



Air Conditioning Technical Data

Fully flat cassette



EEEN13-100-

FFQ-C

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FFQ-C

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1 Features

- Unique design in the market: integrates fully flat into the ceiling and fits flush into architectural ceiling modules
- Remarkable blend of iconic design and engineering excellence with an elegant finish in white or a combination of silver and white
- The presence sensor (optional) adjusts the set point with standard 1°C if no one is detected in the room, it is possible to adjust the set point with 2, 3 or 4°C (optional). It also automatically directs air flow away from any person to avoid draught.
- The floor sensor (optional) detects the average floor temperature and ensures even temperature distribution between ceiling and floor. Cold feet will become history.
- Individual flap control: one flap can be easily closed via the wired remote control (BRC1E52) in case you would refurbish or rearrange your interior
- Low energy consumption thanks to specially developed small tube heat exchanger, DC fan motor and drain pump
- Fresh air intake for healthy living
- No optional adapter needed for DIII-connection, link your unit into the wider building management system.



Inverter



Home leave operation



Fan only



Draught prevention



Auto cooling-heating changeover



Whisper quiet



Ceiling soiling prevention



Vertical auto swing



Fan speed steps



Dry programme



Air filter



Weekly timer



Infrared remote control



Wired remote control



Auto-restart



Self diagnosis



Drain pump kit



Twin/triple/double twin application



Multi model application



Super Multi Plus

2 Specifications

2-1 Technical Specifications					FFQ25C		FFQ35C		FFQ50C		FFQ60C	
Casing	Material				Galvanised steel plate							
Dimensions	Unit	Height/Width/Depth		mm	260/575/575							
	Packed unit	Height/Width/Depth		mm	270/780/616							
Weight	Unit			kg	16				17.5			
	Packed unit			kg	19				20.5			
Decoration panel	Model				BYFQ60CW							
	Colour				White (N9.5)							
	Dimensions	Height/Width/Depth		mm	46/620/620							
	Weight			kg	2.8							
Decoration panel 2	Model				BYFQ60CS							
	Colour				White (N9.5) + Silver							
	Dimensions	Depth/Height/Width		mm	620/46/620							
	Weight			kg	2.8							
Decoration panel 3	Model				BYFQ60B2							
	Colour				White (RAL9010)							
	Dimensions	Height/Width/Depth		mm	55/700/700							
	Weight			kg	2.7							
Heat exchanger	Inside length			mm	1,295				1,248			
	Outside length			mm	1,342							
	Rows	Quantity			2				3			
	Fin pitch			mm	1.2							
	Passes	Quantity			5				7			
	Face area			m²	0.290				0.300			
	Stages	Quantity			12				16			
	Empty tubeplate hole	Quantity			0							
	Fin	Type			Cross fin coil (multi slit fins and hi-XA tubes)							
Fan	Type				Turbo fan							
	Quantity				1							
	Air flow rate	Cooling	High	m³/min	9	10		12		14.5		
			Nom.	m³/min	8	8.5		10		12.5		
			Low	m³/min	6.5		7.5		9.5			
		Heating	High	m³/min	9	10		12		14.5		
			Nom.	m³/min	8	8.5		10		12.5		
Low			m³/min	6.5		7.5		9.5				
Fan motor	Model				QTS32D15M							
	Speed	Steps			3							
	Output	High			50							
Sound power level	Cooling	High		dBA	48	51		56		60		
Sound pressure level	Cooling	High/Nom./Low		dBA	31/28.5/25		34/30.5/25		39/34/27		43/40/32	
	Heating	Super high/High/Nom./Low		dBA	-/31/28.5/25		-/34/30.5/25		-/39/34/27		-/43/40/32	
Refrigerant	Type				R-410A							
Piping connections	Sound absorbing insulation				Foamed Polyurethane							
	Liquid	Type/OD		mm	Flare connection/6.35							
	Gas	Type/OD		mm	Flare connection/9.52				Flare connection/12.7			
	Drain				VP20 (I.D. 20/O.D. 26)							
	Heat insulation				Foamed polystyrene/polyethylene							
Air filter	Type				Resin net with mold resistance							

Standard Accessories : Clamps; Quantity : 7;

Standard Accessories : Sealing pad; Quantity : 4;

Standard Accessories : Insulation for fitting; Quantity : 2;

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

Standard Accessories : Screws; Quantity : 4;

2 Specifications

Standard Accessories : Washer for hanger bracket; Quantity : 8;

Standard Accessories : Metal clamp for drain hose; Quantity : 1;

Standard Accessories : Drain hose; Quantity : 1;

Standard Accessories : Installation manual; Quantity : 1;

Standard Accessories : Operation manual; Quantity : 1;

2

2-2 Electrical Specifications			FFQ25C	FFQ35C	FFQ50C	FFQ60C
Power supply	Name		VE			
	Phase		1~			
	Frequency	Hz	50			
	Voltage	V	220-240			

Notes

(1) Dimensions do not include control box

(2) The sound power level is an absolute value indicating the power which a sound source generates.

