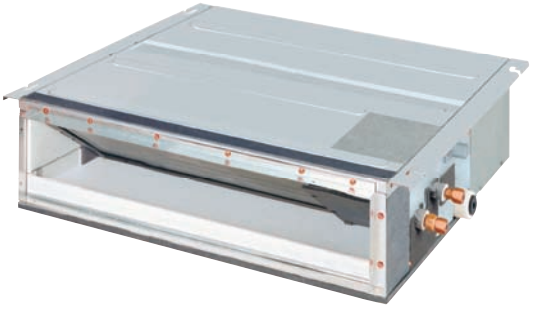
DAIKIN

EDUS 39 - 600 - F2_a

R-410A

Engineering Data

FXDQ-M
Slim Ceiling Mounted Duct Type

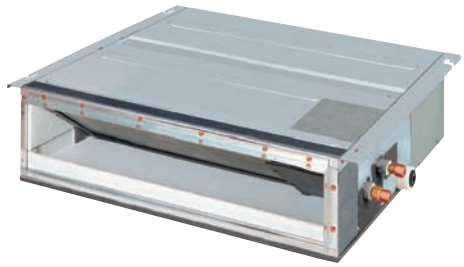


DAIKIN AC (AMERICAS), INC.

FXDQ-M
Slim Ceiling Mounted Duct Type

1. Features

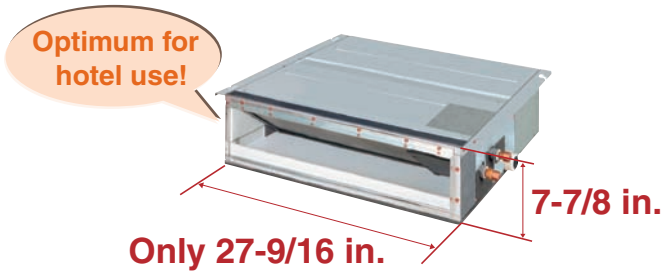
Slim design, quietness and static pressure switching



The best to use in drop-ceilings!

FXDQ07M / FXDQ09M / FXDQ12M

●Only 27-9/16 in. in width and 51 Lbs in weight, this model is optimum to install in limited spaces like drop-ceilings in hotels.



●Low operating sound

(dB(A))

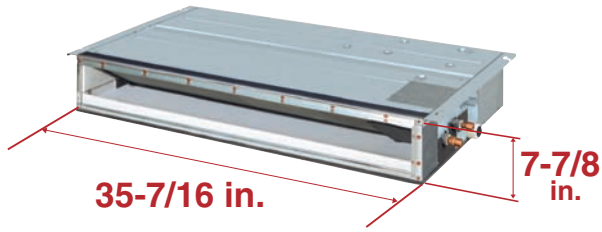
Class	07	09	12	18	24
Operating sound (H/L)	33/29	33/29	33/29	35/31	36/32

∗The values of operation sound level represent those for rear-suction operation. Sound level values for bottom-suction operation can be obtained by adding 5 dB.

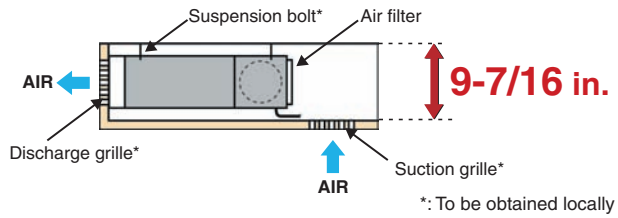
∗Values are based on the following conditions:
FXDQ07~12M: external static pressure in. Wg 0.12;
FXDQ18~24M: external static pressure in. Wg 0.16

FXDQ18M / FXDQ24M

●Only 7-7/8 in. in height, this model can be installed in rooms with as little as 9-7/16 in. depth between the drop-ceiling and ceiling slab.



∗43-5/16 in. in width for the FXDQ24N model.

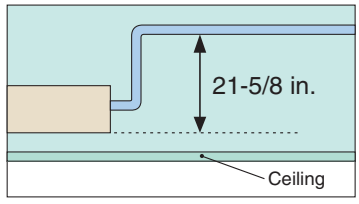


*: To be obtained locally

●External static pressure selectable by remote controller providing optimal flexibility and range of comfort.

FXDQ07~12M models: in. Wg 0.12-0.04 factory set
FXDQ18~24M models: in. Wg 0.16-0.06 factory set

●Drain-up pump is equipped as standard accessory with 21-5/8 in. lift.



2. Specifications

Slim Ceiling-Mounted Duct Type

Model			FXDQ07MVJU	FXDQ09MVJU	FXDQ12MVJU
Cooling Capacity[1]		Btu/h	7,500	9,500	12,000
Heating Capacity[2]		Btu/h	8,500	10,500	13,500
Casing / Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H × W × D)		in (mm)	7-7/8 × 27-9/16 × 24-7/16" (200 x 698.5 x 622.3 mm)	7-7/8 × 27-9/16 × 24-7/16" (200 x 698.5 x 622.3 mm)	7-7/8 × 27-9/16 × 24-7/16" (200 x 698.5 x 622.3 mm)
Coil (Cross Fin Coil)	Rows × Stages × FPI		2 × 12 × 17	2 × 12 × 17	3 × 12 × 17
	Face Area	ft² (m²)	1.36' (0.41 m)	1.36' (0.41 m)	1.36' (0.41 m)
Fan	Model		—	—	—
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output	kW	0.06	0.06	0.06
	Air Flow Rate (H/L)	cfm	280/226 (H/L)	280/226 (H/L)	280/226 (H/L)
	External Static Pressure[4]	in. Wg	0.12 - 0.04	0.12 - 0.04	0.12 - 0.04
	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 Polyethylene	Foamed Polyethylene	Foamed Polyethylene
Air Filter			Removal, Washable, Mildew Proof	Removal, Washable, Mildew Proof	Removal, Washable, Mildew Proof
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	VP20 External Dia. 1-1/32" / 26.2 mm Internal Dia. 25/32" / 19.8 mm	VP20 External Dia. 1-1/32" / 26.2 mm Internal Dia. 25/32" / 19.8 mm	VP20 External Dia. 1-1/32" / 26.2 mm Internal Dia. 25/32" / 19.8 mm
Machine Weight (Mass)		Lbs	51	51	51
Sound Level (H/L)[5]		dBA	33/29	33/29	33/29
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
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Conduit Mounting Plate, Insulation Tube.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Conduit Mounting Plate, Insulation Tube.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Conduit Mounting Plate, Insulation Tube.
Drawing No.			C:3D051780A		

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. The airflow is set to STANDARD before leaving the factory. You can switch between STANDARD ESP and HIGH ESP with the remote controller. Refer to the fan curves for actual fan performance.
5. Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of installation conditions.
6. Refer to page 10 for Power Input.

Slim Ceiling-Mounted Duct Type

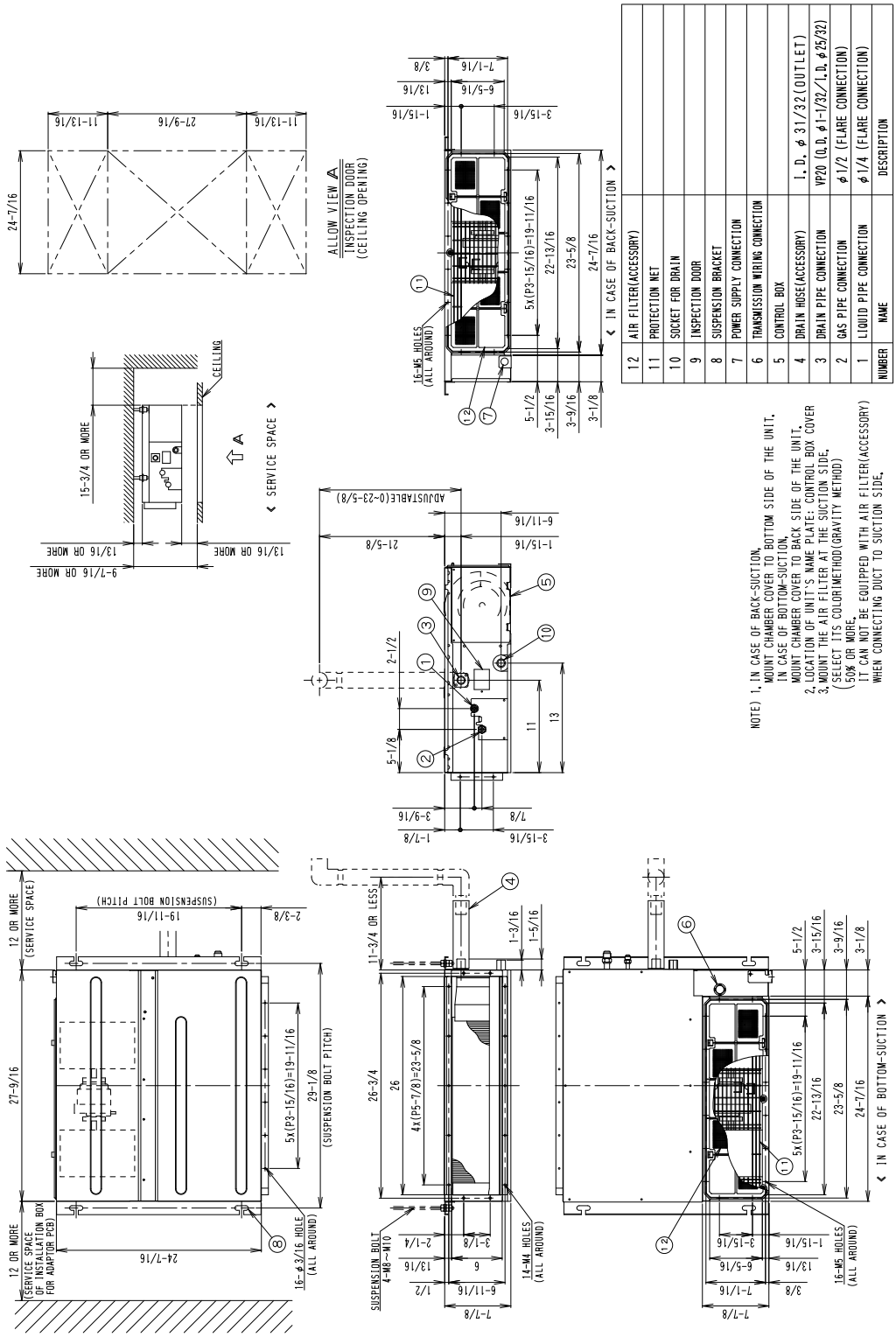
Model			FXDQ18MVJU	FXDQ24MVJU
Cooling Capacity[1]		Btu/h	18,000	24,000
Heating Capacity[2]		Btu/h	20,000	27,000
Casing / Color			Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H × W × D)		in (mm)	7-7/8 × 35-7/16 × 24-7/16" (200 x 901.7 x 622.3 mm)	7-7/8 × 43-5/16 × 24-7/16" (200 x 1100 x 622.3 mm)
Coil (Cross Fin Coil)	Rows × Stages × FPI		3 × 12 × 17	3 × 12 × 17
	Face Area	ft²	1.89'	2.44'
Fan	Model		—	—
	Type		Sirocco Fan	Sirocco Fan
	Motor Output	kW	0.13	0.13
	Air Flow Rate (H/L)	cfm	440/350 (H/L)	580/460 (H/L)
	External Static Pressure[4]	in.Wg	0.17 - 0.06	0.17 - 0.06
	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 Polyethylene	Foamed Polyethylene
Air Filter			Removal, Washable, Mildew Proof	Removal, Washable, Mildew Proof
Piping Connections	Liquid Pipes	in / mm	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)	ϕ5/8" / 15.8 mm (Flare Connection)
	Drain Pipe	in / mm	External Dia. 1-1/32" / 26.2 mm Internal Dia. 25/32" / 19.8 mm	External Dia. 1-1/32" / 26.2 mm Internal Dia. 25/32" / 19.8 mm
Machine Weight (Mass)		Lbs	63	71
Sound Level (H/L)[5]		dBA	35/31	36/32
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
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Conduit Mounting Plate, Insulation Tube.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Conduit Mounting Plate, Insulation Tube.
Drawing No.			C:3D051780A	

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. The airflow is set to STANDARD before leaving the factory. You can switch between STANDARD ESP and HIGH ESP with the remote controller. Refer to the fan curves for actual fan performance.
5. Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of installation conditions.
6. Refer to page 10 for Power Input.

