



EDUS281008

**R-410A**

# Engineering Data

**Split System Air Conditioners  
Air Handling Unit**

**FTQ-PA + RZQ-P9**



**DAIKIN AC (AMERICAS), INC.**

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# Part 1

## FTQ-PA + RZQ-P9

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# 1. External appearance

## 1.1 Indoor unit

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FTQ18PAVJU  
FTQ24PAVJU



## 1.2 Outdoor unit

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RZQ18PVJU9  
RZQ24PVJU9



## 2. Model name, power supply and nomenclature

### 2.1 Model name and power supply

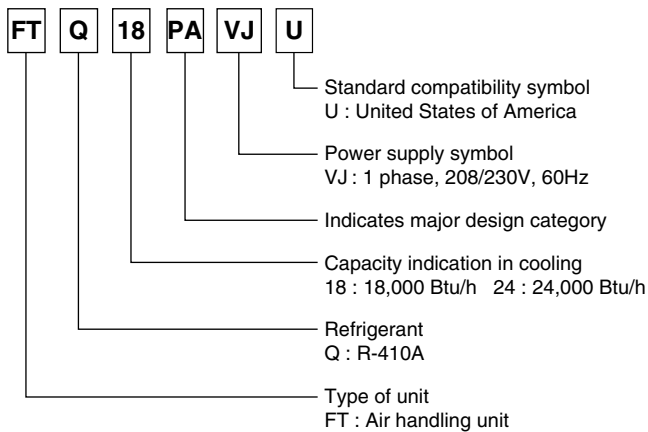
Indoor unit		Outdoor unit	Power supply
Air handling unit	FTQ18PAVJU*	RZQ18PVJU9	VJ : 1 phase, 208/230V, 60Hz
	FTQ24PAVJU*	RZQ24PVJU9	

**Note:** 1. \* : New model or changed model

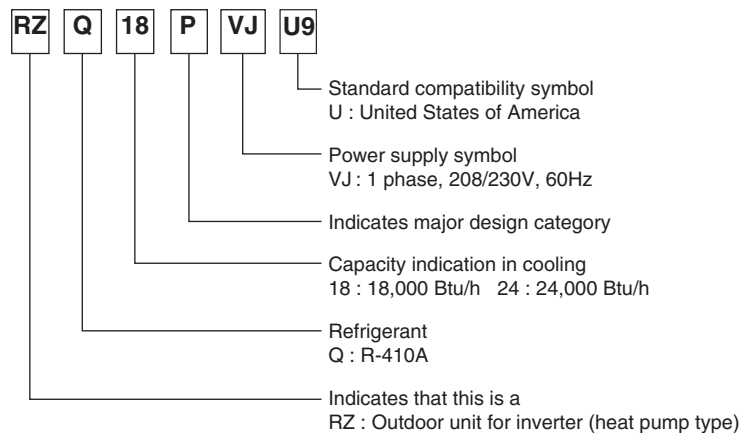
1

### 2.2 Nomenclature

#### Indoor unit



#### Outdoor unit



### 3. Specifications

#### 3.1 FTQ

##### Air handling unit

Model	Indoor unit		FTQ18PAVJU	FTQ24PAVJU
	Outdoor unit		RZQ18PVJU9	RZQ24PVJU9
Power Supply			1 phase, 208V/230V, 60Hz	
★3 Cooling capacity		Btu/h	18,000	24,000
★3 Heating capacity		Btu/h	20,000	27,000
Indoor unit			FTQ18PAVJU	FTQ24PAVJU
Dimensions	HxWxD	in. (mm)	53-1/4 x 22 x 24 (1353 x 559 x 610)	
Coil	Type		Cross fin coil	
	RowxStagesxFPI		8 x 22 x 15	
	Face area	ft <sup>2</sup> (m <sup>2</sup> )	6.02 (1.8)	
Fan	Model		ECM (3/4 HP)	
	Type		Sirocco fan	
	Motor output	HP	3/4	
	Airflow rate (H/L)	CFM	600/420	800/560
	External static pressure	in.H <sub>2</sub> O	Up to 0.5 in. W.C.	
Drive		Direct drive		
Temperature control			Microprocessor thermostat for cooling and heating	
Air filter			—★4	
Weight		Lbs (kg)	169 (77)	
Piping Connections	Liquid	in. (mm)	φ3/8 (9.5) (Brazed)	
	Gas	in. (mm)	φ5/8(15.8) (Brazed)	
	Drain	in. (mm)	φ3/4 (19.1) ★5	
Outdoor unit			RZQ18PVJU	RZQ24PVJU
color			Ivory	
Dimensions	HxWxD	in. (mm)	30-5/16 x 35-7/16 x 12-5/8 (762 x 900 x 321)	
Coil	Type		Cross fin coil	
	RowxStagesxFPI		2 x 34 x 18	
	Face area	ft <sup>2</sup> (m <sup>2</sup> )	7.1 (2.2)	
Comp.	Model		2YC63HXD#ED	
	Type		Hermetically sealed swing type	
	Motor output	kW	1.7	
Fan	Model		P47N11F	
	Type		Propeller fan	
	Motor output	W	70	
	Airflow rate	CFM	1,835	
Weight		Lbs (kg)	150	
Piping Connections	Liquid	in. (mm)	φ3/8 (9.5) (Flare connection)	
	Gas	in. (mm)	φ5/8 (15.8)(Flare connection)	
	Drain	in. (mm)	φ1 (25.4) (Hole)	
Safety devices			Indoor fan driver overload protector. Fuse. High pressure switch. Outdoor fan driver overload protector. Inverter overload protector. Fusible plugs.	
Capacity step		%	35-100	30-100
Refrigerant control			Electronic expansion valve	
Ref. piping	Standard length	ft (m)	25 (7.5)	
	Max. length	ft (m)	98 (30)	
	Max. height difference	ft (m)	98 (30)	
Refrigerant	Model		R-410A	
	Charge	Lbs (kg)	5.1(2.3)	
Ref. oil	Model		Refer to the name plate of compressor.	
	Charge	Lbs (kg)	0.75 (0.34)	
Drawing No.			C: 4D068242	

**Notes:**

- ★1. Nominal cooling capacities are based on the following conditions:  
 Return air temperature : 80°FDB (27°CDB), 67°FWB (19.4°CWB)  
 Outdoor temperature : 95°FDB (35°CDB)  
 Equivalent ref. piping : 25ft (7.5 m) (Horizontal)
  - ★2. Nominal heating capacities are based on the following conditions:  
 Return air temperature : 70°FDB (21°CDB)  
 Outdoor temperature : 47°FDB (8.3°CDB), 43°FWB(6°CWB)  
 Equivalent ref. piping : 25ft (7.5 m) (Horizontal)
- (\*1 and 2 are teh performance for vertical installation. For horizontal installation, capacity could decrease by about 10%)
- ★3. Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
  - ★4. Air filter is not standard accessory, but please mount it in the duct system of the suction side.
  - ★5. The second drain pan (sub drain pan) must be needed as field supply parts. A secondary field-supplied drain pan may be required.

# 4. Dimensions and service space

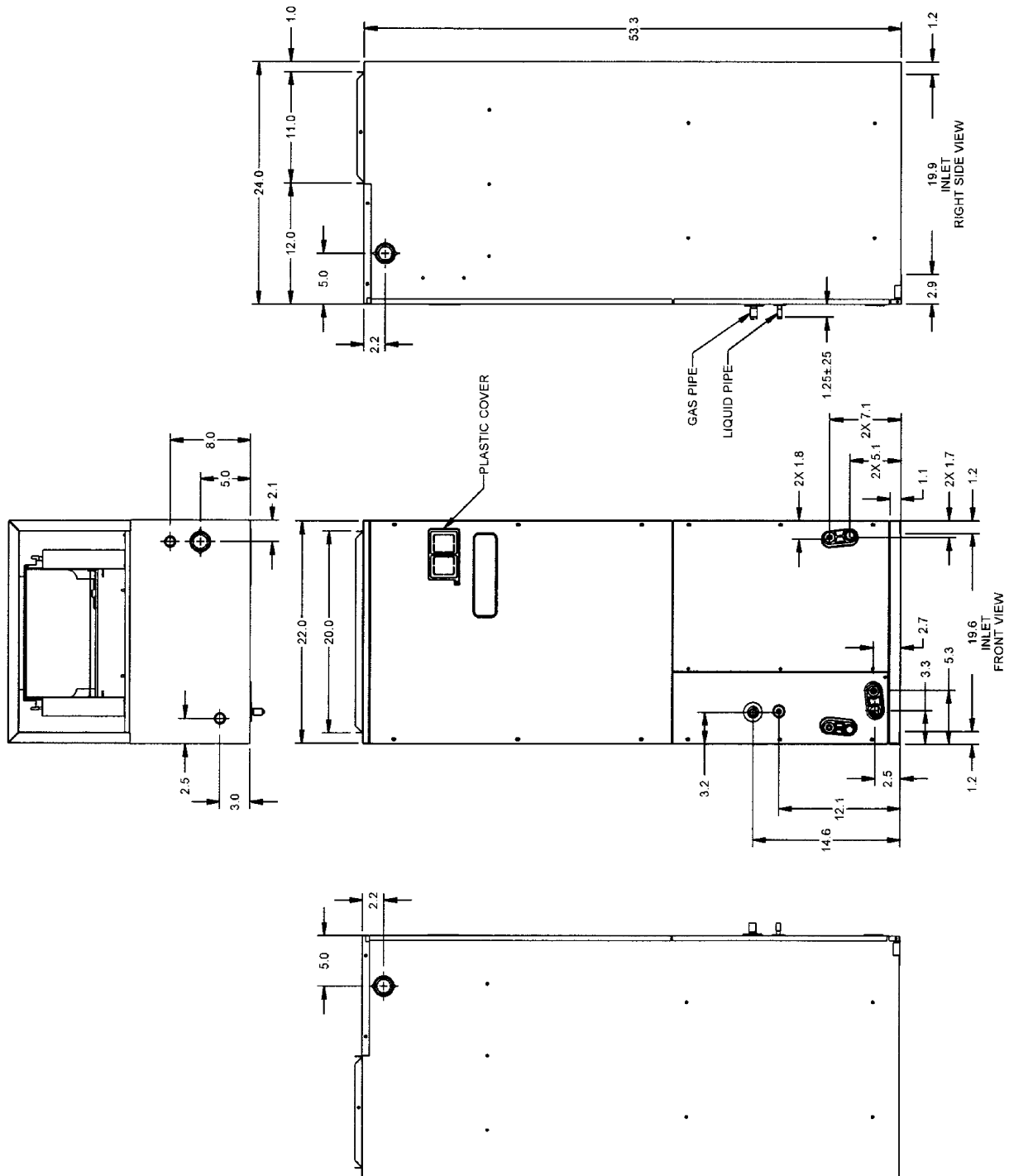
## 4.1 Indoor unit

### 4.1.1 FTQ (Air handling unit)

FTQ18PAVJU / FTQ24PAVJU

1

Unit (in.)



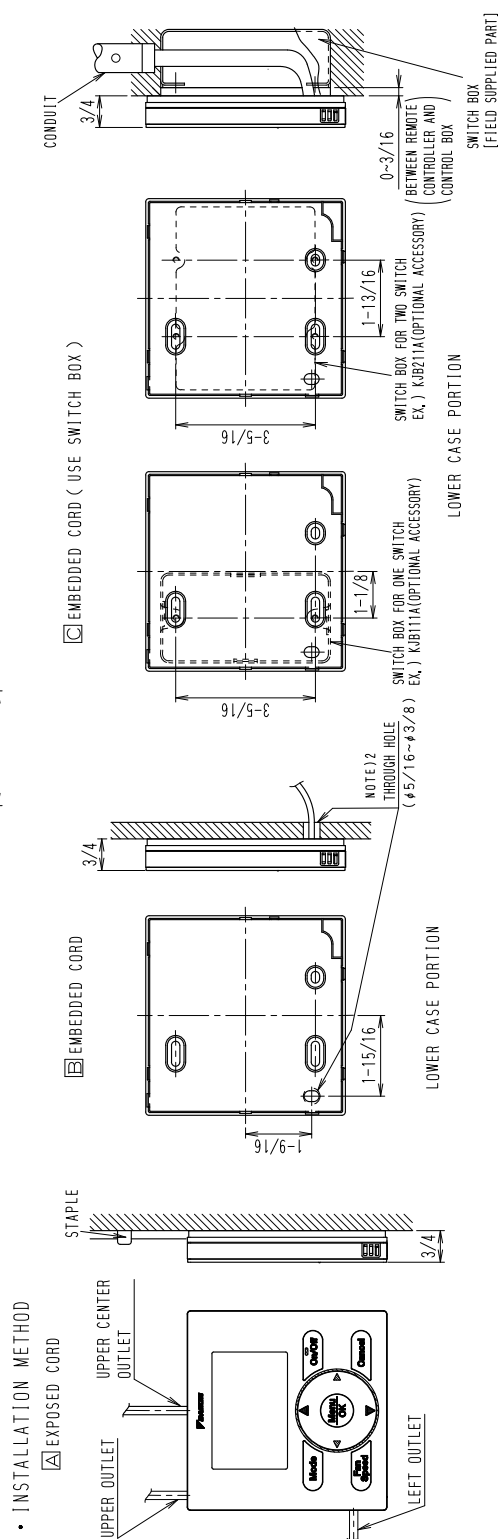
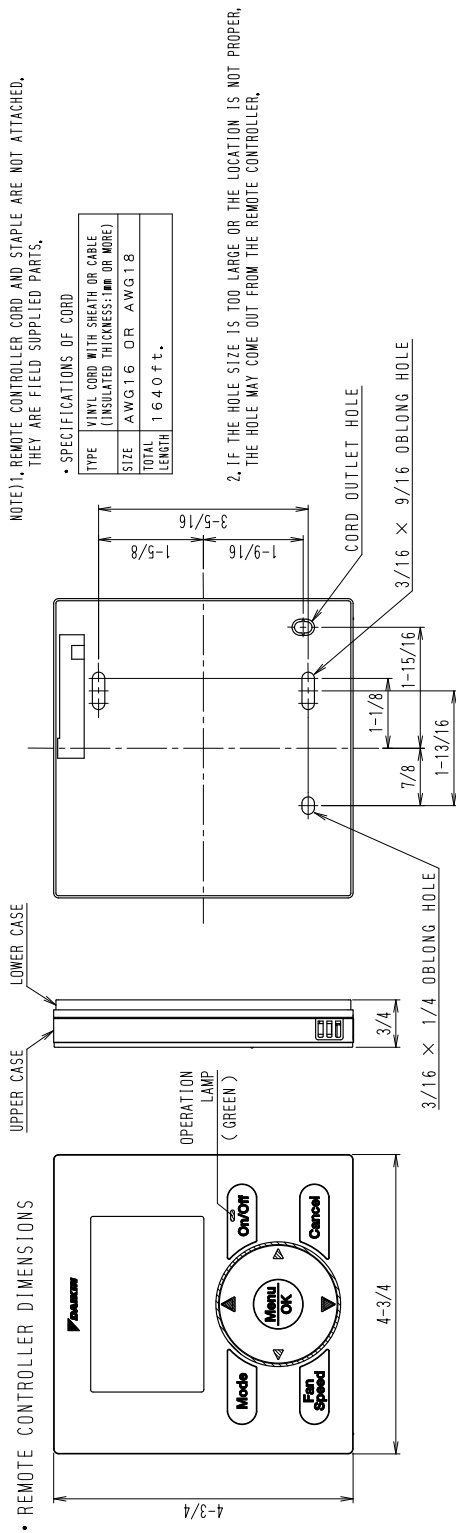
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## 4.2 Wired remote controller (Optional)

BRC1E71

Unit (in.)

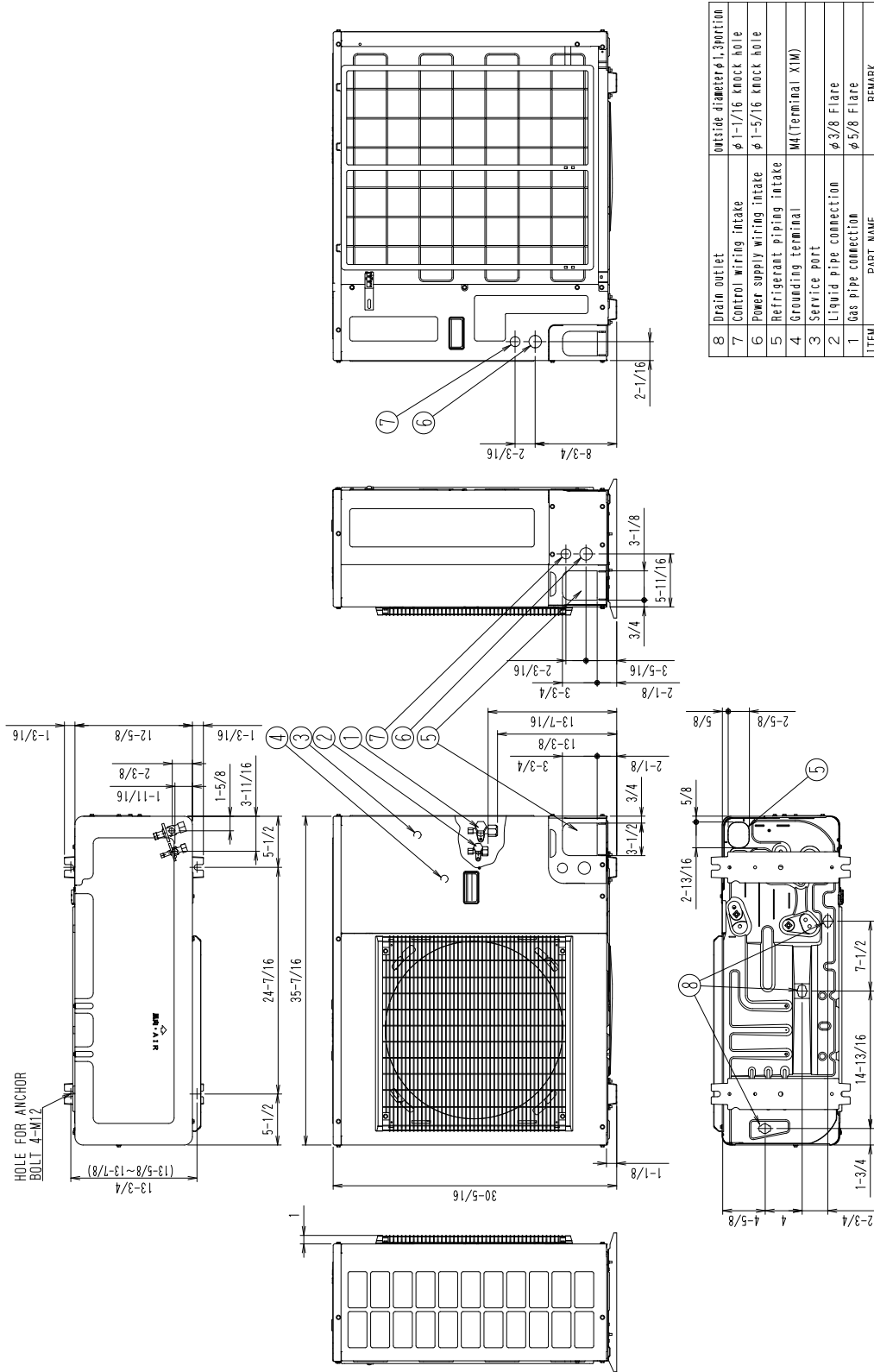


3D065275

### 4.3 Outdoor unit

RZQ18PVJU9 / RZQ24PVJU9

Unit (in.)



ITEM	PART NAME	REMARK
1	Gas pipe connection	φ 5/8 Flare
2	Liquid pipe connection	φ 3/8 Flare
3	Service port	
4	Grounding terminal	M4(Terminal XIM)
5	Refrigerant piping intake	φ 1-5/16 knock hole
6	Power supply wiring intake	φ 1-5/16 knock hole
7	Control wiring intake	φ 1-1/16 knock hole
8	Drain outlet	outside diameter φ 1.3portion

3D064212

1

### 4.4 Installation service space

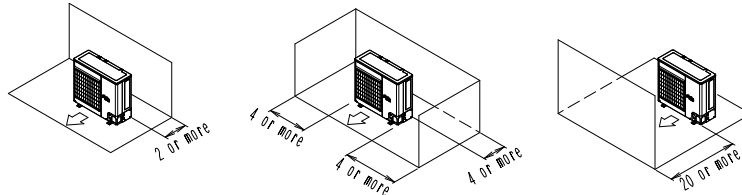
RZQ18PVJU9 / RZQ24PVJU9

INSTALLATION SERVICE SPACE

STAND-ALONE INSTALLATION (The measure of these values is "in".)

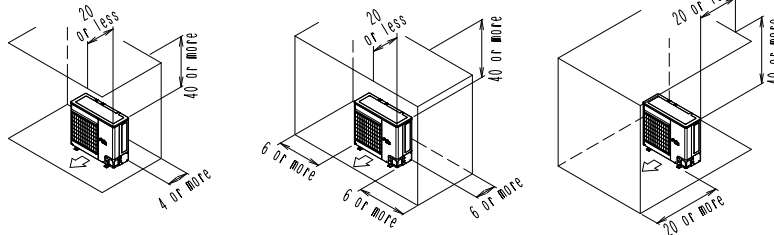
No obstacle above

- (1) Obstacle on the suction side only
- (2) Obstacle on both sides and suction side, too
- (3) Obstacle on the discharge side only



Obstacle above, too

- (1) Obstacle on the suction side, too
- (2) Obstacle on both sides and suction side, too
- (3) Obstacle on the discharge side only, too



When there are obstacles on both suction and discharge sides

- Pattern 1 When the obstacles on the discharge side is higher than the unit
- Pattern 2 When the obstacle on the discharge side is lower than the unit

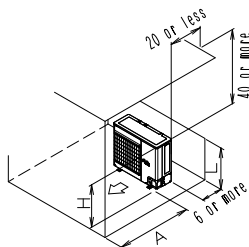
- (1) No obstacle above (There is no limit for the height of obstructions on the suction side,)
- (1) No obstacle above (There is no limit for the height of obstructions on the suction side,)



- (2) Obstacle above, too  
The relations between H, A and L are as follows,

	L	A
$L \leq H$	$L \leq 1/2H$	30 or more
	$1/2H < L \leq H$	40 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	

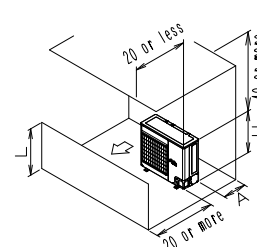
(\*) Close the bottom of the installation frame to prevent the discharged air from being bypassed.



- (2) Obstacle above, too  
The relations between H, A and L are as follows,

	L	A
$L \leq H$	$L \leq 1/2H$	2 or more
	$1/2H < L \leq H$	4 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	

(\*) Close the bottom of the installation frame to prevent the discharged air from being bypassed.



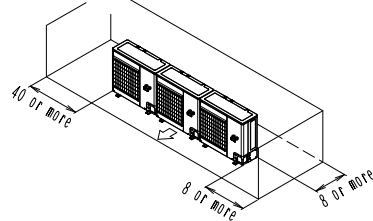
3D064213

(\*) • In side extraction, please provide the space of piping.

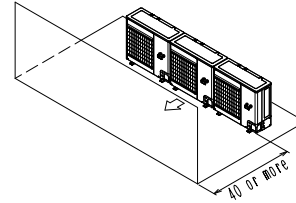
**SERIES INSTALLATION (2 OR MORE)** (The measure of these values is "in".)