3 Safety device settings

3 - 1 Safety Device Settings

FFQ-C

Safety devices		FFQ25-60C
Fuse		250V 5A
Fan motor thermal fuse	°C	---
Fan motor thermal protector	°C	---
Drain pump fuse	°C	---

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4 Options

4 - 1 Options

FFQ-C

Description	NEW/exist	Compatibility			Sky Air Model name
		BYFQ60B2V1	BYFQ60C2W1W	BYFQ60C2W1S	
Decoration panel (Current)	NEW	-	-	-	BYFQ60B2W1
New decoration panel (White)	NEW	-	-	-	BYFQ60C2W1W
New decoration panel (Silver)	NEW	-	-	-	BYFQ60C2W1S
Sensor kit (White)	NEW	NO	YES	NO	BRYQ60A2W
Sensor kit (Silver)	NEW	NO	NO	YES	BRYQ60A2S
Sealing member of air discharge outlet	NEW	YES	YES	YES	BD8HQ44C60
Panel spacer	Exist	YES	NO	NO	KDBQ44B60
Replacement long-life filter	Exist	YES	YES	YES	KAFQ441BA60
Fresh air intake kit	Exist	YES	YES	YES	KDDQ44XA60
Infrared remote controller (HIP)	NEW	YES	NO	NO	BRC7E830W (*1,2)
Infrared remote controller (HIP) (White)	NEW	NO	YES	NO	BRC7F530W (*1,2)
Infrared remote controller (HIP) (Silver)	NEW	NO	NO	YES	BRC7F530S (*1,2)
Wired remote controller	Exist	YES	YES	YES	BRC1D528 (*)
Wired remote controller	Exist	YES	YES	YES	BRC1E52A7 + B7
Central remote control	Exist	YES	YES	YES	DCS302B51
Unified ON/OFF control	Exist	YES	YES	YES	DCS301B51
Schedule timer	Exist	YES	YES	YES	DST301B51
Wiring adapter for electrical appendices	Exist	YES	YES	YES	KRP1B57
Wiring adapter for electrical appendices	Exist	YES	YES	YES	KRP4A53
Wiring adapter (hour meter)	Exist	YES	YES	YES	EKRP1B2
Installation box for adapter PCB	Exist	YES	YES	YES	KRP1B101, KRP1BA101
Remote sensor	Exist	YES	YES	YES	KRCS01-4B
I-touch controller	Exist	YES	YES	YES	DCS601C51

(*1) Sensing function not available
(*2) Independently controllable flaps function not available

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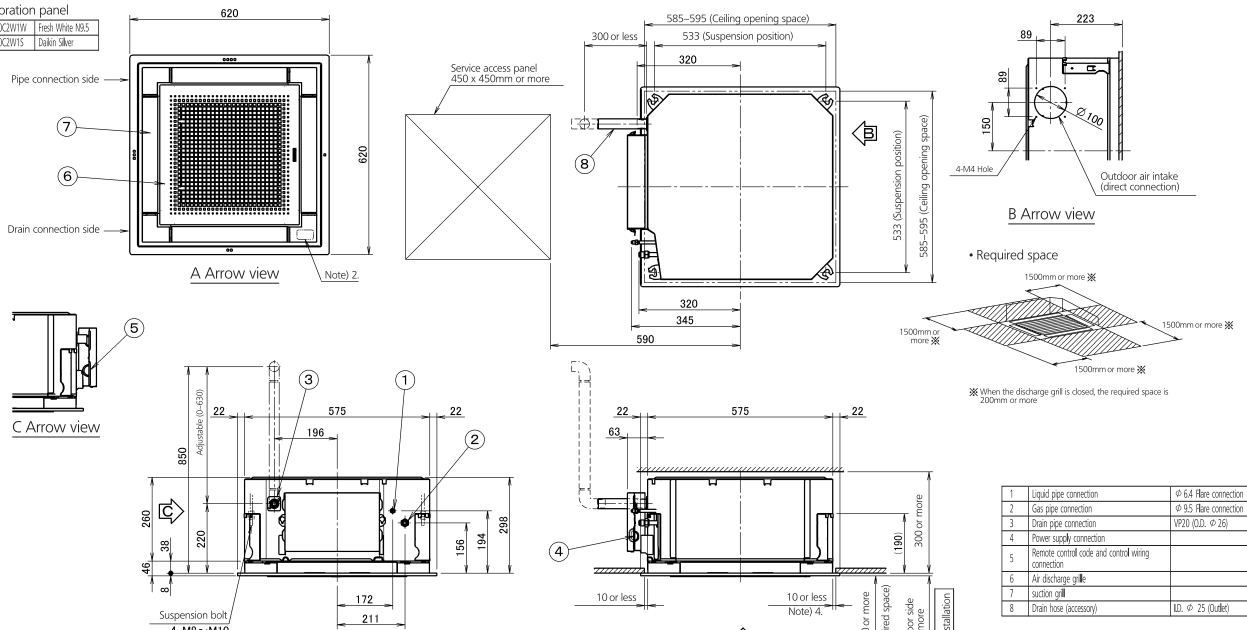
5 Dimensional drawings

5 - 1 Dimensional Drawings

FFQ25-35C

• Decoration panel

8YF060C2W1W	Fresh White M85
8YF060C2W1S	Dalton Silver



Note:

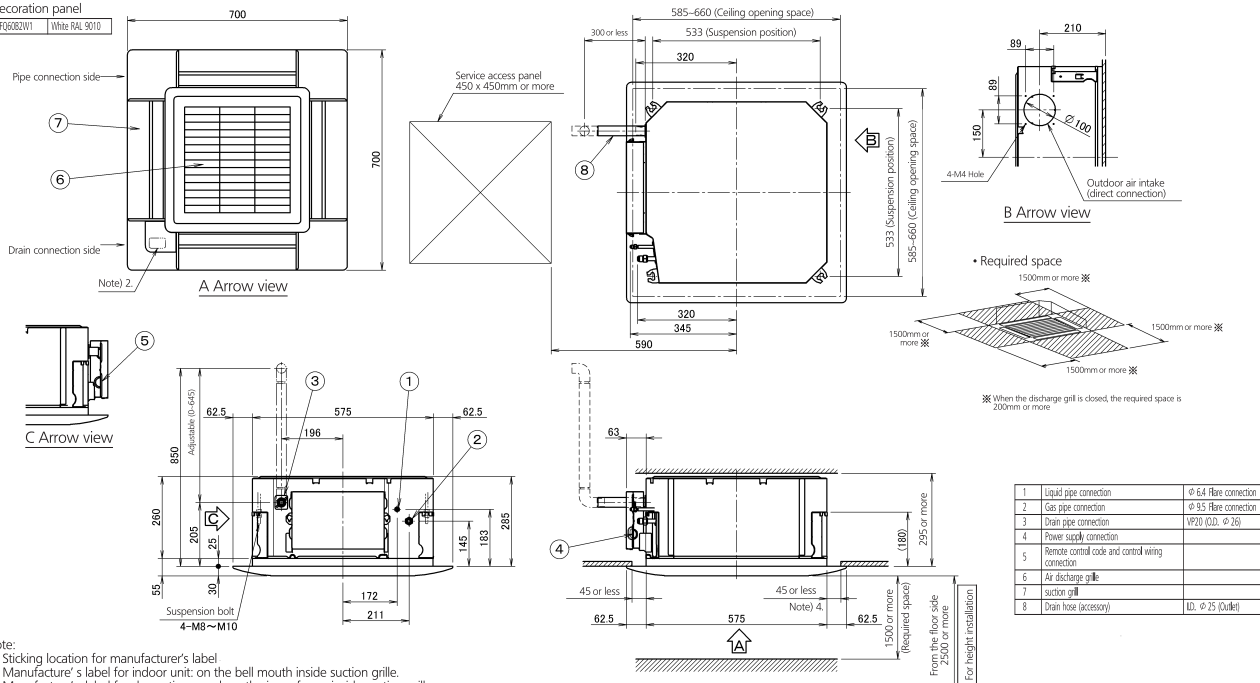
1. Sticking location for manufacturer's label
Manufacturer's label for indoor unit: on the bell mouth inside suction grille.
Manufacturer's label for decoration panel: on the inner frame inside suction grille.
2. In case of using infrared remote controller, this position will be a signal receiver. Refer to the drawing of infrared remote controller in detail.
3. When the temperature and humidity in the ceiling exceed 30°C and RH 80% or the fresh air is inducted into the ceiling or the unit continues 24 hour operation, an additional insulation (thickness 10mm or more glasswool or polyethylene form) is required.
4. Though the installation is acceptable up to maximum of 595mm square ceiling opening. Keep the clearance of 10mm or less between the main unit and the ceiling opening so that the panel overlap allowance can be ensured.

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FFQ25-35C

• Decoration panel

8YF060B2W1	White RAL 9010
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Note:

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Manufacturer's label for decoration panel: on the inner frame inside suction grille.
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4. Though the installation is acceptable up to maximum of 660mm square ceiling opening, keep the clearance of 45mm or less between the main unit and the ceiling opening so that the panel overlap allowance can be ensured.

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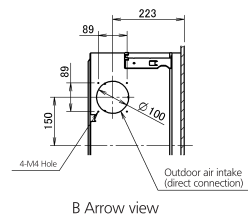
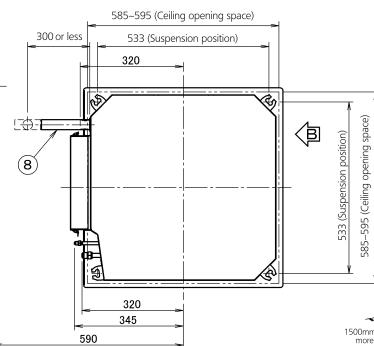
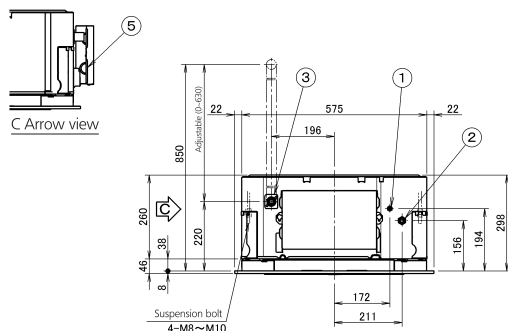
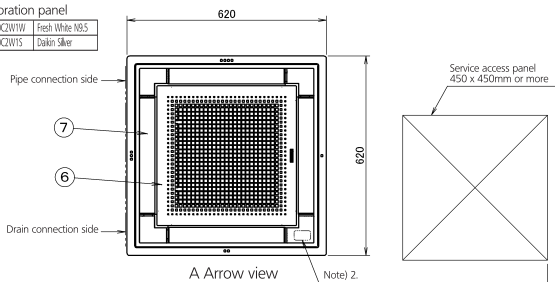
5 Dimensional drawings

