

# Refrigerant R410A

# SPLIT TYPE ROOM AIR CONDITIONER INSTALLATION INSTRUCTION SHEET

(PART NO. 9359992059)

<b>WARNING</b>	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
<b>CAUTION</b>	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

## This air conditioner uses new refrigerant HFC (R410A).

- The basic installation work procedures are the same as conventional refrigerant (R22) models. However, pay careful attention to the following points:
- Since the working pressure is 1.6 times higher than that of conventional refrigerant (R22) models, some of the piping and installation and service tools are special. (See the table below.) Especially, when replacing a conventional refrigerant (R22) model with a new refrigerant R410A model, always replace the conventional piping and flare nuts with the R410A piping and flare nuts.
  - Models that use refrigerant R410A have a different charging port thread diameter to prevent erroneous charging with conventional refrigerant (R22) and for safety. Therefore, check beforehand. (The charging port thread diameter for R410A is 1/2 UNF 20 threads per inch.)
  - Be more careful that foreign matter (oil, water, etc.) does not enter the piping than with refrigerant (R22) models. Also, when storing the piping, securely seal the openings by pinching, taping, etc.
  - When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose composition is stable.

### Special tools for R410A

Tool name	Contents of change
Gauge manifold	Pressure is high and cannot be measured with a conventional gauge. To prevent erroneous mixing of other refrigerants, the diameter of each port has been changed. It is recommended the gauge with seals -0.1 to 5.3 MPa (-76 cmHg to 53 kgf/cm <sup>2</sup> ) for high pressure. -0.1 to 3.8 MPa (-76 cmHg to 38 kgf/cm <sup>2</sup> ) for low pressure.
Charge hose	To increase pressure resistance, the hose material and base size were changed.
Vacuum pump	A conventional vacuum pump can be used by installing a vacuum pump adapter.
Gas leakage detector	Special gas leakage detector for HFC refrigerant R410A.

### Copper pipes

It is necessary to use seamless copper pipes and it is desirable that the amount of residual oil is less than 40 mg/10 m. Do not use copper pipes having a collapsed, deformed or discolored portion (especially on the interior surface). Otherwise, the expansion valve or capillary tube may become blocked with contaminants. As an air conditioner using R410A incurs pressure higher than when using R22, it is necessary to choose adequate materials. Thicknesses of copper pipes used with R410A are as shown in Table 1. Never use copper pipes thinner than 0.8 mm (Nominal diameter is 1/4 in., 1/2 in.), even when it is available on the market.

Table 1 Thicknesses of Annealed Copper Pipes

Nominal diameter (inch)	Outer diameter (mm)	Thickness (mm)	
		R410A	[ref.] R22
1/4	6.35	0.80	0.80
1/2	12.70	0.80	0.80

### For authorized service personnel only.

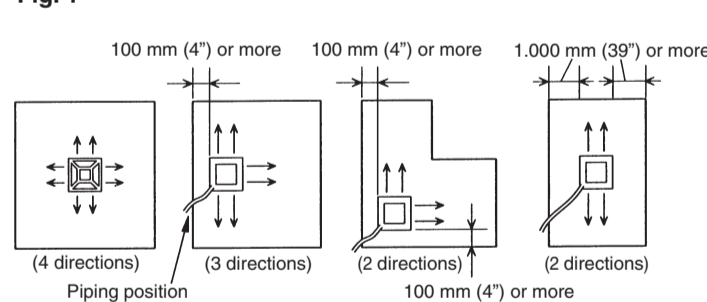
- WARNING**
- For the room air conditioner to operate satisfactorily, install it as outlined in this installation instruction sheet.
  - Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available from our standards parts. This installation instruction sheet describes the correct connections using the installation set available from our standard parts.
  - Installation work must be performed in accordance with national wiring standards by authorized personnel only.
  - Do not turn on the power until all installation work is complete.
- Be careful not to scratch the air conditioner when handling it.
  - After installation, explain correct operation to the customer, using the operating manual.
  - Let the customer keep this installation instruction sheet because it is used when the air conditioner is serviced or moved.

## SELECTING THE MOUNTING POSITION

Especially, the installation place is very important for the split type air conditioner because it is very difficult to move from place after the first installation.

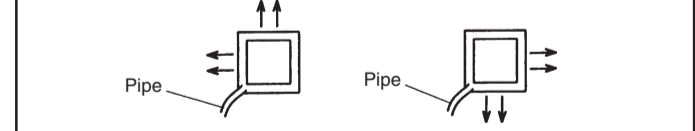
Decide the mounting position together with the customer as shown below. The discharge direction can be selected as shown below.

Fig. 1



### CAUTION

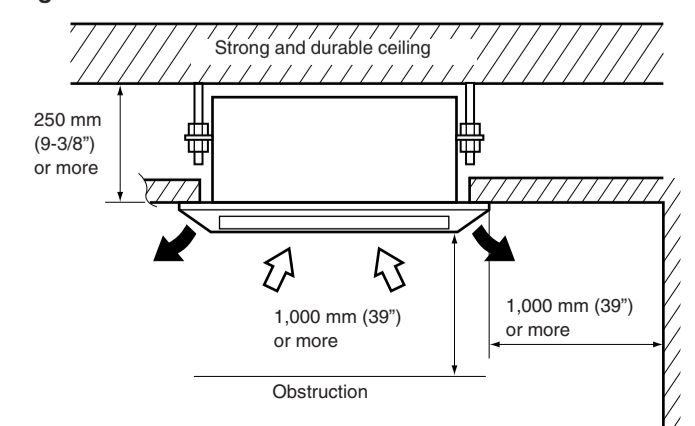
Since 2-way outlet as shown below causes performance problems, do not set it.



## INDOOR UNIT

- Install the indoor unit on a place having a sufficient strength so that it withstands against the weight of the indoor unit.
- The inlet and outlet ports should not be obstructed; the air should be able to blow all over the room.
- Leave the space required to service the air conditioner. (Fig. 2)
- The ceiling rear height is 250 mm (9-3/8") or more.
- A place from where the air can be distributed evenly throughout the room by the unit.
- A place from where drainage can be extracted outdoors easily.

Fig. 2

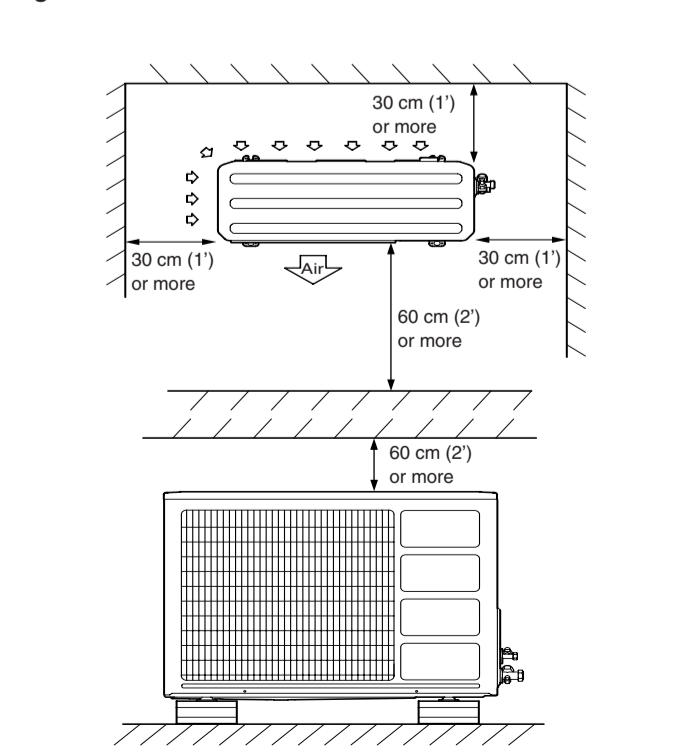


## OUTDOOR UNIT

- WARNING**
- Install the unit where it will not be tilted by more than 5°.
  - When installing the outdoor unit where it may be exposed to strong wind, fasten it securely.

- If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)
- Install the outdoor unit in a place where it will be free from being dirty or getting wet by rain as much as possible.
- Install the unit when connection to the indoor unit is easy.
- Do not place animals and plants in the path of the warm air.
- Take the air conditioner weight into account and select a place where noise and vibration are small.
- Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.
- Provide the space shown in Fig. 3 so that the air flow is not blocked. Also for efficient operation, leave open three of the four directions front, rear, and both sides.
- During heating operation, drain water flows from the outdoor unit. Therefore, install the outdoor unit in a place where the drain water flow will not be obstructed. (Reverse cycle model only)

Fig. 3



## STANDARD PARTS

The following installation parts are furnished. Use them as required.