**No obstacle above**

(1) Obstacle on the suction side and both sides

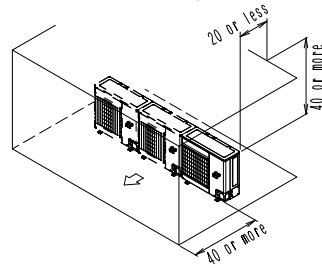


(2) Obstacle on the discharge side only

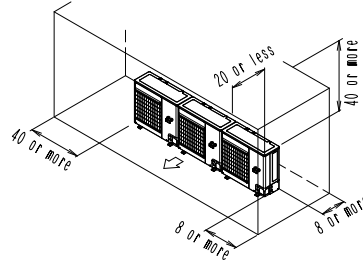


**Obstacle above, too**

(1) Obstacle on the discharge side



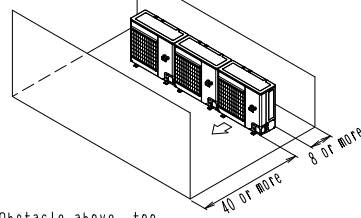
(2) Obstacle on the suction side and both sides



**When there are obstacles on both suction and discharge sides**

**Pattern 1** When the obstacles on the discharge side is higher than the unit

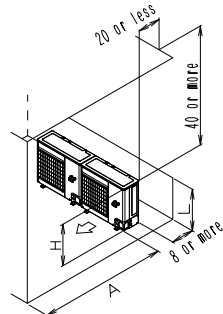
(1) No obstacle above  
(There is no limit for the height of obstructions on the suction side.)



(2) Obstacle above, too  
The relations between H, A and L are as follows.

	L	A
$L \leq H$	$L \leq 1/2H$	40 or more
	$1/2H < L \leq H$	50 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	

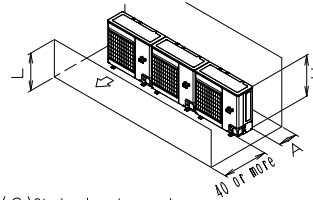
(\*) Close the bottom of the installation frame to prevent the discharged air from being bypassed. Limit of series installation is 2 unit.



**Pattern 2** When the obstacle on the discharge side is lower than the unit

(1) No obstacle above  
(There is no limit for the height of obstructions on the suction side.)  
The relations between H, A and L are as follows.

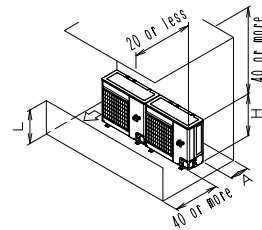
L	A
$L \leq 1/2H$	6 or more
$1/2H < L \leq H$	8 or more



(2) Obstacle above, too  
The relations between H, A and L are as follows.


	L	A
$L \leq H$	$L \leq 1/2H$	6 or more
	$1/2H < L \leq H$	8 or more
$L > H$	Set the stand as : $L \leq H$ Refer to the column of $L \leq H$ for A	

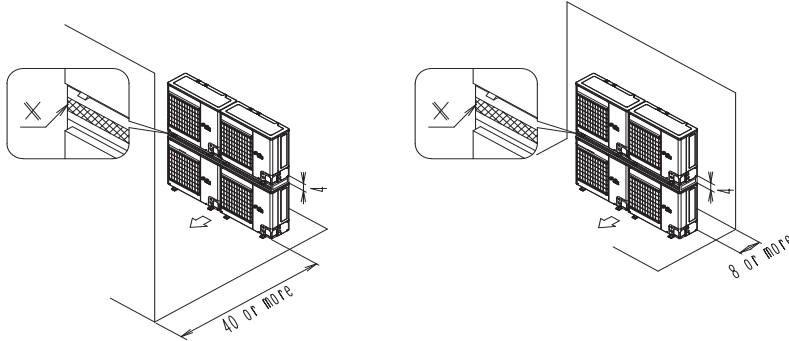
(\*) Close the bottom of the installation frame to prevent the discharged air from being bypassed. Limit of series installation is 2 unit.



**DOUBLE-DECKER INSTALLATION**

measurements : inches

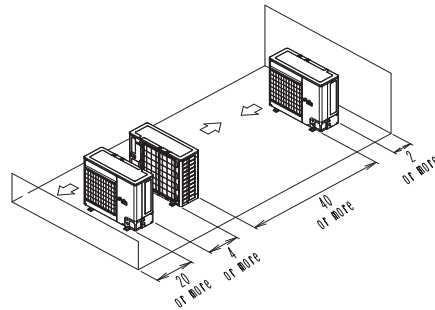
- (※) • Do not stack more than two units.
- The drain-piping construction requires about 4 inches in the upper side of the outdoor unit.
- Close "X" to prevent the discharged air from being bypassed.
- (  = the gap between the upper and lower outdoor units).
- In side extraction, be sure to provide space for piping.
  - (1) Obstacle on the discharge side
  - (2) Obstacle on the suction side



**MULTIPLE ROWS OF SERIES INSTALLATION (ON THE ROOFTOP, ETC.)**

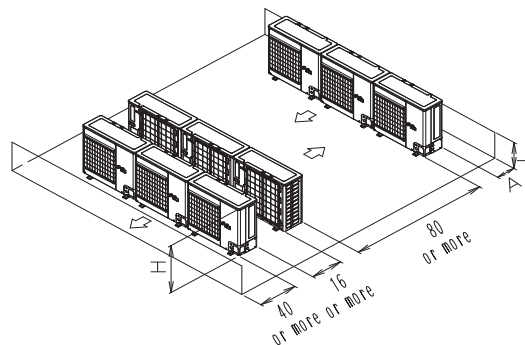
(1) One row of stand-alone installation

measurements : inches



(2) Rows of series installation (2 or more)  
The relations between H, A, and L are as follows:

	L	A
$L \leq H$	$L \leq 1/2 H$	6 or more
	$1/2 H < L \leq H$	8 or more
$L > H$	Cannot be installed	

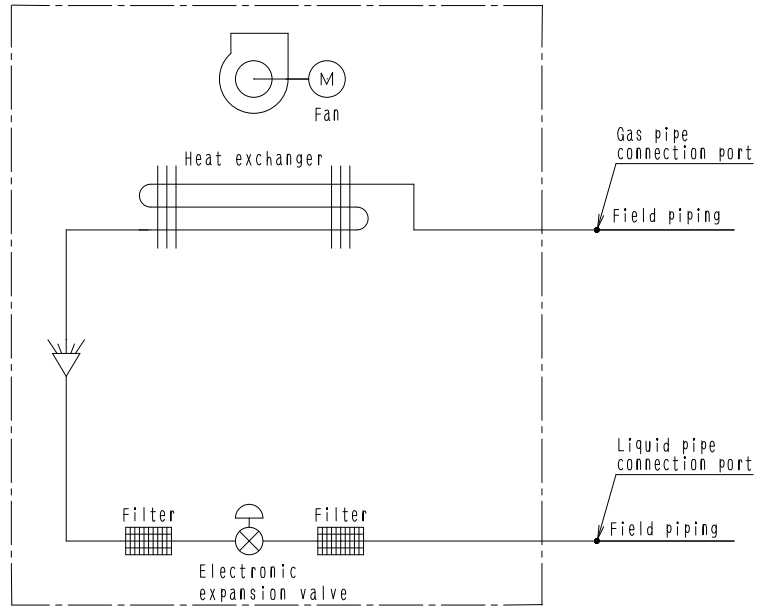


# 5. Piping diagrams

## 5.1 Indoor unit

FTQ18PAVJU / FTQ24PAVJU

1



■ Refrigerant pipe connection port diameters

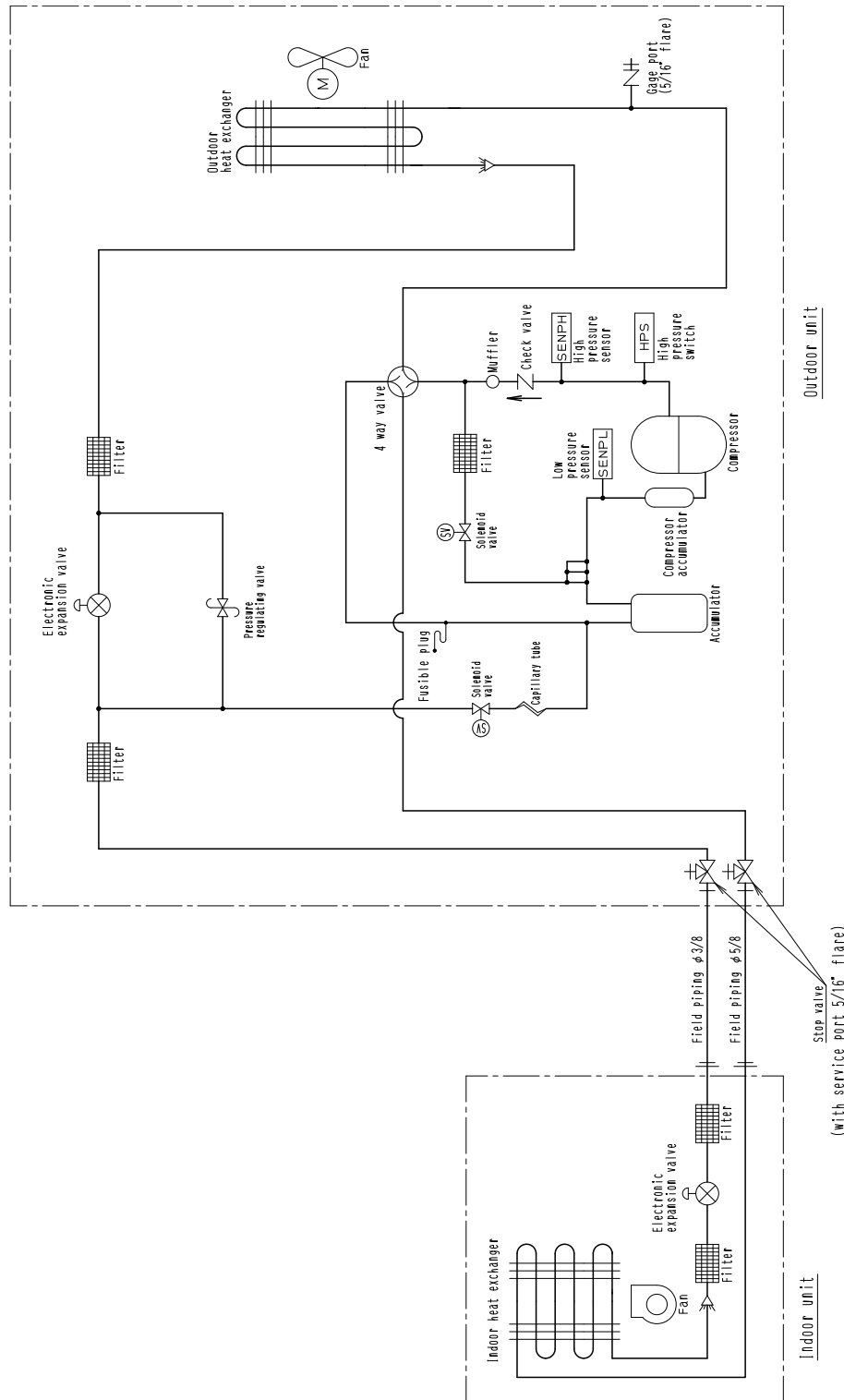
(in.)

Model	Gas	Liquid
FTQ18PAVJU/FTQ24PAVJU	φ5/8	φ3/8

C: 4D068194

## 5.2 Outdoor unit

RZQ18PVJU9 / RZQ24PVJU9



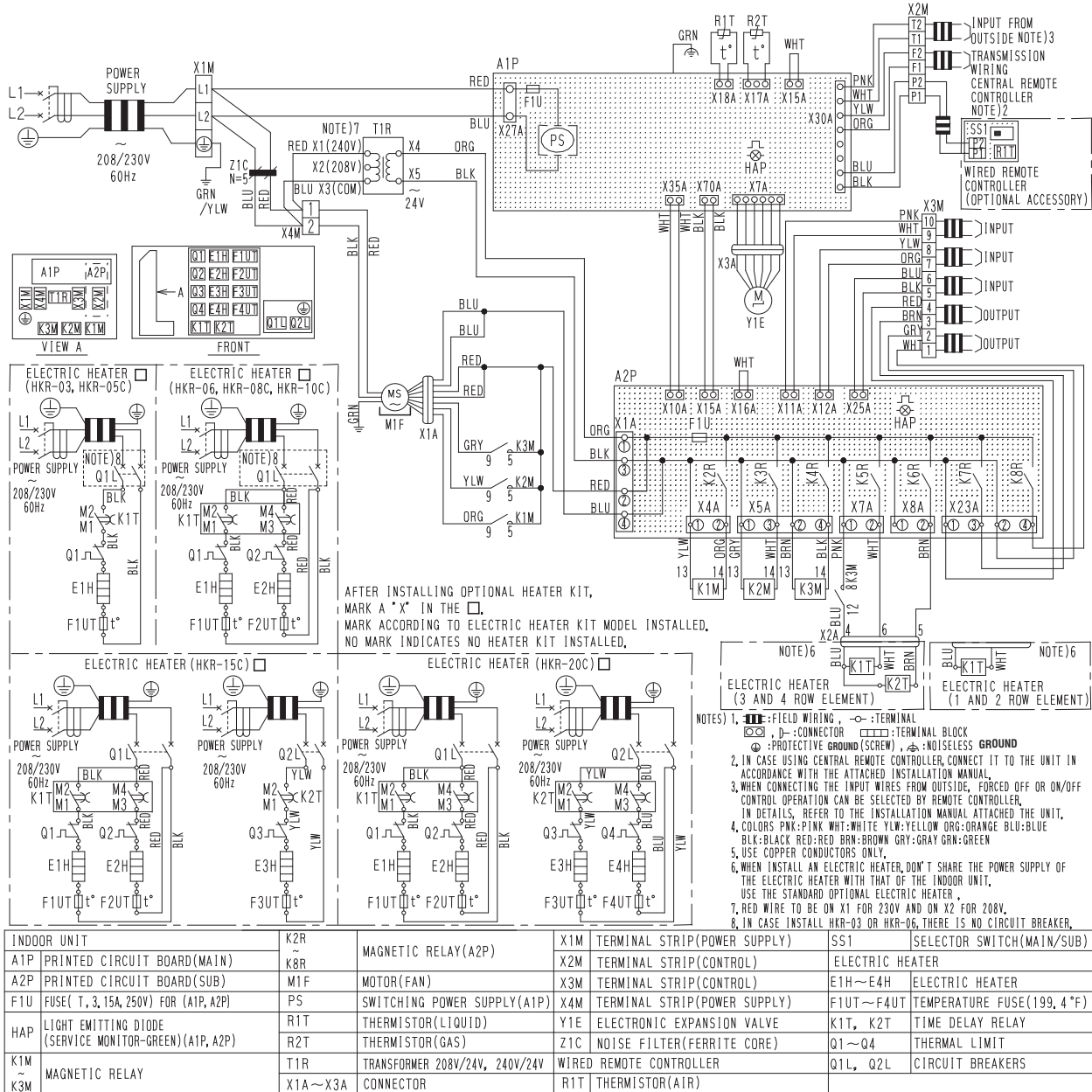
3D06238B

# 6. Wiring diagrams

## 6.1 Indoor unit

FTQ18PAVJU / FTQ24PAVJU

1



3D065036F

**NOTE:**

This unit is not equipped with a return air sensor. A remote sensor is required when not using a BRC1E71 Controller or if this controller is not positioned to sense space temperature.

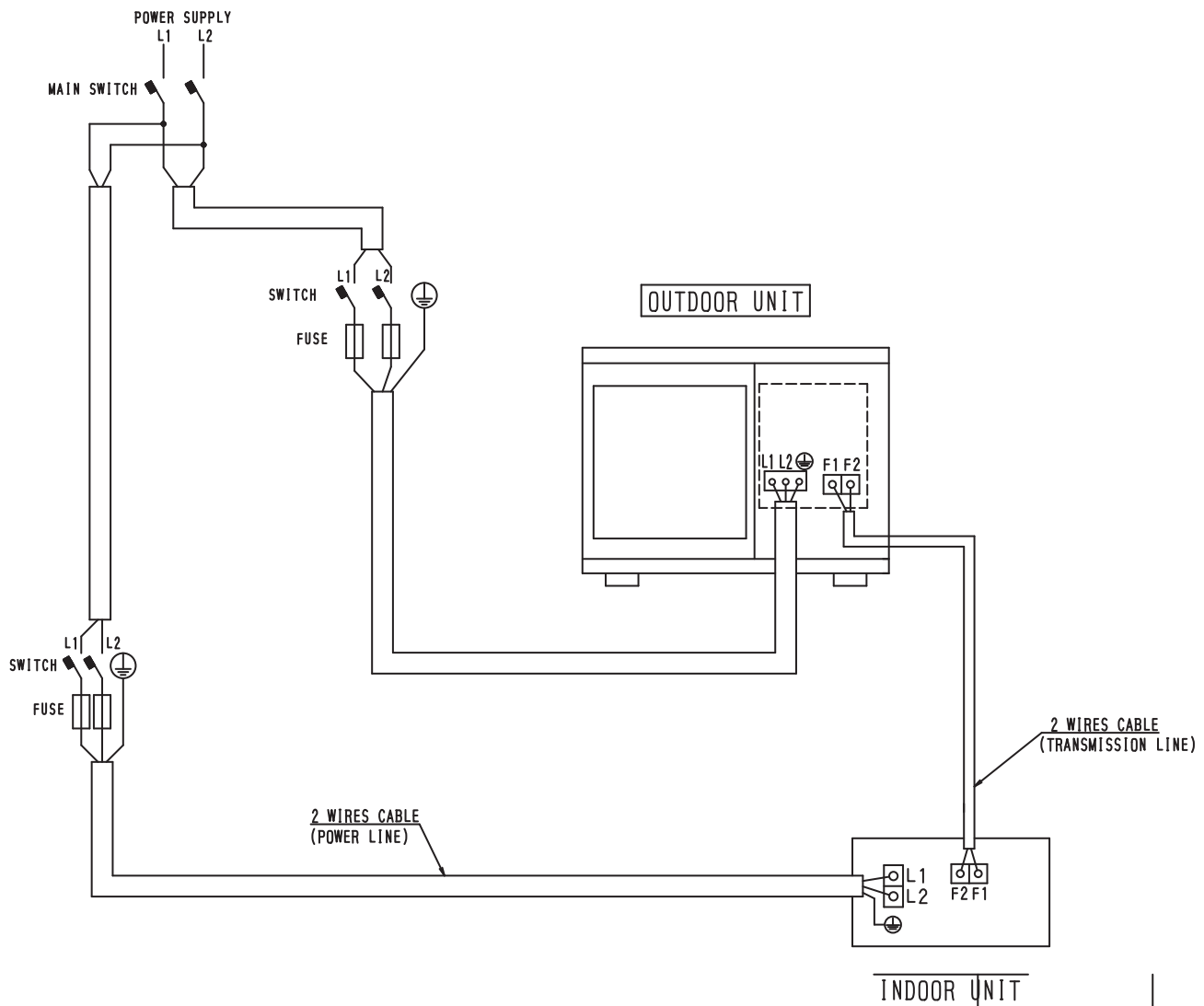




## 6.3 External connection diagram

### RZQ18PVJU9 / RZQ24PVJU9

1



#### Notes

- 1) All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
- 2) Use copper conductors only.
- 3) As for details, see wiring diagram.
- 4) Install circuit breaker for safety.
- 5) All field wiring and components must be provided by licensed electrician.
- 6) Unit shall be grounded in compliance with the applicable local and national codes.
- 7) Wiring shown is general points-of-connection guides only and is not intended for or to include all details for a specific installation.
- 8) Be sure to install the switch and the fuse to the power line of each equipment.
- 9) Install the main switch that can interrupt all the power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.

3D064230

## 7. Electrical characteristics

### 7.1 Indoor unit

#### FTQ18PAVJU / FTQ24PAVJU

Model	Power supply				IFM		Input (W)		
	Hz	Volts	Voltage range	MCA	MOP	HP	FLA	Cooling	Heating
FTQ18PAVJU	60	208V/230V	Max. 229V Min. 187V	1.4	15	3/4	1.1	121	121
FTQ24PAVJU			Max. 253V Min. 209V	1.6	15	3/4	1.3	162	162

#### SYMBOLS:

MCA : Minimum Circuit Amps (A)

MOP : Maximum Overcurrent Protective Device (A)

IFM : Indoor Fan Motor

HP : Fan Motor Rated Output (HP)

FLA : Full Load Amps (A)

#### NOTES:

##### 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 imbalance between phases is 2%.

##### 3. Select wire size based on MCA.

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## 7.2 Electric heater

Model	Power supply			CIRCUIT 1			CIRCUIT 2					
	Hz	Volts	Voltage range	H, A,	H, M, C, A,	H, M, O, P,	H, A,	H, M, C, A,	H, M, O, P,			
HKR-03	60	208V/230V	Max, 229V Min, 187V / Max, 253V Min, 209V	10, 8/12, 5	13, 5/15, 6	20/20	—	—	—			
HKR-05C				17, 2/19, 8	21, 4/24, 7	25/25	—	—	—			
HKR-06				21, 6/25	27, 1/31, 3	30/35	—	—	—			
HKR-08C				25, 3/29, 2	31, 6/36, 5	35/40	—	—	—			
HKR-10C				34, 3/39, 6	42, 9/49, 5	45/50	—	—	—			
HKR-15C				34, 3/39, 6	42, 9/49, 5	45/50	17, 2/19, 8	21, 4/24, 7	25/25			
HKR-20C				34, 3/39, 6	42, 9/49, 5	45/50	34, 3/39, 6	42, 9/49, 5	45/50	17, 2/19, 8	21, 4/24, 7	25/25
							34, 3/39, 6	42, 9/49, 5	45/50	34, 3/39, 6	42, 9/49, 5	45/50

### Symbols :

H, A. :Heater amps

H, M, C, A. :Heater minimum circuit amps

H, M, O, P. :Heater maximum overcurrent protection

### Note :

- Voltage range  
Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits,
- Maximum allowable voltage unbalance between phases is 2%.
- H, M, C, A/H, M, O, P  
 $H, M, C, A = 1.25 \times H, A.$
- Select wire size based on the H, M, C, A.
- Recommended GFCI specification is below table.

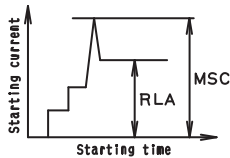
Rapid sensitive current	30 mA
Tripping time	0.1 sec.

### 7.3 Outdoor unit

#### RZQ18PVJU9 / RZQ24PVJU9

Model		Units				Power supply		Comp.		OFM	
Outdoor	H/P C/O	Hz	Volts	Min.	Max.	MCA	MOP	MSC	RLA	W	FLA
RZQ18PVJU	H/P	60	208	187	229	16.5	20	—	7.1	70	0.3
			230	209	253						
RZQ24PVJU	H/P	60	208	187	229	16.5	20	—	10.3	70	0.3
			230	209	253						

The relationship between the starting time and the starting current:



NOTES:

- RLA is based on the following conditions:  
 Power supply : 60Hz 208-230V  
 Cooling:  
 Indoor temp: 80°FDB / 67°F WB  
 Outdoor temp: 95°FDB  
 Heating  
 Indoor temp: 70°FDB  
 Outdoor temp: 47°FDB / 43°F WB
- Voltage range:  
 Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.
- Maximum allowable voltage variation between phases is 2%.
- MCA represents maximum input current.  
 MOP represents capacity which may accept MCA.
- Select wire size based on the value of MCA.
- MOP is used to select the circuit breaker.

