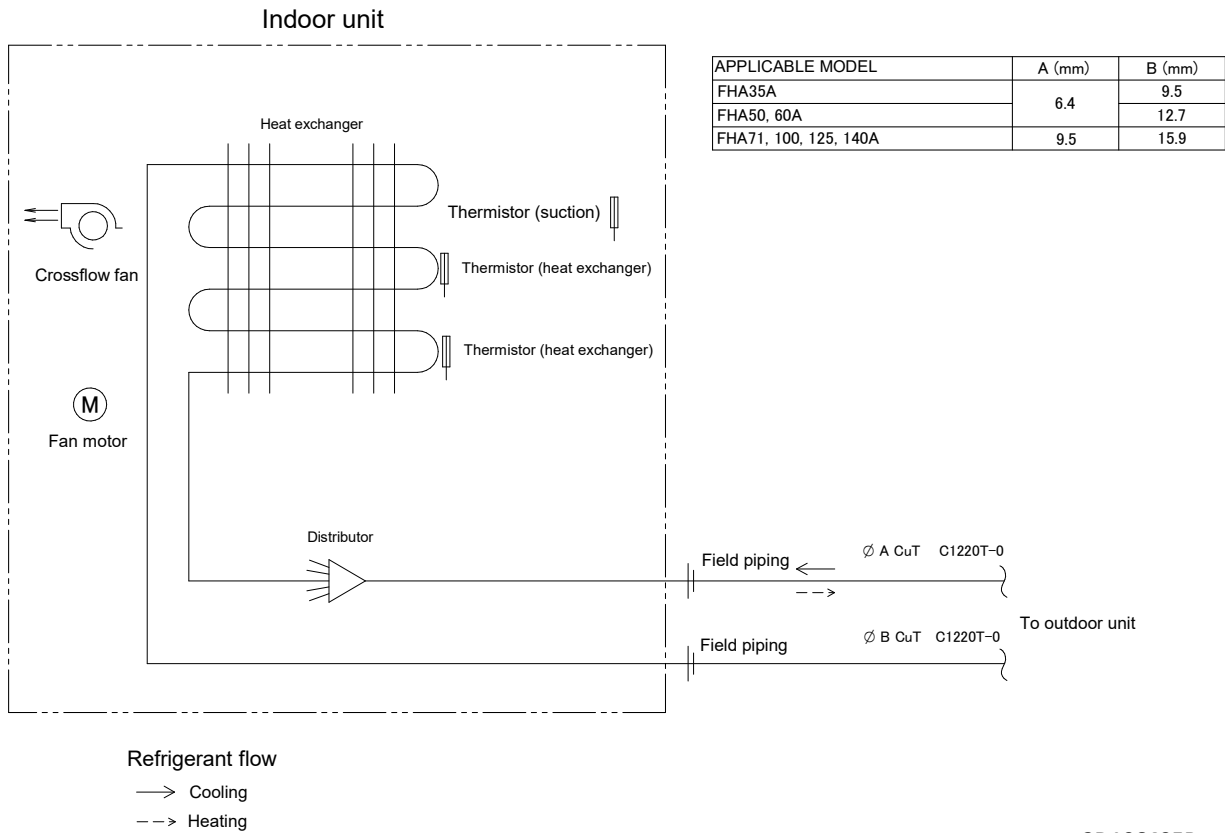


3D109249

7 Piping diagrams

7 - 1 Piping Diagrams

FHA-A(9)



