

5 ELECTRICAL WIRING

HOW TO CONNECT WIRING TO THE TERMINALS

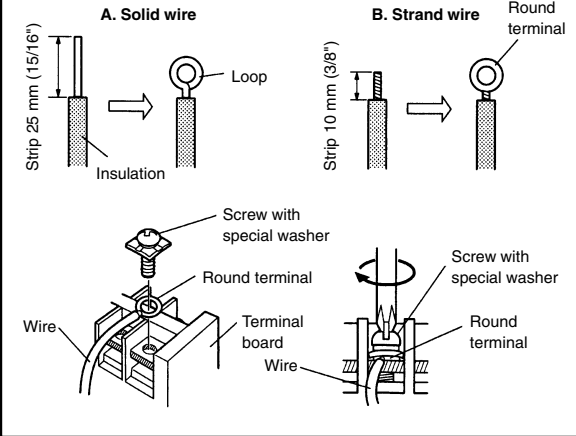
A. For solid core wiring

- 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.
- Using a screwdriver, remove the terminal screw(s) on the terminal board.
- Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- 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

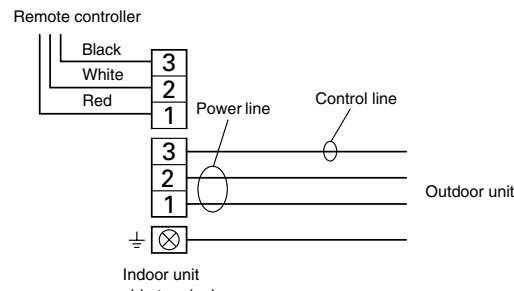
- Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 10 mm (3/8") of expose the strand wiring.
- Using a screwdriver, remove the terminal screw(s) on the terminal board.
- Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver.

Fig. 26



1. CONNECTION DIAGRAMS

Fig. 27



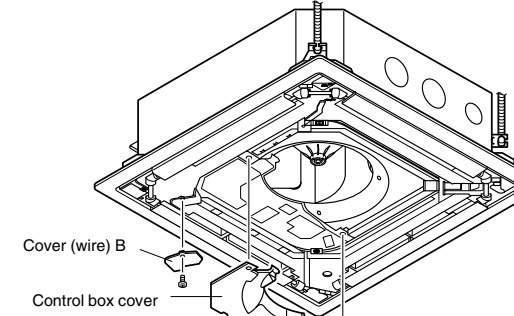
2. INDOOR UNIT SIDE

WARNING

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

- Remove the control box cover and cover (wire) B and install the connection cable.

Fig. 28



- After wiring is complete, clamp the remote controller cable and connection cable with the cable clamp.
- Install the control box cover and cover (wire) B.

Fig. 29

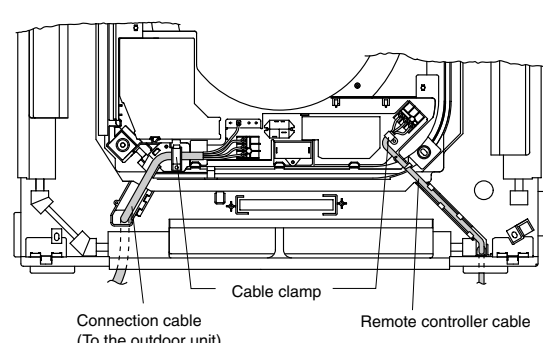
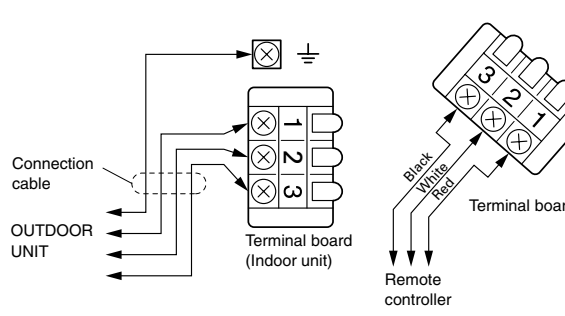


Fig. 30

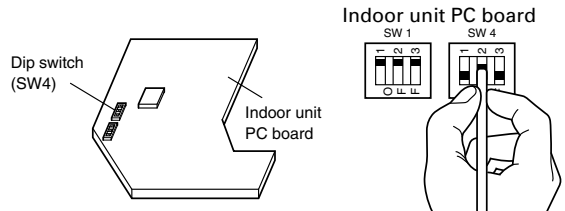


Ceiling height setting

Set the DIP switch for the ceiling height according to the table below.

