DAIKIN

EDUS 39 - 600 - F1_a

R-410A

Engineering Data

FXFQ-M
Ceiling Mounted Cassette Type
(Multi Flow)

DAIKIN AC (AMERICAS), INC.

FXFQ-M
Ceiling Mounted Cassette Type (Multi Flow)

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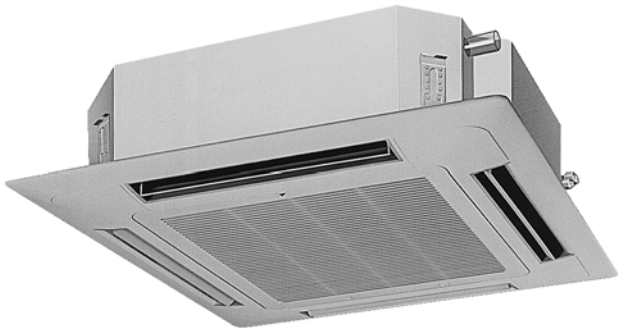
1. External Appearance



FXFQ12~36M

2. Specifications

Ceiling Mounted Cassette Type (Multi-Flow)

Model			FXFQ12MVJU	FXFQ18MVJU	FXFQ24MVJU
Cooling Capacity[1]		Btu/h	12,000	18,000	24,000
Heating Capacity[2]		Btu/h	13,500	20,000	27,000
Casing / Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H × W × D)		in (mm)	9-1/8 × 33-1/8 × 33-1/8 (231.8 x 841.4 x 841.4)	9-1/8 × 33-1/8 × 33-1/8 (231.8 x 841.4 x 841.4)	9-1/8 × 33-1/8 × 33-1/8 (231.8 x 841.4 x 841.4)
Coil (Cross Fin Coil)	Rows × Stages × FPI		2×8×17	2×8×17	2×8×17
	Face Area	ft² (m²)	3.56' (1.1 m)	3.56' (1.1 m)	3.56' (1.1 m)
Fan	Model		QTS45B14M	QTS45B14M	QTS45B14M
	Type		Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output	kW	0.04	0.04	0.04
	Air Flow Rate (H/L)	cfm	460/350	570/390	670/490
	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
Piping Connections	Liquid Pipes	in / mm	ϕ1/4" / 6.4 mm (Flare Connection)	ϕ1/4" / 6.4 mm (Flare Connection)	ϕ3/8" / 9.5 mm (Flare Connection)
	Gas Pipes	in / mm	ϕ1/2" / 12.7 mm (Flare Connection)	ϕ1/2" / 12.7 mm (Flare Connection)	ϕ5/8" / 15.8 mm (Flare Connection)
	Drain Pipe	in / mm	VP25 External Dia. 1-1/4" / 31.8 mm Internal Dia. 1" / 25.4 mm	VP25 External Dia. 1-1/4" / 31.8 mm Internal Dia. 1" / 25.4 mm	VP25 External Dia. 1-1/4" / 31.8 mm Internal Dia. 1" / 25.4 mm
Machine Weight (Mass)		Lbs	55	55	55
Sound Level (H/L)[4]		dBA	31/28	33/28	34/29
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable outdoor unit			R-410A Series	R-410A Series	R-410A Series
Decoration Panels (Option)	Model		BYC125K-W1	BYC125K-W1	BYC125K-W1
	Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H × W × D)	in (mm)	1-5/8 × 37-3/8 × 37-3/8 (41.3x 949.3 x 949.3	1-5/8 × 37-3/8 × 37-3/8 (41.3x 949.3 x 949.3	1-5/8 × 37-3/8 × 37-3/8 (41.3x 949.3 x 949.3
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	Lbs	11	11	11
Standard Accessories			Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washers, Sealing pads, Clamps, Screws, Insulation for fitting.	Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washers, Sealing pads, Clamps, Screws, Insulation for fitting.	Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washers, Sealing pads, Clamps, Screws, Insulation for fitting.
Drawing No.			C:3D042686		

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: 25 ft / 7.5 m (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: 25 ft / 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.

Ceiling Mounted Cassette Type (Multi-Flow)

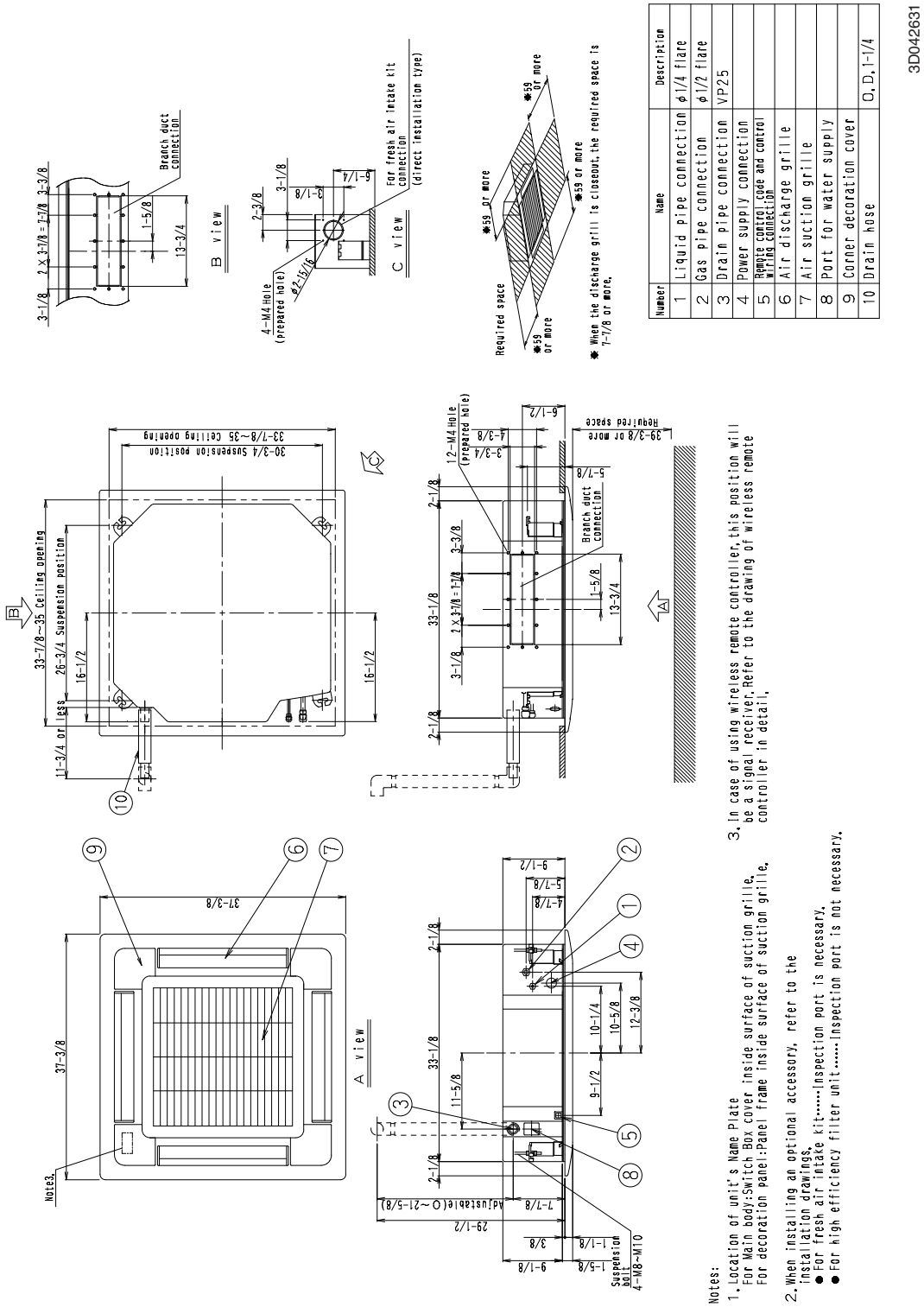
Model			FXFQ30MVJU	FXFQ36MVJU
Cooling Capacity[1]		Btu/h	30,000	36,000
Heating Capacity[2]		Btu/h	34,000	40,000
Casing / Color			Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		in (mm)	11-3/8 × 33-1/8 × 33-1/8" (288.9 x 841.4 x 841.4 mm)	11-3/8 × 33-1/8 × 33-1/8" (288.9 x 841.4 x 841.4 mm)
Coil (Cross Fin Coil)	Rows × Stages × FPI		2×12×17	2×12×17
	Face Area	ft²	5.35	5.35
Fan	Model		QTS45A17M	QTS45A17M
	Type		Turbo Fan	Turbo Fan
	Motor Output	kW	0.09	0.09
	Air Flow Rate (H/L)	cfm	990/710	990/740
	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
Piping Connections	Liquid Pipes	in / mm	ϕ3/8" / 9.5 mm (Flare Connection)	ϕ3/8" / 9.5 mm (Flare Connection)
	Gas Pipes	in / mm	ϕ5/8" / 15.8mm (Flare Connection)	ϕ5/8" / 15.8mm (Flare Connection)
	Drain Pipe	in (mm)	VP25 External Dia. 1-1/4" (31.8mm) Internal Dia. 1" (25.4 mm	VP25 External Dia. 1-1/4" (31.8mm) Internal Dia. 1" (25.4 mm)
Machine Weight (Mass)		Lbs	66	66
Sound Level (H/L)[4]		dBA	38/32	40/33
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve
Connectable outdoor unit			R-410A Series	R-410A Series
Decoration Panels (Option)	Model		BYC125K-W1	BYC125K-W1
	Color		White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H × W × D)	in (mm)	1-5/8 × 37-3/8 × 37-3/8" (41.3 x 949.3 x 949.3 mm)	1-5/8 × 37-3/8 × 37-3/8" (41.3 x 949.3 x 949.3 mm)
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	Lbs	11	11
Standard Accessories			Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washers, Sealing pads, Clamps, Screws, Insulation for fitting.	Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washers, Sealing pads, Clamps, Screws, Insulation for fitting.
Drawing No.			C:3D042686	

Notes:

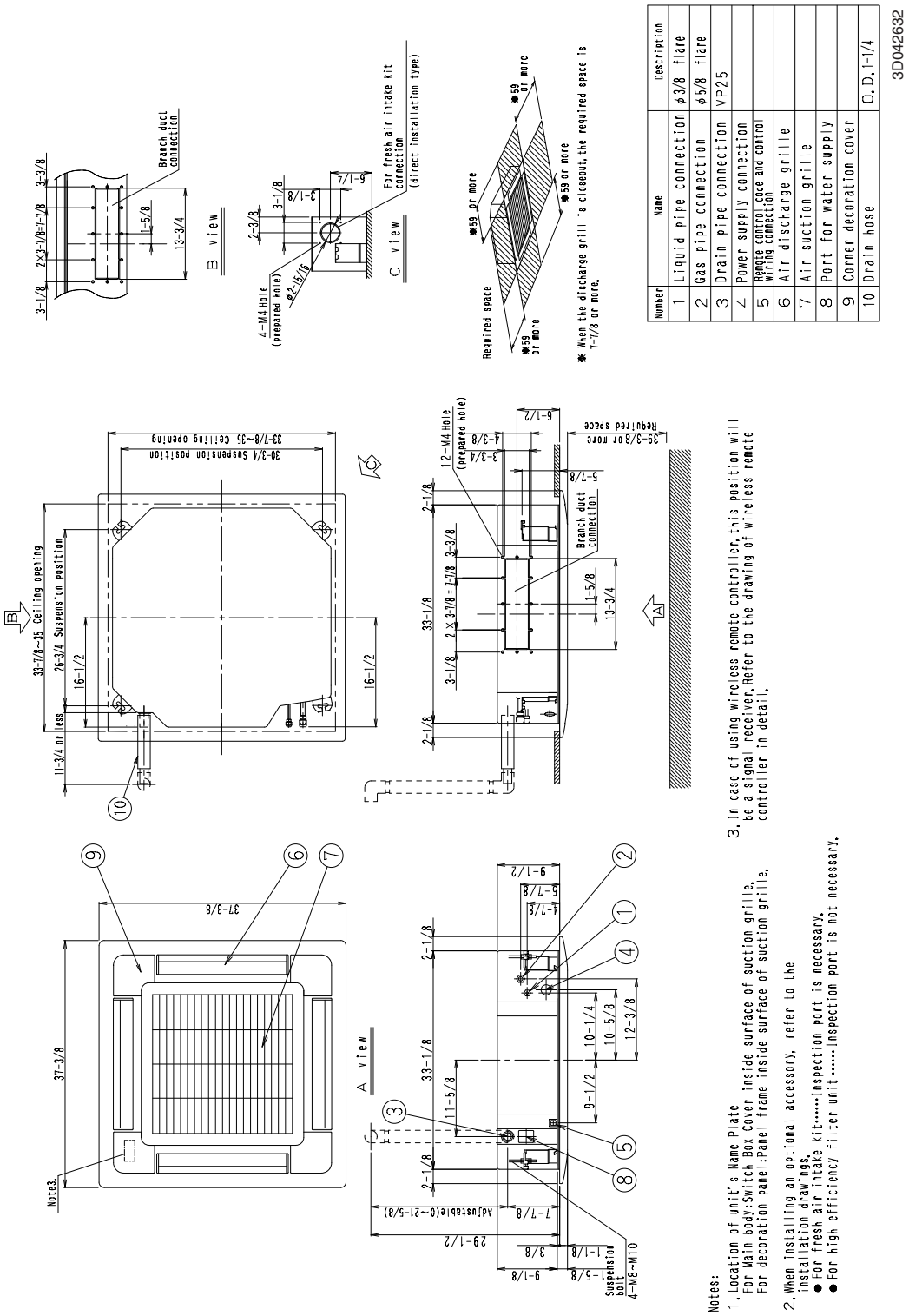
1. Nominal cooling capacities are based on the following conditions:
   Return air temperature: 80°FDB, 67°FWB
   Outdoor temperature: 95°FDB
   Equivalent ref. piping length: 25 ft / 7.5 m (Horizontal)
2. Nominal heating capacities are based on the following conditions:
   Return air temperature: 70°FDB.
   Outdoor temperature: 47°FDB, 43°FWB
   Equivalent ref. piping length: 25 ft / 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

