DAIKIN

EDUS 39 - 600 - F6

R-410A

Engineering Data

FXAQ-M
Wall Mounted Type

DAIKIN AC (AMERICAS), INC.

FXAQ-M
Wall Mounted Type

1. Features

External Appearance

- Compact and stylish design that does not detract from the decor of the room.
- Drain pan and air filter can be kept clean by mildew-proof polystyrene.
- Washable grille, the front grille can be easily removed for washing.
- Auto-swing ensures efficiency of air distribution. The louver closes automatically when the unit stops.
- 5 steps of discharge angle can be set by remote controller.
- Discharge angle is automatically set at the same angle as the previous operation when restarts. (Initial setting; 10˚ for cooling and 70˚ for heating)

2. Specifications

Wall Mounted Type

Model			FXAQ07MVJU	FXAQ09MVJU	FXAQ12MVJU
Cooling Capacity[1]		Btu/h	7,500	9,500	12,000
Heating Capacity[2]		Btu/h	8,500	10,500	13,500
Casing Color			White (3.0Y8.5/0.5)	White (3.0Y8.5/0.5)	White (3.0Y8.5/0.5)
Dimensions: (H×W×D)		in (mm)	11–3/8 × 31–1/4 ×9" (289 x 793.7 x 228.6 mm)	11–3/8 × 31–1/4 × 9" (289 x 793.7 x 228.6 mm)	11–3/8 × 31–1/4 × 9" (289 x 793.7 x 228.6 mm)
Coil (Cross Fin Coil)	Rows×Stages×FPI		2×14×17	2×14×17	2×14×17
	Face Area	ft²	1.73	1.73	1.73
Fan	Model		QCL9661M	QCL9661M	QCL9661M
	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output	kW	0.04	0.04	0.04
	Airflow Rate (H/L)	cfm	260/160	280/175	300/180
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polystyrene / Foamed Polyethylene	Foamed Polystyrene / Foamed Polyethylene	Foamed Polystyrene / Foamed Polyethylene
Air Filter			Resin Net (Washable)	Resin Net (Washable)	Resin Net (Washable)
Piping Connections	Liquid Pipes	in / mm	ϕ1/4" / 6.4 mm (Flare Connection)	ϕ1/4" / 6.4 mm (Flare Connection)	ϕ1/4" / 6.4 mm (Flare Connection)
	Gas Pipes	in / mm	ϕ1/2" / 12.7 mm (Flare Connection)	ϕ1/2" / 12.7 mm (Flare Connection)	ϕ1/2" / 12.7 mm (Flare Connection)
	Drain Pipe	in / mm	VP13 External Dia. 11/16" (17.5 mm) Internal Dia. 1/2" (12.7 mm)	VP13 External Dia. 11/16" (17.5 mm) Internal Dia. 1/2" (12.7 mm)	VP13 External Dia. 11/16" (17.5 mm) Internal Dia. 1/2" (12.7 mm)
Machine Weight (Mass)		Lbs	25	25	25
Sound Level (H)[4]		dBA	36	37	38
Safety Devices			Fuse	Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable outdoor unit			R-410A Series	R-410A Series	R-410A Series
Standard Accessories			Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tube, Clamps, Screws.	Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tube, Clamps, Screws.	Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tube, Clamps, Screws.
Drawing No.			C:3D046038A		

Notes:

1. Nominal cooling capacities are based on the following conditions:
   Return air temperature: 80°FDB, 67°FWB
   Outdoor temperature: 95°FDB
   Equivalent ref. piping length: 25ft (Horizontal)
2. Nominal heating capacities are based on the following conditions:
   Return air temperature: 70°FDB.
   Outdoor temperature: 47°FDB, 43°FWB
   Equivalent ref. piping length: 25ft / 7.5 m (Horizontal)
3. Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
4. Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of installation conditions.
5. Refer to page 10 for Power Input.

Wall Mounted Type

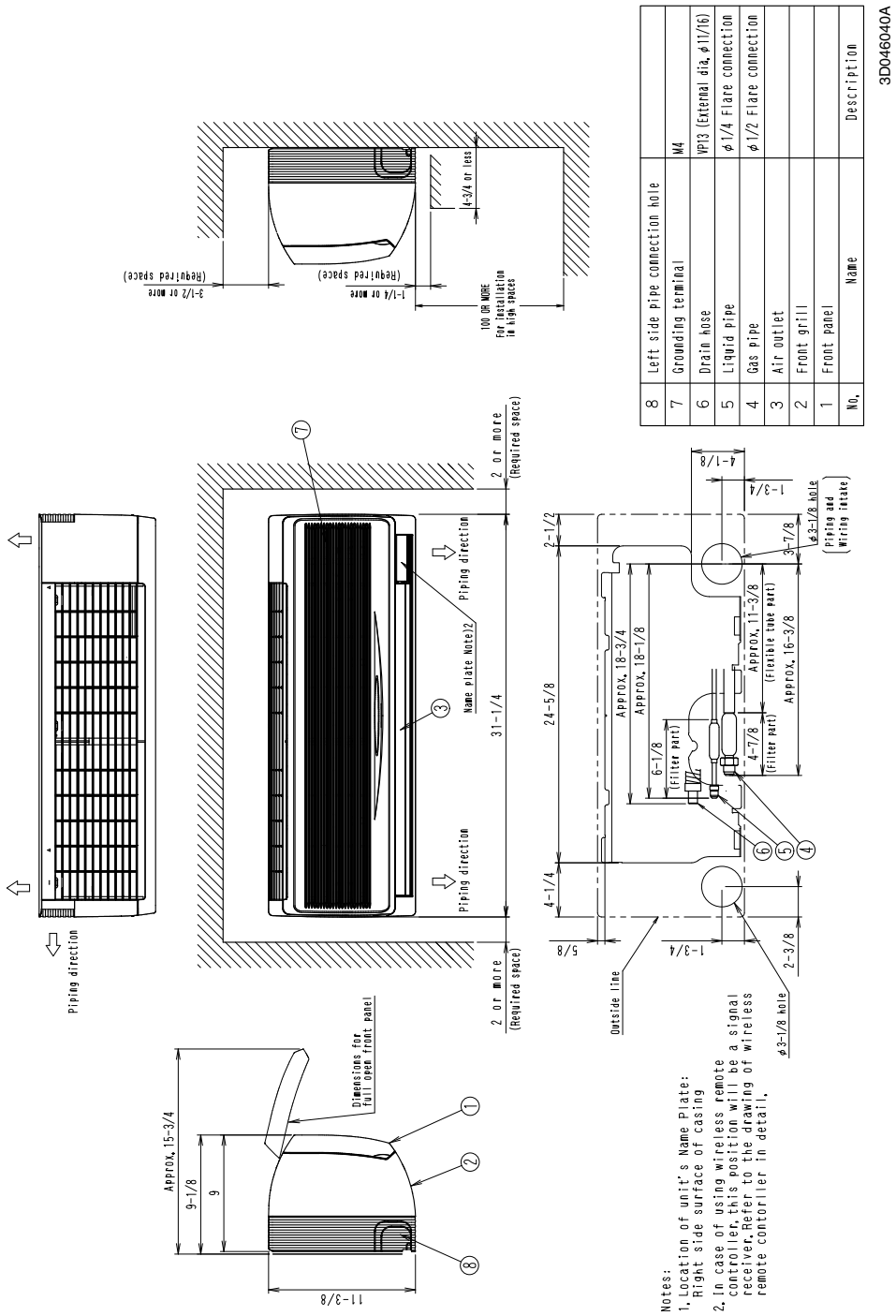
Model			FXAQ18MVJU	FXAQ24MVJU
Cooling Capacity[1]		Btu/h	18,000	24,000
Heating Capacity[2]		Btu/h	20,000	27,000
Casing Color			White (3.0Y8.5/0.5)	White (3.0Y8.5/0.5)
Dimensions: (H×W×D)		in (mm)	11–3/8 × 31–1/4 ×9" (289 x 793.7 x 228.6 mm)	11–3/8 × 41–3/8 × 911–3/8 × 31–1/4 ×9" (289 x 1051 x 228.6 mm)
Coil (Cross Fin Coil)	Rows×Stages×FPI		2×14×17	2×14×17
	Face Area	ft²	2.29	2.29
Fan	Model		QCL9686	QCL9686
	Type		Cross Flow Fan	Cross Flow Fan
	Motor Output	HP	0.058	0.058
	Air Flow Rate (H/L)	cfm	500/400	635/470
	Drive		Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polystyrene / Foamed Polyethylene	Foamed Polystyrene / Foamed Polyethylene
Air Filter			Resin Net (Washable)	Resin Net (Washable)
Piping Connections	Liquid Pipes	in / mm	ϕ1/4" / 6.4 mm (Flare Connection)	ϕ3/8" / 9.5mm (Flare Connection)
	Gas Pipes	in / mm	ϕ1/2" / 12.7 mm (Flare Connection)	ϕ5/8" / 15.8 mm (Flare Connection)
	Drain Pipe	in / mm	VP13 External Dia. 11/16" (17.5 mm) Internal Dia. 1/2" (12.7 mm)	VP13 External Dia. 11/16" (17.5 mm) Internal Dia. 1/2" (12.7 mm)
Machine Weight (Mass)		Lbs	31	31
Sound Level (H)[4]		dBA	43	47
Safety Devices			Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve
Connectable outdoor unit			R-410A Series	R-410A Series
Standard Accessories			Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tube, Clamps, Screws.	Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tube, Clamps, Screws.
Drawing No.			C:3D046038A	

Notes:

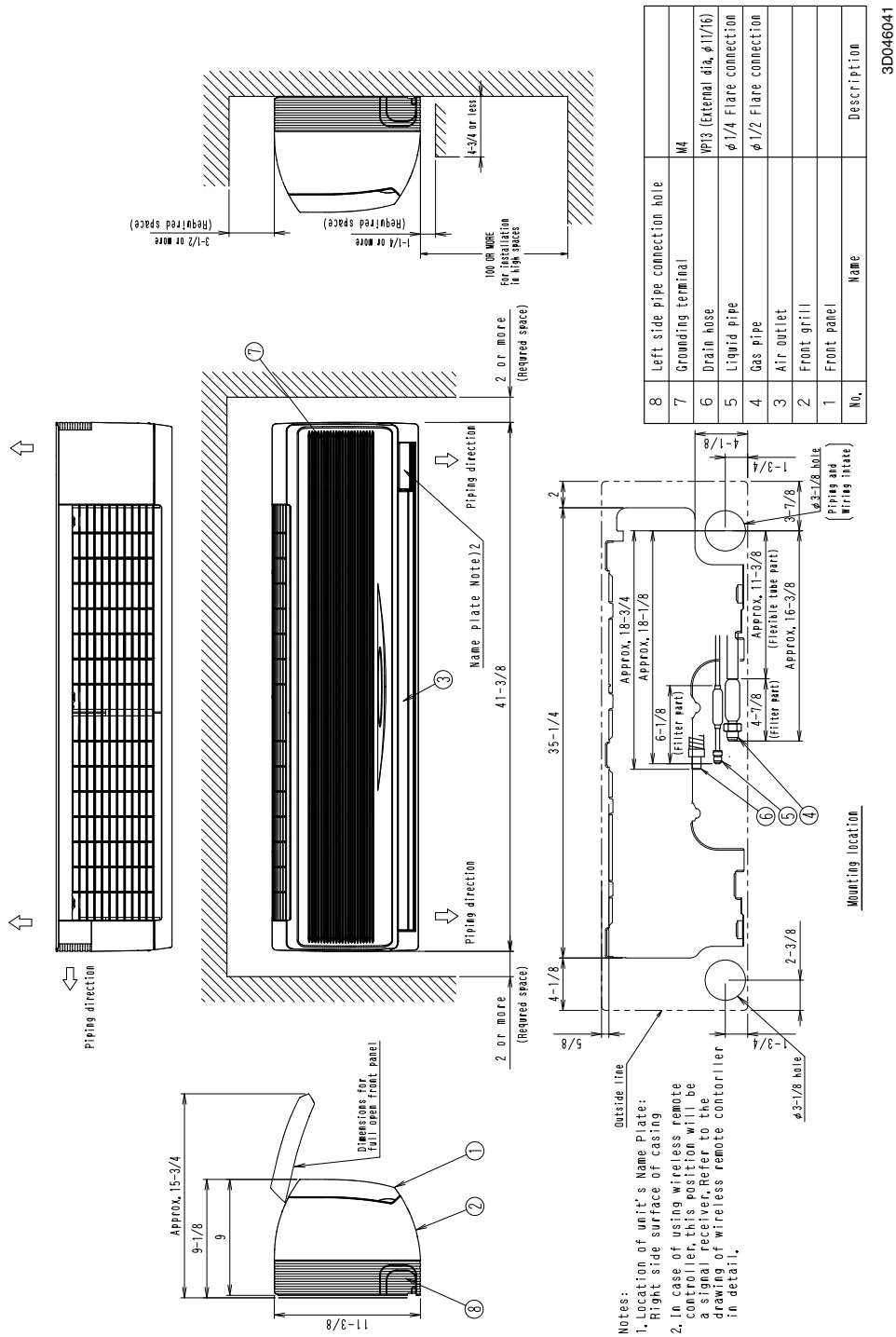
1. Nominal cooling capacities are based on the following conditions:
   Return air temperature: 80°FDB, 67°FWB
   Outdoor temperature: 95°FDB
   Equivalent ref. piping length: 25ft (Horizontal)
2. Nominal heating capacities are based on the following conditions:
   Return air temperature: 70°FDB.
   Outdoor temperature: 47°FDB, 43°FWB
   Equivalent ref. piping length: 25ft / 7.5 m (Horizontal)
3. Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
4. Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of installation conditions.
5. Refer to page 10 for Power Input.