Name and Shape	Qty	Application
Coupler heat insulation	2	For indoor side pipe joint
Special nut A (large flange)	4	For installing indoor unit
Special nut B (small flange)	4	For installing indoor unit
Template	1	For ceiling hole cutting
Remote control unit	1	Use for air conditioner operation
Battery (penlight)	2	For remote control unit
Remote control unit holder	1	For mounting the remote control unit
Tapping screw (ø3 x 12)	2	For remote control unit holder installation

## OUTDOOR UNIT ACCESSORIES

Name and Shape	Qty	Application
Drain pipe	1	For outdoor unit drain piping work (Heat & Cool model only)
Drain cap	1	

## GRILLE ACCESSORIES

Name and Shape	Qty	Application
Bolt	4	For mounting grille
Washer	4	For mounting grille
Blower cover insulation	2	For discharged air

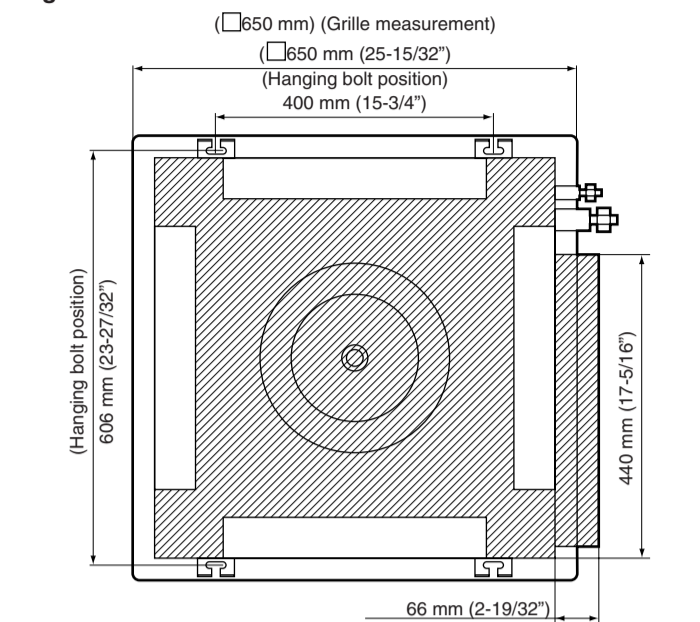
## INSTALLATION PROCEDURE

Install the room air conditioner as follows:

## 1 INDOOR UNIT INSTALLATION

- Position the ceiling hole and hanging bolts as shown in Fig. 4.

Fig. 4



## 2. Hanging preparations

Firmly fasten the hanging bolts as shown in Fig. 5 or by another method.

Fig. 5

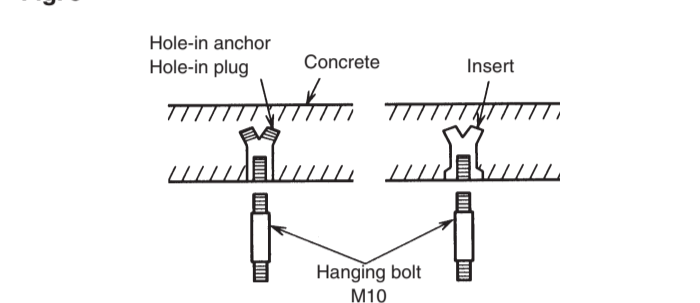
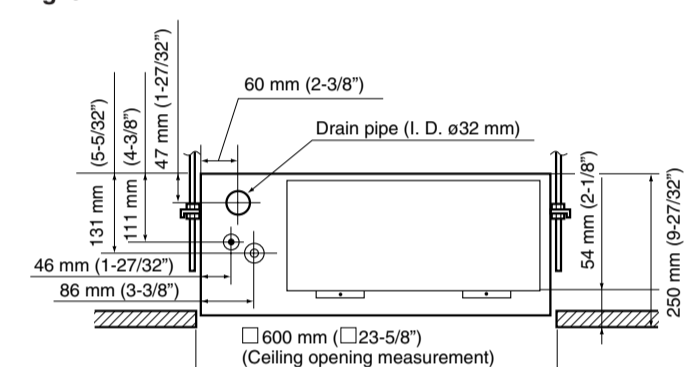


Fig. 6



## 3. Body installation

- Install special nut A, then special nut B onto the hanging bolt. (Fig. 7)
- Raise the body and mount its hooks onto the hanging bolt between the special nuts. (Fig. 7)
- Turn special nut B to adjust the height of the body. (Fig. 7)
- Leveling

Using a level, or vinyl hose filled with water, fine adjust so that the body is level.

### WARNING

Perform final tightening by tightening the double nut firmly.

Fig. 7

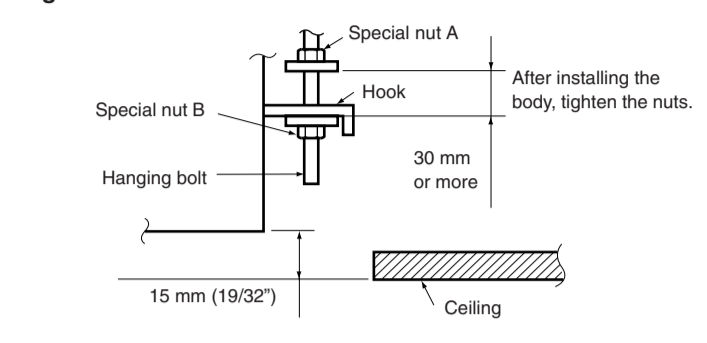
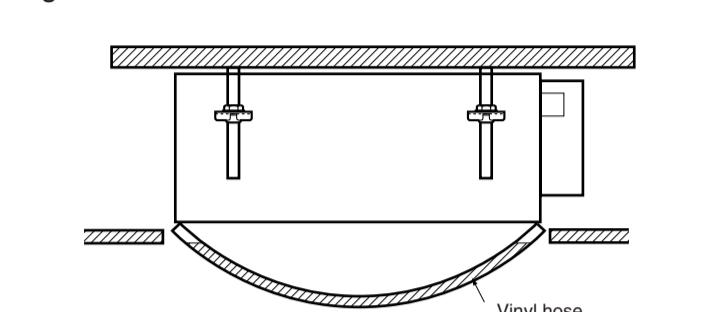


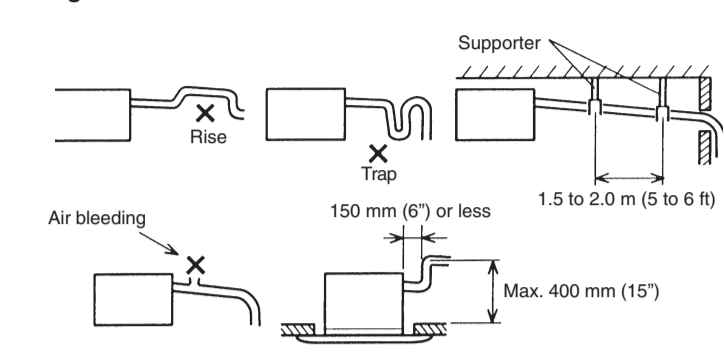
Fig. 8



## 2 INSTALLING DRAIN PIPE

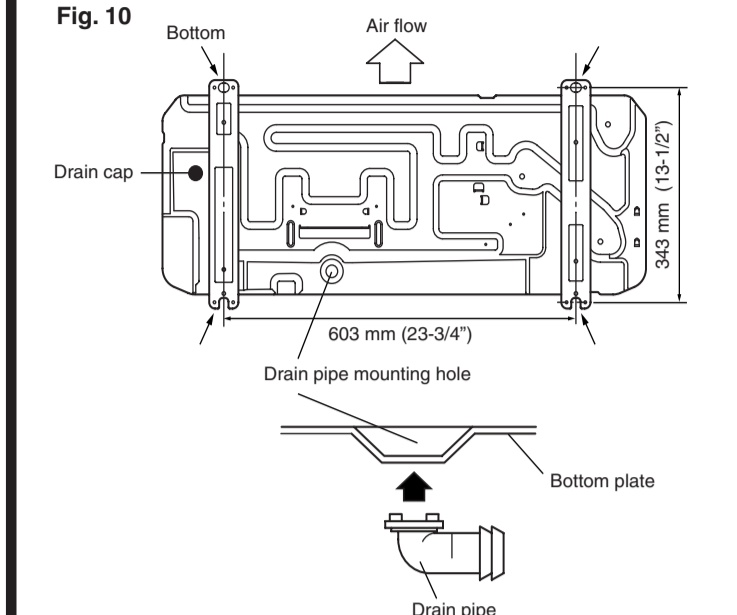
- Note: Install the drain pipe.**
- Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
  - Use general hard polyvinyl chloride pipe (VP25) (outside diameter 32 mm (1-1/4")) and connect it with adhesive (polyvinyl chloride) so that there is no leakage.
  - When the pipe is long, install supporters.
  - Do not perform air bleeding.
  - Always heat insulate the indoor side of the drain pipe.
  - When desiring a high drain pipe height, raise it up to 400 mm (15") or less from the ceiling within a range of 150 mm (6") from the body. A rise dimension over this range will cause leakage.

Fig. 9



## 3 OUTDOOR UNIT INSTALLATION

- When the outdoor unit will be exposed to strong wind, fasten it with bolts at the places indicated by the arrows. (Fig. 10)
- Since the drain water flows out of the outdoor unit during heating operation, install the drain pipe and connect it to an commercial 16 mm hose.
- When installing the drain pipe, plug all the holes other than the drain pipe mounting hole in the bottom of the outdoor unit with putty so there is no water leakage. (Fig. 10)



**NOTE:** Installation in cold regions. Do not use the accessory drain pipe. (If the drain pipe is used, the drain water in the pipe may freeze in extremely cold weather.)