FXFQ12MVJU
FXFQ18MVJU



FXFQ24MVJU

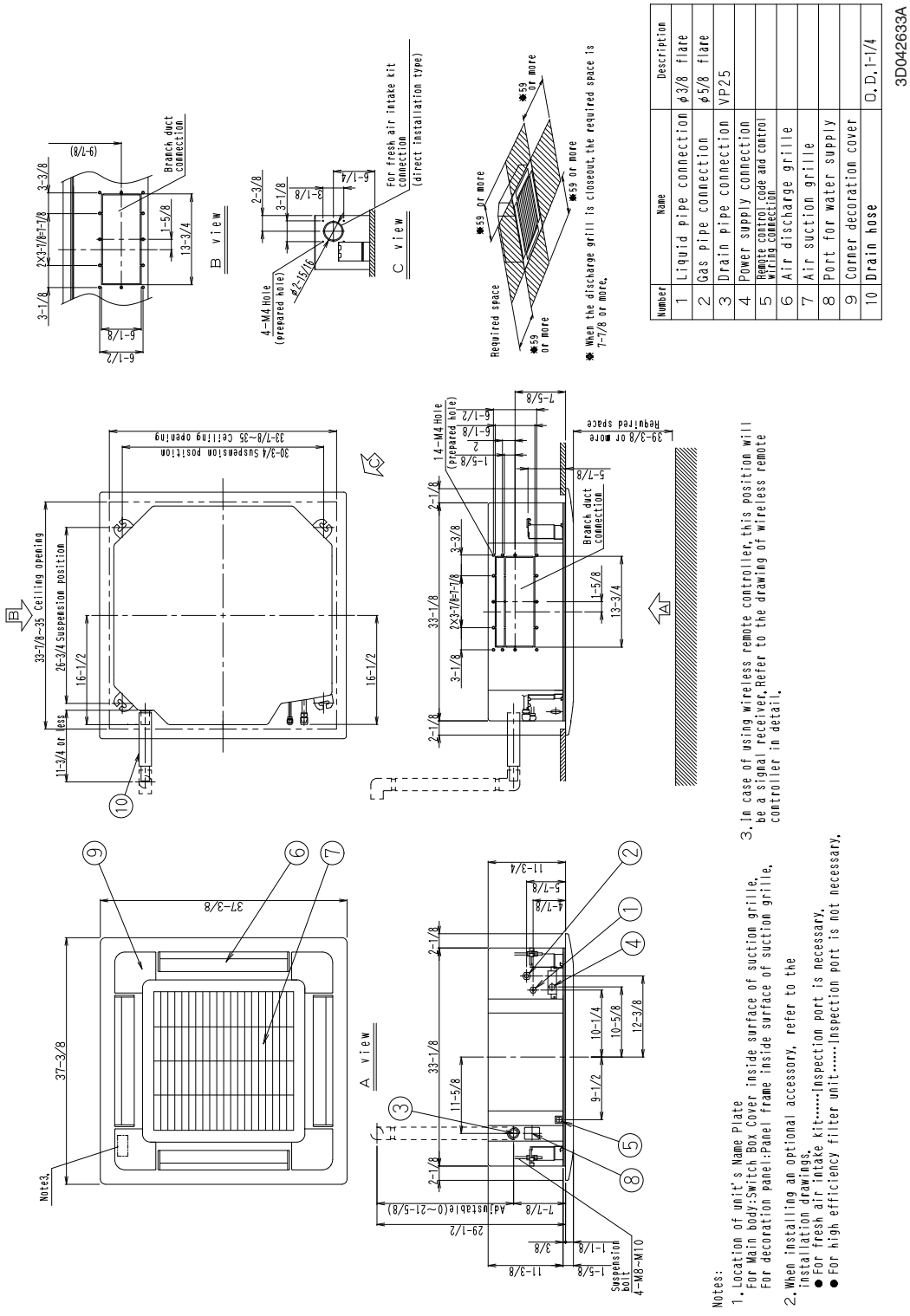


Number	Name	Description
1	Liquid pipe connection	φ3/8 flare
2	Gas pipe connection	φ5/8 flare
3	Drain pipe connection	VP25
4	Power supply connection	
5	Remote control, code and control wiring connection	
6	Air discharge grille	
7	Air suction grille	
8	Port for water supply	
9	Corner decoration cover	
10	Drain hose	O.D.1-1/4

3D042632

Notes:
1. Location of unit's Name Plate
   For Main body:Switch Box Cover inside surface of suction grille.
   For decoration panel:Panel frame inside surface of suction grille.
2. When installing an optional accessory, refer to the installation drawings.
   - For fresh air intake kit……Inspection port is necessary.
   - For high efficiency filter unit……Inspection port is not necessary.
3. In case of using wireless remote controller, this position will be a signal receiver. Refer to the drawing of wireless remote controller in detail.

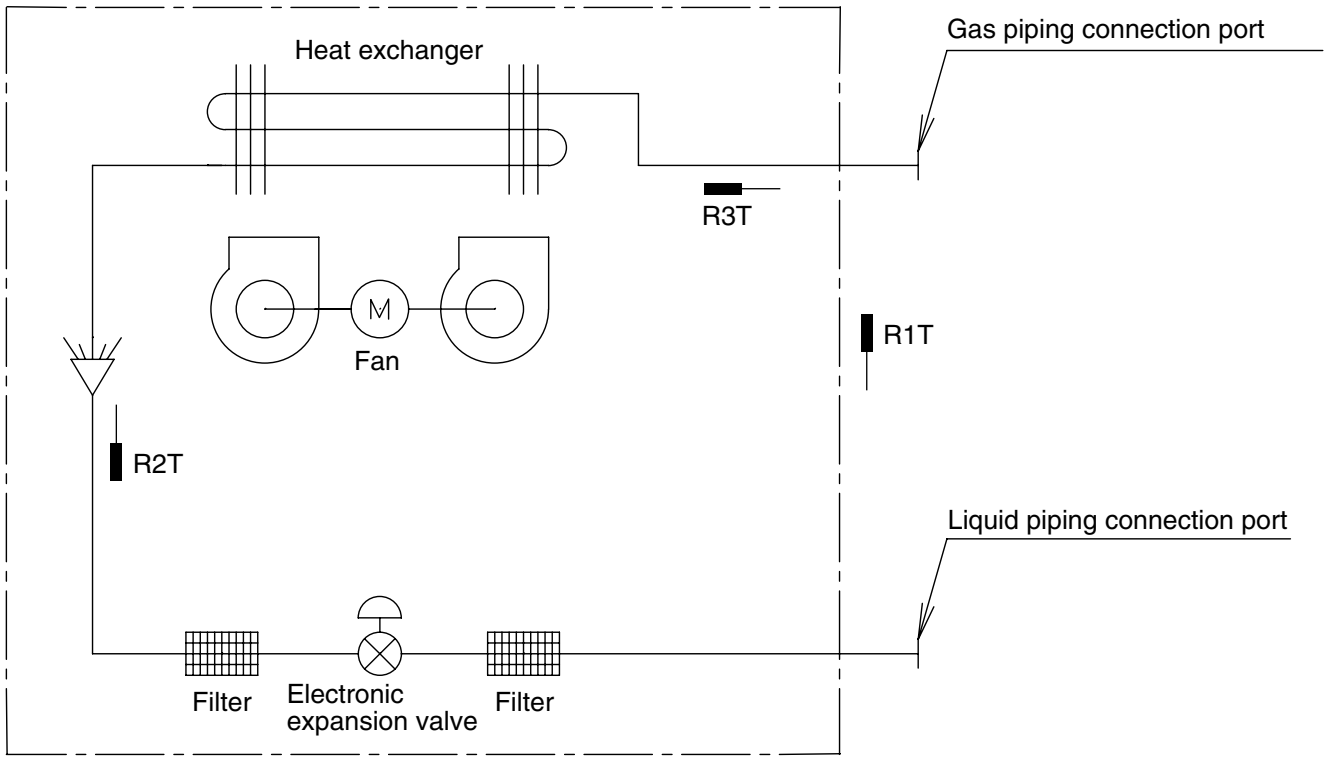
FXFQ30MVJU
FXFQ36MVJU



Number	Name	Description
1	Liquid pipe connection	φ3/8 flare
2	Gas pipe connection	φ5/8 flare
3	Drain pipe connection	VP25
4	Power supply connection	
5	Remote control code and control wiring connection	
6	Air discharge grille	
7	Air suction grille	
8	Port for water supply	
9	Corner decoration cover	
10	Drain hose	O.D.1-1/4

Notes:
1. Location of unit's Name Plate
   For Main body:Switch Box Cover inside surface of suction grille.
   For decoration panel:Panel frame inside surface of suction grille.
2. When installing an optional accessory, refer to the installation drawings.
   - For fresh air intake kit.....Inspection port is necessary.
   - For high efficiency filter unit.....Inspection port is not necessary.
3. 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



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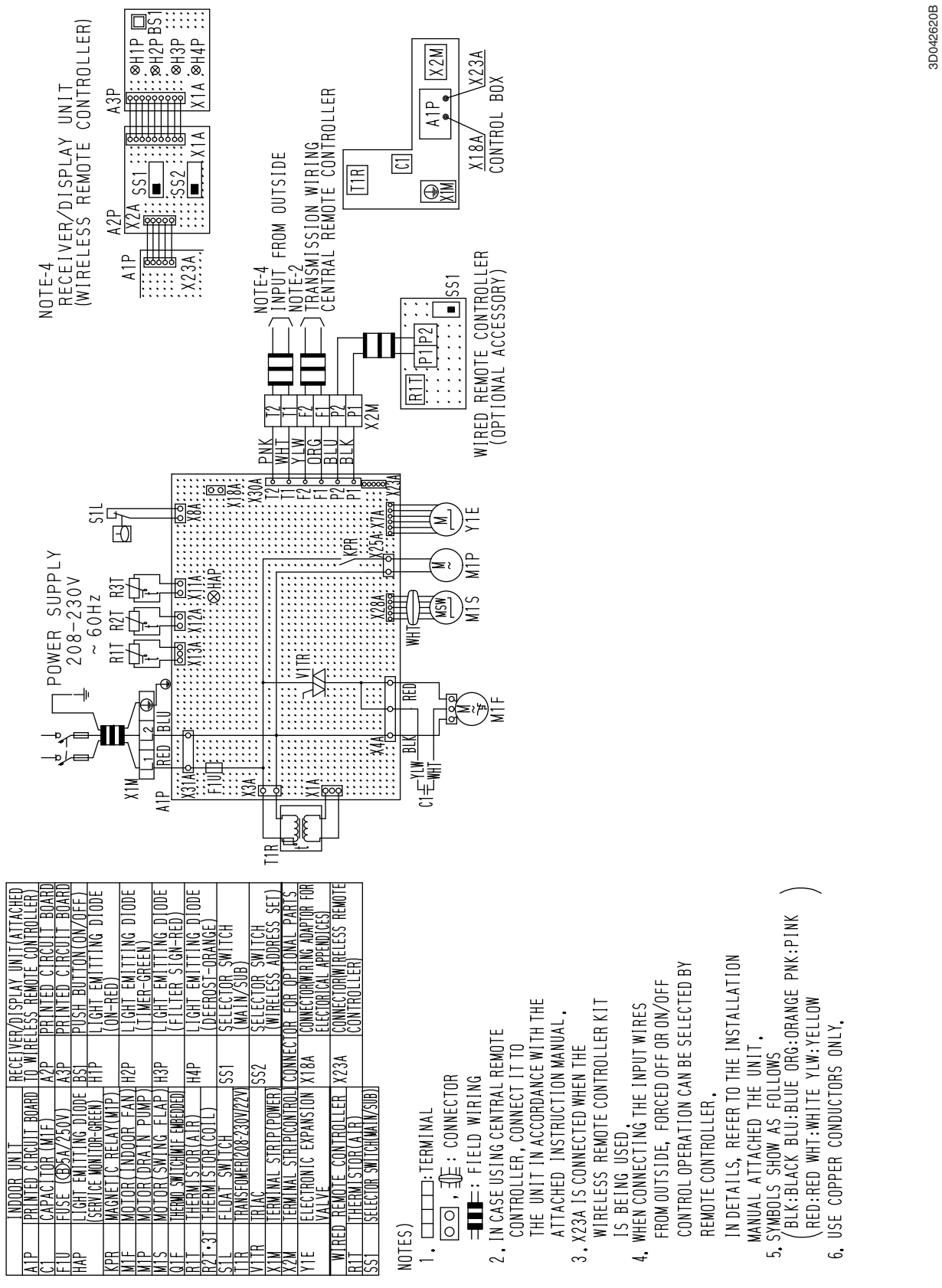
R1T : Thermistor for suction air temperature
R2T : Thermistor for liquid line temperature
R3T : Thermistor for gas line temperature

Capacity	Gas	Liquid
12/18 M	ϕ1/2” (12.7 mm)	ϕ1/4” (6.4 mm)
24/30/36 M	ϕ5/8” (15.8 mm)	ϕ3/8” (9.5 mm)

5. Wiring Diagrams

FXFQ12M/18M/24M/30M/36MVJU



6. Electric Characteristics

Units					Power supply		IFM		Input(W)	
Model	Type	Hz	Volts	Voltage range	MCA	MFA	KW	FLA	Cooling	Heating
FXFQ12M	VJ	60	208-230	MAX. 253 Min. 187	0.6	15	0.045	0.5	104	89
FXFQ18M					0.7	15	0.045	0.6	119	104
FXFQ24M					0.8	15	0.045	0.6	133	118
FXFQ30M					1.2	15	0.090	1.0	204	189
FXFQ36M					1.2	15	0.090	1.0	217	202

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.