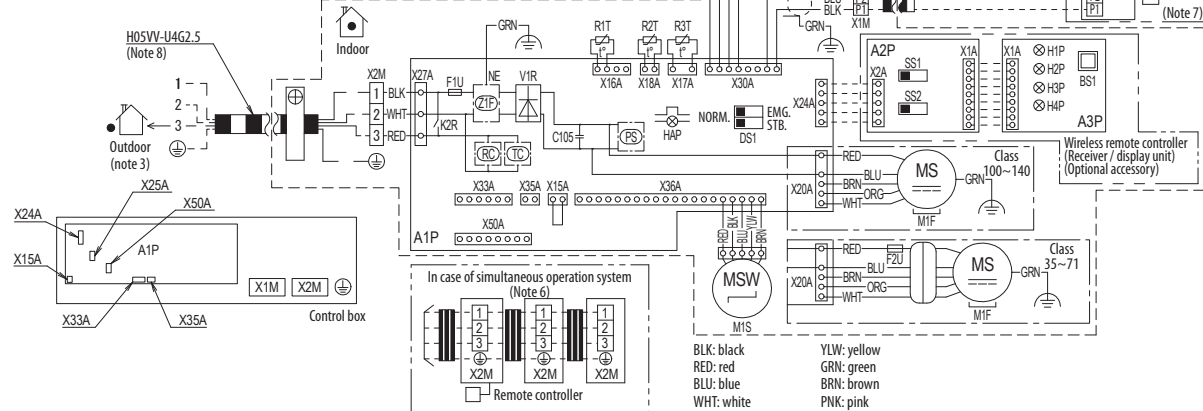
3D106495B

8 Wiring diagrams

8 - 1 Wiring Diagrams - Three Phase

8

FHA-A(9)
Wiring diagram



Indoor unit	
A1P	Printed circuit board
C105	Capacitor (M1F)
F1U	Fuse (F, 5A, 250V)
F2U	Fuse (F, 4A, 500V)
DS1	DIP switch on PCB
HAP	Flashing lamp (service monitor: green)
K2R	Magnetic relay
M1F	Motor (indoor fan)
M1S	Motor (swing blade)
R1T	Thermistor (air)
R2T-R3T	Thermistor (coil)
V1R	Diode bridge
X1M	Terminal block
X2M	Terminal block
Z1F	Noise filter
PS	Power supply circuit
RC	Signal receiver circuit
TC	Signal transmission circuit

Wired remote controller	
R1T	Thermistor (air)
Wireless remote controller (Receiver/display unit)	
A2P	Printed circuit board
A3P	Printed circuit board
BS1	Push button (on/off)
H1P	Pilot lamp (on: red)
H2P	Pilot lamp (timer: green)
H3P	Pilot lamp (filter sign: red)
H4P	Pilot lamp (defrost: orange)
SS1	Selector switch (main/sub)
SS2	Selector switch (wireless address set)
Connector for optional parts	
X15A	Connector (floating switch)
X24A	Connector (wireless remote controller)
X25A	Connector (drain pump)
X33A	Connector (adaptor for wiring)
X35A	Connector (power supply for adaptor)
X50A	Connector (WLAN adaptor)

NOTES

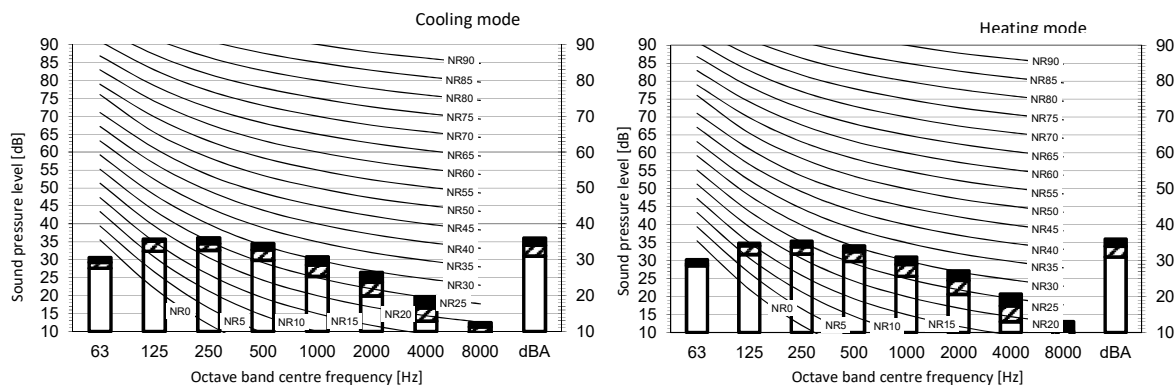
1. : Terminal block, : Connector, : Field wiring, : Short circuit connector
2. In case of simultaneous operation indoor unit system, see the indoor unit wiring only.
3. For the detail, see wiring diagram attached to outdoor unit.
4. In case using central remote controller, connect it to the unit in accordance with the attached installation manual.
5. X15A, X25A are connected when the drain pump kit is being used.
6. 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.
7. In case of main/sub changeover see the installation manual attached to remote controller
8. Shows only in case of protection piping, use H07RN-F in case of no protection.