## CONNECTION PIPE REQUIREMENT

Diameter		Maximum length	Maximum Height (between indoor and outdoor)
Small	Large		
6.35 mm (1/4 in.)	12.7 mm (1/2 in.)	20 m (66 ft)	8 m (26 ft)

- Use pipe with water-resistant heat insulation.

### CAUTION

Install heat insulation around both the gas and liquid pipes. Failure to do so may cause water leaks. Use heat insulation with heat resistance above 120 °C. (Reverse cycle model only) In addition, if the humidity level at the installation location of the refrigerant piping is expected to exceed 70%, install heat insulation around the refrigerant piping. If the expected humidity level is 70-80%, use heat insulation that is 15 mm or thicker and if the expected humidity exceeds 80%, use heat insulation that is 20 mm or thicker. If heat insulation is used that is not as thick as specified, condensation may form on the surface of the insulation. In addition, use heat insulation with heat conductivity of 0.045 W/(m-K) or less (at 20 °C).

## ELECTRICAL REQUIREMENT

- Electric wire size and fuse capacity:

Power cord (mm <sup>2</sup> )	18,000 BTU/h class	
	MAX.	MIN.
Connection cord (mm <sup>2</sup> )	MAX. 2.5	MIN. 1.5
Fuse capacity (A)	20	

- Always use H07RN-F or equivalent to the connection cord.
- Install the circuit breaker nearby the units. (Both indoor unit and outdoor unit)

## 4 CONNECTING THE PIPING

### WARNING

Do not use the existing (for R22) piping and flare nuts. If the existing materials are used, the pressure inside the refrigerant cycle will rise and cause breakage, injury, etc. (Use the special R410A materials.)

### CAUTION

- Do not use mineral oil on flared part. Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
- While welding the pipes, be sure to blow dry nitrogen gas through them.
- The maximum lengths of this product are shown in table 2. If the units are further apart than this, correct operation cannot be guaranteed.

### 1. FLARING

- Cut the connection pipe to the necessary length with a pipe cutter.
- Hold the pipe downward so that cuttings will not enter the pipe and remove the burrs.
- Insert the flare nut (always use the flare nut attached to the indoor and outdoor units respectively) onto the pipe and perform the flare processing with a flare tool. Use the special R410A flare tool, or the conventional (for R22) flare tool. When using the conventional flare tool, always use an allowance adjustment gauge and secure the A dimension shown in table 4.

Fig. 11

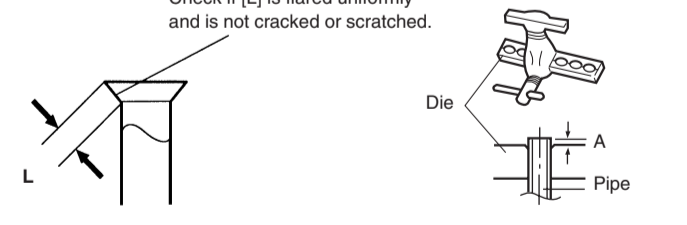


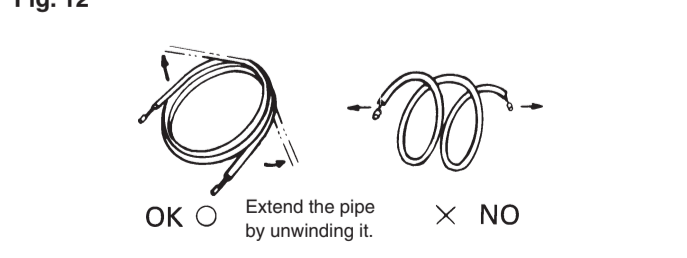
Table 4 Pipe outside diameter

Pipe outside diameter	A (mm)		
	Flare tool for R410A, clutch type	Conventional (R22) flare tool Clutch type	Wing nut type
6.35 mm (1/4 in.)	0 to 0.5	1.0 to 1.5	1.5 to 2.0
12.7 mm (1/2 in.)	0 to 0.5	1.0 to 1.5	2.0 to 2.5

### 2. Bending pipes

The pipes are snapped by your hands. Be careful not to collapse them.

Fig. 12



Do not bend the pipes in an angle more than 90°. When pipes are repeatedly bent or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.

- When bending the pipe, do not bend it as is. The pipe will be collapsed. In this case, cut the heat insulating pipe with a sharp cutter as shown in Fig. 13, and bend it after exposing the pipe. After bending the pipe as you want, be sure to put the heat insulating pipe back on the pipe, and secure it with tape.

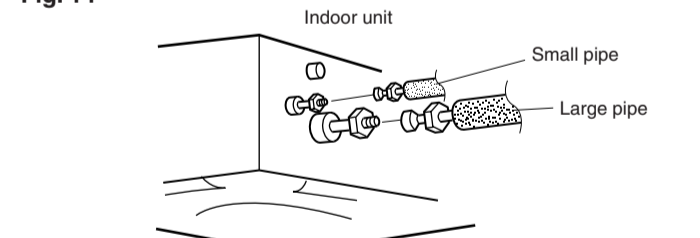
### CAUTION

- To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 150 mm or over.
- If the pipe is bent repeatedly at the same place, it will break.

### 3. Connection pipes

(1) Indoor unit side

Fig. 14



### CAUTION

- Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.
- Do not remove the flare nut from the indoor unit pipe unit immediately before connecting the connection pipe.

When the flare nut is tightened properly by your hand, hold the body side coupling with a separate spanner, then tighten with a torque wrench. (Fig. 15)

Fig. 15

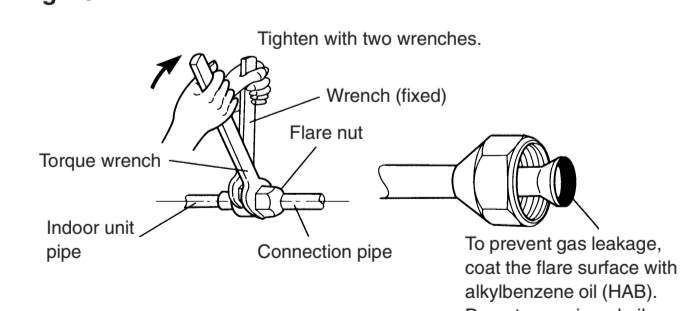


Table 5 Flare nut tightening torque

Flare nut	Tightening torque
Small pipe (6.35 mm dia.)	14 to 18 N·m (140 to 180 kgf·cm)
Large pipe (12.7 mm dia.)	50 to 62 N·m (500 to 620 kgf·cm)

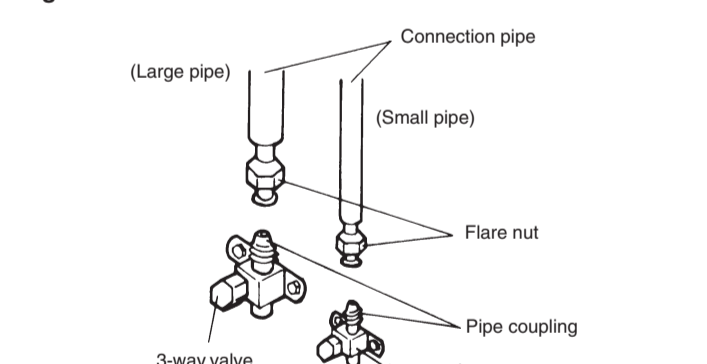
### CAUTION

Be sure to connect the large pipe after connecting the small pipe completely.

(2) Outdoor unit side

Tighten the flare nut of the connection pipe at the outdoor unit valve connector. The tightening method is the same as that at the indoor side.

Fig. 16



## 5 VACUUM PROCESS

### CAUTION

- Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for air purging!
- Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.

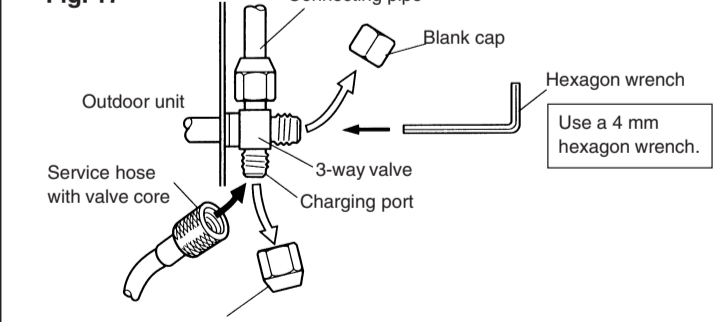
### 1. VACUUM

- Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve by the service hoses.
- Vacuum the indoor unit and the connecting pipes until the pressure gauge indicates -0.1 MPa (-76 cmHg).
- When -0.1 MPa (-76 cmHg) is reached, operate the vacuum pump for at least 15 minutes.
- Disconnect the service hoses and fit the cap to the charging valve to the specified torque.
- Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench (Torque : 6 to 7 N·m (60 to 70 kgf·cm)).
- Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque.

Table 6

	Tightening torque
Blank cap (2-way valve)	20 to 25 N·m (200 to 250 kgf·cm)
Blank cap (3-way valve)	25 to 30 N·m (250 to 300 kgf·cm)
Charging port cap	10 to 12 N·m (100 to 120 kgf·cm)

Fig. 17



### 2. Additional charge

Refrigerant suitable for a piping length of 7.5 m is charged in the outdoor unit at the factory. When the piping is longer than 7.5 m, additional charging is necessary. For the additional amount, see the table below.