SYMBOLS:

- MCA : Minimum Circuit Amps (A)
- MOP : Maximum Overcurrent Protective Device (A) (See Note 7)
- MSC : Maximum current when starting the compressor. (A)
- RLA : Rated Load Amps (A)
- OFM : Outdoor Fan Motor (A)
- FLA : Full Load Amps (A)
- KW : Fan Motor Rated Output. (kW)

C: 3D064227C

## 8. Safety devices setting

### 8.1 FTQ

FTQ18PAVJU / FTQ24PAVJU

	Safety devices	18	24
FTQ~PAVJU	PC board fuse (A1P)	T3, 15A, 250V	T3, 15A, 250V
	PC board fuse (A2P)	T3, 15A, 250V	T3, 15A, 250V
	Fan driver overload protector °F	248	248

C: 3D068195A

1

# 9. Capacity tables

## 9.1 FTQ

### FTQ18PAVJU + RZQ18PVJU9

Cooling Capacity [ 208/230V-60Hz ]

Indoor Air Temp.		Outdoor Air Temp. °FDB																	
		68			77			86			90			95			104		
°FDB	*FWB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
68.0	57.0	11.68	11.1	0.50	11.68	11.1	0.54	11.68	11.1	0.61	11.68	11.1	0.64	11.68	11.1	0.69	11.68	11.1	0.78
72.0	61.0	14.21	12.5	0.48	14.21	12.5	0.66	14.21	12.5	0.76	14.21	12.5	0.80	14.21	12.5	0.87	14.21	12.5	0.99
77.0	64.0	16.10	13.4	0.55	16.10	13.4	0.77	16.10	13.4	0.88	16.10	13.4	0.94	16.10	13.4	1.01	16.10	13.4	1.17
80.0	67.0	18.00	14.0	0.64	18.00	14.0	0.88	18.00	14.0	1.02	18.00	14.0	1.09	18.00	14.0	1.18	17.27	14.0	1.27
86.0	72.0	20.79	14.9	0.79	20.06	14.7	1.00	19.32	14.0	1.10	19.00	14.0	1.14	18.59	13.9	1.19	17.86	13.4	1.29
90.0	75.0	21.14	14.2	0.80	20.41	13.9	1.01	19.68	13.4	1.10	19.35	13.5	1.14	18.95	13.2	1.20	18.21	12.9	1.29

Heating Capacity [ 208/230V-60Hz ]

Indoor Air Temp.		Outdoor Air Temp. °FWB									
		14		23		32		43		50	
°FDB	*FWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
61	23.33	2.65	2.33	2.33	2.33	1.98	2.33	1.74	2.33	1.62	1.62
64	22.22	2.49	2.22	2.20	2.22	1.87	2.22	1.65	2.22	1.53	1.53
68	20.74	2.28	2.04	2.02	2.04	1.72	2.04	1.52	2.04	1.42	1.42
70	20.00	2.18	2.00	1.94	2.00	1.65	20.00	1.46	2.00	1.37	1.37
72	19.26	2.08	19.26	1.85	19.26	1.59	19.26	1.41	19.26	1.31	1.31
75	18.15	1.94	18.15	1.73	18.15	1.49	18.15	1.32	18.15	1.24	1.24

Symbols:

EWB: Entering wet bulb temp. (\*FWB)

EDB: Entering dry bulb temp. (\*FDB)

TC : Total cooling (heating) capacity (kW)

PI : Power input (kW)  
(Comp. + indoor + outdoor fan motor).

Notes:

1. The above data are based on the following conditions.

Cooling	Heating	Equivalent Piping Length	Hz, Volts
Indoor : 80°FDB, 67°FWB	Indoor : 70°FDB	25ft (Level Difference : 0)	60Hz, 208/230V
Outdoor : 95°FDB	Outdoor : 47°FDB, 43°FWB		

2. Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

3.   shows nominal MAX capacities

### FTQ24PAVJU + RZQ24PVJU9

Cooling Capacity [ 208/230V-60Hz ]

Indoor Air Temp.		Outdoor Air Temp. °FDB																	
		68			77			86			90			95			104		
°FDB	*FWB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
68.0	57.0	15.57	13.6	0.71	15.57	13.6	0.77	15.57	13.6	0.88	15.57	13.6	0.93	15.57	13.6	1.00	15.57	13.6	1.15
72.0	61.0	18.94	16.0	0.85	18.94	16.0	0.96	18.94	16.0	1.11	18.94	16.0	1.18	18.94	16.0	1.28	18.94	16.0	1.47
77.0	64.0	21.47	17.6	0.97	21.47	17.6	1.12	21.47	17.6	1.30	21.47	17.6	1.39	21.47	17.6	1.50	21.47	17.6	1.74
80.0	67.0	24.00	18.4	1.11	24.00	18.4	1.30	24.00	18.4	1.51	24.00	18.4	1.61	24.00	18.4	1.75	23.02	17.7	1.90
86.0	72.0	27.72	18.9	1.34	26.74	18.2	1.48	25.76	17.8	1.63	25.33	17.4	1.69	24.79	17.3	1.77	23.81	16.7	1.92
90.0	75.0	28.19	18.2	1.35	27.21	17.6	1.49	26.24	16.9	1.64	25.80	16.7	1.70	25.26	16.4	1.79	24.29	15.7	1.93

Heating Capacity [ 208/230V-60Hz ]

Indoor Air Temp.		Outdoor Air Temp. °FWB									
		14		23		32		43		50	
°FDB	*FWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
61	24.18	2.38	2.67	2.48	30.49	2.60	31.50	2.40	31.50	2.23	2.23
64	24.14	2.43	2.63	2.52	30.00	2.58	30.00	2.27	30.00	2.11	2.11
68	24.09	2.49	2.57	2.58	28.00	2.38	28.00	2.10	28.00	1.95	1.95
70	24.06	2.52	2.55	2.61	27.00	2.28	27.00	2.01	27.00	1.88	1.88
72	24.03	2.55	2.60	2.56	26.00	2.18	26.00	1.93	26.00	1.80	1.80
75	23.99	2.60	24.50	2.39	24.50	2.04	24.50	1.81	24.50	1.69	1.69

Symbols:

EWB: Entering wet bulb temp. (\*FWB)

EDB: Entering dry bulb temp. (\*FDB)

TC : Total cooling (heating) capacity (kW)

PI : Power Input (kW)  
(Comp. + indoor + outdoor fan motor).

Notes:

1. The above data are based on the following conditions.

Cooling	Heating	Equivalent Piping Length	Hz, Volts
Indoor : 80°FDB, 67°FWB	Indoor : 70°FDB	25ft (Level Difference : 0)	60Hz, 208/230V
Outdoor : 95°FDB	Outdoor : 47°FDB, 43°FWB		

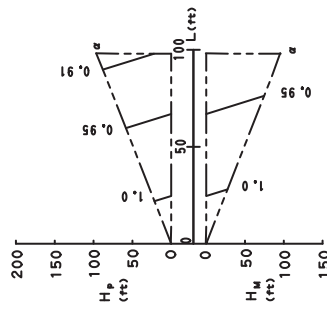
2. Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

3.   shows nominal MAX capacities

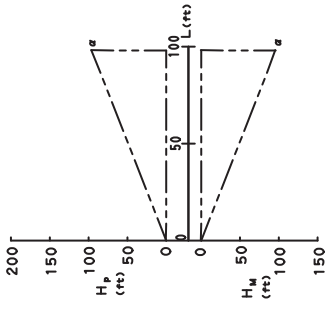
## 9.2 Capacity correction ratio

RZQ18PVJU9 / RZQ24PVJU9

<In case of connecting indoor unit:FTQ>



<In case of connecting indoor unit:FTQ>



[Notes]

1. These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions. Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.
2. With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.
3. Method of calculating cooling / heating capacity (max. capacity for combination with standard indoor unit)  $\left[ \frac{\text{cooling / heating capacity}}{\text{cooling / heating capacity obtained from performance characteristics table}} \right]$  (each capacity rate of change

[Explanation of symbols]

H<sub>p</sub> : Level difference(ft)between indoor and outdoor units  
 where indoor unit in inferior position  
 H<sub>w</sub> : Level difference(ft)between indoor and outdoor units  
 where indoor unit in superior position

L : Equivalent pipe length(ft)

α : Capacity correction factor

[Diameter of pipes]

Model	gas	liquid
RZQ18, 24PVJU	φ 5/8"	φ 3/8"

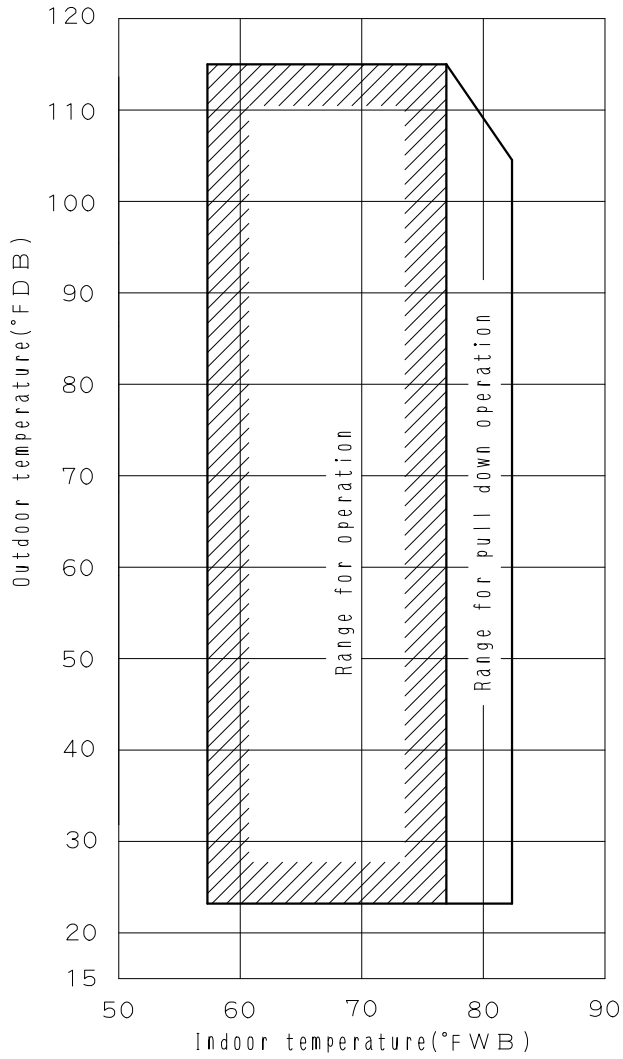
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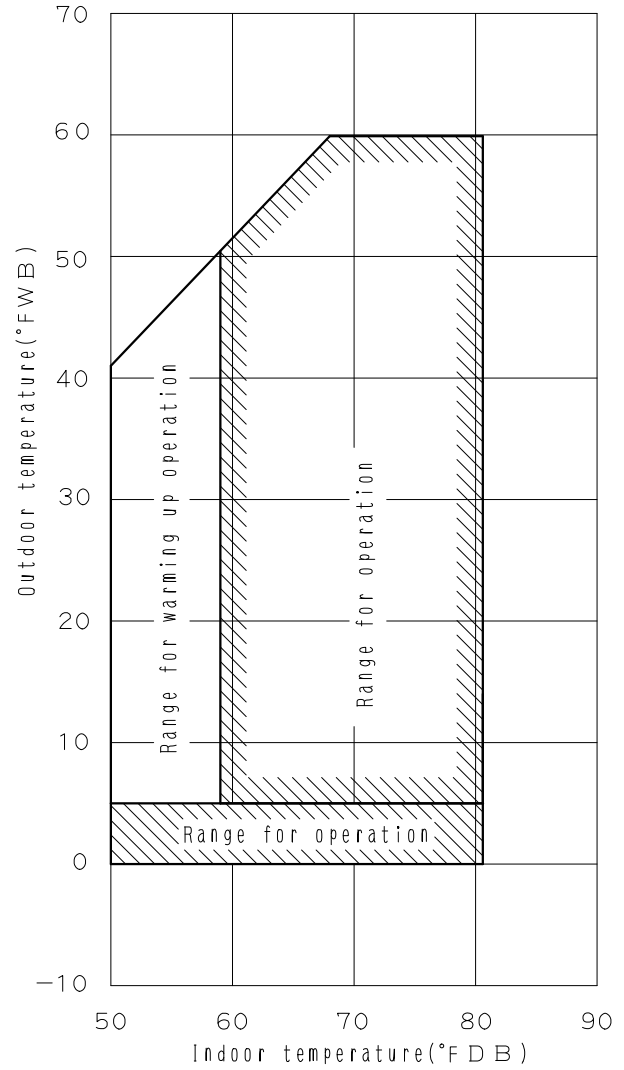
# 10. Operation limits

RZQ18PVJU9 / RZQ24PVJU9

Cooling



Heating



Note: These figures assume the following operating conditions,  
 Indoor and outdoor units:  
 • Equivalent pipe length: 25ft  
 • Level difference: 0ft

3D064229

# Part 2

## Installation of indoor / outdoor unit

2

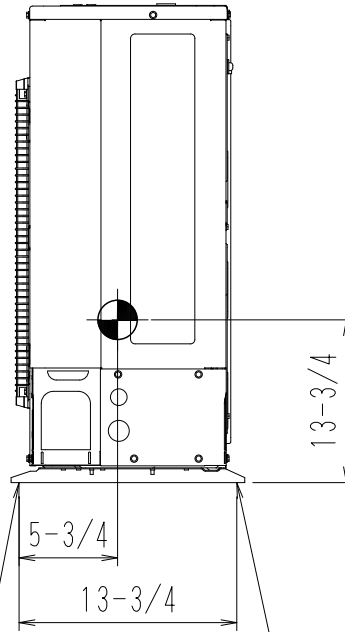
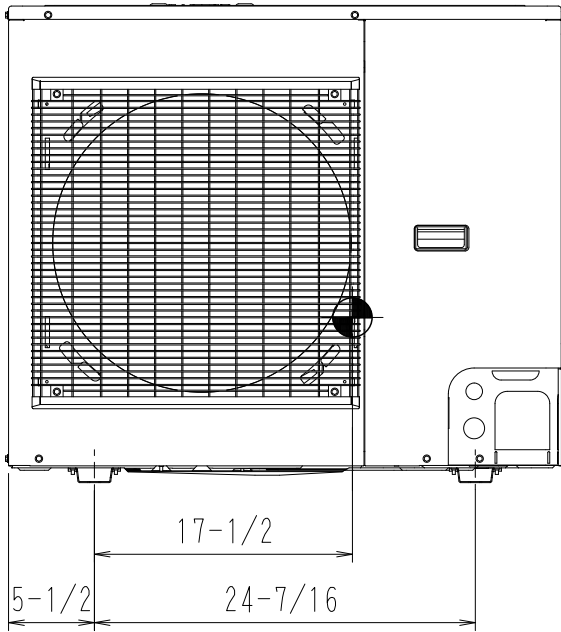
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# 1. Center of gravity

## 1.1 Outdoor unit

RZQ18PVJU9 / RZQ24PVJU9

Unit (in.)



HOLD LOCATION OF  
FOUNDATION BOLT

HOLD LOCATION OF  
FOUNDATION BOLT

4D064214

## 2. Installation of indoor unit

### 2.1 FTQ18PAVJU / FTQ24PAVJU

DAIKIN

SPLIT SYSTEM Air Conditioners

Installation manual

#### CONTENTS

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#### 1. SAFETY CONSIDERATIONS

Read these "SAFETY CONSIDERATIONS for Installation" carefully before installing an air conditioner or heat pump. After completing the installation, make sure that the unit operates properly during the startup operation.

Instruct the customer on how to operate and maintain the unit. Inform customers that they should store this Installation Manual with the Operation Manual for future reference.

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

Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

-  **DANGER**..... Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
-  **WARNING**..... Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
-  **CAUTION**..... Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
-  **NOTE**..... Indicates situations that may result in equipment or property-damage accidents only.

#### **DANGER**

- Refrigerant gas is heavier than air and replaces oxygen. A massive leak can lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.
- Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding can cause a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes could cause a gas leak and potential explosion causing severe injury or death.

- If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas may produce toxic gas if it comes in contact with fire. Exposure to this gas could cause severe injury or death.
- After completing the installation work, check that the refrigerant gas does not leak throughout the system.
- Do not install unit in an area where flammable materials are present due to risk of explosions that can cause serious injury or death.
- Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation may cause injuries or death by suffocation.

#### **WARNING**

- All phases of the field-installation, including, but not limited to, electrical, piping, safety, etc. must be in accordance with manufacturer's instructions and must comply with national, state, provincial and local codes.
- Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation may result in water leakage, electric shock, or fire.
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, can lead to oxygen deficiency.
- Use only specified accessories and parts for installation work. Failure to use specified parts may result in water leakage, electric shocks, fire, or the unit falling.
- Install the air conditioner or heat pump on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength may result in the unit falling and causing injuries.
- Take into account strong winds, typhoons, or earthquakes when installing. Improper installation may result in the unit 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, state, and national regulations. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.
- Make sure that all wiring is secured, that 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, position the wires so that the electric component box cover can be securely fastened. Improper positioning of the electric component box cover may result in electric shocks, fire, or the terminals overheating.
- Before touching electrical parts, turn off the unit.

- It is recommended to install a ground fault circuit interrupter if one is not already available. This helps prevent electrical shocks or fire.
- Securely fasten the outside unit terminal cover (panel). If the terminal cover/panel is not installed properly, dust or water may enter the outside unit causing fire or electric shock.
- When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R-410A) such as air. Any presence of air or other foreign substance in the refrigerant circuit can cause an abnormal pressure rise or rupture, resulting in injury.
- Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion may occur.

---

—  CAUTION —

- Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.
- Do not allow children to play on or around the unit to prevent injury.
- Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Install drain piping to proper drainage. Improper drain piping may result in water leakage and property damage.
- Insulate piping to prevent condensation.
- Be careful when transporting the product.
- Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may occur.
- Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.
- Refrigerant R-410A in the system must be kept clean, dry, and tight.
  - (a) Clean and Dry -- Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.
  - (b) Tight -- R-410A does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection against harmful ultraviolet radiation. R-410A can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter Refrigerant Piping and follow the procedures.
- Since R-410A is a blend, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in a state of gas, its composition can change

and the system will not work properly.

- The indoor unit is for R-410A. See the catalog for indoor models that can be connected. Normal operation is not possible when connected to other units.
- Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with electronic fluorescent lamps (inverter or rapid start types). Install the indoor unit far away from fluorescent lamps as much as possible.
- Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors. This unit is for indoor use.
- Do not install the air conditioner or heat pump 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 cause the unit to malfunction.
  - (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions can cause a fire.
- Take adequate measures to prevent the outside unit from being used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunctions, smoke, or fire. Instruct the customer to keep the area around the unit clean.

---

—  NOTE —

- Install the power supply and control wires for the indoor and outdoor units at least 3.5 feet away from televisions or radios 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.
- Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant local, state, and national regulations.
- Do not use the following tools that are used with conventional refrigerants: gauge manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.
- If the conventional refrigerant and refrigerator oil are mixed in R-410A, the refrigerant may deteriorate.
- This air conditioner or heat pump is an appliance that should not be accessible to the general public.
- As design pressure is 450 psi, the wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.

## 2. BEFORE INSTALLATION

### ⚠ WARNING

- 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.
- 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, etc.

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 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.

Be sure to check the type of R410A refrigerant to be used before installing the unit.

(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 (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 that near the ocean and where voltage fluctuates greatly such as that in factories, or in vehicles or vessels.

### 2-2 ACCESSORIES

Check the following accessories are included with your unit.

Name	Clamp material (1)	Insulation tube	
Quantity	4 pcs.	1 set	
Shape		 Small (2) 2 pcs.  Large (3) 2 pcs.	(Other) • Operation manual • Installation manual

### 2-3 OPTIONAL ACCESSORIES

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

Remote controller	
Wired type	BRC1E71, BRC1D71
Wireless type	BRC4C82

## 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 units fixed firmly?	The units may drop, vibrate or make noise.	
Is the refrigerant leak test finished?	It may result in 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?	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.	

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 to your customer how to maintain and clean local procurements such as the air filter, suction grille, and air outlet grille?	
Did you hand manuals of local procurements (in case equipped) over to your customer?	

## 3. SELECTING INSTALLATION SITE

### ⚠ CAUTION

- If you think the humidity inside the installation space 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 2 in. and fits inside the installation space 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 supports are 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. 1-1 and Fig. 1-2)

- Where piping between indoor and outdoor units is possible within the allowable limit. (Refer to the installation manual for the outdoor unit.)
- If the a return-air duct is not installed, carefully select the place and method of product installation so that air flow into the product will not be blocked.

**If installed vertically**

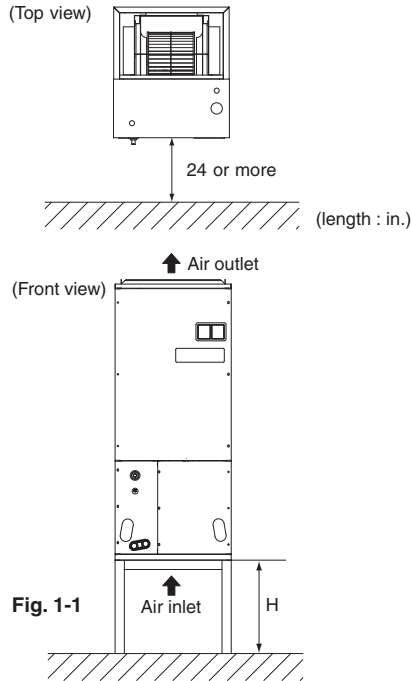


Fig. 1-1

**If installed horizontally**

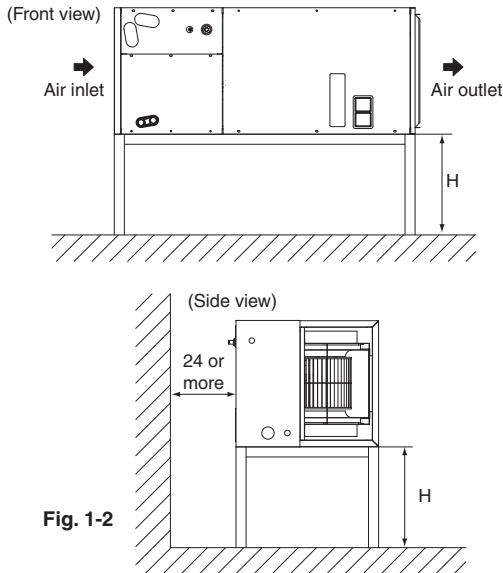


Fig. 1-2

**⚠ WARNING**

- When installing the unit horizontally, be sure to tilt the unit in the direction shown in Fig. 1-2. If the unit is tilted in any other way, water can leak.

- Ensure sufficient space for the bottom of the product (H dimensions) so that a downward slope of 1/100 can be maintained for drain piping, as described for the intake duct installation and in "6. DRAIN PIPING WORK".

**[ PRECAUTION ]**

- 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 3.3 ft. may not be sufficient to eliminate the noise.)
- If installing the wireless kit in a room with electronic fluorescent lighting (inverter or rapid start type), 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 of an 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.

**4. PREPARATIONS BEFORE INSTALLATION AND INSTALLATION**

- (1) When installing the product, refer to "3. SELECTING INSTALLATION SITE" and consider the product size as shown Fig. 2 and Table 1.

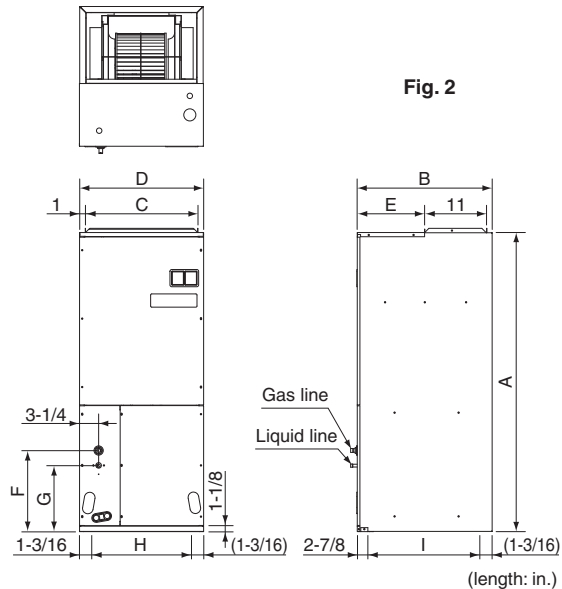


Fig. 2

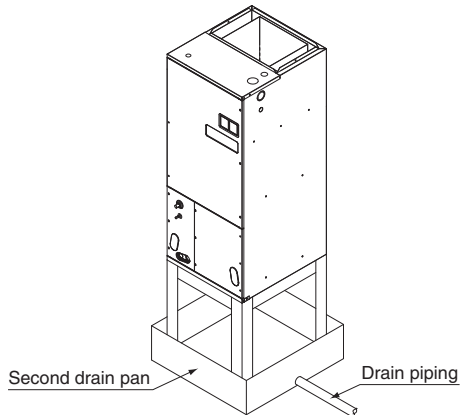
Table 1

A	B	C	D	E	F	G	H	I
53-1/4	24	20	22	12	14-1/2	11-15/16	19-5/8	19-15/16

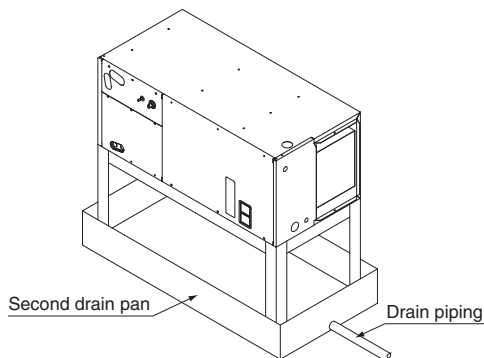
(2) Make sure the range of the unit's external static pressure is not exceeded. (up to 0.5 in.W.C. at "H" speed.)