Ceiling height (m)		DIP-SW4		
		1	2	3
2.5 - 3.0	Normal	—	OFF	OFF
3.0 - 3.5	High ceiling 1	—	ON	OFF
More than 3.5	High ceiling 2	—	OFF	ON
Less than 2.5	Low ceiling	—	ON	ON

Fig. 31



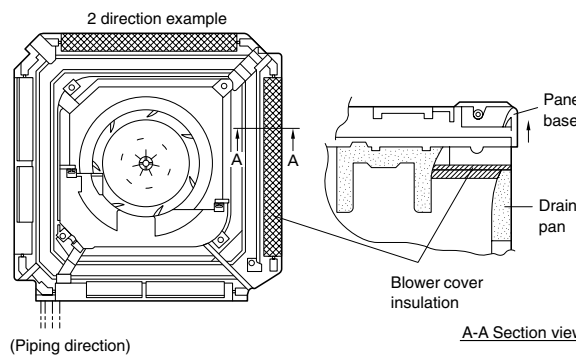
- CAUTION**
- If the setting for a low ceiling is selected, the capacity of the air conditioner decreases slightly.
 - Do not set any switches other than those specified in this sheet. The air conditioner may not operate correctly if any switches other than those specified are changed.

6 GRILLE INSTALLATION

BLOWER COVER INSULATION

Install the blower cover insulation only when the outlet direction is not specified.
Two blower cover insulations are packed with the indoor unit.
Install the blower cover insulation at the diffuser position shown in Fig. 32. At this time, use the piping position as the criteria.

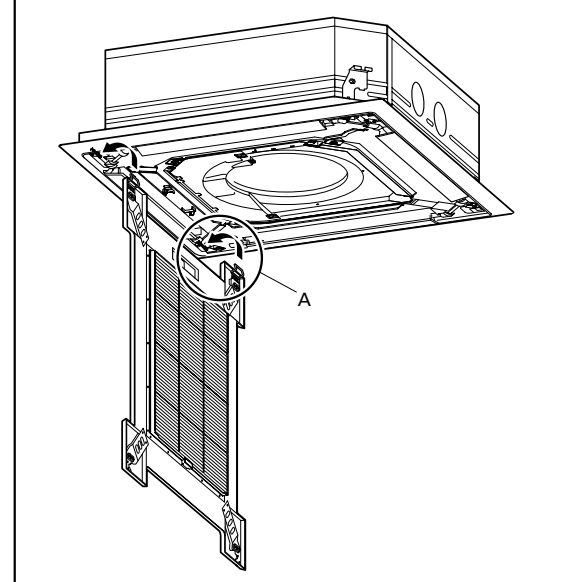
Fig. 32



INSTALLING THE INTAKE GRILLE

- Mount the grille hinge wire to the hook shaft as shown in Fig. 33.

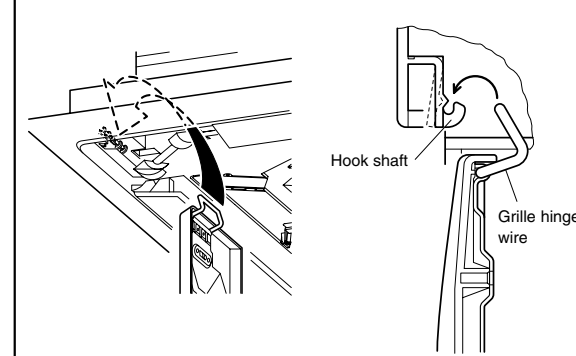
Fig. 33



- Latch the grille hinge wire to the hook shaft, and fasten.

Fig. 34 Part A detail view

Fig. 35 Part A section view



- Install the hook wire.
- Pass the hook wire through the panel base from the rear side as shown in Fig. 36, and fasten to the reinforced metal fitting of the intake grille using a screw.