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

C:4D042636A

7. Capacity Tables

7.1 Cooling Capacity

FXFQ-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
12	75	9.5	8.1	10.7	8.8	12.0	9.4	13.3	9.4	14.0	9.5	14.3	9.6
	79	9.5	8.1	10.7	8.8	12.0	9.4	13.3	9.4	13.8	9.5	14.0	9.6
	83	9.5	8.1	10.7	8.8	12.0	9.4	13.3	9.4	13.6	9.4	13.8	9.5
	87	9.5	8.1	10.7	8.8	12.0	9.4	13.2	9.4	13.3	9.3	13.6	9.4
	91	9.5	8.1	10.7	8.8	12.0	9.4	13.0	9.3	13.1	9.3	13.4	9.4
	95	9.5	8.1	10.7	8.8	12.0	9.4	12.7	9.2	12.9	9.2	13.1	9.3
	99	9.5	8.1	10.7	8.8	12.0	9.4	12.5	9.1	12.7	9.1	12.9	9.3
	103	9.5	8.1	10.7	8.8	12.0	9.4	12.3	9.1	12.4	9.1	12.7	9.3
18	75	14.2	11.1	16.1	11.9	18.0	12.8	19.9	13.3	21.0	13.5	21.4	13.3
	79	14.2	11.1	16.1	11.9	18.0	12.8	19.9	13.3	20.7	13.3	21.1	13.3
	83	14.2	11.1	16.1	11.9	18.0	12.8	19.9	13.3	20.4	13.2	20.7	13.2
	87	14.2	11.1	16.1	11.9	18.0	12.8	19.8	13.2	20.0	13.1	20.4	13.1
	91	14.2	11.1	16.1	11.9	18.0	12.8	19.4	13.2	19.7	13.0	20.1	12.9
	95	14.2	11.1	16.1	11.9	18.0	12.8	19.1	13.2	19.3	12.9	19.7	12.8
	99	14.2	11.1	16.1	11.9	18.0	12.8	18.8	13.1	19.0	12.7	19.4	12.8
	103	14.2	11.1	16.1	11.9	18.0	12.8	18.4	13.1	18.7	12.7	19.0	12.8
24	75	18.9	15.0	21.5	16.1	24.0	17.5	26.5	17.8	28.0	18.2	28.5	17.7
	79	18.9	15.0	21.5	16.1	24.0	17.5	26.5	17.8	27.6	18.0	28.1	17.6
	83	18.9	15.0	21.5	16.1	24.0	17.5	26.5	17.8	27.1	17.8	27.6	17.4
	87	18.9	15.0	21.5	16.1	24.0	17.5	26.4	17.7	26.7	17.5	27.2	17.2
	91	18.9	15.0	21.5	16.1	24.0	17.5	25.9	17.5	26.2	17.2	26.7	17.0
	95	18.9	15.0	21.5	16.1	24.0	17.5	25.5	17.2	25.8	17.0	26.3	16.7
	99	18.9	15.0	21.5	16.1	24.0	17.5	25.0	17.0	25.3	16.7	25.8	16.5
	103	18.9	15.0	21.5	16.1	24.0	17.5	24.6	16.7	24.9	16.4	25.4	16.2
30	75	23.7	20.1	26.8	21.2	30.0	23.1	33.2	23.5	35.1	23.8	35.7	22.1
	79	23.7	20.1	26.8	21.2	30.0	23.1	33.2	23.5	34.5	23.6	35.1	21.9
	83	23.7	20.1	26.8	21.2	30.0	23.1	33.2	23.5	33.9	23.4	34.5	21.7
	87	23.7	20.1	26.8	21.2	30.0	23.1	33.0	23.5	33.4	23.2	34.0	21.4
	91	23.7	20.1	26.8	21.2	30.0	23.1	32.4	23.3	32.8	23.0	33.4	21.2
	95	23.7	20.1	26.8	21.2	30.0	23.1	31.8	23.0	32.2	22.7	32.9	20.9
	99	23.7	20.1	26.8	21.2	30.0	23.1	31.3	22.8	31.7	22.4	32.3	20.6
	103	23.7	20.1	26.8	21.2	30.0	23.1	30.7	22.7	31.1	22.1	31.7	20.3
36	75	28.4	21.9	32.2	23.5	36.0	25.2	39.8	26.3	42.1	26.5	42.8	25.7
	79	28.4	21.9	32.2	23.5	36.0	25.2	39.8	26.3	41.4	26.2	42.1	25.4
	83	28.4	21.9	32.2	23.5	36.0	25.2	39.8	26.3	40.7	25.8	41.5	25.0
	87	28.4	21.9	32.2	23.5	36.0	25.2	39.5	26.2	40.0	25.4	40.8	24.7
	91	28.4	21.9	32.2	23.5	36.0	25.2	38.9	25.8	39.4	25.0	40.1	24.3
	95	28.4	21.9	32.2	23.5	36.0	25.2	38.2	25.4	38.7	24.6	39.4	23.9
	99	28.4	21.9	32.2	23.5	36.0	25.2	37.5	25.1	38.0	24.3	38.8	23.6
	103	28.4	21.9	32.2	23.5	36.0	25.2	36.8	24.7	37.3	23.9	38.1	23.2

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

FXFQ-M

Heating Capacity

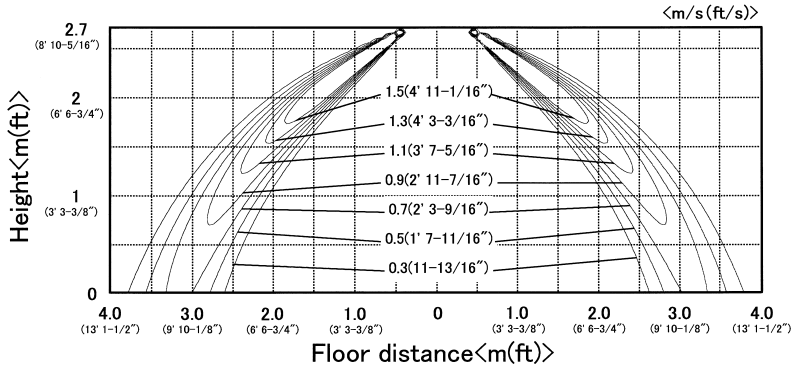
Indoor unit	Outdoor Air Temp.		Indoor Air Temp. °FDB					
			62	65	68	70	72	75
			TC	TC	TC	TC	TC	TC
	°FDB	°FWB	MBh	MBh	MBh	MBh	MBh	MBh
12	22.0	20.0	11.7	11.7	11.6	11.6	11.6	11.6
	26.0	24.0	12.2	12.2	12.2	12.2	12.2	12.1
	30.0	28.0	12.8	12.8	12.7	12.7	12.7	12.3
	35.0	32.0	13.3	13.3	13.3	13.3	13.0	12.3
	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
30	22.0	20.0	29.2	29.1	29.1	29.0	29.0	28.9
	26.0	24.0	30.6	30.5	30.5	30.4	30.4	30.3
	30.0	28.0	32.0	31.9	31.9	31.8	31.8	30.6
	35.0	32.0	33.3	33.3	33.2	33.2	32.5	30.6
	39.0	36.0	34.7	34.7	34.6	34.0	32.5	30.6
	44.0	40.0	36.1	36.1	35.0	34.0	32.5	30.6
	47.0	43.0	37.2	36.9	35.0	34.0	32.5	30.6
	51.0	47.0	38.6	36.9	35.0	34.0	32.5	30.6
	54.0	50.0	38.7	36.9	35.0	34.0	32.5	30.6
	57.0	53.0	38.7	36.9	35.0	34.0	32.5	30.6
	60.0	56.0	38.7	36.9	35.0	34.0	32.5	30.6
36	22.0	20.0	35.0	35.0	34.9	34.8	34.8	34.7
	26.0	24.0	36.7	36.6	36.6	36.5	36.5	36.4
	30.0	28.0	38.4	38.3	38.2	38.2	38.1	36.8
	35.0	32.0	40.0	40.0	39.9	39.8	39.0	36.8
	39.0	36.0	41.7	41.6	41.6	40.0	39.0	36.8
	44.0	40.0	43.4	43.3	42.0	40.0	39.0	36.8
	47.0	43.0	44.6	44.2	42.0	40.0	39.0	36.8
	51.0	47.0	46.3	44.2	42.0	40.0	39.0	36.8
	54.0	50.0	46.5	44.2	42.0	40.0	39.0	36.8
	57.0	53.0	46.5	44.2	42.0	40.0	39.0	36.8
	60.0	56.0	46.5	44.2	42.0	40.0	39.0	36.8

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

8. Air Velocity and Temperature Distributions

FXFQ12M <Cooling mode>

AIRFLOW DISTRIBUTIONS



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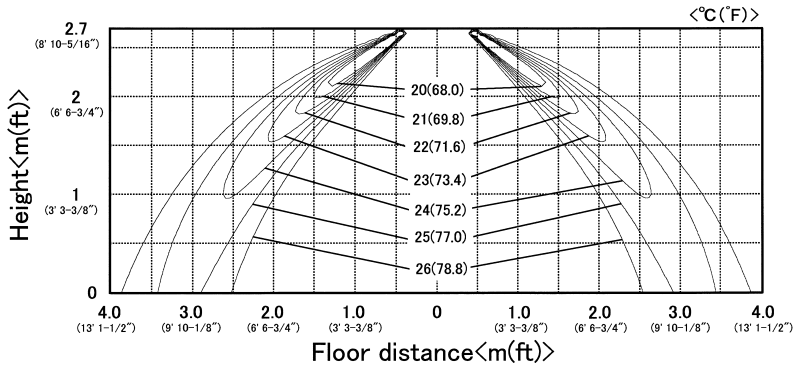

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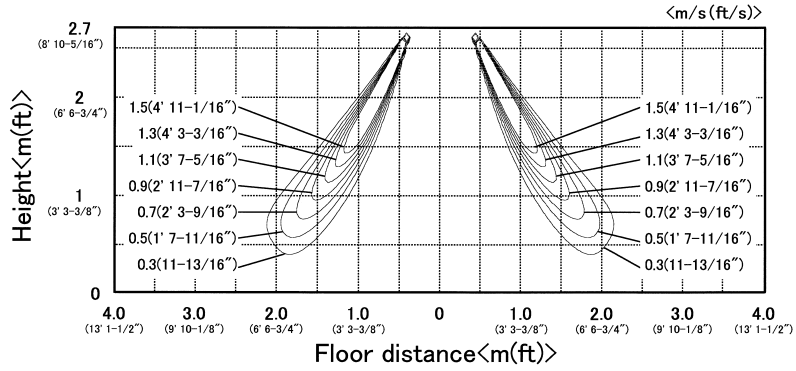

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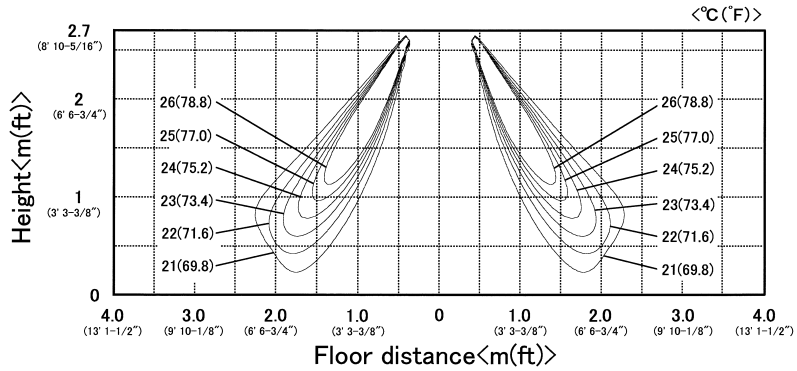

3D052941

FXFQ18M <Cooling mode>

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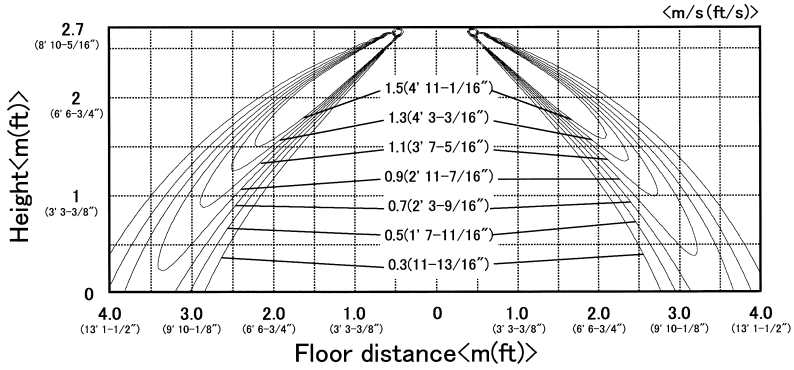

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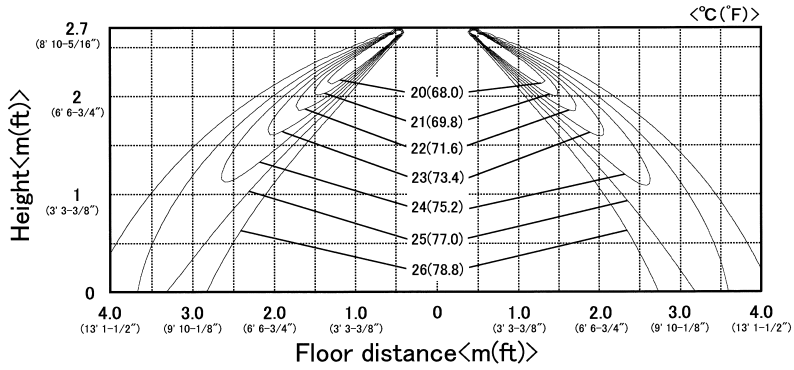

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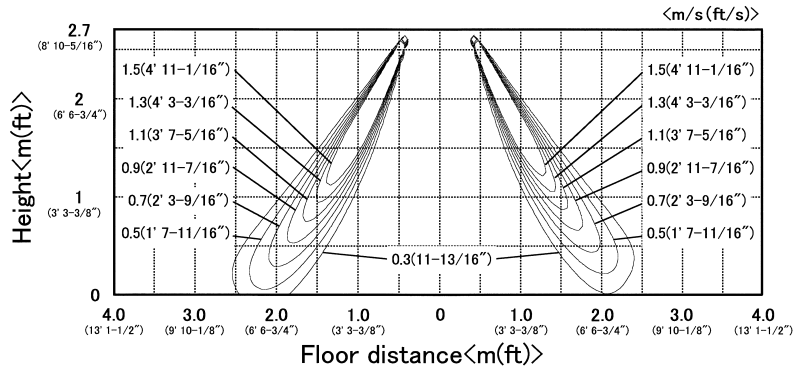