(3) Condensation may form on the product during COOL operation. Be sure to provide (field supplied) and install a second drain pan.

If installed vertically



If installed horizontally

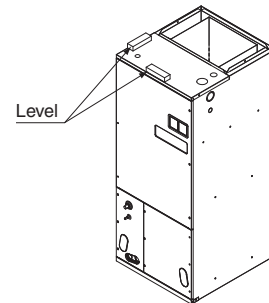


(4) Check if the unit is horizontally level.

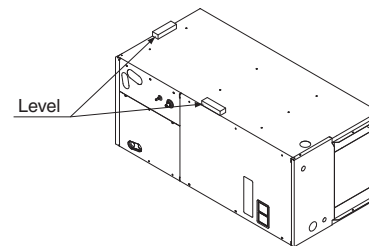
**CAUTION**

- Make sure the unit is installed level using a level tube: four sides. (One thing to watch out for in particular is if the unit is installed so that the slope is not in the direction of the drain piping, this might cause leaking.)

If installed vertically



If installed horizontally



(5) Secure the unit firmly to prevent it from falling.

(6) When the unit is installed in a hot and humid place, it is recommended to use the following drain pan insulation kit, which is an optional accessory.

Drain pan insulation Kit	
Vertically	Horizontally
DPI 48-60/20	DPIH 48-61

- Regarding the attachment of the drain pan insulation kit, refer to the installation manual provided with the kit.



### 5. REFRIGERANT PIPING WORK

(Observe the requirements listed below for refrigerant piping sizes.)

Liquid	Gas
3/8 in.	5/8 in.

(Execute heat insulation work completely on both sides of the gas piping and the liquid piping or else a water leakage might result.

Failing to insulate the pipes may cause leaking or burns. Be sure to use insulation that is designed for use with HVAC Systems.

Reinforce the insulation on the refrigerant piping according to the installation environment. If the temperature or humidity in the product installation location might reach 86°F or 80%, respectively. Condensation may form on the surface of the insulation.)

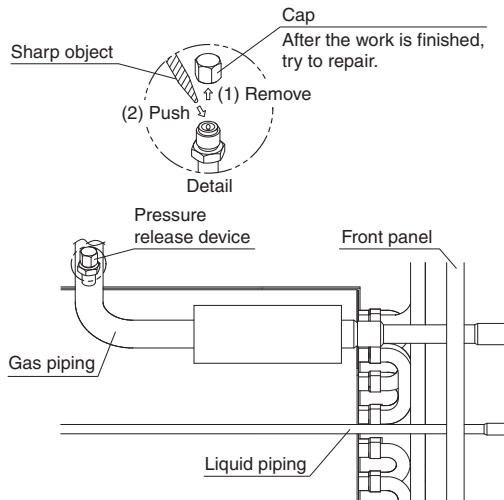
**CAUTION**

Follow the points at below.

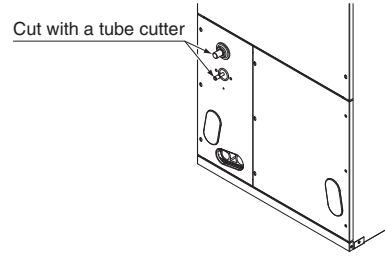
- Use a tube cutter and flare suitable for the type of refrigerant.
- To prevent dust, moisture or other foreign matter from infiltrating the piping, either pinch the end or cover it with tape.
- Do not allow anything other than the designated refrigerant to get mixed into the refrigerant circuit, such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

**(1) Cut off the spin closure.**

- The outdoor unit is charged with refrigerant.
- This coil contains gas under 150 P.S.I.G. Release pressure from the gas piping pressure-release device before initiating piping work.



- Cut off the pipe end with a tube cutter. (Both liquid line and gas line)



**(2) Connect the piping.**

1. Remove the upper and lower front panels.
2. Slide the front panel (lower) along the field piping until it is far enough away that it will not be affected by heat from brazing, as shown in Fig. 3.
3. Braze up to the field piping fitting port while cooling the sensor and the thermal insulation.
4. Close the upper and lower front panels once heat from the brazed areas has dissipated.

**NOTE**

- When brazing the field piping, cover the pipe insulation and the thermal sensor inside the insulation with a damp cloth to prevent any damage to the sensor or the insulation. Otherwise, the sensor may be damaged by heat of brazing, which lead to a failure of normal operation.

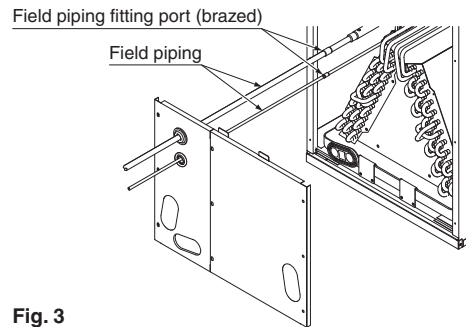


Fig. 3

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

- (4) After checking for gas leaks, be sure to insulate the piping connections referring to Fig. 4.

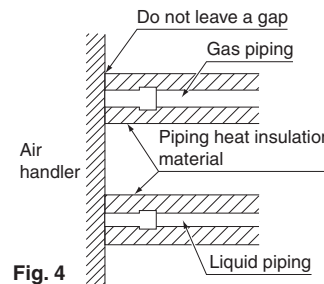


Fig. 4

**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. (Refer to Fig. 5)

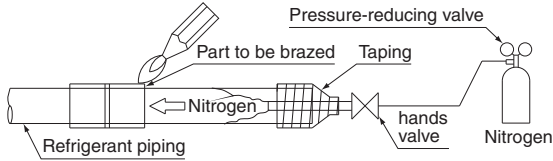


Fig. 5

**CAUTION**

- When brazing piping while feeding nitrogen inside the piping, make sure to set the nitrogen pressure to 2.9 psi or less using the pressure reducing valve. (This pressure is such that a breeze is blown to your cheek.)

**DANGER**

- Use of oxygen could result in an explosion resulting in serious injury or death. Only use dry 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 piping corrosion. Flux containing fluorine will damage refrigerant oil.

**6. DRAIN PIPING WORK**

**CAUTION**

- Make sure all water is out before making the duct connection.

(1) Install drain piping as described Fig. 6.

**In case of vertical installation**

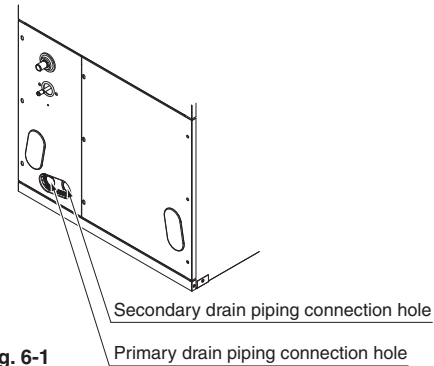


Fig. 6-1

**In case of horizontal installation**

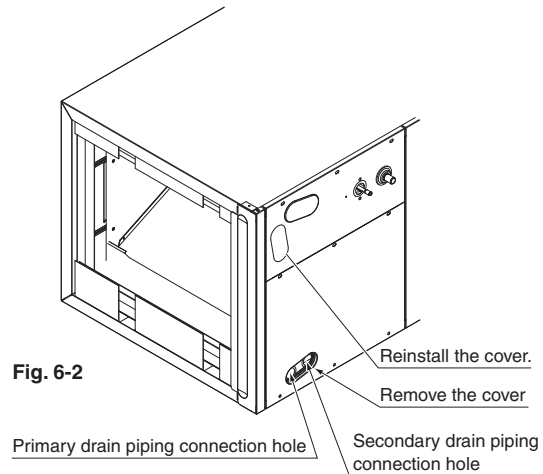


Fig. 6-2

- Perform drain work so that the unit is drained thoroughly. (Be sure to insulate the following 2 locations since condensation may cause water leakage.)
  - Drain piping
  - Drain socket
- The drain pan has connections for a primary and secondary drain.
- Use 3/4 PVC piping for drain piping connections.
- Keep piping runs short with a downward slope of at least 1/100 to prevent air pocket from forming.
- Be sure to install a drain trap at the drain outlet since the inside of the unit is at negative pressure relative to atmospheric pressure during operation.
- Knock out the plastic seal with a screwdriver and a hammer. (Refer to Fig. 7)

**NOTE**

- In case of horizontal installation, carefully knock out the plastic seal. Operation without opening the drain piping connection hole causes water leakage.

- To keep the piping from becoming clogged with dirt, avoid bends where possible and install so that traps can be cleaned.

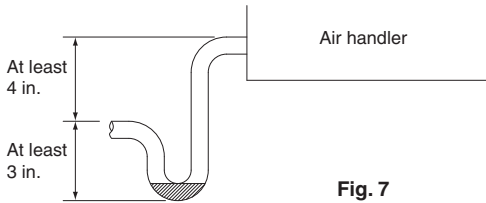


Fig. 7

- Observe the following guidelines when installing concentrated drain piping. Select the thickness of the concentrated drain piping to reflect the capacity of the machine to which it will be connected.

**CAUTION**

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

**PRECAUTIONS**

**Drain piping connections**

- Do not connect the drain piping directly to sewage piping 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, as excessive force may cause it to leak.

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

- Gradually insert approximately 1 quart of water into the drain pan to check drainage in the manner described below.

**7. INSTALLING THE DUCT**

Exercise care regarding the following when performing duct work.

- Verify that duct work does not exceed the unit's setting range of external static pressure (up to 0.5 Wg at "H" speed).
- Install canvas ducts at air outlets and inlets so that vibrations from the main unit are not transmitted to ducts or the floor. Additionally, line the duct with sound-absorbing material (heat insulation material) as necessary.
- Be sure to install an optional air filter to the product's air inlet or to a field-supplied air inlet inside the air passage on the suction side.
- Perform the curing and other work during duct welding so that the inside of the product is not exposed to spatter.
- If the metal duct passes through a metal lath, wire lath, or metal plate of a wooden structure, isolate the duct from the wall electrically.
- Be sure to heat-insulate the duct to prevent the formation of condensation. (Material: Glass wool or polyethylene foam; thickness: 1 inch.)
- Explain to the customer how to operate and clean field-supplied components such as air filters, air inlet grilles, air outlet grilles.
- To prevent drafts, locate the air outlet grille on the indoor side so that warm air from the outlet does not come into direct contact with room occupants.

- When an electric heater (optional) is installed, use metal duct and wrap the duct with a glass-wool type insulation.

**8. ELECTRIC WIRING WORK**

**8-1 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" located inside the unit's fan housing.
- For details on hooking up the remote controller, refer to the "REMOTE CONTROLLER INSTALLATION MANUAL".
- All wiring must be performed by an authorized electrician.
- 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 piping, telephone wires or lightning rods because incomplete grounding could cause a severe shock hazard resulting in severe injury or death, nor to gas piping because a gas leak could result in an explosion which could lead to severe injury or death.

**8-2 LIST OF STANDARD WIRING EQUIPMENT**

Power supply wiring (including ground wire)		Transmission wiring Remote controller wiring	
Fuse/Breaker ☐	Size	Wire	Size
15A	Must comply with local codes.	2-conductor, stranded, non-shielded copper/PVC or vinyl jacket	AWG18 – 16

**NOTES**

1. If the wiring is in a place where people it can be easily touched by people, 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.  
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.

Length of the transmission wiring and remote controller wiring

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

**8-3 ELECTRICAL CHARACTERISTICS**

Units				Power supply		Fan motor	
Model	Hz	Volts	Voltage range	MCA	MOP	HP	FLA
18 type	60	208/ 230	Min. 187 Max. 229/	1.4	15	3/4	1.1
24 type			Min. 207 Max. 253	1.6			

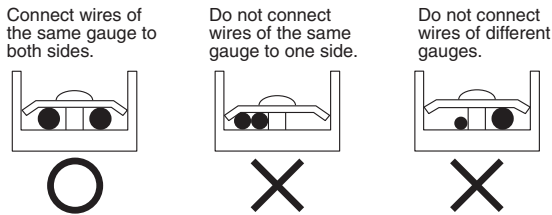
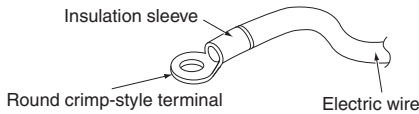
MCA: Minimum Circuit Amps (A)  
 MOP: Max Overcurrent Protective Device (A)  
 HP: Fan motor output (HP)      FLA: Full Load Amps (A)

**9. WIRING EXAMPLE**

**9-1 HOW TO CONNECT WIRINGS**

**(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 figure.



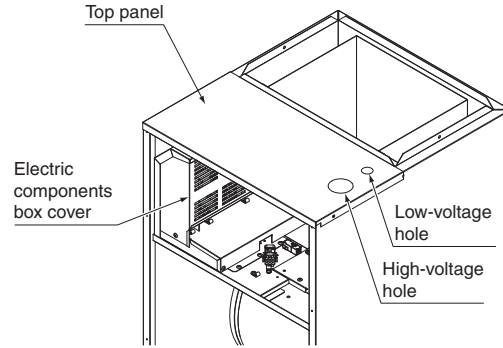
**If the wiring gets too hot due to loose power-supply wiring, use the following precautions:**

- 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 Table 2 for the tightening torque of the terminal screws.

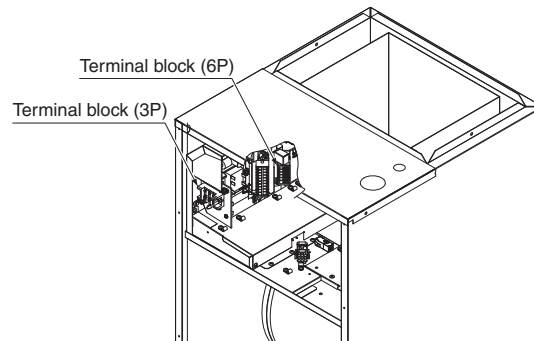
**Table 2**

Terminal block	Tightening torque (ft · lbf)
Remote controller / transmission wiring terminal block (6P) (10P)	0.58 – 0.72
Power supply wiring terminal block (3P)	0.87 – 1.06

**(1) Remove the front panel (upper).**



**(2) Remove the electric component box cover.**



**(3) Pass the power supply wiring and the ground wire through the top panel's high-voltage hole (requires use of conduit) and pass the remote controller wiring and transmission wiring through the top panel's low-voltage hole.**

- Pass the included insulation tube through the hole in the panel before connecting the electric wires and the ground wire to the terminal block (3P) shown in Fig. 8.
- Pass the included insulation tube through the hole in the panel before connecting the remote controller wiring and transmission wires to the terminal block (6P) shown in Fig. 9.
- Then secure them in place with the included clamp material (1) as shown in Fig. 9 to protect them from external force from outside the unit.
- If the power supply voltage is 208V, change the transformer wire connection from the 240V terminal to the 208V terminal. (Refer to Fig. 10)

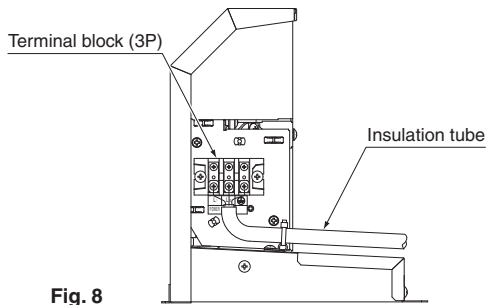


Fig. 8

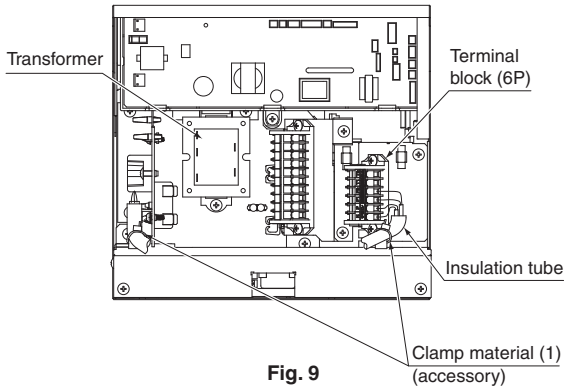


Fig. 9

**Changing the transformer wire connection**

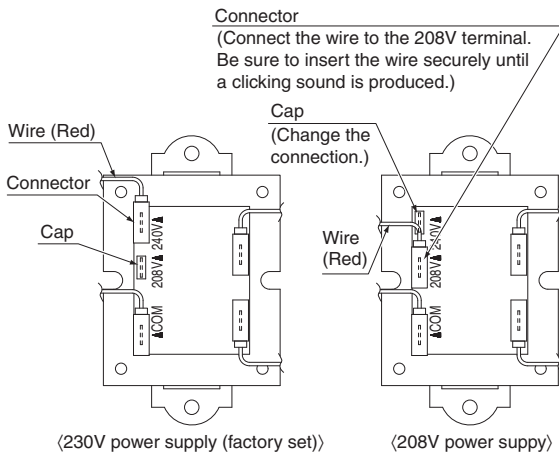
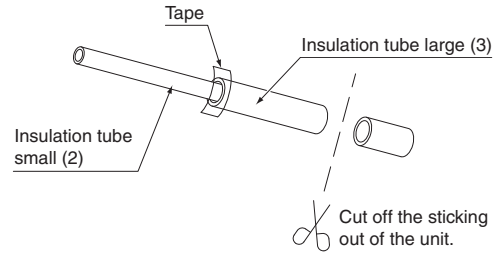


Fig. 10

**How to use insulation tube.**

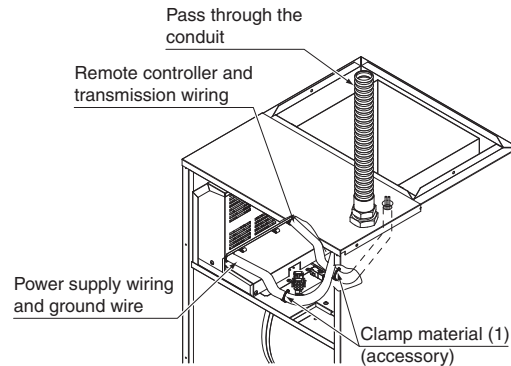
- Use the insulation tube to cover the wiring.
- Joint the insulation tube with the tape and cut off the tube sticking out of the unit.



**(4) Install the electric component box cover.**

- (5) Pass the power supply wiring and the ground wire through the conduit (conduit should be field supplied). The hole for running wires through should be sealed completely to prevent air from entering.**

\* When installing an optional electric heater kit, run both the power supply wiring and ground wire of the electric heater kit through the conduit. (Refer to 10-5 (8))



**(6) Install the front panel (upper).**

- ⚠ DANGER**
- 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 obstruct other equipment. Make sure that the electric component box cover 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.

- ⚠ CAUTION**
- When doing the wiring, make sure the wiring is neat and does not cause the electric component box cover to stick up, then close the cover firmly. When attaching the electric component box cover, 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) by 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" located inside the unit's fan housing.
- Connect the remote controller and transmission wiring their respective terminal blocks.

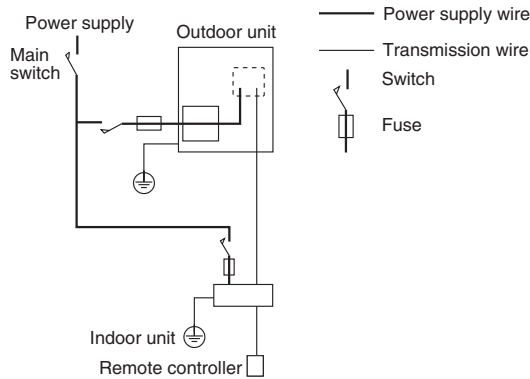
⚠ CAUTION

- 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.

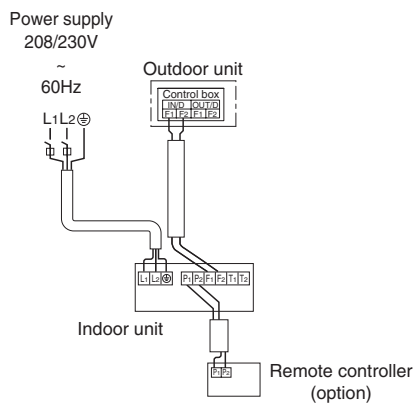
[ WIRING EXAMPLE ]

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

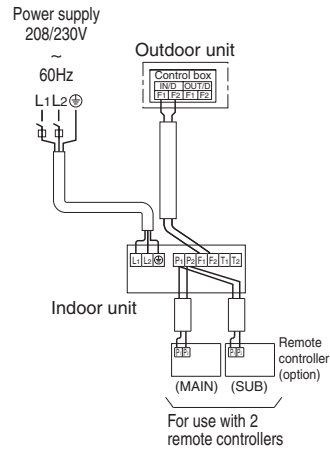
COMPLETE SYSTEM EXAMPLE



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



2. When using 2 remote controllers for 1 indoor unit.



⚠ NOTE

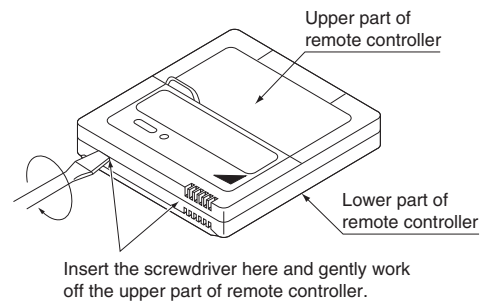
1. A single switch can be used to supply power to units on the same system. However, branch switches and branch circuit breakers must be selected carefully.
2. Do not ground the equipment on gas piping, water piping or lightning rods, or crossground with telephones. Improper grounding could result in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

9-2 CONTROL BY 2 REMOTE CONTROLLERS (Controlling 1 indoor unit by 2 remote controllers)

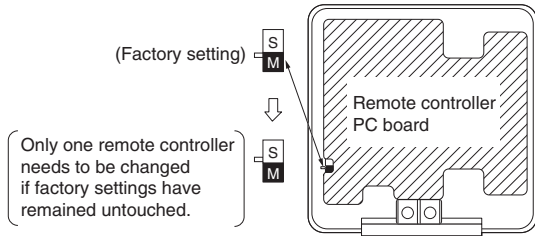
- When using 2 remote controllers, one must be set to "MAIN" and the other to "SUB".
- If the remote controller to be used is Model BRC1E71, read the installation manual supplied with the remote controller.

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.

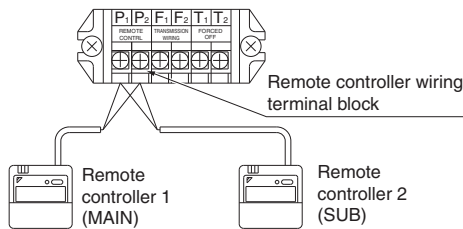


- (2) Turn the MAIN/SUB changeover switch on one of the two remote controller PC boards to "S".  
(Leave the switch of the other remote controller set to "M".)



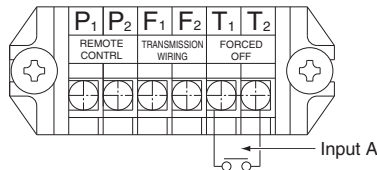
**Wiring Method** (See "8. ELECTRIC WIRING WORK")

- (3) Remove the electric component box cover.
- (4) Add remote controller 2 (SUB) to the terminal block for remote controller (P<sub>1</sub>, P<sub>2</sub>) in the electric component box.  
(There is no polarity.)