Table 7

Pipe length	Additional refrigerant			
	7.5 m (25 ft)	10 m (33 ft)	15 m (49 ft)	20 m (66 ft)
	None	50 g (1.8 oz)	150 g (5.3 oz)	250 g (8.8 oz)
				20 g/m (0.71 oz/3.3 ft)

Between 7.5 m and 20 m, when using a connection pipe other than that in the table, charge additional refrigerant with 20 g (0.71 oz) / 1 m (3.3 ft) as the criteria.

### CAUTION

- When moving and installing the air conditioner, do not mix gas other than the specified refrigerant (R410A) inside the refrigerant cycle.
- When charging the refrigerant R410A, always use an electronic balance for refrigerant charging (to measure the refrigerant by weight).
- When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose composition is stable.
- Add refrigerant from the charging valve after the completion of the work.
- If the units are further apart than the maximum pipe length, correct operation cannot be guaranteed.

### 3. GAS LEAKAGE INSPECTION

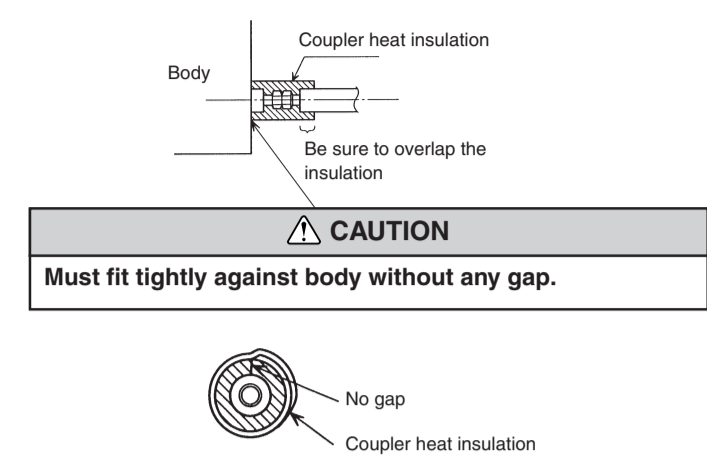
### CAUTION

After connecting the piping, check the joints for gas leakage with gas leak detector.

## 6 INSTALLING THE COUPLER HEAT INSULATION

After checking for gas leaks, insulate by wrapping insulation around the two parts (large and small) of the indoor unit coupling, using the coupler heat insulation.

Fig. 18



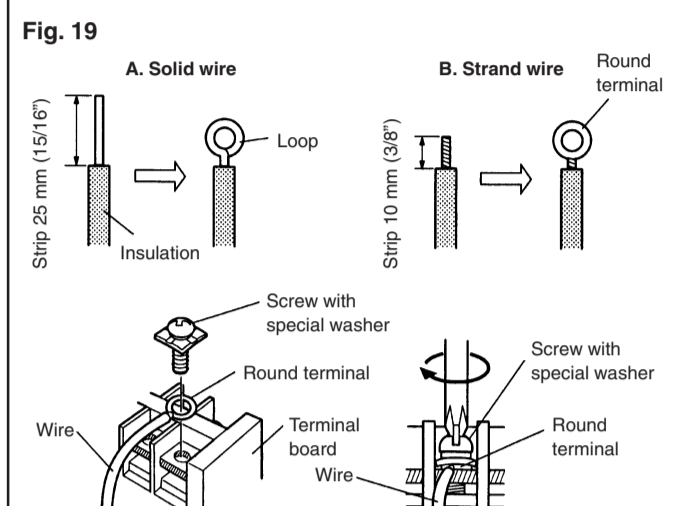
**CAUTION**  
Must fit tightly against body without any gap.



## 7 ELECTRICAL WIRING

### HOW TO CONNECT WIRING TO THE TERMINALS

- A. For solid core wiring (or F-cable)**
- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 25 mm (1 5/16") of expose the solid wire.
  - (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
  - (3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
  - (4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.
- B. For strand wiring**
- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 10 mm (3/8") of expose the strand wiring.
  - (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
  - (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
  - (4) Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver.



### 1. Indoor unit side

- (1) Remove the control box cover and install the connection cord. (Figs. 20 and 21)

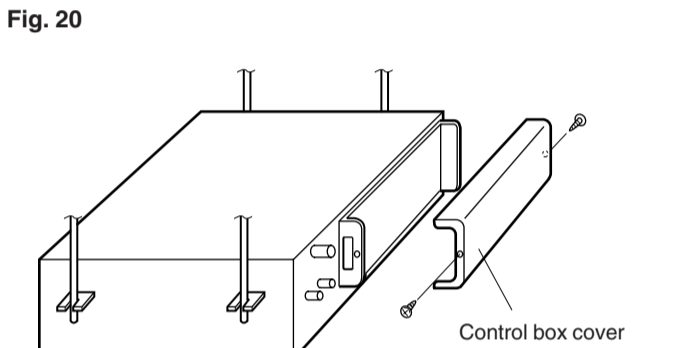
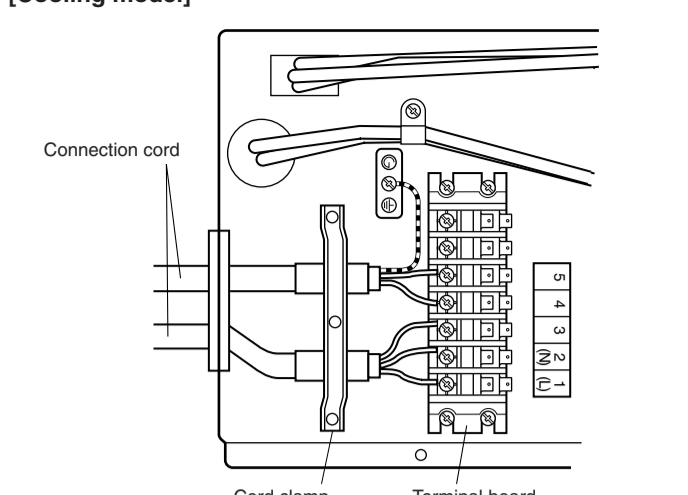
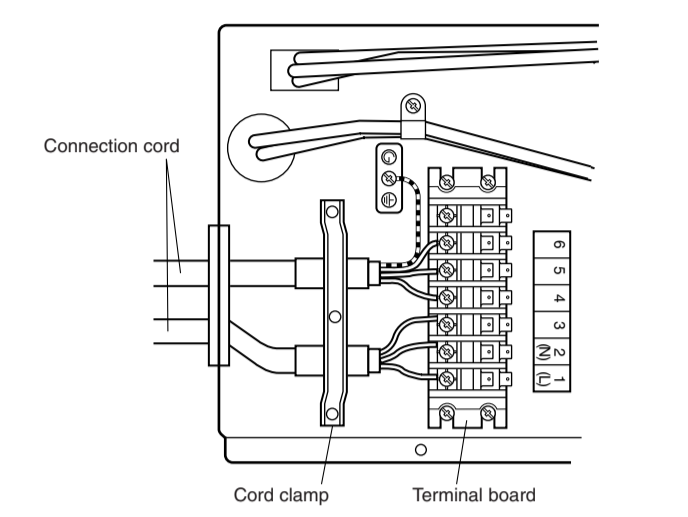


Fig. 21 [Cooling model]



[Heat & Cool model (Reverse cycle)]

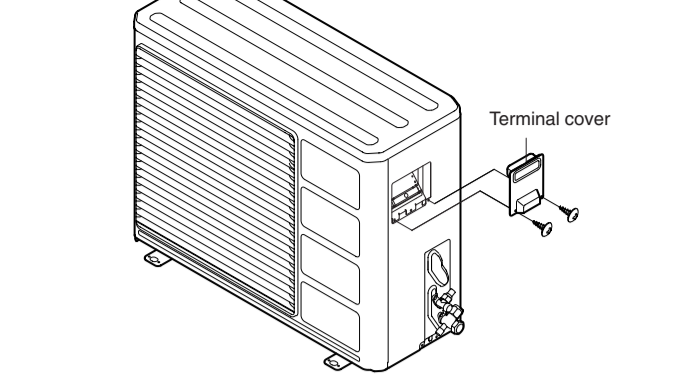


### 2. Outdoor unit side

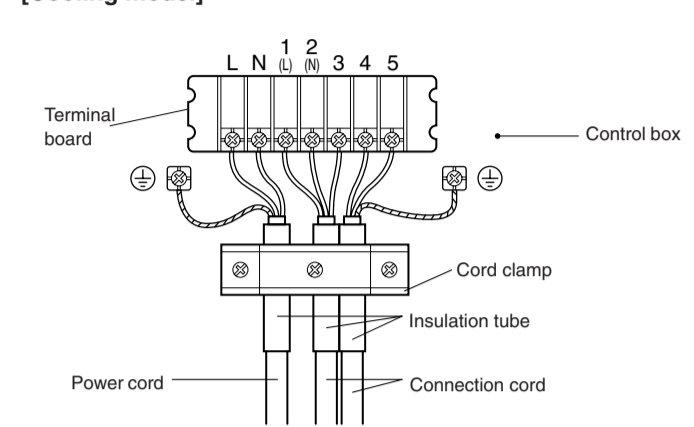
- WARNING**
- (1) Before starting work, check that power is not being supplied to the outdoor unit.
  - (2) Match the terminal board numbers and connection cord colors with those of the indoor unit side. Erroneous wiring may cause burning of the electric parts.
  - (3) Connect the connection cords and the power cord firmly to the terminal board. Imperfect installation may cause a fire.
  - (4) Always fasten the outside covering of the connection cord and the power cord with cord clamps. (If the insulator is chafed, electric leakage may occur.)
  - (5) Always connect the ground wire.

