INSTALLATION INSTRUCTIONS
Air Conditioner

Panasonic®

This air conditioner uses the refrigerant R410A.

Model No.

Indoor Units				
Type	Indoor Unit Type	Nominal Capacity		
		26	36	42
U2	4-Way Cassette 36” × 36”	S-26PU2U6	S-36PU2U6	S-42PU2U6
		(CZ-36KPU3U)*	(CZ-36KPU3U)*	(CZ-36KPU3U)*

*Panel (optional parts)

Read through the Installation Instructions before you proceed with the installation.
In particular, you will need to read under the “IMPORTANT!” section at the top of the page.

IMPORTANT!
Please Read Before Starting

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- This air conditioner shall be installed in accordance with National Wiring Regulations.
- Pay close attention to all warning and caution notices given in this manual.

WARNING This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

CAUTION This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

In Case of Improper Installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

WARNING **When Wiring**

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death**.
- **Ground the unit** following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause over-heating at connection points and a possible fire hazard.
- To prevent possible hazards from insulation failure, the unit must be grounded.

- This equipment is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.

When Transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

When Installing…

Select an installation location which is rigid and strong enough to support or hold the unit, and select a location for easy maintenance.

…In a Room

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

CAUTION Keep the fire alarm and the air outlet at least 5 feet (1.5 m) away from the unit.

…In Moist or Uneven Locations

Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

…In an Area with High Winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

…In a Snowy Area (for Heat Pump-type Systems)

Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When Connecting Refrigerant Tubing

- Pay particular attention to refrigerant leakages.
- Ventilate the room immediately, in the event that is refrigerant gas leaks during the installation. Be careful not to allow contact of the refrigerant gas with a flame as this will cause the generation of toxic gas.
- Keep all tubing runs as short as possible.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

WARNING

- When performing piping work, do not mix air except for specified refrigerant (R410A) in refrigeration cycle. It causes capacity down, and risk of explosion and injury due to high tension inside the refrigerant cycle.
- If the refrigerant comes in contact with a flame, it produces a toxic gas.
- Do not add or replace refrigerant other than specified type. It may cause product damage, burst and injury, etc.

- Do not leak refrigerant while piping work for an installation or re-installation, and while repairing refrigeration parts.
  Handle liquid refrigerant carefully as it may cause frostbite.

When Servicing

- Turn the power OFF at the main power box (mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit.

WARNING

- This product must not be modified or disassembled under any circumstances. Modified or disassembled unit may cause fire, electric shock or injury.
- Do not clean inside the indoor and outdoor units by users. Engage authorized dealer or specialist for cleaning.
- In case of malfunction of this appliance, do not repair by yourself. Contact to the sales dealer or service dealer for a repair.

CAUTION

- Do not touch the air inlet or the sharp aluminum fins of the outdoor unit. You may get injured.
- Ventilate any enclosed areas when installing or testing the refrigeration system. Leaked refrigerant gas, on contact with fire or heat, can produce dangerously toxic gas.
- Confirm after installation that no refrigerant gas is leaking. If the gas comes in contact with a burning stove, gas water heater, electric room heater or other heat source, it can cause the generation of toxic gas.

Others

WARNING

- Do not sit or step on the unit, you may fall down accidentally.

CAUTION

- Do not touch the air inlet or the sharp aluminum fins of the outdoor unit.
  You may get injured.
- Do not stick any object into the FAN CASE.
  You may be injured and the unit may be damaged.

Check of Density Limit

The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its density will not exceed a set limit.

The refrigerant (R410A), which is used in the air conditioner, is safe, without the toxicity or combustibility of ammonia, and is not restricted by laws imposed to protect the ozone layer. However, since it contains more than air, it poses the risk of suffocation if its density should rise excessively. Suffocation from leakage of refrigerant is almost non-existent. With the recent increase in the number of high density buildings, however, the installation of multi air conditioner systems is on the increase because of the need for effective use of floor space, individual control, energy conservation by curtailing heat and carrying power, etc.

Most importantly, the multi air conditioner system is able to replenish a large amount of refrigerant compared to conventional individual air conditioners.

If a single unit of the multi air conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its density does not reach the limit (and in the event of an emergency, measures can be made before injury can occur).

ASHRAE and the International Mechanical Code of the ICC as well as CSA provide guidance and define safeguards related to the use of refrigerants, all of which define a Refrigerant Concentration Level (RCL) of 25 pounds (11.3 kg) per 1,000 cubic feet (28.3 m^3) for R410A refrigerant.

For additional guidance and precautions related to refrigerant safety, please refer to the following documents:

International Mechanical Code 2012 (IMC-2012)
(or more recently revised)
ASHRAE 15
ASHRAE 34

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1. GENERAL

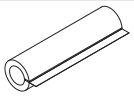
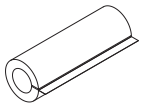
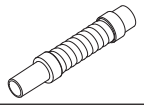
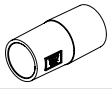
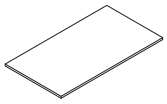
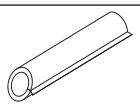
This booklet briefly outlines where and how to install the air conditioning system. Please read over the entire set of instructions for the indoor and outdoor units and make sure all accessory parts listed are with the system before beginning.

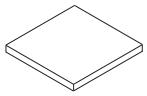
1-1. Tools Required for Installation (not supplied)

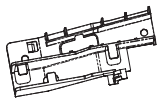
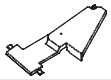
1. Flathead screwdriver
2. Phillips head screwdriver
3. Knife or wire stripper
4. Tape measure
5. Carpenter's level
6. Sabre saw or keyhole saw
7. Hacksaw
8. Core bits
9. Hammer
10. Drill
11. Tube cutter
12. Tube flaring tool
13. Torque wrench
14. Adjustable wrench
15. Reamer (for deburring)

1-2. Accessories Supplied with Unit

Table 1-1 (4-Way Cassette)

Part Name	Figure	Q'ty	Remarks
Washer		8	For suspension bolts
Screw		4	For full-scale installation diagram
Insulating tape		2	For gas and liquid tube flare nuts
Flare insulator		1	For liquid tube
Flare insulator		1	For gas tube
Drain hose		1	
Hose band		1	For securing drain hose
Drain socket		1	
Packing		1	For drain hose joint
Drain insulator		1	

Part Name	Figure	Q'ty	Remarks
Full-scale installation diagram		1	Card board

Part Name	Figure	Q'ty	Remarks
Wire mounting bracket		1	
Wire cover		1	
Clamper		1	
Screw		3	For wire mounting bracket and wire cover

Part Name	Figure	Q'ty	Remarks
Operating Instructions		1	
Installation Instructions		1	
Warranty card		1	

- Use 3/8" (M10) for suspension bolts.
- Field supply for suspension bolts and nuts.

1-3. Type of Copper Tube and Insulation Material

If you wish to purchase these materials separately from a local source, you will need:

1. Deoxidized annealed copper tube for refrigerant tubing.
2. Foamed polyethylene insulation for copper tubes as required to precise length of tubing. Wall thickness of the insulation should be not less than 5/16" (8 mm).
3. Use insulated copper wire for field wiring. Wire size varies with the total length of wiring.
   Refer to "4. ELECTRICAL WIRING" for details.

⚠ **CAUTION**

Check local electrical codes and regulations before obtaining wire. Also, check any specified instructions or limitations.

1-4. Additional Materials Required for Installation

1. Refrigeration (armored) tape
2. Insulated staples or clamps for connecting wire (See your local codes.)
3. Putty
4. Refrigeration tubing lubricant
5. Clamps or saddles to secure refrigerant tubing
6. Scale for weighing

2. SELECTING THE INSTALLATION SITE

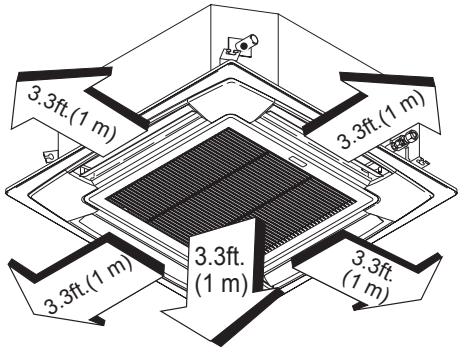
2-1. Indoor Unit

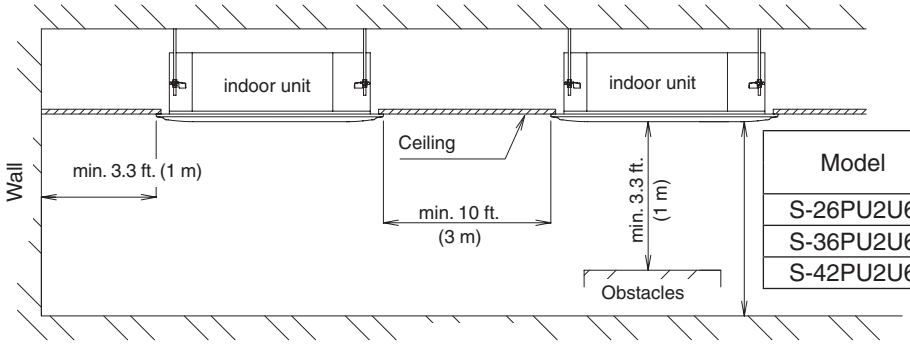
AVOID:

- areas where leakage of flammable gas may be expected.
- places where large amounts of oil mist exist.
- direct sunlight.
- locations near heat sources which may affect the performance of the unit.
- locations where external air may enter the room directly.
  This may cause “condensation” on the air discharge ports, causing them to spray or drip water.
- locations where the remote controller will be splashed with water or affected by dampness or humidity.
- installing the remote controller behind curtains or furniture.
- locations where high-frequency emissions are generated.

DO:

- select an appropriate position from which every corner of the room can be uniformly cooled.
- select a location where the ceiling is strong enough to support the weight of the unit.
- select a location where tubing and drain pipe have the shortest run to the outdoor unit.
- allow room for operation and maintenance as well as unrestricted air flow around the unit.
- install the unit within the maximum elevation difference above or below the outdoor unit and within a total tubing length (L) from the outdoor unit as detailed in the installation manual packed with the outdoor unit.
- allow room for mounting the remote controller about 3.3 ft. (1 m) off the floor, in an area that is not in direct sunlight or in the flow of cool air from the indoor unit.
- if the indoor unit is installed on the ceiling where the temperature or humidity inside is high (over 86°F(30°C)/RH: 70%), add insulating material to the surface of the unit to avoid dew condensation.
- keep the fire alarm and the air outlet at least 5 ft. (1.5 m) away from the unit.





Model	Floor-to-ceiling height	
	Minimum	Maximum
S-26PU2U6	5.9ft. (1.8m)	11.8ft. (3.6m)
S-36PU2U6	5.9ft. (1.8m)	14.8ft. (4.5m)
S-42PU2U6		

Fig. 2-1

NOTE

If the floor-to-ceiling height exceeds 9.8ft. (3m), the wind speed distribution becomes poor.

When changing the settings, refer to “7-3. Others” under the section “7. HOW TO INSTALL THE CEILING PANEL”.

3. HOW TO INSTALL THE INDOOR UNIT

■ 4-Way Cassette Type (Type U2)

Note: For DC Fan Motor Tap Setting procedure for 4-Way Cassette, see page 22.

3-1. Preparation for Suspending

This unit uses a drain pump. Use a carpenter's level to check that the unit is level.

3-2. Suspending the Indoor Unit

(1) Fix the suspension bolts securely in the ceiling using the method shown in the diagrams (Figs. 3-1 and 3-2), by attaching them to the ceiling support structure, or by any other method that ensures that the unit will be securely and safely suspended.

(2) Follow Fig. 3-2 and Table 3-1 to make the holes in the ceiling.