**9-3 REMOTE CONTROL (FORCED OFF AND ON/OFF OPERATION)**

- Connect input lines from the outside to the terminals T<sub>1</sub> and T<sub>2</sub> on the terminal block (6P) for remote controller to achieve remote control.
- See the "10. FIELD SETTING AND TEST RUN" for details on operation.



Wire specification	Sheathed vinyl cord or cable (2 wires)
Gauge	AWG18 – 16
Length	Max. 328 ft.
External terminal	Contact that can ensure the minimum applicable load of 16 V DC, 1 mA.

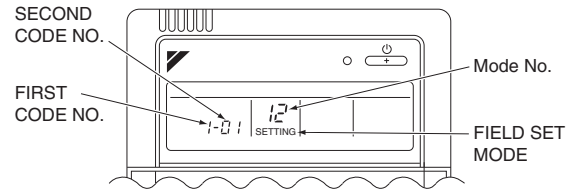
**9-4 CENTRALIZED CONTROL**

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

**10. FIELD SETTING AND TEST RUN**

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

- (1) Make sure the electric component box covers are closed on the indoor and outdoor units.
- (2) 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 which came with the remote controller.
  - The settings can select "Mode No.", "FIRST CODE NO." and "SECOND CODE NO."
  - The "Field Settings" included with the remote controller lists 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.

**10-1 SETTINGS WHEN USING THE OPTIONAL REMOTE SENSOR**

This product does not include an air inlet thermistor. It uses a remote controller thermistor for control purposes. For this reason, it is necessary to install an optional remote thermistor in the following cases:

- When the remote controller will be installed at a location where it cannot accurately measure the indoor temperature.
- When using a remote controller without a built-in thermistor (simple remote controller, wireless remote controller, no remote controller).

When using an optional remote sensor, change the settings as described Table 3:

(The SECOND CODE NO. is set to "03" when shipped.)

**Table 3**

	Mode No.	FIRST CODE NO.	SECOND CODE NO.
To use both the remote controller thermistor and the remote sensor	10 (20)	2	01
To use only the remote sensor			02
To use only the remote controller thermistor			03*

\* factory set

### 10-2 REMOTE CONTROL SETTING

- Forced off and ON/OFF operation should be selected by selecting the SECOND CODE NO. as shown in the table Table 4.

Table 4

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

\* factory set

- Input A of forced off and ON/OFF operation work as shown in Table 5.

Table 5

Forced off	ON/OFF operation
Input A "on" to force a stop (remote controller reception prohibited)	Unit operated by changing input A from "off" to "on"
Input A "off" to allow remote controller	Unit stopped by changing input A from "on" to "off"

### 10-3 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 not display.
- When installing the unit in a dusty place, set the filter sign display time to shorter intervals (1,250 hours).
- Explain it to the customer that the filter needs to be cleaned regularly to prevent clogging and also 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

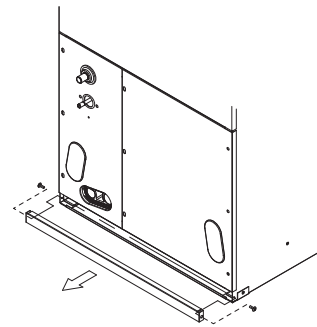
### 10-4 INSTALLATION OF THE OPTIONAL AIR FILTER

- Purchase and install the air filter as in Table 6 .

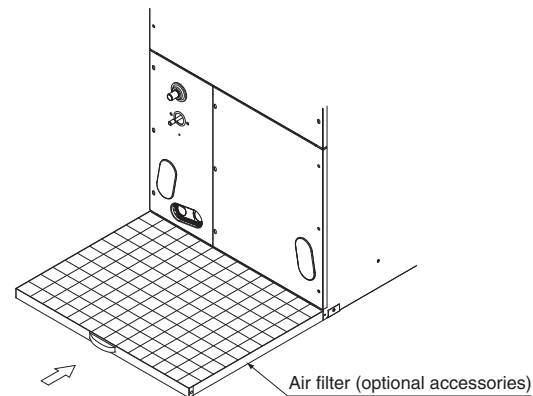
Table 6

	Air filter
18 · 24 type	FIL 48-61

- Take off the part on the bottom of the front panel.



- Insert the air filter as far as it can go.



### 10-5 INSTALLATION OF THE ELECTRIC HEATER KIT

#### ⚠ WARNING

- All phases of the electrical installation must comply with national, state, provincial, and local codes.
- When connecting an electric heater, be sure to install an earth leakage circuit breaker procured locally.
- If an earth leakage circuit breaker is not installed, electric shock or fire may result.
- Regarding the rated current of the earth leakage circuit breaker to be installed, refer to the H.M.C.A. value indicated on the manufacturer's label or in a technical document.
- The recommended rapid sensitive current and tripping time are indicated below.

#### Recommended specifications of circuit breaker

Rapid sensitive current	30mA
Tripping time	0.1sec



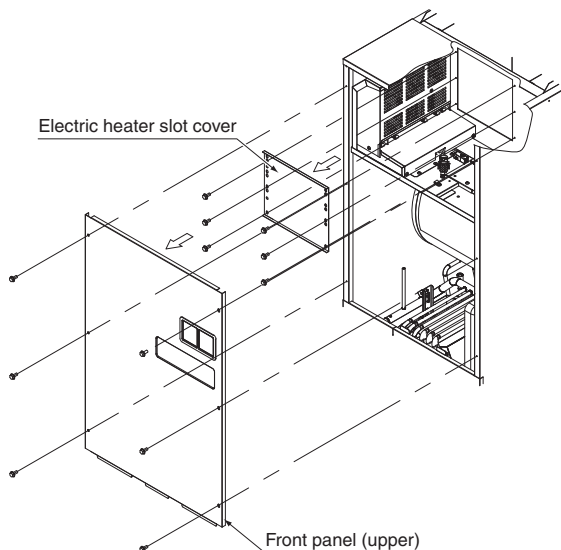
- Purchase and install the electric heater kit as in Table 7.
- Also refer to the installation and operating instructions that come with the electric heater kit.
- The indoor unit fan operates at H speed during HEATER operation.

Table 7

Model	Electric heater kit model name				
	HKR-03	HKR-05C	HKR-06	HKR-08C	HKR-10C
18 type	× <sup>1</sup>	×	×		
24 type	× <sup>1</sup>	×	×	×	×

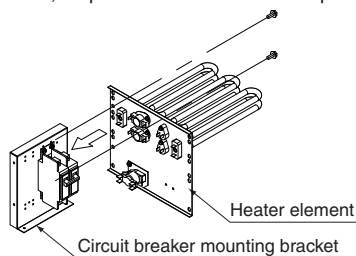
- ×<sup>1</sup> : Auxiliary and Heat Pump Lockout: Electric heater operation with heat pump is allowed.
- × : Heat Pump Lockout: Only electric heater operation is allowed. Heat pump and electric heater cannot operate at the same time.

- (1) Turn off power supply to all indoor and outdoor units.
- (2) Remove the front panel (upper) and the electric heater slot cover.

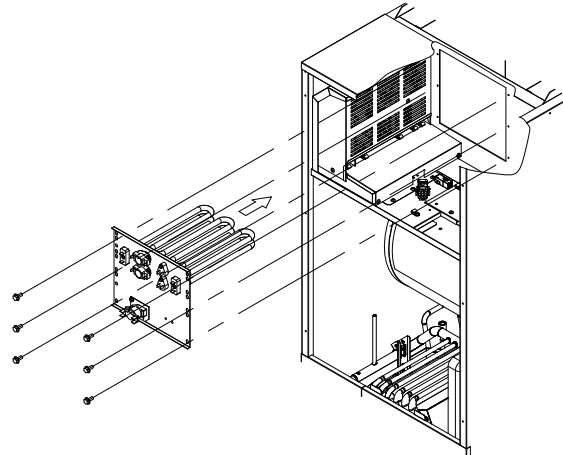


- (3) Remove the circuit breaker mounting bracket from the heater element in the electric heater kit by removing the 2 screws. (Do not remove the harness)

\* The HKR-03 and HKR-06 have no circuit breaker mounting bracket, so proceed from the next step.

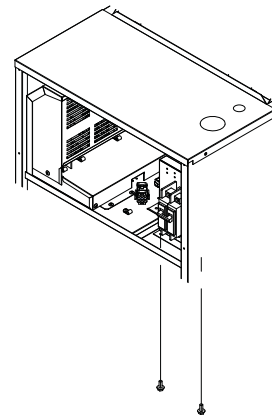


- (4) Insert the heater element in the electric heater kit into the electric heater slot, and use six of the screws taken out in step (2) to install it. When doing so, check that airflow is matched. Refer to the heater kit for details of airflow.

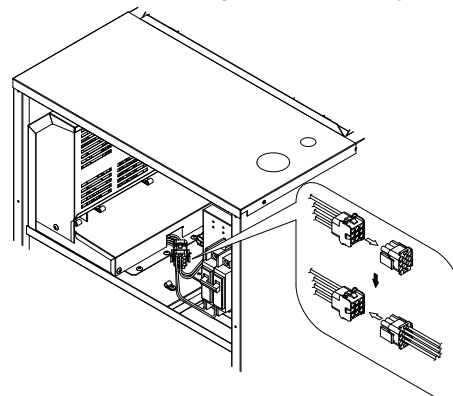


- (5) Install the circuit breaker mounting bracket removed in step (3) into the blower deck.

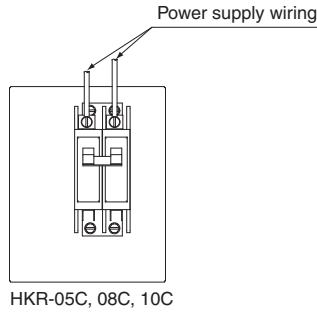
\* The HKR-03 and HKR-06 have no circuit breaker mounting bracket; Procure and install a circuit breaker.



- (6) Connect the relay connector of the heater kit to the relay connector of the product. Disconnect the empty connector connected to the relay connector of the product.

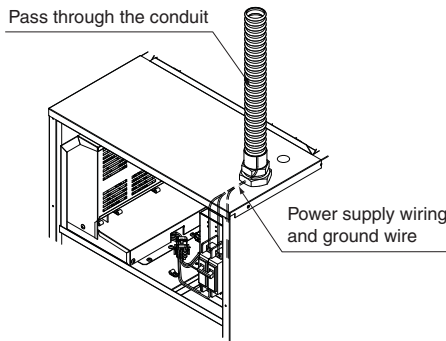


- (7) Check that the circuit breaker is turned off, and connect the heater kit to the wiring on site.



- \* When using HKR-03, 06, connect the power supply wire to the terminal block located inside the main unit of the heater element.
- \* When using HKR-03, 05C, 06, 08C, 10C, connect the ground wire to the terminal block for indoor units. (The terminal block is located on the air outlet side of the blower deck.)

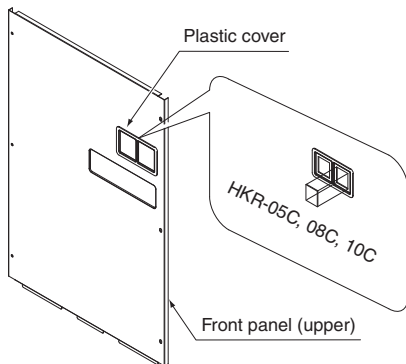
- (8) Pass the power supply wiring and the ground wire through the conduit (conduit should be field supplied). The hole for running wires through should be sealed completely to prevent air from entering.



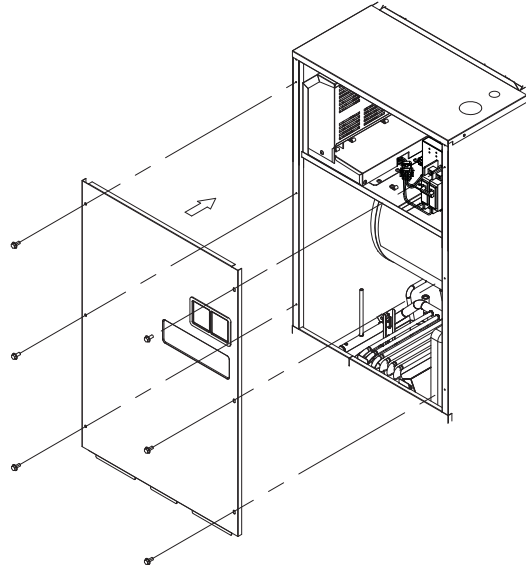
- (9) Select the corresponding electric heater from the electrical wiring diagram and mark the checkbox (☐) for the electric heater with "×".

- (10) Open the knock hole of the plastic cover provided for the front panel (upper) so that the circuit breaker will be turned on and off through the hole.

\* This step is not required for HKR-03 and HKR-06. Proceed to the next step.



- (11) Confirm that there are no mistakes with the wiring, and install the front panel (upper).



(12) On-site setting of heater

(12)-1 Electric heater capacity setting

Electric Heater capacity setting (Optional kit)	Mode No.	FIRST CODE NO.	SECOND CODE NO.
HKR-03, 05, 06, 08, 10 type	11 (21)	5	01
Without heater			03*

\* factory set

(12)-2 Electric heater operating mode setting

〈When electric heater is used in "Heat Pump lockout mode"〉

- Check the heater capacity. (Select heater marked with "×" and "×" in Table 8.)
- Perform on-site setting using the remote controller.
- Set the "heat pump lockout mode" using the outdoor unit. (Refer to the service manual for the outdoor unit.)

〈When used as "Auxiliary electric heater"〉

- Check the heater capacity. (Select heater marked with "×" in Table 8.)
- Perform on-site setting using the remote controller.

Table 8

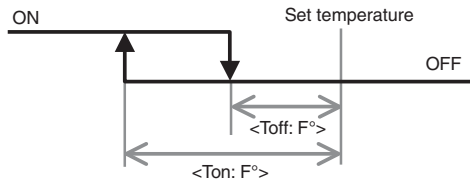
Model	Electric heater kit model name				
	HKR-03	HKR-05C	HKR-06	HKR-08C	HKR-10C
18 type	× <sup>1</sup>	×	×		
24 type	× <sup>1</sup>	×	×	×	×

Electric Heater kit setting (Optional kit)	Mode No.	FIRST CODE NO.	SECOND CODE NO.
Heat Pump lock out mode	11 (21)	3	01*
Auxiliary electric heater & Heat Pump Lockout mode available			03

\* factory set

**(12)-3 Electric heater ON/OFF temperature setting**

- While in heating operation, the heater control (ON/OFF) is conducted as shown below;



- Perform on-site setting using the remote controller.

Mode No.	FIRST CODE NO.	CODE	SECOND CODE NO.					
			01*	02	03	04	05	06
10 (20)	7	<Ton>	-7.2	-6.3	-5.4	-4.5	-3.6	-2.7
		<Toff>	-3.6	-2.7	-1.8	-0.9	0	0.9

\* factory set

**10-6 SETTING FOR LOCAL SUPPLIED OPTION**

**(1) Installation of the humidifier, economizer and air purifier (UV lamp)**

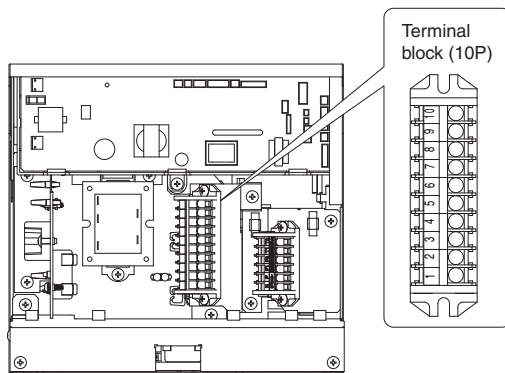
- Humidifier, economizer and air purifier (UV lamp) are sold separately. For the method of installation, refer to the manual provided with each optional product.

**⚠ WARNING**

- If the unit is installed with an electric heater, install the optional product at a location where it is not exposed directly to the heat from the electric heater. Direct exposure to heat can result in an equipment malfunction or fire.

**(2) Connect the wires**

- Run the wires through the low-voltage hole.
- Connect the wires to the terminal block (10P) of the product. The terminal Nos. for wire connection are shown below. Refer to the information as needed. Terminal Nos. are indicated on the name plate for the terminal block.



Terminal No.	Input/output signal
1, 2	Outputs: indoor unit ON signal. (AC 24V)
3, 4	Outputs: indoor unit cooling THERMO ON signal. (AC 24V)
5, 6	Receives input: Air purifier operation ON signal. (dry contact)

Terminal No.	Input/output signal
7, 8	Receives input: Humidifier operation ON signal. (dry contact)
9, 10	Receives input: Forced closure of Indoor Unit Electronic Expansion Valve during cooling operation. (dry contact)

**(3) On-site setting of air purifier/humidifier**

Mode No.	FIRST CODE NO.		01	02	03
14 (24)	4	FAN SPEED UNDER OPERATING purifier and humidifier	Refer to remote controller setting SPEED	H*	
14 (24)	5	FAN RESIDUE TIME FOR HUMIDIFIER	30 [sec]	60* [sec]	120 [sec]

\* factory set

**10-7 SETTINGS FOR SEPARATELY SOLD ACCESSORIES**

- See the instruction manuals included with optional 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 "CAUTION FOR SERVICING" of the outdoor unit.

If the display shows any of the following, there is a possibility that the wiring was done incorrectly or that the power is not on, so check again.

Remote control display	Content
"CENTRAL CONTROL" display	• There is a short circuit at the FORCED OFF terminals (T1, T2).
"U3" display	• The test-run has not been performed.
"U4" display "U5" 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 and / or FORCED OFF wiring. • The transmission wiring is cut.
"U6" 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 and / or the FORCED OFF wiring. • The remote controller wiring is cut.

**⚠ CAUTION**

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

# 3. Installation of outdoor unit

## 3.1 RZQ18PVJU / RZQ24PVJU



SPLIT SYSTEM Air Conditioners

Installation manual

### CONTENTS

- 1. SAFETY CONSIDERATIONS ..... 1
- 2. INTRODUCTION..... 3
- 3. BEFORE INSTALLATION..... 4
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- 5. CAUTIONS ON INSTALLATION..... 8
- 6. REFRIGERANT PIPING WORK ..... 9
- 7. ELECTRIC WIRING WORK ..... 12
- 8. CHECKS AFTER COMPLETION OF WORK..... 15
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- 10. CAUTION FOR REFRIGERANT LEAKS ..... 17

### 1. SAFETY CONSIDERATIONS

Read these "SAFETY CONSIDERATIONS for Installation" carefully before installing air conditioning equipment. After completing the installation, make sure that the unit operates properly during the startup operation.

Instruct the customer on how to operate and maintain the unit. Inform customers that they should store this Installation Manual with the Operation Manual for future reference.

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

Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

- DANGER** ..... Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
- WARNING** ..... Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- CAUTION** ..... Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
- NOTE** ..... Indicates situations that may result in equipment or property-damage accidents only.

### DANGER

- Refrigerant gas is heavier than air and replaces oxygen. A massive leak can lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.
- Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding can cause a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes could cause a gas leak and potential explosion causing severe injury or death.
- If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas may produce toxic gas if it comes in contact with fire. Exposure to this gas could cause severe injury or death.
- After completing the installation work, check that the refrigerant gas does not leak throughout the system.
- Do not install unit in an area where flammable materials are present due to risk of explosions that can cause serious injury or death.
- Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation may cause injuries or death by suffocation.

### WARNING

- Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation may result in water leakage, electric shock, or fire.
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, can lead to oxygen deficiency.
- Use only specified accessories and parts for installation work. Failure to use specified parts may result in water leakage, electric shocks, fire, or the unit falling.
- Install the air conditioner on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength may result in the unit falling and causing injuries.
- Take into account strong winds, typhoons, or earthquakes when installing. Improper installation may result in the unit 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 state, and national regulations. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.
- Make sure that all wiring is secured, that 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, position the wires so that the electrical components box lid can be securely fastened. Improper positioning of the electrical components box lid may result in electric shocks, fire, or the terminals overheating.
- Before touching electrical parts, turn off the unit.
- Be sure to install a ground fault circuit interrupter if one is not already available. This helps prevent electrical shocks or fire.
- Securely fasten the outside unit terminal cover (panel). If the terminal cover/panel is not installed properly, dust or water may enter the outside unit causing fire or electric shock.
- When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R-410A) such as air. Any presence of air or other foreign substance in the refrigerant circuit can cause an abnormal pressure rise or rupture, resulting in injury.
- Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion may occur.

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 CAUTION

- Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.
- Do not allow children to play on or around the unit to prevent injury.
- Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Heat exchanger fins are sharp enough to cut. To avoid injury wear glove or cover the fins when working around them.
- Install drain piping to proper drainage. Improper drain piping may result in water leakage and property damage.
- Insulate piping to prevent condensation.
- Be careful when transporting the product.
- Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may occur.
- Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.
- Refrigerant R-410A in the system must be kept clean, dry, and tight.
  - (a) Clean and Dry -- Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.

- (b) Tight -- R-410A does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection against harmful ultraviolet radiation. R-410A can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter Refrigerant Piping and follow the procedures.
- Since R-410A is a blend, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in a state of gas, its composition can change and the system will not work properly.
  - The indoor unit is for R-410A. See the catalog for indoor models that can be connected. Normal operation is not possible when connected to other units.
  - Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with electronic fluorescent lamps (inverter or rapid start types). Install the indoor unit far away from fluorescent lamps as much as possible.
  - Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors.
  - 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 cause the unit to malfunction.
    - (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions can cause a fire.
  - Take adequate measures to prevent the outside unit from being used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunctions, smoke, or fire. Instruct the customer to keep the area around the unit clean.

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 NOTE

- Install the power supply and control wires for the indoor and outdoor units at least 3.5 feet away from televisions or radios 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.
- Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant local, state, and national regulations.
- Do not use the following tools that are used with conventional refrigerants: gauge manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.
- If the conventional refrigerant and refrigerator oil are mixed in R-410A, the refrigerant may deteriorate.

- This air conditioner is an appliance that should not be accessible to the general public.
- The wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.

**(NOTE)**

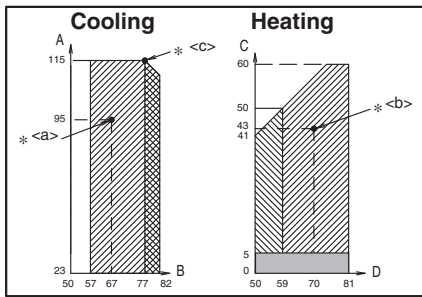
The PCI Data Station is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**2. INTRODUCTION**

**2-1 Standard Operation Limit**

The figures below assume following operating conditions for indoor and outdoor units:

- Equivalent pipe length.....25 ft.
- Level difference.....0 ft.



- A Outdoor temperature (°FDB)
- B Indoor temperature (°FWB)
- C Outdoor temperature (°FWB)
- D Indoor temperature (°FDB)
- ▨ Range for continuous operation
- ▩ Range for pull down operation
- ▧ Range for warming up operation
- Range for operation

**2-2 Technical specifications**

\*<a> and \*<b> in the table indicate the operating condition (shown in the 2-1 Standard Operation Limit figure to left.)

Model	RZQ18PVJU	RZQ24PVJU	Note
Refrigerant	R410A		
Power	208/230V 60Hz		
<b>[FAQ] Wall mounted</b>			
Cooling (MBh)	18	24	*<a>
Heating (MBh)	20	26	*<b>
<b>[FCQ] Ceiling mounted</b>			
Cooling (MBh)	18	24	*<a>
Heating (MBh)	20	27	*<b>
<b>[FHQ] Ceiling Suspended</b>			
Cooling (MBh)	18	24	*<a>
Heating (MBh)	20	27	*<b>
<b>[FTQ] Air Handling Unit</b>			
Cooling (MBh)	18	24	*<a>
Heating (MBh)	20	26	*<b>
Dimensions H × W × D	(inch)	30-5/16 × 35 7/16 × 12 5/8	
Weight	(lb.)	150	
<b>Connections</b>			
Gas	(inch)	5/8	
Liquid	(inch)	3/8	

**2-3 Electrical specifications**

\*<c> in the table indicate the operating condition (shown in the 2-1 Standard Operation Limit figure to left.)