3. Dimensions

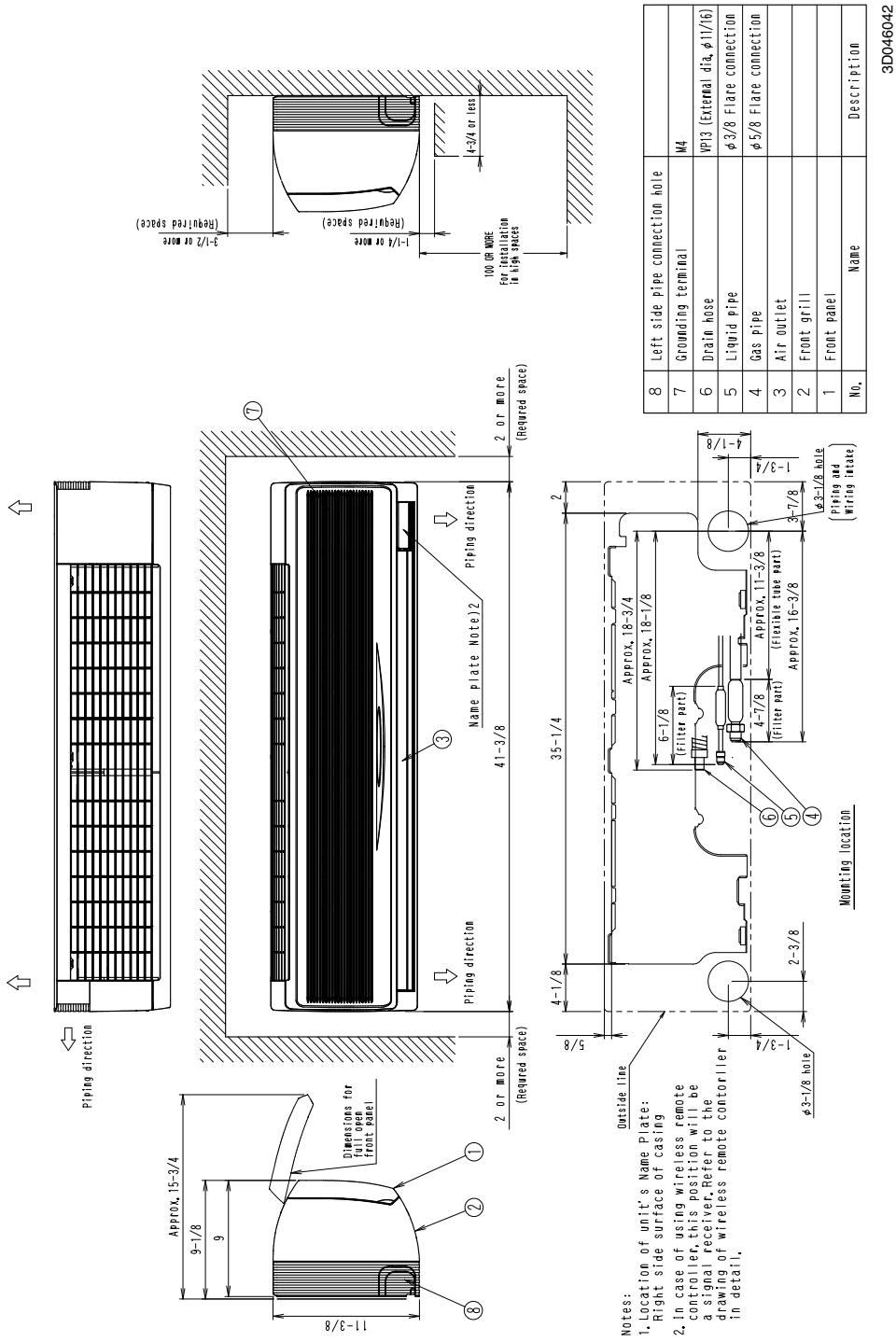
FXAQ07/09/12MVJU



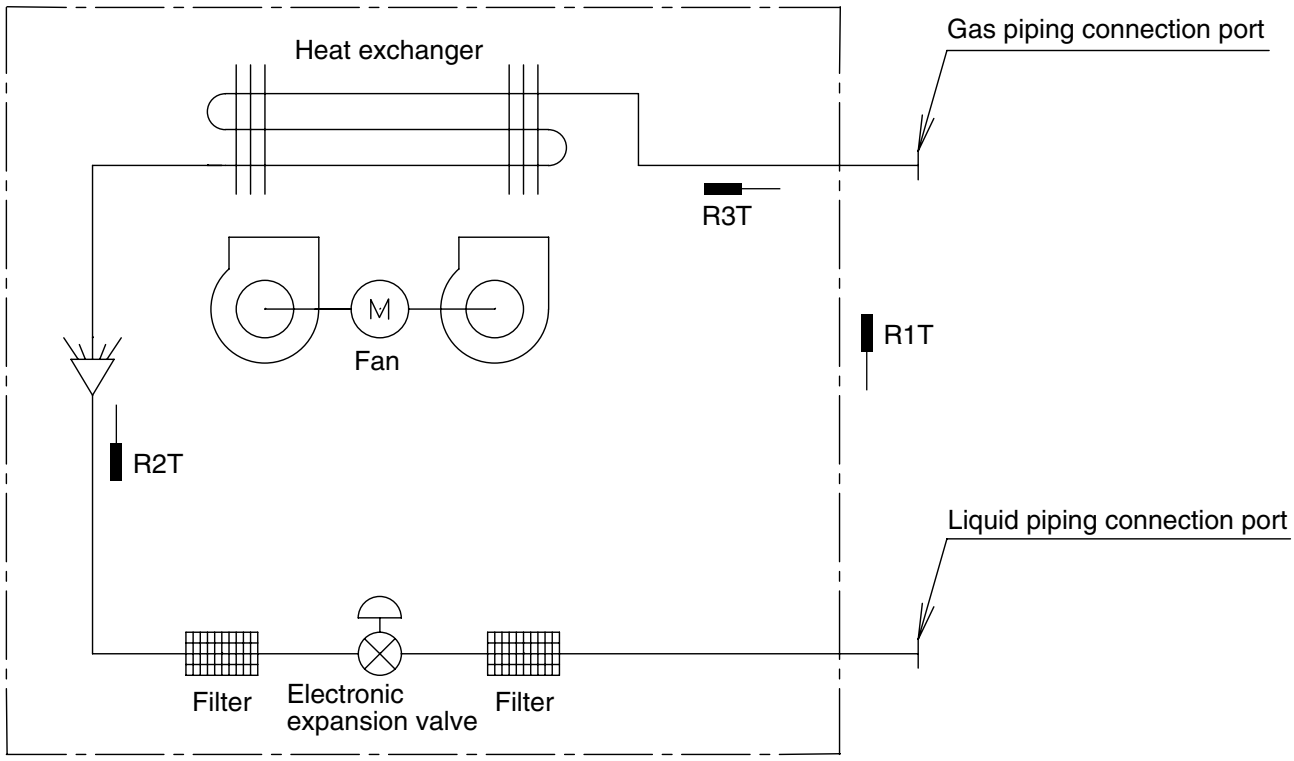
FXAQ18MVJU


3D046041
No. Name Description
1 Front panel
2 Front grill
3 Air outlet
4 Gas pipe φ1/2 Flare connection
5 Liquid pipe φ1/4 Flare connection
6 Drain hose VP13 (External dia. φ11/16)
7 Grounding terminal M4
8 Left side pipe connection hole
Piping direction
Name plate Note)2
Mounting location
Outside line
Dimensions for tall open front panel
Notes:
1. Location of unit's Name Plate: Right side surface of casing
2. In case of using wireless remote controller, this position will be a signal receiver. Refer to the drawing of wireless remote contorller in detail.

FXAQ24MVJU


3D046042
No. Name Description
8 Left side pipe connection hole
7 Grounding terminal M4
6 Drain hose VP13 (External dia. φ1 1/16)
5 Liquid pipe φ3/8 Flare connection
4 Gas pipe φ5/8 Flare connection
3 Air outlet
2 Front grill
1 Front panel
Piping direction
2 or more (Required space)
Name plate Note)2
41-3/8
35-1/4
Approx. 18-3/4
Approx. 18-1/8
6-1/8 (Filter part)
4-7/8 (Filter part)
Approx. 11-3/8 (Flexible tube part)
Approx. 16-3/8
4-1/8
1-3/4
φ3-1/8 hole (Piping and Wiring intake)
3-1/8
2-3/8
5/8
Outside line
Mounting location
Dimensions for full close front panel
Approx. 15-3/4
9-1/8
9
11-3/8
1-1/4 or more (Required space)
3-1/2 or more (Required space)
4-3/4 or less
100 OR MORE For installation in high spaces
Notes:
1. Location of unit's Name Plate: Right side surface of casing
2. In case of using wireless remote controller, this position will be a signal receiver. Refer to the drawing of wireless remote controller in detail.

4. Piping Diagrams



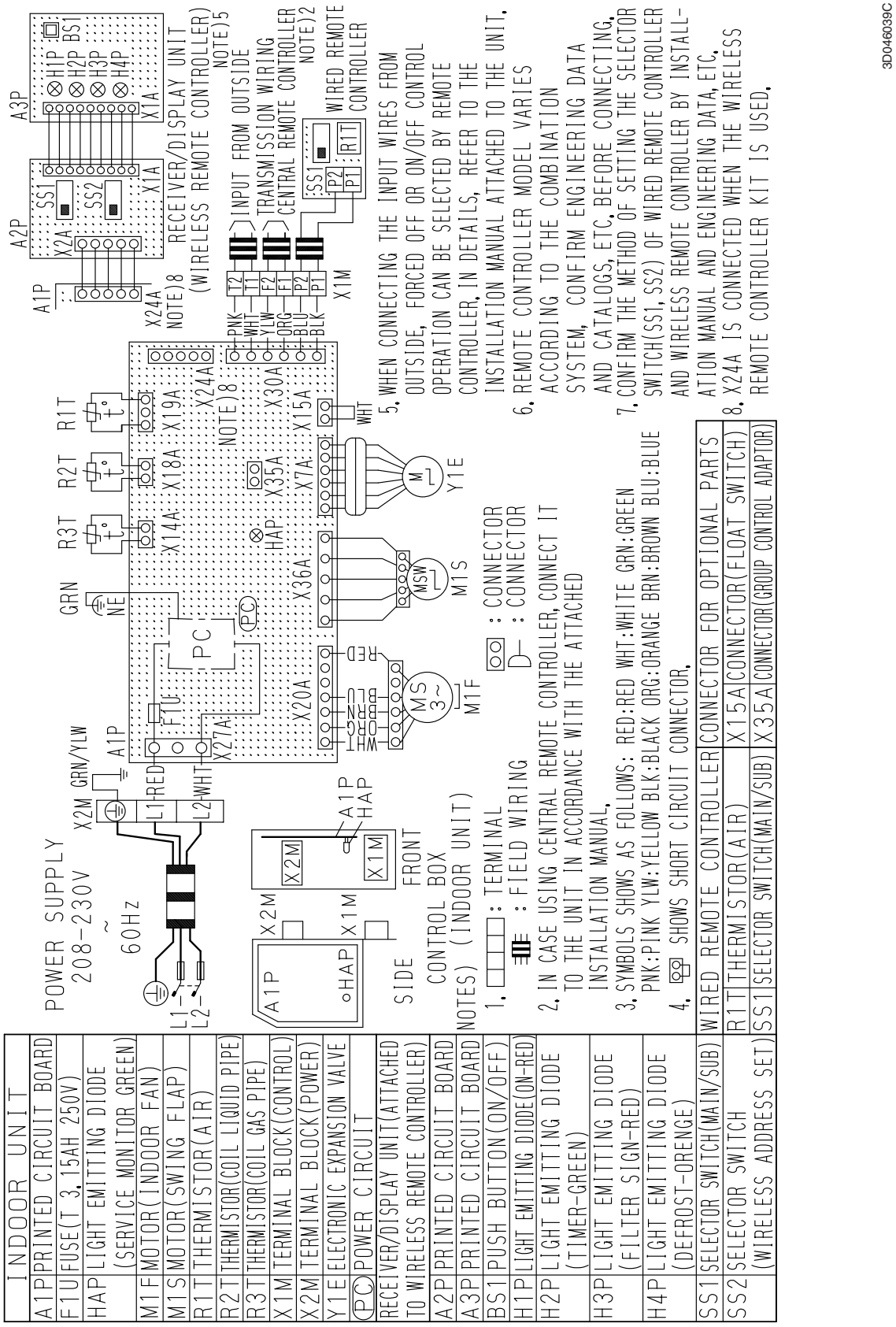
J:DU220-602J

R1T : Thermistor for suction air temperature
R2T : Thermistor for liquid line temperature
R3T : Thermistor for gas line temperature

Capacity	Gas	Liquid
07/09/12/18M	ϕ1/2 (12.7 mm)	ϕ1/4 (6.4 mm)
24M	ϕ5/8 (15.8 mm)	ϕ3/8 (9.5 mm)

5. Wiring Diagrams

FXAQ07M/09M/12M/18M/24MVJU



6. Electric Characteristics

Units					Power supply		IFM		Input(W)	
Model	Type	Hz	Volts	Voltage range	MCA	MFA	kW	FLA	Cooling	Heating
FXAQ07M	VJ	60	208-230	MAX. 253 Min. 187	0.3	15	0.040	0.2	16	24
FXAQ09M					0.3	15	0.040	0.2	22	27
FXAQ12M					0.4	15	0.040	0.3	27	32
FXAQ18M					0.4	15	0.043	0.3	27	32
FXAQ24M					0.6	15	0.043	0.5	50	60

Symbols:

MCA : Min. Circuit Amps (A)
MFA : Max. Fuse Amps (See note 5)
kW : Fan Motor Rated Output(kW)
FLA : Full Load Amps(A)
IFM : Indoor Fan Motor

Note:

1. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
2. Maximum allowable voltage unbalance between phases is 2%.
3. MCA/MFA
   MCA = 1.25 X FLA
   MFA ≦ 4 X FLA
   (Next lower standard fuse rating. Min. 15A)
4. Select wire size based on the MCA.
5. Instead of fuse, use Circuit Breaker.

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7. Capacity Tables

7.1 Cooling Capacity

FXAQ-M

Cooling capacity

Unit size	Outdoor air temp.	Indoor Air Temp. °FWB											
		61		64		67		70		72		75	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	°FDB	MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
07	75	5.9	5.6	6.7	6.1	7.5	6.4	8.3	6.6	8.8	6.8	8.9	6.5
	79	5.9	5.6	6.7	6.1	7.5	6.4	8.3	6.6	8.6	6.6	8.8	6.4
	83	5.9	5.6	6.7	6.1	7.5	6.4	8.3	6.6	8.5	6.5	8.6	6.3
	87	5.9	5.6	6.7	6.1	7.5	6.4	8.2	6.6	8.3	6.4	8.5	6.2
	91	5.9	5.6	6.7	6.1	7.5	6.4	8.1	6.6	8.2	6.4	8.4	6.1
	95	5.9	5.6	6.7	6.1	7.5	6.4	8.0	6.5	8.1	6.3	8.2	6.0
	99	5.9	5.6	6.7	6.1	7.5	6.4	7.8	6.3	7.9	6.2	8.1	5.9
	103	5.9	5.6	6.7	6.1	7.5	6.4	7.7	6.2	7.8	6.1	7.9	5.8
09	75	7.5	6.5	8.5	7.2	9.5	7.3	10.5	7.7	11.1	8.1	11.3	7.6
	79	7.5	6.5	8.5	7.2	9.5	7.3	10.5	7.7	10.9	8.0	11.1	7.4
	83	7.5	6.5	8.5	7.2	9.5	7.3	10.5	7.7	10.7	7.8	10.9	7.3
	87	7.5	6.5	8.5	7.2	9.5	7.3	10.4	7.6	10.6	7.7	10.9	7.3
	91	7.5	6.5	8.5	7.2	9.5	7.3	10.3	7.5	10.4	7.6	10.6	7.1
	95	7.5	6.5	8.5	7.2	9.5	7.3	10.1	7.4	10.2	7.4	10.4	7.0
	99	7.5	6.5	8.5	7.2	9.5	7.3	9.9	7.2	10.0	7.3	10.2	6.8
	103	7.5	6.5	8.5	7.2	9.5	7.3	9.7	7.1	9.9	7.2	10.0	6.7
12	75	9.5	7.9	10.7	8.3	12.0	8.9	13.3	9.2	14.0	9.3	14.3	8.8
	79	9.5	7.9	10.7	8.3	12.0	8.9	13.3	9.2	13.8	9.1	14.0	8.7
	83	9.5	7.9	10.7	8.3	12.0	8.9	13.3	9.2	13.6	9.1	13.8	8.6
	87	9.5	7.9	10.7	8.3	12.0	8.9	13.2	9.1	13.3	8.9	13.6	8.6
	91	9.5	7.9	10.7	8.3	12.0	8.9	13.0	9.1	13.1	8.9	13.4	8.5
	95	9.5	7.9	10.7	8.3	12.0	8.9	12.7	8.9	12.9	8.8	13.1	8.5
	99	9.5	7.9	10.7	8.3	12.0	8.9	12.5	8.9	12.7	8.7	12.9	8.4
	103	9.5	7.9	10.7	8.3	12.0	8.9	12.3	8.7	12.4	8.6	12.7	8.4
18	75	14.2	11.7	16.1	12.7	18.0	13.7	19.9	13.9	21.0	14.1	21.4	12.8
	79	14.2	11.7	16.1	12.7	18.0	13.7	19.9	13.9	20.7	13.9	21.1	12.7
	83	14.2	11.7	16.1	12.7	18.0	13.7	19.9	13.9	20.4	13.8	20.7	12.6
	87	14.2	11.7	16.1	12.7	18.0	13.7	19.8	13.8	20.0	13.6	20.4	12.6
	91	14.2	11.7	16.1	12.7	18.0	13.7	19.4	13.8	19.7	13.6	20.1	12.5
	95	14.2	11.7	16.1	12.7	18.0	13.7	19.1	13.6	19.3	13.3	19.7	12.4
	99	14.2	11.7	16.1	12.7	18.0	13.7	18.8	13.5	19.0	12.7	19.4	12.3
	103	14.2	11.7	16.1	12.7	18.0	13.7	18.4	13.3	18.7	12.5	19.0	12.2
24	75	18.9	15.3	21.5	16.5	24.0	18.0	26.5	18.3	28.0	18.5	28.5	17.1
	79	18.9	15.3	21.5	16.5	24.0	18.0	26.5	18.3	27.6	18.3	28.1	16.9
	83	18.9	15.3	21.5	16.5	24.0	18.0	26.5	18.3	27.1	18.2	27.6	16.8
	87	18.9	15.3	21.5	16.5	24.0	18.0	26.4	18.2	26.7	18.0	27.2	16.6
	91	18.9	15.3	21.5	16.5	24.0	18.0	25.9	18.1	26.2	17.8	26.7	16.4
	95	18.9	15.3	21.5	16.5	24.0	18.0	25.5	17.8	25.8	17.6	26.3	16.2
	99	18.9	15.3	21.5	16.5	24.0	18.0	25.0	17.8	25.3	17.4	25.8	15.9
	103	18.9	15.3	21.5	16.5	24.0	18.0	24.6	17.4	24.9	17.2	25.4	15.7

TC : Total capacity ; kW
SHC : Sensible heat capacity ; kW

Refer to Outdoor Unit Capacity Tables for the actual performance data of each indoor and outdoor unit combination.