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9 Sound data

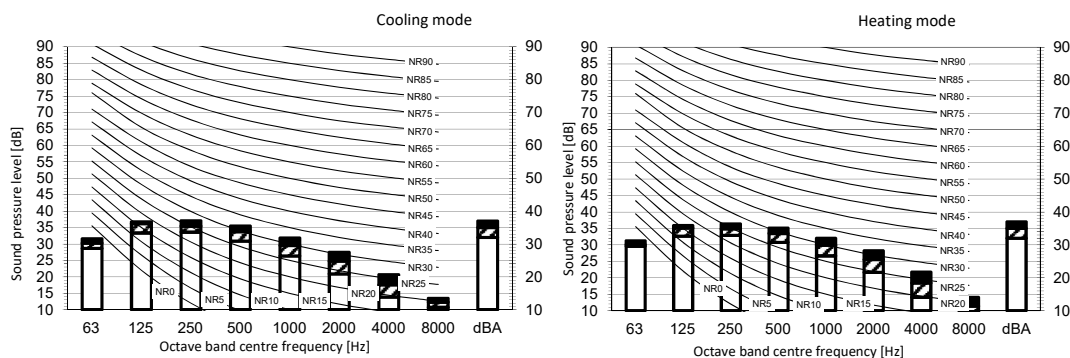
9 - 1 Sound Pressure Spectrum

FHA35A9



3D109743B

FHA50A9

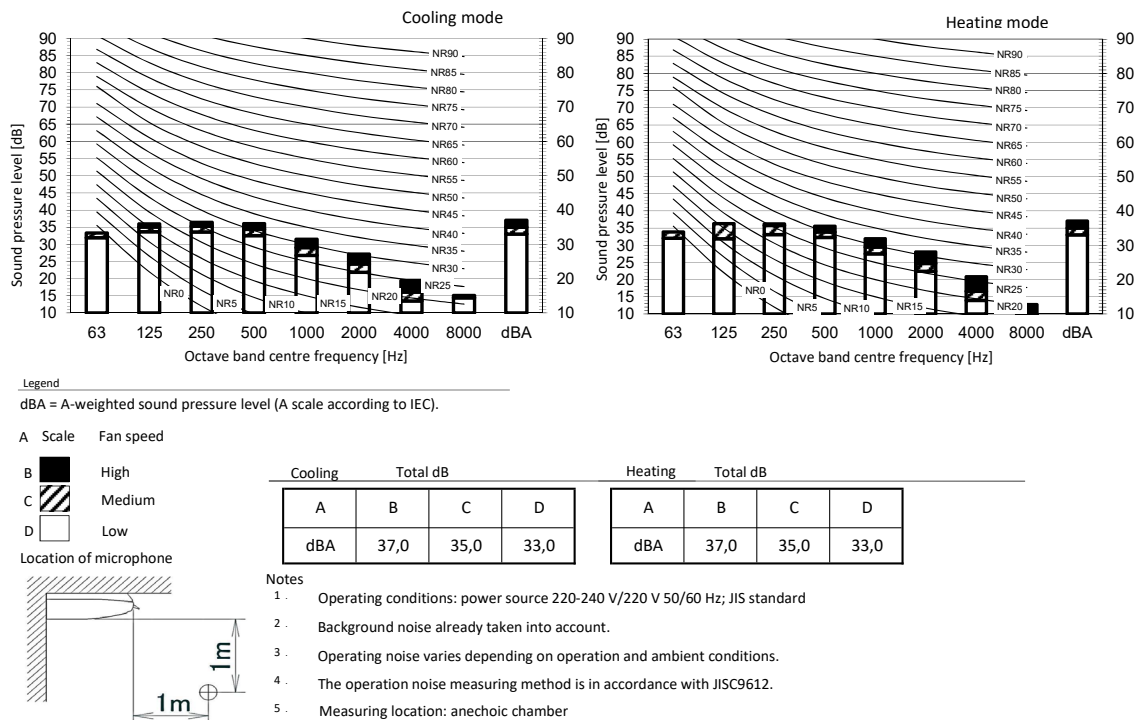


3D109742B

9 Sound data

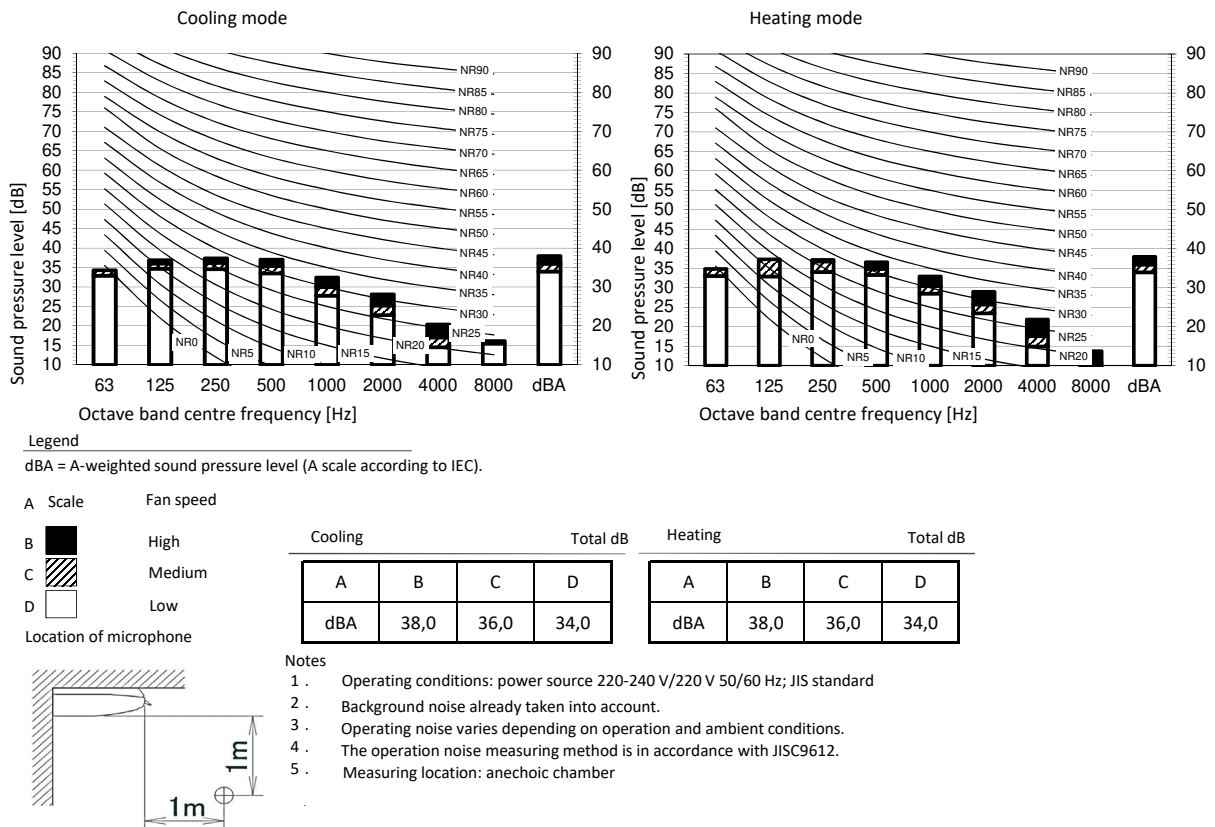