Fig. 36

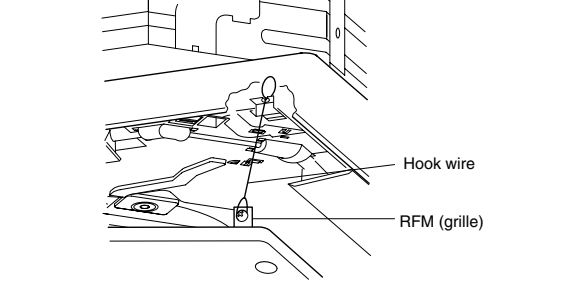
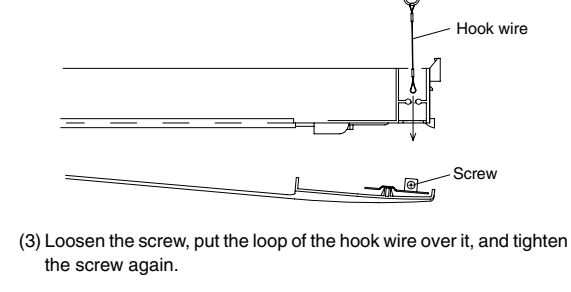
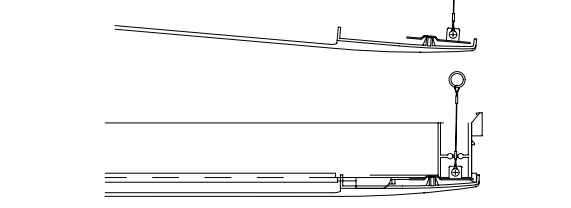


Fig. 37 Section view



- Loosen the screw, put the loop of the hook wire over it, and tighten the screw again.



CAUTION

Install the intake grille hook wire to the grille assembly. If it falls, it may cause injuries.

- Bring up the intake grille by pushing it up at an angle as shown in Figs. 38, 39, and fasten.

Fig. 38

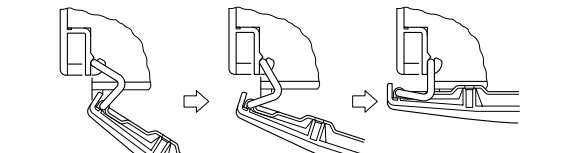
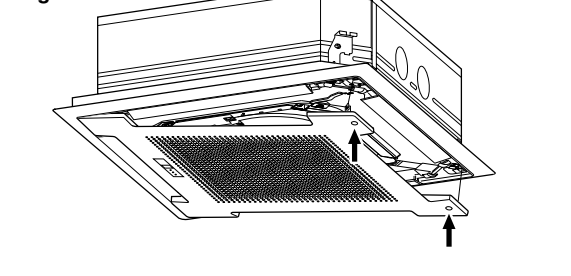


Fig. 39



7 REMOTE CONTROLLER SETTING

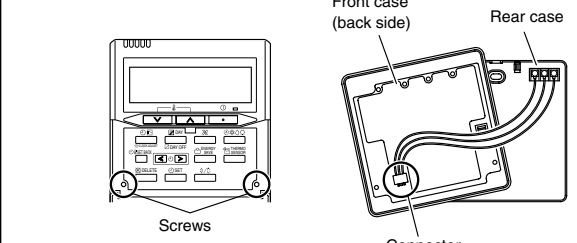
CAUTION

- When detecting the room temperature using the remote controller, please set up the remote controller according to the following conditions.
If the remote controller is not well set, the correct room temperature will not be detected, and thus the abnormal conditions like "not cooled" or "not heated" will occur even if the air conditioner is running normally.
• A location with an average temperature for the room being air-conditioned.
• Not directly exposed to the outlet air from the air-conditioner.
• Away from direct sunlight.
• Away from the influence of other heat sources.
- When installing the remote controller and cable near a source of electromagnetic waves, separate the remote controller from the source of the electromagnetic waves and use shielded cable.
- Do not touch the remote controller PC board and PC board parts directly with your hands.