7.2 Heating Capacity

FXAQ-M

Heating Capacity

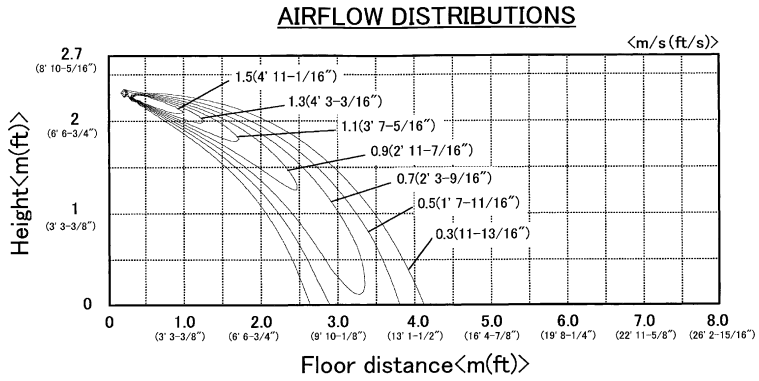
Indoor unit	Outdoor Air Temp.		Indoor Air Temp. °FDB					
			62	65	68	70	72	75
			TC	TC	TC	TC	TC	TC
	°FDB	°FWB	MBh	MBh	MBh	MBh	MBh	MBh
07	22.0	20.0	7.3	7.3	7.3	7.3	7.3	7.2
	26.0	24.0	7.6	7.6	7.6	7.6	7.6	7.6
	30.0	28.0	8.0	8.0	8.0	8.0	7.9	7.7
	35.0	32.0	8.3	8.3	8.3	8.3	8.1	7.7
	39.0	36.0	8.7	8.7	8.7	8.4	8.1	7.7
	44.0	40.0	9.0	9.0	8.7	8.5	8.1	7.7
	47.0	43.0	9.3	9.2	8.7	8.5	8.1	7.7
	51.0	47.0	9.6	9.2	8.7	8.5	8.1	7.7
	54.0	50.0	9.7	9.2	8.7	8.5	8.1	7.7
	57.0	53.0	9.7	9.2	8.7	8.5	8.1	7.7
	60.0	56.0	9.7	9.2	8.7	8.5	8.1	7.7
09	22.0	20.0	9.2	9.2	9.2	9.2	9.2	9.2
	26.0	24.0	9.7	9.7	9.6	9.6	9.6	9.6
	30.0	28.0	10.1	10.1	10.1	10.1	10.1	9.7
	35.0	32.0	10.6	10.5	10.5	10.5	10.3	9.7
	39.0	36.0	11.0	11.0	11.0	10.5	10.3	9.7
	44.0	40.0	11.4	11.4	11.1	10.5	10.3	9.7
	47.0	43.0	11.8	11.7	11.1	10.5	10.3	9.7
	51.0	47.0	12.2	11.7	11.1	10.5	10.3	9.7
	54.0	50.0	12.3	11.7	11.1	10.5	10.3	9.7
	57.0	53.0	12.3	11.7	11.1	10.5	10.3	9.7
	60.0	56.0	12.3	11.7	11.1	10.5	10.3	9.7
12	22.0	20.0	11.7	11.7	11.6	11.6	11.6	11.6
	26.0	24.0	12.2	12.2	12.2	12.2	12.2	12.1
	30.0	28.0	12.8	12.8	12.7	12.7	12.7	12.3
	35.0	32.0	13.3	13.3	13.3	13.3	13.0	12.3
	39.0	36.0	13.9	13.9	13.9	13.5	13.0	12.3
	44.0	40.0	14.5	14.4	14.0	13.5	13.0	12.3
	47.0	43.0	14.9	14.7	14.0	13.5	13.0	12.3
	51.0	47.0	15.4	14.7	14.0	13.5	13.0	12.3
	54.0	50.0	15.5	14.7	14.0	13.5	13.0	12.3
	57.0	53.0	15.5	14.7	14.0	13.5	13.0	12.3
	60.0	56.0	15.5	14.7	14.0	13.5	13.0	12.3
18	22.0	20.0	17.5	17.5	17.4	17.4	17.4	17.4
	26.0	24.0	18.3	18.3	18.3	18.3	18.2	18.2
	30.0	28.0	19.2	19.1	19.1	19.1	19.1	18.4
	35.0	32.0	20.0	20.0	19.9	19.9	19.5	18.4
	39.0	36.0	20.8	20.8	20.8	20.0	19.5	18.4
	44.0	40.0	21.7	21.6	21.0	20.0	19.5	18.4
	47.0	43.0	22.3	22.1	21.0	20.0	19.5	18.4
	51.0	47.0	23.1	22.1	21.0	20.0	19.5	18.4
	54.0	50.0	23.2	22.1	21.0	20.0	19.5	18.4
	57.0	53.0	23.2	22.1	21.0	20.0	19.5	18.4
	60.0	56.0	23.2	22.1	21.0	20.0	19.5	18.4
24	22.0	20.0	23.3	23.3	23.3	23.2	23.2	23.2
	26.0	24.0	24.5	24.4	24.4	24.3	24.3	24.3
	30.0	28.0	25.6	25.5	25.5	25.5	25.4	24.5
	35.0	32.0	26.7	26.6	26.6	26.6	26.0	24.5
	39.0	36.0	27.8	27.7	27.7	27.0	26.0	24.5
	44.0	40.0	28.9	28.9	28.0	27.0	26.0	24.5
	47.0	43.0	29.7	29.5	28.0	27.0	26.0	24.5
	51.0	47.0	30.8	29.5	28.0	27.0	26.0	24.5
	54.0	50.0	31.0	29.5	28.0	27.0	26.0	24.5
	57.0	53.0	31.0	29.5	28.0	27.0	26.0	24.5
	60.0	56.0	31.0	29.5	28.0	27.0	26.0	24.5

Refer to Outdoor Unit Capacity Tables for the actual performance data of each indoor and outdoor unit combination.

8. Air Velocity and Temperature Distributions

FXAQ07M <Cooling mode>

AIRFLOW DISTRIBUTIONS



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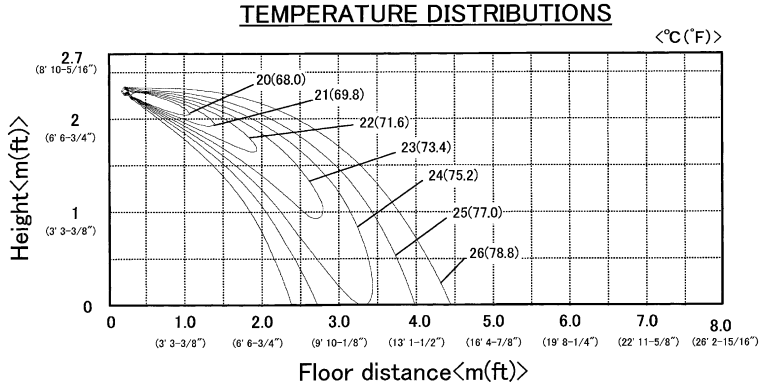

FXAQ07M <Heating mode>

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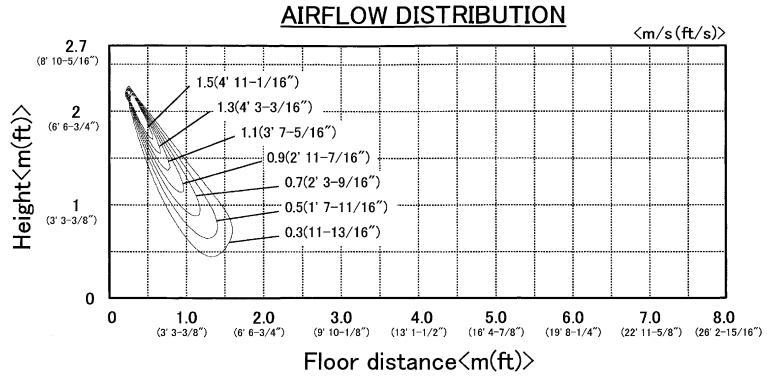

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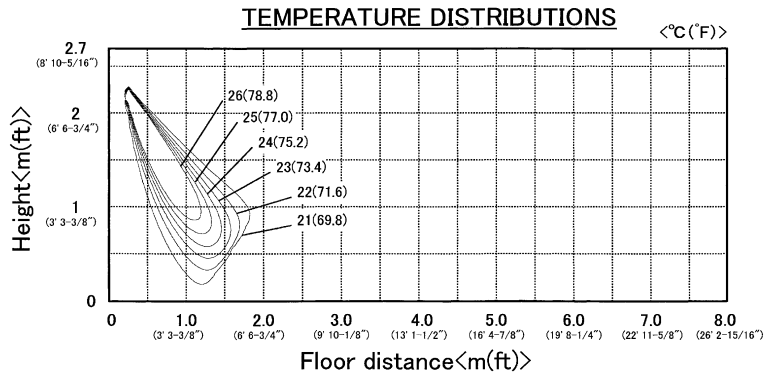
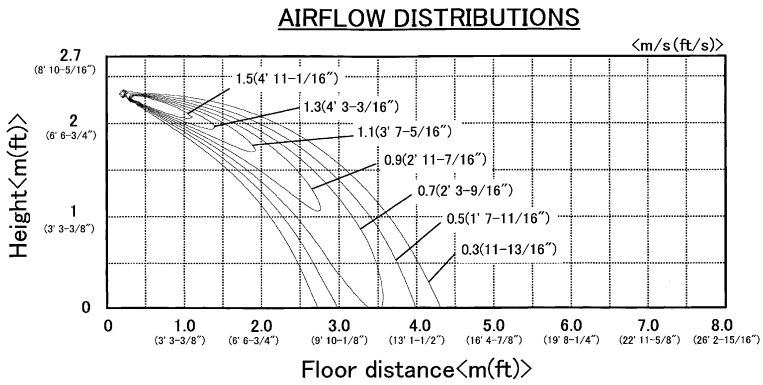


3D053942

FXAQ09M <Cooling mode>

AIRFLOW DISTRIBUTIONS



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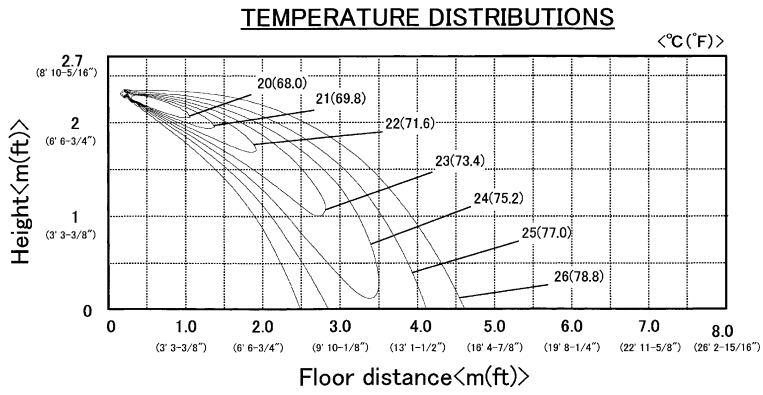

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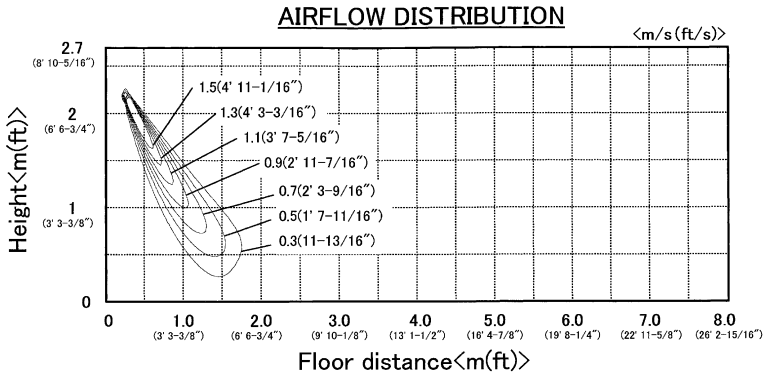

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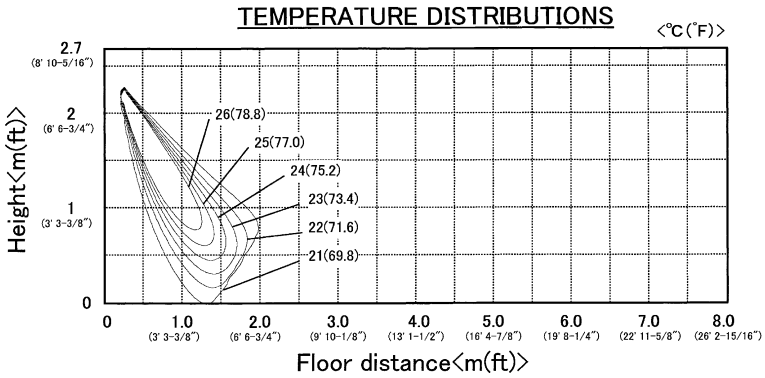

3D053943

FXAQ12M <Cooling mode>

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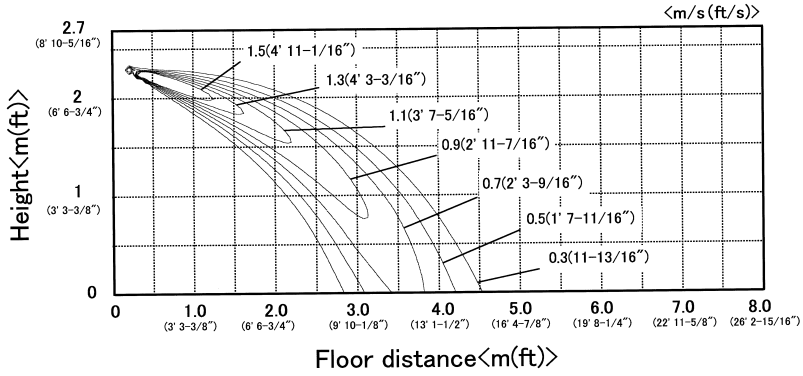

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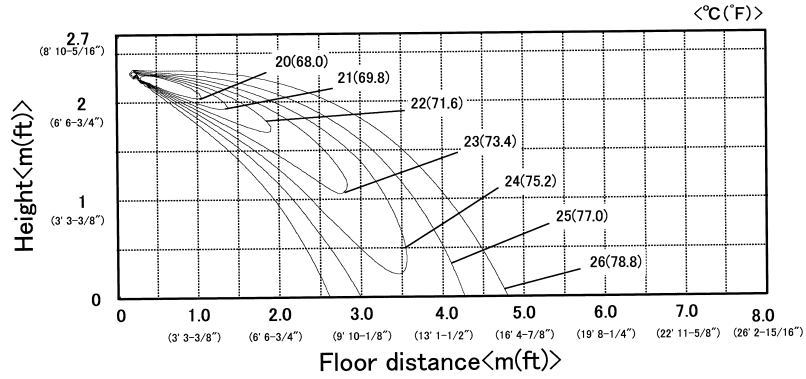

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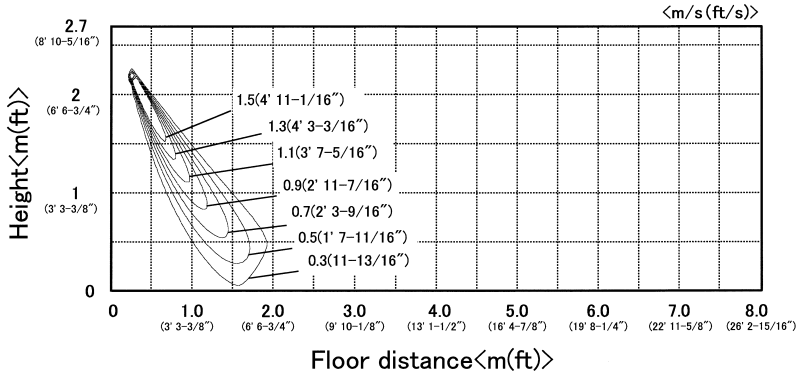

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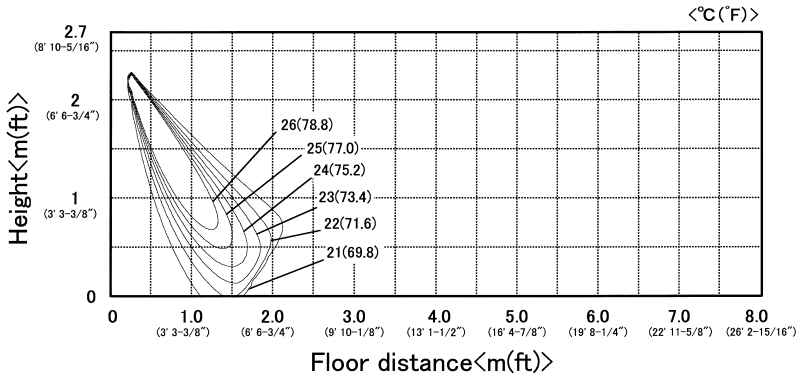

3D052935

FXAQ18M <Cooling mode>

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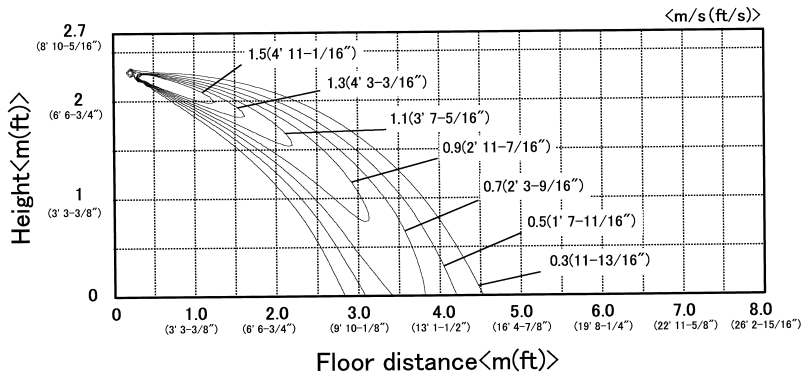