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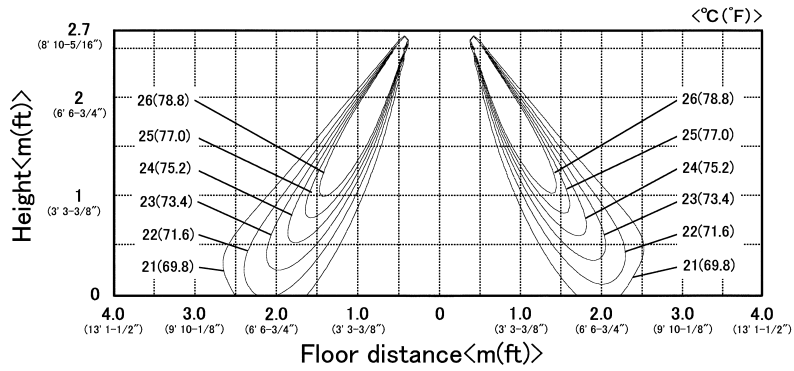

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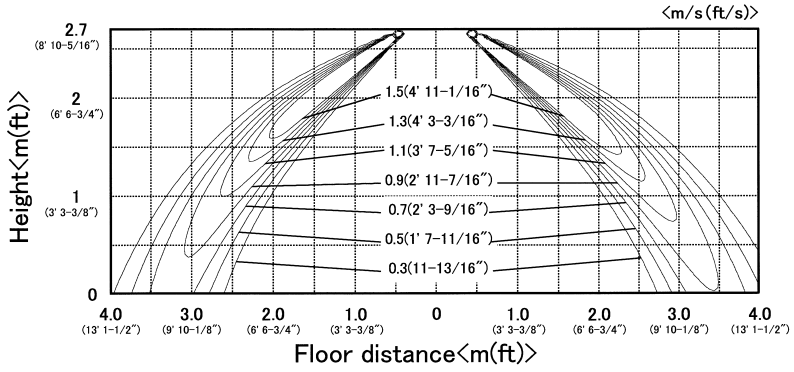

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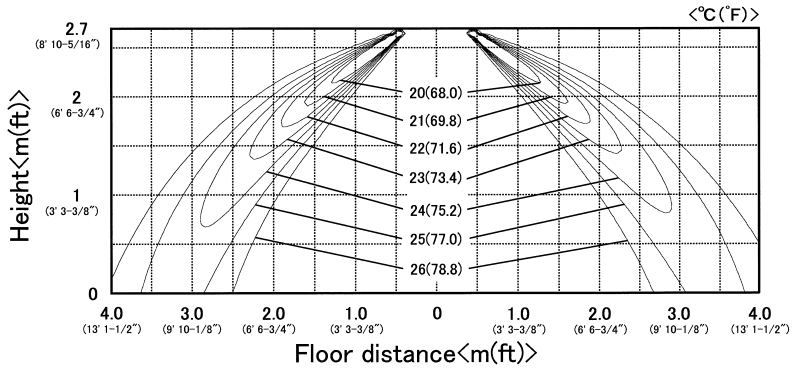

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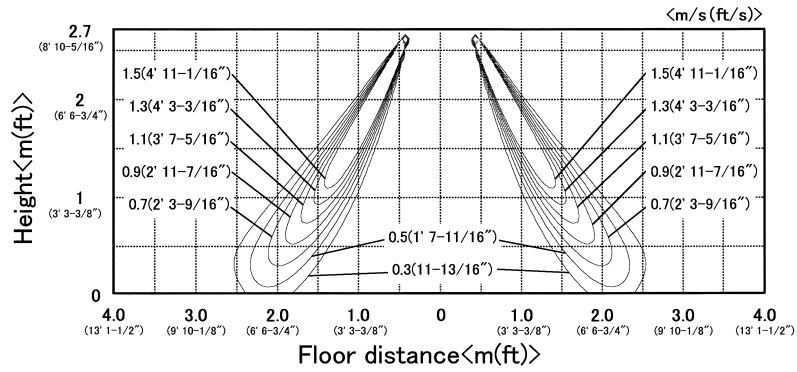

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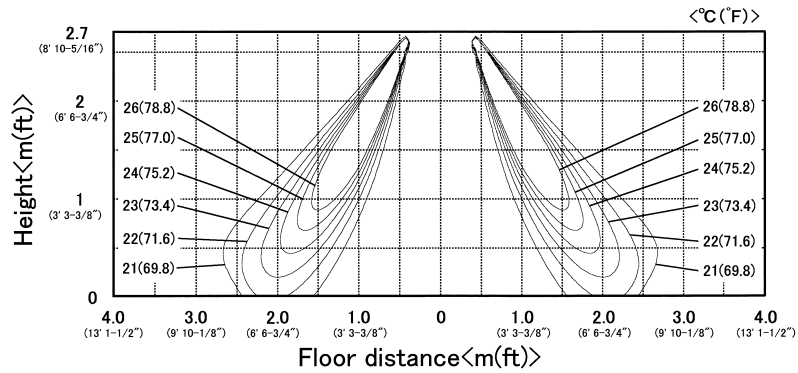

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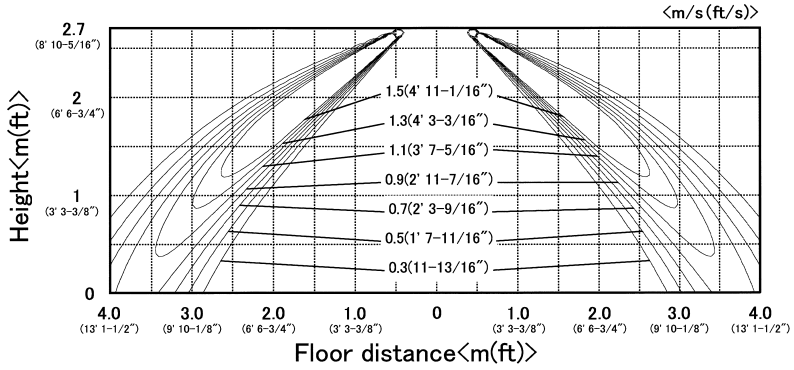

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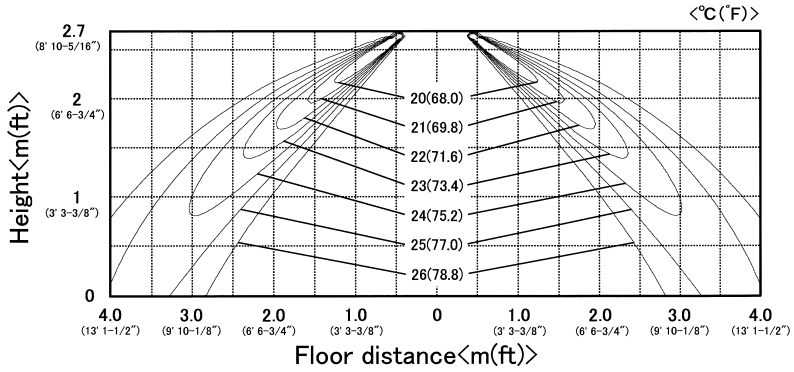

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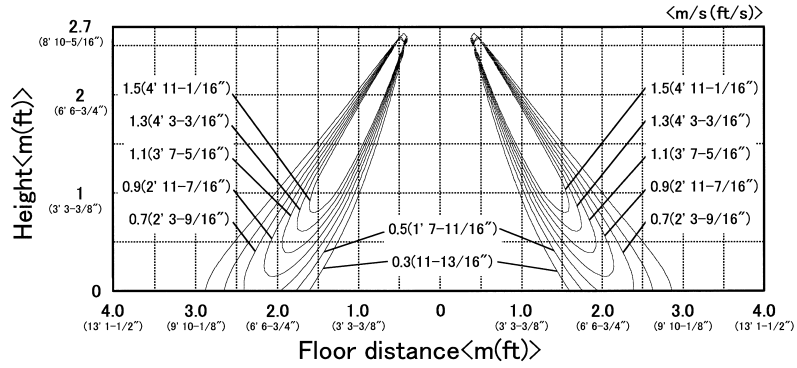

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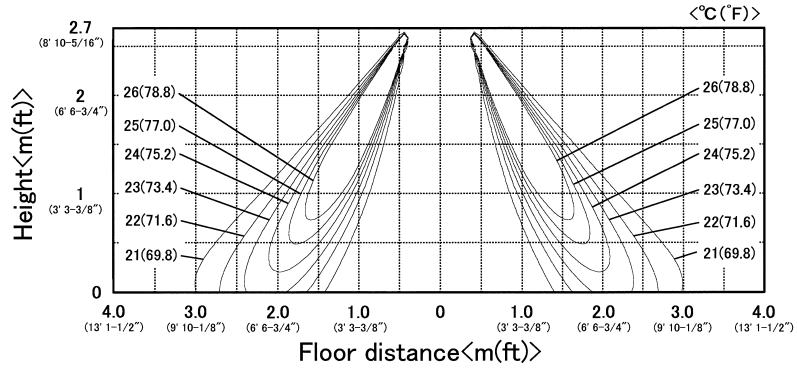

3D052944

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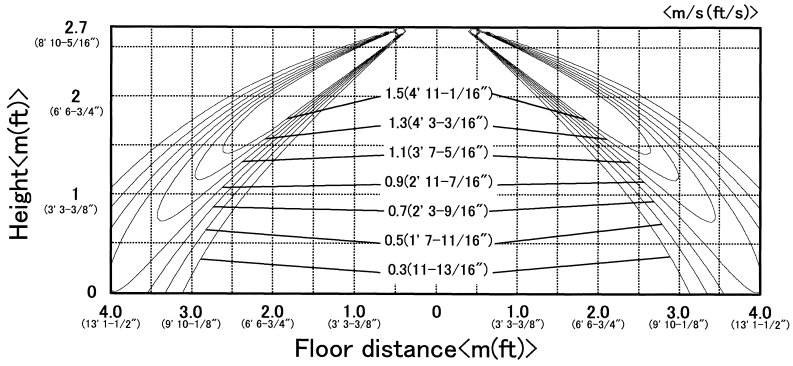

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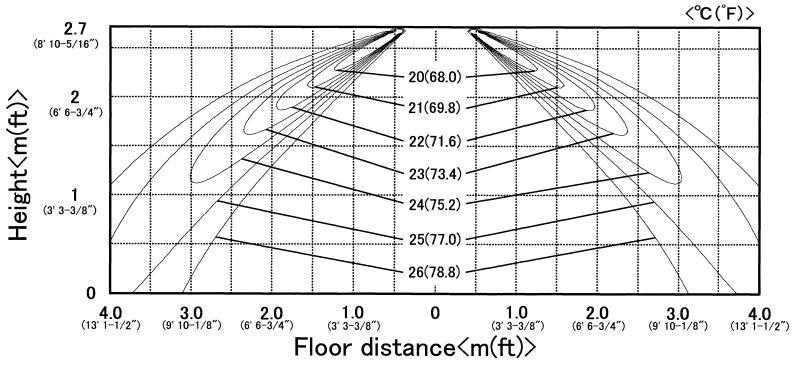

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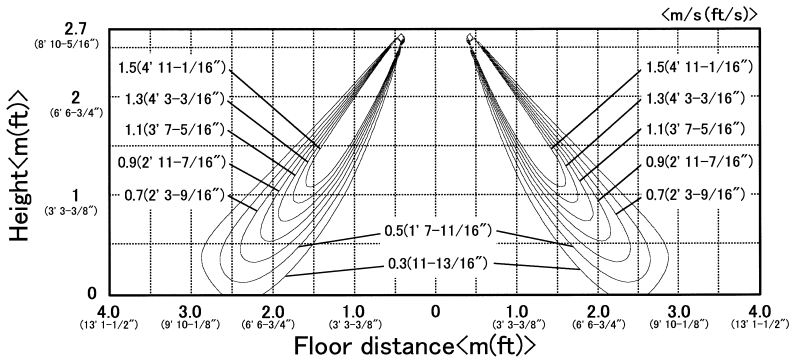

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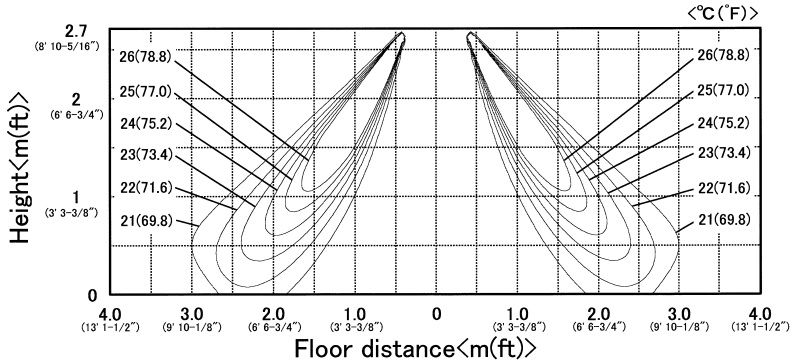
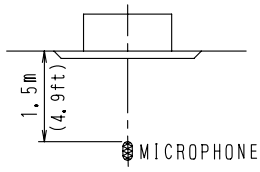


3D052945

9. Sound Levels

Overall

■ **Ceiling Mounted Cassette Type (Multi Flow)**



Notes:
Operation noise differs with operation and ambient conditions.