1. INSTALLING THE REMOTE CONTROLLER

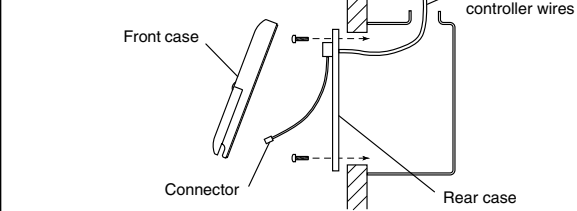
- Open the operation panel on the front of the remote controller, remove the two screws indicated in the following figure, and then remove the front case of the remote controller.

Fig. 40



- When installing the remote controller, remove the connector from the front case. The wires may break if the connector is not removed and the front case hangs down.
When installing the front case, connect the connector to the front case.

Fig. 41

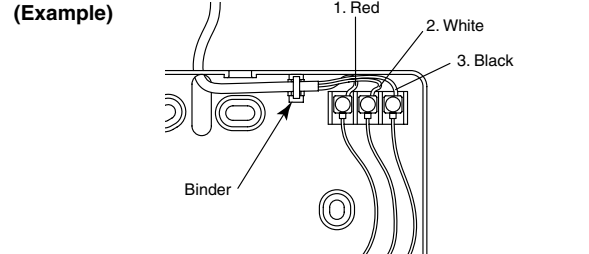


2. ROUTING THE REMOTE CONTROLLER WIRES

- Install the remote controller wires to the terminals on the top of the rear case as shown in the following figure.
- Fasten the wires with the binder.

Install the remote controller wires so as not to be direct touched with your hand.

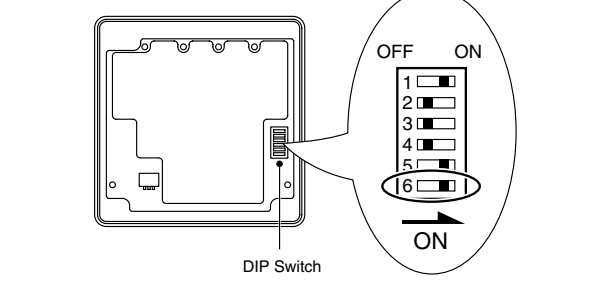
Fig. 42 (Example)



3. SETTING THE DIP SWITCHES

When using a battery (memory backup)

Fig. 43



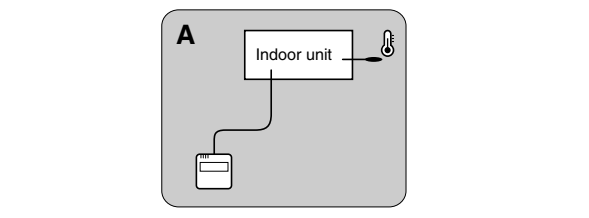
Change the DIP switch setting to use batteries. (The DIP switch is not set to use batteries at the factory.)
Change DIP switch No. 6 from OFF to ON.
If batteries are not used, all of the settings stored in memory will be deleted if there is a power failure.

4. SETTING THE ROOM TEMPERATURE DETECTION LOCATION

The detection location of the room temperature can be selected from the following three examples. Choose the detection location that is best for the installation location.

A. Indoor unit setting (factory setting)

The room temperature is detected by the indoor unit temperature sensor.



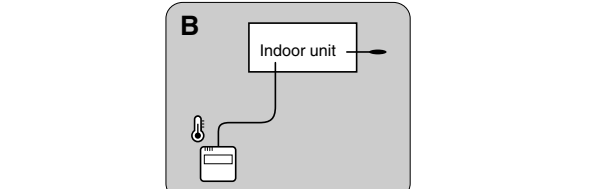
- When the THERMO SENSOR button is pressed, the lock display flashes because the function is locked at the factory.

Fig. 44



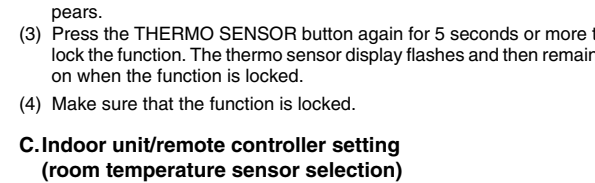
B. Remote controller setting

The room temperature is detected by the remote controller temperature sensor.