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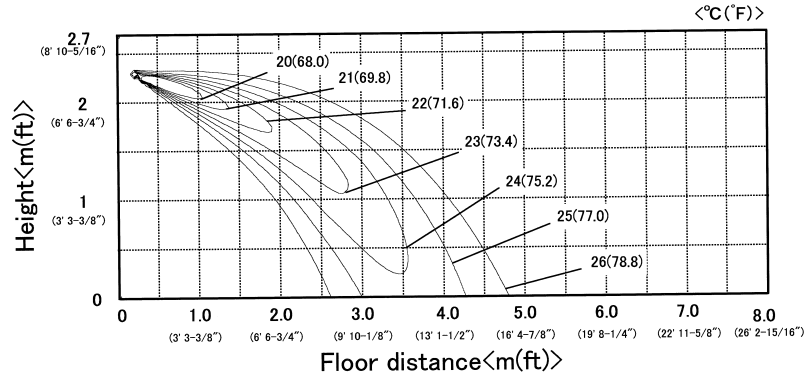

FXAQ18M <Heating mode>

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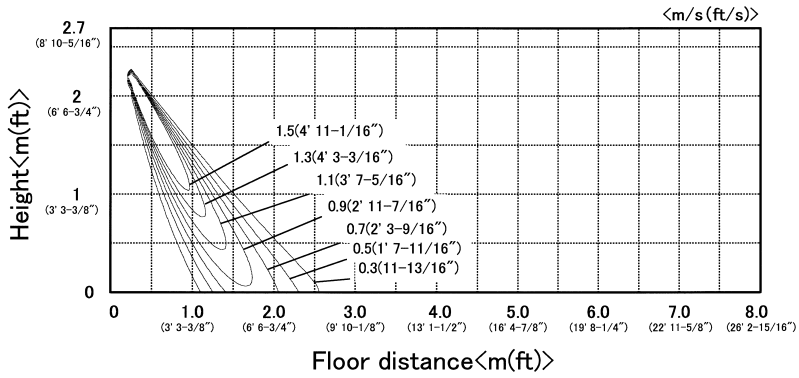

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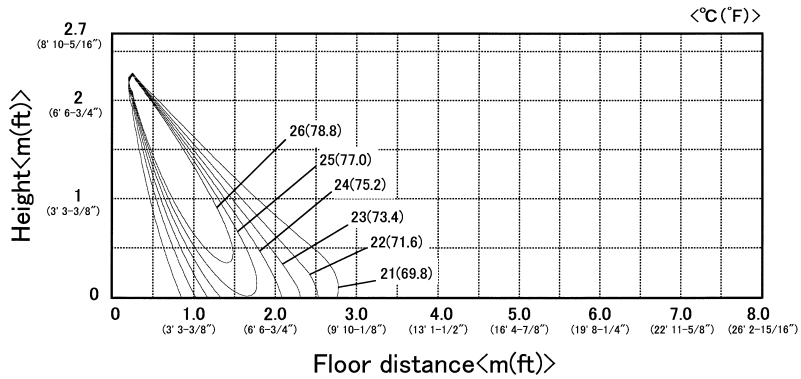
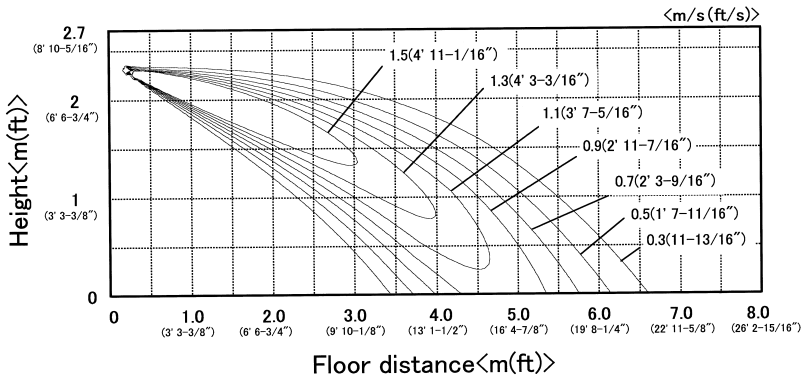


3D052936

FXAQ24M <Cooling mode>

AIRFLOW DISTRIBUTIONS



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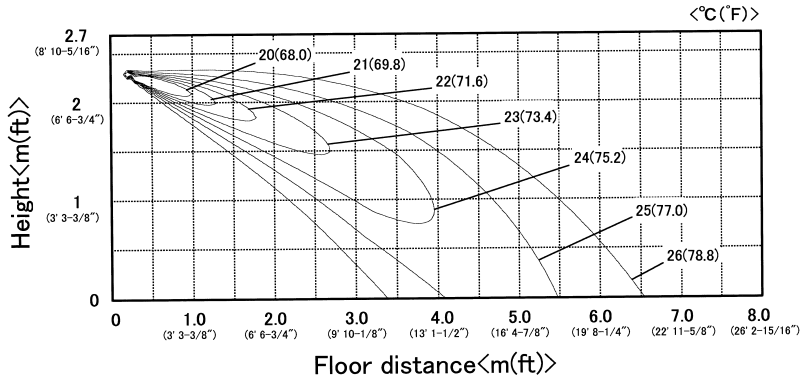
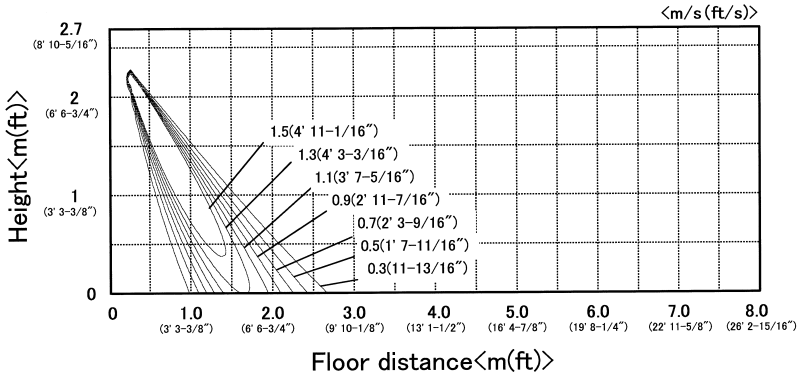


FXAQ24M <Heating mode>

AIRFLOW DISTRIBUTIONS



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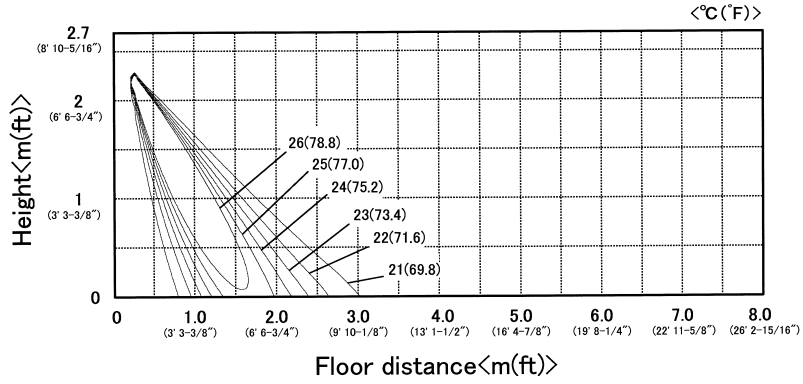
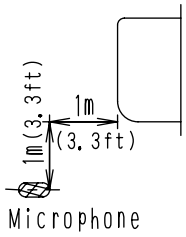


3D052937

9. Sound Levels

Overall

■ **Wall-Mounted Type**



Notes:
Operation noise differs with operation and ambient conditions.

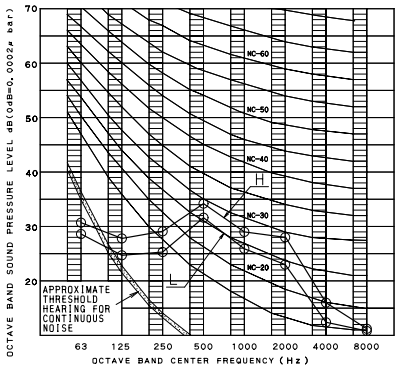
dBA

Model	208~230V, 60Hz	
	H	L
FXAQ07MVJU	36	31
FXAQ09MVJU	37	31
FXAQ12MVJU	38	31
FXAQ18MVJU	43	37
FXAQ24MVJU	47	40

Octave Band Level

○——○ 208V~230V

FXAQ07MVJU



4D055848

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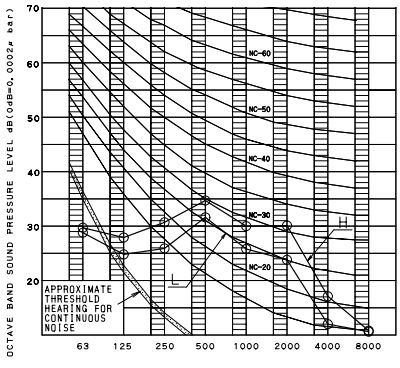

4D055849

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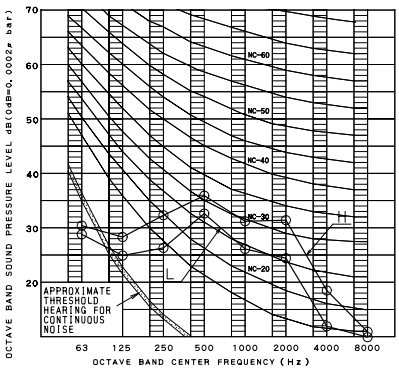
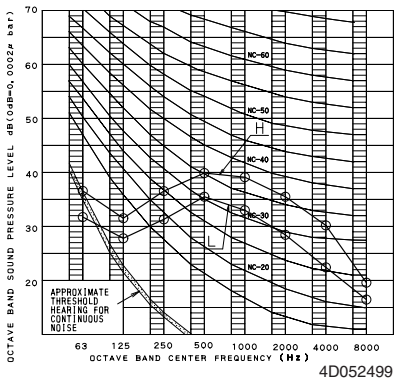


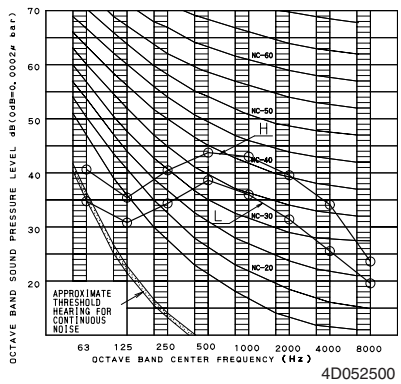
4D052498A

FXAQ18MVJU



4D052499

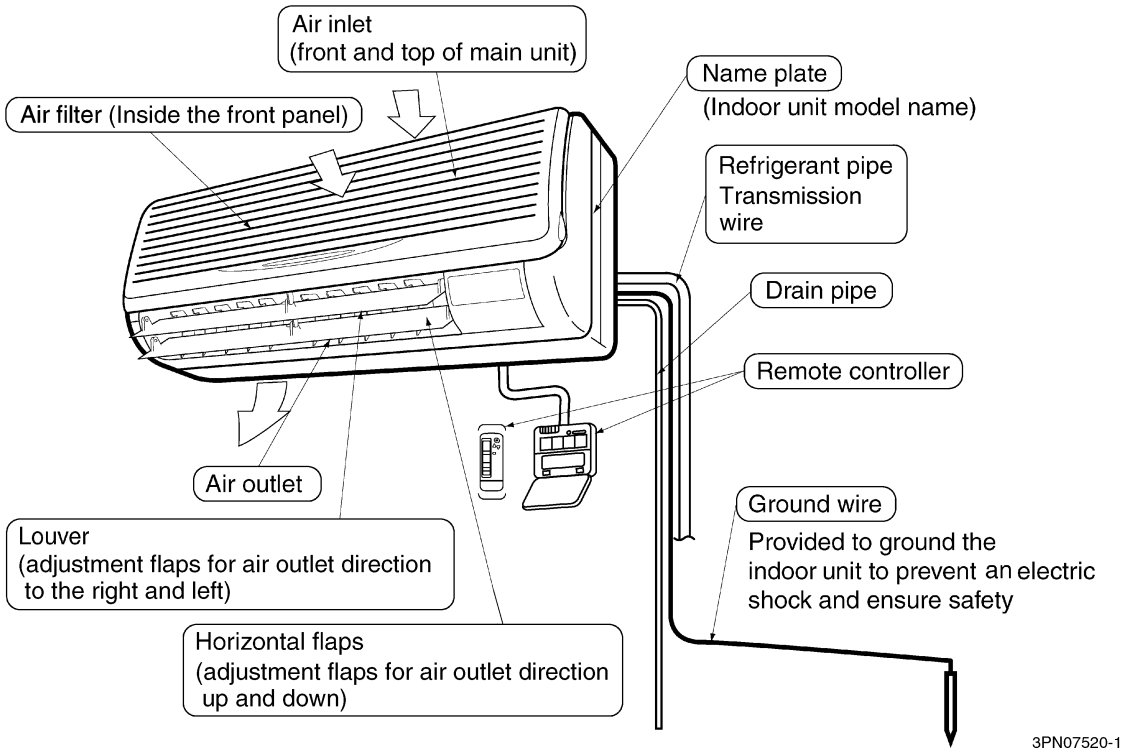
FXAQ24MVJU



4D052500

10. Installation

Installation Example



1. SAFETY CONSIDERATIONS

Read these SAFETY CONSIDERATIONS carefully before installing air conditioning equipment and be sure to install it correctly. After completing the installation, make sure that the unit operates properly during the start-up operation.

Instruct the customer how to operate and maintain the unit.

Inform customers that they should store this Installation Manual with the Operation Manual for future reference.

Always use a licensed installer or contractor to install this product. Improper installation can result in water or refrigerant leakage, electrical shock, fire, or explosion.

Meanings of DANGER, WARNING, CAUTION, and NOTE symbols:

⚠ **DANGER** ..... Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ **WARNING** ..... Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION** ..... Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

⚠ **NOTE** ..... Indicates situation that may result in equipment or propertydamage accidents only.

⚠ DANGER

- **Do not ground units to water pipes, telephone wires, or lightning rods because incomplete grounding can cause a severe shock hazard resulting in severe injury or death. Do not ground units to gas pipes because a gas leak can result in an explosion which could lead to severe injury or death.**
- **Do not install unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.**
- **Any abnormalities in the operation of the air conditioner, such as smoke or fire, can result in severe injury or death. Turn off the power and contact your dealer immediately for instructions.**
- **Refrigerant gas is heavier than air and displaces oxygen. A massive leak could lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.**
- **If the refrigerant gas leaks during installation, ventilate the area immediately.**
  Refrigerant gas may produce toxic gas if it comes in contact with fire such as from a fan, heater, stove or cooking device. Exposure to this gas could result in severe injury or death.
- **Do not install the unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.**
- **If equipment utilizing a burner is used in the same room as the air conditioner, there is the danger of oxygen deficiency which can lead to an asphyxiation hazard resulting in serious injury or death. Be sure to ventilate the room.**
- **After completing the installation work, check that the refrigerant gas does not leak.**
  Refrigerant gas may produce toxic gas if it comes in contact with fire such as from a fan, heater, stove or cooking device. Exposure to this gas could result in severe injury or death.
- **Safely dispose of the packing materials.**
  Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries. Tear apart and throw away plastic packaging bags so that children will not play with them. Children playing with plastic bags face the danger of death by suffocation.

⚠ WARNING

- **Ask your dealer or an authorized personnel to carry out installation work. Do not try to install the unit by yourself.**
  Improper installation may result in water leakage, electric shocks or fire.
- **Perform installation work in accordance with this installation manual.**

Improper installation may result in water leakage, electric shocks or fire.

- **Be sure to use only the specified accessories and parts for installation work.**
  Failure to use the specified parts may result in water leakage, electric shocks, fire or the unit falling.
- **Install the air conditioner on a foundation strong enough to withstand the weight of the unit.**
  A foundation of insufficient strength may result in the equipment falling and causing injuries.
- **Carry out the specified installation work after taking account of strong winds, typhoons or earthquakes.**
  Improper installation work may result in the equipment falling and causing accidents.
- **Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by an authorized personnel according to local laws and regulations and this installation manual.**
  An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.
- **Make sure that all wiring is secured, the specified wires are used, and no external forces act on the terminal connections or wires.**
  Improper connections or installation may result in fire.
- **When wiring the power supply and connecting the remote controller wiring and transmission wiring, position the wires so that the electric parts box lid can be securely fastened.**
  Improper positioning of the electric parts box lid may result in electric shocks, fire or the terminals overheating.