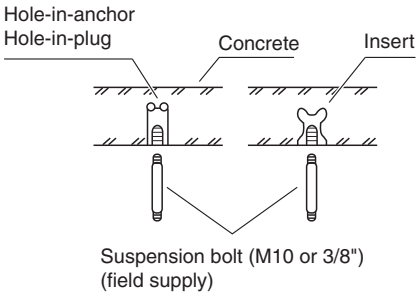


Fig. 3-1

Table 3-1

Type		A	B	C	D
26	inch	30-15/16	29-21/64	33-55/64 to 35-53/64	33-55/64 to 35-53/64
	mm	786	745	860 to 910	860 to 910
36, 42	inch	30-15/16	29-21/64	33-55/64 to 35-53/64	33-55/64 to 35-53/64
	mm	786	745	860 to 910	860 to 910

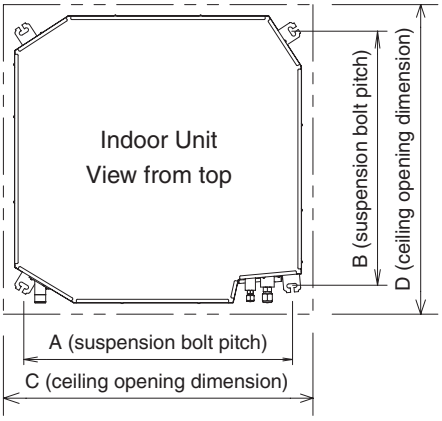


Fig. 3-2

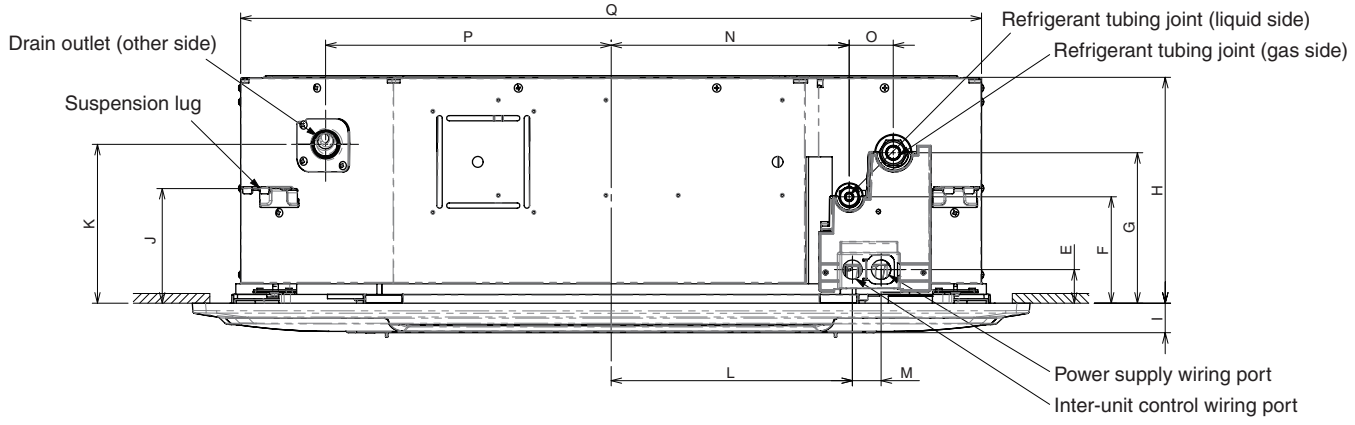


Fig. 3-3

Table 3-2

Type		E	F	G	H	I	J	K	L	M	N	O	P	Q
26	inch	1-1/2	4-49/64	6-47/64	10-5/64	1-5/16	5-1/8	7-3/32	10-25/32	1-9/32	10-5/8	1-31/32	12-3/4	33-5/64
	mm	38	121	171	256	33.5	130	180	274	32.5	270	50	323.8	840
36, 42	inch	1-1/2	4-49/64	6-47/64	12-9/16	1-5/16	5-1/8	7-3/32	10-25/32	1-9/32	10-5/8	1-31/32	12-3/4	33-5/64
	mm	38	121	171	319	33.5	130	180	274	32.5	270	50	323.8	840

3-3. Placing the Unit Inside the Ceiling

This unit is equipped with the drain pump. Check a tape measure or carpenter's level.

Before installing the ceiling panel, complete the work of drain pipe and refrigerant pipe installation.

(1) When placing the unit inside the ceiling, determine the pitch of the suspension bolts using the supplied full-scale installation diagram. (Fig. 3-4)
Tubing and wiring must be laid inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the tubing and wiring into position for connection to the unit before placing the unit inside the ceiling.

(2) The length of suspension bolts must be appropriate for a distance between the bottom of the bolt and the bottom of the unit of more than 45/64" (18 mm) as shown in Fig. 3-4.

(3) Thread the 3 hexagonal nuts and 2 washers (field supply) onto each of the 4 suspension bolts as shown in Fig. 3-5. Use 1 nut and 1 washer for the upper side, and 2 nuts and 1 washer for the lower side, so that the unit will not fall off the suspension lugs.

(4) Adjust so that the distance between the unit and the ceiling bottom is 15/32" (12 mm) ~ 43/64" (17 mm). Tighten the nuts on the upper side and lower side of the suspension lug.

(5) Remove the protective polyethylene used to protect the fan parts during transport.

(6) Check with a tape measure or carpenter's level.

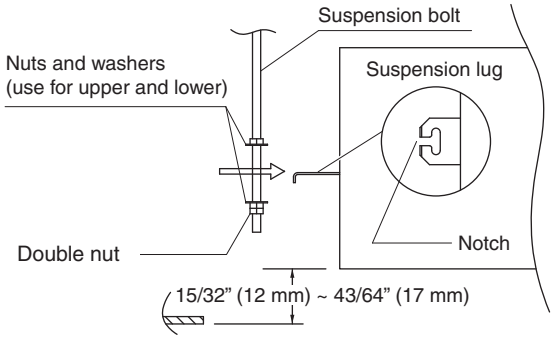


Fig. 3-5

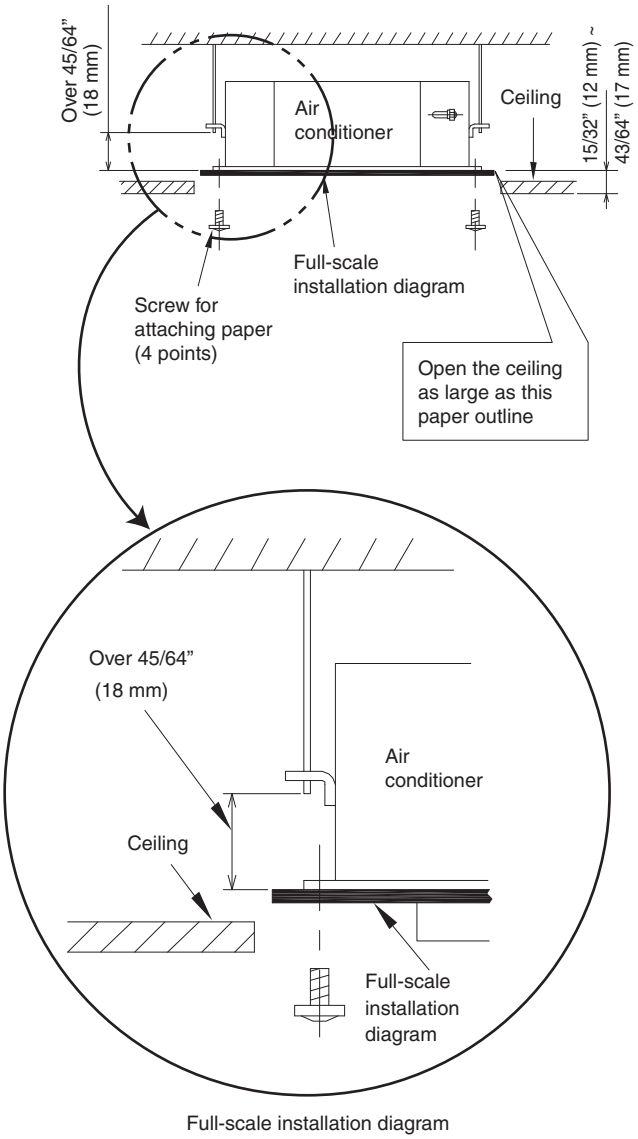


Fig. 3-4

3-4. How to Process Tubing

Refer to the section "5. HOW TO PROCESS TUBING".

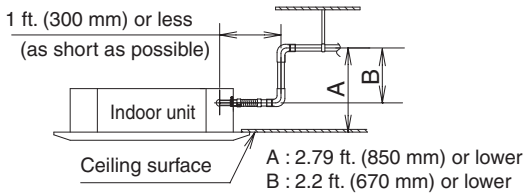
3-5. Installing the Drain Pipe

3-5-1. Before Performing the Installation Drain Piping

(1) Limitations of Raising the Drain Pipe Connection

CAUTION

- The drain pipe can be raised to a maximum height of 2.79 ft. (850 mm) from the bottom surface of the ceiling. Do not attempt to raise it higher than 2.79 ft. (850 mm). Doing so will result in water leakage. (Fig. 3-6)



* Length of supplied drain pipe = 9-27/32" (250 mm)

Fig. 3-6

(2) Limitations of Drain Pipe Connection

CAUTION

- Do not install the drain pipe with an upward gradient from the drain port connection. This will cause the drain water to flow backward and leak when the unit is not operating. (Fig. 3-7)
- Do not install an air bleeder as this may cause water to spray from the drain pipe outlet. (Fig. 3-7)
- Do not provide U-trap or bell-shaped trap in the middle of the drain pipe. Doing so will cause abnormal sound. (Fig. 3-7)
- Make sure the drain pipe has a downward gradient (1/100 or more; downward from drain port connection). (Fig. 3-8)

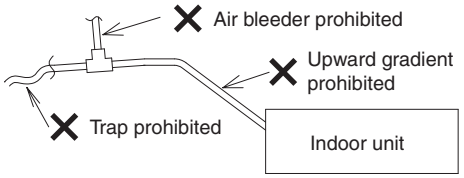


Fig. 3-7

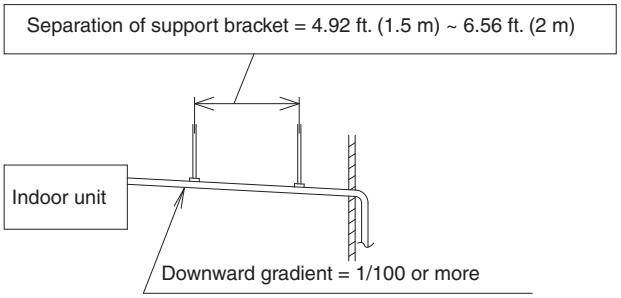


Fig. 3-8

(3) Limitations of Drain Hose Connection

CAUTION

- Do not bend the supplied drain hose 90° or more. Bend it less than 45°. (Fig. 3-9)
- Do not make a trap in the middle of the supplied drain hose. Doing so will cause abnormal sound. (Fig. 3-10)

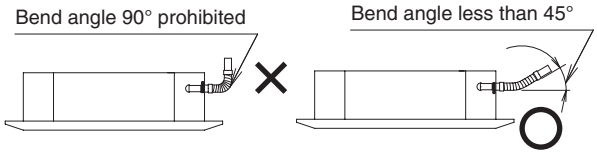


Fig. 3-9

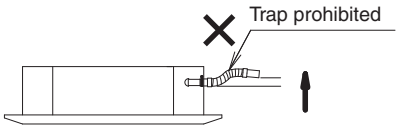


Fig. 3-10

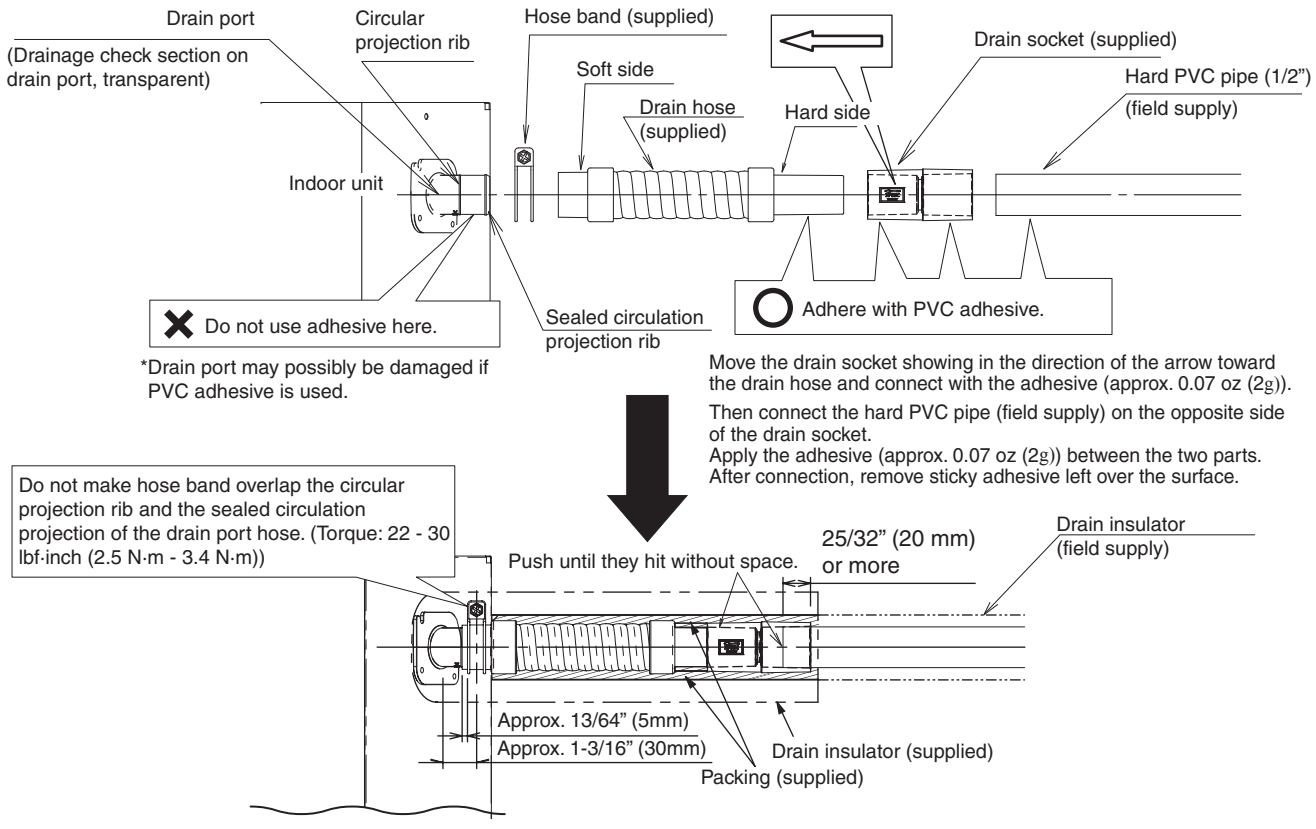
3-5-2. Installing the Drain Hose

CAUTION

- Do not apply force to the drain port when connecting the drain hose. Install and fix it near the indoor unit as close as possible.
- Do not use adhesive when connecting the drain port pipe and the drain hose.