5 - 1 Dimensional Drawings

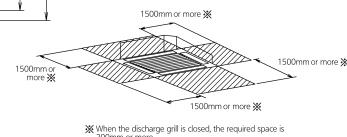
FFQ50-60C

• Decoration panel

BYFQ60CJW1W	Fresh White N95
BYFQ60CJW1S	Dark Silver



• Required space



1	Liquid pipe connection	φ 6.4 (Rear connection)
2	Gas pipe connection	φ 12.7 (Rear connection)
3	Drain pipe connection	VP20 (R.D., φ 20)
4	Power supply connection	
5	Remote control code and control wiring connection	
6	Air discharge grille	
7	suction grill	
8	Drain hose (accessory)	LD, φ 25 (Outlet)

Note:

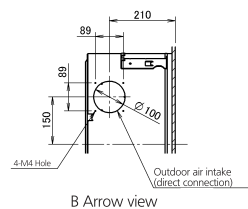
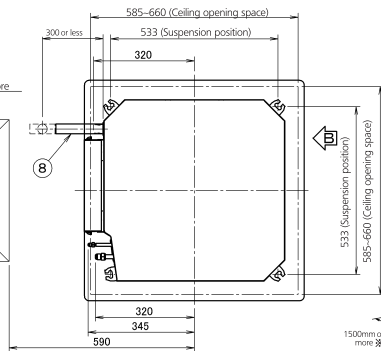
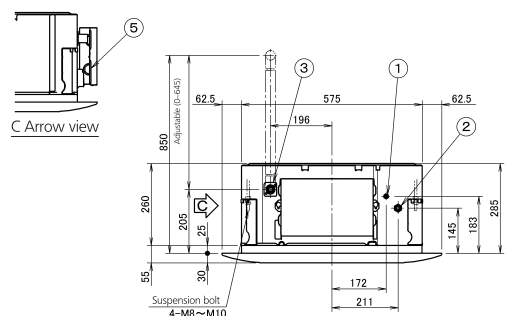
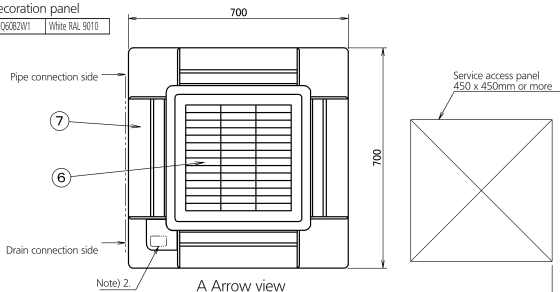
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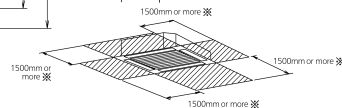
FFQ50-60C

• Decoration panel

BYFQ60CJW1	White RAL 9010
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• Required space



1	Liquid pipe connection	φ 6.4 (Rear connection)
2	Gas pipe connection	φ 12.7 (Rear connection)
3	Drain pipe connection	VP20 (R.D., φ 20)
4	Power supply connection	
5	Remote control code and control wiring connection	
6	Air discharge grille	
7	suction grill	
8	Drain hose (accessory)	LD, φ 25 (Outlet)

Note:

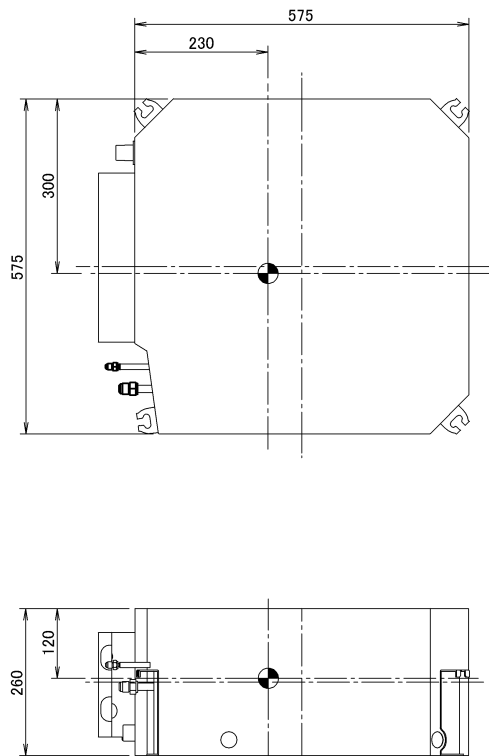
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3. When the temperature and humidity in the ceiling exceed 30°C and RH 80% or the fresh air is inducted into the ceiling or the unit continues 24 hour operation, an additional insulation (thickness 10mm or more glasswool or polyethylene foam) is required.
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6 Centre of gravity