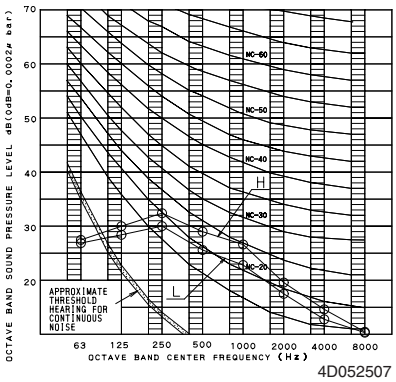
dBA

Model	208~230V, 60Hz	
	H	L
FXFQ12MVJU	31	28
FXFQ18MVJU	33	28
FXFQ24MVJU	34	29
FXFQ30MVJU	38	32
FXFQ36MVJU	40	33

Octave Band Level

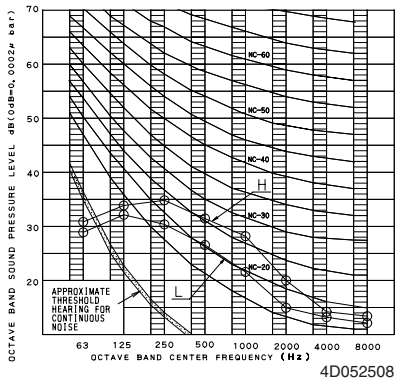
208V~230V

FXFQ12MVJU



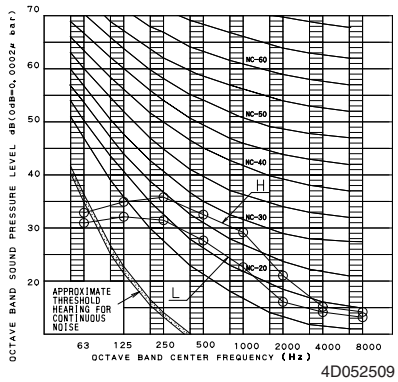
4D052507

FXFQ18MVJU



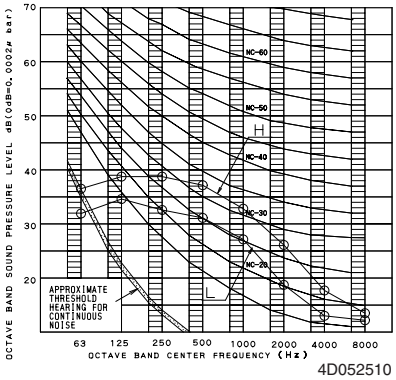
4D052508

FXFQ24MVJU



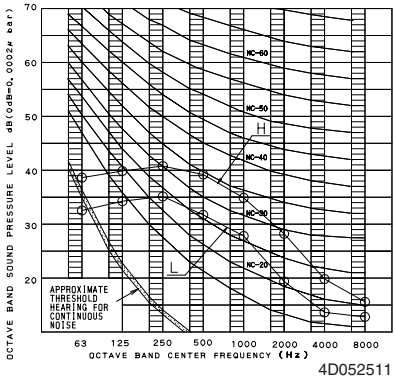
4D052509

FXFQ30MVJU



4D052510

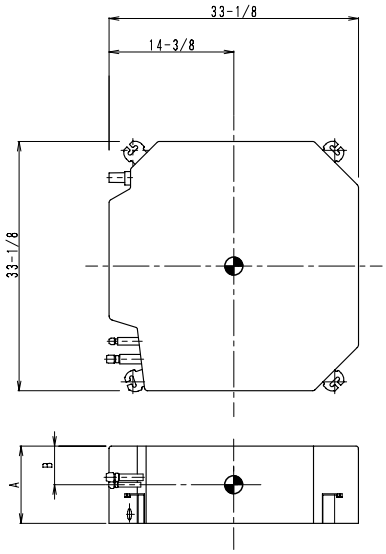
FXFQ36MVJU



4D052511

10. Installation

Center of Gravity (inches)



	A	B
FXFQ12, 18, 24MVJU	9-1/8	4-1/2
FXFQ30, 36MVJU	11-3/8	6-3/4

4D042639A

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, results 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 situations that may result in equipment or property-damage 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 explosions that can cause serious injury or death.**
- **Refrigerant gas is heavier than air and displaces oxygen. A massive leak can lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.**
- **If equipment utilizing a burner is used in the same room as the air conditioner, there is danger of oxygen deficiency which can lead to asphyxiation resulting in serious injury or death. Be sure to ventilate the room sufficiently to avoid this hazard.**
- **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.
- **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 from a fan, heater, stove, cooking device, or other heat source. Exposure to this gas can cause 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 do not play with them and risk death by suffocation.

⚠ WARNING

- **Ask your dealer or qualified personnel to carry out installation work. Do not try to install the machine 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.
- **Carry out the specified installation work after taking into account strong winds, typhoons, or earthquakes.**
  Improper installation work may result in the equipment falling and causing accidents.
- **Check the unit stand for for damage on a continual basis, especially if it has been used for a long time. If left in a damanged condition the unit may fall and cause injury.**
- **Do not allow children to play on or around the unit as they can be injured.**
- **Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified 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 that 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.
- **Before touching electrical parts, turn off the unit.**
- **Be sure to establish a ground.**
  Do not ground the unit to a utility pipe, arrester, or telephone ground.
  Incomplete ground may cause electrical shock, or fire. A high surge current from lightning or other sources may cause damage to the air conditioner.
- **Placing a flower vase or other containers with water or other liquids can result in a shock hazard or fire if spilling occurs.**
- **Do not put a finger or other objects into the air inlet or air outlet as the fan is rotating at a high speed and will cause injury.**

- **Do not touch the air outlet or horizontal flaps while the swing flap is in operation as fingers may get caught and injured.**
- **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 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 flammables 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 to 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.

⚠ CAUTION

- **While following the instructions in this installation manual, install drain piping in order to ensure proper drainage and insulate piping in order to prevent condensation.**
  Improper drain piping 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. to prevent leaks or other problems. **Take adequate measures to prevent outdoor unit from being 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 the 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 the refrigerant, oil, and other parts, should be done in accorandce with the relevant local and national regulatio**

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, the refrigerant piping, drain piping, and other resin parts.**
- 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 moving, 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.
- When moving the unit at or after opening, hold the unit by the hanger brackets (× 4). Do not apply force to the refrigerant piping, drain piping or plastic parts.
- For the installation of an outdoor unit, refer to the installation manual attached to the outdoor unit.
- Do not install or operate the unit in rooms mentioned below.
  - **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 exposed to combustible gases and where volatile flammable gas like thinner or gasoline is used. (Gas in the vicinity of the unit could ignite.)**
  - **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 a qualified serviceman. 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.

⚠ CAUTION

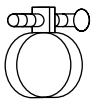
- Do not install or operate the unit in the following areas:
- **Kitchens or rooms that might be laden with mineral oil, or filled with oil vapor or spray.**
  Plastic parts may deteriorate and eventually cause the unit to fall out of place or leak.
- **Where sulfurous or other corrosive gas exists.**
  Copper tubing and brazed spots may corrode and lead to refrigerant leaks.
- **Where machines generate electromagnetic wves and cause the control system to malfunction.**
- **Where the air contrains high levels of salt as near the ocean, and where voltage fluctuates greatly as in factories, vehicles, or vessels.**
- Entrust installation to the place of purchase or a qualified serviceman. Improper installation can result in leaks or even electric shock or fire.
- Use of unspecified parts could result in the unit falling, leaks, or even electric shock or fire. Be sure to read this manual before installing the indoor unit.
- Be sure to procure an air filter in the field and mount it in the suction air passage to prevent water leaks or other problems.

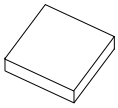
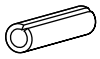
⚠ NOTE

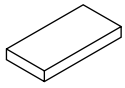
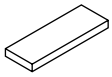
- Be sure to read this manual before installing the indoor unit.
- Be sure to mount an air filter (part to be procured in the field) in the suction air passage in order to prevent water leaking or other problems.

2-1 ACCESSORIES

Check the following accessories are included with your unit.

Name	1) Drain hose	2) Metal clamp	3) Washer for hanger bracket	4) Clamp
Quantity	1 pc.	1 pc.	8 pcs.	4 pcs.
Shape				

Name	5) Paper pattern for installation	6) Screws (M5)	7) Washer fixing plate	Insulation for fitting
Quantity	1 pc.	4 pcs.	4 pcs.	1 each
Shape	Also used as packing material 	For paper pattern for installation 		 8) for gas pipe  9) for liquid pipe

Name	Sealing pad		
Quantity	1 each	2 pcs.	
Shape	 10) Large  11) Medium	 12) Small	(Other) Installation manual Operation manual

2-2 OPTIONAL ACCESSORIES

- The optional decoration panel and remote controller are required for this indoor unit.

Table 1

Model	Optional decoration panel	
	Color	White
FXFQ12 · 18 · 24 · 30 · 36MVJU	BYC125KW1	

Table 2

Remote controller	
Wired type	BRC1D71

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

a. Items to be checked after completion of work

Items to be checked	If not properly done, what is likely to occur.	Check
Are the indoor and outdoor unit fixed firmly?	The units may drop, vibrate or make noise.	
Is the gas leak test finished?	It may result in insufficient cooling.	
Is the unit fully insulated?	Condensate water may drip.	
Does drainage flow smoothly?	Condensate water may drip.	
Does the power supply voltage correspond to that shown on the name plate?	The unit may malfunction or the components burn out.	
Are wiring and piping correct?	The unit may malfunction or the components burn out.	
Is the unit safely grounded?	Dangerous at electric leakage.	
Is wiring size according to specifications?	The unit may malfunction or the components burn out.	
Is something blocking the air outlet or inlet of either the indoor or outdoor units?	It may result in insufficient cooling.	
Are refrigerant piping length and additional refrigerant charge noted down?	The refrigerant charge in the system is not clear.	

b. Items to be checked at time of delivery

Also review the **SAFETY CONSIDERATIONS**

Items to be checked	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 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

Attach an additional insulation pipe cover to the unit body when it is believed that the relative humidity in the ceiling exceeds 80%. Use glass wool, polyethylene foam, or something similar with a minimum 3/8 inch thickness as insulation.

For this unit, you are able to select air flow direction.
To enable the discharge of air in 2 or 3 directions, it is necessary to purchase the optional blocking pad kit.

(1) Select an installation site where the following conditions are fulfilled and that meets with your customer's approval:
- No possible dripping of water from the refrigerant pipe, drain pipe, or water pipe into the upper space of the indoor unit, including the back of the ceiling.
- Optimum air distribution can be ensured.
- Nothing blocks air passage.
- Condensate can be properly drained.
- False ceiling is not noticeably on an incline.
- Sufficient clearance for maintenance and service can be ensured.
- Piping between indoor and outdoor units is possible within the allowable limit. Refer to the installation manual of the outdoor 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.

⚠ WARNING

- If supporting structural members are not strong enough to take the unit's weight, the unit could fall out of place and cause serious injury.

⚠ NOTE

- Install the indoor and outdoor units, power supply wiring and connecting wires at least 3.5ft. 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 enough to eliminate the noise.

(2) Ceiling height

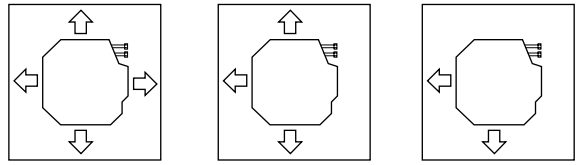
This indoor unit may be installed on ceilings up to 11.5 ft. (30, 36: 13.8 ft.) in height as shown in the following table:

		Number of discharge outlets used		
		FXFQ12M~24M		
		4-way air discharge	3-way air discharge	2-way air discharge
Ceiling height	Standard	8.9	9.9	11.5
		Number of discharge outlets used		
		FXFQ30M·36M		
		4-way air discharge	3-way air discharge	2-way air discharge
Ceiling height	Standard	10.5	11.8	13.8

(3) Airflow direction

The below figures are approximations. Select airflow directions best suited to the room and point of installation. For air discharge in 2 or 3 directions, it is necessary to make field settings by remote controller and to close the air outlet(s). Refer to the section FIELD SETTING in the installation manual of the optional blocking pad kit.

[Air flow direction]

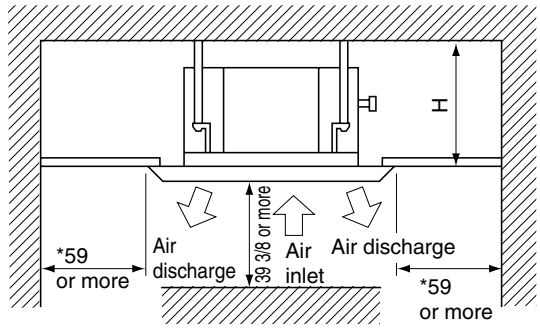


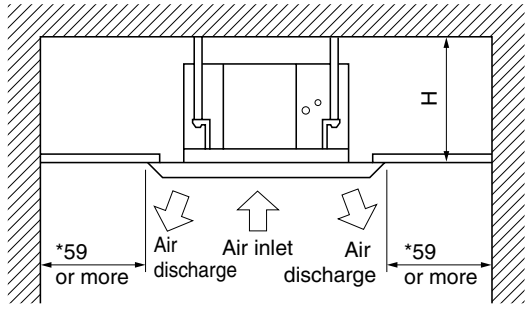
Air discharge in 4 directions | Air discharge in 3 directions | Air discharge in 2 directions

(4) Use suspension bolts for installation. Ensure the ceiling is strong enough to support the weight of the unit If any risk, reinforce the ceiling before installing the unit.

(5) Refer to the installation pattern for instructions and to check for points requiring reinforcing.)

[Space required for installation]





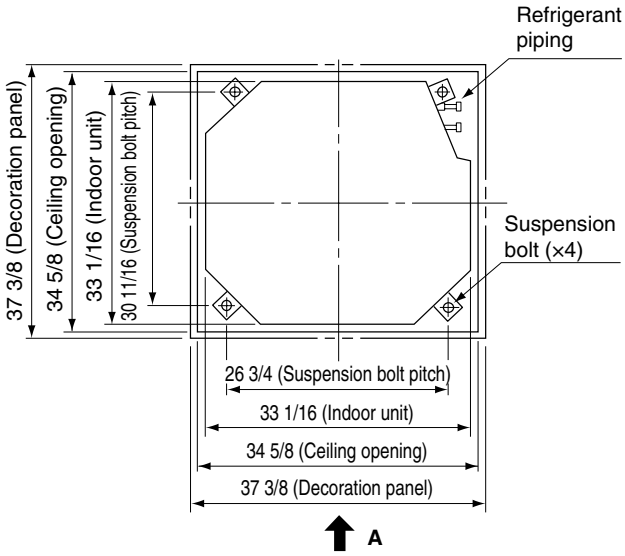
NOTE) Leave 7 7/8 or more space where marked with the *, on sides where the air outlet is closed.