Model	RZQ18PVJU	RZQ24PVJU	Note
<b>Power</b>			
Phase	~		
Frequency	(Hz)	60	
Voltage	(V)	208/230	
Voltage tolerance	(%)	±10	
Max. Overcurrent protective device	(A)	20	
<b>Compressor</b>			
Phase	3~		
Frequency	(Hz)	60	
Voltage	(V)	208/230	
Min. Circuit Amps.	(A)	16.5	
			*<c>

**2-4 Accessories**

Confirm that the following accessories are supplied.

Clamp	Insulation tube				Cover (Handle)
	(Large-1)	(Large-2)	(Small-1)	(Small-2)	
 (1 pc.)	 (2 pcs.)	 (1 pc.)	 (2 pcs.)	 (1 pc.)	
Screw	Conduit mounting plate		Others		
 (1 pc.)	 (2 pcs.)	 (2 pcs.)	• Installation manual		

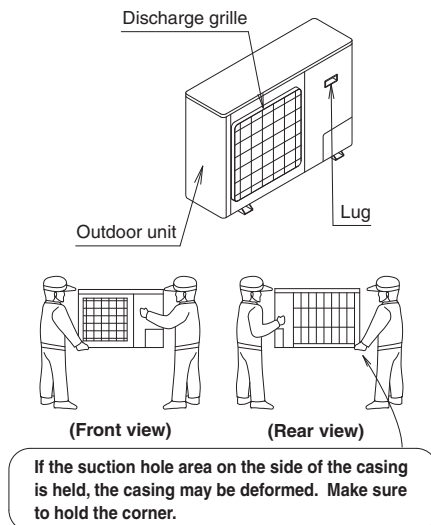
## 2-5 Main components

For main components and function of the main components, refer to the Engineering Data Book.

## 3. BEFORE INSTALLATION

### (Bringing-in)

Bring in the outdoor unit slowly by holding the lugs provided on the left and right sides as shown in the figures below. (Take care so that hands and objects do not touch the fin on the rear.)



© Make sure to use accessories and specified specification parts in the installation work.

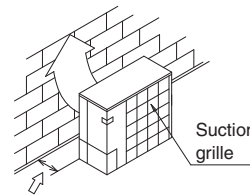
## 4. SELECTION OF INSTALLATION LOCATION

The refrigerant R410A itself is nontoxic, nonflammable and is safe. If the refrigerant should leak however, its concentration may exceed the allowable limit depending on room size. Due to this it could be necessary to take measures against leakage. Refer to the chapter "Caution for refrigerant leaks".

- (1) **Select a proper location satisfying the following requirements with approval of the customer.**
  - Sufficient ventilation is secured.
  - Adjacent houses are not annoyed.
  - The foundation is strong enough to support the weight and withstand vibrations of the outdoor unit, and the location is safe and allows horizontal installation.
  - The outdoor unit is exposed to rain as less as possible.
  - The space for installation and servicing is secured around the outdoor unit.
  - The indoor/outdoor piping length and wiring length are within the allowable range.
- (2) **When installing the outdoor unit in a location affected by strong wind, pay special attention to the following items.**

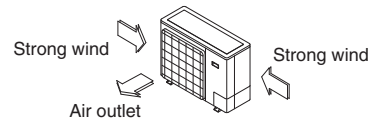
- If strong wind whose velocity is 11 MPH or more blows to the outdoor unit from the air outlet side, the air flow rate of the outdoor unit is reduced, the outlet air is sucked again (short-circuit), and the following effect may be caused:
  - The capacity is deteriorated.
  - The adhered frost increases during heating operation.
  - The operation is stopped by pressure rise.
- If excessive strong wind continuously blows from the air outlet side of the outdoor unit, the fan may rotate in the reverse direction at high speed, and lead to damage. Install the outdoor unit in reference to the following figures.

- **Position the air outlet side toward the building wall, fence or windbreak screen.**



(Secure the space for installation and servicing.)

- **Let the air outlet direction face be at right angles to the wind direction.**



- (3) **When installing the outdoor unit in a location with heavy snowfall, pay special attention to the following items:**

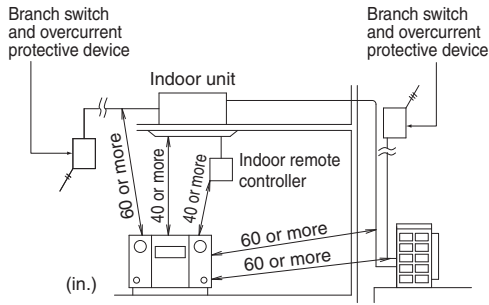
- Prepare strong foundation.
- Attach the snow hood (field supplied).
- Remove the suction grill on the rear so that snow will not be accumulated in the rear fin.

- (4) **When there is a possibility of short-circuit depending on the ambient situation, use the wind direction adjusting plate (optional accessory).**

- (5) **The inverter type air conditioner may cause noise in electric products.**

**When selecting an installation location, keep sufficient distance from the air conditioner units and wiring to radios, personal computers, stereos, etc. as shown in the figure below.**

**In areas with weak electric waves, keep a distance of 120 in. or more from the indoor remote controller, etc., put the power cables and connection cables in conduit tubes, and ground the conduit tubes.**



**⚠ DANGER**

- Do not install unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.
- Refrigerant is heavier than air and replaces oxygen. A massive leak could lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.

**Installation place (unit: inch)**

**(Cautions on continuous installation)**

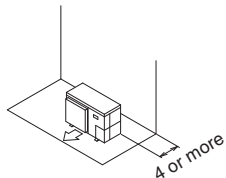
- The connection piping outlet direction in the continuous installation shown in the figures below is frontward or downward.
- When routing the piping rearward, secure space of 10 in. or more on the right side of the outdoor unit. (The unit of numeric values below is "inch".)
- Make some space for wiring with conduit and servicing between the units.

**(A) When an obstruction is present on the air inlet side**

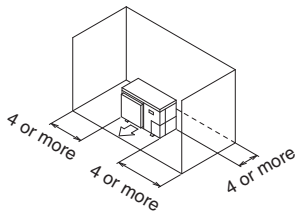
**• When the upward area is open**

**(1) When one outdoor unit is installed individually**

- When an obstruction is present only on the air inlet side

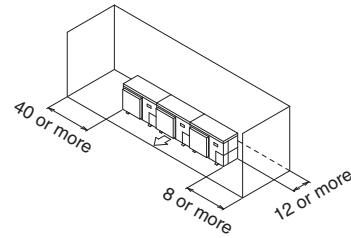


- When an obstruction is present on the both sides



**(2) When two or more outdoor units are installed side by side**

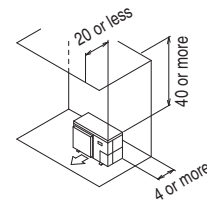
- When an obstruction is present on the both sides



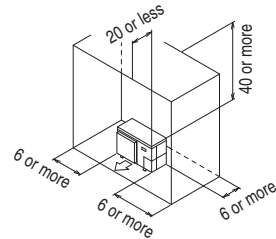
- When an obstruction is present also in the upward area

**(1) When one outdoor unit is installed individually**

- When an obstruction is present also on the air inlet side

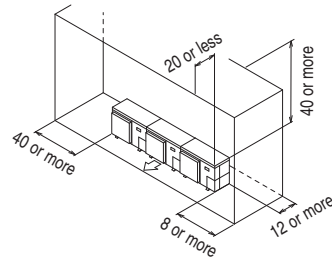


- When an obstruction is present also on the air inlet side and both sides



**(2) When two or more outdoor units are installed side by side**

- When an obstruction is present also on the air inlet side and both sides

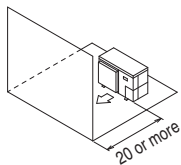




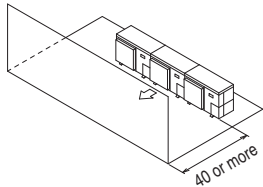
**(B) When an obstruction is present on the air outlet side**

- When the upward area is open

(1) When one outdoor unit is installed individually

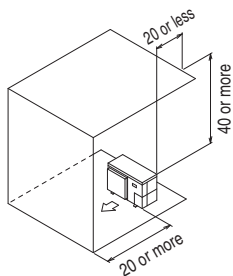


(2) When two or more outdoor units are installed side by side

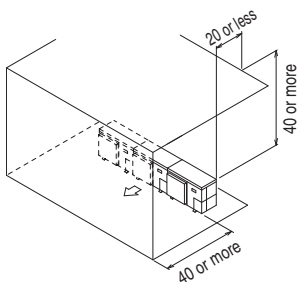


- When an obstruction is present also in the upward area

(1) When one outdoor unit is installed individually



(2) When two or more outdoor units are installed side by side



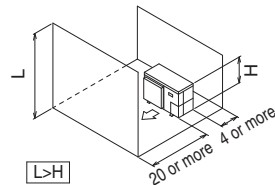
**(C) When an obstruction is present on both the air inlet and air outlet sides**

<Pattern 1>

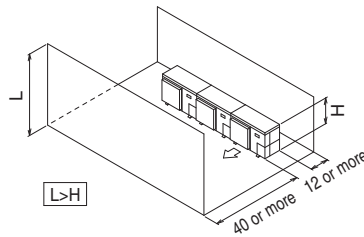
When an obstruction on the air outlet side is higher than the outdoor unit (There is no restriction in the height of obstruction on the air inlet side.)

- When the upward area is open

(1) When one outdoor unit is installed individually

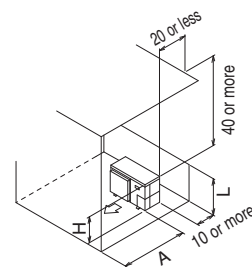


(2) When two or more outdoor units are installed side by side



- When an obstruction is present also in the upward area

(1) When one outdoor unit is installed individually



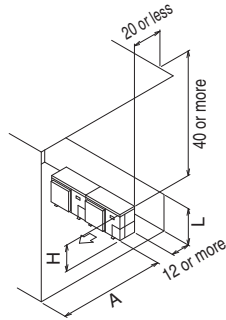
The dimensional relationship between H, L and A is as shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2H	30
	1/2H < L ≤ H	40
H < L	Install the frame to achieve "L ≤ H".	

**NOTE**

- Close the area under the frame so that the outlet air does not bypass there.

(2) When only two outdoor units are installed side by side



The dimensional relationship between H, L and A is as shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2H	40
	1/2H < L ≤ H	50
H < L	Install the frame to achieve "L ≤ H".	

⚠ NOTE

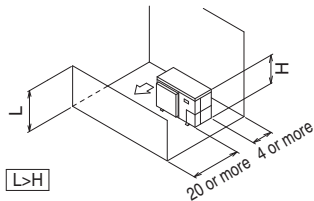
1. Close the area under the frame so that the outlet air does not bypass there.
2. Only two outdoor units can be installed side by side.

<Pattern 2>

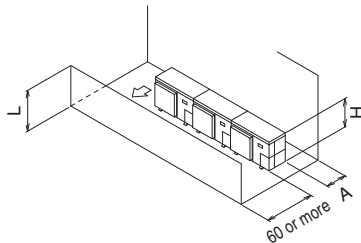
When an obstruction on the air outlet side is lower than the outdoor unit (There is no restriction in the height of obstruction on the air inlet side.)

• When the upward area is open

(1) When one outdoor unit is installed individually



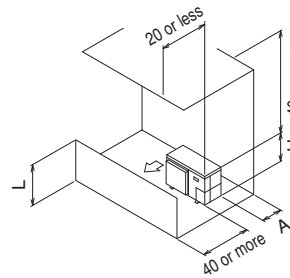
(2) When two or more outdoor units are installed side by side



The dimensional relationship between H, L and A is as shown in the table below.

L	A
0 < L ≤ 1/2H	10
1/2H < L ≤ H	12

• When an obstruction is present also in the upward area  
(1) When one outdoor unit is installed individually



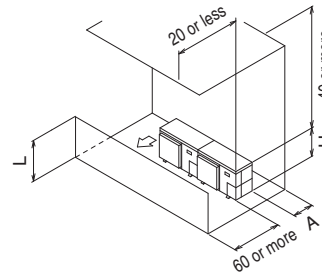
The dimensional relationship between H, L and A is as shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2H	4
	1/2H < L ≤ H	8
H < L	Install the frame to achieve "L ≤ H".	

⚠ NOTE

- Close the area under the frame so that the outlet air does not bypass there.

(2) When only two outdoor units are installed side by side



The dimensional relationship between H, L and A is as shown in the table below.

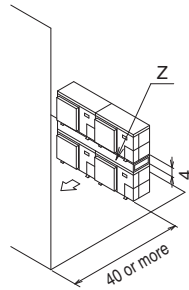
	L	A
L ≤ H	0 < L ≤ 1/2H	10
	1/2H < L ≤ H	12
H < L	Install the frame to achieve "L ≤ H".	

⚠ NOTE

1. Close the area under the frame so that the outlet air does not bypass there.
2. Only two outdoor units can be installed side by side.

**(D) When outdoor units are stacked**

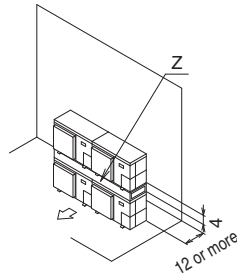
**(1) When an obstruction is present on the air outlet side**



**NOTE**

1. Only two outdoor units can be stacked.
2. About 4 in. is required as the drain piping size for the upper outdoor unit.
3. Close the area Z (gap between the upper outdoor unit and the lower outdoor unit) so that the outlet air does not bypass there.

**(2) When an obstruction is present on the air inlet side**

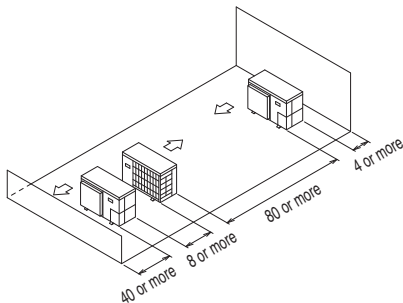


**NOTE**

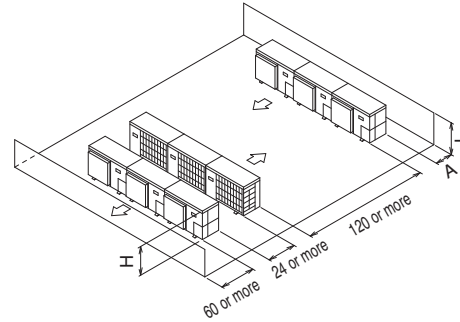
1. Only two outdoor units can be stacked.
2. About 4 in. is required as the drain piping size for the upper outdoor unit.
3. Close the area Z (gap between the upper outdoor unit and the lower outdoor unit) so that the outlet air does not bypass there.

**(E) When outdoor units are installed in rows (on the rooftop, etc.)**

**(1) When one outdoor unit is installed in each row**



**(2) When two or more outdoor units are installed side by side**

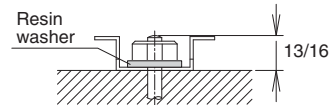


The dimensional relationship between H, L and A is as shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2H	10
	1/2H < L ≤ H	12
H < L	<b>Installation is not allowed.</b>	

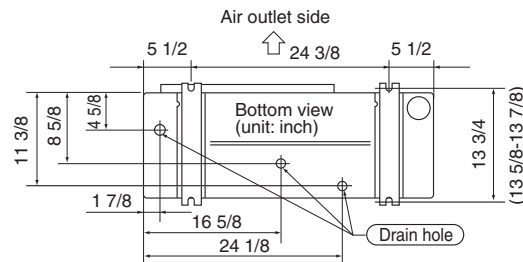
**5. CAUTIONS ON INSTALLATION**

- Before installation, confirm the strength and levelness of the foundation so that vibrations and noise are not generated.
- Fix the outdoor unit securely on a rigid base with foundation bolts as shown in the foundation drawing below. (Prepare 4 sets of commercially available M12-type or equivalent foundation bolts, nuts and washers.)
- Use resin washers to prevent the paint from being scratched off and rusting.
- The foundation bolts should be protruded by 15/16 in. **(Refer to figure)**



**《Drain treatment》**

- In a location where drain from the outdoor unit may cause troubles (for example, where drainage may splash on general passersby), perform the drain piping work using the drain plug (optional).
- For drain treatment, space of at least 4 in. is required under the bottom frame of the outdoor unit.
- In the drain piping work, make sure that drainage is discharged securely. (When routing the piping downward, check for water leakage.)



**6. REFRIGERANT PIPING WORK**

**⚠ CAUTION**

<To piping technician>

- **Make sure to open the stop valves after finishing the piping work. (Refer to the table shown in “6-7 Additional refrigerant charge”).**  
(Operating the air conditioner with the stop valve shut may damage the compressor.)
- Use R410A to add refrigerant. (The R410A refrigerant cylinder has a pink stripe painted around it.)  
All field piping must be installed by a licensed refrigeration technician and must comply with relevant local and national regulations.
- **BRAZING REFRIGERANT PIPING**  
Do not use flux when brazing copper-to copper refrigerant piping.  
(Particularly for the HFC 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.)

**⚠ NOTE**

- Maximum piping length between the outdoor and indoor unit:

Indoor unit	FTQ
Max. piping length	98 ft.

- **Installation tools:**  
Make sure to use installation tools (gauge manifold charge hose, etc.) that are exclusively used for R410A installations to withstand the pressure and to prevent foreign materials (e.g. mineral oils such as SUNISO and moisture) from mixing into the system.  
(The screw specifications differ for R410A and R407C.)  
Vacuum pump (use a 2-stage vacuum pump with a non-return valve):  
1. Make sure the pump oil does not flow oppositely into the system while the pump is not working.  
Use a vacuum pump that can evacuate to 500 microns.

**6-1 Selection of piping material**

1. Foreign materials inside pipes (including oils for fabrication) must be 9mg/10ft. or less.
2. Use the following material specification for refrigerant piping:
  - Construction material: Phosphoric acid deoxidized seamless copper for refrigerant.
  - Size: liquid pipe: φ3/8"  
gas pipe: φ5/8"

**6-2 Protection of piping**

- Protect the pipings to prevent moisture and dust from coming into the pipings.
- Especially, pay attention when passing the pipings through a hole or connecting the end of piping to the outdoor.

Location	Working period	Protection method
Outdoor	1 month or more	Pinch pipes
	Less than 1 month	Pinch or tape pipes
Indoor	Regardless of period	

**6-3 Piping connection**

- For handling of stop valves, refer to “Stop valve operation method” in “6-7 Additional refrigerant charge”.
- **Only use the flare nuts attached to the stop valves. Using different flare nuts may cause the refrigerant to leak.**
- **Be sure to perform a nitrogen blow when brazing.**

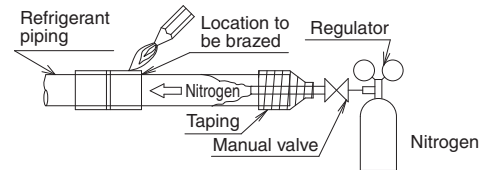
(Brazing without performing nitrogen replacement or releasing nitrogen into the piping will create large quantities of oxidized film inside the pipes, adversely affecting valves and compressor in the refrigerating system and preventing normal operation.)

**⚠ DANGER**

- Use of oxygen could cause an explosion resulting in severe 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**

- When brazing with blowing nitrogen, set the nitrogen pressure to 2.9 psi or less by using a pressure reducing valve.



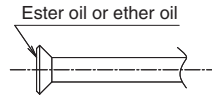
**⚠ CAUTION**

- Do not use anti-oxidants when brazing. Residue can clog pipes and break the unit.
- Ⓞ Do not let any refrigerant other than the specified refrigerant enter the refrigerant system.
- Ⓞ Do not let any gas such as air enter the refrigerant system.

**⚠ Precautions when connecting the pipings**

- See the following table for flare dimensions.
- When connecting the flare nuts, apply refrigerant oil to the inside of the flares and turn them three or four times at first. (Use ester oil or ether oil.)
- See the following table for tightening torque. (Applying too much torque may cause the flares to crack.)
- After connecting all the pipings perform a gas leak check by using nitrogen.

Pipe size	Tightening torque (ft-lbf)	Flare dimension A (in.)	Flare shape (in.)
φ3/8"	24.1 - 29.4	0.504 - 0.520	
φ5/8"	45.6 - 55.6	0.760 - 0.776	



- If you are obliged 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.

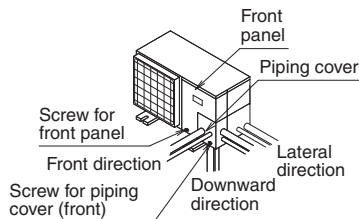
Pipe size	Tightening angle (Guideline)	Recommended arm length of tool (in.)
φ3/8"	60°~90°	Approx. 7 7/8
φ5/8"	30°~60°	Approx. 11 13/16

**Disposal requirements**

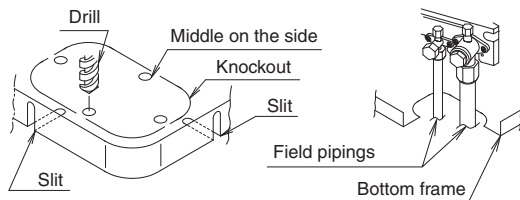
Dismantling of the unit, treatment of the refrigerant, oil and eventual other parts should be comply the relevant local and national regulations.

**6-4 Refrigerant piping work procedure**

◎ The field piping can be connected in three directions.



◎ When connecting the pipings downward, remove the knockout by making four holes in the middle on the each side of the knockout with a drill.



Then cut out the corner of the bottom frame along the slits (in two positions) by using a hacksaw.

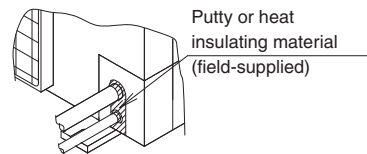
◎ After removing the parts, it is recommended to apply repair paint on the edges, to prevent rusting.

**Cautions on connecting the connection piping**

- When it is expected that water condensed in the stop valve will reach the indoor unit through the gap between the heat insulating material and the piping (for example, when the outdoor unit is installed in a higher position than the indoor unit), take proper action such as caulking the connection area.

**[Measures to prevent invasion of small creatures and litter]**

- Block all gaps in the piping penetration areas with putty or heat insulating material (arranged in the local field) as shown in the figure below. (If small creatures, such as insects, or litter, enters the outdoor unit, a short-circuit may be caused inside the electric parts box.)



**6-5 Heat insulation of piping**

- Make sure to insulate the field pipings (on both the liquid line and gas line) and refrigerant branching kit. If they are not insulated, water leakage may be caused.

Be sure to use insulation that is designed for use with HVAC Systems.

- Reinforce the refrigerant piping according to the installation environment. If it is not reinforced, condensate may form on the surface of the insulation.

**⚠ WARNING**

- Make sure to insulate the field piping up to the piping connection area inside the unit. If the piping is exposed, dew condensation and burn by contact may be caused.

**6-6 Airtight test and vacuum drying**

The unit has been checked for leaks by the manufacturer. Confirm that the valves are firmly closed before airtight test or vacuumdrying.

To prevent entry of any impurities and insure sufficient pressure resistance, always use the special tools dedicated for R410A.

**Perform the following inspections securely after the piping work.**

- **Airtight test** - Make sure to use nitrogen gas. (For the service port position, refer to the figure in "Stop valve operation method".)

[Procedure] Pressurize the air conditioner from the liquid pipe and gas pipe up to 450 psi (Make sure not to exceed 450 psi). When the pressure does not drop for 24 hours, the piping work shall be accepted.

If the pressure drops, check for leakage positions. (Confirm that there is no leakage, then release nitrogen.)

- **Vacuum drying** - Use a vacuum pump that can evacuate up to 500 microns or less.  
 [Procedure] Do not energize the indoor unit before performing the vacuum drying.  
 Operate the vacuum pump for evacuation for 2 hours or more, using both liquid pipe and gas pipe until the vacuum pressure reaches 500 microns or less. Leave at this for 1 hour or more, and confirm that the vacuum pressure indicated by the vacuum gauge does not increase. If the vacuum pressure increases, the system may contain moisture or have leakage.