(1) How to Install the Drain Hose

1) First insert the supplied hose band into the drain port pipe. Then make sure the head of the screw is facing toward a technical engineer when placing the screw of the hose band at an upward angle.
2) Insert the soft PVC socket of the supplied drain hose to the drain port pipe. Do not use adhesive when connecting the drain hose to the drain port pipe.
   Insert it until the tip of the drain hose contacts the circular projection rib of the drain port pipe.
3) Move the hose band so that the center position of the hose band can be placed approx. 1-3/16" (30 mm) away from the external plate of the indoor unit. (Fig. 3-11)
4) Screw the drain hose tightly facing the screw of the hose band upward. (Torque: 22 - 30 lbf·inch (2.5 N·m - 3.4 N·m)) (If the screw is tightened beneath the drain hose, the troubles will be generated.) Pay attention not to make hose band overlap the circular projection rib and the sealed circulation projection of the drain port hose.
5) Move the drain socket showing in the direction of the arrow toward the drain hose and connect with the adhesive (approx. 0.07 oz (2g)).
6) Then connect the hard PVC pipe (field supply) on the opposite side of the drain socket.
   Apply the adhesive (approx. 0.07 oz (2g)) between the two parts.
   After connection, remove sticky adhesive left over the surface.



* After checking the drainage, wrap the supplied packing and drain hose insulator around the hose.

Fig. 3-11

3-5-3. Checking the Drainage

Be careful because the fan will start when you short the pin on the indoor control board.

After wiring (refer to “4. ELECTRICAL WIRING”.) and drain piping are completed, use the following procedure to check that the water will drain smoothly. For this, prepare a bucket and wiping cloth to catch and wipe up spilled water.

(1) Connect power to the power terminal board (L1, L2 terminals) inside the electrical component box.
(2) Slowly pour about 0.3 gal (1,200 cc) of water into the drain pan to check drainage. (Fig. 3-12)
(3) Short the check pin (CHK) on the indoor control board and operate the drain pump. Check the water flow through the transparent drain pipe and see if there is any leakage.
(4) When the check of drainage is complete, open the check pin (CHK) and remount the tube cover.
(5) Confirm the “Checkpoint” under the section “8. PRECAUTIONS ON TEST RUN” after installation of indoor and outdoor units, panels and electrical wiring.

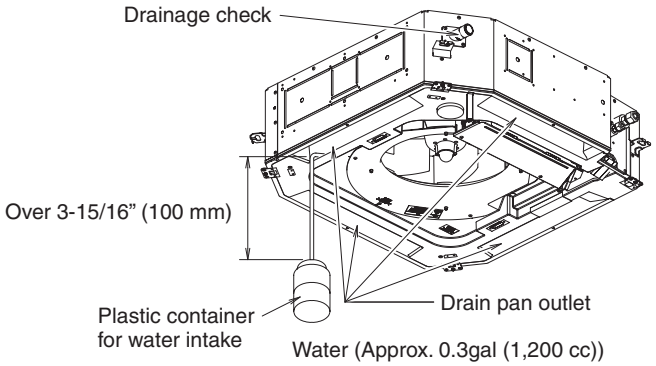
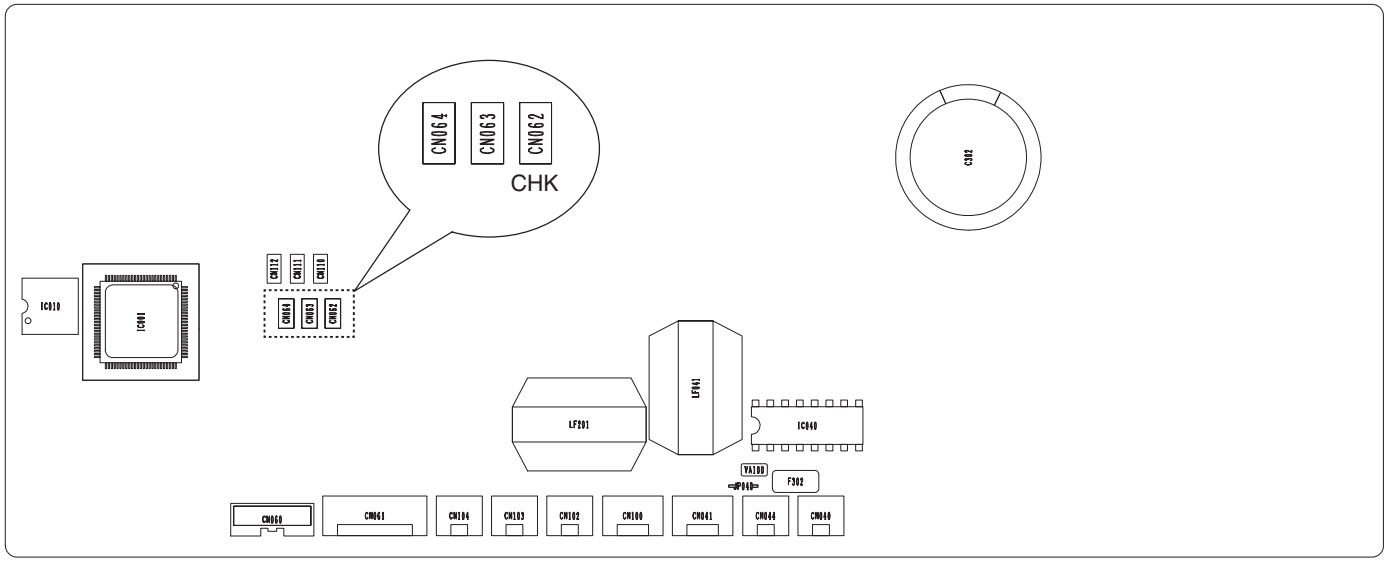


Fig. 3-12



Indoor Unit control PC board

CAUTION **Be careful because the fan will start when you short the pin on the indoor control board.**

4. ELECTRICAL WIRING

4-1. General Precautions on Wiring

(1) Before wiring, confirm the rated voltage of the unit as shown on its nameplate, then carry out the wiring closely following the wiring diagram.

WARNING

(2) This equipment is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage Circuit Breaker (ELCB) must be an approved 15 A, having a contact separation in all poles.

(3) To prevent possible hazards from insulation failure, the unit must be grounded.

(4) Each wiring connection must be done in accordance with the wiring system diagram. Wrong wiring may cause the unit to misoperate or become damaged.

(5) Do not allow wiring to touch the refrigerant tubing, compressor, or any moving parts of the fan.

(6) Unauthorized changes in the internal wiring can be very dangerous. The manufacturer will accept no responsibility for any damage or misoperation that occurs as a result of such unauthorized changes.

(7) Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.
You must ensure that installation complies with all relevant rules and regulations.

(8) To prevent malfunction of the air conditioner caused by electrical noise, care must be taken when wiring as follows:

- The remote control wiring and the inter-unit control wiring should be wired apart from the inter-unit power wiring.
- Use shielded wires for inter-unit control wiring between units and ground the shield on single side.

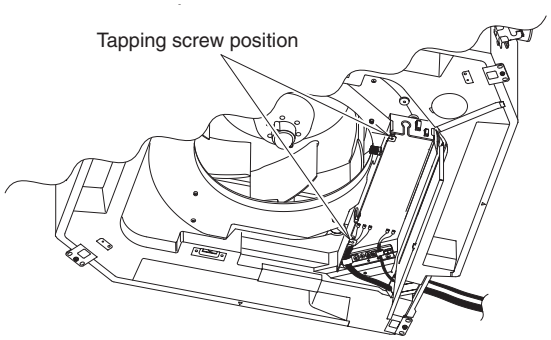
(9) If the power supply cord of this appliance is damaged, it must be replaced by a repair shop designated by the manufacturer, because special-purpose tools are required.

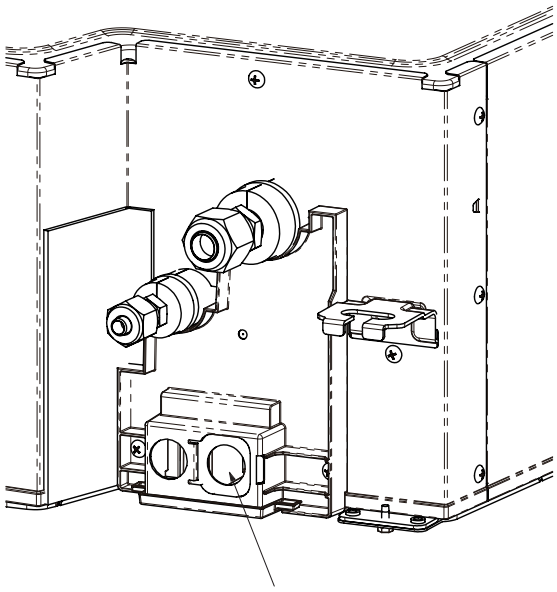
4-2. Important Note for Wiring 4-Way Cassette Type

(1) The power supply inlet is located at the lower area of the refrigerant tubing side of the unit. The electrical component box is located at the air intake of the bottom of the unit.

(2) Before installing the ceiling panel, be sure to carry out the wiring connection.

(3) Remove the lid located on the bottom of the indoor unit attaching the electrical component box by unscrewing the Phillips head tapping screws (×2).





(4) Lead the wires from the power supply inlet to the unit. Be sure to lead the wires through the power supply inlet. Make sure that no wire is caught between the indoor unit and ceiling panel. Otherwise, the unit may cause a fire.

(5) Connect the wires into the terminals through the power supply inlet for the electrical component box.
Fix the wires with a clamping clip.

(6) Reinstall the lid of the electrical component box in its original position with paying attention not to have the wires caught in the lid.

4-3. Recommended Wire Length and Wire Diameter for Power Supply System

Indoor unit

Type	Time delay fuse or circuit capacity
U2	15 A

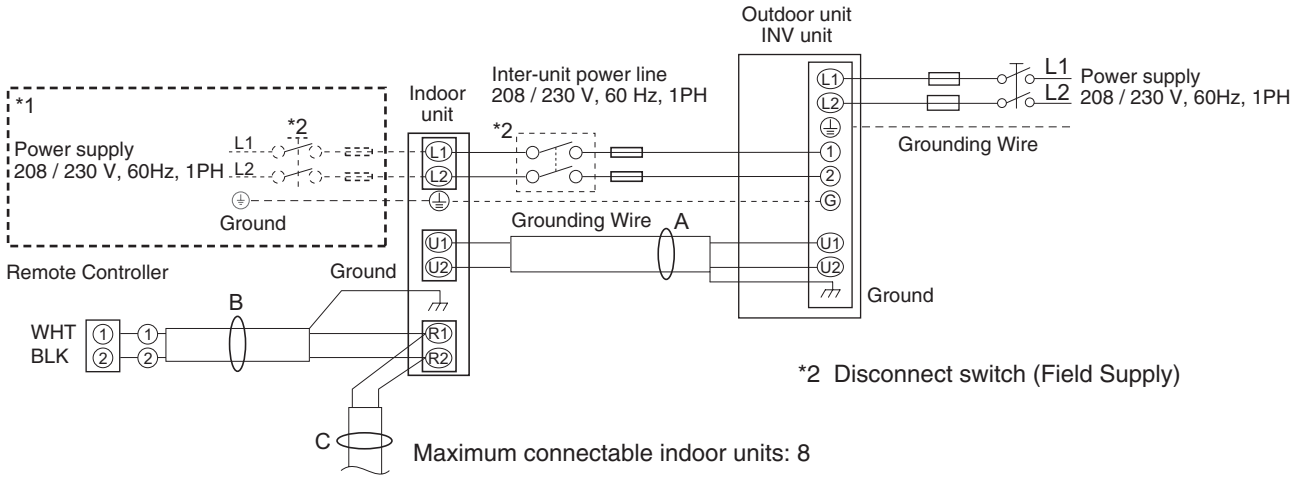
Control wiring

(A) Inter-unit control wiring (between outdoor and indoor units)	(B) Remote control wiring	(C) Control wiring for group control
AWG #18 ($0.75\ mm^2$) **Use shielded wiring***	AWG #18 ($0.75\ mm^2$) **Use shielded wiring***	AWG #18 ($0.75\ mm^2$) **Use shielded wiring***
Max. 3,280 ft. (Max. 1,000 m)	Max. 1,640 ft. (Max. 500 m)	Max. 650 ft. (Total) (Max. 200 m (Total))

NOTE

* With ring-type wire terminal.

4-4. Wiring System Diagrams



NOTE

* 1 When the power source is not supplied from the outdoor unit via the inter-unit power line, provide external power source in the indoor unit.

* 2 Disconnect Switch may be needed by the National/Local code.

ALWAYS COMPLY WITH NATIONAL AND LOCAL CODE REQUIREMENTS.

NOTE

(1) Refer to Section “4-3. Recommended Wire Length and Wire Diameter for Power Supply System” for the explanation of “A”, “B” and “C” in the above diagram.
(2) The basic connection diagram of the indoor unit shows the 2P and 4P terminal boards, so the terminal boards in your equipment may differ from the diagram.
(3) Refrigerant Circuit (R.C.) address should be set before turning the power on.
(4) Regarding R.C. address setting, refer to the installation instructions supplied with the remote controller (optional). Auto address setting can be executed by remote controller automatically.
(5) Ensure that the ground shield cable for inter-unit control wiring between outdoor and indoor units should be connected to the outdoor.
(6) Ensure that the ground shield cable for a remote controller should be connected only to the indoor unit.