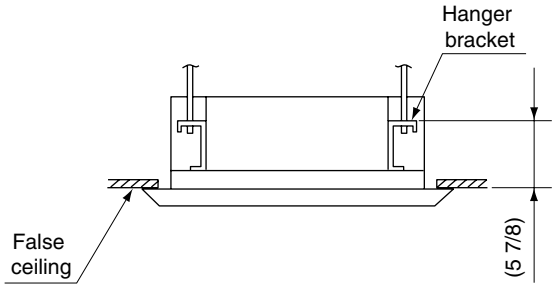
Model	H
FXFQ12 · 18 · 24MVJU	9 7/16 or more
FXFQ30 · 36MVJU	11 3/4 or more

(length: in.)

4. PREPARATIONS BEFORE INSTALLATION

(1) Relation of ceiling opening to unit and suspension bolt position



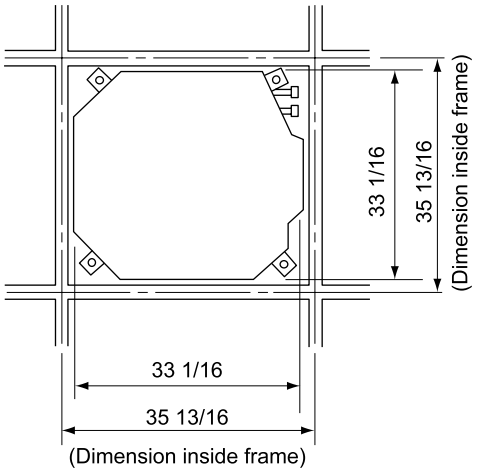


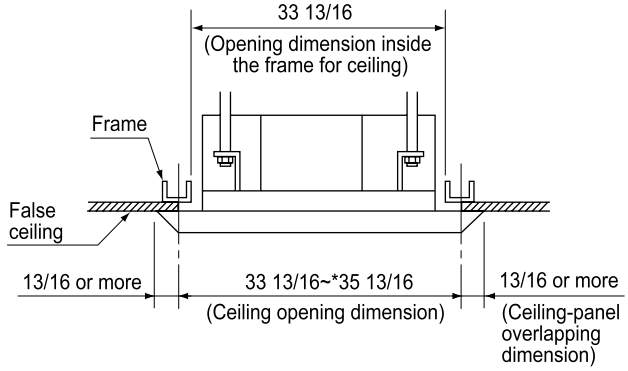
[View as seen from A]

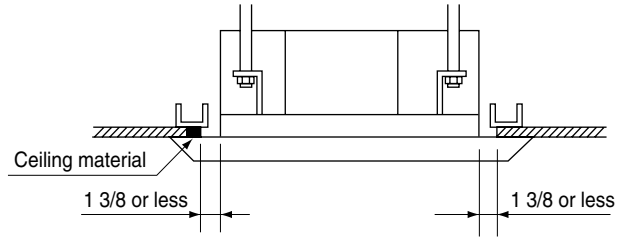
(length: in.)

■ Installation is possible when ceiling-opening dimensions are as follows:

•







(length: in.)

NOTE) Installation is possible with a ceiling dimension of 35 13/16 (marked with *). However, to achieve a ceiling-panel overlapping dimension of 13/16, the spacing between the ceiling and the unit should be 1 3/8 or less. If the spacing between ceiling and the unit is over 1 3/8, attach false ceiling to ■ part or recover the ceiling.

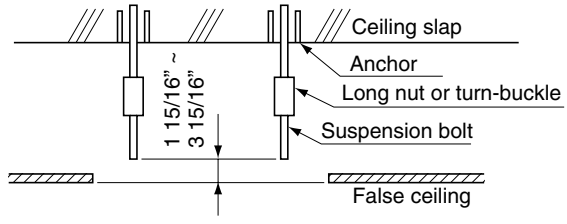
(2) Make the ceiling opening needed for installation where applicable. (For existing ceilings)

- Refer to the paper pattern for ceiling opening dimensions.
- Create the ceiling opening required for installation. From the side of the opening to the casing outlet, implement the refrigerant, drain piping, and wiring for remote controller (unnecessary if wireless) and indoor-outdoor unit casing outlet. Refer to each PIPING or WIRING section.
- After making an opening in the ceiling, it may be necessary to reinforce ceiling beams to keep the ceiling level and to prevent it from vibrating. Consult the builder for details.

(3) Install the suspension bolts using either a W3/8" or M10 size bolt.

Use a hole-in anchor for existing ceilings, and a sunken insert, sunken anchor, or other new ceiling parts to reinforce the ceiling to bear the weight of the unit. Adjust clearance from the ceiling before proceeding further.

〈 Installation example 〉



NOTE) All the above parts are field supplied.

5. INSTALLATION PROCEDURES FOR FRESH AIR INTAKE DUCT CONNECTION

(1) Cut off the knockout hole on the side plate. Then, cut the inner insulation of the hole portion. **Refer to Fig. 1**

(2) Adhere the insulation to the opening of the unit. **Refer to Fig. 2**

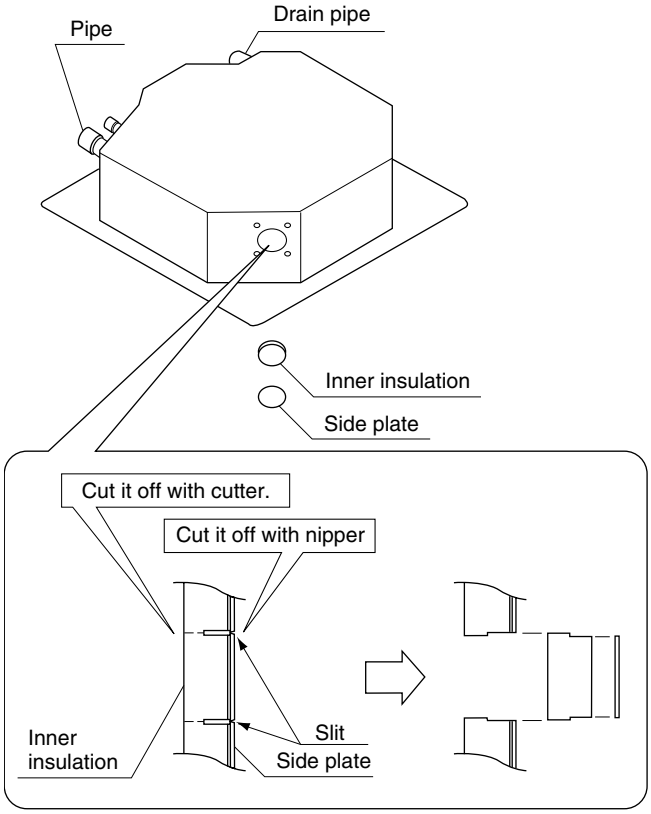


Fig. 1

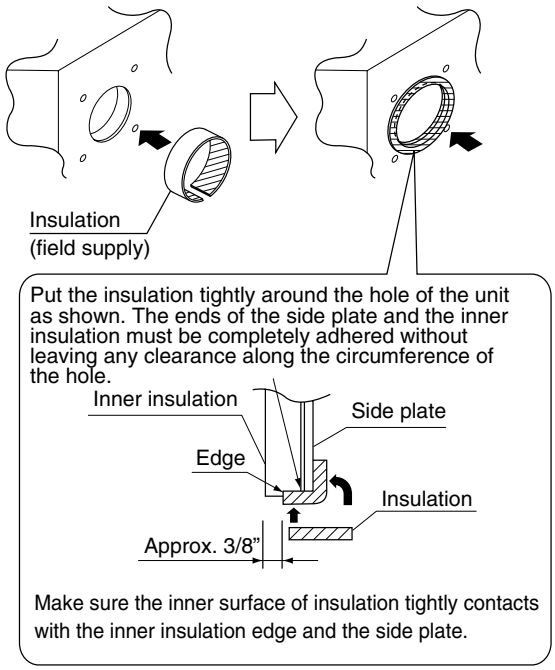


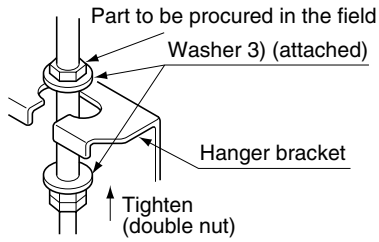
Fig. 2

6. INDOOR UNIT INSTALLATION

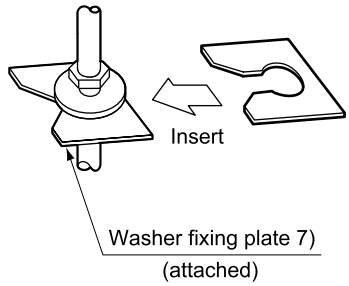
Installing optional accessories (except for the decoration panel) before installing the indoor unit is easier. However, for existing ceilings, install fresh air inlet component kit and branch duct before installing the unit.

(1) Install the indoor unit temporarily.

- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket.
  The washer fixing plate (7) will prevent the washer from falling.



[Securing the hanger bracket]

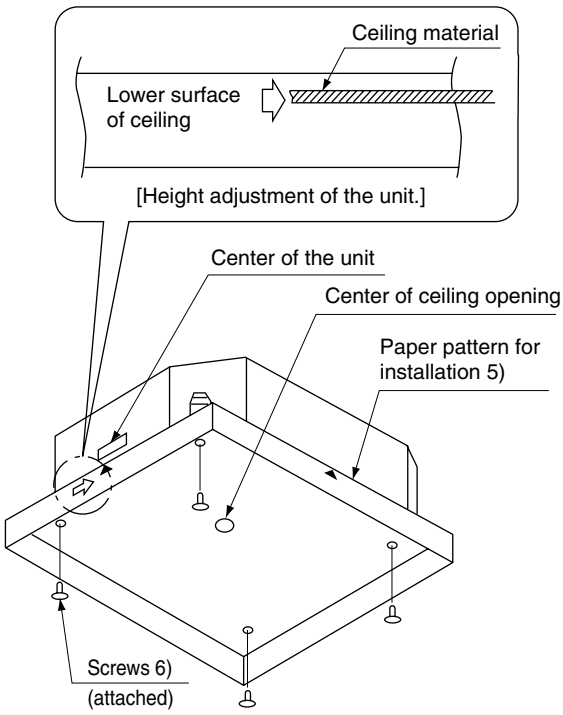


[Securing the washer]

6-1 For new ceilings

(1) Refer to the paper pattern for installation 5) for ceiling opening dimension.
Consult the builder or carpenter for details.

- The center of the ceiling opening is indicated on the paper pattern for installation.
  The center of the unit is indicated on the label attached to the unit and on the paper pattern for installation.
- After removing the packaging material from the 4 corners of the paper pattern for installation (5), fix the paper pattern to the unit with the 4 screws (6).
- Ceiling height is shown on the side of the paper pattern for installation (5). Adjust the height of the unit according to this indication.



[Installation of paper pattern for installation]

Ceiling work

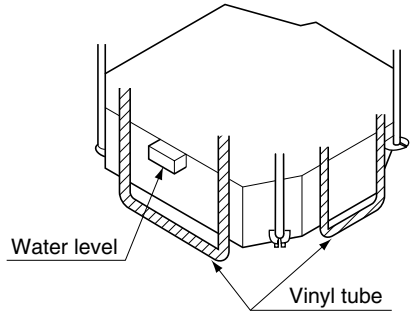
(2) Adjust the unit to the correct position for installation. (Refer to **Section 4. (1) PREPARATIONS BEFORE INSTALLATION**, P. 67.

(3) Make sure the unit is horizontally level.

- **The indoor unit is equipped with a built-in drain pump and float switch. At each of the unit's 4 corners, verify that it is level by using a waterlevel or a water-filled vinyl tube.**
  If the unit is inclined against condensate flow, the float switch may malfunction and cause water to drip.

(4) Remove the washer-fixing plate (7) used for preventing the washer from falling and tighten the upper nut.

(5) Remove the paper pattern for installation (5).



6-2 For existing ceilings

(6) Adjust the height and position of the unit.
Refer to**PREPARATIONS BEFORE INSTALLATION**-(1).

(7) Perform steps **(4), (5)** in **"6-1 For new ceilings".**

7. REFRIGERANT PIPING WORK

7-1 GENERAL INSTRUCTIONS

- For refrigerant piping of outdoor units, see the installation manual attached to the outdoor unit.
- 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.
- The outdoor unit is charged with refrigerant.

⚠ DANGER

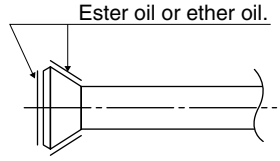
- Refrigerant gas may produce toxic gas if it comes in contact with fire such as from a fan, heater, stove or cooking device. Exposure to this gas could result in severe injury or death.

⚠ NOTE

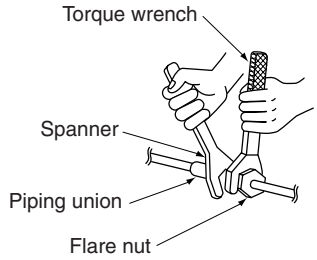
- Use a pipe cutter and flare suitable for the type of refrigerant.
- To prevent dust, moisture or other foreign matter from infiltrating the tube, either pinch the end or cover it with tape.
- Do not allow anything other than the designated refrigerant to get mixed into the refrigerant circuit, such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

7-2 Connecting the refrigerant piping

- When connecting the flare nut, coat the flare both inside and outside with ester oil or ether oil and initially tighten by hand 3 or 4 turns before tightening firmly.

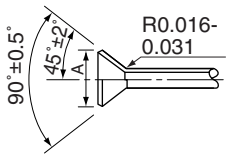


- To prevent flare nut cracking and gas leaks, be sure to use both a spanner and torque wrench together, as shown in the drawing below, when connecting or disconnecting pipes to/ from the unit.



- Refer to Table 3 for the dimensions of flare nut spaces.
- Refer to Table 3 to determine the proper tightening torque.