3. Dimensions

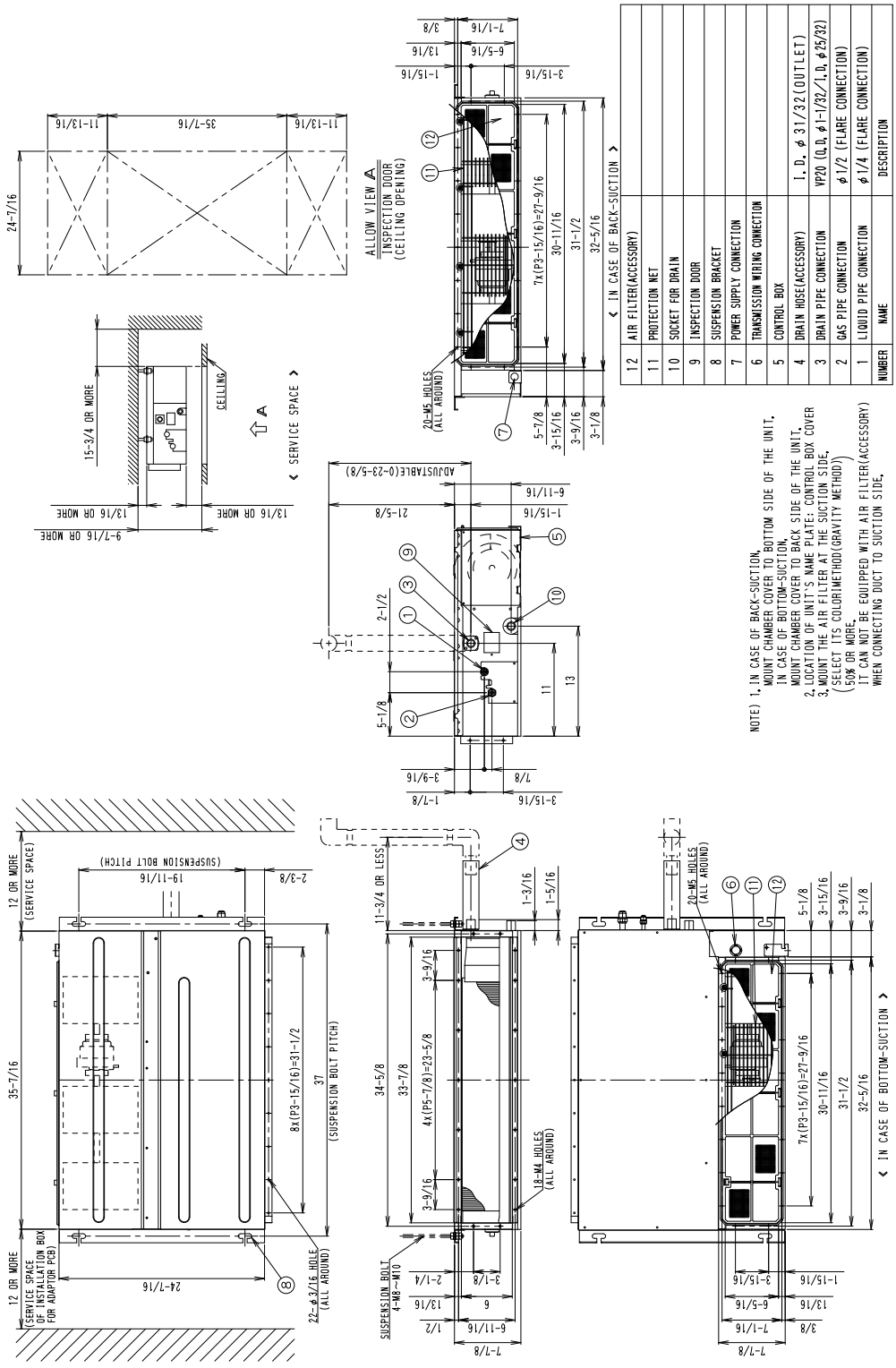
FXDQ07/09/12MVJU



NUMBER	NAME	DESCRIPTION
12	AIR FILTER(ACCESSORY)	
11	PROTECTION NET	
10	SOCKET FOR DRAIN	
9	INSPECTION DOOR	
8	SUSPENSION BRACKET	
7	POWER SUPPLY CONNECTION	
6	TRANSMISSION WIRING CONNECTION	
5	CONTROL BOX	
4	DRAIN HOSE(ACCESSORY)	I. D. φ 31/32(OUTLET)
3	DRAIN PIPE CONNECTION	VP20 (O. D. φ1-1/32/I. D. φ25/32)
2	GAS PIPE CONNECTION	φ1/2 (FLARE CONNECTION)
1	LIQUID PIPE CONNECTION	φ1/4 (FLARE CONNECTION)

NOTE) 1. IN CASE OF BACK-SUCTION,
MOUNT CHAMBER COVER TO BOTTOM SIDE OF THE UNIT.
IN CASE OF BOTTOM-SUCTION,
MOUNT CHAMBER COVER TO BACK SIDE OF THE UNIT.
2. LOCATION OF UNIT'S NAME PLATE: CONTROL BOX COVER
3. MOUNT THE AIR FILTER AT THE SUCTION SIDE.
(SELECT ITS COLOR(METHOD(GRAVITY METHOD)
50% OR MORE.
IT CAN NOT BE EQUIPPED WITH AIR FILTER(ACCESSORY)
WHEN CONNECTING DUCT TO SUCTION SIDE.

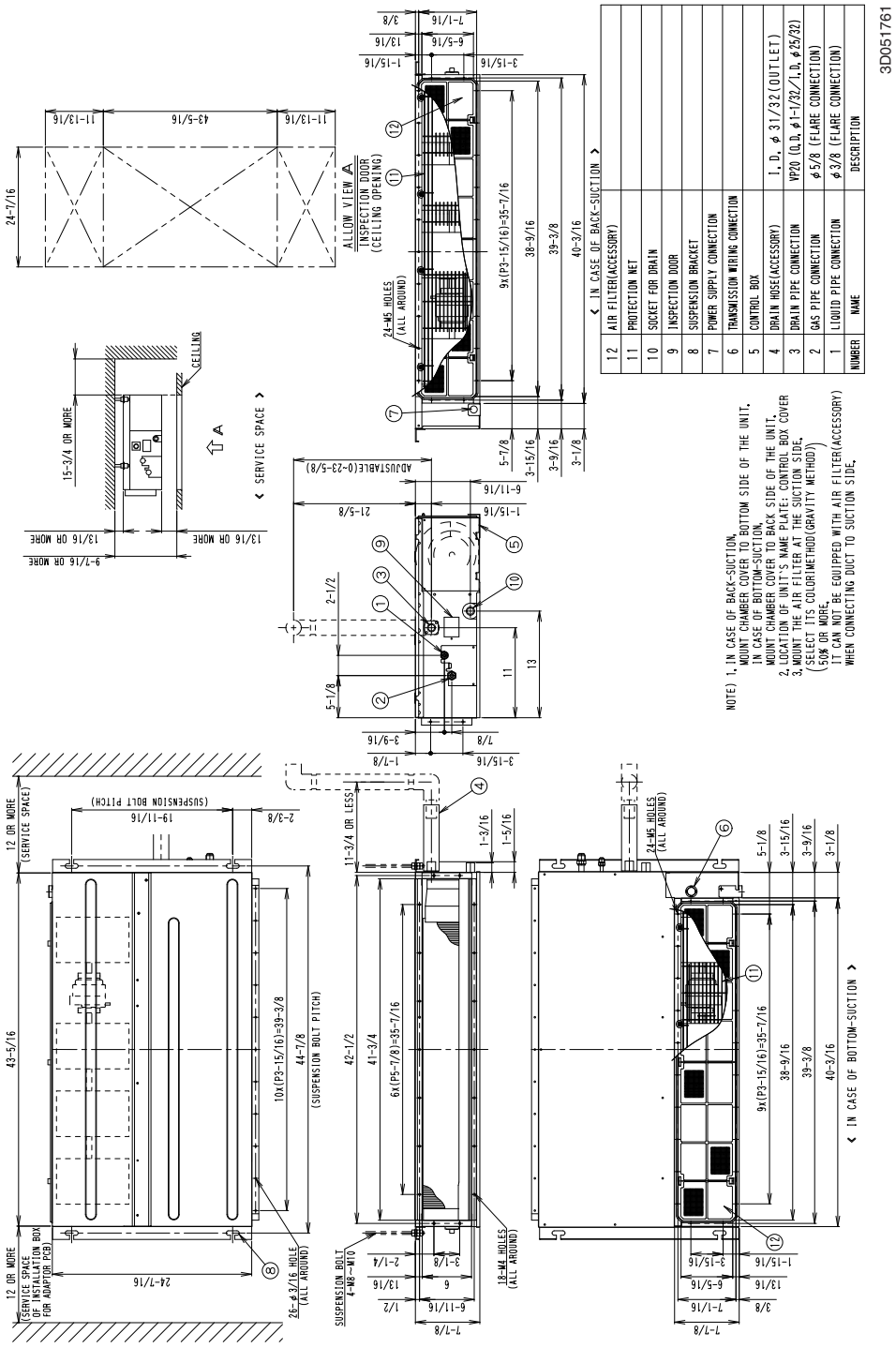
FXDQ18MVJU



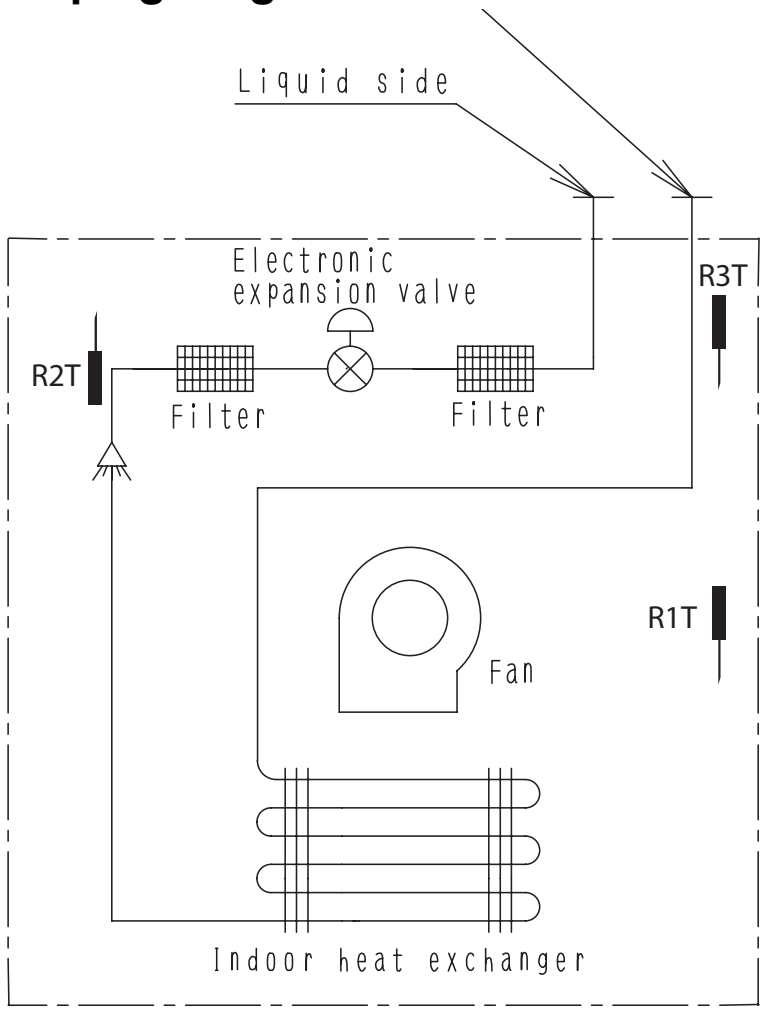
NUMBER	NAME	DESCRIPTION
12	AIR FILTER(ACCESSORY)	
11	PROTECTION NET	
10	SOCKET FOR DRAIN	
9	INSPECTION DOOR	
8	SUSPENSION BRACKET	
7	POWER SUPPLY CONNECTION	
6	TRANSMISSION WIRING CONNECTION	
5	CONTROL BOX	
4	DRAIN HOSE(ACCESSORY)	I. D. ø 31/32(OUTLET)
3	DRAIN PIPE CONNECTION	VP20 (O. D. ø1-1/32/I. D. ø25/32)
2	GAS PIPE CONNECTION	ø1/2 (FLARE CONNECTION)
1	LIQUID PIPE CONNECTION	ø1/4 (FLARE CONNECTION)

NOTE) 1. IN CASE OF BACK-SUCTION,
MOUNT CHAMBER COVER TO BOTTOM SIDE OF THE UNIT.
IN CASE OF BOTTOM-SUCTION,
MOUNT CHAMBER COVER TO BACK SIDE OF THE UNIT.
2. LOCATION OF UNIT'S NAME PLATE: CONTROL BOX COVER
3. MOUNT THE AIR FILTER AT THE SUCTION SIDE.
(SELECT ITS COLOR/METHOD(GRAVITY METHOD))
50% OR MORE.
IT CAN NOT BE EQUIPPED WITH AIR FILTER(ACCESSORY)
WHEN CONNECTING DUCT TO SUCTION SIDE.