**If there is a possibility of moisture remaining in the piping:**

For this instance, a triple evacuation is recommended; note that this is basic refrigeration best practice and not specific to Daikin.  
 The refrigerant gauges should be connected to the liquid and suction gas pipes, and a triple evacuation performed. Break the first and second vacuum with dry nitrogen. The final evacuation should be to **below** 500 microns and a rise test conducted; the system should hold **below** 500 microns for at least one hour.

**6-7 Additional refrigerant charge**

- ⚠ WARNING**
- To avoid injury always use protective gloves and eye protection when charging refrigerant.
  - To avoid injury do not charge with unsuitable substances. Use only the appropriate refrigerant.

- ⚠ NOTE**
- Refrigerant cannot be charged until field wiring has been completed. Refrigerant may only be charged after performing the airtight test and the vacuum drying (see above). When charging refrigerant into the system, take care that its maximum allowable charge is never exceeded, in view of the danger of liquid hammer. Refrigerant containers shall be opened slowly. To avoid compressor breakdown, do not charge the refrigerant more than the specified amount to raise the condensing pressure.

- This outdoor unit is factory charged with refrigerant.
- Charge the additional refrigerant calculated by the formula below.

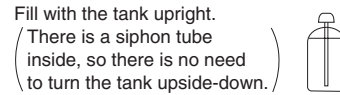
Additional charging amount (lb.)	=	Liquid piping length × 0.036 (ft.)×0.036	+	Additional charging depended on type of indoor unit A (lb.)
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Indoor unit	FTQ
Additional charging A (lb.)	1.54

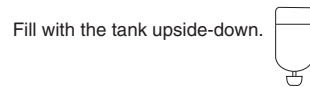
Record the additional amount to the label stuck on the back of front panel.

- Charge the refrigerant to the liquid pipe in its liquid state. Since R410A is a mixed refrigerant, its composition changes if charged in a state of gas and normal system operation would no longer be assured.
- Before filling, check whether the tank has a siphon attached or not.

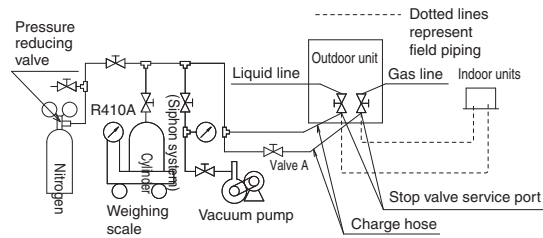
**How to fill a tank with a siphon attached.**



**Other ways of filling the tank**



- After the vacuum drying is finished, charge the additional refrigerant in its liquid state through the liquid stop valve service port.  
 Taking into account following instructions:  
 1. Check that gas and liquid stop valves are closed.  
 2. Charge the specified amount of refrigerant.
- If the outdoor unit is not in operation and the total amount cannot be charged, follow the procedures for additional refrigerant charge shown below.
- Make sure to use installation tools you exclusively use on R410A installations to withstand the pressure and to prevent foreign materials from mixing into the system.
- Procedures for charging additional refrigerant.



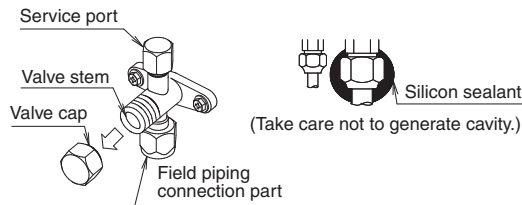
See the "Service Precautions" label on the back of the front panel for the settings for operation after replenishing refrigerant.

1. Open the gas line stop valve (leaving the liquid line stop valve, valve A in the diagram above, close) and perform the operation to add the refrigerant.
2. Once the appropriate amount of refrigerant is in, press the confirmation button (BS3) on the outdoor unit PC board (A1P), and stop operation.
3. Open the stop valves quickly (both liquid and gas line valves).  
 (This must be done quickly to avoid the possibility that the pipe might burst.)

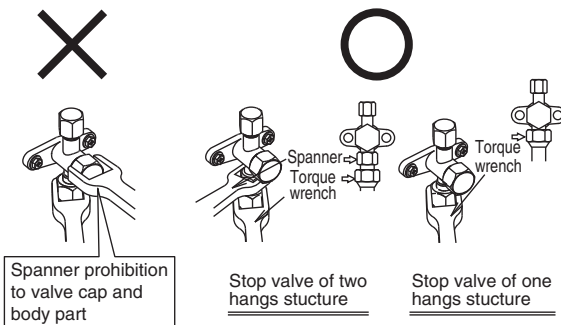
**Stop valve operation**

**Cautions on handling the stop valve**

- The figure below shows the name of each part required in handling the stop valve. At the time of shipment, the stop valve is closed.



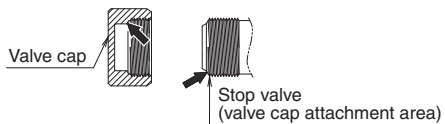
- If only a torque wrench is used to loosen or tighten the flare nut, the side plate may be distorted. Make sure to fix the stop valve with a spanner, then loosen or tighten the flare nut with a torque wrench.



- When it is expected that the operating pressure will be low (for example, when cooling will be performed while the outside air temperature is low), seal sufficiently the flare nut in the stop valve on the gas line with silicon sealant to prevent freezing.

**Cautions on handling the valve cap**

- The valve is sealed in the arrow area. Take care not to damage the arrow area.



- After handling the valve, make sure to tighten the valve cap securely.

Liquid line	Gas line
10.0~12.2 ft-lbf	16.6~20.3 ft-lbf

**Cautions on handling the service port**

- Use charge hose equipped with push in the work.
- After the work, make sure to tighten the valve cap securely. Tightening torque.....8.5~10.3 ft-lbf

**[Stop valve operation method]**

Prepare hexagon wrenches (whose size is 4 mm and 6 mm).

**How to open the stop valve**

- Insert a hexagon wrench into the valve stem, and turn the valve stem counterclockwise.
- When the valve stem cannot be turned any more, stop turning. Now, the valve is open.

**How to close the stop valve**

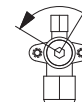
- Insert a hexagon wrench into the valve stem, and turn the valve stem clockwise.
- When the valve stem cannot be turned any more, stop turning. Now, the valve is closed.

**Opening direction**



<Liquid line>

**Opening direction**



<Gas line>

**7. ELECTRIC WIRING WORK**

**⚠ DANGER**

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

**⚠ WARNING**

- Disconnect all power to unit to avoid possible electric shock during installation.
- 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 obstruct other equipment. Incomplete connections could result in overheating, and in worse cases, electric shock or fire. For the details, refer to "7-3 Power supply wiring connection procedure".

**⚠ CAUTION**

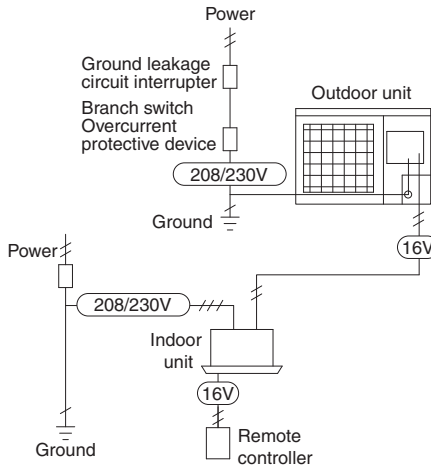
<To electrician>

- Do not operate the air conditioner until the refrigerant piping work is completed. (Operating the air conditioner before the refrigerant piping work is completed may damage the compressor.)
- Install an earth leakage circuit interrupter. (The inverter is provided in the air conditioner. In order to prevent malfunction of the earth leakage circuit interrupter itself, use a breaker resistant to higher harmonics.)

- Electricians having sufficient knowledge should perform the electrical wiring work. All wiring must comply with local electrical codes and National Electrical Code (NEC).

- Perform the electric wiring work in accordance with the “electric wiring diagram label”.  
Make sure to turn OFF the branch switch and overcurrent protective device before starting the work.
- Perform grounding to the indoor units and outdoor units.
- Use only copper wires.
- Make sure to turn the power off before starting the electric wiring work.
- Do not turn ON any switch until the work is completed.
- The outdoor unit has an inverter which generates noise and charges the outer casing with the leakage current. The outdoor unit should be grounded so that the effect of the generated noise on other equipment can be reduced, and that the outer casing can be discharged.
- As this unit is equipped with an inverter, installing a phase advancing capacitor will not only reduce the power factor improvement factor, but may also cause the capacitor to overheat due to high-frequency waves. Therefore, never install a phase advancing capacitor.
- Never push excessive electric wires into the units.
- Protect electric wires with conduit tubes or vinyl tubes so that they will not be damaged by edges of knockout holes.
- Fix electric wires with clamps as accessories so that they will not come to contact with pipes and stop valves.  
(Refer to “7-3 Power supply wiring connection procedure”.)

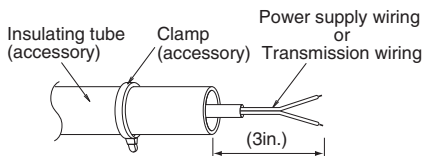
**7-1 Connection example of whole system wiring**



**7-2 Routing power supply wiring and transmission wiring**

Let the power supply wiring with a conduit pass through one of the knockout holes on the front or side cover, and let the transmission wiring with a conduit pass through another knockout hole.

- For protection from uninsulated live parts, thread the power supply wiring or the transmission wiring through the included insulating tube and secure it with the included clamp.



**Precautions when knocking out knock holes**

- To punch the knockout hole, hit it with a hammer.
- After removing the knockout, it is recommended that the edges should be painted to prevent rusting.

**CAUTION**

- Use conduit for both the power supply wiring and transmission wiring.
- Outside the unit, make sure to keep the wirings 5 inches away.  
Otherwise, the outdoor unit may be affected by electrical noise (external noise), and malfunction or fail.
- Be sure to connect the power supply wiring to the terminal block and secure it as described in “7-3 Power supply wiring connection procedure”.
- Fix the wiring between the units in accordance with “7-4 Transmission wiring connection procedure”.
- Secure the wirings with the clamps (accessory) so that do not touch the piping.
- Make sure the wirings will not be pinched by the front panel, and close the panel firmly.
- Route the conduit along the unit by using an elbow socket and so on to prevent it from being stepped on.

**7-3 Power supply wiring connection procedure**

**WARNING**

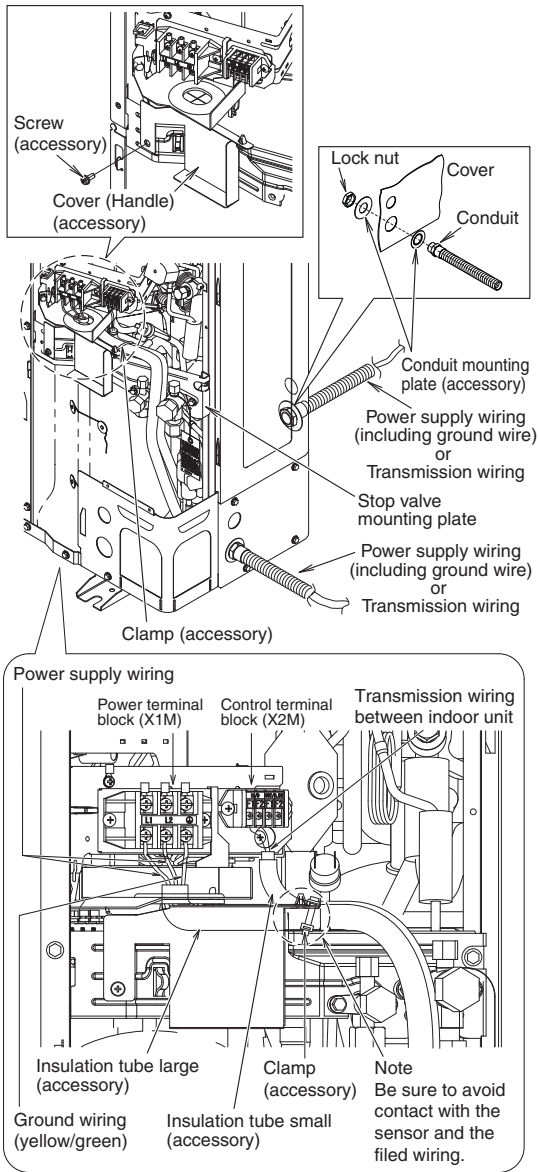
- Never connect power supply wiring to the terminal block for remote controller wiring as this could damage the entire system.

**Install an earth leakage circuit interrupter.**

- It is obliged to install an earth leakage circuit interrupter to prevent electric shock and fire accident.

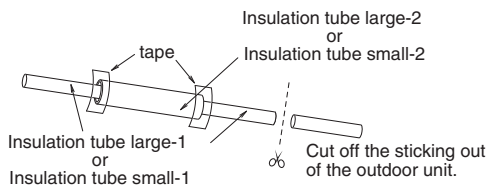
Model	Phase and frequency	Voltage	Max. Overcurrent Protective Device	Min. Circuit Amps.
RZQ18PVJU9	~ 60Hz	208/230V	20A	16.5A
RZQ24PVJU9				





**How to Insulation tube.**

- Use the insulation tube large to cover the power supply wiring.  
Use the insulation tube small to cover the transmission wiring.
- Joint the insulation tube with the tape and cut off the tube sticking out of the outdoor unit.

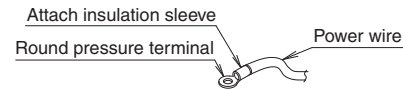


**CAUTION**

- After finishing the electric wiring work, confirm that all the wirings are connected securely.

**«Precautions when laying power wiring»**

- Two electric wires of different thickness cannot be connected to the power terminal block.  
(Slack in the electric wires may generate abnormal heat.)
- Use round pressure terminals with insulating sleeve for connection to the power terminal block.  
If such terminals are not available for unavoidable reasons, connect an electric wire of the same thickness to each side as shown in the figure.



Connect same-thickness wiring to both sides.



It is forbidden to connect two to one side.



It is forbidden to connect wiring of different thicknesses.



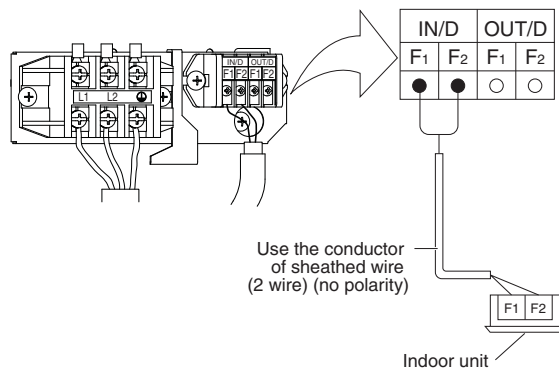
Make sure to observe the following items. If they are not observed, abnormal heat may be generated by slack in electric wires, etc.

- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws.  
A screwdriver with a small head will strip the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.
- See the table below for tightening torque for the terminal screws.

Tightening torque (ft-lbf)		
M5	(Power supply and ground terminal block)	1.76 ~ 2.15
M4	(Shielded ground)	0.87 ~ 1.06
M3.5	(Transmission wiring terminal block)	0.58 ~ 0.72

### 7-4 Transmission wiring connection procedure

- If an excessive force is applied while connecting a cable to the terminal block on the PC board, the PC board may be damaged.



#### CAUTION

- For low-noise operation, it is necessary to install the optional "External control adaptor for outdoor unit". For details, see the installation manual attached to the adaptor.

#### Caution on the wiring length between units

Make sure to observe the restrictions below. If they are not observed, transmission error may occur.

Maximum wiring length: 3280 ft.

#### Cautions on the wiring between units

- Never connect 208/230V to the terminal block for the transmission wiring. Doing so will break the entire system.
- The transmission wiring from the indoor unit must be connected to the F1/F2 (TO IN/D UNIT) terminals on the PC board in the outdoor unit.
- \* Make sure to use sheathed two-core cables of AWG18-16 in the wiring shown above.
- \* All cables used in the wiring between the units should be procured on the site.

## 8. CHECKS AFTER COMPLETION OF WORK

After completing the work, make sure to confirm the following items:

1. Connection of drain piping and removal of transport fittings: Refer to "5. CAUTIONS ON INSTALLATION".
2. Connection of power supply wiring and tightening of screws: Refer to "7-3 Power supply wiring connection procedure".
3. Connection of transmission wiring and tightening of screws: Refer to "7-4 Transmission wiring connection procedure".
4. Freezing connection of refrigerant piping Refer to "6. REFRIGERANT PIPING WORK".

5. Piping size and heat insulation: Refer to "6-1 Selection of piping material", "6-5 Heat insulation of the piping".
6. Check of stop valve: Confirm that the stop valve is open on both the liquid line and gas line.
7. Record of amount of additional refrigerant: Record the amount on the label stuck on the back of the front panel.
8. Measurement of insulation in main power circuit:
  - Use the megatester for 500 V.
  - Do not use any megatester for low voltage electric circuits except 230 V. (Wiring between the outdoor unit and the indoor unit)

#### CAUTION

<To piping technician>

- Make sure to open the stop valve after finishing the piping work. (Operating the air conditioner with the stop valve shut may damage the compressor.)

## 9. TEST OPERATION PROCEDURE

A crankcase heater is mounted for smooth startup. Make sure to turn on the power 6 hours before starting operation for supplying the power to the crankcase heater.

#### WARNING

- Make sure to close the outer panel before leaving the outdoor unit in the power ON status.
- To avoid injury, always make sure that the overcurrent protective device on the power supply panel of the installation is switched off before doing any work.

#### Cautions before turning on the power

- Put the insulating cover securely onto the electric parts box.
- After turning on the power, check the settings and LED indicators on the PC board (A1P) in the outdoor unit through the opening of the insulating cover.

#### 9-1 Power on and check operation

- Make sure to perform the check operation after installation. (If the air conditioner is operated using the indoor remote controller without performing the check operation, the malfunction code "U3" is displayed in the indoor remote controller, and normal operation is disabled.)

- In the check operation, the status of the outdoor unit is checked, and incorrect wiring is checked for.

<p>(1) • Close the outer panel of the outdoor unit.</p> <ul style="list-style-type: none"> <li>• Turn ON the power to the outdoor unit and indoor units.</li> </ul>	<p><b>Caution</b></p> <p>Make sure to turn on the power 6 hours before starting operation for supplying the power to the crankcase heater.</p>																																				
<p>(2) • Open the outer panel of the outdoor unit.</p> <ul style="list-style-type: none"> <li>• Check the LED on the PC board (A1P and A2P) in the outdoor unit to see if the data transmission is performed normally.</li> </ul>	<p>The power is supplied to the outdoor unit.</p> <p>Take due care during the work to prevent electric shock.</p>	<table border="1" style="margin: auto;"> <tr> <td></td> <th colspan="2">A1P</th> <th colspan="7">A2P</th> </tr> <tr> <td rowspan="2" style="text-align: center; vertical-align: middle;">LED display (Default status before delivery)</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">SERVICE MONITOR</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">MODE</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">TEST/HWL</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">IND</td> <td style="text-align: center;">C/H</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">SLAVE</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">L.N.O.P.</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">DEMAND</td> </tr> <tr> <td style="text-align: center;">SELE-CTOR</td> <td style="text-align: center;">MASTER</td> <td style="text-align: center;">H3P</td> <td style="text-align: center;">H4P</td> <td style="text-align: center;">H5P</td> <td style="text-align: center;">H6P</td> <td style="text-align: center;">H7P</td> </tr> <tr> <td style="text-align: center;">One outdoor unit installed</td> <td style="text-align: center;">HAP</td> <td style="text-align: center;">H1P</td> <td style="text-align: center;">H2P</td> <td style="text-align: center;">H3P</td> <td style="text-align: center;">H4P</td> <td style="text-align: center;">H5P</td> <td style="text-align: center;">H6P</td> <td style="text-align: center;">H7P</td> </tr> </table> <p>LED display: ● OFF ○ ON ◐ Blinking</p>		A1P		A2P							LED display (Default status before delivery)	SERVICE MONITOR	MODE	TEST/HWL	IND	C/H	SLAVE	L.N.O.P.	DEMAND	SELE-CTOR	MASTER	H3P	H4P	H5P	H6P	H7P	One outdoor unit installed	HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P
	A1P		A2P																																		
LED display (Default status before delivery)	SERVICE MONITOR	MODE	TEST/HWL	IND	C/H	SLAVE	L.N.O.P.	DEMAND																													
					SELE-CTOR				MASTER	H3P	H4P	H5P	H6P	H7P																							
One outdoor unit installed	HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P																													
<p>(3) • When performing the low-noise operation (L.N.O.P.) or demand (DEMAND) operation upon request from the customer, perform the setting using the pushbutton switches (BS1 to BS5) on the PC board (A2P) in the outdoor unit.</p> <ul style="list-style-type: none"> <li>• Press each pushbutton switch from the opening of the insulation cover. (Do not remove the insulation cover.)</li> </ul>	<ul style="list-style-type: none"> <li>• The power is supplied to the outdoor unit. Take due care during the work to prevent electric shock.</li> <li>• Before using the pushbutton switches (BS1 to BS5) for setting, confirm that the microcomputer (SERVICE) monitor is lit.</li> <li>• For the setting method, refer to the [Service Precautions] label attached on the back of the front panel of the outdoor unit. (Make sure to write the contents of setting on the [Service Precautions] label.)</li> </ul>																																				
<p>(4) Confirm that the shutoff valves are open on both the liquid and gas lines. If they are closed, open them.</p>	<p><b>Caution</b></p> <p>Do not leave any shutoff valve closed. Otherwise the compressor will fail.</p>																																				
<p>(5) Press and hold the test run button (BS4) for 5 seconds or more to start the check operation.</p> <p>For the details, refer to the <b>Check operation method</b> on the [Service Precautions] label.</p>	<ul style="list-style-type: none"> <li>• When leaving the outdoor unit during the check operation for unavoidable reasons, ask another installation worker to watch the outdoor unit, or close the outside panel.</li> <li>• The system operates the check operation for about 15 minutes (30 minutes maximum), then stops automatically.</li> <li>• The system can start normal operation about 5 minutes after the check operation if the remote controller does not display any malfunction code.</li> <li>• During the check operation, the status under execution is indicated on the remote controller.</li> </ul>																																				
<p>(6) After the check operation, make sure to close the outside panel of the outdoor unit.</p>																																					

**<Cautions on check operation>**

- If the air conditioner is started within about 12 minutes after the power of the indoor/outdoor unit is turned on, the H2P indicator lights and the compressor does not run. Confirm that the LED status is as shown in the table in (2) in "9-1 Power on and check operation" before starting the air conditioner.
- The air conditioner may require about 10 minutes maximum until it can start the compressor after start of operation. This period of time is required to homogenize the refrigerant status, and does not indicate any failure.
- The check operation does not provide any means of checking the indoor units individually. For that purpose, perform the normal operation using the remote controller after finishing the check operation.
- The check operation is not available in any other mode such as the recovery mode.
- Before running a check on the unit, changing the indoor remote controller settings might cause the error code "UF" to be displayed and prevent a proper check to be run.

**9-2 Checks in normal operation**

- After finishing the check operation, operate the air conditioner normally. (Heating is not available if the outside air temperature is 75 °F or more. Refer to the operation manual supplied together with the unit.)
- Confirm that the indoor and outdoor units are operating normally. (If a knocking sound is heard in the liquid compression of the compressor, stop the air conditioner immediately and energize the crankcase heater for a sufficient period of time, then start the operation again.)
- Run the indoor unit one by one in turn, and confirm that the corresponding outdoor unit is running.
- Check to see if cold (or hot) air is coming out of the indoor unit.
- Press the fan direction button and fan speed control button on the remote controller to see if the fan is operating normally.

**<Cautions for normal operation check>**

- Once stopped, the compressor will not start for about 5 minutes even if the "ON/OFF" button on the remote controller is pressed.
- When the system operation is stopped by the remote control, the outdoor units may continue to operate for a further 3 minutes.
- If the system has not undergone the check operation by the test operation button since it was first installed, a malfunction code "U3" is displayed. In this case, perform the check operation by referring to "9-1 Power on and check operation".

**When a malfunction code is displayed in the remote controller**

(Check a malfunction code in the remote controller connected to the indoor unit.)