- (1) Remove the terminal cover of the outdoor unit, and insert the end of the connection cord and the power cord into the terminal board.
- (2) Fasten the connection cord and the power cord with the cord clamps.

Fig. 22 [Cooling model]



[Heat & Cool model (Reverse cycle)]



[Heat & Cool model (Reverse cycle)]

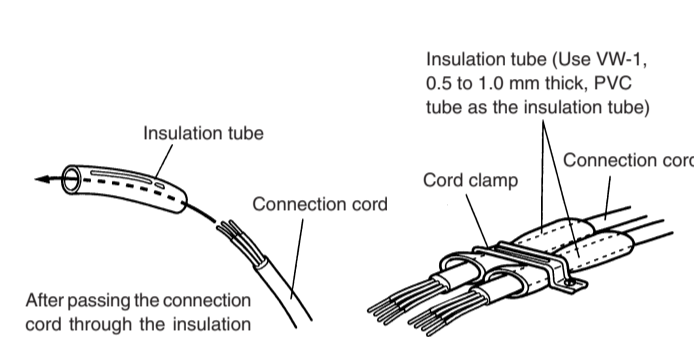
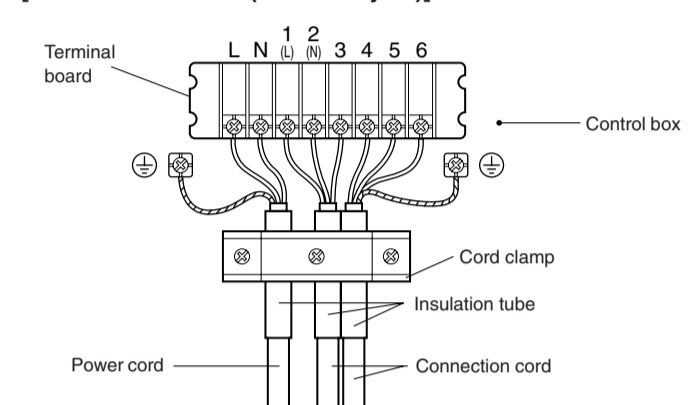
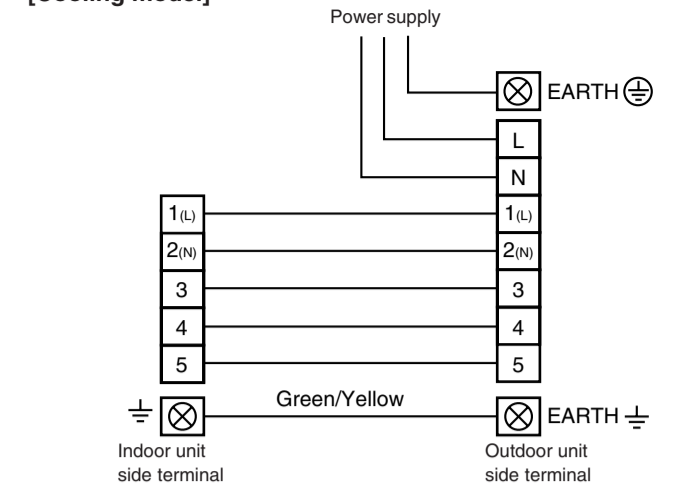
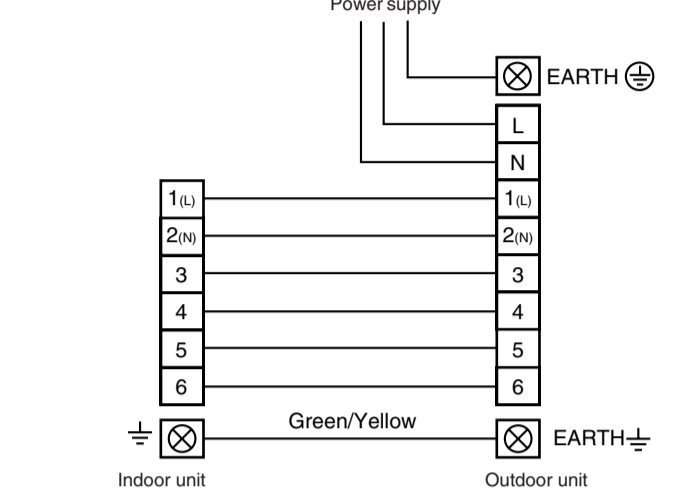


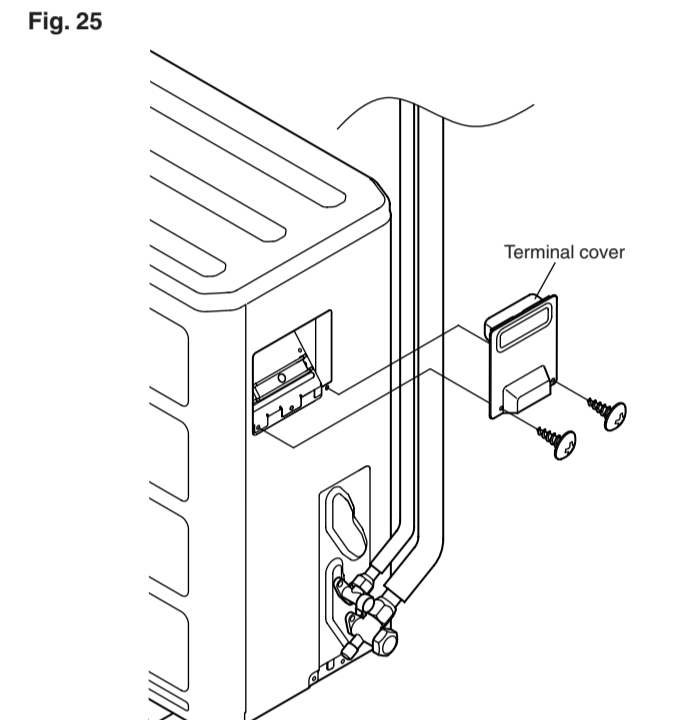
Fig. 24 [Cooling model]



[Heat & Cool model (Reverse cycle)]



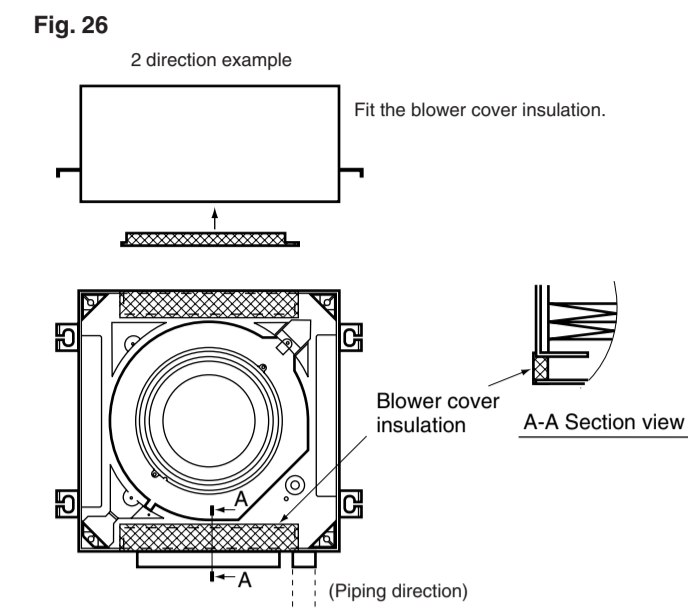
### (3) Install the valve cover and terminal cover.



## 8 GRILLE INSTALLATION

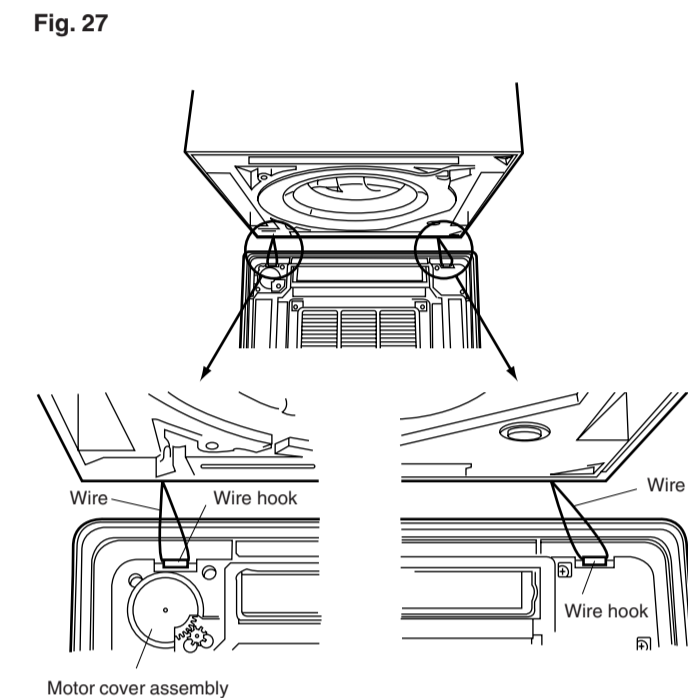
### 1. Blower cover insulation

Install the blower cover insulation only when the outlet direction is not specified.  
Two blower cover insulations are packed with the grille assembly. Install the blower cover insulation at the diffuser position shown in Fig. 26. At the time, use the piping position as the criteria.