FXDQ24MVJU


3D051761
NOTE) 1. IN CASE OF BACK-SUCTION,
MOUNT CHAMBER COVER TO BOTTOM SIDE OF THE UNIT.
IN CASE OF BOTTOM-SUCTION,
MOUNT CHAMBER COVER TO BACK SIDE OF THE UNIT.
2. LOCATION OF UNIT'S NAME PLATE: CONTROL BOX COVER
3. MOUNT THE AIR FILTER AT THE SUCTION SIDE.
(SELECT ITS COLOR)METHOD(GRAVITY METHOD)
(50% OR MORE.
IT CAN NOT BE EQUIPPED WITH AIR FILTER(ACCESSORY)
WHEN CONNECTING DUCT TO SUCTION SIDE.
12 AIR FILTER(ACCESSORY)
11 PROTECTION NET
10 SOCKET FOR DRAIN
9 INSPECTION DOOR
8 SUSPENSION BRACKET
7 POWER SUPPLY CONNECTION
6 TRANSMISSION WIRING CONNECTION
5 CONTROL BOX
4 DRAIN HOSE(ACCESSORY) I. D. φ 31/32(OUTLET)
3 DRAIN PIPE CONNECTION VP20 (O. D. φ1-1/32/I. D. φ25/32)
2 GAS PIPE CONNECTION φ 5/8 (FLARE CONNECTION)
1 LIQUID PIPE CONNECTION φ 3/8 (FLARE CONNECTION)
NUMBER NAME DESCRIPTION
< IN CASE OF BACK-SUCTION >
< IN CASE OF BOTTOM-SUCTION >
ALLOW VIEW A
INSPECTION DOOR (CEILING OPENING)
24-M5 HOLES (ALL AROUND)
9x(P3-15/16)=35-7/16
38-9/16
39-3/8
40-3/16
CEILING
15-3/4 OR MORE
< SERVICE SPACE >
9-7/16 OR MORE
13/16 OR MORE
ADJUSTABLE(0-23-5/8)
21-5/8
2-1/2
11
13
12 OR MORE (SERVICE SPACE)
(SUSPENSION BOLT PITCH)
19-11/16
43-5/16
10x(P3-15/16)=39-3/8
44-7/8
(SUSPENSION BOLT PITCH)
24-7/16
12 OR MORE (SERVICE SPACE OF INSTALLATION BOX FOR ADAPTOR PCB)
26-φ3/16 HOLE (ALL AROUND)
11-3/4 OR LESS
42-1/2
41-3/4
6x(P5-7/8)=35-7/16
SUSPENSION BOLT 4-M8~M10
18-M4 HOLES (ALL AROUND)
24-M5 HOLES (ALL AROUND)

4. Piping Diagrams



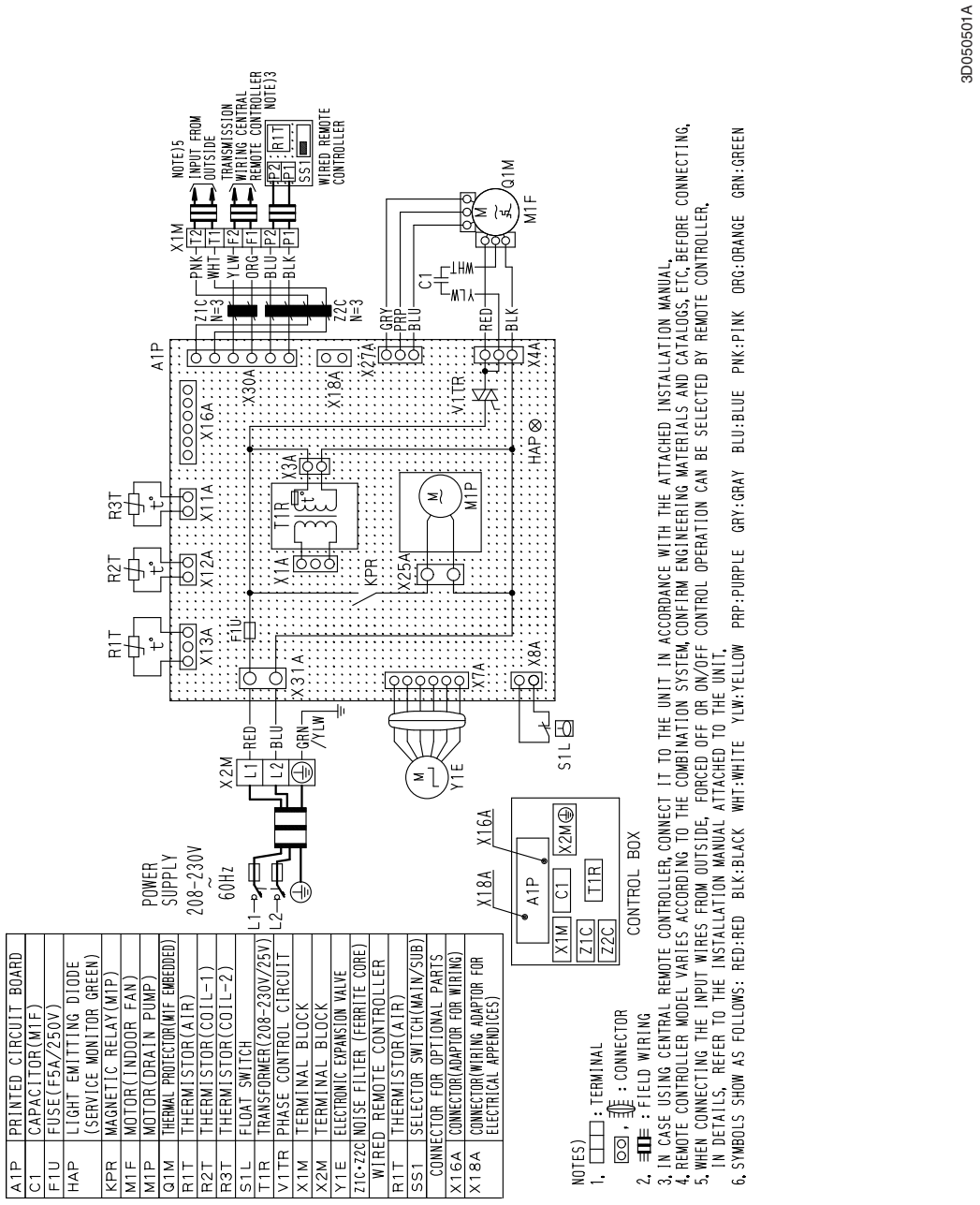
4D043864H

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

FXDQ07M/09M/12M/18M/24MVJU



6. Electric Characteristics

Units				Power supply		IFM		Input(W)	
Model	Hz	Volts	Voltage range	MCA	MFA	KW	FLA	Cooling	Heating
FXDQ07MVJU	60	208-230V	MAX. 253V Min. 187V	0.9	15	0.062	0.7	92	73
FXDQ09MVJU				0.9	15	0.062	0.7	92	73
FXDQ12MVJU				0.9	15	0.062	0.7	95	76
FXDQ18MVJU				1.3	15	0.13	1.0	185	170
FXDQ24MVJU				1.4	15	0.13	1.1	192	179

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.

4D051757

7. Capacity Tables

7.1 Cooling Capacity

FXDQ-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	5.2	6.7	6.1	7.5	6.3	8.3	6.6	8.8	6.8	8.9	6.8
	79	5.9	5.2	6.7	6.1	7.5	6.3	8.3	6.6	8.6	6.7	8.8	6.7
	83	5.9	5.2	6.7	6.1	7.5	6.3	8.3	6.6	8.5	6.7	8.6	6.7
	87	5.9	5.2	6.7	6.1	7.5	6.3	8.2	6.5	8.3	6.6	8.5	6.6
	91	5.9	5.2	6.7	6.1	7.5	6.3	8.1	6.5	8.2	6.6	8.4	6.5
	95	5.9	5.2	6.7	6.1	7.5	6.3	8.0	6.4	8.1	6.5	8.2	6.5
	99	5.9	5.2	6.7	6.1	7.5	6.3	7.8	6.4	7.9	6.5	8.1	6.4
	103	5.9	5.2	6.7	6.1	7.5	6.3	7.7	6.4	7.8	6.4	7.9	6.3
09	75	7.5	6.2	8.5	7.2	9.5	7.3	10.5	7.5	11.1	7.8	11.3	7.6
	79	7.5	6.2	8.5	7.2	9.5	7.3	10.5	7.5	10.9	7.6	11.1	7.4
	83	7.5	6.2	8.5	7.2	9.5	7.3	10.5	7.5	10.7	7.5	10.9	7.3
	87	7.5	6.2	8.5	7.2	9.5	7.3	10.4	7.4	10.6	7.4	10.9	7.3
	91	7.5	6.2	8.5	7.2	9.5	7.3	10.3	7.3	10.4	7.3	10.6	7.1
	95	7.5	6.2	8.5	7.2	9.5	7.3	10.1	7.1	10.2	7.1	10.4	7.0
	99	7.5	6.2	8.5	7.2	9.5	7.3	9.9	6.9	10.0	7.0	10.2	6.8
	103	7.5	6.2	8.5	7.2	9.5	7.3	9.7	6.9	9.9	7.0	10.0	6.7
12	75	9.5	7.5	10.7	7.9	12.0	8.8	13.3	9.0	14.0	9.2	14.3	9.3
	79	9.5	7.5	10.7	7.9	12.0	8.8	13.3	9.0	13.8	9.1	14.0	9.1
	83	9.5	7.5	10.7	7.9	12.0	8.8	13.3	9.0	13.6	9.0	13.8	9.0
	87	9.5	7.5	10.7	7.9	12.0	8.8	13.2	9.0	13.3	8.8	13.6	8.9
	91	9.5	7.5	10.7	7.9	12.0	8.8	13.0	8.8	13.1	8.6	13.4	8.8
	95	9.5	7.5	10.7	7.9	12.0	8.8	12.7	8.6	12.9	8.5	13.1	8.5
	99	9.5	7.5	10.7	7.9	12.0	8.8	12.5	8.4	12.7	8.4	12.9	8.4
	103	9.5	7.5	10.7	7.9	12.0	8.8	12.3	8.2	12.4	8.2	12.7	8.3
18	75	14.2	10.8	16.1	12.7	18.0	12.9	19.9	13.3	21.0	13.7	21.4	13.3
	79	14.2	10.8	16.1	12.7	18.0	12.9	19.9	13.3	20.7	13.5	21.1	13.1
	83	14.2	10.8	16.1	12.7	18.0	12.9	19.9	13.3	20.4	13.3	20.7	12.8
	87	14.2	10.8	16.1	12.7	18.0	12.9	19.8	13.2	20.0	13.0	20.4	12.6
	91	14.2	10.8	16.1	12.7	18.0	12.9	19.4	12.8	19.7	12.8	20.1	12.5
	95	14.2	10.8	16.1	12.7	18.0	12.9	19.1	12.6	19.3	12.5	19.7	12.2
	99	14.2	10.8	16.1	12.7	18.0	12.9	18.8	12.3	19.0	12.4	19.4	12.0
	103	14.2	10.8	16.1	12.7	18.0	12.9	18.4	12.1	18.7	12.2	19.0	11.8
24	75	18.9	14.0	21.5	16.1	24.0	16.4	26.5	18.2	28.0	18.2	28.5	17.1
	79	18.9	14.0	21.5	16.1	24.0	16.4	26.5	18.2	27.6	17.9	28.1	16.9
	83	18.9	14.0	21.5	16.1	24.0	16.4	26.5	18.2	27.1	17.6	27.6	16.6
	87	18.9	14.0	21.5	16.1	24.0	16.4	26.4	18.0	26.7	17.4	27.2	16.3
	91	18.9	14.0	21.5	16.1	24.0	16.4	25.9	17.6	26.2	17.0	26.7	16.0
	95	18.9	14.0	21.5	16.1	24.0	16.4	25.5	17.3	25.8	16.8	26.3	15.8
	99	18.9	14.0	21.5	16.1	24.0	16.4	25.0	17.0	25.3	16.4	25.8	15.5
	103	18.9	14.0	21.5	16.1	24.0	16.4	24.6	16.7	24.9	16.2	25.4	15.2