⚠ CAUTION

- **Before touching electrical parts, turn off the unit.**
- **Do not touch the switch with wet fingers.**
  Touching a switch with wet fingers can cause electric shock.
- **Be sure to install a ground leakage breaker.**
  Failure to install a ground leakage breaker may result in electric shocks, or fire.
- **Do not install the air conditioner in the following locations:**
  (a) Where a mineral oil mist or an oil spray or vapor is produced, for example in a kitchen. Plastic parts may deteriorate and fall off or result in water leakage.
  (b) Where corrosive gas, such as sulfurous acid gas, is produced. Corroding copper pipes or soldered parts may result in refrigerant leakage.
  (c) Near machinery emitting electromagnetic waves. Electromagnetic waves may disturb the operation of the control system and result in a malfunction of the equipment.
  (d) Where flammable gases may leak, where there are carbon fiber or ignitable dust suspensions in the air, or where volatile liquids such as thinner or gasoline are handled.
  Operating the unit in such conditions may result in fire.
- **Heat exchanger fins are sharp enough to cut.**
  To avoid injury, wear gloves or cover the fins when working around them.
- **Refrigerant pipes may be very hot or very cold during or immediately after operation.**
  Touching them could result in burns or frostbite. To avoid injury give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- **While following the instructions in this installation manual, insulate piping in order to prevent condensation.**
  Improper piping insulation may result in water leakage and property damage.
- **Be very careful about product transportation.**
  Some products use PP bands for packaging. Do not use any PP bands for a means of transportation. It is dangerous.
- **Do not turn off the power immediately after stopping operation.**
  Always wait at least five minutes before turning off the power. Otherwise, water leakage or other problems may occur.
- **Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.**
  Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.

⚠ NOTE

- **Install the indoor and outdoor units, power supply wiring, and connecting wires at least 3.5 ft. away from televisions or radios in order to prevent image interference or noise.**
  Depending on the radio waves, a distance of 3.5 ft. may not be sufficient to eliminate noise.
- **Remote controller (wireless kit) transmitting distance is shorter than expected in rooms with electronic fluorescent lamps**
  Install the indoor unit as far away from fluorescent lamps as possible.
- **Dismantling of the unit, and treatment of refrigerant, oil, and other parts, should be performed in**

accordance with the relevant local and national regulations.

2. BEFORE INSTALLATION

- **When moving the unit while removing it from the packing case, be sure to lift it by the four hanger brackets. Avoid putting any pressure on other parts, especially, horizontal flaps, the refrigerant piping, drain piping, and other resin parts.**
- Be sure to remove a cushion (corrugated paper) located between the heat exchanger and the right air filter.
- Be sure to check the type of R-410A refrigerant to be used before installing the unit. (Using an incorrect refrigerant will prevent normal operation of the unit.
- The accessories needed for installation must be retained in your custody until the installation work is completed. Do not discard them!
- Decide upon a line of transport.
- Leave the unit inside its packaging while until reaching the installation site. Where unpacking is unavoidable, use a sling of soft material or protective plates together with a rope when lifting, to avoid damage or scratches to the unit.
- For the installation of an outdoor unit, refer to the installation manual attached to the outdoor unit.
- When using the wireless remote controller, refer to the installation manual attached to the wireless remote controller.

⚠ NOTE

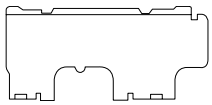
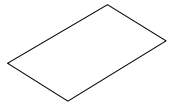
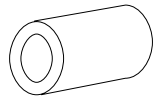
- Be sure to read this manual before installing the indoor unit.
- Do not install or operate the unit in rooms with the following conditions:
  - **Laden with mineral oil, or filled with oil vapor or spray like in kitchens. (Plastic parts may deteriorate which could eventually cause the unit to fall out of place, or could lead to leaks.)**
  - **Where corrosive gas like sulfurous gas exists. Copper tubing and brazed spots may corrode which could eventually lead to refrigerant leaks.**
  - **Where machines can generate electromagnetic waves. (Control system may malfunction.)**
  - **Where the air contains high levels of salt such as that near the ocean and where voltage fluctuates greatly such as that in factories.**
    Also in vehicles or vessels.
- This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment.
  If installed as a household appliance it could cause electromagnetic interference.

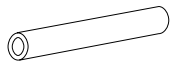
⚠ WARNING

- Entrust installation to the place of purchase or an authorized service man. Improper installation could lead to leaks and, in worse cases, electric shock of fire.
- Use of unspecified parts could lead to the unit falling, leaks and, in worse cases, electric shock or fire.
-

2-1 ACCESSORIES

Check that the following accessories are included with your unit.

Name	(1) Installation panel	(2) Attachment screws for the installation panel	(3) Paper pattern for installation	(4) Insulating tape
Quantity	1 set	8 pcs. → FXAQ07, 09, 12 type 9 pcs. → FXAQ18, 24 type	1 pc.	1 pc.
Shape		 M4 × 25L		

Name	(5) Clamp	(6) Securing screws	(7) Insulating tube	
Quantity	1 large 4 small	2 pcs.	1 long 1 short	
Shape		 M4 × 12L		• Operation manual • Installation manual

2-2 OPTIONAL ACCESSORIES

Remote controller type	Model
Wired type	BRC1D71
Wireless type	BRC7E818

FOR THE FOLLOWING ITEMS, TAKE SPECIAL CARE DURING CONSTRUCTION AND CHECK AFTER INSTALLATION IS FINISHED.

1. Items to be checked after completion of work

Items to be checked	If not properly installed, the following malfunctions can occur:	Check
Are the indoor and outdoor unit fixed firmly?	Unit drops, vibrates, or makes noise.	
Is the gas leak test finished?	Insufficient cooling	
Is the unit fully insulated?	Dripping condensate water	
Does drainage flow smoothly?	Dripping condensate water	
Does the power supply voltage correspond to that shown on the name plate?	Unit malfunction or burned out components.	
Are wiring and piping correct?	Unit malfunction or burned out components.	
Is the unit safely grounded?	Danger of electric leakage	
Is wiring size according to specifications?	Unit malfunction or burned out components.	
Is something blocking the air outlet or inlet of either the indoor or outdoor units?	Insufficient cooling	
Are refrigerant piping length and additional refrigerant charge noted down?	Refrigerant charge is not clear.	

2. Items to be checked at time of delivery:

Review SAFETY CONSIDERATIONS	Check
Did you explain about operations while showing the operation manual to your customer?	
Did you hand the operation manual over to your customer?	

2-3 NOTE TO THE INSTALLER

Be sure to instruct customers how to properly operate the unit (especially cleaning filters, operating different functions, and adjusting the temperature) by having them carry out operations themselves while looking at the

manual.

3. SELECTING INSTALLATION SITE

1. Select an installation site that meets your customer's approveal and where the following requirements are fulfilled:

- Upper space (including the back of the ceiling) of the indoor unit has no possibility of water dripping. from the refrigerant pipe, drain pipe, water pipe, or any other source.
- Wall is strong enough to bear the indoor unit weight.
- Sufficient clearance for installation and maintenance can be ensured.
  (Refer to Fig. 1 and Fig. 2)
- Optimum air distribution can be ensured.
- Nothing blocks the air passage.
- Condensate can be properly drained.
- Wall is not significantly tilted.
- Piping between indoor and outdoor units is possible within the allowable limit.
  (Refer to the installation manual of the outdoor unit.)
- Install the indoor and outdoor units, power supply wiring, and connecting wires at least 3.5 ft. away from televisions or radios in order to prevent image interference or noise.
  (Depending on the radio waves, a distance of 3.5 ft. may not be sufficient enough to eliminate the noise.)
- Cool (or warm) air reaches all across the room.

[Space required for installation (in.)]

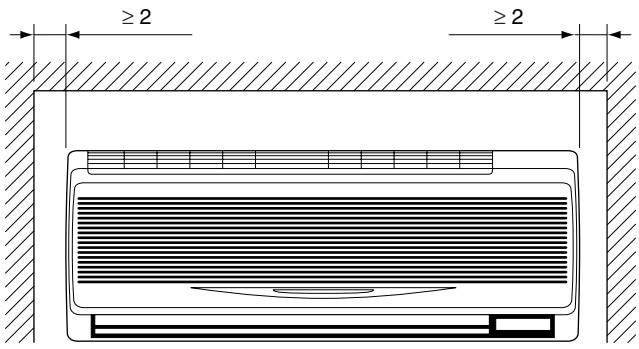


Fig. 1

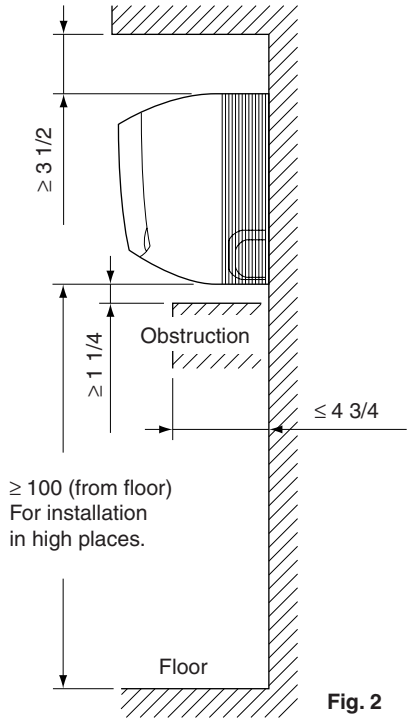


Fig. 2

(2) Determine if the full weight of the unit can be withstood and, if not, reinforce with boards and beams. Before installing, reinforce site wherever necessary to provent vibration and noise.
The installation pitch can be found on the paper pattern for installation (3), so refer to it when considering the necessity for reinforcing the location.

(3) The indoor unit may not be directly installed on the wall. Use the attached installation panel (1) before installing the unit.

⚠ DANGER

- Do not install unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.
- If the supporting structural members are not strong enough to take the unit's weight, the unit could fall out of place and cause serious injury. removed WARNING and made both bullets under DANGER

4. INDOOR UNIT INSTALLATION

- Use only specification-designated accessories and parts.

⚠ CAUTION

- Install so that the unit does not tilt to either side or forward.
- Do not hold the unit by the horizontal flaps when lifting it as doing so may damage the horizontal flaps.

(1) Open the piping through-hole.

- The refrigerant pipe and drain pipe can be passed through in one of 5 directions: left, bottom-left, back-left, bottom-right, and back-right. **(Refer to Fig. 3)**
- Using the paper pattern for installation (3), choose where to pass the piping out and open a through-hole (ϕ3 1/8" / 28.6 mm) in the wall.
  Open the hole so that there is a downward slope for the drain piping. See Section 6. **DRAIN PIPING WORK** on Page 227.

(2) Remove the installation panel (1) from the unit and attach to the wall.

The installation panel is temporarily attached to the unit with a screw if a 12 type.
(Refer to Fig. 3)

(a) Check the location for the hole using the included paper pattern for installation (3).
- Choose a location so that there is at least a 3 1/2" (89 mm) gap between the ceiling and the main unit.

(b) Temporarily attach the installation panel (1) at the temporary-securing position on the paper pattern for installation (3) and use a level to make sure the drain hose is either level or tilted slightly downward.

(c) Secure the installation panel (1) to the wall using either screws or bolts.
- If using the attachment screws for the installation panel (2), attach using at least 4 screws on either side (for a total of 8 screws (07, 09, 12 type), 9 screws (18, 24 type)) of the recommended installation cleat position on the included paper pattern for installation (3).
- If using bolts, attach using a M8 - M10 bolt or equivalent (for a total of 2 bolts) on either side.
- If dealing with concrete, use commercially available foundation bolts (M8 - M10 or equivalent).

(3) If using the left, bottom-left, or bottom-right positions for the piping, cut out the through-hole for the piping in (4) the front grill. (Refer to Fig. 4)

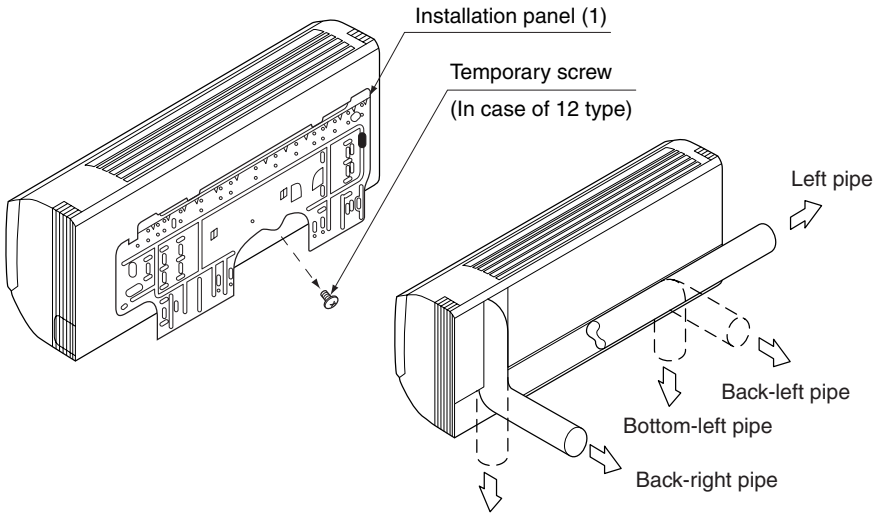


Fig. 3

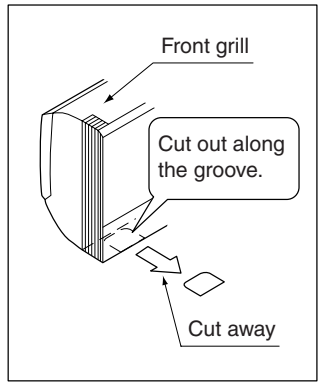


Fig. 4

(5) Remove the front panel and the service lid using the following steps and referring to Figure 5:

(1) Open the front panel to the point where it stops.

(2) Push the axes on either side of the front panel towards the center of the main unit and remove. (You can also remove it by sliding the front panel either to the left or right and pulling it forward.)

(3) Remove the screw from the service lid and pull the handle forward.

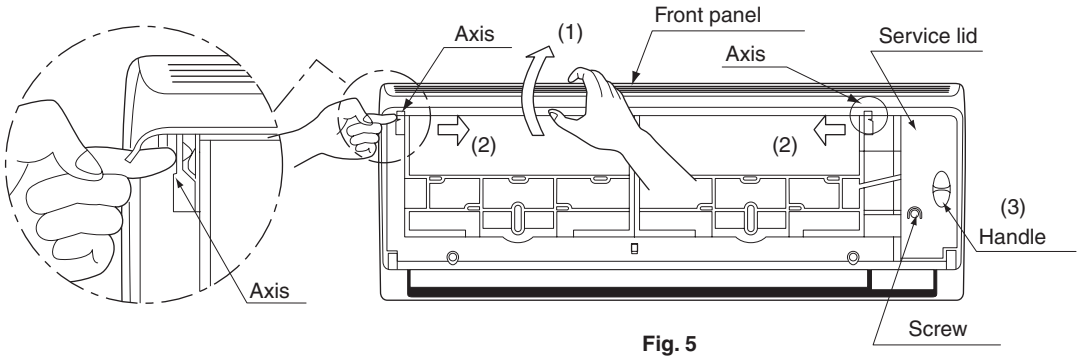


Fig. 5

(6) Point the pipe in the direction it will be passed out.

For bottom-right and back-right piping, refer to Figure 6.

- Wrap the drain hose and the refrigerant piping together with the insulating tape (4) so that the drain hose is below the refrigerant piping.

For left, bottom-left, and back-left piping, refer to Figure 7.

- Remove the front grille.

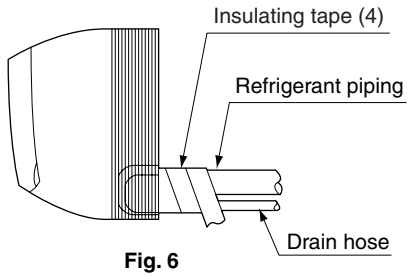


Fig. 6

Remove the front grill as described below when securing the indoor unit with screws or when attaching Optional Accessories (wireless remote controller, adapter PC board, etc.).

(1) Remove the front panel.

(2) Remove the screws in the (2) positions in case of 12 type/3 places in case of 18, 24 type) securing the front grille.

(3) Remove the tabs in the (3) positions, securing the front grille by pushing them in the direction of the arrows.

(4) Making sure not to catch the horizontal flaps, remove the front grill by pulling in the direction of the arrow.