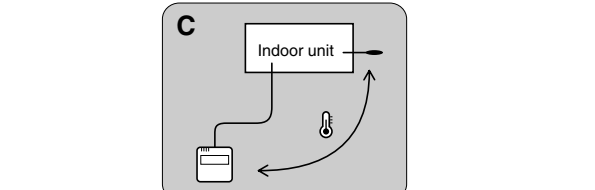
- Press the THERMO SENSOR button for 5 seconds or more to unlock the function. The thermo sensor display flashes and then disappears when the function is unlocked.
- Press the THERMO SENSOR button. The thermo sensor display appears.
- Press the THERMO SENSOR button again for 5 seconds or more to lock the function. The thermo sensor display flashes and then remains on when the function is locked.
- Make sure that the function is locked.

Fig. 45



C. Indoor unit/remote controller setting (room temperature sensor selection)

The temperature sensor of the indoor unit or the remote controller can be used to detect the room temperature.



- Press the THERMO SENSOR button for 5 seconds or more to unlock the function. The thermo sensor display flashes and then disappears when the function is unlocked.
- Press the THERMO SENSOR button to select the temperature sensor of the indoor unit or the remote controller.

Fig. 46



CAUTION

- When select the "Remote controller setting", if the detected temperature value between the temperature sensor of the indoor unit and the temperature sensor of the remote controller varies significantly, it is likely to return to the control status of temperature sensor of the indoor unit temporarily.

- As the temperature sensor of remote controller detects the temperature near the wall, when there is a certain difference between the room temperature and the wall temperature, the sensor will not detect the room temperature correctly sometimes. Especially when the outer side of the wall on which the sensor is positioned is exposed to the open air, it is recommended to use the temperature sensor of the indoor unit to detect the room temperature when the indoor and outdoor temperature difference is significant.

- The temperature sensor of the remote controller is not only used when there is a problem in the detection of the temperature sensor of the indoor unit.

NOTES

If the function to change the temperature sensor is used as shown in examples A and B (other than example C), be sure to lock the detection location. If the function is locked, the lock display will flash when the THERMO SENSOR button is pressed.

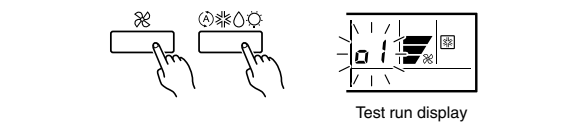
8 TEST RUN

CAUTION

Supply power to the crankcase heater for at least 12 hours before the start of operation in winter.

- Stop the air conditioner operation.
- Press the MODE button and the FAN button simultaneously for 2 seconds or more to start the test run.

Fig. 47



- Press the START/STOP button to stop the test run.

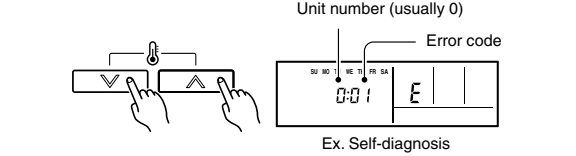
[SELF-DIAGNOSIS]

When the error indication "E.EE" is displayed, follow the following items to perform the self-diagnosis. "E.EE" indicates an error has occurred.

1. REMOTE CONTROLLER DISPLAY

- Stop the air conditioner operation.
- Press the SET TEMP buttons / / V simultaneously for 5 seconds or more to start the self-diagnosis.
Refer to the following tables for the description of each error code.

Fig. 48



- Press the SET TEMP buttons / / V simultaneously for 5 seconds or more to stop the self-diagnosis.

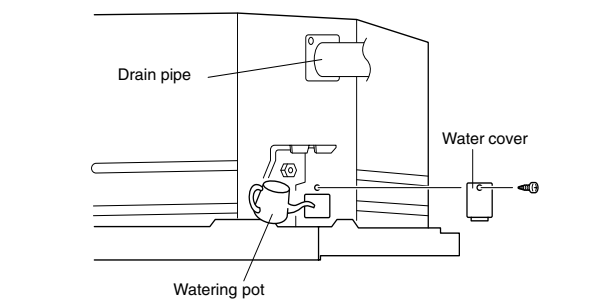
Error code	Error contents
00	Communication error (indoor unit ↔ remote controller)
01	Communication error (indoor unit → outdoor unit)
02	Room temperature sensor open
03	Room temperature sensor short-circuited
04	Indoor heat exchanger temperature sensor open
05	Indoor heat exchanger temperature sensor short-circuited
06	Outdoor heat exchanger temperature sensor
08	Power source connection error
09	Float switch operated
0A	Outdoor temperature sensor
0C	Discharge pipe temperature sensor
11	Model error
12	Indoor fan error