Fig. 4-1

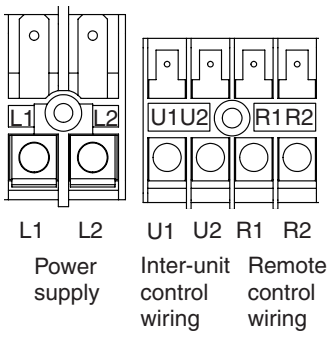


Fig. 4-2

CAUTION

Loose wiring may cause the terminal to overheat or result in unit malfunction.
A fire hazard may also occur.
Therefore, ensure that all wiring is tightly connected.

When connecting each power wire to the terminal, follow the instructions on “How to connect wiring to the terminal” and fasten the wire securely with the fixing screw of the terminal board.

How to connect wiring to the terminal

■ For stranded wiring

(1) Cut the wire end with cutting pliers, then strip the insulation to expose the stranded wiring approx. 3/8” (10 mm) and tightly twist the wire ends. (Fig. 4-3)
(2) Using a Phillips head screwdriver, remove the terminal screw(s) on the terminal board.
(3) Using a ring connector fastener or pliers, securely clamp each stripped wire end with a ring pressure terminal.
(4) Place the ring pressure terminal, and replace and tighten the removed terminal screw using a screwdriver. (Fig. 4-4)
(5) Confirm the “Checkpoint” under the section “8. PRECAUTIONS ON TEST RUN” after installation of indoor and outdoor units, panels and electrical wiring.

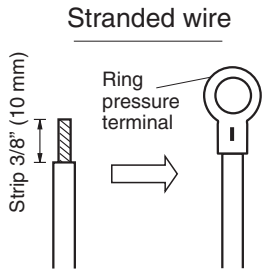


Fig. 4-3

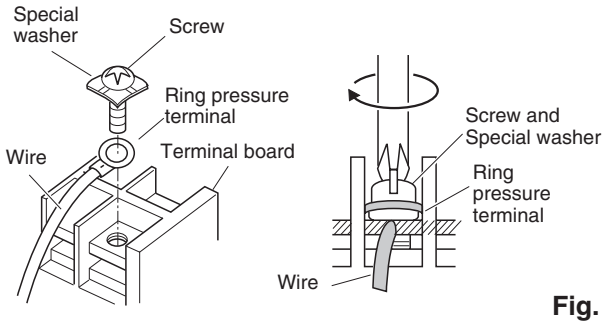
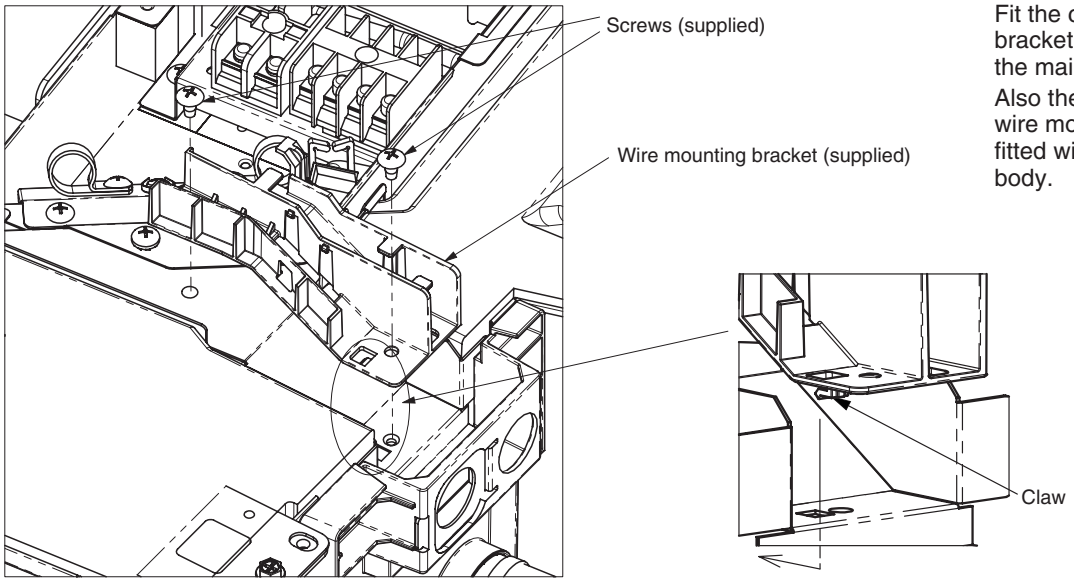


Fig. 4-4

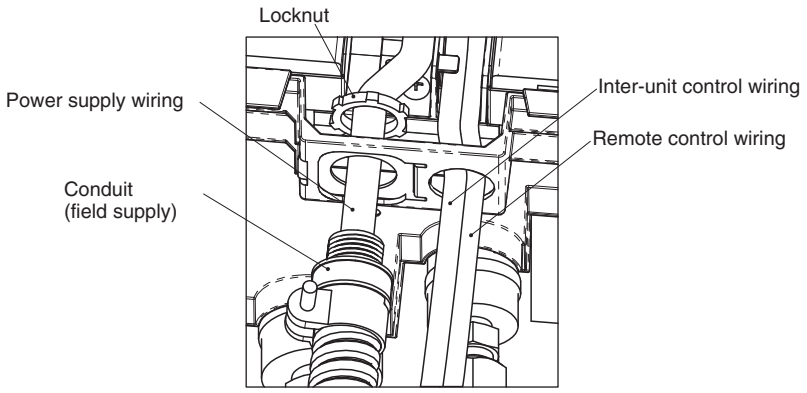
■ Wiring sample

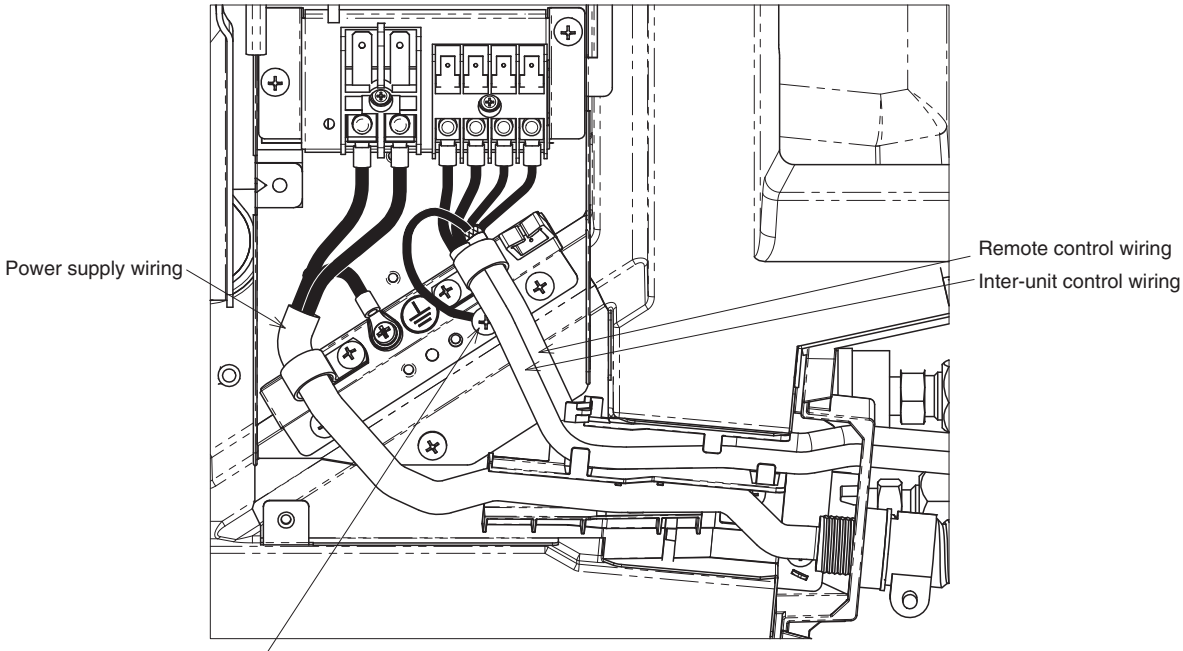
Type U2

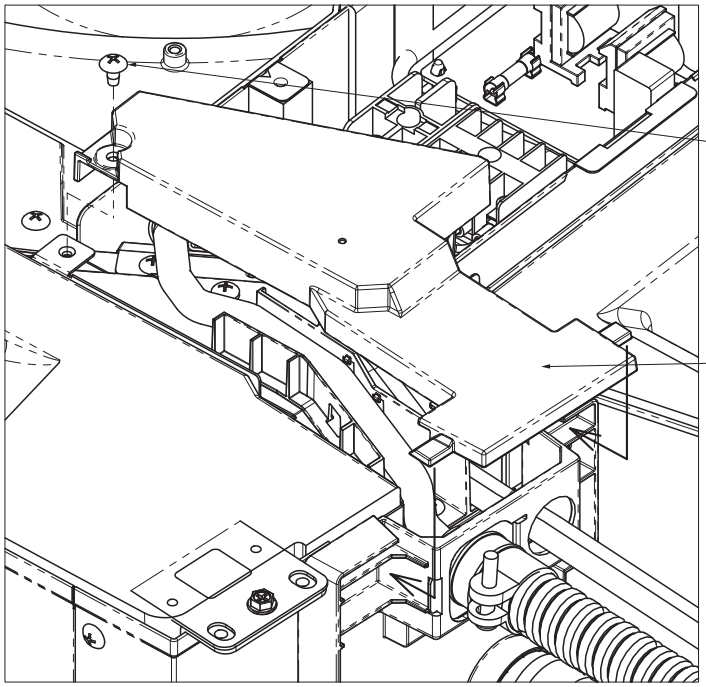


Fit the claw of the wire mounting bracket into the square hole of the main body.

Also the two screw holes of the wire mounting bracket must be fitted with two holes on the main body.







* Take care not to pinch the wires when covering by the wire cover.

5. HOW TO PROCESS TUBING

The liquid tubing side is connected by a flare nut, and the gas tubing side is connected by brazing.

5-1. Connecting the Refrigerant Tubing

Use of the Flaring Method

Many of conventional split system air conditioners employ the flaring method to connect refrigerant tubes which run between indoor and outdoor units. In this method, the copper tubes are flared at each end and connected with flare nuts.

Flaring Procedure with a Flare Tool

(1) Cut the copper tube to the required length with a tube cutter. It is recommended to cut approx. 1 – 2 ft. (30 - 50 cm) longer than the tubing length you estimate.
(2) Remove burrs at the end of the copper tube with a tube reamer or a similar tool. This process is important and should be done carefully to make a good flare. (Fig. 5-1)

NOTE

When reaming, hold the tube end downward and be sure that no copper scraps fall into the tube. (Fig. 5-2)

(3) Remove the flare nut from the unit and be sure to mount it on the copper tube.
(4) Make a flare at the end of the copper tube with a flare tool. (Fig. 5-3)

NOTE

A good flare should have the following characteristics:

- inside surface is glossy and smooth
- edge is smooth
- tapered sides are of uniform length

Caution Before Connecting Tubes Tightly

(1) Apply a sealing cap or water-proof tape to prevent dust or water from entering the tubes before they are used.
(2) Be sure to apply refrigerant lubricant to the matching surfaces of the flare and union before connecting them together. This is effective for reducing gas leaks. (Fig. 5-4)
(3) For proper connection, align the union tube and flare tube straight with each other, then screw in the flare nut lightly at first to obtain a smooth match. (Fig. 5-5)

- Adjust the shape of the liquid tube using a tube bender at the installation site and connect it to the liquid tubing side valve using a flare.

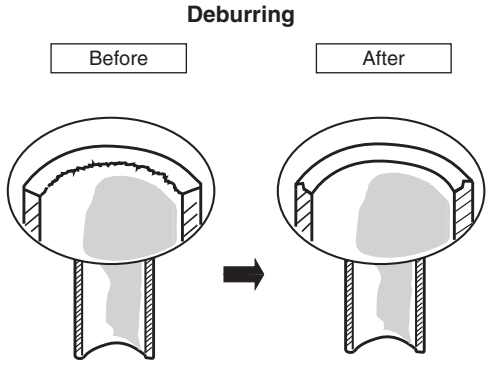


Fig. 5-1

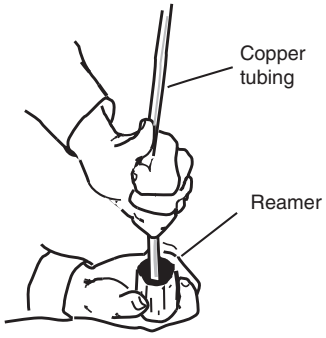


Fig. 5-2

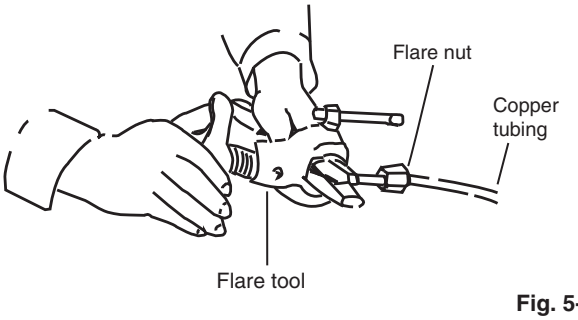


Fig. 5-3

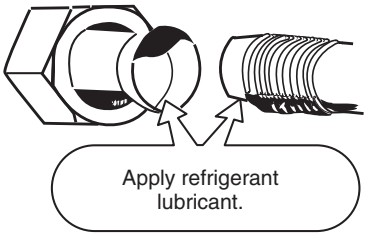


Fig. 5-4

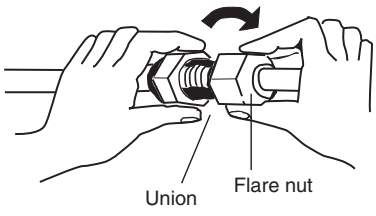


Fig. 5-5

Cautions During Brazing

- **Replace air inside the tube with nitrogen gas to prevent copper oxide film from forming during the brazing process. (Oxygen, carbon dioxide and Freon are not acceptable.)**
- **Do not allow the tubing to get too hot during brazing. The nitrogen gas inside the tubing may overheat, causing refrigerant system valves to become damaged. Therefore allow the tubing to cool when brazing.**
- **Use a reducing valve for the nitrogen cylinder.**
- **Do not use agents intended to prevent the formation of oxide film. These agents adversely affect the refrigerant and refrigerant oil, and may cause damage or malfunctions.**

5-2. Connecting Tubing Between Indoor and Outdoor Units

(1) Tightly connect the indoor-side refrigerant tubing extended from the wall with the outdoor-side tubing.