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

FXDQ-M

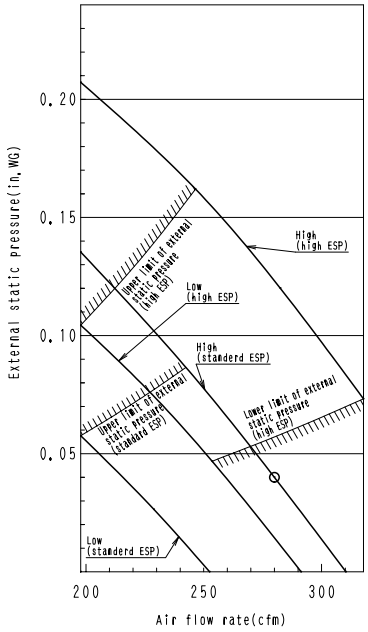
Heating Capacity

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. Fan Performances

FXDQ07 / 09MVJU



3D052851

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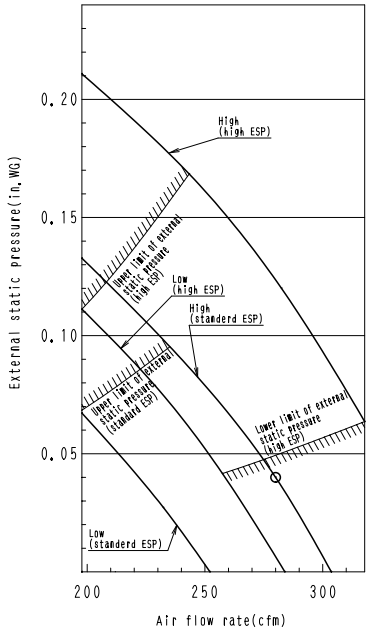

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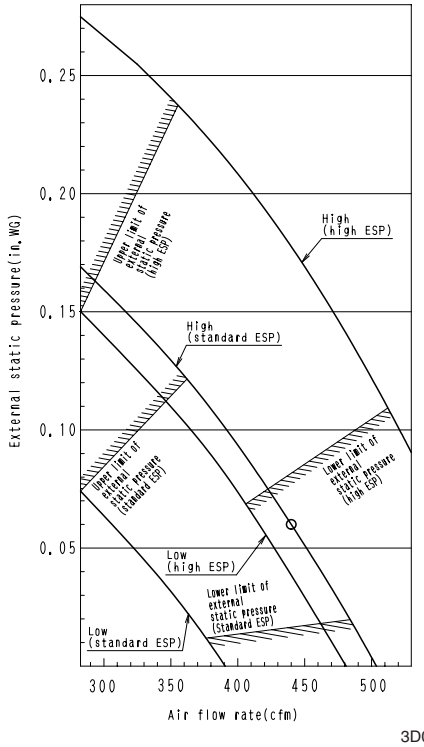

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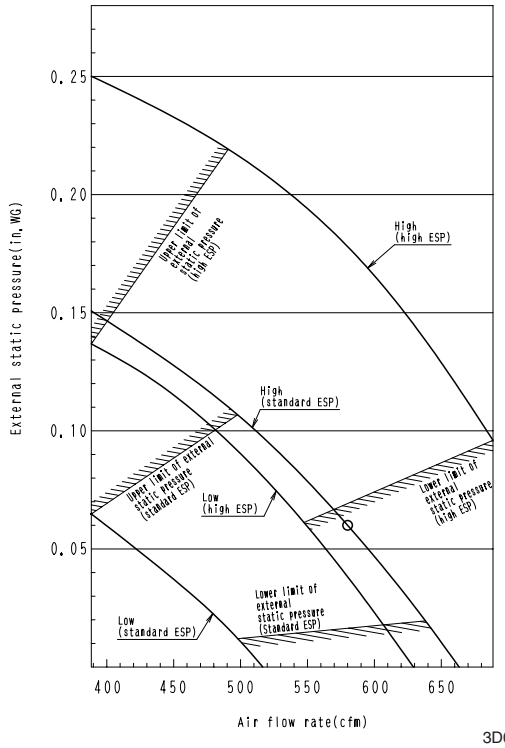


3D052854

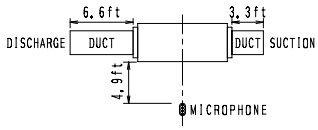
Note:

1. The remote controller can be used to switch between HIGH and LOW.
2. The air flow is set to STANDARD before leaving the factory.
   You can switch between STANDARD ESP and HIGH ESP with the remote controller.

9. Sound Levels

Overall

■ **Slim Ceiling-Mounted Duct Type**



Note:
The operating condition is external static pressure 0.04" Wg. Operation noise differs with operation and ambient conditions.

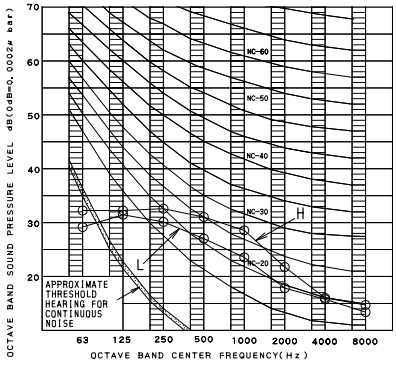
dBA

Model	208~230V, 60Hz	
	H	L
FXDQ07MVJU	33	29
FXDQ09MVJU	33	29
FXDQ12MVJU	33	29
FXDQ18MVJU	35	31
FXDQ24MVJU	36	32

Octave Band Level

○——○ 208V~230V

FXDQ07MVJU



4D052846

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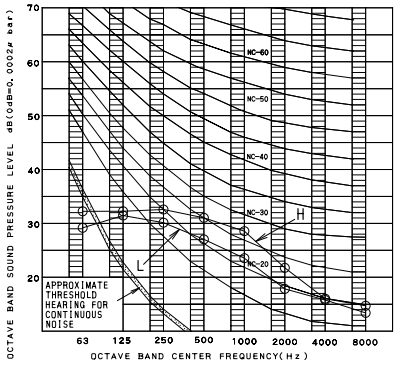

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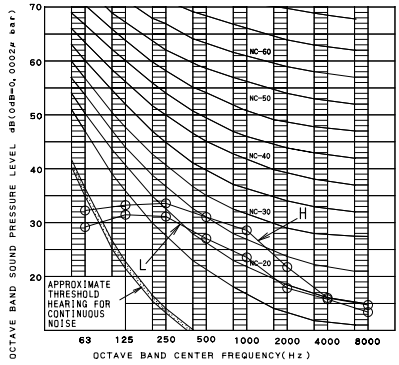

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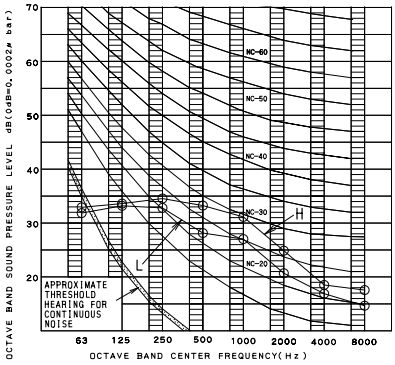

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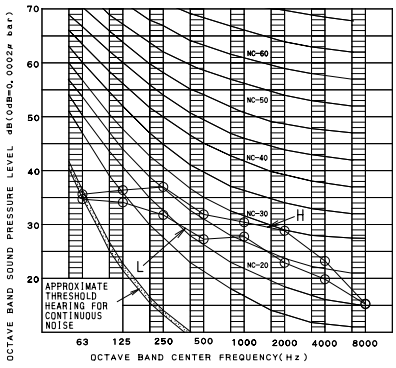

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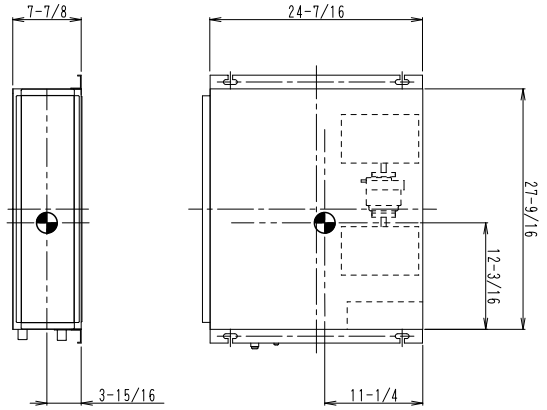
10. Installation

Center of Gravity : inches

FXDQ07 / 09 / 12MVJU



4D051766

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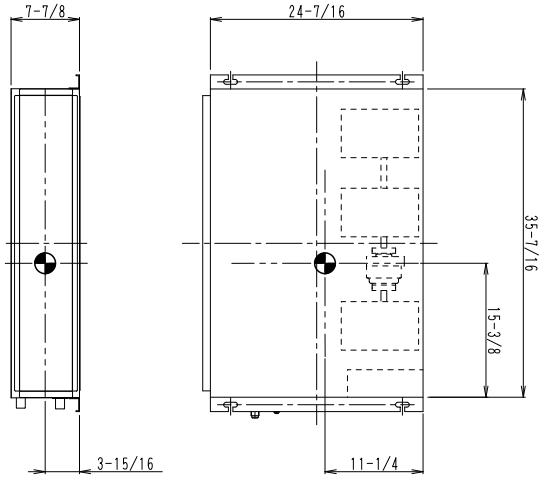

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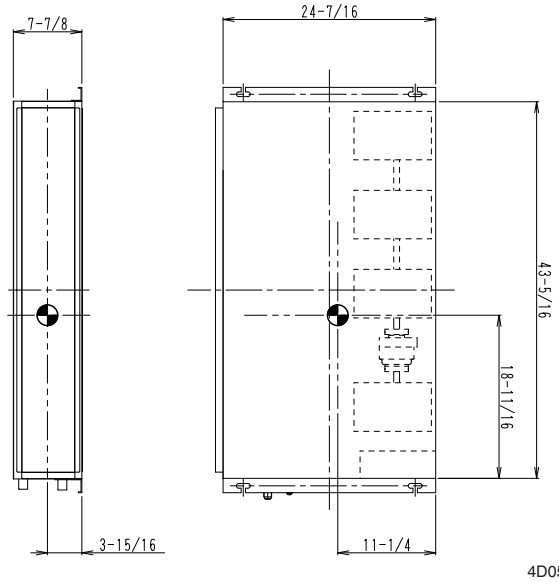


4D051768

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 startup operation.

Instruct the customer how to operate and maintain the unit. Inform customers that they should store this iInstallation 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 a situation that may result in accidents involving only equipment or property.

⚠ DANGER

- **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.**
- **Do not install unit in an area where flammable materials are present as this can cause risk of explosion resulting in 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 cause severe injury or death.
- **Any abnormalities in the operation of the air conditioner such as smoke or fire could result in severe injury or death.**
  Turn off the power and contact your dealer immediately for instructions.
- **If equipment utilizing a burner is used in the same room as the air conditioner, there is the danger of oxygen deficiency which could lead to an asphyxiation hazard resulting in serious injury or death. Be sure to ventilate the room sufficiently to avoid this hazard.**
- **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 cause severe injury or death.
- **Do not ground unit to water pipes. Do not ground unit to gas pipes because a gas leak could result in an explosion which could lead to severe injury or death.**
- **Do not ground the unit to telephone wires or lightning rods as lightning strikes could cause a severe shock hazard resulting in severe injury or death.**
- **Children playing with plastic bags face the danger of death by suffocation.** Tear apart and throw away plastic packaging bags so that children will not play with them.
- **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
- **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.
- **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 into account 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 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.
- **Continually check the unit stand for damage.** If left in a damaged condition, the unit may fall and cause injury**.**
- **Do not touch the air outlet or the horizontal flaps while the swing flap is in operation as fingers may get caught and injured.**
- **Do not allow children to play on or around the unit as they could be injured.**
- **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 electrical parts box lid can be securely fastened.**

Improper positioning of the electrical 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 an ground.**
  Do not ground the unit to a utility pipe, arrester, or telephone.
  Incomplete ground may cause electrical shock, or fire.
- **Do not remove the front panel because some parts inside are dangerous to touch. In addition, some parts may be damaged.**
  For checking and adjusting internal parts, contact your dealer.
- **Do not put a finger or other objects into the air inlet or air outlet.**
  The fan is rotating at high speed and will cause injury.
- **Do not let the indoor unit get wet as it may cause an electric shock or fire.**
- **Placing a flower vase or other containers with water or other liquids on the unit could result in a shock hazard or fire if a spill occurs.**
- **A high surge current from lightning or other sources may cause damage to the air conditioner.**
- **Do not touch the switch with wet fingers.**
  Touching a switch with wet fingers can cause electric shock.
- **Be sure to install ground for a leakage breaker.**
  Failure to install ground for a 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 as plastic parts may deteriorate and fall off or result in water leakage.
  (b) Where corrosive gas, such as sulfurous acid gas, is produced as corroding copper pipes or soldered parts may result in refrigerant leakage.
  (c) Near machinery emitting electromagnetic waves as electromagnetic waves may disturb the operation of the control system and result in a malfunction of the equipment.
- **Heat exchanger fins are sharp enough to cut.**
  To avoid injury wear gloves or cover the fins when working around them.
  Use of unspecified parts could lead to the unit falling, leaks and, in worse cases, electric shock or fire.
- **Entrust installation to the place of purchase or a qualified serviceman.**
  Improper installation could lead to leaks and, in worse cases, electric shock or fire.
- **Refrigerant pipes may be very hot or very cold during, or immediately after, operation.**
  Touching them can 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 as water leakage or other problems may occur.
- **Make sure to provide adequate measures to prevent the 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 feet away from televisions or radios in order to prevent image interference or noise.**
  (Depending on the radio waves, a distance of 3.5 feet 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 accordance with local and national regulations.**

2. BEFORE INSTALLATION

⚠ WARNING

- Entrust installation to the place of purchase or a qualified serviceman. Improper installation or using unspecified parts can result in the unit falling, leaks, electric shock, or fire.
- Use of unspecified parts could lead to the unit falling, leaks and, in worse cases, electric shock or fire.