Table 3

Pipe size	Tightening torque (ft.lbf)	Flare dimensions A (in.)	Flare shape (in.)
ϕ 1/4”	10.4 – 12.7	0.342-0.358	
ϕ 3/8”	24.1 – 29.4	0.504-0.520	
ϕ 1/2”	36.5 – 44.5	0.638-0.654	
ϕ 5/8”	45.6 – 55.6	0.760-0.776	

NOTE

- Apply ester oil or ether oil around the flare portions before connecting.
- The flare nuts used must be those included with the main body.
- Over-tightening may damage the flare and cause a refrigerant leakage.

Not recommended but in case of emergency

You must use a torque wrench but if not possible, you may follow the installation method mentioned below.

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

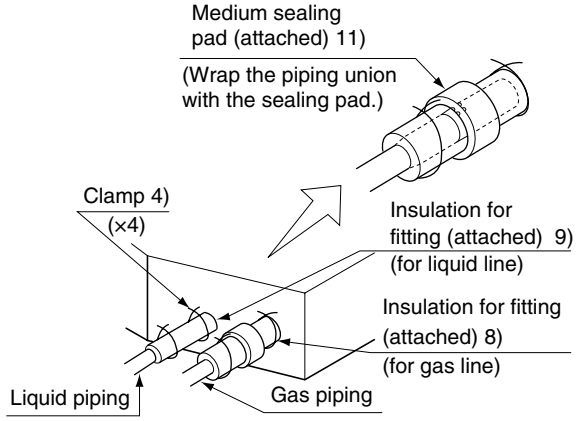
When you continue tightening the flare nut with a there is a point where the tightening torque suddenly increases. From that position, further tighten the flare nut the angle shown below:

Table 4

Pipe size	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

7-3 Piping insulation

- 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.
- in cases where the temperature and humidity of the refrigerant piping sections might exceed 86°F or RH80%, reinforce the refrigerant insulation. (13/16” / 17.8 mm or thicker) Condensation may form on the surface of the insulating material.
- Check the pipe connector for gas leaks, then insulate it as shown in the following drawing.
- Make absolutely sure to execute heat insulation works on the pipe-connecting section after checking gas leakage by thoroughly studying the following figure and using the attached heat insulating materials for fitting. Fasten both ends with the accessory clamps.
- Wrap the sealing pad (accessory) only around the insulation for the joints on the gas piping side.

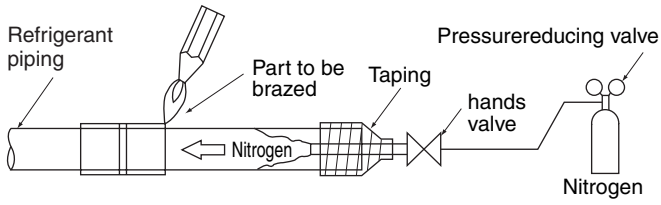


CAUTION

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

7-4 Brazing refrigerant piping

- Before brazing local refrigerant piping, nitrogen gas shall be blown through the piping to expel air from the piping.
  If your brazing is done without nitrogen gas blowing, a large amount of oxide film develops inside the piping, and could cause system malfunction.
- When brazing the refrigerant piping, only begin brazing after having carried out nitrogen substitution or while inserting nitrogen into the refrigerant piping. Once this is done, connect the indoor unit with a flared or a flanged connection.
- Nitrogen should be set to 2.9psi. with a pressure-reducing valve if brazing while inserting nitrogen into the piping.



DANGER

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

NOTE

- Do not use flux when brazing refrigerant piping. Therefore, use the phosphor copper brazing filter metal (BCuP) which does not require flux.

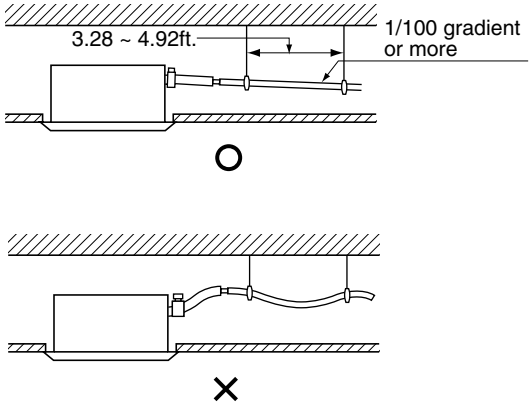
8. (Flux has an extremely negative effect on refrigerant piping systems. For instance, if chlorine based flux is used, it will cause pipe corrosion and damage the refrigerant oil.

9. DRAIN PIPING WORK

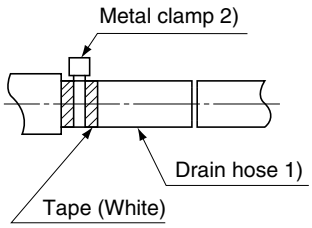
Install the drain pipe as shown below and take measures against condensation. Improperly installed piping could lead to leaks on furniture and belongings.

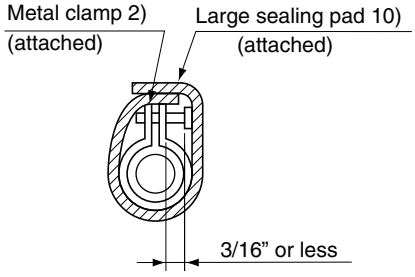
(1) **Install drain piping:**

- The diameter of the drain pipe should be greater than or equal to the diameter of the connecting pipe (vinyl tube; pipe size: 1" (25.4 mm) ; outer dimension: 1 1/4" (31.7 mm). This does not apply to rises.
- Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air pockets from forming.
- If the drain hose cannot be sufficiently set on a slope, execute the drain-raising pipe.
- To keep the drain hose from sagging, space hanging wires every 3.28 ~ 4.92 ft . (1 ~ 1.5 m)



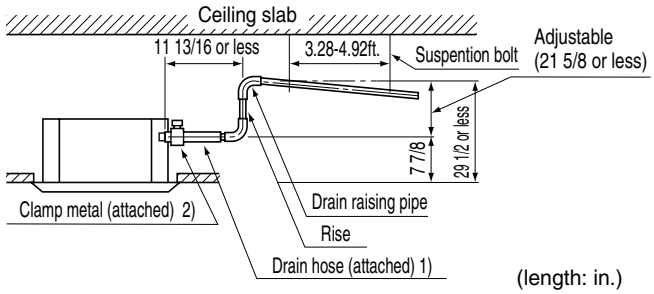
- Use the attached drain hose 1) and clamp metal 2). Insert the drain hose into the drain socket, up to the white tape. Tighten the clamp until the screw head is less than 3/16" from the hose.
- **Be sure to insulate the 2 below indicated spots. If uninsulated, there is always the possibility of condensation forming and leaking.**
  - The drain piping inside the building
  - Drain socket
- Wrap the attached sealing pad 10) (Large) over the clamp and drain hose to insulate, as shown in the drawing below.





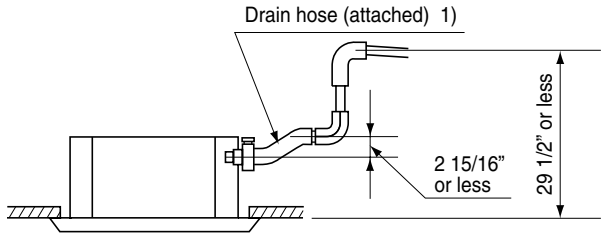
NOTE FOR DRAIN RAISING PIPING

- Install the drain raising pipes at a height of less than 21-5/8" (549.3 mm) .
- Install the drain raising pipes at a right angle to the indoor unit and no more than 11 13/16" (298.4 mm) from the unit.

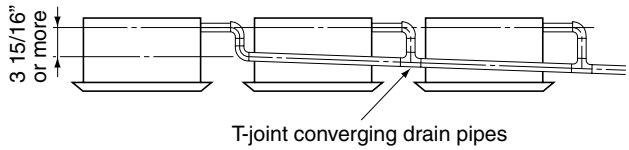


NOTE

- The incline of attached drain hose 1) should be 2-15/16" (71.4 mm) or less so that the drain socket does not have to withstand additional force.



- If converging multiple drain pipes, install according to the procedure shown below.



Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.

NOTE

- Drain piping connections should not be connected 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.
- Remember that water collecting on the drain pipe will block it.

(2) After piping work is finished, check if drainage flows smoothly.

- Open the water inlet lid, add approximately 37 in^3 of water slowly and check drainage flow.

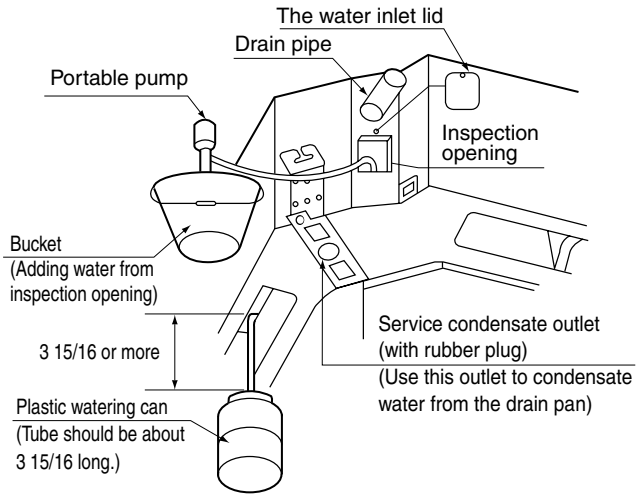
WHEN ELECTRIC WIRING WORK IS FINISHED

- Check drainage flow during COOL running, explained under **TEST OPERATION**.

WHEN ELECTRIC WIRING WORK IS NOT FINISHED

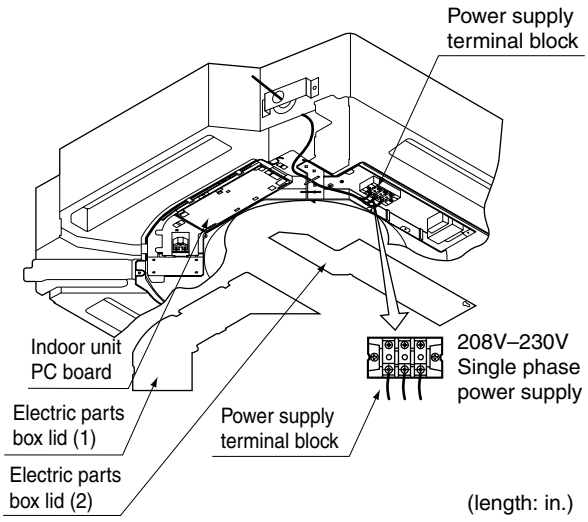
- Remove the electric parts box lids, connect a power supply and remote controller to the terminals. Refer to **HOW TO CONNECT WIRINGS**, page 12.

  Next, press the inspection/test operation button "TEST" on the remote controller. The unit will engage the test operation mode. Press the operation mode selector button "" until selecting FAN OPERATION "". Then, press the ON/OFF button "". The indoor unit fan and drain pump will start up. Check that the water has drained from the unit. Press "TEST" to go back to the first mode.



〈Adding water through air discharge outlet〉

[Method of adding water]



10. ELECTRIC WIRING WORK

10-1 GENERAL INSTRUCTIONS

- All field supplied parts, materials, and electric works must conform to local codes.
- Use copper wire only.
- Follow the ***WIRING DIAGRAM*** attached to the unit body to wire the outdoor unit, indoor units and the remote controller. For details on hooking up the remote controller, refer to the ***INSTALLATION MANUAL OF 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 board wiring to the outdoor unit and BS unit are 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 the power supply to the entire system must be installed.

⚠ 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. Do not ground to gas pipes because a gas leak could result in an explosion leading to severe injury or death..

10-2 ELECTRICAL CHARACTERISTICS

Units				Power supply		Fan motor	
Model	Hz	Volts	Voltage range	MCA	MFA	W	FLA
FXFQ12MVJU	60	208-230V	Max. 253 Min. 187	0.6	15	45	0.5
FXFQ18MVJU				0.7	15	45	0.6
FXFQ24MVJU				0.8	15	45	0.6
FXFQ30MVJU				1.2	15	90	1.0
FXFQ36MVJU				1.2	15	90	1.0

MCA: Min. Circuit Amps (A) MFA: Max. Fuse Amps (A)
kW: Fan Motor Rated Output (W) FLA: Full Load Amps (A)

10-3 SPECIFICATIONS FOR FIELD SUPPLIED FUSES AND WIRE

Model	Power supply wiring		Transmission wiring	
	Field fuses	Size	Wire	Size
FXFQ12MVJU FXFQ18MVJU FXFQ24MVJU FXFQ30MVJU FXFQ36MVJU	15A	Wire size must comply with local codes.	2 conductor, stranded copper	AWG 18

Allowable length of transmission wirings and remote controller wiring are as follows.