Malfunction code	Cause	Solution
E3	The stop valves in the outdoor unit remain closed.	Open the stop valve on both the gas and liquid lines.
	The refrigerant is overcharged.	Calculate again the required amount of refrigerant to be charged based on the piping length, recover the refrigerant using the refrigerant recovery device, then achieve proper amount of refrigerant.
E4 F3	The stop valves in the outdoor unit remain closed.	Open the stop valve on both the gas side and liquid side.
	The operation mode on the remote controller was changed before the check operation.	Set the operation mode on all indoor unit remote controllers to "cooling."
	The refrigerant is insufficient.	<ul style="list-style-type: none"> <li>Check whether additional refrigerant charge has been finished correctly.</li> <li>Calculate again the required amount of refrigerant to be charged based on the piping length, then charge additionally proper amount of refrigerant.</li> </ul>
F6	The refrigerant is overcharged.	Calculate again the required amount of refrigerant to be charged based on the piping length, recover the refrigerant using the refrigerant recovery device, then achieve proper amount of refrigerant.
U3	The check operation has not performed.	Perform the check operation.
U4	The power is not supplied to the outdoor unit.	Connect correctly the power supply wiring of the outdoor unit.
UA	Improper type of indoor unit is connected.	Check the type of indoor unit currently connected. If it is not proper, replace it with proper one.
UF	The stop valves in the outdoor unit remain closed.	Open the stop valve on both the gas and liquid lines.
	The piping and wiring of the indoor unit are not connected correctly to the outdoor unit.	Confirm that the piping and wiring of the indoor unit are connected correctly to the outdoor unit.
	The operation mode on the remote controller was changed before the check operation.	Set the operation mode on indoor unit remote controller to "cooling."
UH	The transmission wiring is not connected correctly.	Connect correctly the transmission wiring to the F1 and F2 (TO IN/D UNIT) terminals on the PC board (A1P) in the outdoor unit.

**When nothing is displayed in the remote controller**

- There might be a problem with the connection or transmission between the indoor unit and the remote controller. Check connections, and check for wire breakage.

---

**⚠ CAUTION**


---

<To piping technician>

<To electrician>

- After finishing the test operation and before using the unit by customer, confirm that the outside panels and screws are attached securely to the units.**
- 

**10. CAUTION FOR REFRIGERANT LEAKS**


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**⚠ DANGER**


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- Refrigerant gas is heavier than air and replaces oxygen. A massive leak could lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.
- 

**(Points to note in connection with refrigerant leaks)****Introduction**

**The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.**

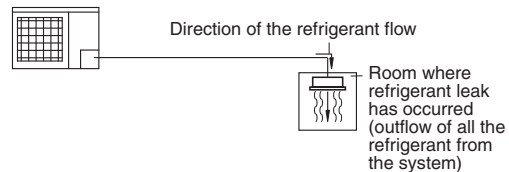
The Split System, like other air conditioning systems, uses R410A as refrigerant. R410A itself is an entirely safe non-toxic, non-combustible refrigerant. Nevertheless care must be taken to ensure that air conditioning facilities are installed in a room which is sufficiently large. This assures that the maximum concentration level of refrigerant gas is not exceeded, in the unlikely event of major leak in the system and this in accordance to the local applicable regulations and standards.

**Maximum concentration level**

The maximum charge of refrigerant and the calculation of the maximum concentration of refrigerant is directly related to the humanly occupied space in to which it could leak.

The unit of measurement of the concentration is lb./ft<sup>3</sup> ( the weight in lb. of the refrigerant gas in 1ft<sup>3</sup> volume of the occupied space).

Compliance to the local applicable regulations and standards for the maximum allowable concentration level is required.



Pay a special attention to the place, such as a basement, etc. where refrigerant can stay, since refrigerant is heavier than air.

**Procedure for checking maximum concentration**

Check the maximum concentration level in accordance with steps 1 to 4 below and take whatever action is necessary to comply.

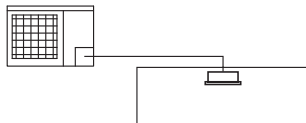
1. Calculate the amount of refrigerant (lb.) charged to each system separately.

$$\begin{array}{l} \text{amount of refrigerant in the unit} \\ \text{(amount of refrigerant with which the system is charged before leaving the factory)} \end{array} + \begin{array}{l} \text{additional charging amount (amount of refrigerant added locally in accordance with the length or diameter of the refrigerant piping and type of indoor unit)} \end{array} = \begin{array}{l} \text{total amount of refrigerant (lb.) in the system} \end{array}$$

**NOTE**

- Where a single refrigerant facility is divided into 2 entirely independent refrigerant systems then use the amount of refrigerant with which each separate system is charged.

2. Calculate a room volume (ft<sup>3</sup>)



3. Calculate the refrigerant concentration by using the results of the calculations in steps 1 and 2 above.

$$\frac{\text{total amount of refrigerant in the system}}{\text{volume (ft}^3\text{) of the room in which there is an indoor unit installed}} \leq \text{maximum concentration level (lb./ft}^3\text{)}$$

4. Deal with the situations where the result exceeds the maximum concentration level.  
Where the installation of a facility results in a concentration in excess of the maximum concentration level then it will be necessary to revise the system.  
Please consult your dealer.

# Part 3

## Detail information of options

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2.3 KPT-60B160 — Fixture for preventing overturning .....	65

**3**

# 1. Accessories

## 1.1 Indoor unit

### 1.1.1 FTQ

#### Optional accessories (For unit)

No	Item	Model	FTQ18PAVJU	FTQ24PAVJU
1	Air filter		FIL 48-61	
2	Insulation kit (Vertical installation)		DPI 48-60/20	
3	Insulation kit (Horizontal installation)		DPIH 48-61	
4	Electric heater kit		HKR-03, HKR-05C, HKR-06, HKR-08C, HKR-10C, HKR-15C, HKR-20C. • HKR-**C has circuit breaker. • For details, see below table.	

Model name	Electric Heater Capacity						
	HKR-03	HKR-05C	HKR-06	HKR-08C	HKR-10C	HKR-15C	HKR-20C
FTQ18PAVJU	◎	○	○	×	×	×	×
FTQ24PAVJU	◎	○	○	○	○	×	×

◎: Electric heater operation with heat pump is allowed.

○: Only electric heater operation is allowed.

×: Not allowed.

C: 3D068224A

Optional accessories (For controls) : Refer to *Controls* manual booklet of “Courtrs”.

## 1.2 Outdoor unit

### 1.2.1 RZQ

#### Optional accessories

Item	Model	RZQ18PVJU9	RZQ24PVJU9
Central drain plug		KKPJ5F180	
Fixture for preventing overturning		KPT-60B160	
Wire fixture for preventing overturning		K-KYZP15C	
Low Ambient Wind Baffle		KPW5E80	

C: 3D047388B

## 2. RZQ

### 2.1 KKPJ5F180 — Central drain plug

KKPJ5F180

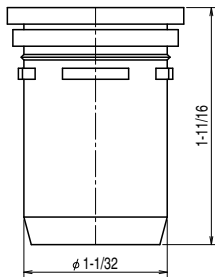
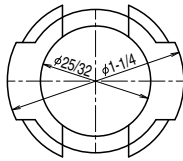


Model		KKPJ5F180
Item	in.	
Connecting drain hose		φ31/32 (inside diameter)

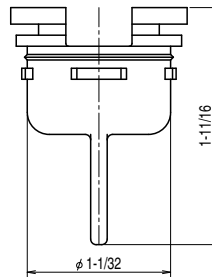
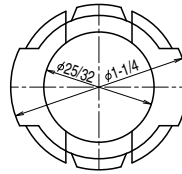
#### Dimensions

Unit:in.

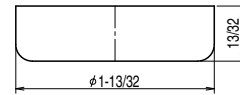
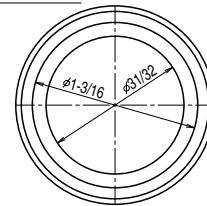
Drain socket



Drain cap



Drain receiver



JC : D3K1342A

3



## Installation

**DAIKIN** Air Conditioners

## Central Drain Plug Installation Manual

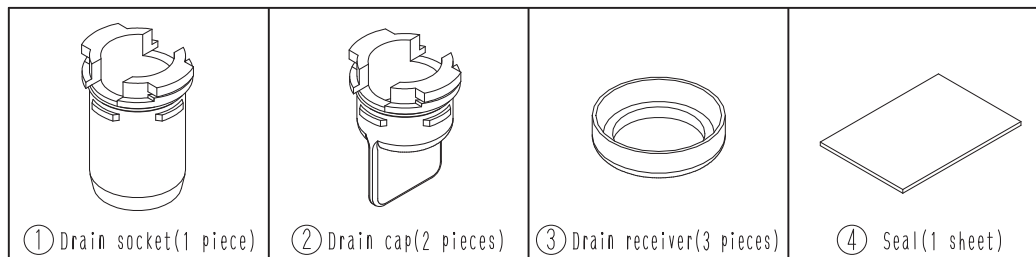
3P066795-1B

&lt;KKPJ5F180&gt;

■ Use this plug to connect a drain hose to dispose the drain from the outdoor unit.

## 1 Before Installation

Check that this Kit contains the following parts.

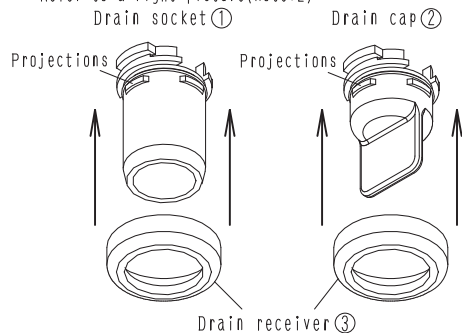


## 2 Installation Procedure

• Please refer to the installation manual of outdoor unit.

1. Insert drain receiver③ onto drain socket① and drain cap② beyond 4 projections around drain socket and drain cap.

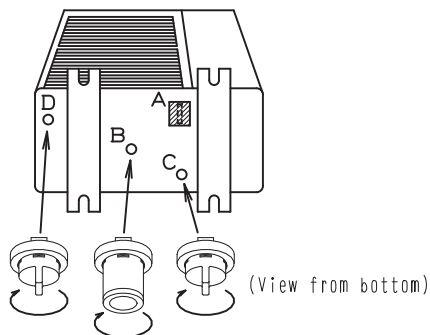
Refer to a right picture(Note:2)



2. Insert drain socket and drain caps into their matching drain hole; Drain socket① into drain hole B and drain caps② into drain hole C and D. After insertion, turn them about 40° clockwise.

### Note:1

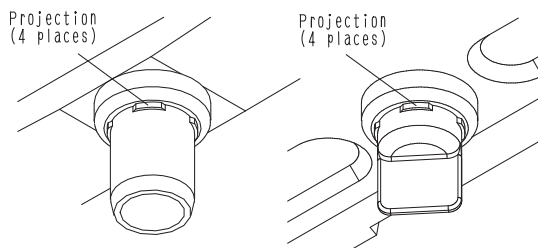
Never insert them into the wrong drain holes as it will cause water leakage.



### Note:2

Please check whether drain receiver③ is caught in four projections of drain socket① and drain cap② correctly.

Failure to attach them correctly will result in leakage.



3. Connect vinyl hose on the market (internal diameter of 3/16 inches) to drain socket①. If the hose is too long and hangs down, arrange it carefully to prevent kinks.
4. Affix seals④ to part A as shown in the bottom left drawing. (This instruction does not apply to models that do not include the opening at A.)
5. After join drain socket① and drain cap②, check if there is a leak at A or other areas by pouring in water to test operation.

### Note:3

1. If the drain holes of the outdoor unit are covered with the mounting bracket or the floor, raise the unit to provide the space of more than 3-15/16 inches under the leg of the outdoor unit.
2. Do not use this option in cold climates. At the bottom, drained water can freeze.

## 2.2 K-KYZP15C — Wire fixture for preventing overturning

K-KYZP15C



Item Model	K-KYZP15C
Accessories	Adjustor pin: 1 piece Bolt, nut, plain washer: 1 set Installation manual.

**Dimensions** Unit:in.

**Attachment Plate (1)**

**Wire rope**  
(SUSφ3/32in.x65-5/8ft.)

**Attachment Plate (2)**

**Gripper**

J: D3K2523

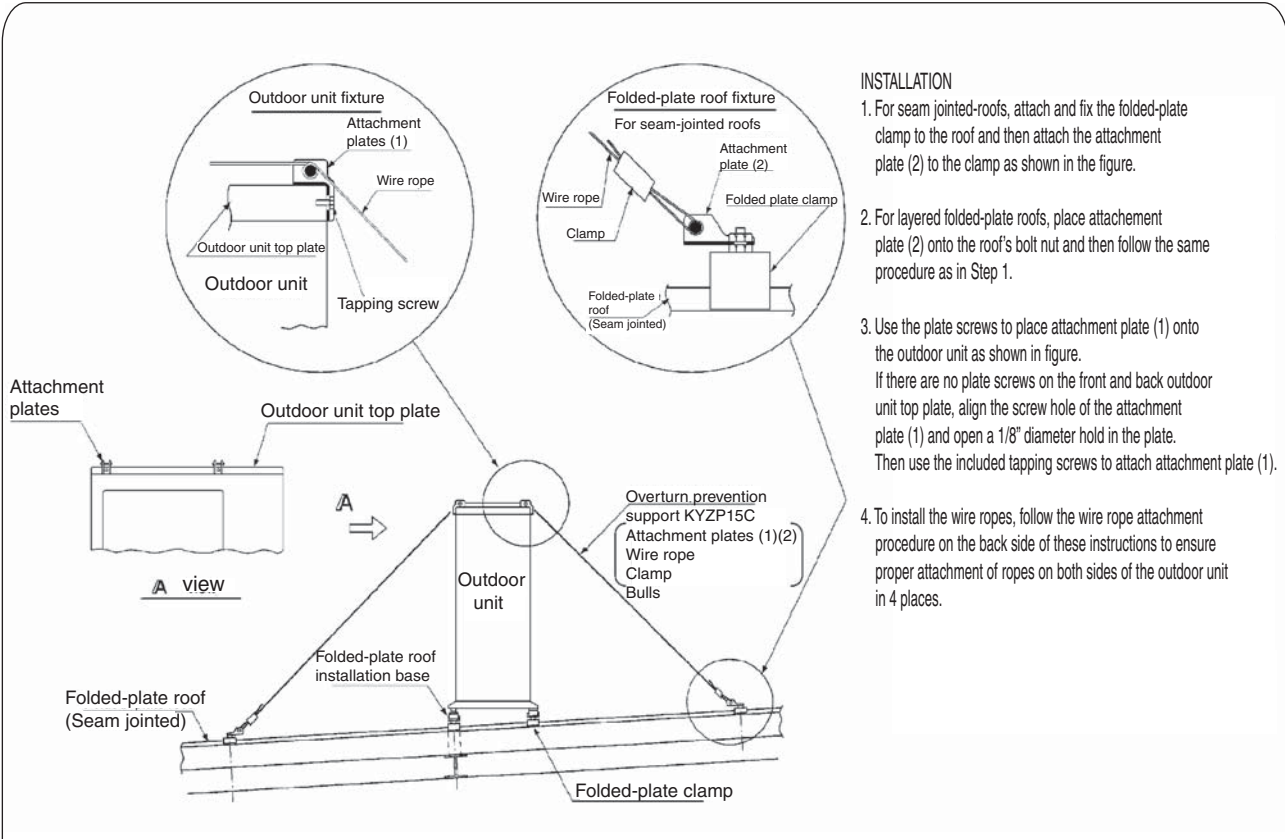
3

**Parts**

Part	Attachment plate (1)	Attachment plate (2)	Wire rope	Gripper	Adjustor pin	Hexagonal Bolt	Hexagonal Nut	Plain washer	Tapping screw
Shape									
K-KYZP15C	4	4	1 roll	4	1	M10×25	M8-10 W <sup>5/16</sup> · <sup>3/8</sup>	for M8· 10	M5×12
						4	4 each	4 each	4

C : 3K07319A

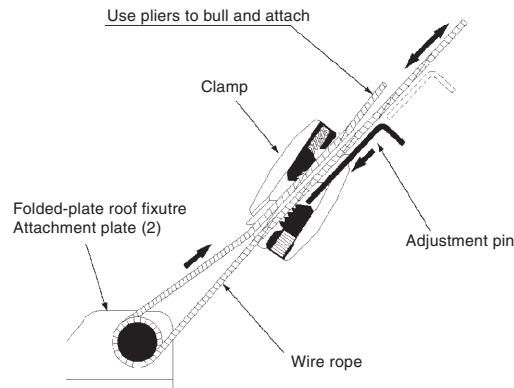
Installation



INSTALLATION

1. For seam jointed-roofs, attach and fix the folded-plate clamp to the roof and then attach the attachment plate (2) to the clamp as shown in the figure.
2. For layered folded-plate roofs, place attachment plate (2) onto the roof's bolt nut and then follow the same procedure as in Step 1.
3. Use the plate screws to place attachment plate (1) onto the outdoor unit as shown in figure. If there are no plate screws on the front and back outdoor unit top plate, align the screw hole of the attachment plate (1) and open a 1/8" diameter hold in the plate. Then use the included tapping screws to attach attachment plate (1).
4. To install the wire ropes, follow the wire rope attachment procedure on the back side of these instructions to ensure proper attachment of ropes on both sides of the outdoor unit in 4 places.

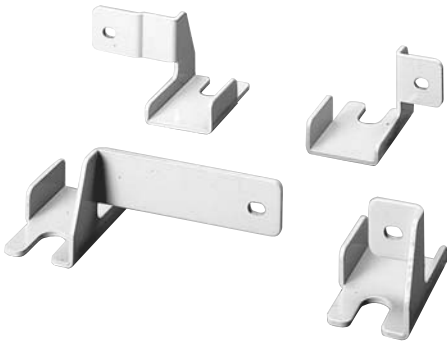
Wire rope attachment procedure



C : 3K07319A

### 2.3 KPT-60B160 — Fixture for preventing overturning

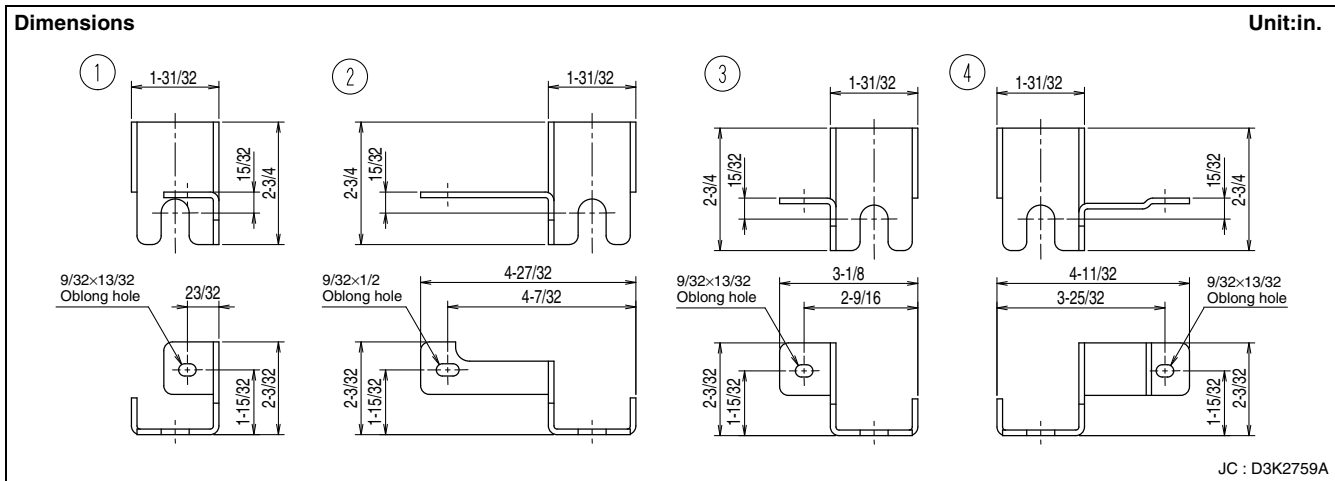
KPT-60B160



Item	Model	KPT-60B160
Material		Steel plate (t 1/8 in.)
Colour		Ivory white
Accessories		Screw : 4 Installation manual.

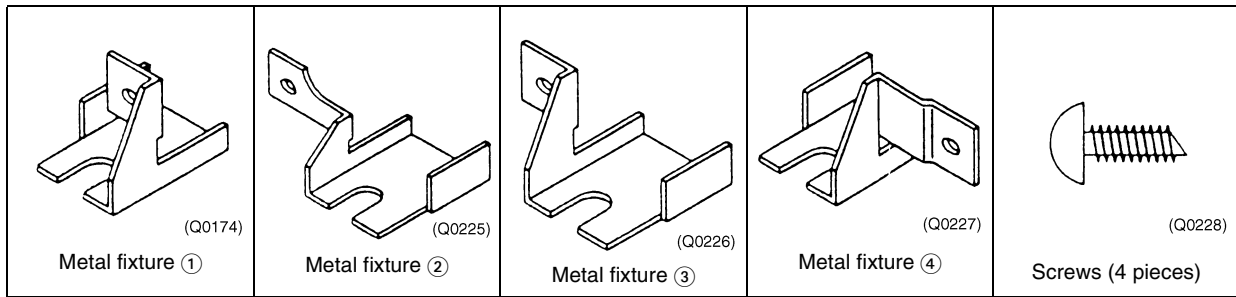
- Allows the outdoor unit to be secured to the foundation.  
→ Prevents tipping of the outdoor unit due to strong gusts.
- Useful for locations where anti-tipping wires (Locally procured) cannot be installed.

3



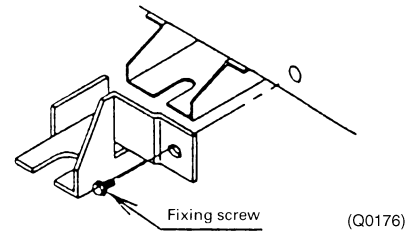
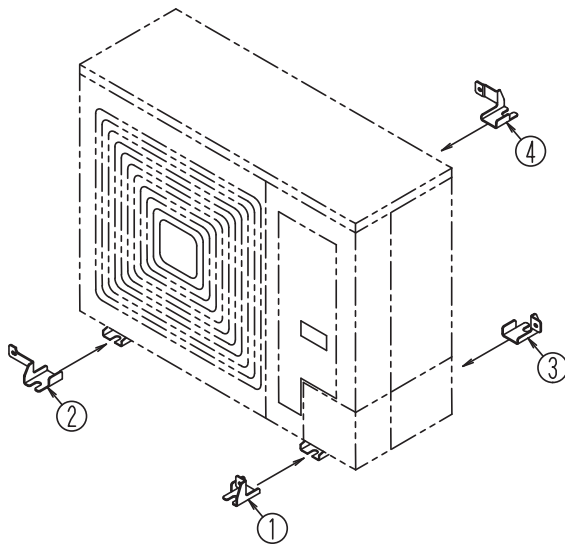
## Installation

### (1) Check that this kit contains the following parts.



### (2) Installation Procedure

1. Install the metal fixtures ① ~ ④ to the base legs as shown below.
2. Remove the screw from the casing and fix the metal fixture to the casing.

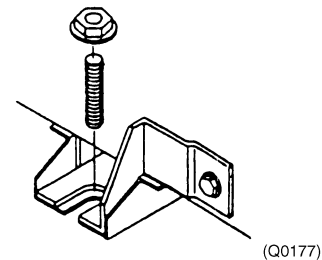


#### Note:

When you install the metal fixtures ①, ③ and ④, fix the metal fixture through the casing by the screws M5×13 attached.

When you install the metal fixture ②, fix the metal fixture through the casing by the screw M5×13 attached. However, remove the screw on the casing, if the screw of the casing will contact with metal fixture.

3. Fix the metal fixtures firmly by the anchor bolts. (The anchor bolts, nuts and washers should be M12 type sold on the market.)



J: 3K07893

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JMI-0107



JQA-1452

About ISO 9001

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

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 program of environmental protection procedures and activities to meet the requirements of ISO 14001.

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