⚠ 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.

The accessories needed for installation must be retained in your custody until the installation work is completed. Do not discard them!

1. Decide upon a line of transport.
2. Leave the unit inside its packaging until reaching the installation site. If unpacking is unavoidable, use a sling of soft material or protective plates, and a rope if lifting, to avoid damage or scratches to the unit.

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.

Be sure to check the type of R-410A refrigerant to be used before installing the unit.
NOTE: Using an incorrect refrigerant will prevent normal operation of the unit.

For the installation of an outdoor unit, refer to the installation manual attached to the outdoor unit.

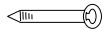
2-1 PRECAUTIONS

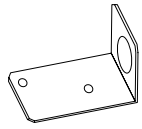
- Be sure to instruct customers how to properly operate the unit,such as operating different functions and adjusting the temperature, by having them carry out operations themselves while looking at the operation manual.
- Do not install in locations where the air contains high levels of salt such as near the ocean and where voltage fluctuates greatly such as in factories, vehicles or vessels.

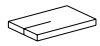
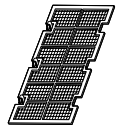
2-2 ACCESSORIES

Check that the following accessories are included with your unit:

Name	Metal clamp (1)	Drain hose (2)	Insulation for fitting	Sealing pad
Quantity	1 pc.	1 pc.	1 each	1 each
Shape			 for liquid pipe (3)  for gas pipe (4)	 Large (5)  mid. (6)

Name	Screws for duct flanges (7)	Washer for hanger bracket (8)	Clamp	Washer fixing plate (11)
Quantity	1 set	8 pcs.	1 set	4 pcs.
Shape	 24 pcs.		 Large (9) 8 pcs.  small (10) 4 pcs.	

Name	Conduit mounting plate	Screw for conduit mounting plate	Pipe insulation
Quantity	1 pc.	2 pcs.	1 pc.
Shape			

Name	Sealing material (12)	Air filter (13)	
Quantity	2 pcs.	1 pc.	
Shape			• Operation manual • Installation manual

2-3 OPTIONAL ACCESSORIES

- This indoor unit requires one of the operation remote controls listed below.

Remote controller	
Wired type	BRC1D71
Wireless type	BRC4C82

FOR THE FOLLOWING ITEMS, BE ESPECIALLY CAREFUL DURING CONSTRUCTION, AND CHECK THEM AGAIN AFTER INSTALLATION IS COMPLETED:

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?	Units may drop, vibrate or make noise.	
Is the gas leak test finished?	Insufficient cooling.	
Is the unit fully insulated?	Condensate may drip.	
Does drainage flow smoothly?	Condensate 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?	Incomplete grounding may result in electric shocks.	
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?	Insufficient cooling.	
Are refrigerant piping length and additional refrigerant charge noted down?	The refrigerant charge in the system is not clear.	

Also review the **SAFETY CONSIDERATIONS**.

b. Items to be checked at time of delivery

Items to be checked	Check
Did you explain about operations while showing the operation manual to your customer?	
Did you hand the operation manual and warranty over to your customer?	
Did you explain about the way of maintaining and cleaning local procurements such as (air filter, air outlet and suction grilles to your customer?	
Did you hand manuals of local procurements (in case equipped) over to your customer?	

3. SELECTING INSTALLATION SITE

⚠ CAUTION

- 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.
- If you think the humidity inside the ceiling might exceed 86°F and RH80%, reinforce the insulation on the unit body. Use glass wool or polyethylene foam as insulation so that the thickness is more than 1/2 in. and fits inside the ceiling opening.

(1) Select an installation site where the following conditions are fulfilled and that meets with your customer's approval.

- Where optimum air distribution can be ensured.
- Where nothing blocks air passage.
- Where condensate can be properly drained.
- Where the ceiling is strong enough to bear the indoor unit weight.
- Where the false ceiling is not noticeably on an incline.
- Where sufficient clearance for maintenance and service can be ensured. **(Refer to Fig. 1)**
- Where piping between indoor and outdoor units is possible within the allowable limit. Refer to the installation manual for the outdoor unit.

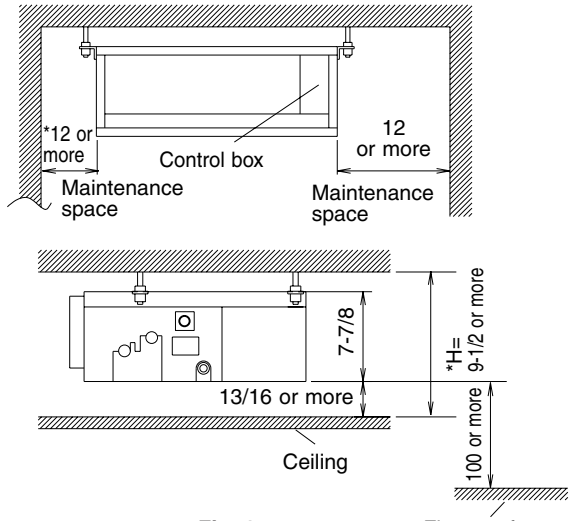


Fig. 1

(length : in.)

- Select the *H dimension such that a downward slope of at least 1/100 is ensured as indicated in **Section 7. *DRAIN PIPING WORK*.**
- The maintenance space marked with an asterisk is required when the installation box for adaptor PC board (KRP1B101) sold separately is used.

[PRECAUTION]

- Install the indoor and outdoor units, power supply wiring and connecting wires at least 3.3 feet away from televisions or radios in order to prevent image interference or noise. Depending on the radio waves, a distance of 3.3 feet may not be sufficient enough to eliminate the noise.
- If installing the wireless kit in a room with electronic fluorescent lighting, the remote controller's transmission distance may be shortened. Indoor units should be installed as far away from fluorescent lighting as possible.

⚠ DANGER

- Do not install unit in an area where flammable materials are present due to the risk explosion resulting in serious injury or death.

⚠ WARNING

- 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.

⚠ 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 enough to eliminate the noise.

(2) Use suspension bolts for installation. Check whether the ceiling is strong enough to support the weight of the unit or not. If there is a risk, reinforce the ceiling before installing the unit.
(Installation pitch is marked on the carton box for installation. Refer to it to check for points requiring reinforcing.)

4. PREPARATIONS BEFORE INSTALLATION

(1) Confirm the positional relationship between the unit and suspension bolts. (Refer to Fig. 2)

- Install the inspection opening on the control box side where maintenance and inspection of the control box and drain pump are easy. Install the inspection opening also in the lower part of the unit.

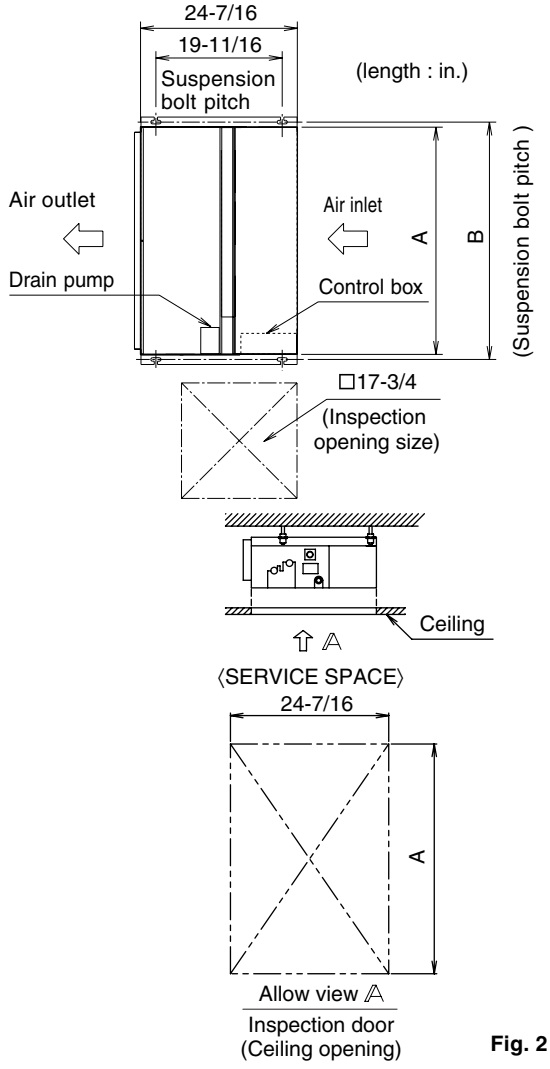


Fig. 2

(length : in.)

Model	A	B
07 · 09 · 12 type	27-9/16	29-1/8
18 type	35-7/16	37
24 type	43-5/16	44-7/8

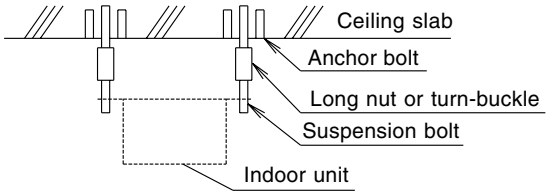
(2) Make sure the range of the unit's external static pressure is not exceeded.
See the Engineering Data for the range of the external static pressure setting.

(3) Open the installation hole. (Pre-set ceilings)

- Once the installation hole is opened in the ceiling where the unit is to be installed, pass refrigerant piping, drain piping, transmission wiring, and remote controller wiring unnecessary if using a wireless remote controller) to the unit's piping and wiring holes.
  See Section **6. REFRIGERANT PIPING WORK**, Section **7. DRAIN PIPING WORK**, and **10. WIRING EXAMPLE**.
- After opening the ceiling hole, make sure ceiling is level if needed. It might be necessary to reinforce the ceiling frame to prevent shaking.
  Consult an architect or carpenter for details.

(4) Install the suspension bolts.

Use W3/8 to M10 suspension bolts.
Use a hole-in-anchor for existing ceilings, and a sunken insert, sunken anchor or other part to be procured in the field to reinforce the ceiling to bearing the weight of the unit for new ceiling. **(Refer to Fig. 3)**



Note: All the above parts are field supplied.

Fig. 3

(5) For bottom intake, replace the chamber lid in the procedure listed in Fig. 4.

(1) Remove the protection net and the chamber lid.
(2) Refer to Fig. 4 for direction of the protection net and the chamber lid.
(3) Attach the air filter (accessory) in the manner shown in the diagram.
The four holes which cannot be covered by the air filter should be covered with commercially available tape.

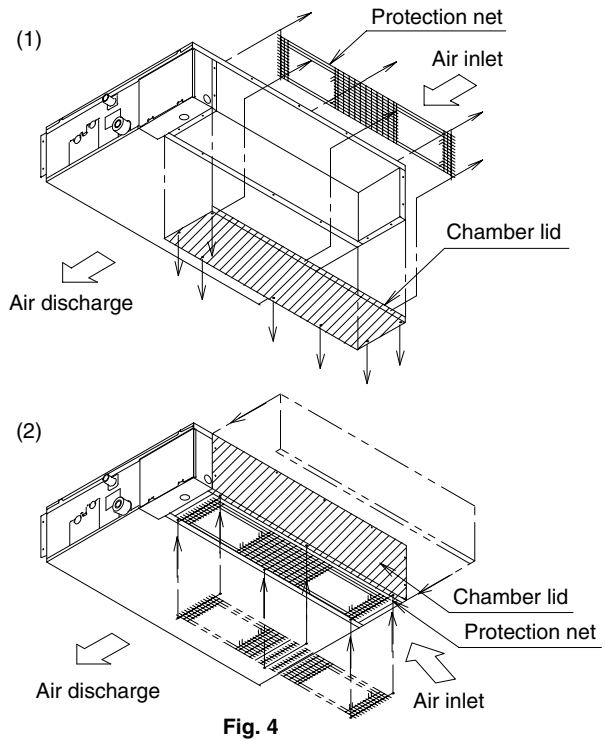
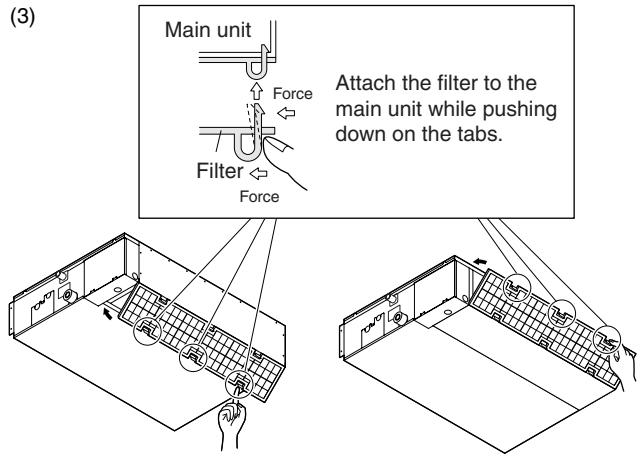


Fig. 4

(3)



In case of bottom side

In case of back side

5. INDOOR UNIT INSTALLATION

You must use the provided accessories and specified parts designated by our company.