Indoor Unit Tubing Connection (ℓ_1, ℓ_2...ℓ_{n-1})

Indoor unit type		26, 36, 42
Gas tubing	inch	ø5/8
	mm	ø15.88
Liquid tubing	inch	ø3/8
	mm	ø9.52

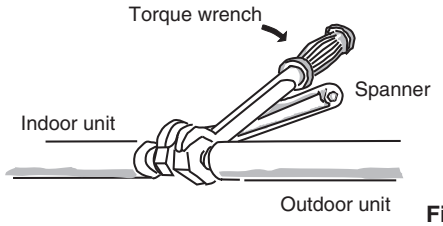


Fig. 5-6

(2) To fasten the flare nuts, apply specified torque as at right:

- When removing the flare nuts from the tubing connections, or when tightening them after connecting the tubing, be sure to use a torque wrench and a spanner. (Fig. 5-6)
  If the flare nuts are over-tightened, the flare may be damaged, which could result in refrigerant leakage and cause injury or asphyxiation to room occupants.

- For the flare nuts at tubing connections, be sure to use the flare nuts that were supplied with the unit, or else flare nuts for R410A (type 2). The refrigerant tubing that is used must be of the correct wall thickness as shown in the table at right.

  Because the pressure is approximately 1.6 times higher than conventional refrigerant pressure, the use of ordinary flare nuts (type 1) or thin-walled tubes may result in tube rupture, injury, or asphyxiation caused by refrigerant leakage.

Tube diameter		Tightening torque approximate	Tube thickness
ø1/4" (ø6.35 mm)	lbf·inch	120 – 160 lbf·inch	t0.032"
	N·m	14 – 18 N·m	t0.8 mm
	{kgf·cm}	{140 – 180 kgf·cm}	
ø3/8" (ø9.52 mm)	lbf·inch	300 – 360 lbf·inch	t0.032"
	N·m	34 – 42 N·m	t0.8 mm
	{kgf·cm}	{340 – 420 kgf·cm}	
ø1/2" (ø12.7 mm)	lbf·inch	430 – 540 lbf·inch	t0.032"
	N·m	49 – 61 N·m	t0.8 mm
	{kgf·cm}	{490 – 610 kgf·cm}	
ø5/8" (ø15.88 mm)	lbf·inch	590 – 710 lbf·inch	t0.04"
	N·m	68 – 82 N·m	t1.0 mm
	{kgf·cm}	{680 – 820 kgf·cm}	

- In order to prevent damage to the flare caused by over-tightening of the flare nuts, use the table above as a guide when tightening.
- When tightening the flare nut on the liquid tube, use an adjustable wrench with a nominal handle length of 7-7/8 in. (200 mm).

5-3. Insulating the Refrigerant Tubing

Tubing Insulation

- Thermal insulation must be applied to all units tubing, including distribution joint (field supply).
  * For gas tubing, the insulation material must be heat resistant to 248°F (120°C) or above. For other tubing, it must be heat resistant to 176°F (80°C) or above.

  Insulation material thickness must be 13/32" (10 mm) or greater.
  If the conditions inside the ceiling exceed DB 86°F (30°C) and RH 70%, increase the thickness of the gas tubing insulation material with one grade higher.

Two tubes arranged together

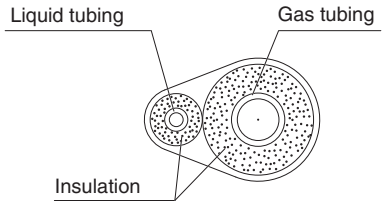


Fig. 5-7

WARNING **If the exterior of the outdoor unit valves has been finished with a square duct covering, make sure you allow sufficient space to access the valves and to allow the panels to be attached and removed.**

Taping the flare nuts

Wind the white insulation tape around the flare nuts at the gas tube connections. Then cover up the tubing connections with the flare insulator, and fill the gap at the union with the supplied black insulation tape. Finally, fasten the insulator at both ends with the supplied vinyl clamps. (Fig. 5-8)

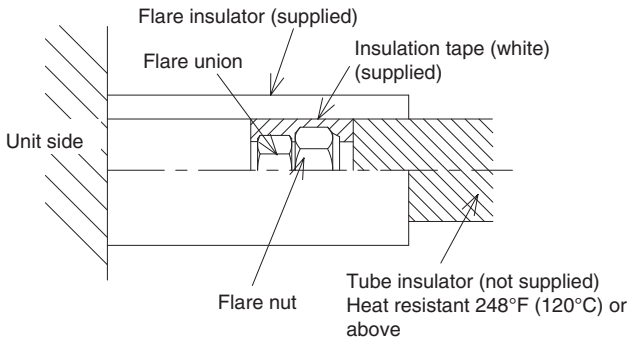


Fig. 5-8

Insulation material

The material used for insulation must have good insulation characteristics, be easy to use, be age resistant, and must not easily absorb moisture.

WARNING **After a tube has been insulated, never try to bend it into a narrow curve because it can cause the tube to break or crack.**
Never grasp the drain or refrigerant connecting outlets when moving the unit.

5-4. Taping the Tubes

(1) At this time, the refrigerant tubes (and electrical wiring if local codes permit) should be taped together with armoring tape in 1 bundle. To prevent condensation from overflowing the drain pan, keep the drain hose separate from the refrigerant tubing.
(2) Wrap the armoring tape from the bottom of the outdoor unit to the top of the tubing where it enters the wall. As you wrap the tubing, overlap half of each previous tape turn.
(3) Clamp the tubing bundle to the wall, using 1 clamp approx. each meter. (Fig. 5-9)

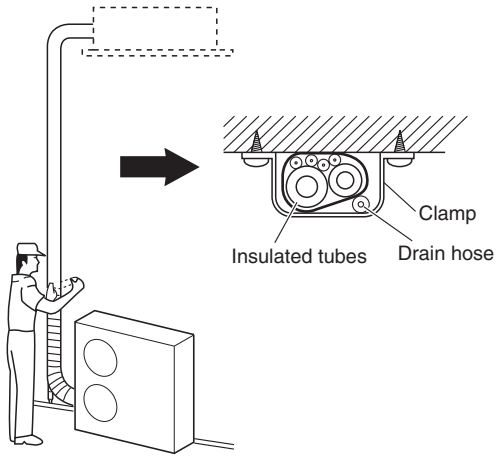


Fig. 5-9

NOTE

Do not wind the armoring tape too tightly since this will decrease the heat insulation effect. Also ensure that the condensation drain hose splits away from the bundle and drips clear of the unit and the tubing.

5-5. Finishing the Installation

After finishing insulating and taping over the tubing, use sealing putty to seal off the hole in the wall to prevent rain and draft from entering. (Fig. 5-10)

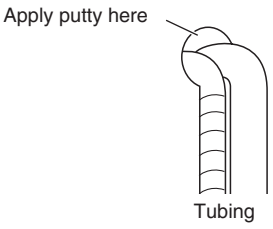


Fig. 5-10

Confirm the “Checkpoint” under the section “8. PRECAUTIONS ON TEST RUN” after installation of indoor and outdoor units, panels and electrical wiring.

6. HOW TO INSTALL THE TIMER REMOTE CONTROLLER OR HIGH-SPEC WIRED REMOTE CONTROLLER (OPTIONAL PART)

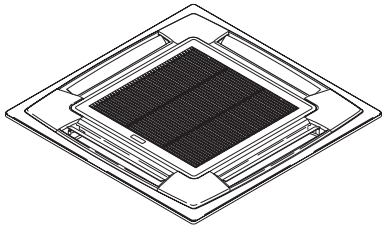
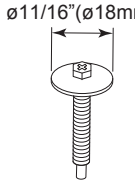
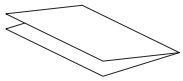
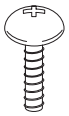
NOTE

Refer to the Operating Instructions attached to the optional Timer Remote Controller or optional High-spec Wired Remote Controller.

7. HOW TO INSTALL THE CEILING PANEL

■ 4-Way Cassette Type (CZ-36KPU3U)

Accessories

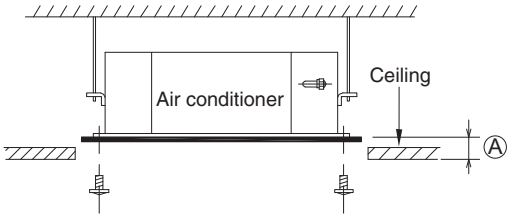
Ceiling panel ×1	Washer head screws ×4 M5 × 1-37/64" (40mm)	Installation notes ×1	Screws ×4 5/32" × 15/32" (4mm × 12mm)
			

7-1. Preparation for Ceiling Panel Installation

(1) Checking the unit position

1) Check that the ceiling hole is within the following range:
33-55/64" × 33-55/64" to 35-13/64" × 35-13/64"
(860 × 860 to 910 × 910 mm)

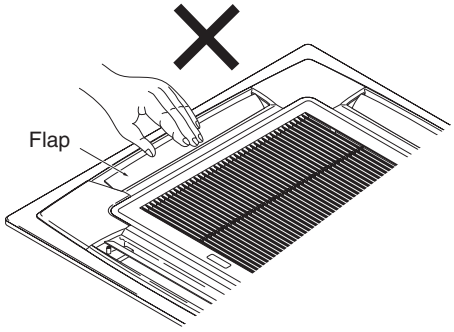
2) Confirm that the position of the indoor unit and the ceiling as shown in the diagram. If the positions of the ceiling surface and unit do not match, air leakage, water leakage, flap operation failure, or other problems may occur.



Ⓐ : Be sure to necessarily make a space within the range of 15/32" (12 mm)~43/64" (17 mm).
If not within this range, malfunction or other trouble may occur.

CAUTION

- **Never place the panel face-down. Either hang it vertically or place it on top of a projecting object. Placing it face-down will damage the surface.**
- **Do not touch the flap or apply force to it. (This may cause flap malfunction.)**



7-2. How to Install the Ceiling Panel

(1) Removing the air-intake grille

1) Remove the 2 screws on the latch of the air-intake grille. (Fig. 7-1) (Reattach the air-intake grille after installation of the ceiling panel.)

2) Slide the air-intake grille catches in the direction shown by the arrows ① to open the grille. (Fig. 7-1)

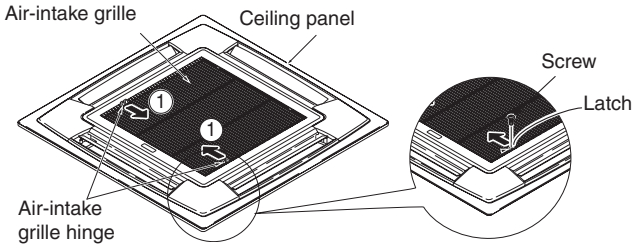


Fig. 7-1

3) With the air-intake grille opened, remove the grille hinge from the ceiling panel by sliding it in the direction shown by the arrow ②. (Fig. 7-2) (Reattach the air-intake grille after installation of the ceiling panel.)

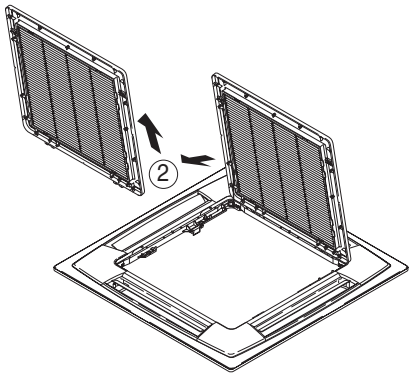


Fig. 7-2

(2) Removing the corner cover

Slide the corner cover in the direction of the arrow ① and remove it.

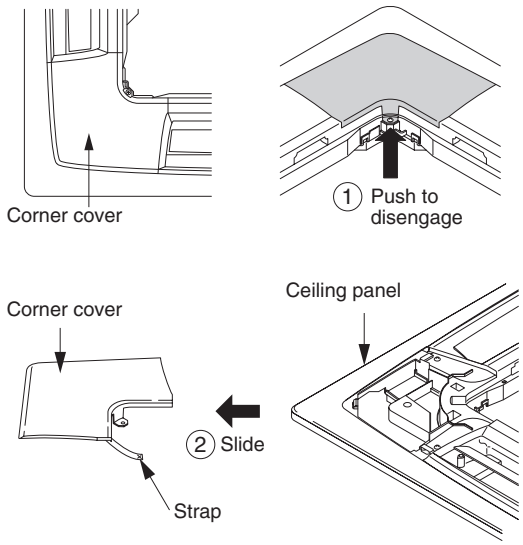


Fig. 7-3

(3) Installing the ceiling panel

The power must be turned ON in order to change the flap angle. (Do not attempt to move the flap by hand. Doing so may damage the flap.)