Error code	Error contents
13	Outdoor signal error
14	Excessive outdoor pressure (permanent stop)
15	Compressor temperature sensor
16	Pressure switch error
17	IPM error
18	CT error
19	Active filter module (AFM) error
1A	Compressor does not operate
1b	Outdoor unit fan error
1C	Communication error (inverter → multicontroller)
1d	2 way valve sensor error
1E	Expansion valve error
1F	Connection indoor unit error

2. CHECKING DRAINAGE

To check the drain, remove the water cover and fill with 2 to 3 l of water as shown in Fig. 49.

Fig. 49



9 SPECIAL INSTALLATION METHODS

CAUTION

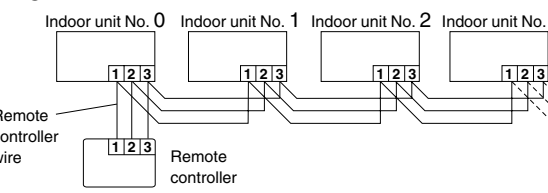
- When setting the rotary switch and DIP switches, do not touch any other parts on the circuit board directly with your bare hands.
- Be sure to turn off the main power.

1. GROUP CONTROL SYSTEM

A number of indoor units can be operated at the same time using a single remote controller.

- Wiring method (indoor unit to remote controller)

Fig. 50



- Rotary switch setting (indoor unit)
Set the unit number of each indoor unit using the rotary switch on the indoor unit circuit board.

The rotary switch is normally set to 0.

- DIP switch setting (remote controller)
Change DIP switch No. 3 on the remote controller from OFF to ON.

Fig. 51

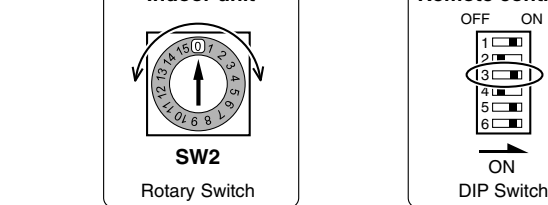
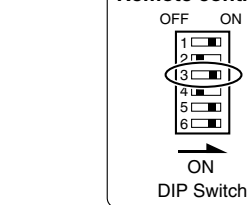


Fig. 52

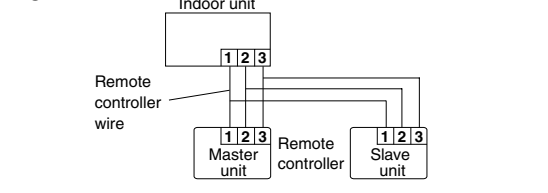


2. DUAL REMOTE CONTROLLERS (OPTIONAL)

Two separate remote controllers can be used to operate the indoor units.

- Wiring method (indoor unit to remote controller)

Fig. 53

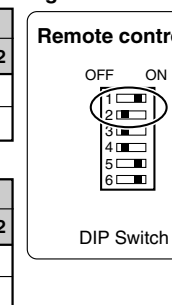


- DIP switch setting (remote controller)
Set the remote controller DIP switch Nos. 1 and 2 according to the following table.

Number of remote controllers	Master unit	
	DIP-SW No. 1	DIP-SW No. 2
1 (Normal)	ON	OFF
2 (Dual)	OFF	OFF

Number of remote controllers	Slave unit	
	DIP-SW No. 1	DIP-SW No. 2
1 (Normal)	—	—
2 (Dual)	ON	ON

Fig. 54



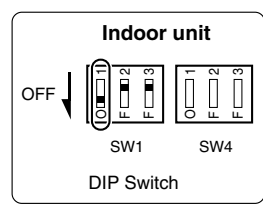
3. AUTO RESTART

- When the air conditioner power was temporarily turned off by a power failure etc., it restarts automatically after the power recovers. (Operated by setting before the power failure)

The auto restart function can be canceled.