(1) Outdoor unit – Indoor unit:
Max. 3280 ft. / 1000 m (Total wiring length: 6560 ft. / 2000 m)

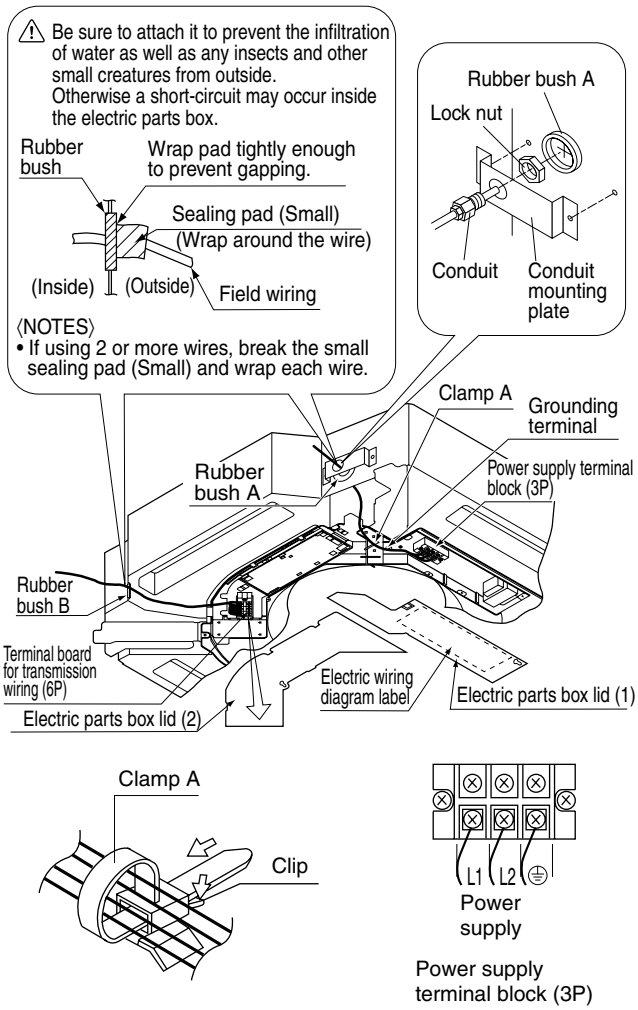
(2) Indoor unit – Remote controller:
Max. 1640 ft. / 500 m

11. WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

11-1 HOW TO CONNECT WIRINGS

〈**Methods of wiring power supply, units and connecting remote controller wirings**〉

- Power supply wiring: Remove the electric parts box lid (1) and connect wires to the power supply terminal block (3P) inside. In doing this, pull the wires inside through rubber bush A and clamp the wires along with other wires using clamp A, untightening the clip of clamp A by pressing. After the connection, tighten clamp A as before.
- Unit wiring and remote controller wiring: Remove the electric parts box lid (2) and pull the wires inside through rubber bush B and connect to the terminal block for unit transmission wirings (6P).
- After connection, attach sealing pad to prevent water from infiltrating the unit from the outside.)



Power supply terminal block (3P)

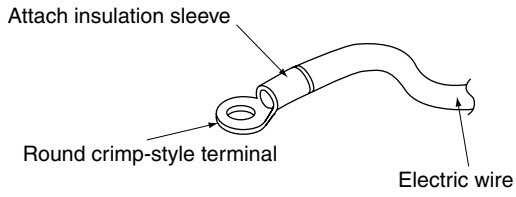
⚠ WARNING

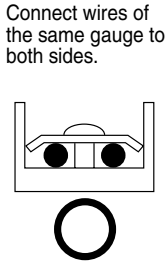
- Never connect power supply wiring to the terminal block for remote controller wiring as this could damage the entire system.
- Use only specified wire and connect wires to the terminal tightly. Be careful wires do not place external stress on terminals. Keep wires in neat order so as to not obstruct other equipment. Make sure that the electric box lid fits tightly. Incomplete connections could result in overheating and, in worse case, result in electric shock or fire.

⚠ NOTE

- 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.
- When clamping the wires, be sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the lid on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box lid firmly. When attaching the electric parts box lid, make sure no wires get caught in the edges. Pass wiring through the wiring through holes to prevent damage to them.
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them by at least 1 15/16", otherwise electrical noise (external static) could cause mistaken operation or breakage.

1. **Use round crimp-style terminals for connecting wires to the power supply terminal block.**
   If unavailable, observe the following points when wiring.
   - Do not connect wires of different gauge to the same power supply terminal.
     (Looseness in the connection 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 %)





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 table below for the tightening torque of the terminal screws.

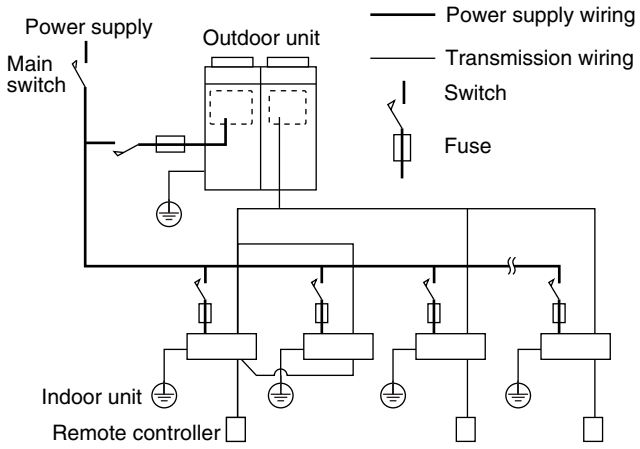
Terminal	Size	Tightening torque (ft.lbf)
Terminal block for remote controller (6P)	M3.5	0.58 – 0.72
Power supply terminal block	M4	0.87 – 1.06

3. Do not connect wires of different gauge to the same grounding terminal. Looseness in the connection may deteriorate protection.
4. Outside of the unit, keep transmission wiring at least 1 15/16" (46 mm) 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.

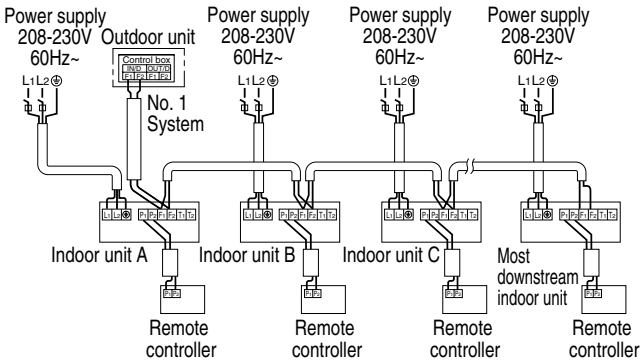
11-2 WIRING EXAMPLE

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

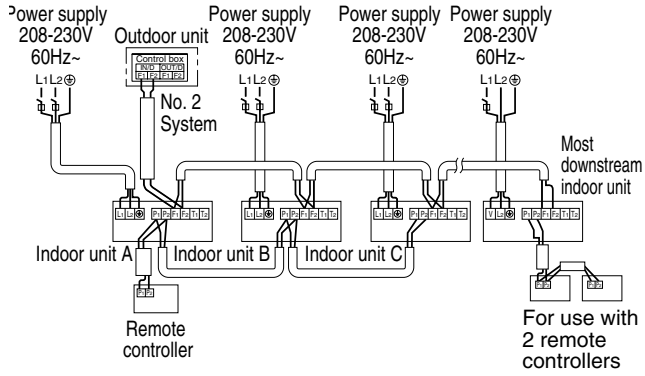
COMPLETE SYSTEM EXAMPLE



1. When using 1 remote controller for 1 indoor unit. (Normal operation)



2. For group control or use with 2 remote controllers



⚠ NOTE

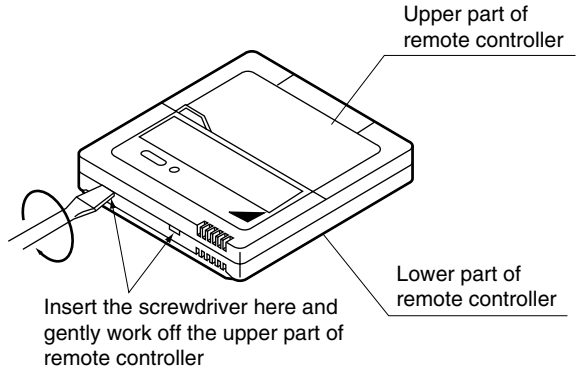
1. A single switch can be used to supply power to units on the same system. However, branch switches and branch circuit breakers must be selected carefully.
2. Do not ground the equipment on gas pipes, water pipes or lightning rods, or crossground with telephones. Improper grounding could result in electric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

11-3 CONTROLLING 1 INDOOR UNIT USING 2 REMOTE CONTROLLERS

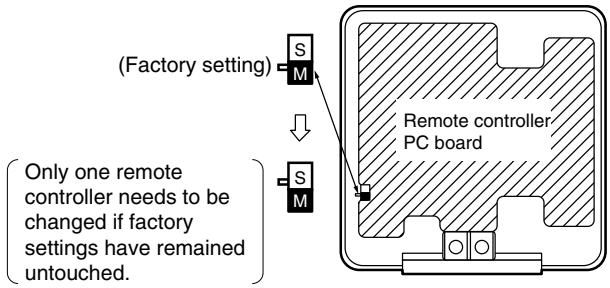
- When using 2 remote controllers, one must be set to **MAIN** and the other to **SUB**.

MAIN/SUB CHANGEOVER

(1) Insert a ⊖ screw driver into the recess 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 remote controller.

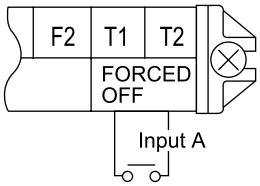


(2) Turn the MAIN/SUB changeover switch on one of the two remote controller PC boards to **S**.
Leave the switch of the other remote controller set to **M**. .



11-4 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 for remote controller.



Wire specification	2-conductor, stranded, non-shielded copper cable / PVC or vinyl jacket
Gauge	AWG 18
Length	Max. 328 ft. (1000 m)
External terminal	Contact that can ensure the minimum applicable load of 15 V DC, 10 mA.

2. Actuation
   - The following table explains FORCED OFF and ON/OFF OPERATIONS in response to Input A. The T1-T2 terminals are standard on all Daikin indoor units and allow for remote starting and stopping of equipment. Individual indoor units can be field prgrammed at the remote controller to change the T1-T2 sequence of operation of the equipment based upon the application.

FORCED OFF (Manual Restart) Mode No. 12 First Code No. 1 Second Code No. 01 **DEFAULT SETTING**	**ON/OFF OPERATION** Mode No. 12 First Code No. 1 Second Code No. 02
Input A OFF (Open Circuit) An open circuit between terminals T1 and T2 allows the unit to run normally.	**Input A OFF (Open Circuit)** An open circuit between terminals T1 and T2 prevents unit operation.
Input A ON (Closed Circuit) Closing the normally open circuit between terminals T1 and T2 stops operation of the unit. When T1-T2 is opened, the unit must be restarted with the remote controller. .	**Input A ON (Closed Circuit)** A closed circuit between terminals T1 and T2 allows normal operation of the unit.

3. How to select FORCED OFF and ON/OFF OPERATION
   - Turn the power on and then use the remote controller to select operation. These codes are programmed at the remote controller. Individual unit groups can be programmed independently.

11-5 CENTRALIZED CONTROL

- For centralized control, it is necessary to designate the group number. For details, refer to the manual of each optional controller for centralized control.

11-6 SETTING AIR FILTER SIGN

- Remote controllers are equipped with air-filter signs to display the time to clean air filters.
- Change the SECOND CODE NO. according to Table 5 depending on the amount of dirt or dust in the room. SECOND CODE NO. is factory set to [01] for filter contamination-light.
- .

Table 5

Setting	Spacing time of display air filter sign (long life type)	Mode No.	FIRST CODE NO.	SECOND CODE NO.
Air filter contamination-light	Approx. 2500 hrs	10 (20)	0	01
Air filter contamination-heavy	Approx. 1250 hrs			02

When using wireless remote controllers

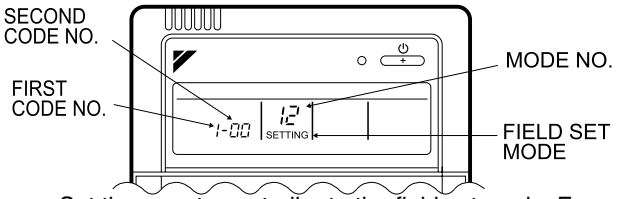
- When using wireless remote controllers, address setting is necessary. Refer to the installation manual attached to the wireless remote controller for setting instructions.

12. FIELD SETTING

Make sure the terminal box lids are closed on the indoor and outdoor units.

Field setting must be made from the remote controller in accordance with the installation condition.

- Setting can be made by changing the **MODE NO**., , **FIRST CODE NO**., and **SECOND CODE NO**.
- For setting and operation, refer to the **FIELD SETTING** in the installation manual of the remote controller



- Set the remote controller to the field set mode. For details, refer to **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 is factory setting.)

13. INSTALLATION OF THE DECORATION PANEL

Refer to the installation manual attached to the decoration panel.

After installing the decoration panel, ensure that there is no space between the unit body and decoration panel.

14. TEST OPERATION

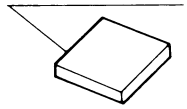
Refer to the installation manual of the outdoor unit.

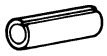
- The operation lamp of the remote controller will flash when a malfunction occurs. Check the malfunction code on the liquid crystal display to identify the point of trouble. An explanation of malfunction codes and the corresponding trouble is provided in ***CAUTION FOR SERVICING*** of the outdoor unit.
  If any of the items in Table 6 are displayed, there may be a problem with the wiring or power, so check the wiring again.
  Table 6

Remote control display	Content
CONCENTRATED MANAGEMENT is lit	• There is a short circuit at the FORCED OFF terminals (T1, T2)
U3 is lit	• The check operation has not performed on outdoor unit P.C.B.
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.
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.

11. Accessories

Standard Accessories

Name	① Drain hose	② Clamp metal	③ Washer for hanging bracket	④ Clamp	⑤ Paper pattern for installation
Quantity	1 pc.	1 pc.	8 pcs.	4 pcs.	1 pc.
Shape					Also used as packing material 

Name	⑥ Screws (M5)	⑦ Washer fixing plate	Insulation for fitting	Sealing pad		(Other)
Quantity	4 pcs.	4 pcs.	1 each	1 each	2 pcs.	● Installation manual ● Operation manual
Shape	For paper pattern for installation 		 ⑧ for gas pipe  ⑨ for liquid pipe	 ⑩ Large  ⑪ Medium	 ⑫ Small	

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Optional Accessories (For Unit)

No.	Item	Type	FXFQ12MVJU	FXFQ18MVJU	FXFQ24MVJU	FXFQ30MVJU	FXFQ36MVJU
1	Decoration Panel		BYC125K-W1				
2	Filter related	High efficiency filter 65%	KAFP552H80			KAFP552H160	
		High efficiency filter 90%	KAFP553H80			KAFP553H160	
		Filter chamber for above	KDDFP55D160				
		Ultra-long life filter	KAFP55D160				
		Long life replacement filter (Non-woven type)	KAFJ551K160				
3	Fresh air intake kit		KDDJ55X160				
4	Panel spacer		KDBP55H160WA				

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Optional Assessories for Controls can be found in the Controller Manual.

Warning

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- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- 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

JQA-1452

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.

Dealer

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