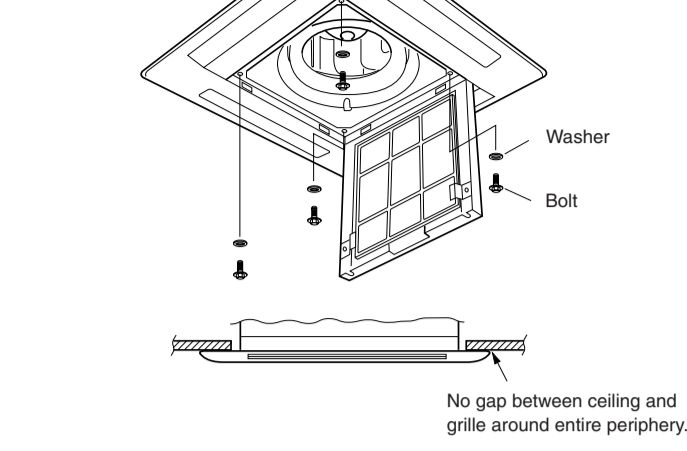
### 2. Installing grille assembly to body

Hang the grille assembly on the wires attached to the indoor unit as shown in Fig. 27.



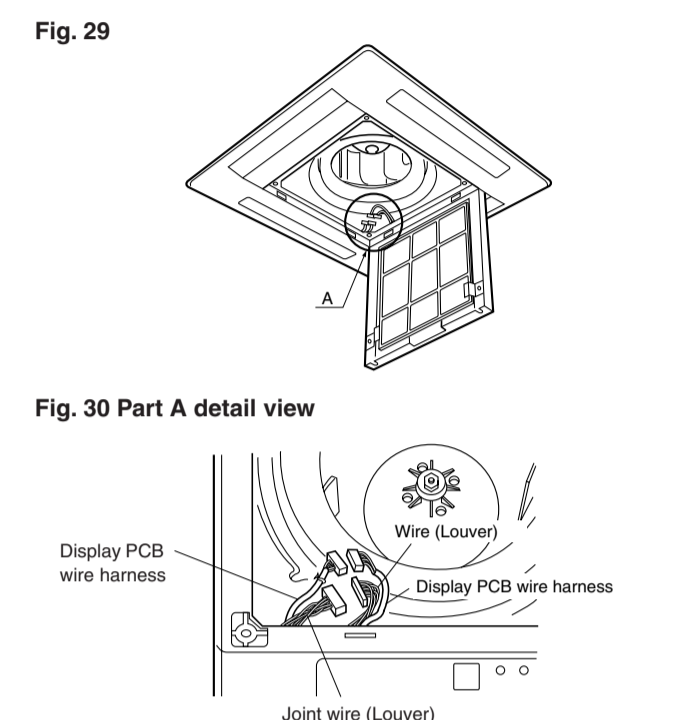
### Bolting the grille assembly to the body

Install the grille assembly to the body with the four bolts, spring washers, and washers.



### Wireless unit connection wire wiring

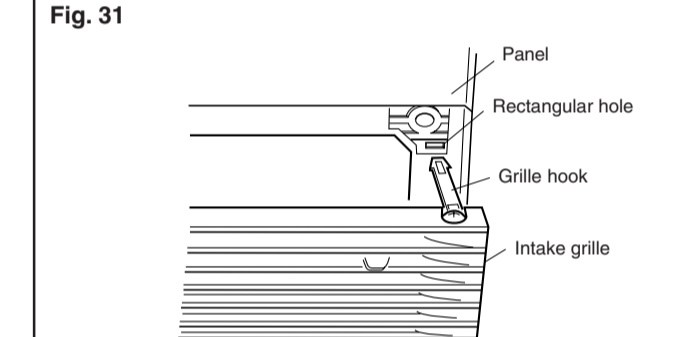
Connect the connector in accordance part A detail view. Then clamp the lead wire with clamp so that it does not touch the rotating parts.



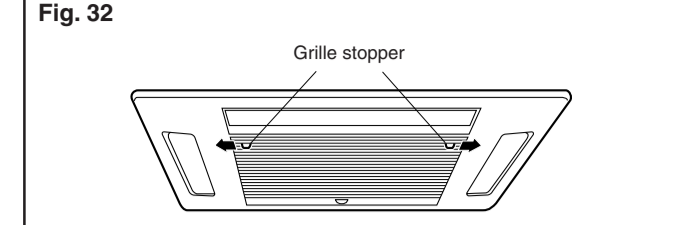
### INSTALLING/REMOVING THE INTAKE GRILLE

#### 1. Installing the intake grille

(1) Fully insert the intake grille hooks into the rectangular holes in the panel.

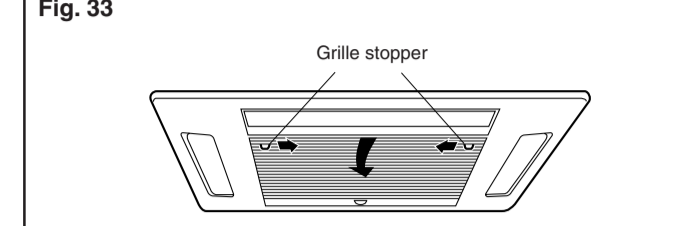


#### (2) Close the intake grille, then slide the two grille stoppers outward.

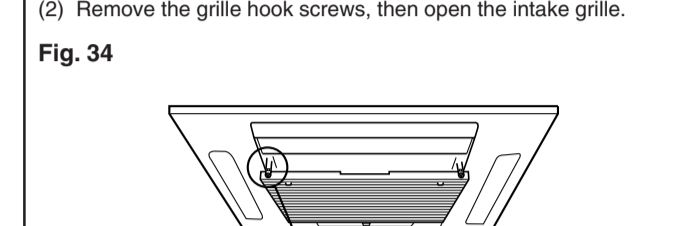


#### 2. Removing the intake grille

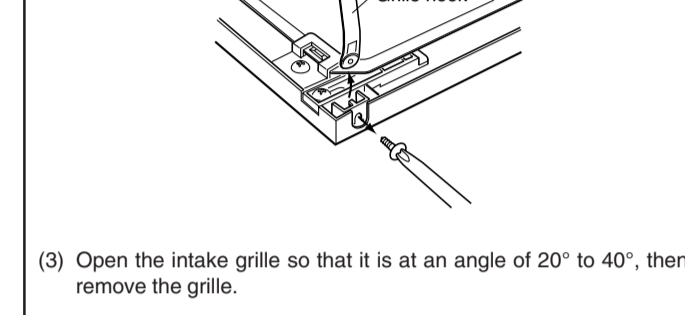
(1) Slide the two grille stoppers inward, then open the intake grille.



(2) Remove the grille hook screws, then open the intake grille.



(3) Open the intake grille so that it is at an angle of 20° to 40°, then remove the grille.



## 9 POWER

### WARNING

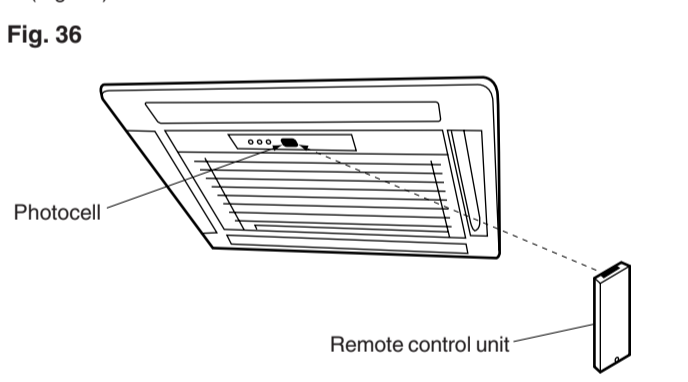
- (1) The rated voltage of this product is 230 V A.C. 50 Hz.
- (2) Before turning on the verify that the voltage is within the 198 V to 264 V range.
- (3) Always use a special branch circuit and install a special breaker to supply power to the room air conditioner.
- (4) Use a circuit breaker matched to the capacity of the air conditioner. (Install in accordance with standard)
- (5) The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3 mm between the contacts of each pole.
- (6) Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
- (7) Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

### CAUTION

- (1) The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- (2) When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

## 10 REMOTE CONTROL UNIT INSTALLATION

- Install the remote control unit so that the front is facing the photocell. (Fig. 36)



- Install the remote control unit with a distance of 5 m between the remote control unit and the grille photocell as the criteria. However, when installing the remote control unit, check that it operates positively.