(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. **(Refer to Fig. 5)**

[Securing the hanger bracket] [How to secure washers]

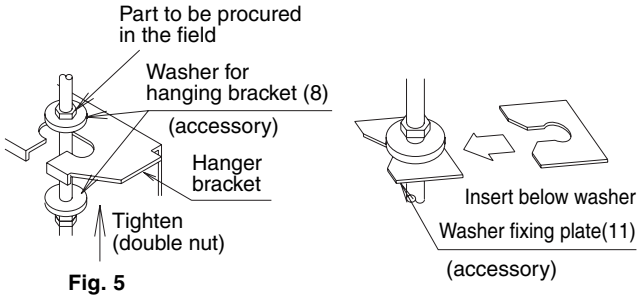


Fig. 5

[PRECAUTION]

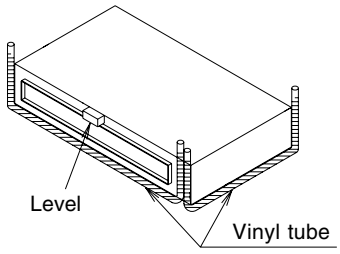
Since the unit uses a plastic drain pan, prevent welding spatter and other foreign substances from the air outlet during installation.

(2) Adjust the height of the unit.

(3) Check if the unit is horizontally level.

⚠ CAUTION

- **Make sure the unit is installed level using a level or a plastic tube filled with water. In using a plastic tube instead of a level, adjust the top surface of the unit to the surface of the water at both ends of the plastic tube and adjust the unit horizontally. Be aware that if the unit is installed so that the slope is not in the direction of the drain piping, this might cause leaking.**



(4) Tighten the upper nut.

6. 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, or water leakage can result.
Use insulation that can withstand temperatures of at least 250°F. Reinforce the insulation on the refrigerant piping according to the installation environment. If the temperature above the ceiling reaches 86°F or the humidity RH80%,. condensation may form on the surface of the insulation.

⚠ CAUTION

Follow the points at below.

- Use a pipe cutter and flare suitable for the type of refrigerant.
- Apply ester oil or ether oil to the flare section when using a flare connection.
- Only use the flare nuts included with the unit. Using different flare nuts may cause the refrigerant to leak.
- To prevent dust, moisture or other foreign matter from infiltrating the piping, 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, thoroughly ventilate the room immediately.

- The outdoor unit is charged with refrigerant.
- 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. 6)**

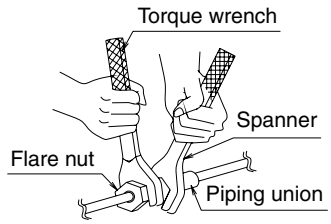


Fig. 6

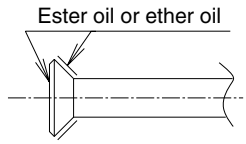
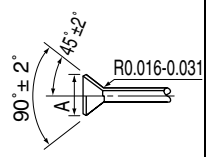


Fig. 7

- Refer to the Table 1 for the dimensions of flare nut spaces.
- Apply ester oil or ether oil to flare section (both inside and out) when using flare nut connections and then turn 3 or 4 times by hand. **(Refer to Fig. 7)**
- Refer to Table 1 for tightening torque.

Table 1

Pipe size (in.)	Tightening torque (ft.lbf)	Flare dimensions A (in.)	Flare shape (in.)
ϕ1/4	10.4–12.7	0.342–0.358	
ϕ3/8	24.1–29.4	0.504–0.520	
ϕ1/2	36.5–44.5	0.638–0.654	
ϕ5/8	45.6–55.6	0.760–0.776	

⚠ CAUTION

Overtightening may damage the flare and cause leaks. Ensure that oil does not to adhere to any portions other

than a flare part. If oil adheres to resin parts., deterioration can occur.

- Refer to Table 2 if no torque wrench is available.
  Using a wrench to tighten flare nuts causes the tightening torque to suddenly grow much tighter after a certain point. From there, tighten the nut further by the appropriate angle listed in Table 2.

(5) After the work is finished, ensure there is no gas leak.

(6) After checking for gas leaks, be sure to insulate the pipe connections referring to Fig. 8.
- Insulate using the insulation for fitting (3) (4) included with the liquid and gas pipes. Besides, make sure the insulation for fitting (3) (4) on the liquid and gas piping has its seams facing up.
  Tighten both edges with clamp (9).
- For the gas piping, wrap the middle sealing pad (6) over the insulation for fitting (4) flare nut part.

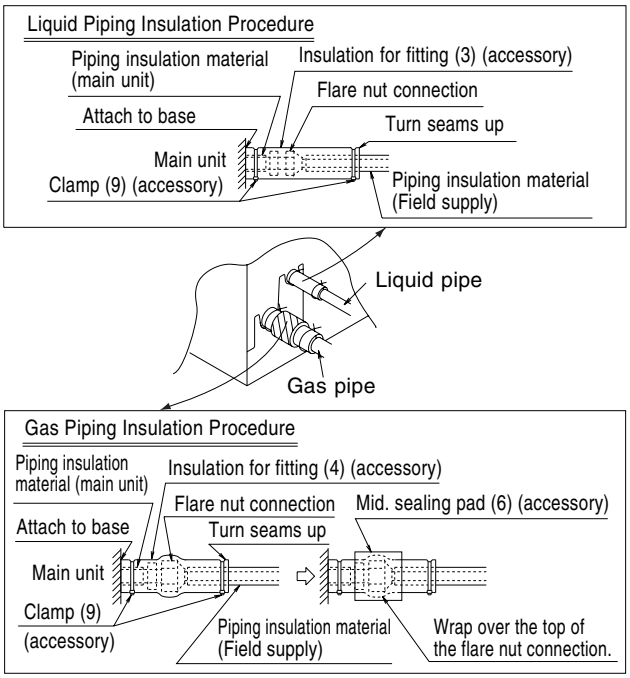


Fig. 8

⚠ 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.

- When brazing the refrigerant piping, perform nitrogen replacement first, or perform the brazing while feeding nitrogen into the refrigerant piping, and then connect the indoor unit using the flare connections. **(Refer to Fig. 9)**

⚠ CAUTION

- When brazing a pipe while feeding nitrogen inside the pipe, make sure to set the nitrogen pressure to 29 psi or less using the pressure reducing valve.

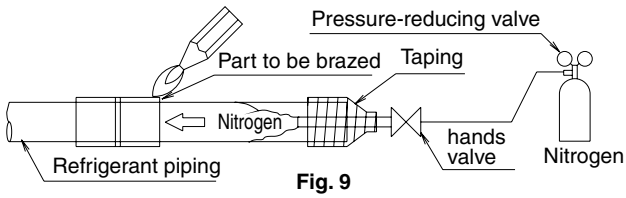


Fig. 9

Not recommendable but in case of emergency

You must use a torque wrench but if it is necessary to install the unit without a torque wrench, 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 keep on 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 the angle shown below:

Table 2

Pipe size (in.)	Further tightening angle	Recommended arm length of tool (in.)
ϕ1/4	60 to 90 degrees	Approx. 5-7/8
ϕ3/8	60 to 90 degrees	Approx. 7-7/8
ϕ1/2	30 to 60 degrees	Approx. 9-13/16
ϕ5/8	30 to 60 degrees	Approx. 11-13/16

⚠ DANGER

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

⚠ NOTE

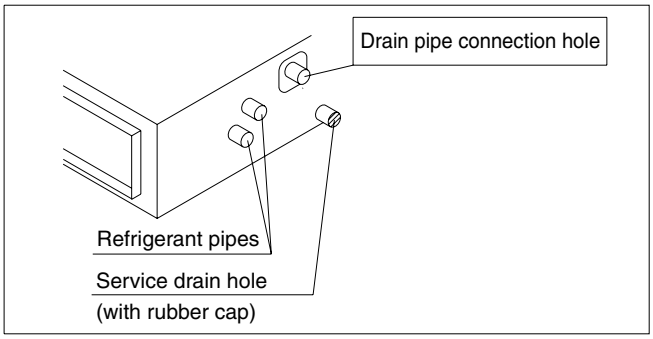
- Do not use flux when brazing refrigerant piping. Therefore, use the phosphor copper brazing filler metal (BCuP) which does not require flux.
  (Flux has an extremely negative effect on refrigerant piping systems. For instance, if chlorine based flux is used, it will cause pipe corrosion. Flux containing fluorine will damage refrigerant oil.)

7. DRAIN PIPING WORK

CAUTION

- The connection opening on the drain piping may vary depending on the model, so check the model name and use the right method for that model.
- Make sure all water is out before making the duct connection.

(1) Install the drain piping.



- Make sure the drain works properly.
- The diameter of the drain piping should be greater than or equal to the diameter of the connecting pipe (vinyl tube; pipe size : 3/4" (19.1 mm) ; outer dimension : 1" (25.4 mm). (not including a riser)
- Keep the drain piping short and sloping downwards at a gradient of at least 1/100 to prevent air pockets from forming.
  (Refer to Fig. 10)

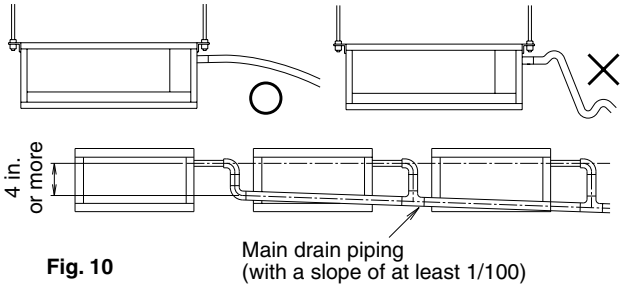


Fig. 10

CAUTION

Water accumulating in the drain piping can cause the drain to clog.

- To keep the drain piping from sagging, space hanging bracket every 3 to 5 feet.
- Use the drain hose (2) and the metal clamp (1). Insert the drain hose (2) fully into the drain pipe connection hole and firmly tighten the metal clamp (1) with the upper part of the tape on the hose end. Tighten the metal clamp (1) until the screw head is less than 1/8 inches from the hose.
  (Refer to Fig. 11, 12)
- The two areas below should be insulated because condensation may form there causing water to leak.
  - Drain piping passing indoors
  - Drain pipe connection hole

  Referring the figure below, insulate the metal clamp (1) and drain hose (2) using the included large sealing pad (5).
  (Refer to Fig. 12)

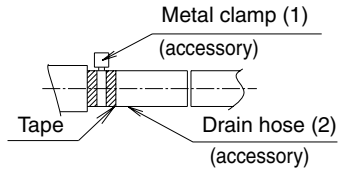


Fig. 11

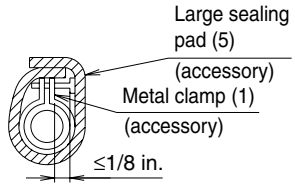


Fig. 12

〈 **PRECAUTIONS FOR DRAIN RAISING PIPE** 〉

- Make sure the drain raising pipe height is no higher than 23-5/8 in..
- Place the drain raising pipe vertically and make sure it is no further than 11-3/4 in. from the unit. **(Refer to Fig. 13)**

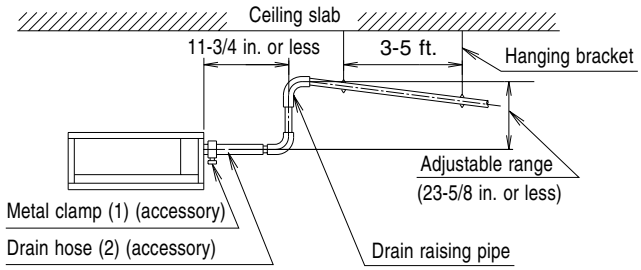


Fig. 13

〈 **PRECAUTIONS** 〉

Drain piping connections

- 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 piping and corrode the heat exchanger.
- Do not twist or bend the drain hose (2) as excessive force causes leakage.
- If you are using central drain piping, follow the procedure outlined in the figure 10.
- Select central drain piping of proper size according to the capacity of the connected unit.

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

- Gradually insert approximately 2 quarts of water into the drain pan to check drainage in the manner described below.