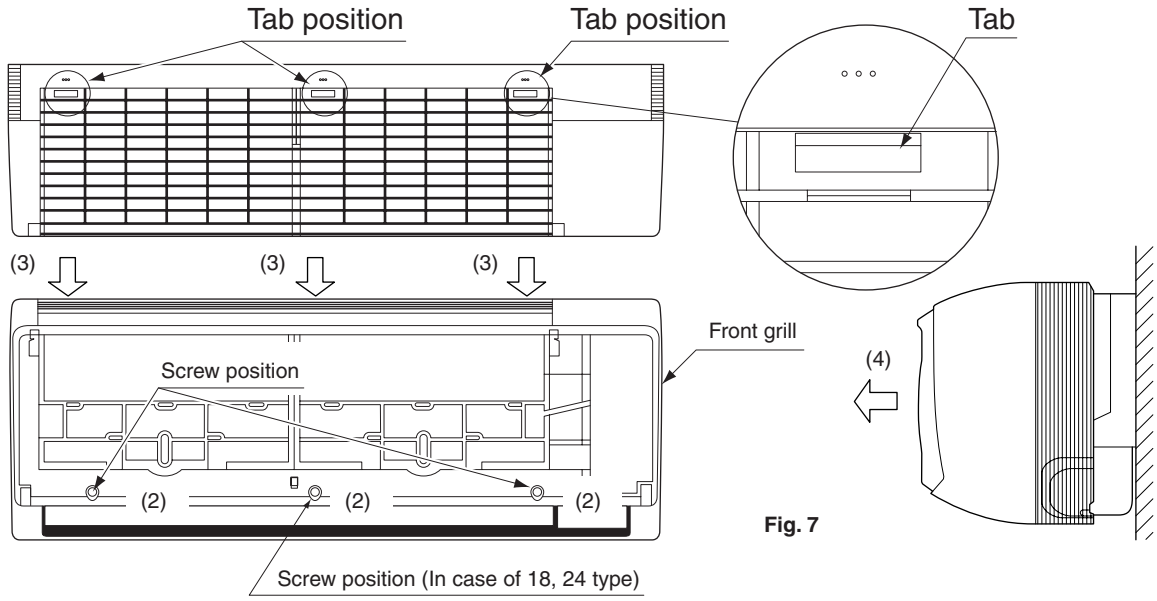


Fig. 7

- Remove the drain plug, the pipe insulation , and the drain hose from the drain pan, referring to **Figure 8.**
- Connect the local refrigerant piping ahead of time, matching it to the liquid pipe and gas pipe marks engraved on the installation panel (1) in **Fig. 3**.

< Replacing the drain hose and drain plug >

(1) Remove the drain plug and pipe insulation .

(2) Remove the drain hose and replace to the left side..

(3) Place the drain plug and the pipe insulation to the right side

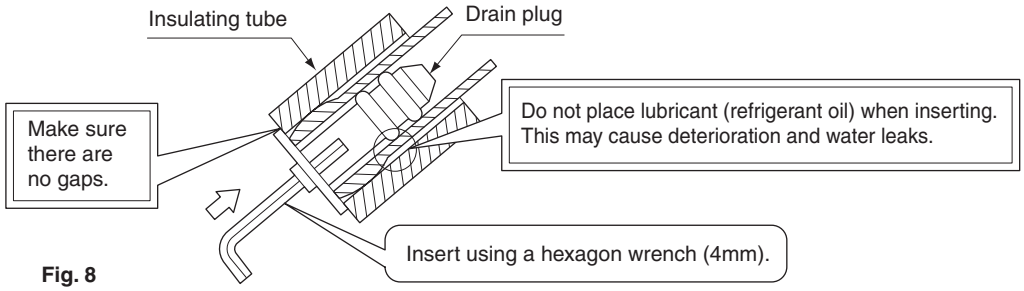


Fig. 8

(7) Hook the indoor unit onto the installation panel. (Refer to Fig. 9)

- Placing buffering material between the wall and the indoor unit at this time will make work easier.

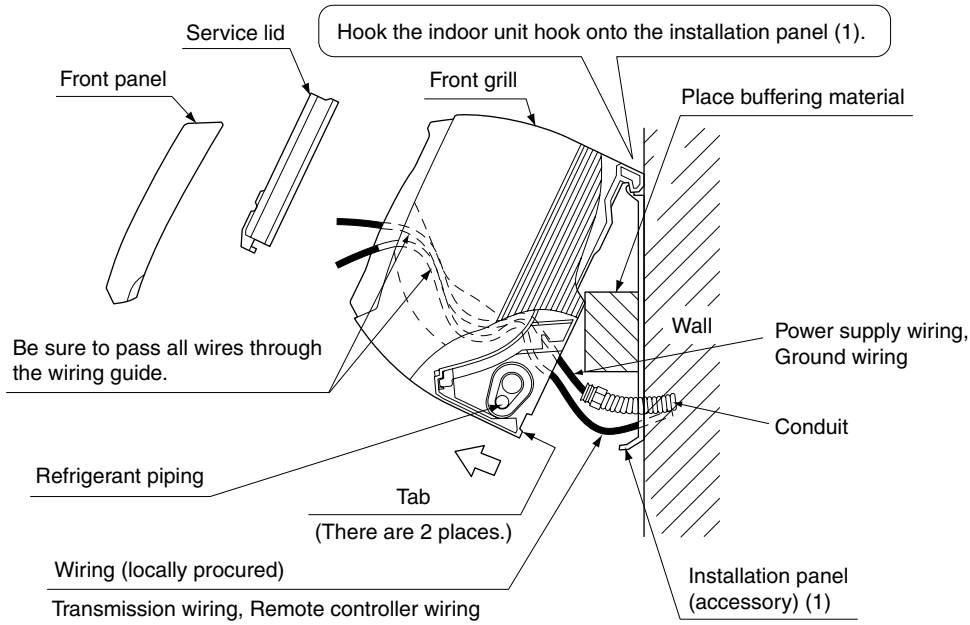


Fig. 9

For bottom-right and back-right piping

- Pass the drain hose and the refrigerant piping to the wall.

(8) Pass power supply wiring and ground wiring threaded through conduit. and remote controller wiring through the wiring guide in through the back of the indoor unit and to the front. For connecting the conduit to the unit, see Section 8-1, **HOW TO CONNECT WIRINGS**.

(9) Connect the piping referring to Section 5, REFRIGERANT PIPING WORK and Fig. 10

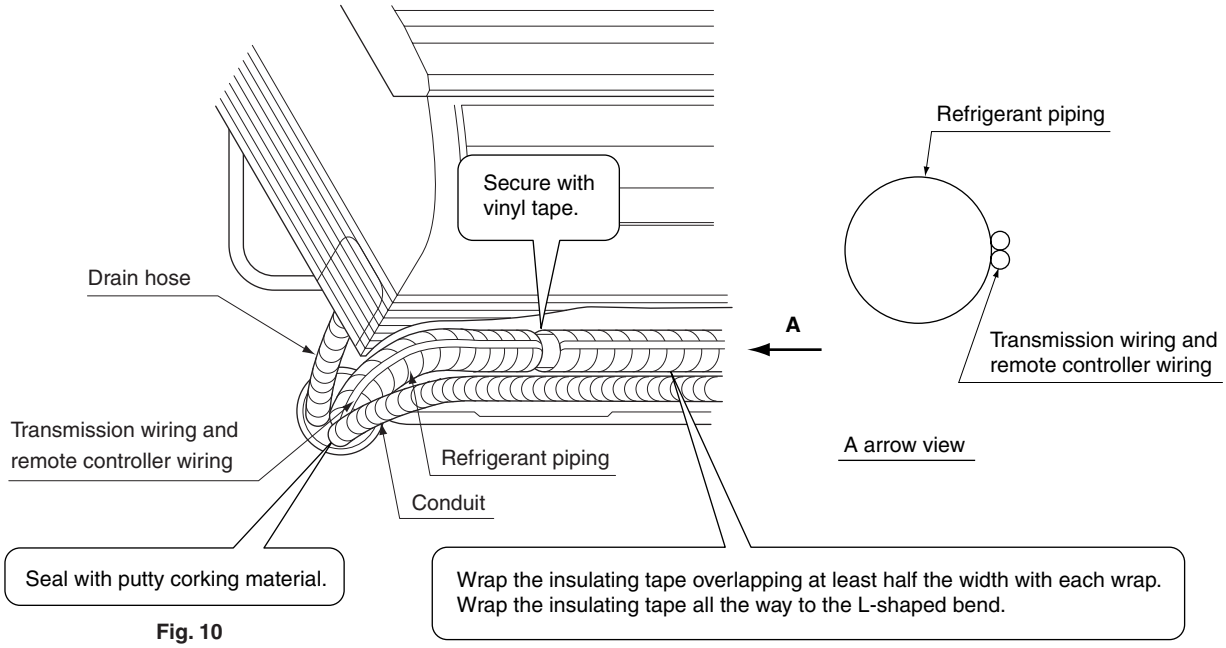


Fig. 10

- Seal the piping through-hole with putty corking material.

(10) Push on both bottom edges of the indoor unit using both hands and hook the tab on the back of the indoor unit onto the installation panel (1). (Refer to Fig. 9)

- At this time remove the buffering material placed in step (6).
- Make sure power supply wiring, transmission wiring, ground wiring and remote controller wiring are not caught inside the indoor unit.

■ **When screwing in the indoor unit**

- Remove the front grille. **(Refer to Fig. 7)**
- Secure the indoor unit to the installation panel (1) with the securing screws (6). **(Refer to Fig. 11)**

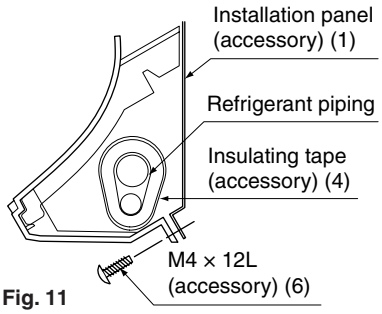


Fig. 11

5. REFRIGERANT PIPING WORK

For refrigerant piping of outdoor units, see the installation manual attached to the outdoor unit.
Execute heat insulation work completely on both sides of the gas piping and the liquid piping.
Otherwise, a water leakage can result .
When using a heat pump, the temperature of the gas piping can reach up to approximately 250°F, so use insulation which is sufficiently resistant.
Also, in cases where the temperature and humidity of the refrigerant piping sections might exceed 86°F or RH80 %, reinforce the refrigerant insulation. (13/16" or thicker) Condensation may form on the surface of the insulating material.
Before refrigerant piping work, check which type of refrigerant is used. Proper operation is not possible if the types of refrigerant are not the same.

⚠ DANGER

- Refrigerant gas may produce toxic gas if it comes in contact with fire such as from a fan, heater, stove or cooking device. Exposure to this gas could result in severe injury or death.

⚠ NOTE

- Use a pipe cutter and flare suitable for the type of refrigerant.

- To prevent dust, moisture, or other foreign matter from infiltrating the tube, either pinch the end or cover it with tape.
- Do not allow anything other than the designated refrigerant to get mixed into the refrigerant circuit, such as air, etc.
- If any refrigerant gas leaks while working on the unit, ventilate the room immediately..

- Ensure outdoor unit is charged with refrigerant.
- Use copper alloy seamless pipes.
- Be sure to use both a spanner and torque wrench together, as shown in the drawing, when connecting or disconnecting pipes to/from the unit. **(Refer to Fig. 12)**
- Refer to Table 1 for the dimensions of flare.
- When connecting the flare nut, coat the flare section (both inside and outside) with ester oil or ether oil, rotate three or four times first, then screw in. **(Refer to Fig. 13)**

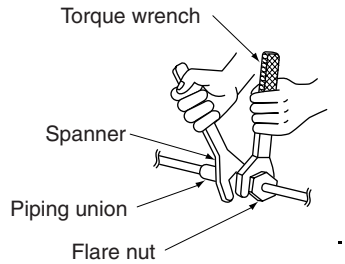


Fig. 12

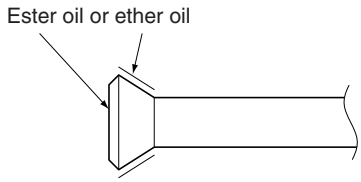
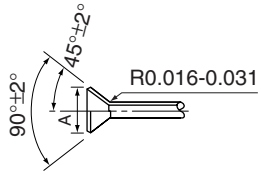


Fig. 13

⚠ CAUTION

- Over-tightening may cause the flare nuts to crack or the refrigerant to leak.
  - Use the flare nut included with the unit.
  - See the following table for tightening torque.

Table 1: Tightening Torque

Pipe size in./mm	Tightening torque (ft-lbf)	Flare dimensions A (in.)	Flare shape (in.)
ϕ 1/4” (6.4 mm)	10.5 – 12.7	0.343 – 0.358	
ϕ 3/8” (9.5 mm)	24.1 – 29.4	0.504 – 0.520	
ϕ 1/2” (12.7 mm)	36.5 – 44.5	0.638 – 0.654	
ϕ 5/8” (15.8 mm)	45.6 – 55.6	0.760 – 0.776	

Not recommended but in case of emergency

You must use a torque wrench but when not possible, use the following installation method:

After the work is finished, make sure to check that there is no gas leak.

When you continue tightening the flare nut with a spanner, there is a point where the tightening torque suddenly increases. From that position, further tighten the flare nut at the angle in the following table:

Table 2: Tightening Angle / Tool Length

Pipe size in./mm	Further tightening angle	Recommended arm length of tool (in.)
ϕ 1/4” (6.4 mm)	60 to 90 degrees	Approx. 5 7/8”
ϕ 3/8” (9.5 mm)	60 to 90 degrees	Approx. 7 7/8”
ϕ 1/2” (12.7 mm)	30 to 60 degrees	Approx. 9 13/16”
ϕ 5/8” (15.8 mm)	30 to 60 degrees	Approx. 11 13/16”

⚠ CAUTION

- CAUTION TO BE TAKEN WHEN BRAZING REFRIGERANT PIPING
  Do not use flux when brazing refrigerant piping. Use the phosphor copper brazing filter metal (BCuP) which does not require flux.
  Flux has an extremely negative effect on refrigerant piping systems. For example, if chlorine based flux is used, it will cause pipe corrosion. If the flux contains fluorine, it will damage the refrigerant oil.
- When brazing the refrigerant piping, only begin brazing after having carried out nitrogen substitution (NOTE 1) or while inserting nitrogen into the refrigerant piping (NOTE 2). Once this is done, connect the indoor unit with a flared or a flanged connection.

⚠ DANGER

- Use of oxygen may cause an explosion resulting in serious injury or death. Only use nitrogen gas.

⚠ NOTE

1. Refer to the ***Manual for Multi Installation for Buildings*** for directions on how to carry out nitrogen substitution. Ask your dealer.
2. Nitrogen should be set to 2.9 psi with a pressure-reducing valve if brazing while inserting nitrogen into the piping. **(Refer to Fig. 14)**

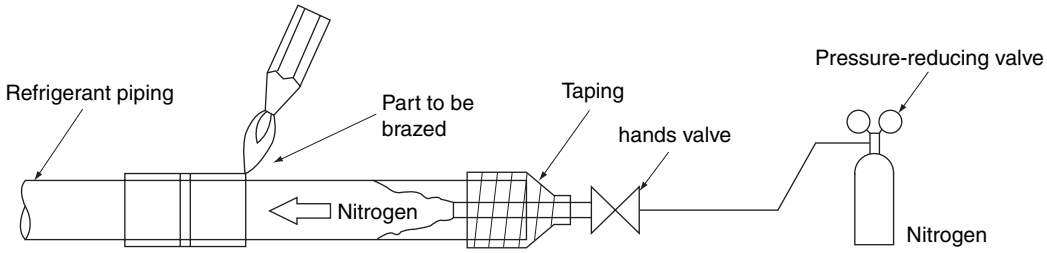


Fig. 14

- After checking for gas leaks, be sure to insulate the pipe connections using the supplementary piping insulation tubing and insulating tape (4). The insulating tape (4) should be wrapped from the L-shaped bend all the way to the end inside the unit. **(Refer to Fig. 15)**

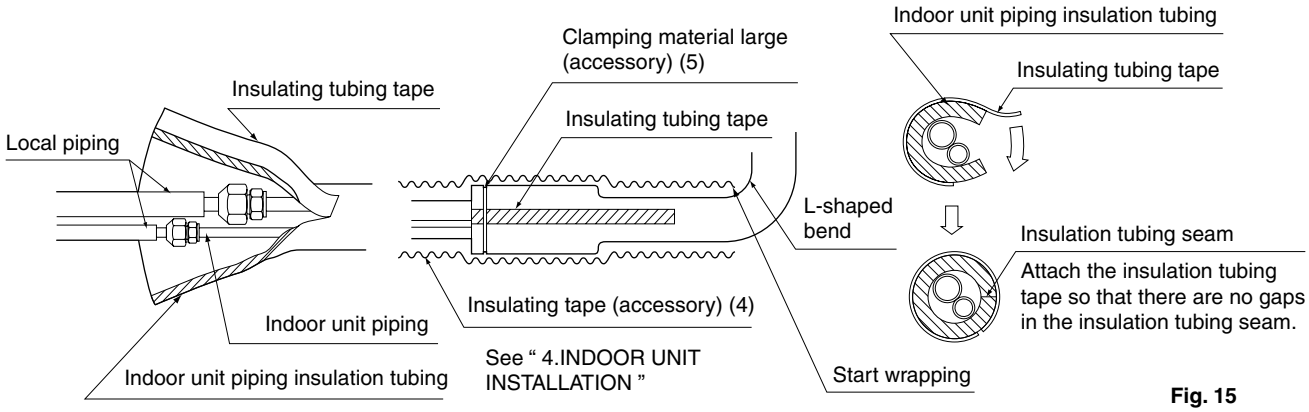


Fig. 15

⚠ CAUTION

- Be sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensate or burns if touched.

6. DRAIN PIPING WORK

(1) Install the drain piping. (Refer to Fig. 16)

- The drain pipe should be short with a downward slope and should prevent air pockets from forming.
- Pay close attention to the directions in Figure 16 when performing drain work.