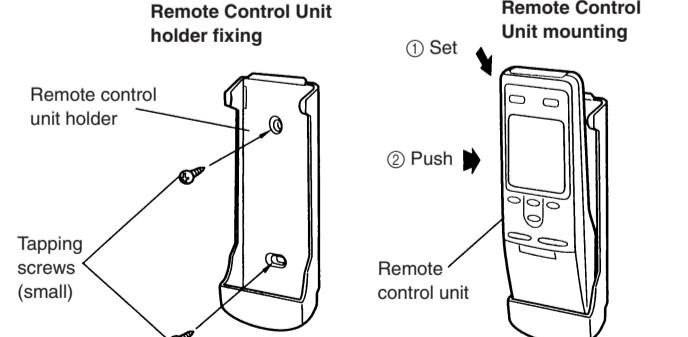
### CAUTION

- (1) Check that the indoor unit correctly receives the signal from the remote control unit, then install the remote control unit holder.
- (2) Select the remote control unit holder selection site by paying careful attention to the following:  
Avoid places in direct sunlight.  
Select a place that will not be affected by the heat from a stove, etc.

### 1. REMOTE CONTROL UNIT HOLDER INSTALLATION

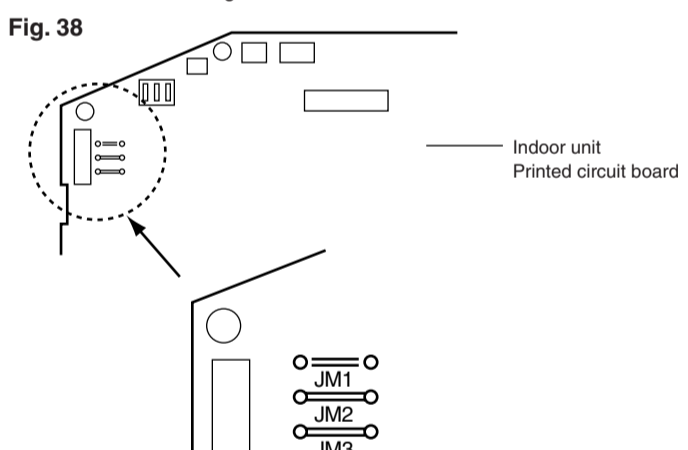
- Install the remote control unit holder to a wall, pillar, etc. with the tapping screws.

Fig. 37



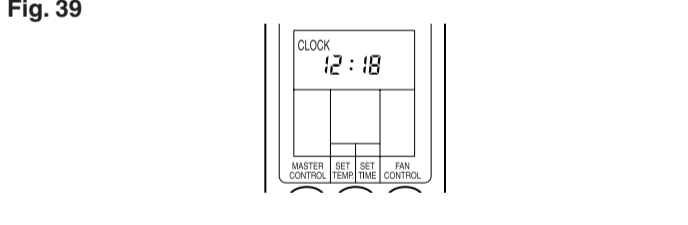
### 2. SWITCHING REMOTE CONTROL UNIT SIGNAL CODES

- Air conditioner settings

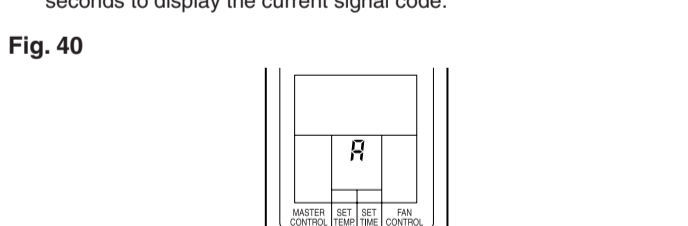


- Remote control unit settings

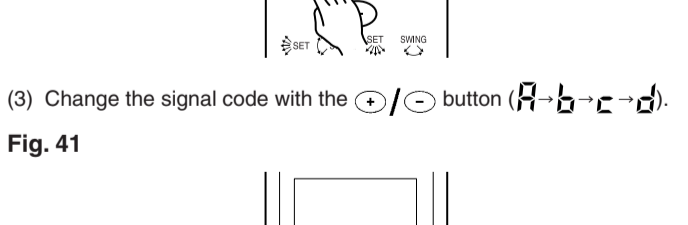
(1) Press the START/STOP button and display only the clock.



(2) Press the MASTER CONTROL button continuously for more than five seconds to display the current signal code.



(3) Change the signal code with the (R-b-c-d) button.



(4) Press the MASTER CONTROL button again to return to the clock display and change the signal code.

Fig. 41

Confirm the setting of the remote control unit signal code and the printed circuit board setting.  
If these are not confirmed, the remote control unit cannot be used to operate for the air conditioner.

**Table 8**

Jumper wire		Remote control unit signal code
JM2	JM3	
Connect	Connect	A (Primary setting)
Connect	Disconnect	B
Disconnect	Connect	C
Disconnect	Disconnect	D

## 11 TEST RUNNING

- Perform test operation and check items 1 and 2 below.
- For the operation method, refer to the operating manual.
- The outdoor unit may not run, depending on the room temperature. In this case, the "TEST RUN" signal is received during air conditioner operation (Use a metallic object to short the two metal contacts under the battery compartment lid and send the "TEST RUN" signal from the remote control unit).

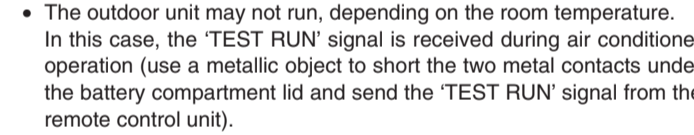
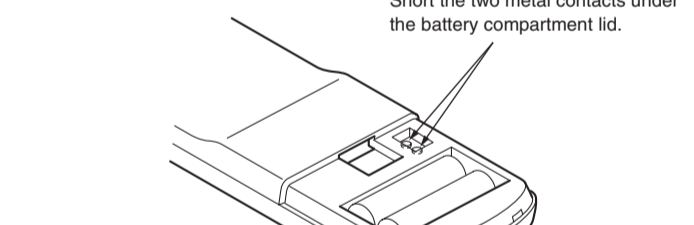


Fig. 42



- To end test operation, press the remote control unit START/STOP button.

(When the air conditioner is run by pressing the remote control unit TEST RUN button, the OPERATION and TIMER lamps will simultaneously flash slowly.)

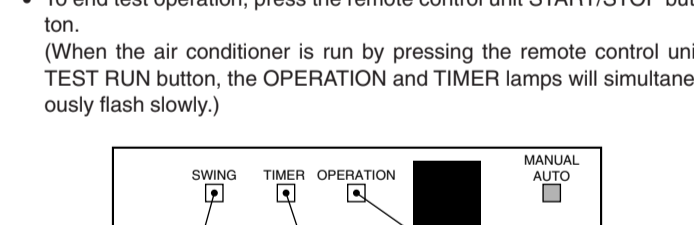
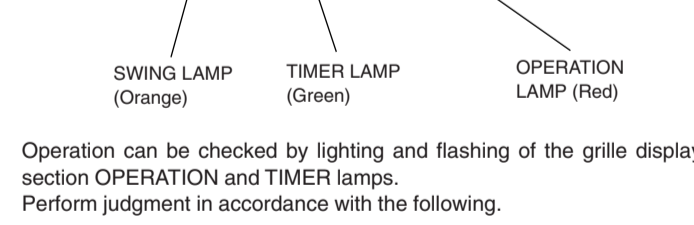


Fig. 39



Operation can be checked by lighting and flashing of the grille display section OPERATION and TIMER lamps.  
Perform judgment in accordance with the following.

- Test running

When the air conditioner is run by pressing the remote control unit test run button, the OPERATION and TIMER lamps flash slowly at the same time.

- Error

The OPERATION, TIMER and SWING lamps operate as follows (Table 9) according to the error contents.

**Table 9**

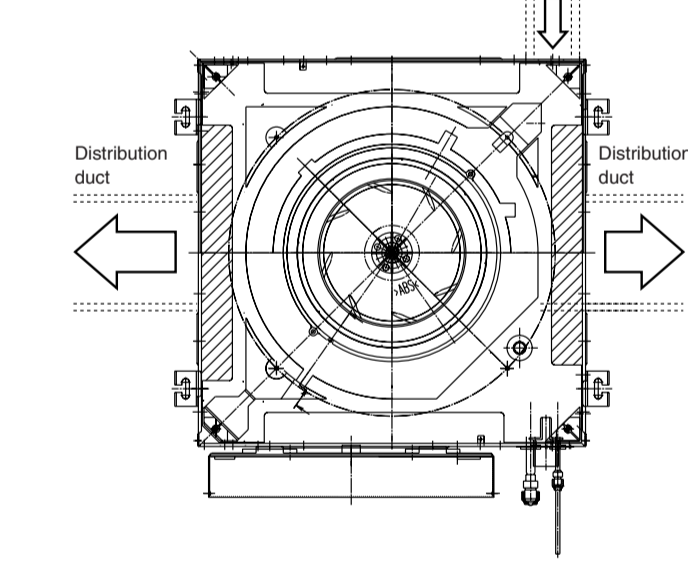
Error display			Error contents
OPERATION lamp	TIMER lamp	SWING lamp	
Blinks	Blinks	Goes off	Model information abnormal (permanent type)
Pulses 4 times	Blinks	Goes off	Drain abnormal (permanent type)
Pulses 6 times	Blinks	Goes off	Indoor fan abnormal
Pulses 2 times	Blinks	Goes off	Room air temperature thermistor open circuit
	Blinks	Blinks	Room air temperature thermistor short circuit
Pulses 3 times	Blinks	Goes off	Piping thermistor open circuit
	Blinks	Blinks	Piping thermistor short circuit

### CHECK ITEMS

- (1) INDOOR UNIT
    - (1) Is operation of each button on the remote control unit normal?
    - (2) Does each lamp light normally?
    - (3) Do not air flow direction louvers operate normally?
    - (4) Is the drain normal?
    - (5) Is there any abnormal noise and vibration during operation?
  - (2) OUTDOOR UNIT
    - (1) Is there any abnormal noise and vibration during operation?
    - (2) Will noise, wind or drain water from the unit disturb the neighbors?
    - (3) Is there any gas leakage?
- Do not operate the air conditioner in the test running state for a long time.