⚠ CAUTION

- The electric wiring work shall be performed by qualified electricians.
- If workers not having the electrician qualification have performed the electric wiring work, the steps 3 to 7 shall be performed after the **TEST RUN**.

1. Remove the lid of the control box. Connect the remote controller and power supply (single-phase, 60Hz 208-230V) respectively to the terminal block and securely connect the ground also as shown in the figure below. Securely clamp the cables with the accessory clamps (9)(10) as shown in Fig. 14 so that tension will not be applied on the cable connection areas.
2. Confirm that the lid of the control box is closed before turning on the power.
3. Remove the inspection lid.
4. Gradually pour approximately 2 quarts of water from the water inlet into the drain pan to check drainage.

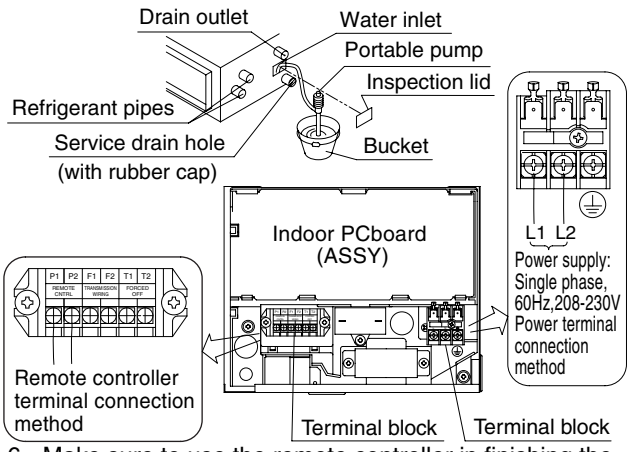
⚠ CAUTION

Be sure to prevent external force from being exerted on the float switch or breakage can occur. Attach the inspection lid

5. Perform the following operation using the remote controller, and check drainage.
   - Select the inspection/test operation button "TEST" using the remote controller. The unit will engage the test operation. Press the operation selector button "", and select FAN OPERATION "".
   - Press the ON/OFF button "". The indoor fan and drain pump will operate.

⚠ CAUTION

Be cautious of the fan turning simultaneously. Do not touch the drain pump to prevent electric shock.



6. Make sure to use the remote controller in finishing the operation.

8. INSTALLING THE DUCT

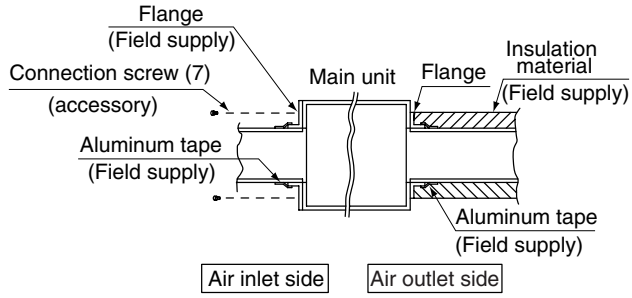
Connect the duct supplied in the field.

Air inlet side

- Attach the duct and intake-side flange (field supply).
- Connect the flange to the main unit with accessory screws (in 20 or 24 positions).
- Wrap the intake-side flange and duct connection area with aluminum tape or something similar to prevent air escaping.

⚠ CAUTION

When attaching a duct to the intake side, be sure to attach an air filter inside the air passage on the intake side. (Use an air filter whose dust collecting efficiency is at least 50% in a gravimetric technique.)
The included filter is not used when the intake duct is attached.



Air outlet side

- Connect the duct according to the air inside of the outlet-side flange.
- Wrap the outlet-side flange and the duct connection area with aluminum tape or something similar to prevent air escaping.

⚠ CAUTION

- Be sure to insulate the duct to prevent condensation from forming. (Material: glass wool or polyethylene foam, 1 in. thick)
- Use electric insulation between the duct and the wall when using metal ducts to pass metal laths of the net or fence shape or metal plating into wooden buildings.
- Be sure to explain how to clean local procurementssuch as air filters and grilles to your customer.

9. ELECTRIC WIRING WORK

9-1 GENERAL INSTRUCTIONS

- Shut off the power before doing any work.
- All field supplied parts and materials, electric works must conform to local codes.
- Use copper wire only.
- See also the **Wiring Diagram label** attached to the control box lid when laying electrical wiring.
- For details on hooking up the remote controller, refer to the ***REMOTE CONTROLLER INSTALLATION MANUAL***.
- 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.
- Install a wiring interrupter or ground-fault circuit interrupter for the power wiring.
- Make sure the ground resistance is no greater than 100Ω.
- To avoid short circuiting the power supply wire, be sure to use insulated terminals.
- Do not turn on the power supply (wiring interrupter or ground-fault circuit interrupter) until all other work is done.

⚠ 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, or to gas pipes because a gas leak could result in an explosion which could lead to severe injury or death.

9-2 LIST OF STANDARD WIRING EQUIPMENT

Power supply wiring (including ground wire)		Transmission wiring Remote controller wiring	
Field fuses	Size	Wire	Size
15A	Must comply with local codes.	2 conductor, stranded copper, non-shielded, PVC or vinyl jacket	AWG18

NOTE

1. If the wiring is in a place where people it can be easily touched, install a ground-fault circuit interrupter to prevent electric shock.
2. When using a ground-fault circuit interrupter, make sure to select one useful also to protection against overcurrent and short-circuit.
3. When using a ground-fault circuit interrupter only for grounding device, make sure to use a wiring interrupter together.

- The length of the transmission wiring and remote controller wiring are as follows:.

Outdoor unit – Indoor unit	Max. 3280 ft. (Total wiring length: 6560 ft.)
Indoor unit – Remote controller	Max. 1640 ft.

9-3 ELECTRICAL CHARACTERISTICS

Units				Power supply		Fan motor	
Model	Hz	Volts	Voltage range	MCA	MFA	KW	FLA
07 · 09 · 12 type	60	208-230	Min. 187 Max. 253	0.9	15	0.062	0.7
18 type				1.3		0.13	1.0
24 type				1.4		0.13	1.1

MCA: Minimum Circuit Amps (A) MFA: Max. Fuse Amps (A)
KW: Fan motor output (kW) FLA: Full Load Amps (A)

10. WIRING EXAMPLE

10-1 HOW TO CONNECT WIRINGS

- Wire only after removing the control box lid as shown in Fig. 14.

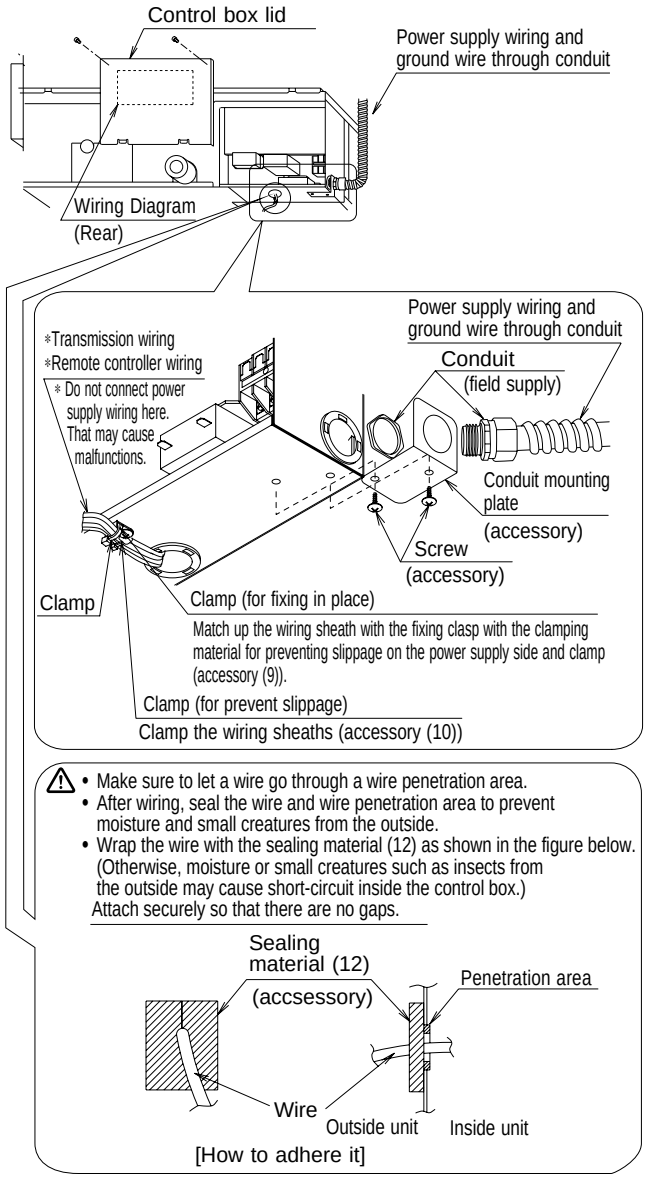


Fig. 14

⚠ WARNING

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

⚠ WARNING

- Never connect power supply wiring to the terminal block for remote controller wiring as this could damage the entire system.

⚠ NOTE

⚠ NOTE

- When clamping the wiring, use the included clamp material (9) and (10) as shown in the Fig.14 to prevent outside pressure being exerted on the wiring connections and clamp firmly.
- When doing the wiring, make sure the wiring is neat and does not cause the control box lid to stick up, then close the cover firmly. When attaching the control box lid, make sure you do not pinch any wires.
- Outside the air conditioners, separate the low voltage wiring (remote controller and transmission wiring) and high voltage wiring (ground wire and power supply wiring) at least 5 in. so that they do not pass through the same place together. Proximity may cause electrical interference, malfunctions, and breakage.

PRECAUTIONS

- Refer to the ***REMOTE CONTROLLER INSTALLATION MANUAL*** on how to install and lay the wiring for the remote controller.
- See also the ***WIRING DIAGRAM*** label" attached to the control box lid when laying electrical wiring.
- Connect the remote controller and transmission wiring their respective terminal blocks.Do not, under any circumstances, connect the power supply wiring to the remote controller or transmission wiring terminal block. Doing so can destroy the entire system.

Connecting electrical wiring, remote controller wiring, and transmission wiring -- (Refer to Fig. 15)

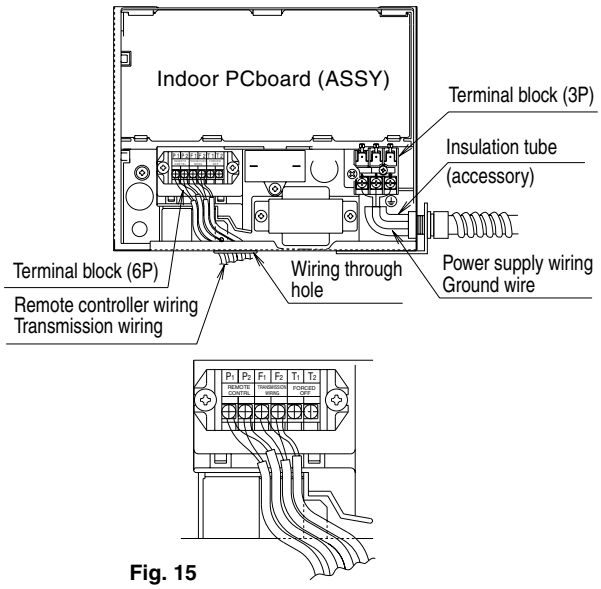


Fig. 15

- **Power supply wiring and Ground wire**

Remove the control box lid.
Next, pull the wires into the unit through the conduit and thread them through the insulation tube (accessory), then connect to the terminal block (3P).

- **Remote controller and transmission wiring**
  Pull the wires into the unit through the wiring through hole and connect to the terminal block (6P).
  Be sure to put PVC or vinyl-clad wire into the control box.