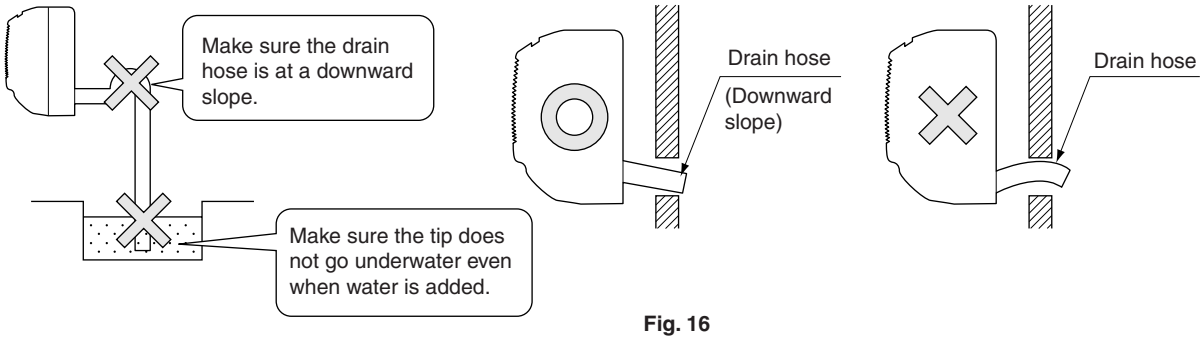


Fig. 16

- When extending the drain hose, use a commercially available drain extension hose, and be sure to insulate the extended section of the drain hose which is indoors. **(Refer to Fig. 17)**

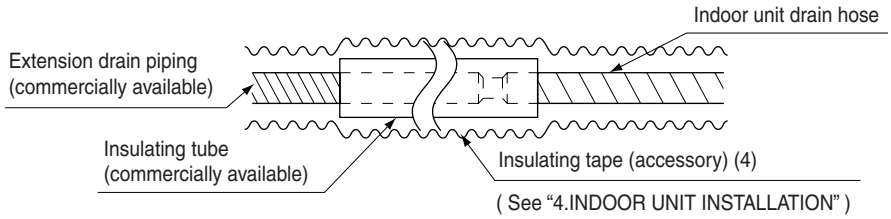


Fig. 17

- Make sure the diameter of the extension drain piping is the same as the indoor unit drain hose (hard vinyl chloride, I.D. 9/16") or bigger.
- In case of converging multiple drain pipes, install them while referring to Fig. 18.
- Select diameter of drain piping that adapts to the capacity of the unit connected..

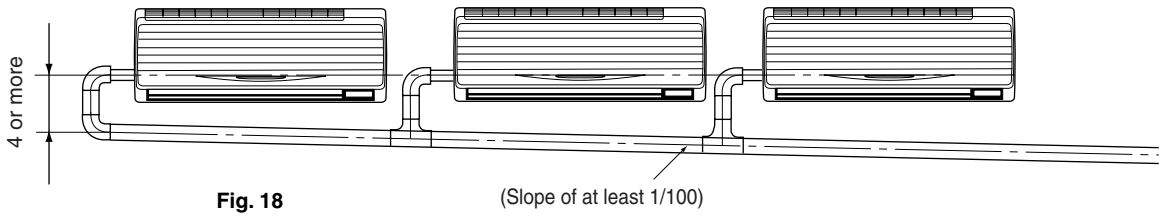


Fig. 18

(2) Make sure the drain works properly.

- After drain work is complete, perform a drain check by opening the front panel, **removing the air filter**, pouring water into the drain pan, and making sure water flows smoothly out of the drain hose. **(Refer to Fig. 19)**

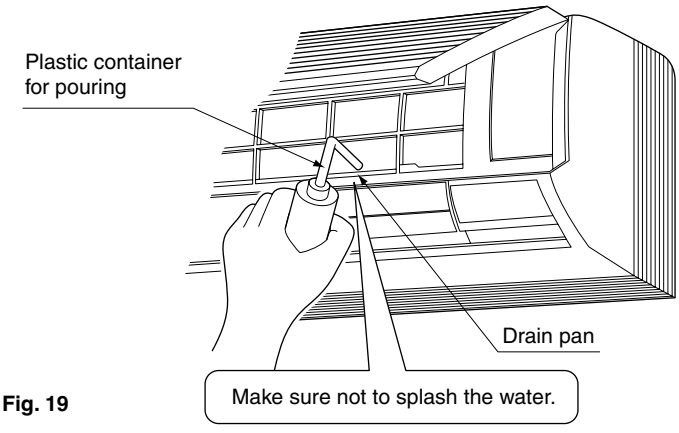


Fig. 19

⚠ CAUTION

- When connecting drain piping, do not connect the drain piping directly to sewage pipes that smell of ammonia. The ammonia in the sewage might enter the indoor unit through the drain pipes and corrode the heat exchanger. Keep in mind that if water collects on the drain pipe it will become blocked.

7. ELECTRIC WIRING WORK

7-1 GENERAL INSTRUCTIONS

- All field supplied parts and materials and electric works must conform to local codes.
- Use copper wire only.
- For electrical wiring work, refer to the ***WIRING DIAGRAM*** attached to the unit.
- For remote controller wiring details, refer to the installation manual attached to the remote controller.
- All wiring must be performed by an authorized electrician.
- This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B, and so forth, and be sure the terminal block wiring to the outdoor unit and BS unit is properly matched. If controls wiring and piping between the outdoor and indoor units are mismatched, a communications malfunction is likely.
- A circuit breaker capable of shutting down power supply to the entire system must be installed.
- Refer to the installation manual attached to the outdoor unit for the size of power supply wiring connected to the outdoor unit, the capacity of the circuit breaker and switch, and wiring instructions.
- Be sure to ground the air conditioner.

⚠ DANGER

- Do not ground units to water pipes, telephone wires or lightning rods because incomplete grounding could cause a severe shock hazard resulting in severe injury or death, and to gas pipes because a gas leak could result in an explosion which could lead to severe injury or death.

7-2 ELECTRICAL CHARACTERISTICS

Units				Power supply		Fan motor	
Model	Hz	Volts	Voltage range	MCA	MFA	W	FLA
FXAQ07MVJU	60	208-230	Max. 253 Min. 187	0.3	15	40	0.2
FXAQ09MVJU				0.3	15	40	0.2
FXAQ12MVJU				0.4	15	40	0.3
FXAQ18MVJU				0.4	15	43	0.3
FXAQ24MVJU				0.6	15	43	0.5

MCA: Min. Circuit Amps (A); MFA: Max. Fuse Amps (A)

W: Fan Motor Rated Output (W); FLA: Full Load Amps (A)

7-3 SPECIFICATIONS FOR FIELD SUPPLIED FUSES AND WIRE

Model	Power supply wiring		Remote controller wiring Transmission wiring	
	Field fuses ⊣⊟⊢	Size	Wire	Size
FXAQ07MVJU	15A	Size must comply with local codes.	2 conductor, stranded copper, non-shielded, PVC or vinyl jacket	AWG18
FXAQ09MVJU				
FXAQ12MVJU				
FXAQ18MVJU				
FXAQ24MVJU				

- Allowable length of transmission wiring and remote controller wiring are as follows.
  (1) Outdoor unit - Indoor unit:Max. 3280 ft. (1000 m) Total wiring length: 6560 ft. (2000 m)
  (2) Indoor unit - Remote controller:Max.1640 ft. (500 m)
- Insulated thickness: 1/16" (1.6 mm) or more.

8. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

8-1 HOW TO CONNECT WIRINGS

- Conduit for power supply wiring
  Unscrew and remove the conduit mounting plate from the electric parts box. **(Refer to Fig. 20)**
  Fix a conduit to the plate with a lock nut and reattach them at original position.

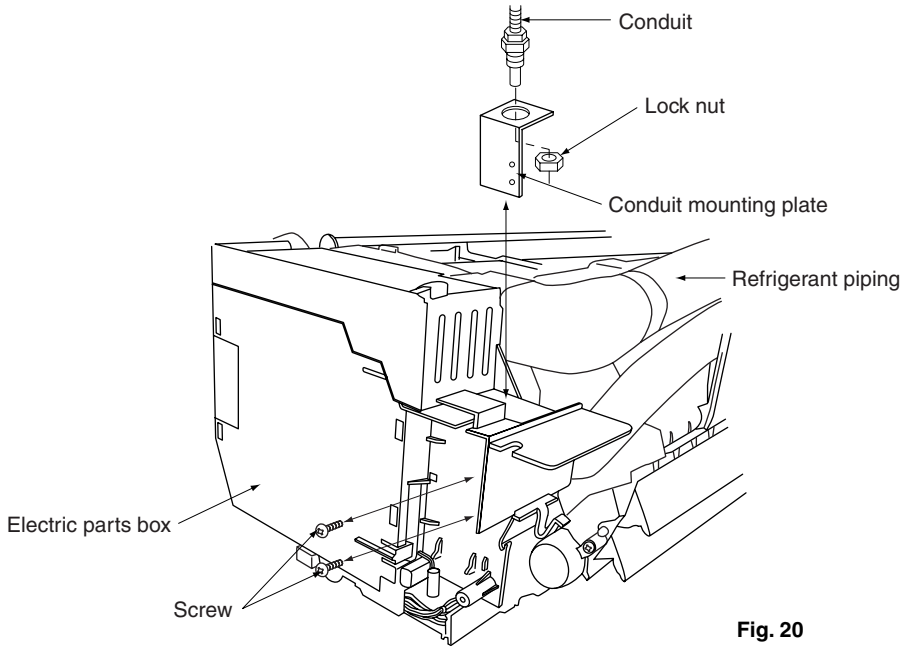


Fig. 20

- Power supply wiring and ground wiring
  Unscrew and remove the service lid.
  Thread the power supply wiring and ground wiring through the included insulating tube (short) (7) and secure them with the included clamp (small) (5). **(Refer to Fig. 21)**
  Connect the power supply wiring and ground wiring to the power supply terminal block (3P).
  When doing this, firmly secure using the included clamp (small) (5) according to the figure. **(Refer to Fig. 22)**
- Transmission wiring and remote controller wiring
  Unscrew and remove the service lid.
  Thread the remote controller wiring and transmission wiring through the included insulating tube (long) (7) and secure them with the included clamp (small) (5). **(Refer to Fig. 21)**
  Connect the remote controller wiring and the transmission wiring to the terminal block (6P).
  When doing this, tie the remote controller wiring and the transmission wiring using the included clamp (small) (5) and then firmly secure using the included clamp (small) (5) according to the figure. **(Refer to Fig. 22)**

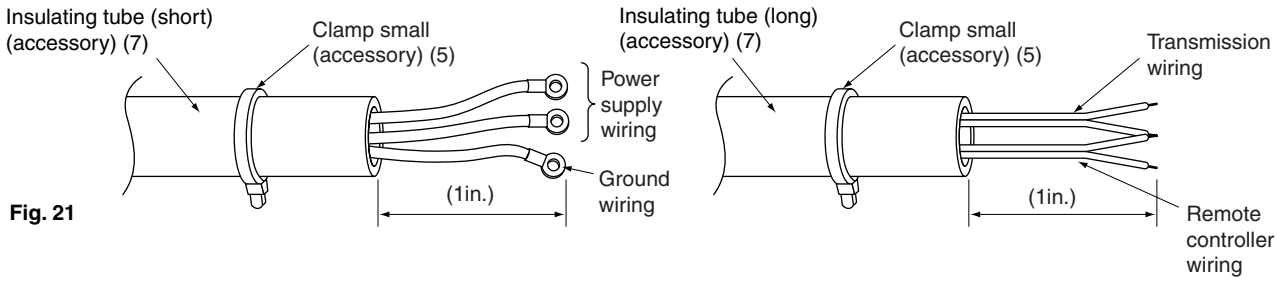


Fig. 21

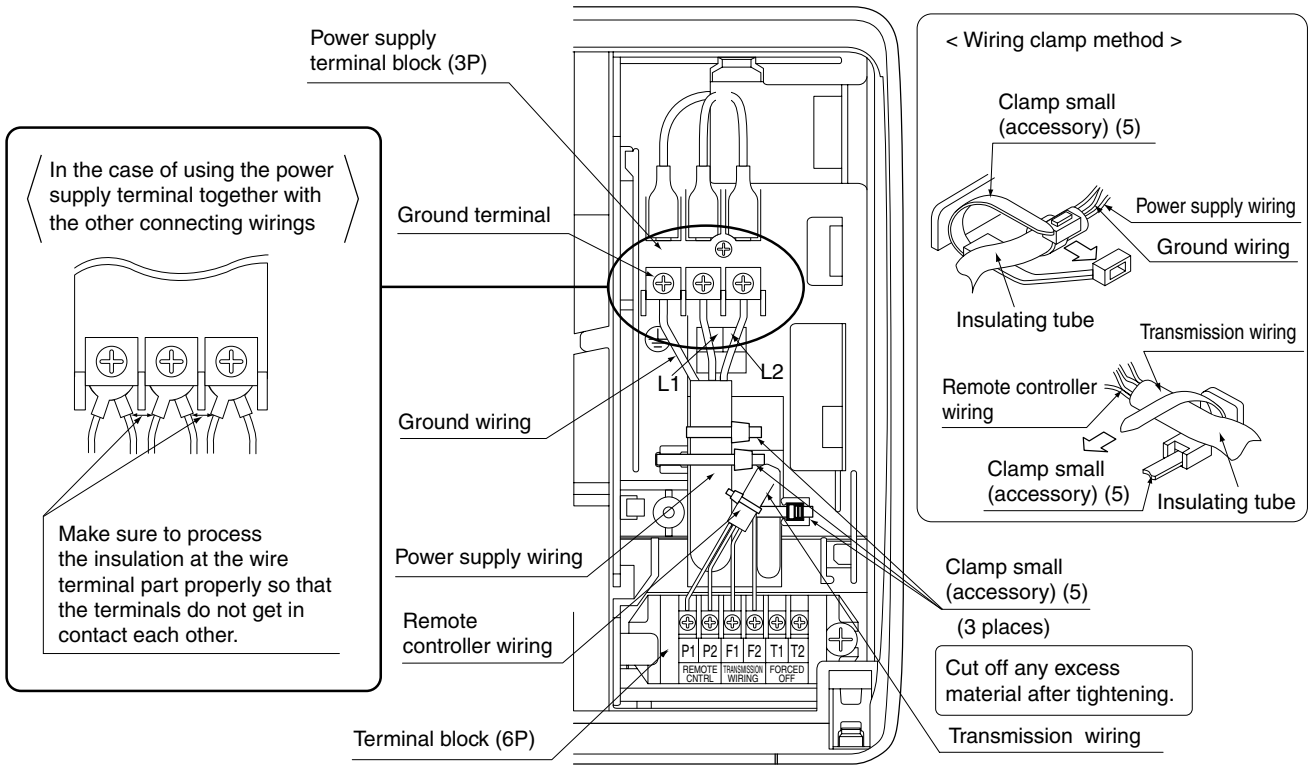


Fig. 22

⚠ WARNING

- Use only specified wire and connect wires to the terminal tightly. Be careful wires do not place external stress on terminals. Keep wires in neat order so as to not obstruct other equipment. Make sure that the electric box lid fits tightly. Incomplete connections could result in overheating and, in worse cases, result in electric shock or fire.

⚠ CAUTION

- Never connect power supply wiring to the terminal block for remote controller wiring as this could damage the entire system.
- When clamping the wirings, be sure no tension is applied to the wire connections by using the included clamp. Also, when wiring, make sure the lid on the electric parts box fits snugly by arranging the wirings neatly and attaching the service lid firmly. Make sure the lid on the electric parts box fits snugly by arranging the wires neatly and attaching the service lid firmly. When attaching the service lid, make sure no wires get caught in the edges. Pass wiring through holes to prevent damage to them. Make sure the remote controller wiring and transmission wiring between the units, and other electrical wiring do not pass through the same locations outside the unit, separating them by at least 5”, otherwise electrical noise (external static) could cause incorrect operation or breakage.
- To avoid a short circuit in the electric parts box, be sure to apply sealing material or putty (not included) to the wiring hole to prevent the infiltration of water as well as insects or other small creatures. Otherwise a short-circuit may occur inside the electric parts box.