1) Hang the temporary latches on the inside of the ceiling panel to the receptacle on the unit to temporarily attach the ceiling panel in place. (Fig. 7-4)

- The ceiling panel must be installed in the correct direction relative to the unit. Align the REF. PIPE and DRAIN marks on the ceiling panel corner with the correct positions on the unit.
- When removing the ceiling panel, push the temporary latches outward while holding the ceiling panel. (Fig. 7-4)

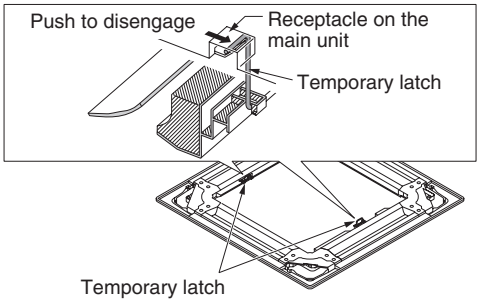


Fig. 7-4

2) Align the panel installation holes and the unit screw holes.

3) Tighten the supplied washer head screws at the 4 panel installation locations so that the panel is attached tightly to the unit. (Fig. 7-5)

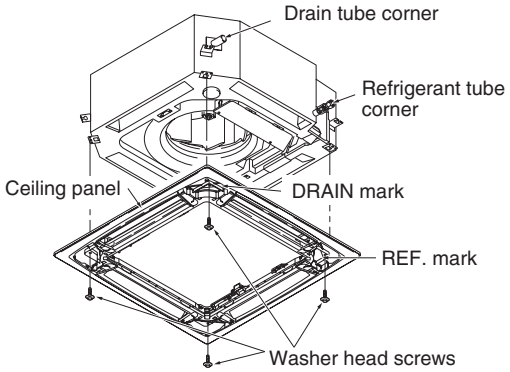


Fig. 7-5

4) Check that the panel is attached tightly to the ceiling.

- At this time, make sure that there are no gaps between the unit and the ceiling panel, or between the ceiling panel and the ceiling surface. (Fig. 7-6)

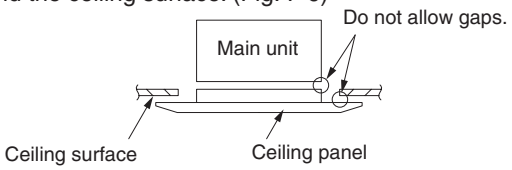
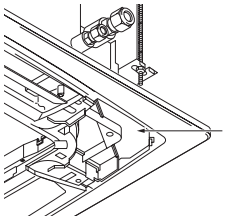


Fig. 7-6

- If there is a gap between the panel and the ceiling, leave the ceiling panel attached and make fine adjustments to the installation height of the unit to eliminate the gap with the ceiling. (Fig. 7-7)

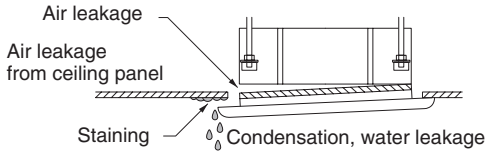


Make fine adjustments by a wrench or other tool to the installation height of the unit to eliminate the gap with the ceiling through the hole of the corner cover.

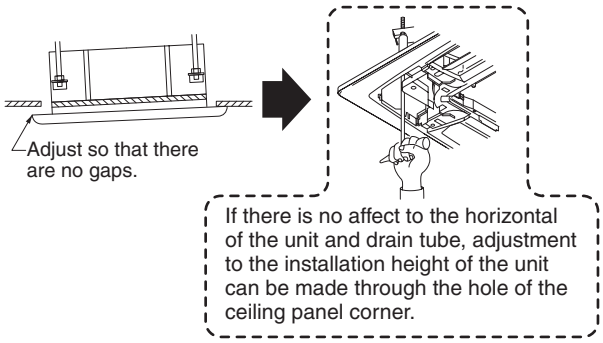
Fig. 7-7

CAUTION

- **If the screws are not sufficiently tightened, trouble such as that shown in the figure below may occur. Be sure to tighten the screws securely.**



- **If a gap remains between the ceiling surface and the ceiling panel even after the screws are tightened, adjust the height of the unit again.**



(4) Wiring the Ceiling Panel

1) Open the cover of the electrical component box for control PCB.
2) Connect the 22P connector (white) from the ceiling panel to the connector on the control PCB in the unit electrical component box. In this case, expose the cutout section of the tube for the wiring protection to the outside from the electrical component box and fix it with the clamper attached to the electrical component box.

- **If the connectors are not connected, the Auto Flap will not operate. Be sure to connect them securely. (If not connected completely, "09" will be displayed on the remote controller.)**
- **Check that the wiring connector is not caught between the electrical component box and the cover.**
- **Check that the wiring connector is not caught between the unit and the ceiling panel.**

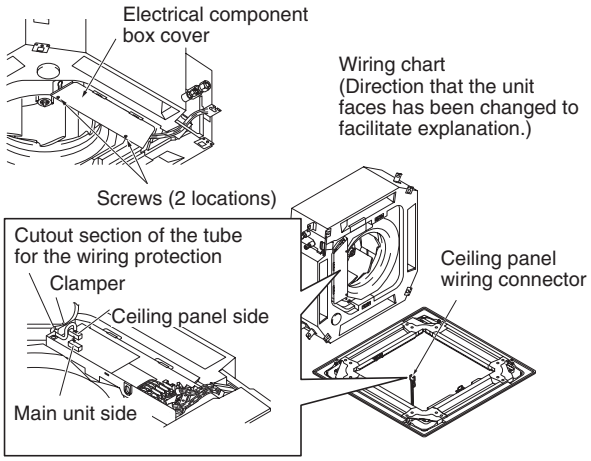
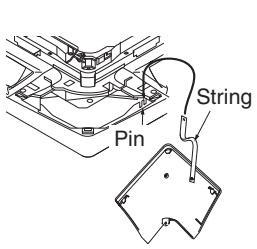


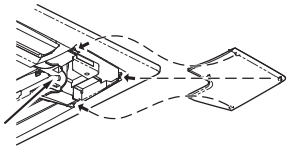
Fig. 7-8

(5) How to Attach the Corner & Air-Intake Grille

A. Attaching the corner cover

1) Check that the safety cord from the corner cover is fastened to the ceiling panel pin, as shown in the figure below.
2) Use the supplied screws to attach the corner cover to the ceiling panel.

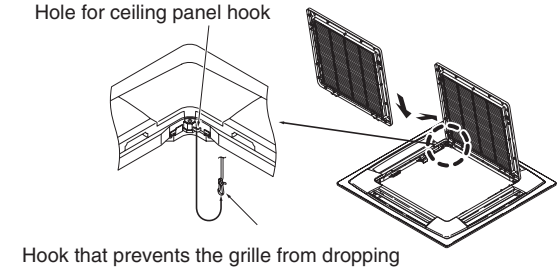




Place the corner cover so that the 3 tabs fit into the holes in the ceiling panel. Then fasten it in place with the supplied screws.

B. Attaching the air-intake grille

- To install the air-intake grille, follow the steps for "Removing the grille" in the reverse order. By rotating the air-intake grille, it is possible to attach the grille onto the ceiling panel from any of 4 directions. Coordinate the directions of the air-intake grilles when installing multiple units, and change the directions according to customer's requests.
- When attaching the air-intake grille, be careful that the flap lead wire does not become caught.
- Be sure to attach the safety cord that prevents the air-intake grille from dropping off to the ceiling panel unit as shown in the figure below.
- With this ceiling panel, the directions of the air-intake grille lattices when installing multiple units, and the position of the label showing the company name on the corner panel, can be changed according to customer's requests, as shown in the figure below. However, the wireless signal receiver can only be installed at the refrigerant-tubing corner of the ceiling unit.



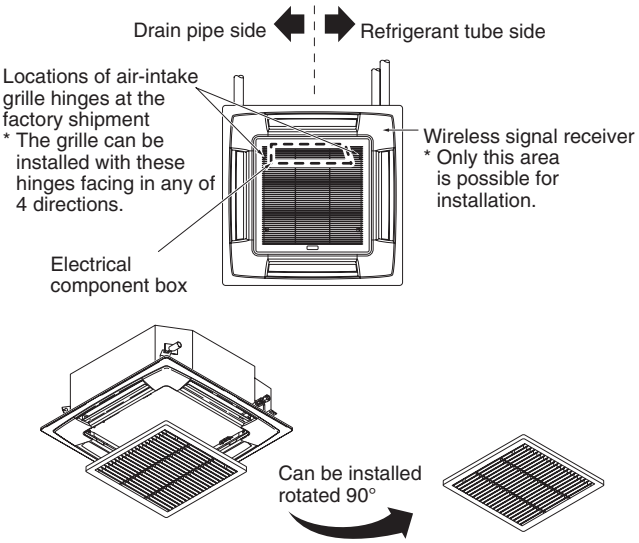


Fig. 7-9

7-3. Others

(1) Checking After Installation

1) Check that there are no gaps between the unit and the ceiling panel, or between the ceiling panel and the ceiling surface.
   * Gaps may cause water leakage and condensation.
2) Check that the wiring is securely connected.
   * If it is not securely connected, the auto flap will not operate.
   ("P09" is displayed on the remote controller.)
   In addition, the water leakage and condensation may occur.

(2) Operating the Wireless Remote Controller

For details of installation, refer to the section "Wireless Signal Receiver" in the supplied installation instructions.

(3) Selecting DC Fan Motor Tap (4-Way cassette)

Check the optional parts accordingly in the following table.

Table for DC Fan Motor Tap Setting

Setting No.	Remote controller setting data Item code 5d	Contents & optional parts name
(3)	0003	Air-blocking material (for 3-way air discharge)
	0003	Air-blocking material (when a discharge duct is connected)
(6)	0006	Air-blocking material (for 2-way air discharge)

<Criteria based on the ceiling height>

Setting No.	Remote controller setting data Item code 5d	S-26PU2U6	S-36PU2U6 S-42PU2U6
(1)	0001	Over 10.8ft. (3.3m)	Over 12.8ft. (3.9m)
(3)	0003	Max. 12.8ft. (3.6m)	Max. 14.8ft. (4.5m)

*1 When using optional parts in different setting No. in combination with multiple units, conform it to the larger setting No.

1) When setting from the P.C. Board

<Procedure>

Stop the system before performing these steps.

① Open the electrical component box cover, then check the indoor unit control PCB.

② Connect the jumper connector (2P: yellow) which was supplied with the optional parts to the correct connector pin on the indoor unit control PCB according to the setting number which was confirmed in Table for DC Fan Motor Tap Setting.

Setting No. (3) :

Then connect the jumper connector to the connector pin TP3 (2P: yellow) on the indoor unit control PCB.

Setting No. (6) :

Then connect the jumper connector to the connector pin TP6 (2P: white) on the indoor unit control PCB.

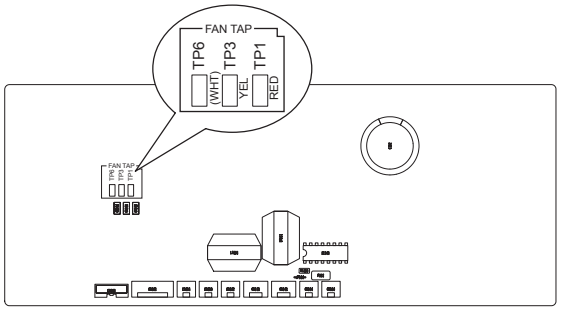


Fig. 7-10

2) When setting with the Wired Remote Controller

<Procedure of CZ-RTC2>

Stop the system before performing these steps.

① Press and hold the [🔧], [SET] and [CANCEL] buttons simultaneously for 4 seconds or longer.

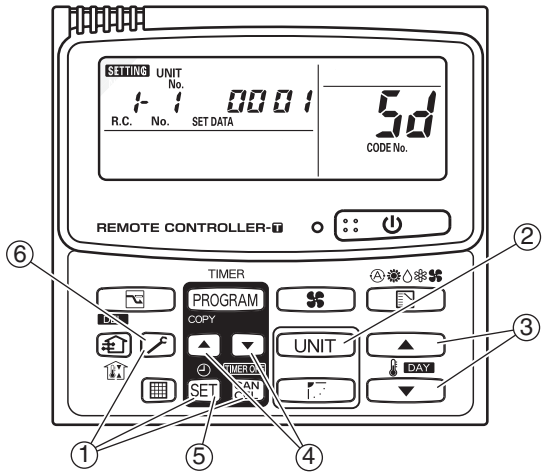
② If group control is in effect, press the [UNIT] button and select the address (unit No.) of the indoor unit to set. At this time, the fan at the indoor unit begins operating.

③ Designate the item code [5d] by adjusting the Temperature Setting [▲] / [▼] buttons.

④ Press the timer time [▲] / [▼] buttons to select the desired setting data.
   * For item codes and setting data, refer to "Table for DC Fan Motor Tap Setting".

⑤ Press the [SET] button.
   (The display stops blinking and remains lit, and setting is completed.)
   *If air-blocking material is used, use the same procedure as in steps ③ – ⑤ above and change the setting for item code "62" to "0000."
   If you wish to change the selected indoor unit, follow the step ②.

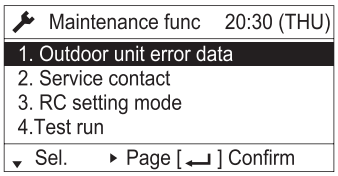
⑥ Press the [🔧] button to return to normal remote controller display.