- DIP switch setting (indoor unit)
Change the DIP switch (SW1-1) on the indoor unit circuit board from ON to OFF. The auto restart function will be canceled.

Fig. 55



[DIP-SWITCH SETTING]

Indoor unit

NO.	SW state		Detail
	OFF	ON	
DIP-Switch 1	1	Invalidity	Auto restart setting
	2	—	—
	3	—	—
DIP-Switch 4	1	—	—
	2	—	—
	3	—	—

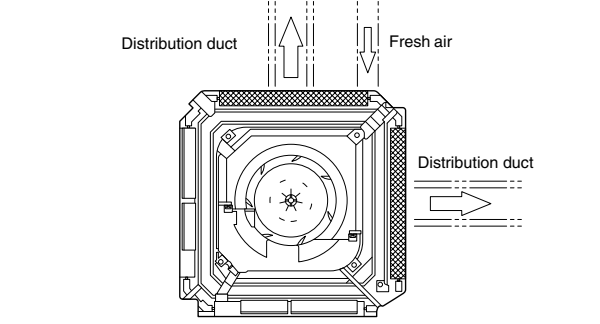
Remote controller

NO.	SW state		Detail
	OFF	ON	
DIP-Switch	1	—	—
	2	—	—
	3	—	—
	4	—	—
	5	—	—
	6	—	—

* : Factory setting

10 OPENING THE DUCT CONNECTION HOLE

Fig. 56



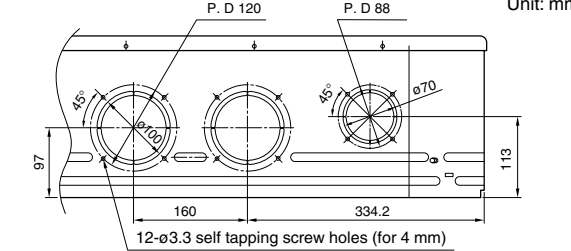
CAUTION

- When performing hole opening work, be careful not to damage the drain pan.
- 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. 56. For the blocking direction, refer to Fig. 52.

1. DIMENSION

Screw position and connection hole which are fresh air duct and distribution duct.

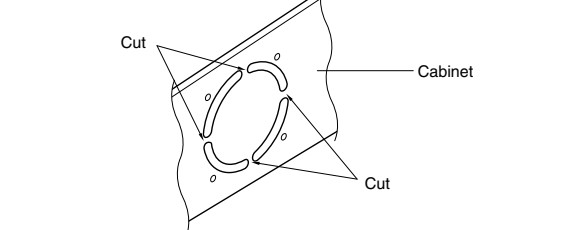
Fig. 57



2. DISTRIBUTION DUCT AND FRESH AIR DUCT HOLE PROCESSING

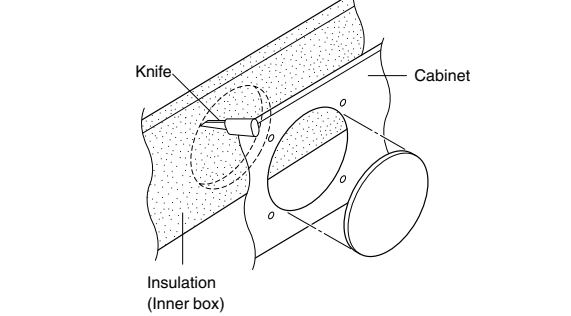
Use the distribution duct hole and fresh air duct hole by removing the insulation material as shown below.

Fig. 58



- Cut off the part (Cabinet) indicated by the arrow in the Fig. 58 with nippers, needle nose pliers, etc.

Fig. 59



- Open the holes and cut the insulation with a knife.
- Be careful not to damage the internal parts.
- Be careful not to cut yourself on the cutout in the metal plate.
- Please remove the insulation (inner box) left over after cutting.
- Connect the distribution duct.
- When mounting the duct, block the gap so that there is no cold air leakage.
- Insulate the duct and cut connection.

CAUTION

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