PRECAUTIONS

1. Use round crimp-style terminals for connecting wires to the power supply terminal block.
   (Refer to Fig. 23)
   If unavailable, observe the following points when wiring.
   - Do not connect wires of different gauges to the same power supply terminal because loose connections may cause overheating.
   - Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal. (Tightening torque: 0.97ft.lbf ±10 %)

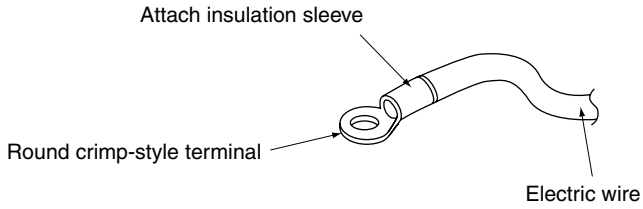


Fig. 23

2. **Tightening torque for the terminal screws.**
   - Use the correct screwdriver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
   - If the terminal screws are tightened too hard, screws might be damaged.
   - Refer to the following table for the tightening torque of the terminal screws:

Terminal	Size	Tightening torque (ft-lbf)
Remote controller, Transmission wiring and Forced off terminal block (6P)	M3.5	0.58 – 0.72
Power supply and Ground terminal block (3P)	M4	0.87 – 1.06

3. Do not connect wires of different gauge to the same ground terminal. Looseness in the connection may lessen protection.
4. Keep transmission wiring at least 5” away from power supply wiring. The equipment may malfunction if subjected to electrical (external) noise.
5. For remote controller wiring, refer to the ***INSTALLATION MANUAL OF REMOTE CONTROLLER*** attached to the remote controller.

8-2 WIRING EXAMPLE

- Fit the power supply wiring of each unit with a switch and fuse as shown in the following drawing:

COMPLETE SYSTEM EXAMPLE (3 systems)

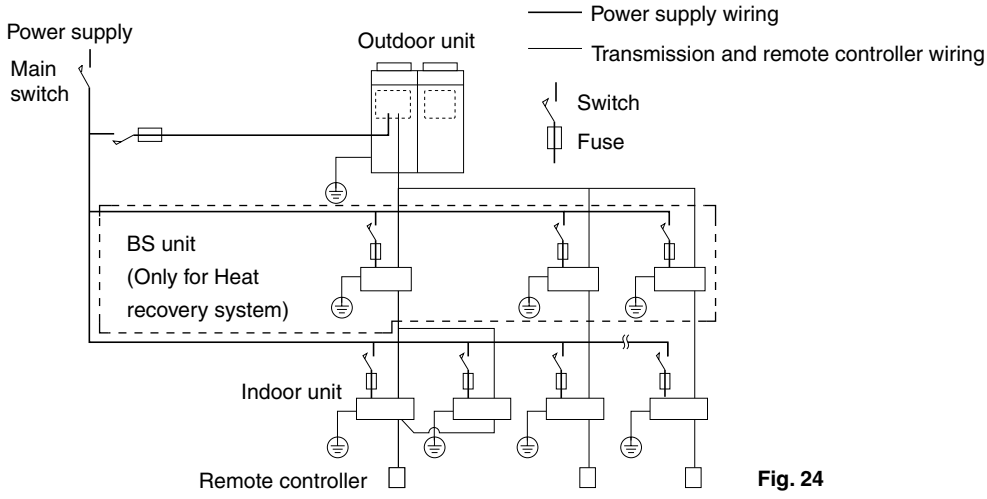


Fig. 24

1. When using 1 remote controller for 1 indoor unit. (Normal operation) use the following diagram:

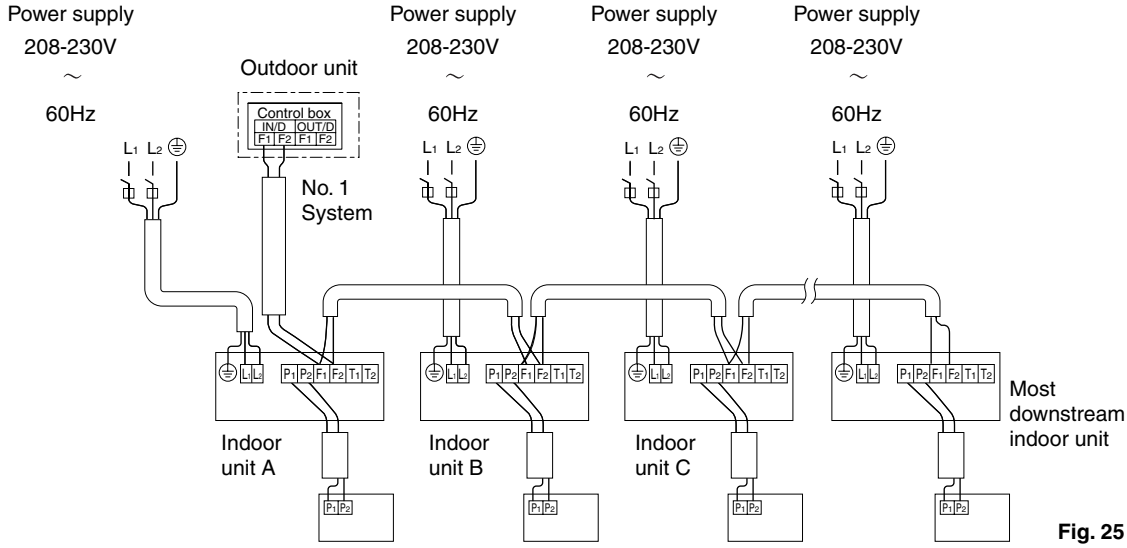


Fig. 25

2. For group control or use with 2 remote controllers use the following diagram:

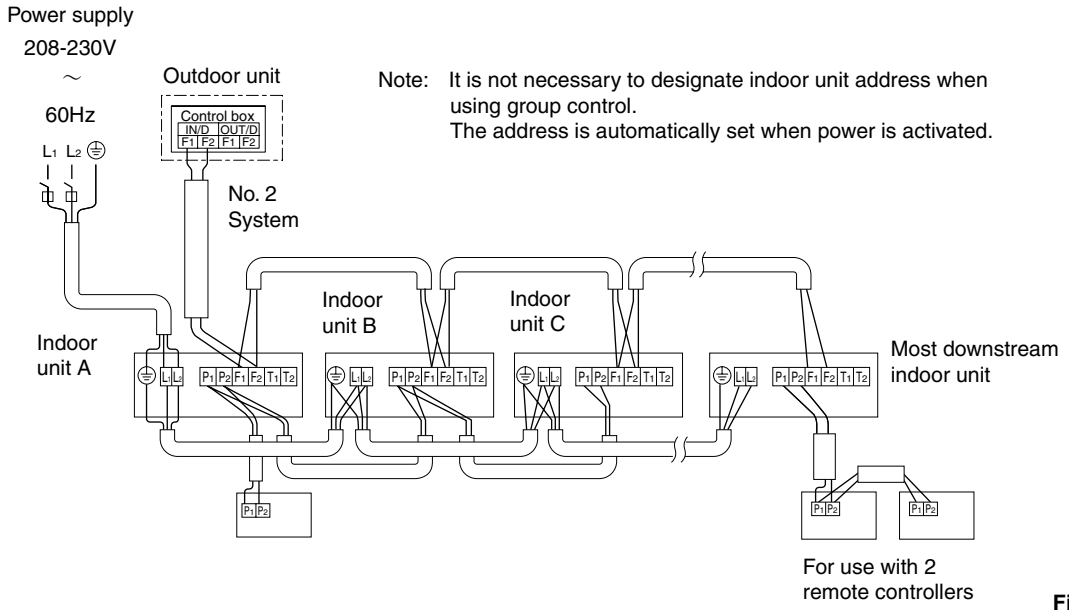


Fig. 26

3. When including BS unit use the following diagram:

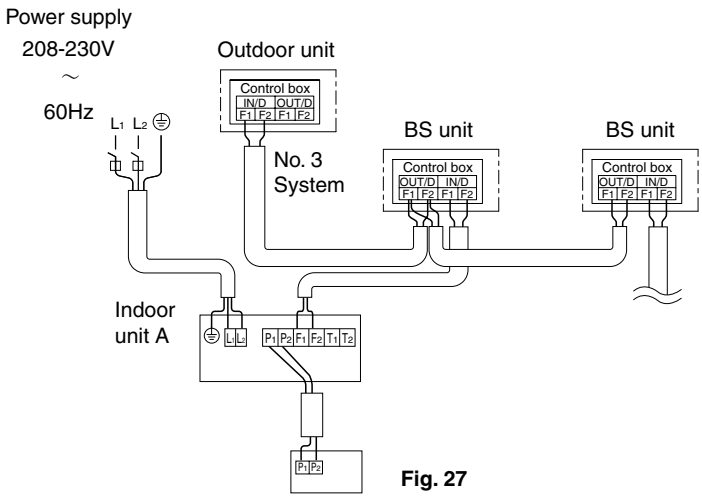


Fig. 27

NOTE

1. A single switch can be used to supply power to units on the same system. Branch switches and branch circuit breakers must be selected carefully.
2. Do not ground the equipment on gas pipes, water pipes, lightning rods or telephone ground wires. Improper grounding could result in electric shock.

8-3 CONTROL BY 2 REMOTE CONTROLLERS (CONTROLLING 1 INDOOR UNIT BY 2 REMOTE CONTROLLERS)

- When using 2 remote controllers, one must be set to **MAIN** and the other to **SUB**.

MAIN/SUB CHANGEOVER

(1) Insert a ⊖ screwdriver into the recesses between the upper and lower part of remote controller, and working from the 2 positions, pry off the upper part. The remote controller PC board is attached to the upper part of the remote controller. **(Refer to Fig. 28)**

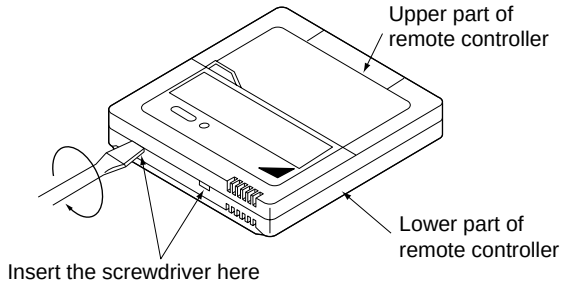


Fig. 28

(2) Turn the **MAIN/SUB changeover** switch on one of the two remote controller PC boards to **S**. (Leave the switch of the other remote controller set to **M**.) **Refer to Fig. 29**

Wiring Method: See Section 7: ELECTRICAL WIRING WORK

(3) Remove the service lid.

(4) Add second remote controller (slave) to the terminal block (6P in Figure 22) for remote controller (P_1, P_2) in the electric parts box. There is no polarity. Refer to Fig. 26 and Section 7-3 for the wiring size.

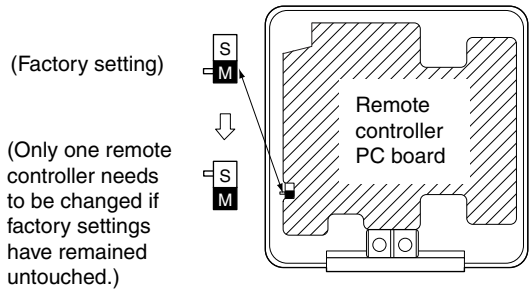


Fig. 29

8-4 COMPUTERIZED CONTROL (FORCED OFF AND ON/OFF OPERATION)

1. Wire specifications and how to perform wiring:
   - Connect the input from outside to terminals T1 and T2 of the terminal block (6P).

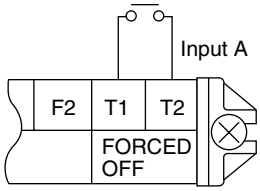


Fig. 30

Wire specification	2 conductor, stranded copper, non-shielded, PVC or vinyl jacket
Gauge	AWG18
Length	Max. 328 ft. (100 m)
External terminal	Contact must ensure the minimum applicable load of 15V DC, 10 mA.

(2) Actuation

- The following table explains **FORCED OFF** and **ON/OFF OPERATIONS** in response to Input A:

FORCED OFF	ON/OFF OPERATION
Input “ON” stops operation (impossible by remote controllers).	Input OFF → ON turns ON unit.

Input OFF enables control by remote controller.	Input ON → OFF turns OFF unit.

(3) How to select FORCED OFF and ON/OFF OPERATION

- Turn the power on and then use the remote controller to select operation.
- Set the remote controller to the field set mode. For details, refer to the “HOW TO SET IN THE FIELD”, in the remote controller manual.
- When in the field set mode, select mode No. 12, then set the first code (switch) No. to “1”. Then set second code (position) No. to “01” for FORCED OFF and “02” for ON/OFF OPERATION.
  (FORCED OFF at factory set) **(Refer to Fig. 31)**

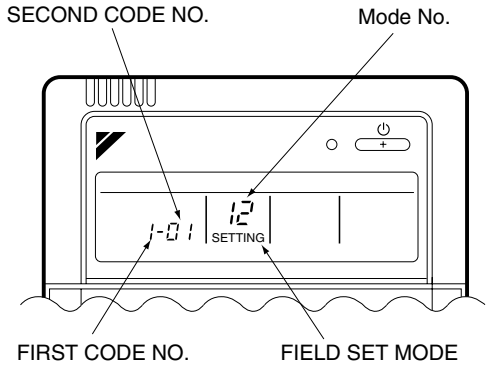


Fig. 31

8-5 CENTRALIZED CONTROL

- For centralized control, it is necessary to designate the group No. For details, refer to the manual of each optional controllers for centralized control.

9. FIELD SETTINGS

(1) Make sure the service lids are closed on the indoor and outdoor units.

(2) Field settings must be made from the remote controller in accordance with installation conditions.

- Settings can be made by changing the “Mode No”, “FIRST CODE NO.” and “SECOND CODE NO.”. Refer to the installation manual attached to the remote controller.
- The “Field Settings” included with the remote controller lists the order of the settings and method of operation.
  *Setting is made in all units in a group. To set for individual indoor units or to check the setting, use the mode Nos. (with “2” in upper digit) in parentheses ( ).

9-1 SETTING AIR FILTER SIGN

- Remote controllers are equipped with liquid crystal display air filter signs to display the time to clean air filters.
- Change the SECOND CODE NO. according to Table 3 depending on the amount of dirt or dust in the room. (SECOND CODE NO. is factory set to “01” for air filter contamination-light)

Table 3

Setting	Elapsed time till display signals when to clean air filter	Mode No.	FIRST CODE NO.	SECOND CODE NO.
Air filter contamination-light	Approx. 200 hrs.	10 (20)	0	01
Air filter contamination-heavy	Approx. 100 hrs.			02

9-2 SETTING AIR FLOWRATE INCREASE MODE

- It is possible to raise set air flow (HIGH and LOW) from the field. Change the SECOND CODE NO. as shown in Table 4 to suit your needs.
  SECOND CODE NO. is factory set to [**01**] for Standard.

Table 4

Setting	Mode No.	FIRST CODE NO.	SECOND CODE NO.
Standard	13 (23)	0	01
A little increase			02
Increase			03

When using wireless remote controllers, an address setting is necessary. Refer to the installation manual attached to the wireless remote controller for setting instructions.

10. TEST OPERATION

Make sure the service panels are closed on the indoor and outdoor units.
Refer to the installation manual of the outdoor unit.

- The operation lamp of the remote controller flashes when a malfunction occurs. Check the malfunction code on on the liquid crystal display to identify the specific problem. An explanation of malfunction codes and its corresponding trouble is provided in the installation manual of the outdoor unit.
  If any of the items in Table 5 are displayed, there may be a problem with the wiring or power so check the wiring again.

Table 5

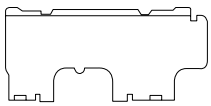
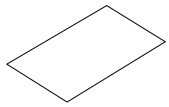
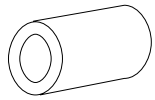
Remote controller display	Content
Under Centralized Control is lit	• There is a short circuit at the FORCED OFF terminals (T1, T2).
U4 is lit **UH** is lit	• The power on the outdoor unit is off. • The outdoor unit has not been wired for power supply. • Incorrect wiring for the transmission wiring and/or FORCED OFF wiring. • The transmission wiring is cut.
No display	• The power on the indoor unit is off. • The indoor unit has not been wired for power supply. • Incorrect wiring for the remote controller wiring, the transmission wiring, and/or the FORCED OFF wiring. • The remote controller wiring is cut.

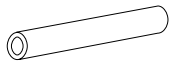
- If **U3** is lit, the malfunction code shows the test operation has not been performed yet.

11. Accessories

Standard Accessories

Check that the following accessories are included with your unit.

Name	(1) Installation panel	(2) Attachment screws for the installation panel	(3) Paper pattern for installation	(4) Insulating tape
Quantity	1 set	8 pcs. → FXAQ07, 09, 12 type 9 pcs. → FXAQ18, 24 type	1 pc.	1 pc.
Shape		 M4×25L		

Name	(5) Clamp	(6) Securing screws	(7) Insulating tube	
Quantity	1 large 4 small	2 pcs.	1 long 1 short	
Shape		 M4×12L		• Operation manual • Installation manual

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Refer to **Controls Manual** for optional accessories for Controllers.

Warning

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- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any inquiries, please contact your local importer, distributor and/or retailer.

JMI-0107

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About ISO9001

ISO 9001 is a plant certification system defined by the International Organization for Standardization (ISO) relating to quality assurance. ISO 9001 certification covers quality assurance aspects related to the "design, development, manufacture, installation, and supplementary service" of products manufactured at the plant.

EC99J2044

JQA-E-90108

About ISO 14001

ISO 14001 is the standard defined by the International Organization for Standardization (ISO) relating to environmental management systems. Our group has been acknowledged by an internationally accredited compliance organisation as having an appropriate programme of environmental protection procedures and activities to meet the requirements of ISO 14001.

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