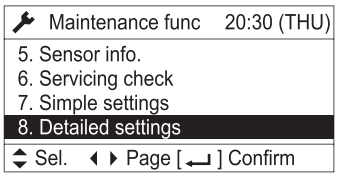
<Procedure of CZ-RTC3 /CZ-RTC5>

Stop the system before performing these steps.

① Keep pressing the [↩], [↵] and [▶] buttons simultaneously for 4 or more seconds.
The “Maintenance func” screen appears on the LCD display.

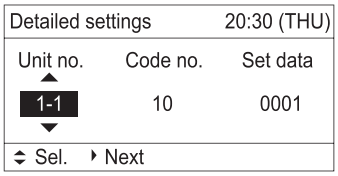


② Press the [▼] or [▲] button to see each menu.
If you wish to see the next screen instantly, press the [◀] or [▶] button.
Select “8. Detailed settings” on the LCD display and press the [↵] button.

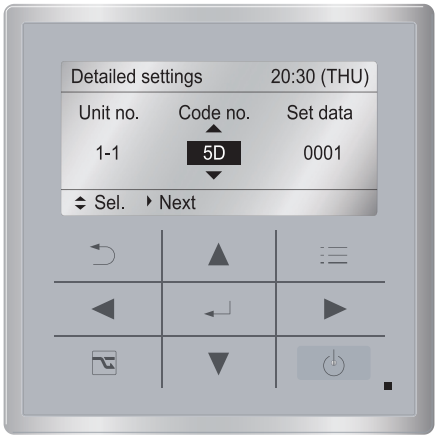


The “Detailed settings” screen appears on the LCD display.

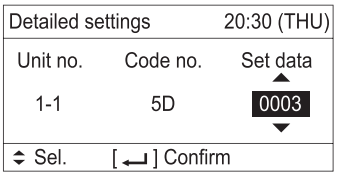
③ Select the “Unit no.” by pressing the [▼] or [▲] button for changes.



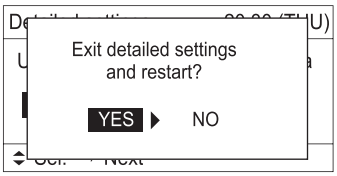
④ Select the “Code no.” by pressing the [◀] or [▶] button.
Change the “Code no.” to “5D” by pressing the [▼] or [▲] button (or keeping it pressed).



⑤ Select the “Set data” by pressing the [◀] or [▶] button.
Select one of the “Set data” in “Table for DC Fan Motor Tap Setting” by pressing the [▼] or [▲] button.
Then press the [↵] button.



⑥ Press the [↩] button.
The “Exit detailed settings and restart?” (Detailed setting-end) screen appears on the LCD display.
Select “YES” and press the [↵] button.



*If air-blocking material is used, use same procedure as in steps ③~⑥ above and change the setting for Code no.“62” to “0000”.

If you wish to change the selected indoor unit, follow the step ②.

<Procedure of CZ-RTC4>

Stop the system before performing these steps.

① Press and hold the [⚙], [SET] and [CANCEL] buttons simultaneously for 4 seconds or longer.

② If group control is in effect, press the [UNIT] button to set. At this time, the fan at the indoor unit begins and select the address (unit No.) of the indoor unit operating.

③ Designate the item code 5d by adjusting the Temperature Setting [▽]/[△] buttons.

④ Press the timer time [DAY/]/[/TIMER] buttons to select the desired setting data.

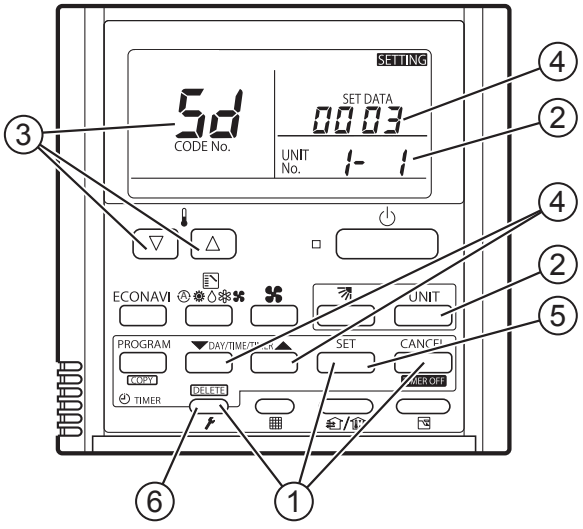
*For item codes and setting data, refer to “Table for DC Fan Motor Tap Setting ”.

⑤ Press the [SET] button.
(The display stops blinking and remains lit, and setting is completed.)

*If air-blocking material is used, use the same procedure as in steps ③ – ⑤ above and change the setting for item code “62” to “0000.”

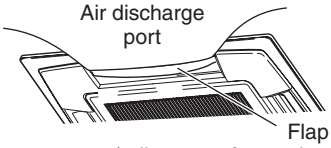
If you wish to change the selected indoor unit, follow the step ②.

⑥ Press the [⚙] button to return to normal remote controller display.



(4) Setting the Flap Separately

1) The 4-air outlet flap can be adjusted separately during operation. When not adjusted separately, all flaps operate in the same manner.



<Procedure of CZ-RTC2>

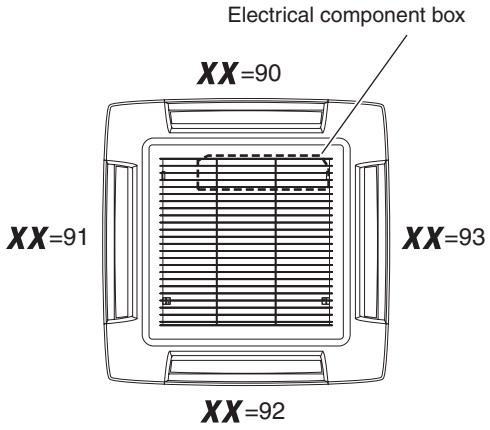
Stop the system before performing these steps.

① Press and hold the [wrench], [SET] and [CANCEL] buttons simultaneously for 4 seconds or longer.

② If group control is in effect, press the [UNIT] button and select the address (unit No.) of the indoor unit to set. At this time, the fan at the indoor unit begins operating.

③ " SETTING ," unit No. " 1- 1 " (or " ALL " in the case of group control), item code " XX ," and settings data " YYYY " are displayed blinking on the remote controller LCD display.

④ Designate the item code " XX " by adjusting the Temperature Setting [▲] / [▼] buttons.



⑤ Press the timer time [▲] / [▼] buttons to select the desired setting data.

Flap position

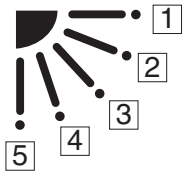


Fig. 7-11

* Setting data " YYYY " (refer to Fig. 7-11)

Setting data	Flap position during operation
0000	Without separate setting
0001	Swing
0002	Move to position 1 and stay
0003	Move to position 2 and stay
0004	Move to position 3 and stay
0005	Move to position 4 and stay
0006	Move to position 5 and stay

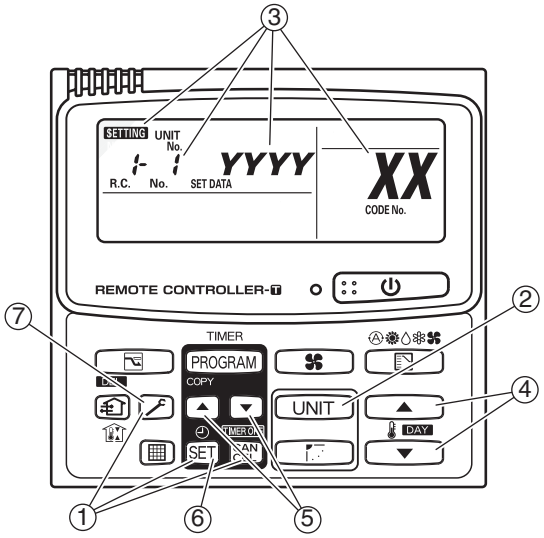
When the flap position is set to 4 or 5 and the unit is in the cooling or dry mode, the flap position is moved to 3 and the operation is started. (refer to Fig. 7-11)

NOTE

The flap swings during the operation under "Setting the Flap Separately".
At this time, the unselected flaps are moved to the position 1. (refer to Fig. 7-11)

⑥ Press the [SET] button.
(The display stops blinking and remains lit, and setting is completed.)
If you wish to change the selected indoor unit, follow the step ②.

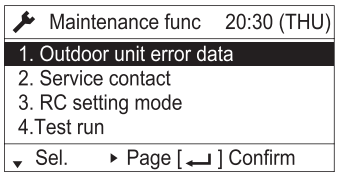
⑦ Press the [wrench] button to return to normal remote controller display.



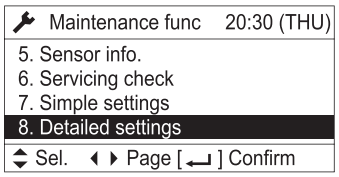
<Procedure of CZ-RTC3 /CZ-RTC5>

Stop the system before performing these steps.

① Keep pressing the [↩], [↵] and [▶] buttons simultaneously for 4 or more seconds.
The “Maintenance func” screen appears on the LCD display.

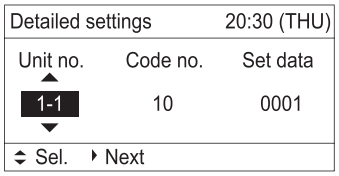


② Press the [▼] or [▲] button to see each menu.
If you wish to see the next screen instantly, press the [◀] or [▶] button.
Select “8. Detailed settings” on the LCD display and press the [↵] button.

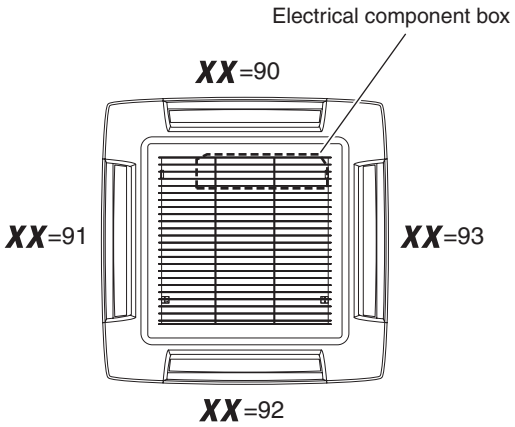


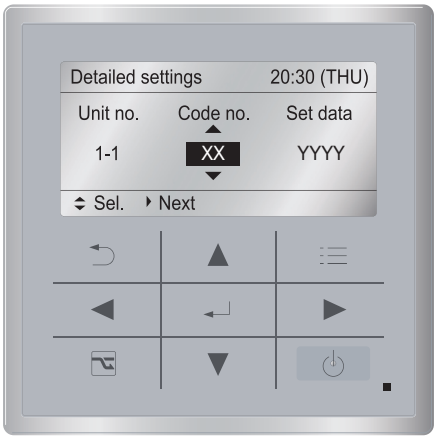
The “Detailed settings” screen appears on the LCD display.

③ Select the “Unit no.” by pressing the [▼] or [▲] button for changes.

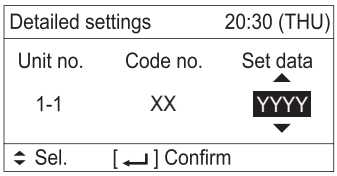


④ Select the “Code no.” by pressing the [◀] or [▶] button.
Change the “Code no.” to “**XX**” by pressing the [▼] or [▲] button (or keeping it pressed).





⑤ Select the “Set data” by pressing the [◀] or [▶] button.
Select one of the Setting Data “YYYY” by pressing the [▼] or [▲] button.
Then press the [↵] button.



Flap position

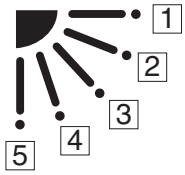


Fig. 7-12

* Setting data “***YYYY***” (refer to Fig. 7-12)

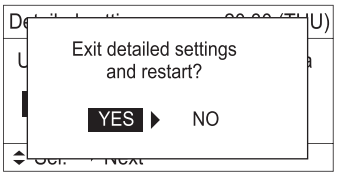
Setting data	Flap position during operation
0000	Without separate setting
0001	Swing
0002	Move to position 1 and stay
0003	Move to position 2 and stay
0004	Move to position 3 and stay
0005	Move to position 4 and stay
0006	Move to position 5 and stay

When the flap position is set to 4 or 5 and the unit is in the cooling or dry mode, the flap position is moved to 3 and the operation is started. (refer to Fig. 7-12)

NOTE

The flap swings during the operation under “Setting the Flap Separately”.
At this time, the unselected flaps are moved to the position 1. (refer to Fig. 7-12)

⑥ Press the [↵] button.
The “Exit detailed settings and restart?” (Detailed setting-end) screen appears on the LCD display.
Select “YES” and press the [↵] button.



If you wish to change the selected indoor unit, follow the step ②.

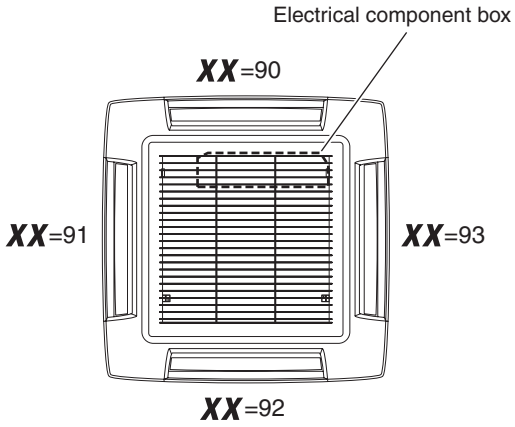
<Procedure of CZ-RTC4>

Stop the system before performing these steps.