6 - 1 Centre of Gravity

FFQ-C



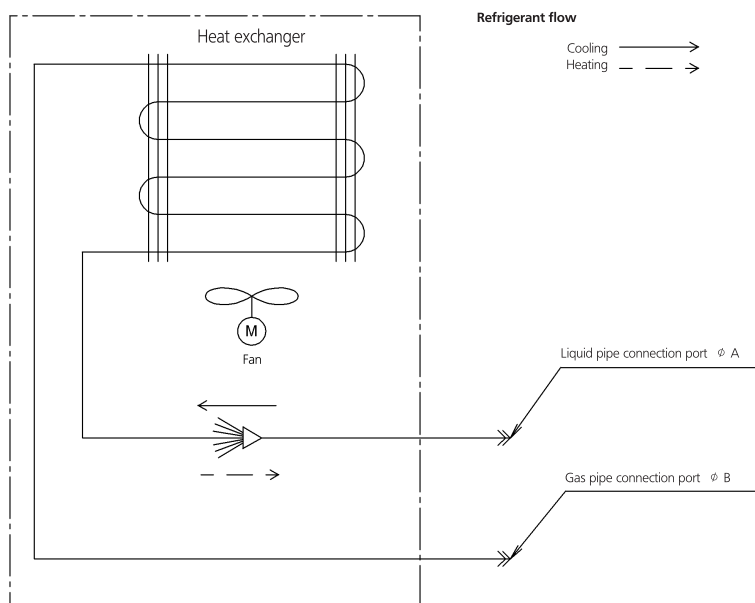
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7 Piping diagrams

7 - 1 Piping Diagrams

7

FFQ-C



Model	A	B
FFQ25C	6.35	9.52
FFQ35C		
FFQ50C		12.7
FFQ60C		

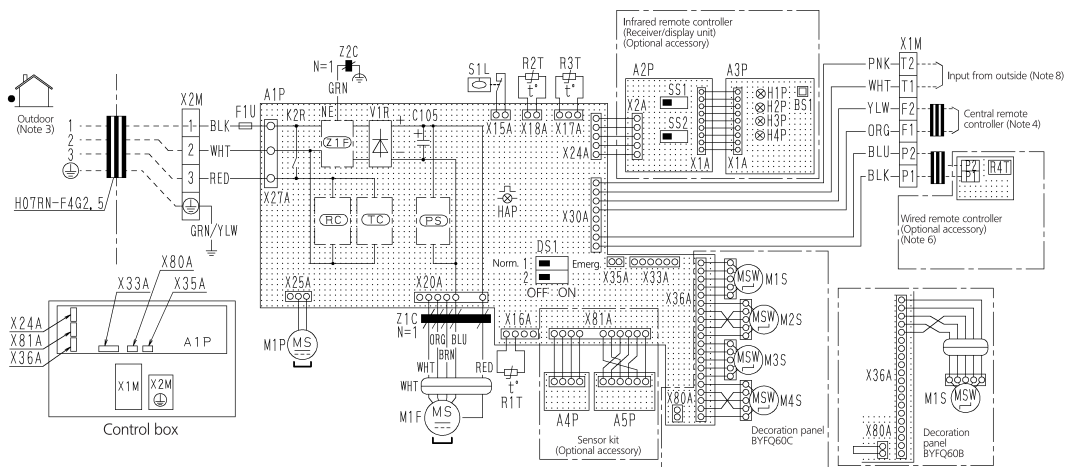
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8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

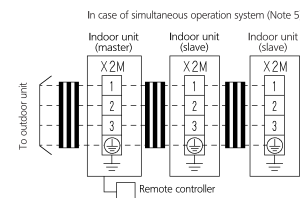
FFQ-C

Indoor unit	
A1P	Printed circuit board
C105	Capacitor (M1F)
D51	Dip switch on PCB
F1U	Fuse (F, 5A, 250V)
HAP	Flashing lamp (service monitor-green)
K2R	Magnetic relay
M1F	Fan motor
M1P	Drain pump motor
M1S	Swing motor
R1T	Thermistor (air)
R2T	Thermistor (coil)
S1L	Float switch
V1R	Diode bridge
X1M	Terminal block
X2M	Terminal block
Z1F	Noise filter
Z1C	Ferrite core
Z2C	Ferrite core
PS	Switching power supply
RC	Receiver
TC	Transmitter
Infrared remote controller (Receiver/display unit)	
A2P	Printed circuit board
A3P	Printed circuit board
BS1	Push button switch on PCB
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 (infrared address set)
Sensor kit	
A4P	Printed circuit board
A5P	Printed circuit board
Wired remote controller	
R4T	Thermistor (air)
Connector for optional parts	
X24A	Connector (Infrared remote controller)
X33A	Connector (adapter for wiring)
X35A	Connector (Power supply for adapter)
X81A	Connector (Sensor kit)



Notes

- □ □ : Terminal block, □ □ □ □ : Connector, - □ □ □ : Field wiring
- 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 of using central remote controller, connect it to the unit in accordance with the attached installation manual.
- In case of simultaneous operation system, connection quantity of the indoor units varies according to the connection outdoor unit, confirm technical guide and catalog, etc. before connecting.
- In case of main/sub changeover, see the installation manual attached to remote controller.
- Symbols show as follows: BLK:Black RED:Red BLU:Blue WHT:White YLW:Yellow GRN:Green ORG:Orange BRN:Brown PNK:Pink.
- When connecting the input wiring from outside, forced off or on/off control operation can be selected by the remote controller See installation manual for more details.