## 12 OPENING THE DUCT CONNECTION HOLE

Fig. 43



### CAUTION

- (1) When performing hole opening work, be careful not to damage the drain pan.
- (2) When connecting the distribution duct, to make the air flow easily, block the outlet port with the blower cover insulation as shown by the hatched lines in fig. 43. For the blocking direction, refer to Fig. 26.

### 1. DIMENSION

(1) Fresh air duct connection hole and screw positions.

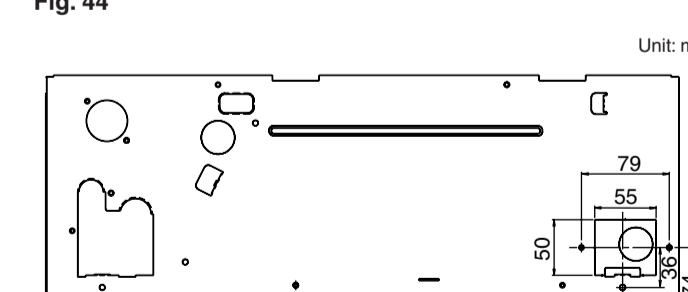


Fig. 44

(2) Distribution duct connection hole and screw positions.

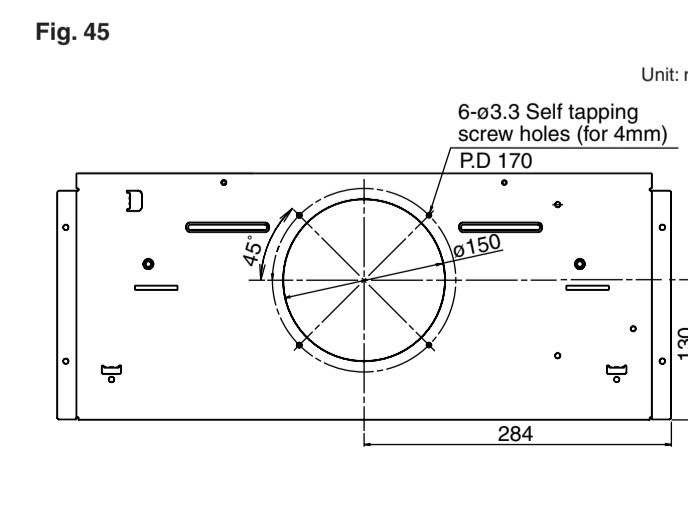


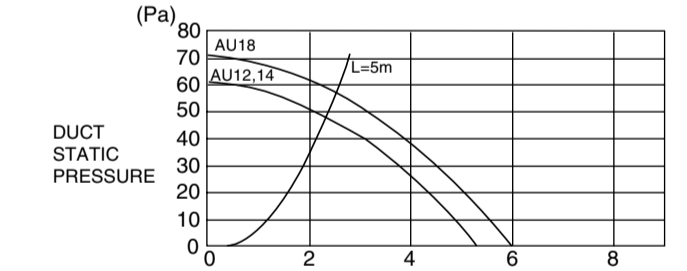
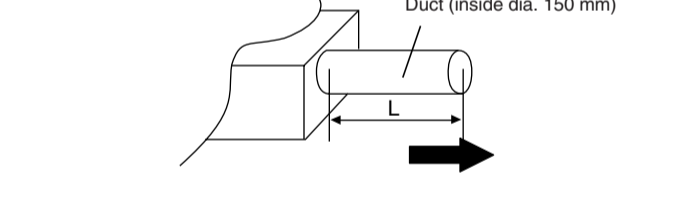
Fig. 45

### CAUTION

The air conditioner cannot take in fresh air by itself. When connecting a fresh air duct, always use a duct fan.

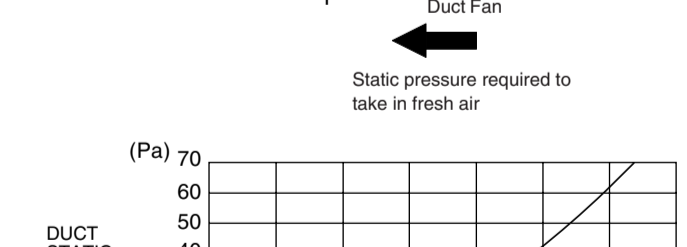
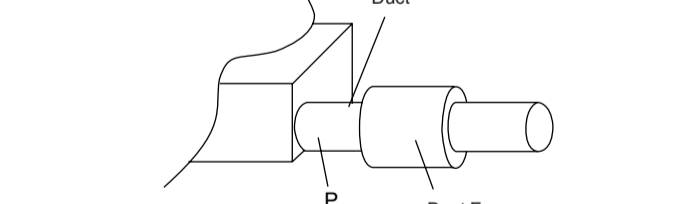
### OUTLET AIR

Fig. 46



### FRESH AIR

Fig. 47



## 13 INSTALLING THE OPTION PARTS (ADDITIONAL GRILLE)

### THE ADDITIONAL GRILLE

- Mount the assembled additional grille to the indoor unit (grille) that has been removed from the main unit.
- Make sure all areas are properly installed the reinforcement plate.
- Mount 4 additional grilles. (Fig. 49)
- After confirming proper meshing of the additional grilles, secure them in place using the 6 screws provided.

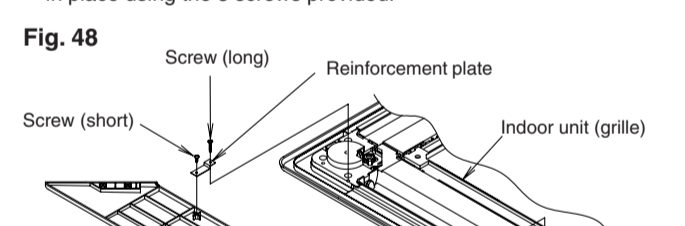


Fig. 48

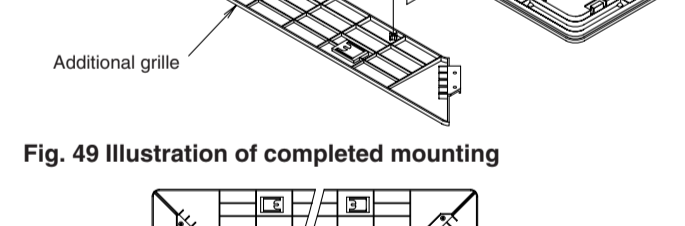
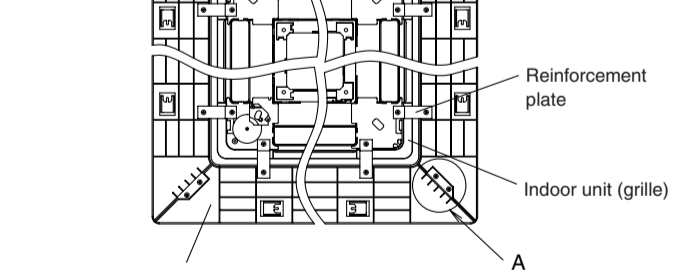
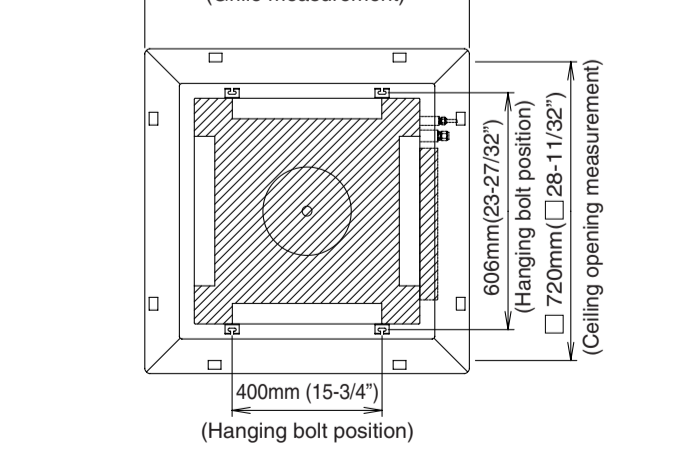


Fig. 49 Illustration of completed mounting



### POSITION THE CEILING HOLE AND HANGING BOLTS

Fig. 50



### CAUTION

When installing the additional grille, please refer to the installation instruction sheet supplied with the additional grille.