① Press and hold the , SET and CANCEL buttons simultaneously for 4 seconds or longer.

② If group control is in effect, press the UNIT button to set. At this time, the fan at the indoor unit begins and select the address (unit No.) of the indoor unit operating.

③ Designate the item code "**XX**" by adjusting the Temperature Setting ▽/△ buttons.



④ Press the timer time DAY/ / /TIMER buttons to select the desired setting data.

Flap position

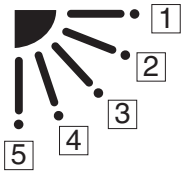


Fig. 7-13

* Setting data "**YYYY**" (refer to Fig. 7-13)

Setting data	Flap position during operation
0000	Without separate setting
0001	Swing
0002	Move to position 1 and stay
0003	Move to position 2 and stay
0004	Move to position 3 and stay
0005	Move to position 4 and stay
0006	Move to position 5 and stay

When the flap position is set to 4 or 5 and the unit is in the cooling or dry mode, the flap position is moved to 3 and the operation is started. (refer to Fig. 7-13)

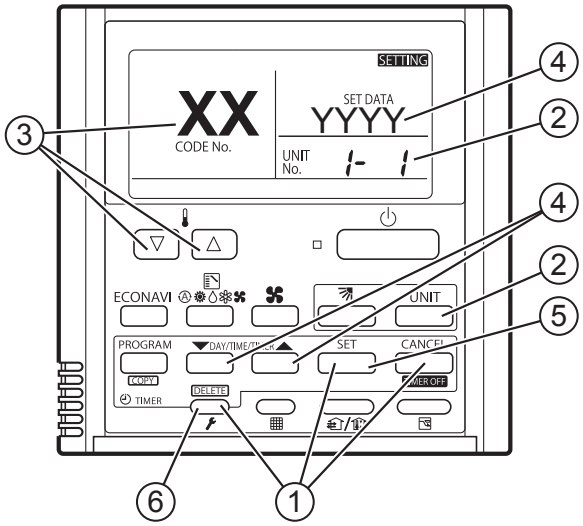
NOTE

The flap swings during the operation under "Setting the Flap Separately".

At this time, the unselected flaps are moved to the position 1. (refer to Fig. 7-13)

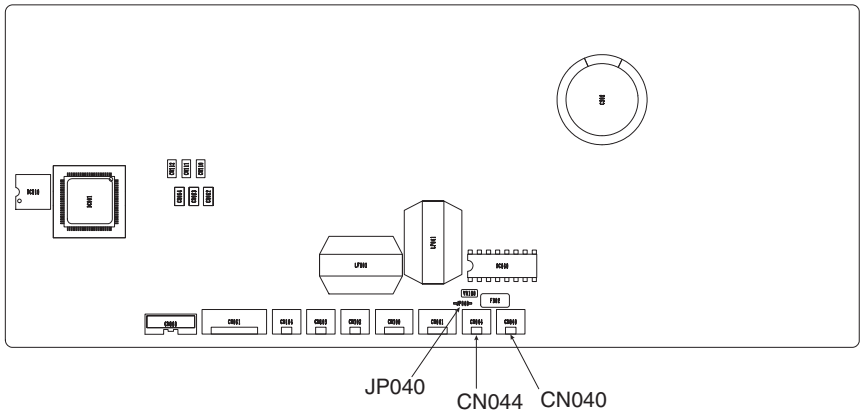
⑤ Press the SET button.
(The display stops blinking and remains lit, and setting is completed.)
If you wish to change the selected indoor unit, follow the step ②.

⑥ Press the button to return to normal remote controller display.



8. PRECAUTIONS ON TEST RUN

- Request that the customer be present at the time the test run is performed. Explain the Operating Instructions to the customer and then have the customer actually operate the system.
- Be sure to pass the manual and warranty certificate to the customer.
- Verify that the AC 208 / 230 V wiring is not connected to the terminal plate which is used to connect the inter-unit control wiring.
  * If AC 208 / 230 V is accidentally applied to this terminal plate, the fuse (0.4A for both indoor and outdoor units) on the inter-unit control PCB will be tripped in order to protect the PCB. Correct the wiring connections, then disconnect the 2P connectors (blue, OC, CN040) which are connected to the PCB and connect the other 2P connectors (brown, EMG, CN044). (See the figure below.)
  If operation is still not possible with the brown connectors connected, cut the JP040.
  (Be sure to turn OFF the power before performing this work.)



■ Checkpoint

Checkpoint		Symptom	Check	Remark
1	Make sure whether indoor and outdoor units are correctly installed.	Fall, vibration, noise		
2	Make sure whether gas leakage is tested.	No cooling, no heating		
3	Make sure whether insulation is completed. (Refrigerant piping and drain piping)	Water leakage		
4	Make sure whether drain water is running smoothly.	Water leakage		
5	Make sure whether the power voltage matches the nameplate.	Inoperative, burnout		
6	Make sure whether there is miswiring or incorrect connection.	Inoperative, burnout		
7	Make sure whether the ground construction is completed.	Ground leakage		
8	Make sure whether the wire gauge is followed by the recommended specifications.	Inoperative, burnout		
9	Make sure whether the air intake and air outlet of the indoor and outdoor units are sealed by obstacles.	No cooling, no heating		

9. HOW TO INSTALL WIRELESS REMOTE CONTROLLER RECEIVER

NOTE

Refer to the Operating Instructions attached to the optional Wireless Remote Controller Receiver.

10. APPENDIX

■ Care and Cleaning

⚠ WARNING

- **For safety, be sure to turn the air conditioner off and also to disconnect the power before cleaning.**
- **Do not pour water on the indoor unit to clean it. This will damage the internal components and cause an electric shock hazard.**

Air intake and outlet side (Indoor unit)

Clean the air intake and outlet side of the indoor unit with a vacuum cleaner brush, or wipe them with a clean, soft cloth.

If these parts are stained, use a clean cloth moistened with water. When cleaning the air outlet side, be careful not to force the vanes out of place.

⚠ CAUTION

- **Never use solvents or harsh chemicals when cleaning the indoor unit. Do not wipe plastic parts using very hot water.**
- **Some metal edges and the fins are sharp and may cause injury if handled improperly; be especially careful when you clean these parts.**
- **The internal coil and other components of outdoor unit must be cleaned regularly. Consult your dealer or service center.**

Air filter

The air filter collects dust and other particles from the air and should be cleaned at regular intervals as indicated in the table below or when the filter indication (▦) on the display of the remote controller (wired type) shows that the filter needs cleaning. If the filter gets blocked, the efficiency of the air conditioner drops greatly.

Type	U2
Period	6 months

NOTE

The frequency with which the filter should be cleaned depends on the environment in which the unit is used.

<How to clean the filter>

1. Remove the air filter from the air-intake grille.
2. Use a vacuum cleaner to remove light dust. If there is sticky dust on the filter, wash the filter in lukewarm, soapy water, rinse it in clean water, and dry it.

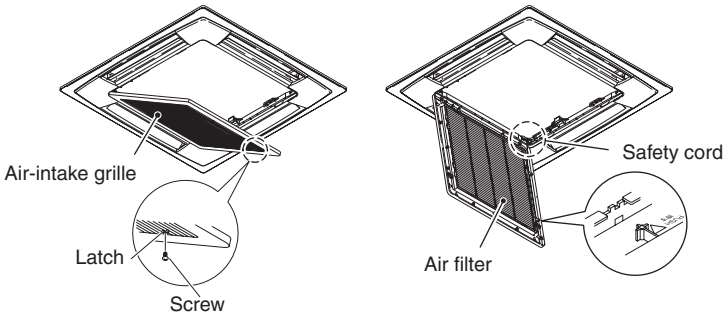
<How to remove the filter>
4-Way Cassette Type (U2):

1. Use a screwdriver to remove the bolt screw on each side for the two latches. (Be sure to reattach the two bolt screws after cleaning.)
2. Slide the latches of the air-intake grille in the direction of the inside to open the grille.
3. The air-intake grille opens downward.

⚠ CAUTION

- **When cleaning the air filter, never remove the safety chain. If it is necessary to remove it for servicing and maintenance inside, be sure to reinstall the safety chain securely (hook on the grille side) after the work.**
- **When the filter has been removed, rotating parts (such as the fan), electrically charged areas, etc. will be exposed in the unit's opening. Bear in mind the dangers that these parts and areas pose, and proceed with the work carefully.**

4. Push the side of the air filter marked with the indication arrow ▽ and pull it toward you. The air filter will be disengaged.



⚠ CAUTION

- **Certain metal edges and the condenser fins are sharp and may cause injury if handled improperly; special care should be taken when you clean these parts.**
- **Periodically check the outdoor unit to see if the air outlet or air intake is clogged with dirt or soot.**
- **The internal coil and other components must also be cleaned periodically. Consult your dealer or service center.**

Care: After a prolonged idle period

Check the indoor and outdoor unit air intakes and outlets for blockage; if there is a blockage, remove it.

Care: Before a prolonged idle period

- Operate the fan for half a day to dry out the inside.
- Disconnect the power supply and also turn off the circuit breaker.
- Clean the air filter and replace it in its original position.
- Outdoor unit internal components must be checked and cleaned periodically. Contact your local dealer for this service.

■ Troubleshooting

If your air conditioner does not work properly, first check the following points before requesting service. If it still does not work properly, contact your dealer or a service center.

● Indoor unit

Symptom		Cause
Noise	Sound like streaming water during operation or after operation.	● Sound of refrigerant liquid flowing inside unit ● Sound of drainage water through drain pipe
	Cracking noise during operation or when operation stops.	Cracking sound due to temperature changes of parts
Odor	Discharged air is smelled during operation.	Indoor odor components, cigarette odor and cosmetic odor accumurated in the air conditioner and its air is discharged. Unit inside is dusty. Consult your dealer.
Dewdrop	Dewdrop gets accumurated near air discharge during operation.	Indoor moisture is cooled by cool wind and accumulated by dewdrop.
Fog	Fog occurs during operation in cooling mode. (Places where large amounts of oil mist exist at restaurants.)	● Cleaning is necessary because unit inside (heat exchanger) is dirty. Consult your dealer as technical engineering is required. ● During defrost operation
Fan is rotating for a while even though operation stops.		● Fan rotating makes operation smoothly. ● Fan may sometimes rotate because of drying heat exchanger due to settings.
Wind-direction changes while operating. Wind-direction setting cannot be made. Wind-direction cannot be changed.		● When air discharge temperature is low or during defrost operation, horizontal wind flow is made automatically. ● Flap position is occasionally set up individually.
When wind-direction is changed, flap operates several times and stops at designated position.		When wind-direction is changed, flap operates after searching for standard position.
Dust		Dust accumulation inside indoor unit is discharged.
Poor cooling or heating performance		The indoor unit is initially designed to control the indoor temperature delected by the bulit-in room sensor inside the indoor unit. Due to indoor unit installation position, however, the bulit-in sensor may occasionally sense temperature improperly; for example, temperature difference between the ceiling and floor, lighting apparatus, electric fan, windows or waist-high partition walls, etc. In this case, the unit does not operate properly at the desired temperature. You may change the use of the temperature sensor inside the indoor unit to that of the remote controller. Then the desired room temperature can be controlled properly. For details, consult your dealer.

● Check Before Requiring Services

Symptom	Cause	Remedy
Air conditioner does not run at all although power is turned on.	Power failure or after power failure	Press ON/OFF operation button on remote controller again.
	Operation button is turned off.	● Switch on power if breaker is turned off. ● If breaker has been tripped, consult your dealer without turning it on.
	Fuse blow out.	If blown out, consult your dealer.
Poor cooling or heating performance.	Air intake or air discharge port of indoor and outdoor units is clogged with dust or obstacles.	Remove dust or obstruction.
	Wind speed switch is set to “Low”.	Change to “High” or “Strong”.
	Improper temperature settings	Refer to “ ■ Tips for Energy Saving”.
	Room is exposed to direct sunlight in cooling mode.	
	Doors and /or windows are open.	
	Air filter is clogged.	Refer to “ ■ Care and Cleaning”.
	Too much heat sources in room in cooling mode	Use minimum heat sources and in a short time.
	Too many people in room in cooling mode	Reduce temperature settings or change to “High” or “Strong”.

If your air conditioner still does not work properly although you checked the points as described above, first stop the operation and turn off the power switch. Then contact your dealer and report the serial number and symptom. Never repair your air conditioner by yourself since it is very dangerous for you to do so. You also report if the inspection mark ⚠ and the letters E, F, H, L, P in combination with the numbers appear on the LCD of the remote controller.

■ Tips for Energy Saving

Avoid

● **Do not block the air intake and outlet of the unit. If either is obstructed, the unit will not work well, and may be damaged.**

● Do not let direct sunlight into the room. Use sunshades, blinds or curtains.
If the walls and ceiling of the room are warmed by the sun, it will take longer to cool the room.

Do

● Always try to keep the air filter clean. (Refer to “Care and Cleaning”.) A clogged filter will impair the performance of the unit.

● To prevent conditioned air from escaping, keep windows, doors and any other openings closed.

NOTE

Should the power fail while the unit is running

If the power supply for this unit is temporarily cut off, the unit will automatically resume operation once power is restored using the same settings before the power was interrupted.

– NOTE –

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