9 - 1 Sound Pressure Spectrum

FHA60A9



3D109741B

FHA71A

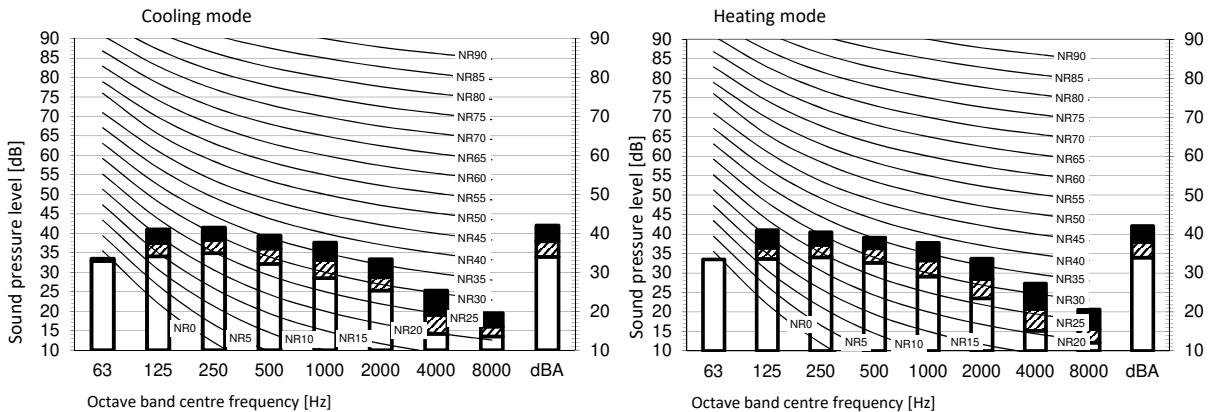


3D109736B

9 Sound data

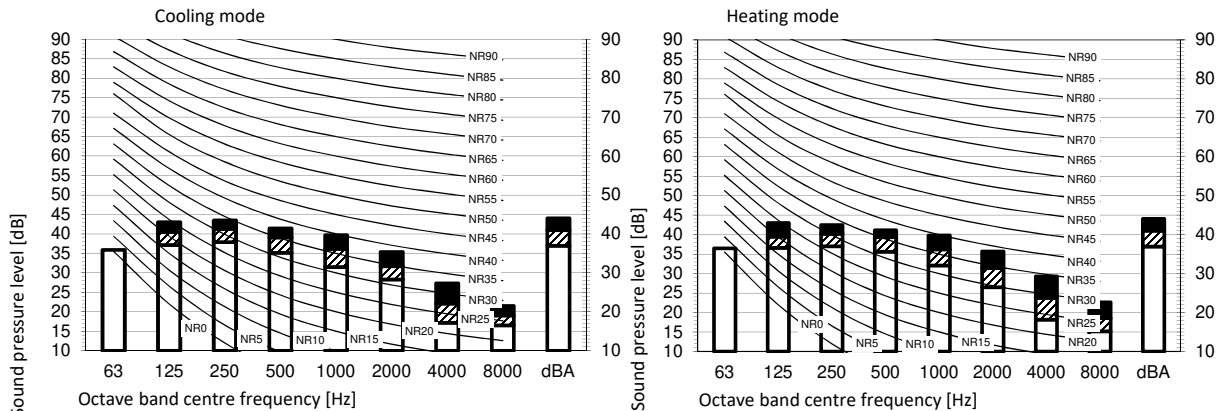
9 - 1 Sound Pressure Spectrum

FHA100A



3D109737A

FHA125A

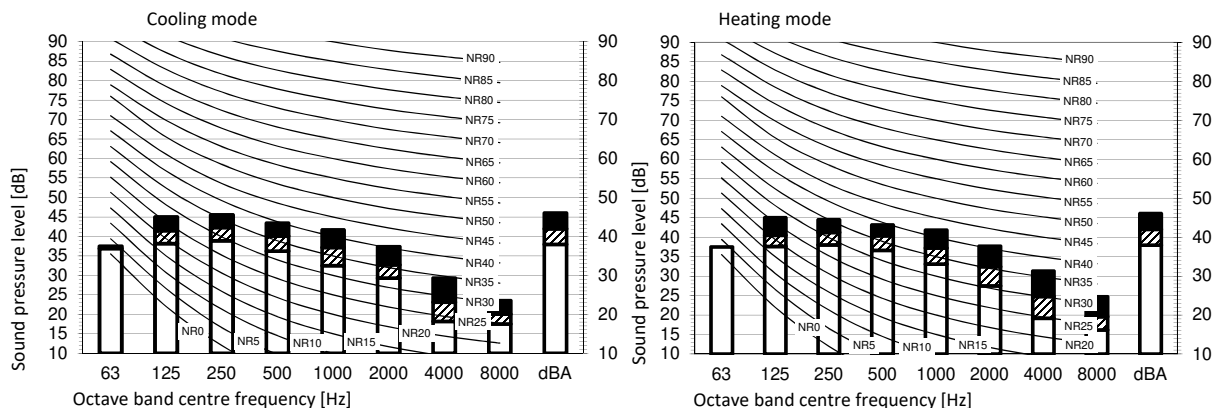


3D109738A

9 Sound data

9 - 1 Sound Pressure Spectrum

FHA140A

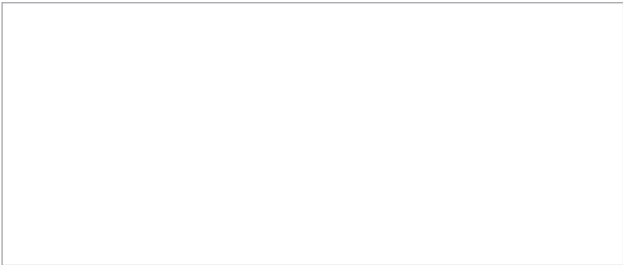


Cooling				Heating			
Total dB				Total dB			
A	B	C	D	A	B	C	D
dBA	46	42	38	dBA	46	42	38

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

3D109740A



EEDEN23

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