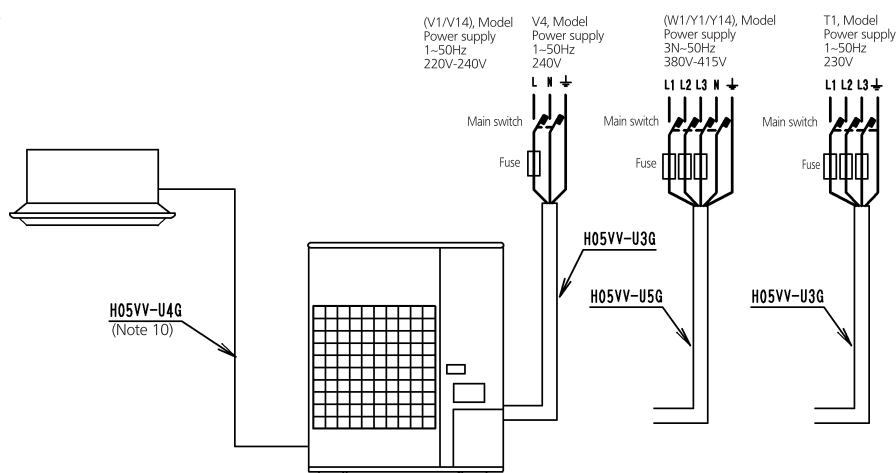
3D081395B

9 External connection diagrams

9 - 1 External Connection Diagrams

9

FFQ-C



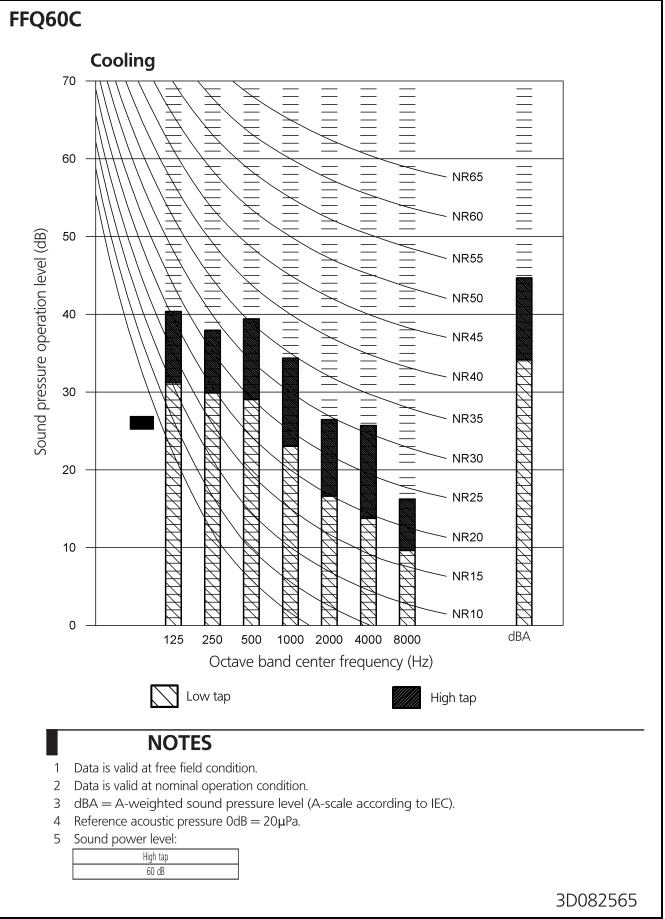
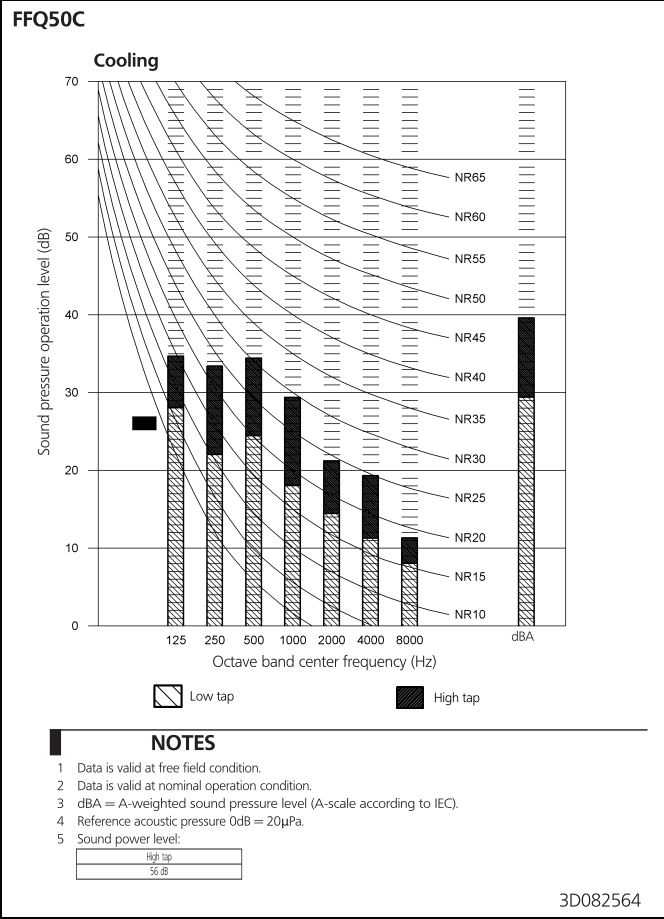
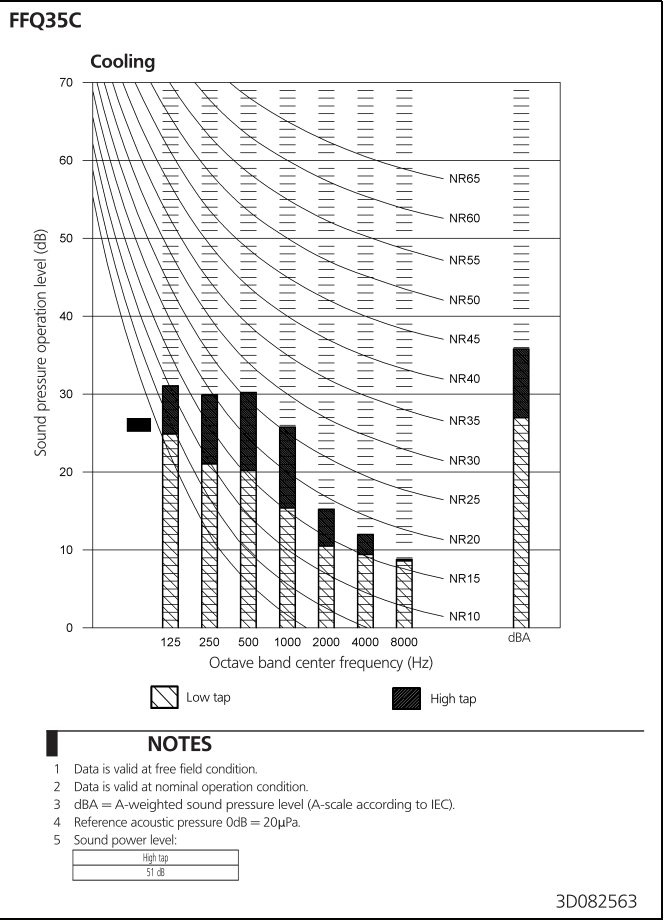
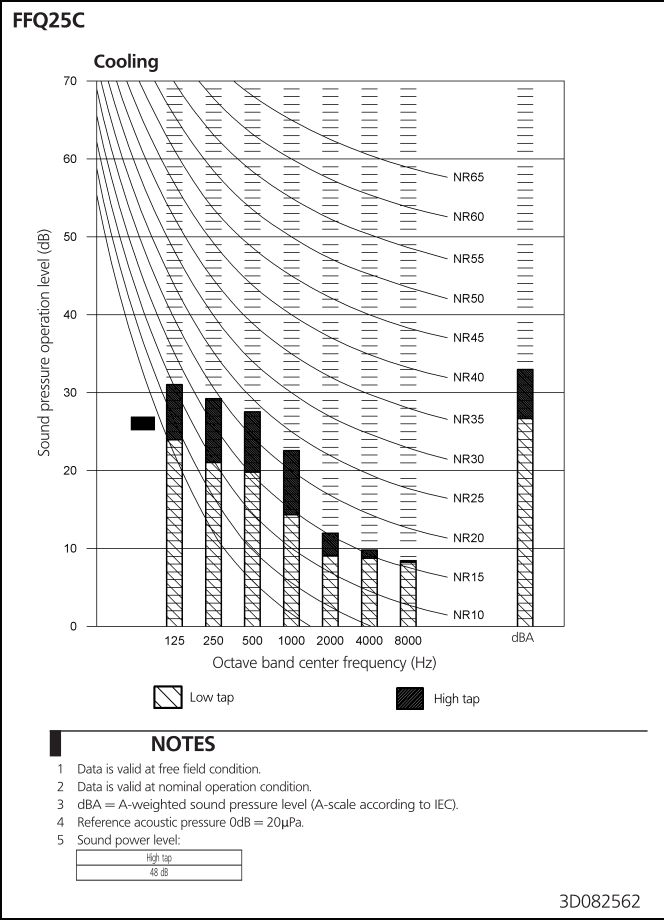
NOTES

- 1 Line voltage wiring
 Control circuit wiring
- 2 All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
- 3 Use copper conductors only.
- 4 As for details, see wiring diagram.
- 5 Install fuse and main switch for safety.
- 6 All field wiring and components must be provided by a licensed electrician.
- 7 The unit shall be grounded in compliance with the applicable local and national codes.
- 8 Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
- 9 Never share a common power supply with other equipment.
- 10 Show only in case of protected pipes. Use HO7RN-F in case of no protection.