WIRING EXAMPLES

No. 1 system When using 1 remote controller for 1 indoor unit

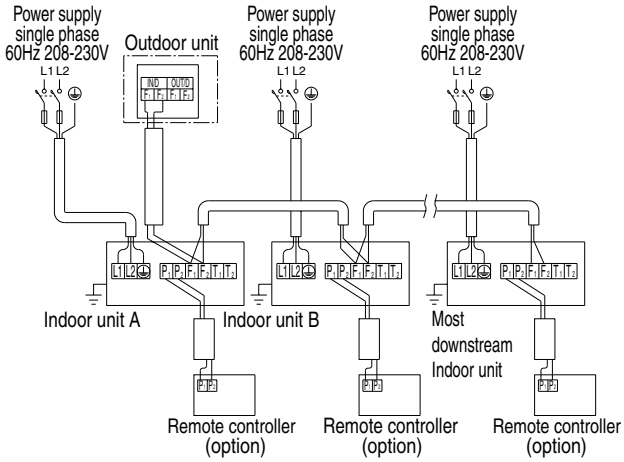


Fig. 16

No. 2 system For group control or use with 2 remote controllers

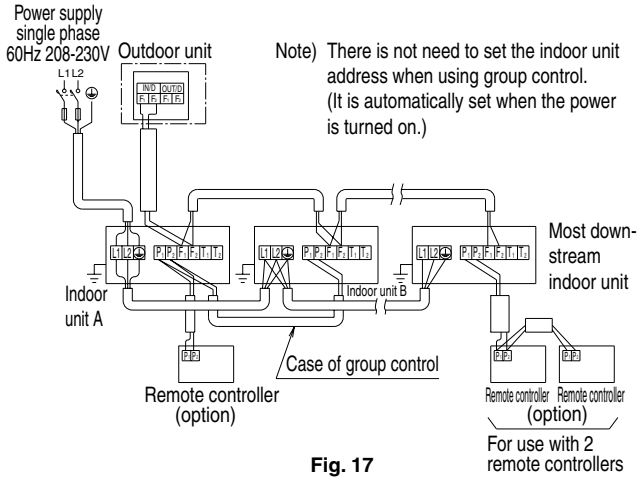


Fig. 17

No. 3 system When including BS unit

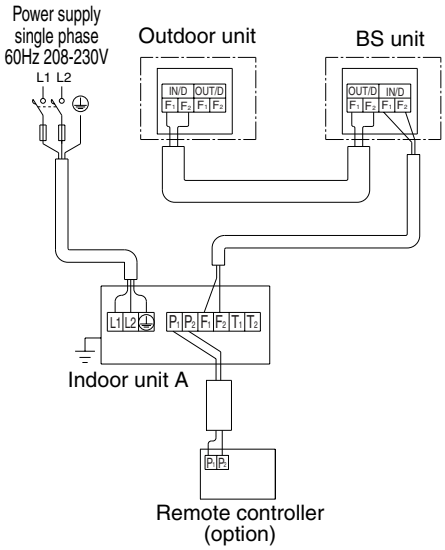
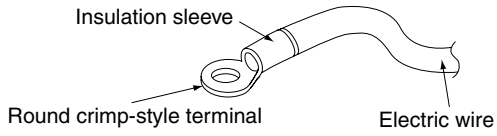
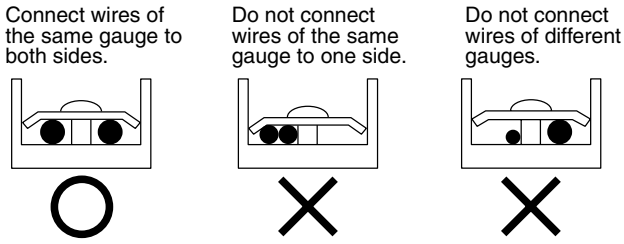


Fig. 18

〈 **Precautions when laying power supply wiring** 〉

- Wiring of different thicknesses cannot be connected to the power supply wiring terminal block. (Slack in the power supply wiring may cause abnormal heat.)
- Use sleeve-insulated round crimp-style terminals for connections to the power supply wiring terminal block. When none are available, connect wires of the same diameter to both sides, as shown in the following figure.





Follow the instructions below if the wiring gets very hot due to slack in the power supply wiring.

- For wiring, use the designated power supply wiring and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- 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 below for the tightening torque of the terminal screws.

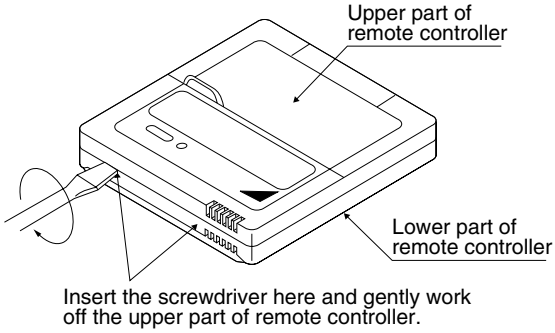
Terminal block	Tightening torque (ft · lbf)
Remote controller / transmission wiring terminal block (6P)	0.58 – 0.72
Power supply wiring terminal block (3P)	0.87 – 1.06

10-2 CONTROL BY 2 REMOTE CONTROLLERS (Controlling 1 indoor unit by 2 remote controllers)

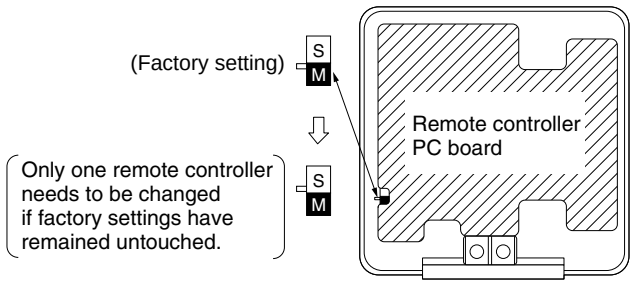
- When using 2 remote controllers, one must be set to **MAIN** and the other to **SUB**.

MAIN/SUB CHANGEOVER

(1) Insert a ⊖ screwdriver into the 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.



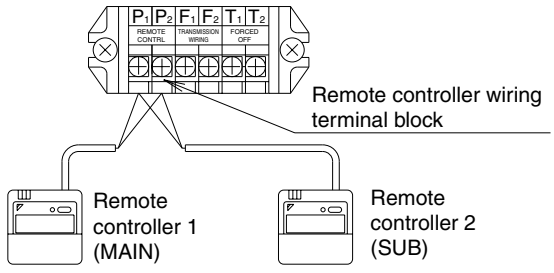
(2) Turn the MAIN/SUB changeover switch on one of the two remote controller PC boards to "[S]".
(Leave the switch of the other remote controller set to "[**M**]".)



Wiring Method: See Section 9, **ELECTRICAL WIRING WORK.**

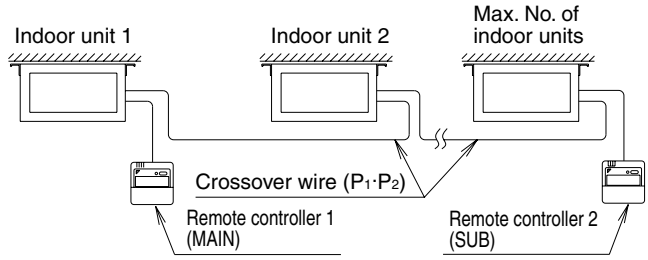
(3) Remove the control box lid**.**

(4) Add remote controller 2 (SUB) to the terminal block for remote controller (P_1, P_2) in the control box. There is no polarity.



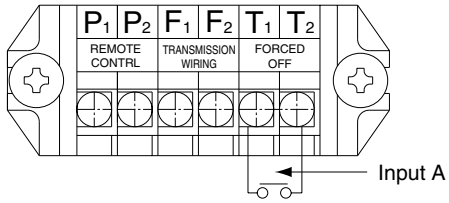
[PRECAUTIONS]

- Crossover wiring is needed when using group control and 2 remote controllers at the same time.
- Connect the indoor unit at the end of the crossover wire (P_1, P_2) to remote controller 2 (SUB).



10-3 REMOTE CONTROL (FORCED OFF AND ON/OFF OPERATION)

- Connect input lines from the outside to the terminals T_1 and T_2 on the terminal block (6P) for remote controller to achieve remote control capability.
- See **11. FIELD SETTING AND TEST RUN** for details on operation.



Wire specification	2-conductor, stranded copper, non-shielded, PVC or vinyl jacket
Gauge	AWG18
Length	Max. 328 ft.
External terminal	Contact that can ensure the minimum applicable load of 15 V DC, 1 mA.

10-4 CENTRALIZED CONTROL

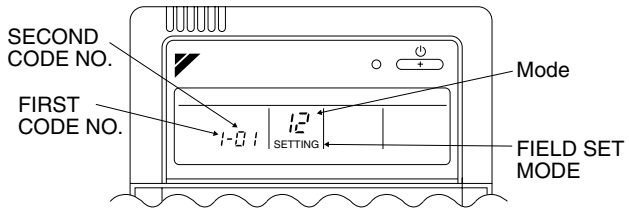
- For centralized control, it is necessary to designate the Group No. For details, refer to the manual of each optional controllers for centralized control.

11. FIELD SETTING AND TEST RUN

Field settings may have to be performed using the remote controller, depending on the type of installation.

- Make sure the control box lids are closed on the indoor and outdoor units.
- Depending on the type of installation, make the field settings from the remote controller after the power is turned on, following the ***FIELD SETTINGS*** manual that came with the remote controller.
  - The settings can select Mode No., No., FIRST CODE NO. and SECOND CODE NO.

- The ***FIELD SETTINGS*** included with the remote controller list the order of the settings and method of operation.



- Lastly, make sure the customer keeps the ***FIELD SETTINGS*** manual, along with the operating manual, in a safe place.

11-1 SETTING THE STATIC PRESSURE SELECTION

- Select the SECOND CODE NO. for the resistance of the connected duct.
  (The SECOND CODE NO. is set to **01** when shipped.
- See the technical documentation for details.

External static pressure	Mode No.	FIRST CODE NO.	SECOND CODE NO.
Standard	13(23)	5	01
High static pressure setting			02

11-2 REMOTE CONTROL SETTING

- Forced OFF and ON/OFF operation should be selected by selecting the SECOND CODE NO. as shown in the table below.
  The SECOND CODE NO. is set to **01** when shipped.

External ON/OFF input	Mode No.	FIRST CODE NO.	SECOND CODE NO.
Forced off	12(22)	1	01
ON/OFF operation			02

- Input A of forced off and ON/OFF operation work as shown in the table below.

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.	Unit stopped by changing input A from “on” to “off”

11-3 SETTING THE FILTER SIGN DISPLAY INTERVAL

- Explain the following to the customer if the filter dirt settings have been changed.
- The filter sign display time is set to 2500 hours (equivalent to 1 year’s use) when shipped.
- The settings can be changed to prevent display.
- When installing the unit in a place with a lot of dust, set the filter-sign display time to shorter intervals (1,250 hours).

Explain to the customer that the filter needs to be cleaned regularly to prevent clogging, and the time that is set.

Mode No.	FIRST CODE NO.		SECOND CODE NO.	
			01	02
10 (20)	0	Filter dirt	low	high
	1 (low/high)	Displayed time (units: hours)	2500/ 1250	10000/ 5000
	3	Filter sign display	ON	OFF

11-4 SETTINGS FOR SEPARATELY SOLD ACCESSORIES

- See the instruction manuals included with separately sold accessories for the necessary settings.

When using a wireless remote controller

- A wireless remote controller address needs to be set when using a wireless remote controller. See the installation manual included with the wireless remote controller for details on how to make the settings.
- Perform a test run according to the outdoor unit's installation manual.
- 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 the manual ***CAUTION FOR SERVICING*** of the outdoor unit.
  - If the display shows any of the following, there is a possibility that it is wired incorrectly or that the power is not on. , so check again.

Remote control display	Content
"⚠" display	• There is a short circuit at the FORCED OFF terminals (T1, T2).
"U3" display	• The test-run has not been performed.
"U4" display "UH" display	• The power on the outdoor unit is off. • The outdoor unit has not been wired for power supply. • Wiring is incorrect for the transmission wiring or FORCED OFF wiring. • The transmission wiring is cut.
"UF" display	• Reversed transmission wiring
No display	• The power on the indoor unit is off. • The indoor unit has not been wired for power supply. • Wiring is incorrect for the remote controller wiring, the transmission wiring or the FORCED OFF wiring. • The remote controller wiring is cut.

⚠ CAUTION

- Always stop the test run using the remote controller to stop operation.

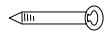
⚠ WARNING

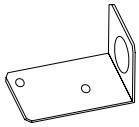
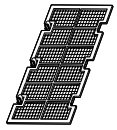
- After finishing the test run, make sure to check drainage in the drain pump according to "7. **DRAIN PIPING WORK**".

⚠ NOTE

11. Accessories

Standard Accessories

Name	Metal clamp (1)	Drain hose (2)	Insulation for fitting	Sealing pad	Screws for duct flanges (7)	Washer for hanger bracket (8)	Clamp	Washer fixing plate (11)
Quantity	1 pc.	1 pc.	1 each	1 each	1 set	8 pcs.	1 set	4 pcs.
Shape			 for liquid pipe (3)  for gas pipe (4)	 Large (5)  mid. (6)	 24 pcs.		 Large (9) 8 pcs.  small (10) 4 pcs.	

Name	Conduit mounting plate	Screw for conduit mounting plate	Insulation tube	Sealing material (12)	Air filter (13)	
Quantity	1 pc.	2 pcs.	1 pc.	2 pcs.	1 pc.	(Other) • Operation manual • Installation manual
Shape						

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Refer to Controller manual for optional accessories for controllers.

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- 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

DAIKIN AC (AMERICAS), INC.
1645 Wallace Drive, Suite 110
Carrollton, TX75006
info@daikinac.com
www.daikinac.com

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