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10 Sound data

10 - 1 Sound Pressure Spectrum - Cooling

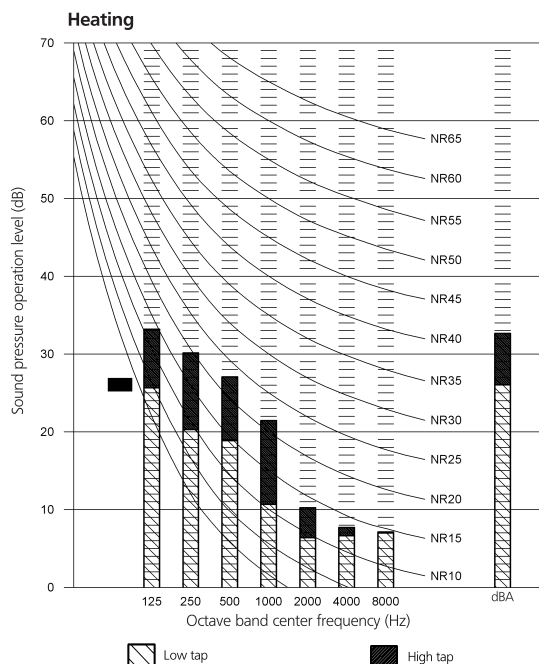


10 Sound data

10 - 2 Sound Pressure Spectrum - Heating

10

FFQ25C



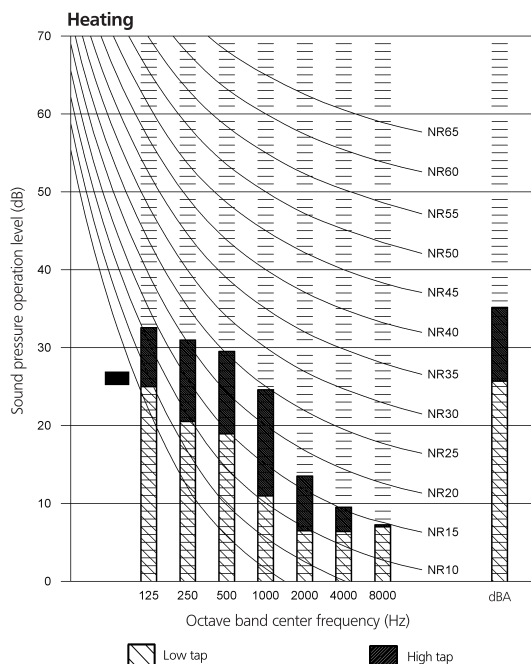
NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Sound power level:

High tap
48 dB

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FFQ35C



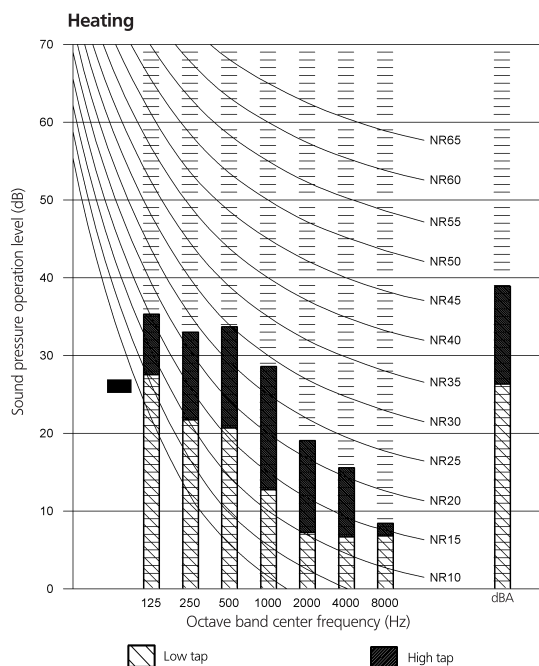
NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Sound power level:

High tap
51 dB

3D082563

FFQ50C



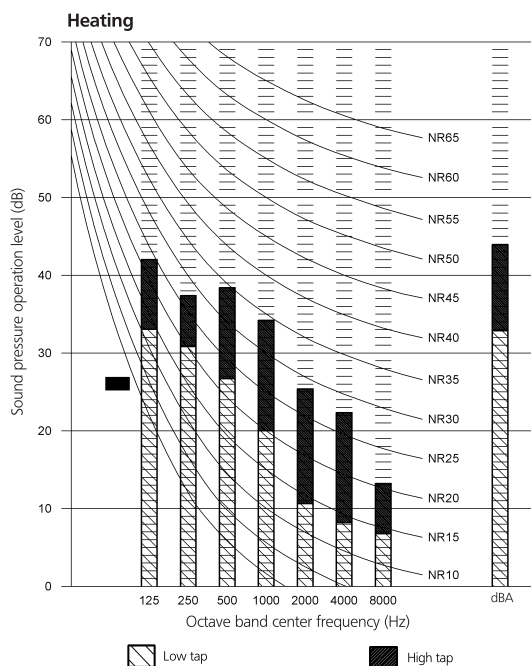
NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Sound power level:

High tap
56 dB

3D082564

FFQ60C



NOTES

- 1 Data is valid at free field condition.
- 2 Data is valid at nominal operation condition.
- 3 dBA = A-weighted sound pressure level (A-scale according to IEC).
- 4 Reference acoustic pressure 0dB = 20μPa.
- 5 Sound power level:

High tap
60 dB

3D082565



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